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# **Honeywell**

## ***MAINTENANCE MANUAL***

### ***BENDIX/KING<sup>®</sup>***

### ***KTS 153***

### ***TEST SET***

*MANUAL NUMBER 006-15631-0007*

*REVISION 7 FEBRUARY, 2002*

**WARNING**

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**REVISION HISTORY**

KTS 153 Maintenance Manual

Part Number: 006-15631-XXXX

For each revision, add, delete, or replace pages as indicated.

REVISION No. 7, February 2002

ITEM	ACTION
All pages	Full Reprint, new manual

Revision 7 creates a new stand-alone manual for the KTS 153 which was extracted from revision 6 of the KCS 55/55A maintenance manual, (P/N 006-05111-0006). Any revisions to the KTS 153, beginning with revision 7, will not be a part of the KCS 55/55A manual.

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## SECTION IV THEORY OF OPERATION

### 4.1 INPUT POWER REQUIREMENTS

The KTS 153 is powered by a 115VAC 400 Hz source plugged into the rear of the tester. This source generates  $\pm 15\text{VDC}$ ,  $+5\text{VDC}$  and  $+14/28\text{VDC}$  internal supplies. A ground buss has been established for all of the internal circuitry which is connected to the tester chassis. The input 115VAC 400Hz is transformer isolated from the tester circuitry.

### 4.2 TESTING THE KI 525/KI 525A

Two cables are provided with the test set and are keyed at the tester end to insure a proper hook-up. Each of the unit connector pins that are used are patched out to the front panel for monitoring purposes.

In addition to these two blocks of pinouts, redundant pinouts are provided in the area allocated to the specific test function with the connector and pin designation printed along side.

Unit power is brought out to the front panel with individual switches for the  $\pm 5\text{VDC}$ ,  $+15\text{VDC}$  and  $14/28\text{VDC}$ . An adjust pot is provided to adjust the 14V or 28V to the correct value on the front panel voltmeter.

### 4.3 NAV DEVIATION BAR/TO-FROM

This section provides pinouts to monitor the D-BAR and TO-FM voltages along with a signal source and microamperes interface. A test point and calibration pot is provided to measure the resistance of the D-BAR and TO-FM meter movements without using a conventional ohmmeter that can't damage those meters, A precision 1000 ohm resistor is placed in series with the selected meter and the calibration pot is adjusted for a convenient voltage that produces something less than A full scale reading on the meter. By a voltage division process based on the voltage across the meter, the meter resistance can be determined.

### 4.4 GS DEVIATION

This source provides drive current for the GS pointer which can be monitored on the micro-amp meter by placing the meter switch to GS DEV. A Common Mode Rejection Switch is provided to test the glideslope circuit rejection of an input signal operating at a reference other than ground.

### 4.5 GS FLAG/NAV FLAG

These sources provide signal current to the respective KI 525/KI 525A circuits with the capability to test for Common Mode Rejection. These sources cannot be monitored on the Micro Amp Meter, however, pinouts are provided to monitor the voltage.

#### **4.6 STEPPER MOTOR DRIVE**

Simulated Compass Card drive signals can be generated and monitored with this section of the test set. An ON/OFF switch, a direction control and rate potentiometer along with the four-wire stepper motor monitor pinouts provides the means for complete testing of the motor, gear train and Compass Card mechanism.

#### **4.7 +15V UNREGULATED SUPPLY**

This supply is used to test the pull-in and drop-out voltage of the HDG flag mechanism when in the VARIABLE position. This switch should be left in the NORMAL position during general testing as the supply output is then fixed at +15VDC.

#### **4.8 HDG VALID**

This switch provides a ground for the HDG flag on the KI 525A. This switch serves no purpose on the KI 525 since the PWR flag on that unit is internally grounded.



## SECTION V TESTING

### 5.1 TEST PROCEDURE

1. Power ON (115 vac 400 Hz)  
 +14/28vdc Switch OFF  
 Lamp L1 \_\_\_\_\_ ON  
 All CMR Switches OFF
  
2. Measure the following voltages (JI01)
 

Pin f	_____	+15±0.5vdc; 50mvac max
Pin Y	_____	-15±0.5vdc; 50mvac max
Pin s	_____	+5±0.5vdc; 50mvac max
Pin v	_____	+15±0.5vdc (Normal)
	_____	0.0 to 14.5 ±1vdc (Variable)
Pin H	_____	0.0±0.5vdc (S4 - OFF)
	_____	0.0±0.5vdc(S5 - 14vdc)
	_____	0.0 to +32±1.5vdc Adjustable (S4 - 28vdc)
Pin D	_____	0.0±0.5vdc (S4 - OFF)
	_____	0.0±0.5vdc, (S4 - 28vdc)
	_____	0.0 to 17±1.5vdc Adjustable (S4 -14vdc)
Pin N	_____	0.0 to 13±1vdc Adjustable (S4 - 14vdc)
	_____	(+14v.lamps connected between Pins N and L, and t and L)
Pin t	_____	0.0 to 13±1vdc Adjustable (S4 -14vdc)
	_____	(+14v lamps connected between Pins N and L, and t and L)
Pin N	_____	0.0 to 26±2vdc Adjustable (S4 - 28vdc)
	_____	(+14v lamps connected between Pins N and L, and t and L)
  
3. Meter M1 measures voltage of Pin H or D.
  
4. Connect a 1K ohm load from J101 Pin b to V, and Z to T.  
 S15 to DEV/TO-FM.
 

Pin b to V	_____	(S6 - Resistance; S7 - D-Bar)
	_____	0.0 to 0.29 ± 0.05vdc (Adjustable with RES CAL)
Pin Z to T	_____	(S6 - Resistance; S7 - TO-FM)
	_____	0.0 to 0.29±0.05vdc

4. (cont.)

	_____	(Adjustable with RES CAL)
Pin b to V	_____	(S6 - Deviation; S7 - D-Bar)
	_____	M2±150ua Minimum
		(Adjustable with Meter Current Adj.)
Pin Z to T	_____	(S6 Deviation; S7 - TO-FM)
	_____	M2 150 ua Minimum
	_____	(Adjustable with Meter Current Adj.)

5. S15 to GS DEV, 1K ohm load from J102 Pin E to B.

Pin E to B	_____	±0.25vdc min. Variable by R17
	_____	M2 ± 200 ua Minimum
		(Micro amp value shall be equivalent to millivolt reading across Pin E to B of J102)

Measure Pin E to Ground with E to

B set at 0.0±0.1vdc \_\_\_\_\_ 0.0±0.5vdc

S9 to +CMR

Pin E to GND \_\_\_\_\_ +10.0±0.5vdc

Pin B to GND \_\_\_\_\_ +10.0±0.5vdc

S9 to -CMR

Pin E to GND \_\_\_\_\_ -10.0±0.5vdc

Pin B to GND \_\_\_\_\_ -10.0±0.5vdc

CMR to OFF

6. Insert 1K ohm load from J102 Pin J to J101 Pin W (GS Flag)

Pin J102-J to J101-W	_____	0.0 to +0.49 ± 0.1 vdc
		Variable by R32

Set J to W to zero volts.

S11 to +CMR

Pin J102-J to GND \_\_\_\_\_ +10.0 ± 0.5 vdc

Pin J101-W to GND \_\_\_\_\_ +10.0 ± 0.5 vdc

S11 to -CMR

Pin J101-W to GND \_\_\_\_\_ -10.0 ± 0.5 vdc

Pin J102-J to GND \_\_\_\_\_ -10.0 ± 0.5 vdc

CMR OFF

7. Insert 1K ohm load from J101 K to F (NAV FLAG)

Pin K to F	_____	0.0 to +0.49 ± 0.1 vdc
		Variable by R45

Set K to F to zero volts

S14 to +CMR

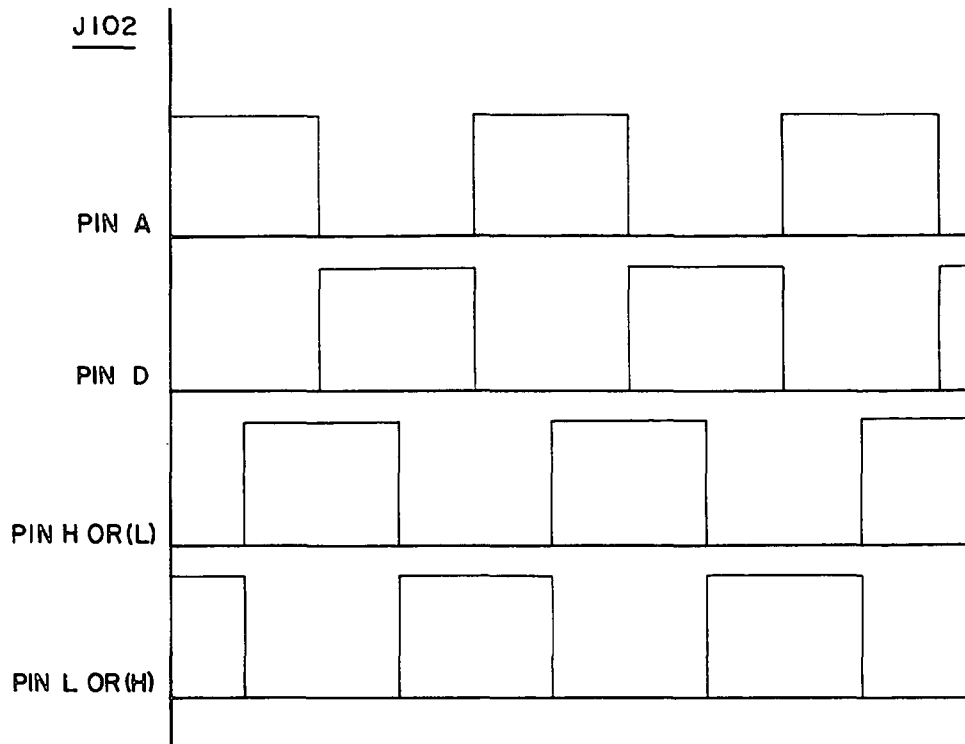
7. (cont.)

Pin K to GND	_____	+10.0 ± 0.5vdc
Pin F to GND	_____	+10.0 ± 0.5vdc
CMR OFF		

8. Stepper Motor Drive (see figure 5-1)

S13 ON, S12 CW

Pin J102 A	_____	
Pin J102 D	_____	Square Wave 0.0 to +15 ± 0.5vdc
Pin J102 H	_____	Freq variable between 1.1 Hz
Pin J102 L	_____	Max and 35 Hz Min by R42
S12 CCW		
Repeat above step		



**FIGURE 5-1, Waveforms**

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## ILLUSTRATED PARTS LIST

### 6.1 General

The Illustrated Parts List (IPL) is a complete list of assemblies and parts required for the unit. The IPL also provides for the proper identification of replacement parts. Individual parts lists within this IPL are arranged in numerical sequence starting with the top assembly and continuing with the sub-assemblies. All mechanical parts will be separated from the electrical parts used on the sub-assembly. Each parts list is followed by a component location drawing.

Parts identified in this IPL by Honeywell part number meet design specifications for this equipment and are the recommended replacement parts. Warranty information concerning Honeywell replacement parts is contained in Service Memo #1, P/N 600-08001-00XX.

Some part numbers may not be currently available. Consult the current Honeywell catalog or contact a Honeywell representative for equipment availability.

### 6.2 Revision Service

The manual will be revised as necessary to reflect current information.

### 6.3 List of Abbreviations

Abbreviation	Name
B	Motor or Synchro
C	Capacitor
CJ	Circuit Jumper
CR	Diode
DS	Lamp
E	Voltage or Signal Connect Point
F	Fuse
FL	Filter
FT	Feedthru
I	Integrated Circuit
J	Jack or Fixed Connector
L	Inductor
M	Meter
P	Plug

Table 1  
Abbreviations

Abbreviation	Name
Q	Transistor
R	Resistor
RT	Thermistor
S	Switch
T	Transformer
TP	Test Point
U	Component Network, Integrated Circuit, Circuit Assembly
V	Photocell/Vacuum Tube
W	Waveguide
Y	Crystal

Table 1 (Continued)  
Abbreviations

6.4 Sample Parts List

BOM NUMBER/DESCRIPTION/REVISION

DESCRIPTION

ASSEMBLY VERSION

FINAL ASSEMBLY 071-01578-0000 REV AC

SYMBOL	PART NUMBER	FIND NO	DESCRIPTION	UM	0000
C2001	106-04224-0047		CAP CHIP .22UF X7R	EA	1.00
C2002	106-04224-0047		CAP CHIP .22UF X7R	EA	1.00
C2003	106-04224-0047		CAP CHIP .22UF X7R	EA	1.00
R2038	139-03241-0000		RES CH 3.2K EW 1%	EA	1.00
R2039	139-02430-0000		RES CH 243 EW 1%	EA	1.00
R2040	139-00750-0000		RES CH 75.0 EW 1%	EA	1.00
TP2001	008-00309-0000		TEST POINT SURF MN	EA	1.00
TP2002	008-00309-0000		TEST POINT SURF MN	EA	1.00
U2005	12051354-0001		PP-IC,UPD482234G5-	EA	1.00
U2006	12051354-0001		PP-IC,UPD482234G5-	EA	1.00
U2021	12061010-0001		SI-IC,MEMORY CNTLR	EA	1.00
U2022	12061014-0001		SI-IC,DSP.CONTROLL	EA	1.00
Y2001	04416054-0015		XTAL OSC,36.000MHZ	EA	1.00
Y2002	04416054-0014		XTAL OSC,20.000MHZ	EA	1.00
	002-09229-0000		GP BOARD	RF	.00
	009-09229-0000	1	GP BOARD	EA	1.00
	01243055-0001	2	INSULATOR,THERMAL	EA	3.00
	01250068-0001	3	SPACER, HEADER	EA	6.00
	016-01040-0000		COATING TYPE AR	AR	1.00
	016-01442-0000	4	E-6000 CLEAR SEALA	AR	1.00
	192-09229-0000		GP BOARD	RF	.00
	300-09229-0000		GP BOARD, FPD500	RF	.00
	34050-0084	6	SPACER,THD'D	EA	2.00
	46086-0007	5	SCREW,CAPTIVE,4-40	EA	3.00

UNIT OF MEASURE

QUANTITY

REFEERENCE DESIGNATOR

PART NUMBER

FIND NUMBER

The above is only a sample. The actual format and style may vary slightly. A 'Find Number' column, when shown, references selected items on the BOM's accompanying Assembly Drawing. This information does not apply to every BOM. Therefore, a lack of information in this column, or a lack of this column, should not be interpreted as an omission.

Figure 6-1  
Sample Parts List

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6.5 KTS 153 FINAL ASSEMBLY  
071-05027-0000 Rev. 4

NAME		ASS'Y. NO.		QUANTITY				
(KI 525/KI 525A TESTER)		071-5027-00		-00	-01	-02	-03	-04
KING RADIO CORP. PARTS LISTING			CODE	QUANTITY				
SYMBOL	PART NUMBER	DESCRIPTION		-00	-01	-02	-03	-04
L1		Lamp Neon, 115v		1				
T1	019-7040-00	Power Transformer		1				
M1		Meter, Voltage, 0-35v Min		1				
M2		Meter, Current, 200-0-200ua		1				
	△ 057-1199-00	Mod Status Sticker		1				
C1	097-0066-01	Cap, Elec, 50uf, 50v		7				
C2	097-0066-01	Cap, Elec, 50uf, 50v						
C3	097-0066-01	Cap, Elec, 50uf, 50v						
C4	097-0066-01	Cap, Elec, 50uf, 50v						
C5	097-0066-01	Cap, Elec, 50uf, 50v						
C6	097-0066-01	Cap, Elec, 50uf, 50v						
C7	097-0066-01	Cap, Elec, 50uf, 50v						
C8	096-1030-31	Cap, Elec, 4.7uf, 35v		1				
Q1	007-0208-00	Xistor, PWR NPN MJE-800		3				
Q2	007-0026-03	Xistor, NPN 2N3416		5				
Q3	007-0208-00	Xistor, PWR MJE-800						
Q4	007-0208-00	Xistor, PWR NPN MJE-800						
Q5	007-0026-03	Xistor, NPN 2N3416						
Q6	007-0026-03	Xistor, NPN 2N3416						
Q7	007-0026-03	Xistor, NPN 2N3416						
Q8	007-0026-03	Xistor, NPN 2N3416						
I1	120-3026-14	Regulator, +15vdc, 7815		1				
I2	120-3056-13	Regulator, -15vdc, 7915		1				
I3	120-3026-00	Regulator, +5vdc, 7805		1				
I4	120-3022-01	OP Amp, 1558		3				
I5	130-3022-01	OP Amp, 1558						
I6	120-0001-00	Integrated Ckt 7400		1				
I7	120-0006-01	Integrated Ckt 7451		1				
I8	120-0007-01	Integrated Ckt 5473		1				
I9	120-3040-00	Integrated Ckt 555		1				
I10	120-3022-01	OP Amp, 1558						
S1		DPST, 115vac, 10A Min		1				
S2		Switch, SPST		3				
S3		Switch, DPST		1				
S4		Switch, 4PDT, Center off		2				
S6		Switch, DPDT		2				
S7		Switch, DPDT						
S8		Switch, SPDT		3				
S9		Switch, SPDT, Center Off		2				
S10		Switch, SPST						

NAME		ASS'Y. NO.							
(KI 525/KI 525A TESTER)		071-5027-00							
KING RADIO CORP. PARTS LISTING				CODE	QUANTITY				
SYMBOL	PART NUMBER	DESCRIPTION	-00		-01	-02	-03	-04	
S11		Switch, SPDT, Center Off							
S12		Switch, SPDT							
S13		Switch, SPDT							
S14		Switch, SPDT, Center Off							
S15		Switch, 3PDT							
CR1	007-6022-00	Diode, Silicon, TS6	8						
CR2	007-6022-00	Diode, Silicon, TS6							
CR3	007-6022-00	Diode, Silicon, TS6							
CR4	007-6022-00	Diode, Silicon, TS6							
CR5	007-6022-00	Diode, Silicon, TS6							
CR6	007-6022-00	Diode, Silicon, TS6							
CR7	007-6022-00	Diode, Silicon, TS6							
CR8	007-6022-00	Diode, Silicon, TS6							
CR9	007-5011-19	Diode, Zener, 18v, 1N4745	1						
CR10	007-5011-24	Diode, Zener, 33v, 1N4752	1						
CR11	007-5011-01	Diode, Zener, 10v, 1N4740	2						
CR12	007-6029-00	Diode, Silicon, 1N457	12						
CR13	007-6029-00	Diode, Silicon, 1N457							
CR14	007-6029-00	Diode, Silicon, 1N457							
CR15	007-6029-00	Diode, Silicon, 1N457							
CR16	007-5011-01	Diode, Zener, 10v, 1N4740							
CR17	007-6029-00	Diode, Silicon 1N457							
CR18	007-6029-00	Diode, Silicon 1N457							
CR19	007-6029-00	Diode, Silicon 1N457							
CR20	007-6029-00	Diode, Silicon 1N457							
CR21	007-6029-00	Diode, Silicon 1N457							
CR22	007-6029-00	Diode, Silicon 1N457							
CR23	007-6029-00	Diode, Silicon 1N457							
CR24	007-6029-00	Diode, Silicon 1N457							
R1	130-0623-23	Res, 1/4W, 5%, 62K	1						
R2	130-0152-43	Res, 1W, 5%, 1.5K	1						
R3	130-0101-43	Res, 1W, 5%, 100	1						
R4		Res, Variable, 5K	1						
R5	130-0103-23	Res, 1/4W, 5%, 10K	2						
R6	130-0102-23	Res, 1/4W, 5%, 1.0K	8						
R7		Res, Variable, 1K	2						
R8	130-0102-23	Res, 1/4W, 5%, 1.0K							
R9	130-0392-23	Res, 1/4W, 5%, 3.9K	1						
R10		Res, Variable, 1K							
R11	130-0822-23	Res, 1/4W, 5%, 8.2K	1						
R12	136-1001-22	Res, 1/4W, 1%, 1.00K	1						
R13	136-5112-22	Res, 1/4W, 1%, 51.1K	12						
R14	136-2612-22	Res, 1/4W, 1%, 26.1K	3						
R15	136-5112-22	Res, 1/4W, 1%, 51.1K							
R16	136-3321-22	Res, 1/4W, 1%, 3.32K	2						
R17		Res, Variable, 500	3						
R18	136-3321-22	Res, 1/4W, 1%, 3.32K							
R19	136-7682-22	Res, 1/4W, 1%, 76.8K	6						
R20	136-5112-22	Res, 1/4W, 1%, 51.1K							
R21	136-7682-22	Res, 1/4W, 1%, 76.8K							

NAME		ASS'Y. NO.							
(KI 525/KI 525A TESTER)		071-5027-00							
KING RADIO CORP. PARTS LISTING				CODE	QUANTITY				
SYMBOL	PART NUMBER	DESCRIPTION	-00		-01	-02	-03	-04	
R22	136-5112-22	Res, 1/4W, 1%, 51.1K							
R23		Res, Variable, 10K		1					
R24	130-0102-23	Res, 1/4W, 5%, 1.0K							
R25	130-0103-23	Res, 1/4W, 5%, 10K							
R26	130-0102-23	Res, 1/4W, 5%, 1.0K							
R27		Res, Variable, 50K		1					
R28	136-5112-22	Res, 1/4W, 1%, 51.1K							
R29	136-2612-22	Res, 1/4W, 1%, 26.1K							
R30	136-5112-22	Res, 1/4W, 1%, 51.1K							
R31	136-1472-22	Res, 1/4W, 1%, 14.7K		2					
R32		Res, Variable, 500							
R33	136-7682-22	Res, 1/4W, 1%, 76.8K							
R34	136-7682-22	Res, 1/4W, 1%, 76.8K							
R35	136-5112-22	Res, 1/4W, 1%, 51.1K							
R36	136-5112-22	Res, 1/4W, 1%, 51.1K							
R37	130-0102-23	Res, 1/4W, 5%, 1.0K							
R38	130-0102-23	Res, 1/4W, 5%, 1.0K							
R39	130-0102-23	Res, 1/4W, 5%, 1.0K							
R40	130-0102-23	Res, 1/4W, 5%, 1.0K							
R41	130-0751-23	Res, 1/4W, 5%, 750							
R42		Res, Variable, 500K		1					
R43	130-0511-23	Res, 1/4W, 5%, 510		1					
R44	136-1472-22	Res, 1/4W, 1%, 14.7K							
R45		Res, Variable, 500							
R46	136-5112-22	Res, 1/4W, 1%, 51.1K							
R47	136-5112-22	Res, 1/4W, 1%, 51.1K							
R48	136-2612-22	Res, 1/4W, 1%, 26.1K							
R49	136-7682-22	Res, 1/4W, 1%, 76.8K							
R50	136-7682-22	Res, 1/4W, 1%, 76.8K							
R51	136-5112-22	Res, 1/4W, 1%, 51.1K							
R52	136-5112-22	Res, 1/4W, 1%, 51.1K							
R53	130-0513-23	Res, 1/4W, 5%, 51K		4					
R54	130-0513-23	Res, 1/4W, 5%, 51K							
R55	130-0513-23	Res, 1/4W, 5%, 51K							
R56	130-0513-23	Res, 1/4W, 5%, 51K							
J101	PT02A20-41S (002) Bendix	Connector, Panel Mounted 41 Pin Socket		1					
P101	PT06A20-41P (002) Bendix	Connector, Cable Mounted 41 Pin Plug		1					
J102	PT02A20-41SW (002) Bendix	Connector, Panel Mounted 41 Pin Socket		1					
P102	PT06A20-41PW (002) Bendix	Connector, Cable Mounted 41 Pin Plug		1					
J103	GM41/24F-ONO-VL Positronic Ind.	Connector, Cable Mounted 24 Pin Female		1					
P104	GM41MSCNOVL Positronic Ind.	Connector, Cable Mounted 41 Pin Male		1					
Hood	GM41-000J Positronic Ind.	Hood, Connector		2					
	002-0436-00	Schematic		REF					
	155-2058-00	Test Panel Wiring Harness & Cables		REF					
	035-01988-0000	Packing Instructions		REF					
	035-01989-0000	Packing Instructions		REF					

PARTS LIST REVISION HISTORY				ENGR. APPROVAL
NAME			ASS'Y. NO.	
ASS'Y. DWG.		UNIT		
(KI 525/KI 525A TESTER)			071-05027-0000 KRC AUTHORIZED PRINT	
300-2004-00		KTS 153		
REV	CHANGE	SYMBOL	PART NUMBER	DESCRIPTION
1	19492	C8	096-1030-31	P/N changed from 096-1030-05
		S1		Desc. changed from 5A Min to 10AMin
		S14		Desc. changed from SPST to SPDT, Center Off
		S15		Desc. changed from 4PDT to 3PDT
		R5	130-0103-23	Qty. changed from 3 to 2
		R6	130-0102-23	Qty. changed from 7 to 8
		R14	136-2612-22	P/N changed from 136-2552-22
		R16	136-3321-22	P/N changed from 136-1471-22
		R18	136-3321-22	P/N changed from 136-1471-22
		R24	130-0102-23	P/N changed from 130-0103-23
		R29	136-2612-22	P/N changed from 136-2552-22
		R31	136-1472-22	Qty. added of 2
		R48	136-2612-22	P/N changed from 136-2552-22
		R53, 54, R55, 56	130-0513-23 " " " " " "	P/Ns added to B/M " " " "
2	21347	Q1	007-0208-00	Qty. changed from 2 to 3
		Q3	007-0208-00	P/N changed from 007-0038-00
3	35485		057-1199-00	P/N added to B/M Qty. 1
4	94872		035-01988-0000	P/N added to B/M Qty. REF
			035-01989-0000	

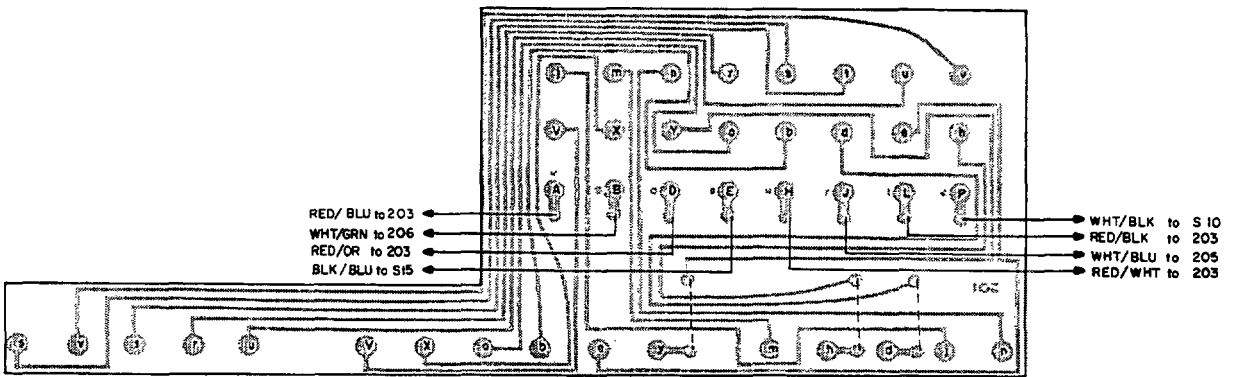


FIGURE 6-2 P.C. BOARD ASSEMBLY, BOARD 201, DRAWING  
(Dwg. 300-06001-0000 Rev. 0)

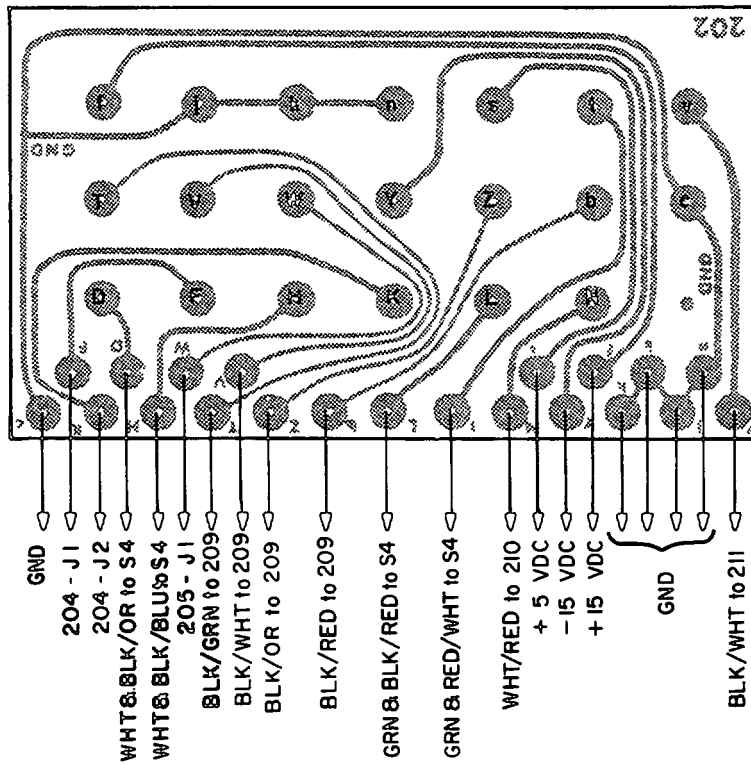


FIGURE 6-3 P.C. BOARD ASSEMBLY, BOARD 202, DRAWING  
(Dwg. 300-06002-0000 Rev. 0)

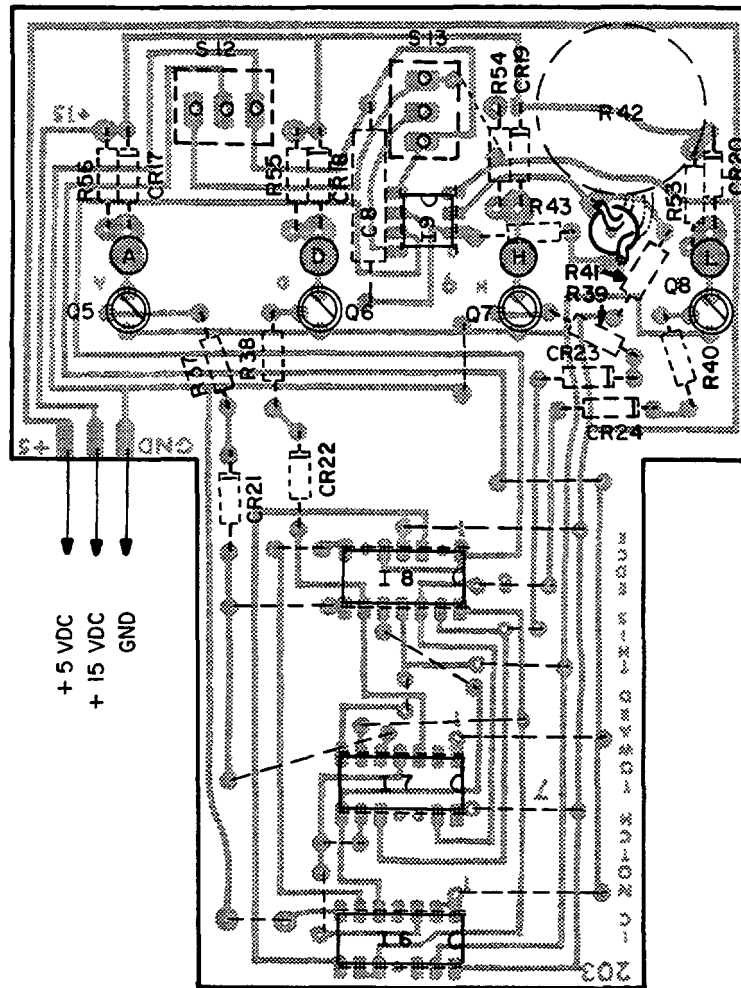


FIGURE 6-4 P.C. BOARD ASSEMBLY, BOARD 203, DRAWING  
(Dwg. 300-06003-0000 Rev. 0)

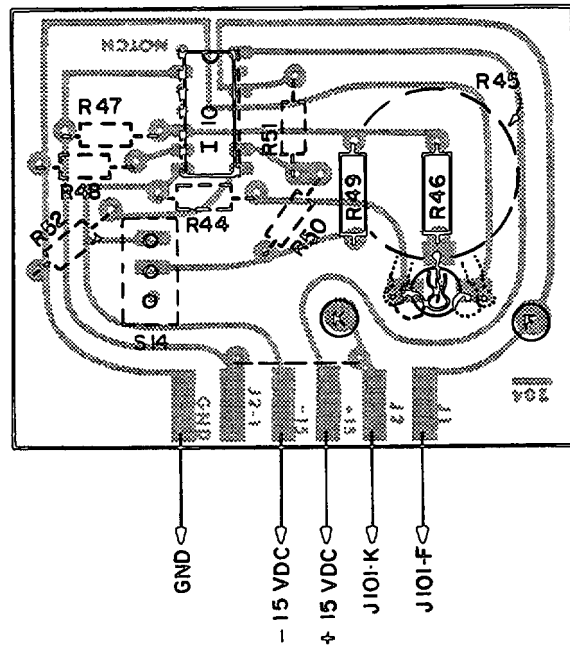


FIGURE 6-5 P.C. BOARD ASSEMBLY, BOARD 204, DRAWING  
(Dwg. 300-06004-0000 Rev. 0)



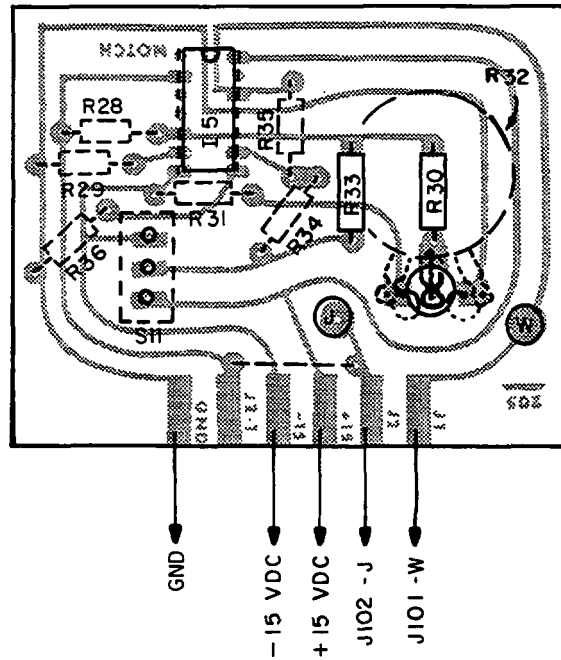


FIGURE 6-6 P.C. BOARD ASSEMBLY, BOARD 205, DRAWING  
(Dwg. 300-06005-0000 Rev. 0)

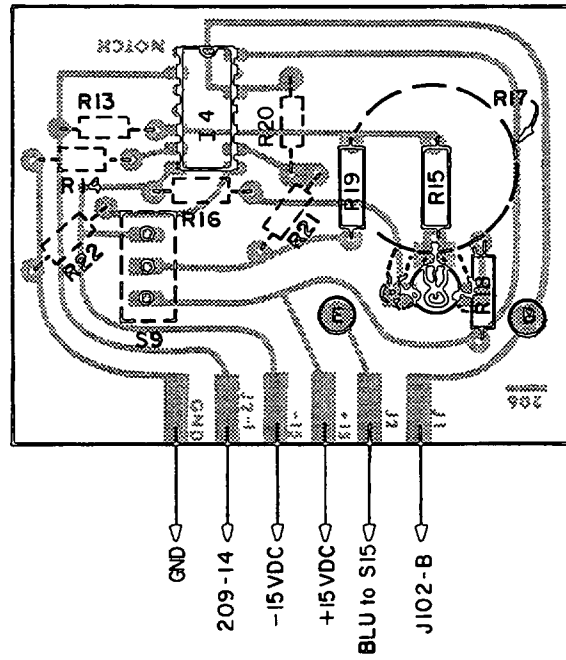


FIGURE 6-7 P.C. BOARD ASSEMBLY, BOARD 206, DRAWING  
(Dwg. 300-06006-0000 Rev. 0)

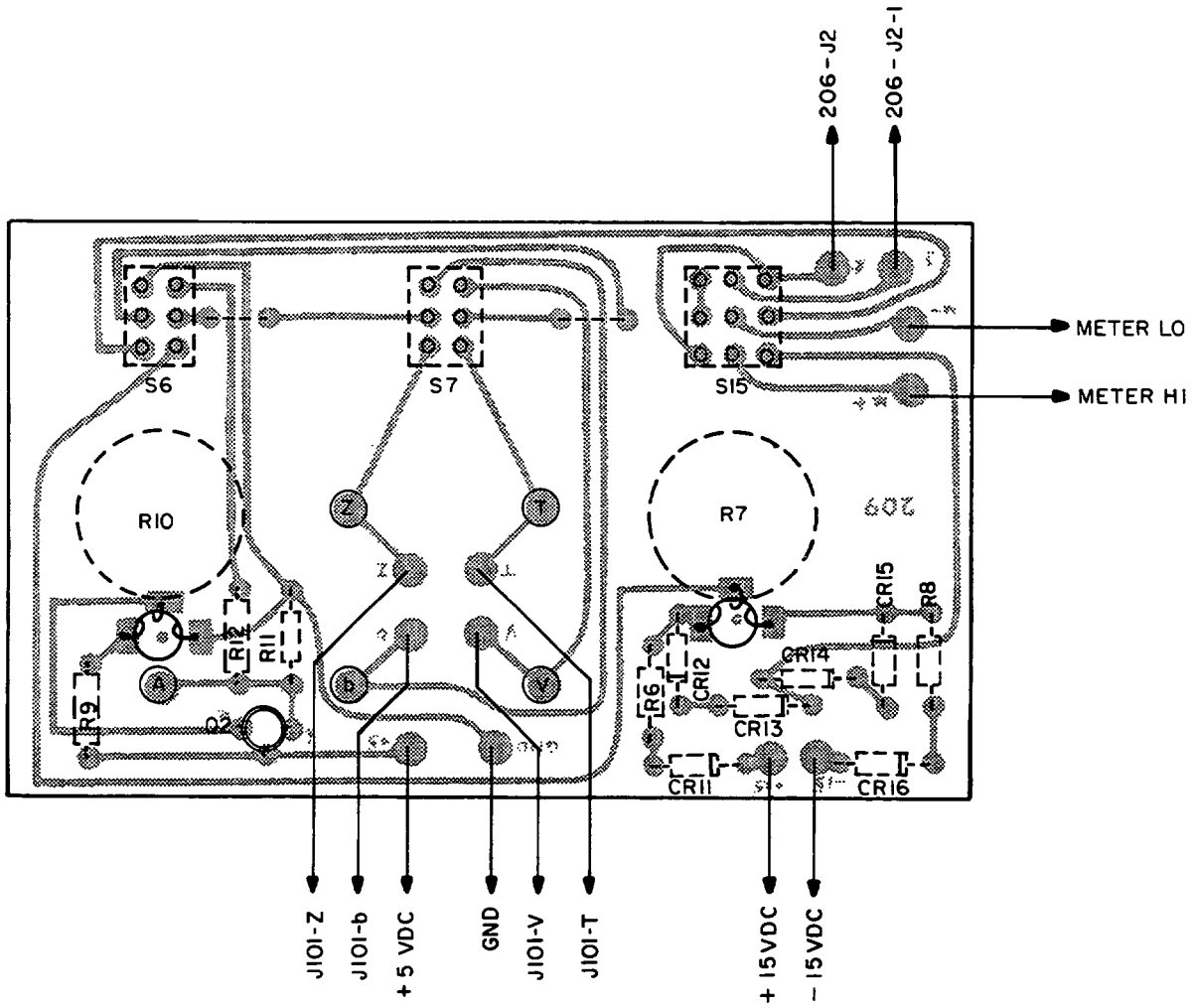


FIGURE 6-8 P.C. BOARD ASSEMBLY, BOARD 209, DRAWING  
(Dwg. 300-06007-0000 Rev. 0)

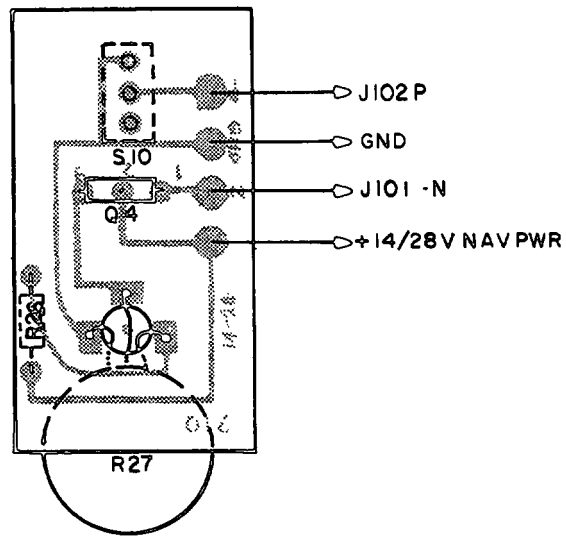


FIGURE 6-9 P.C. BOARD ASSEMBLY, BOARD 210, DRAWING  
(Dwg. 300-06008-0000 Rev. 0)

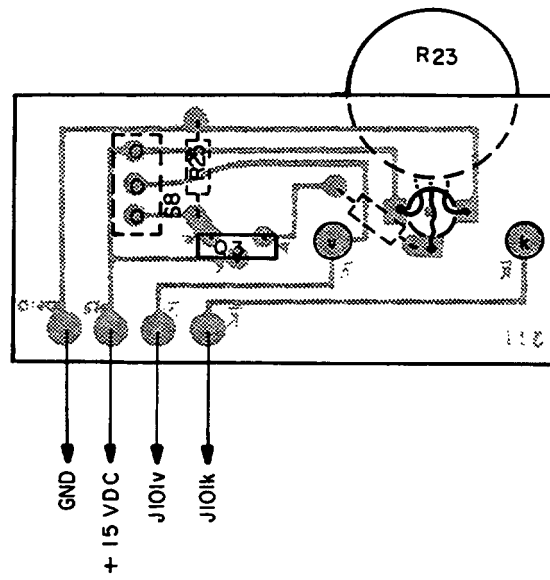


FIGURE 6-10 P.C. BOARD ASSEMBLY, BOARD 211, DRAWING  
(Dwg. 300-06009-0000 Rev. 0)

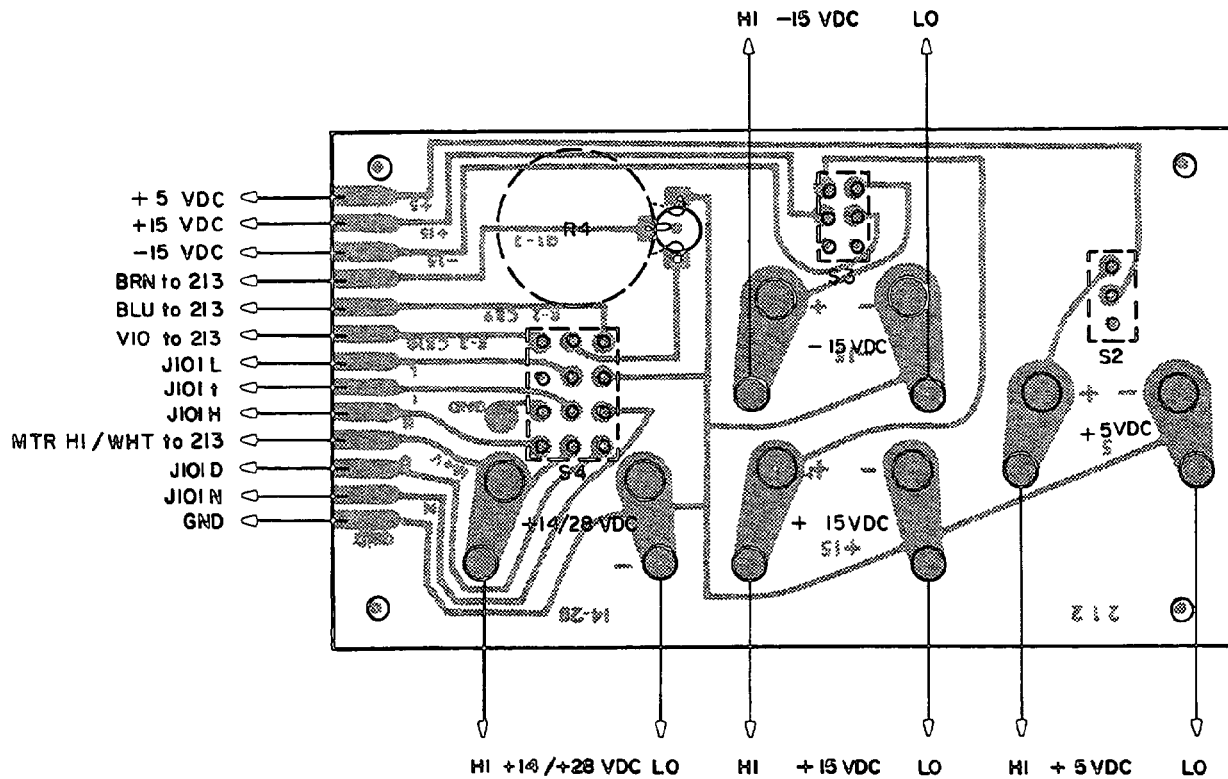


FIGURE 6-11 P.C. BOARD ASSEMBLY, BOARD 212, DRAWING  
(Dwg. 300-06010-0000 Rev. 0)

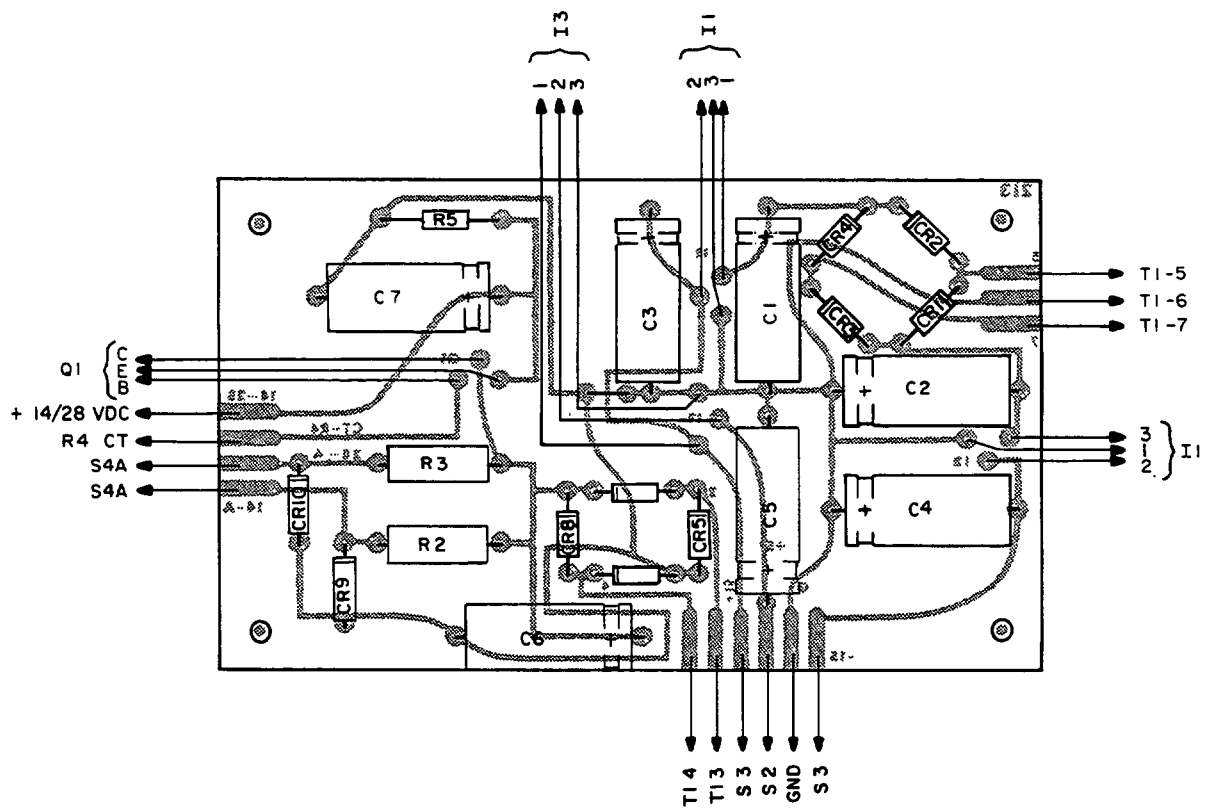
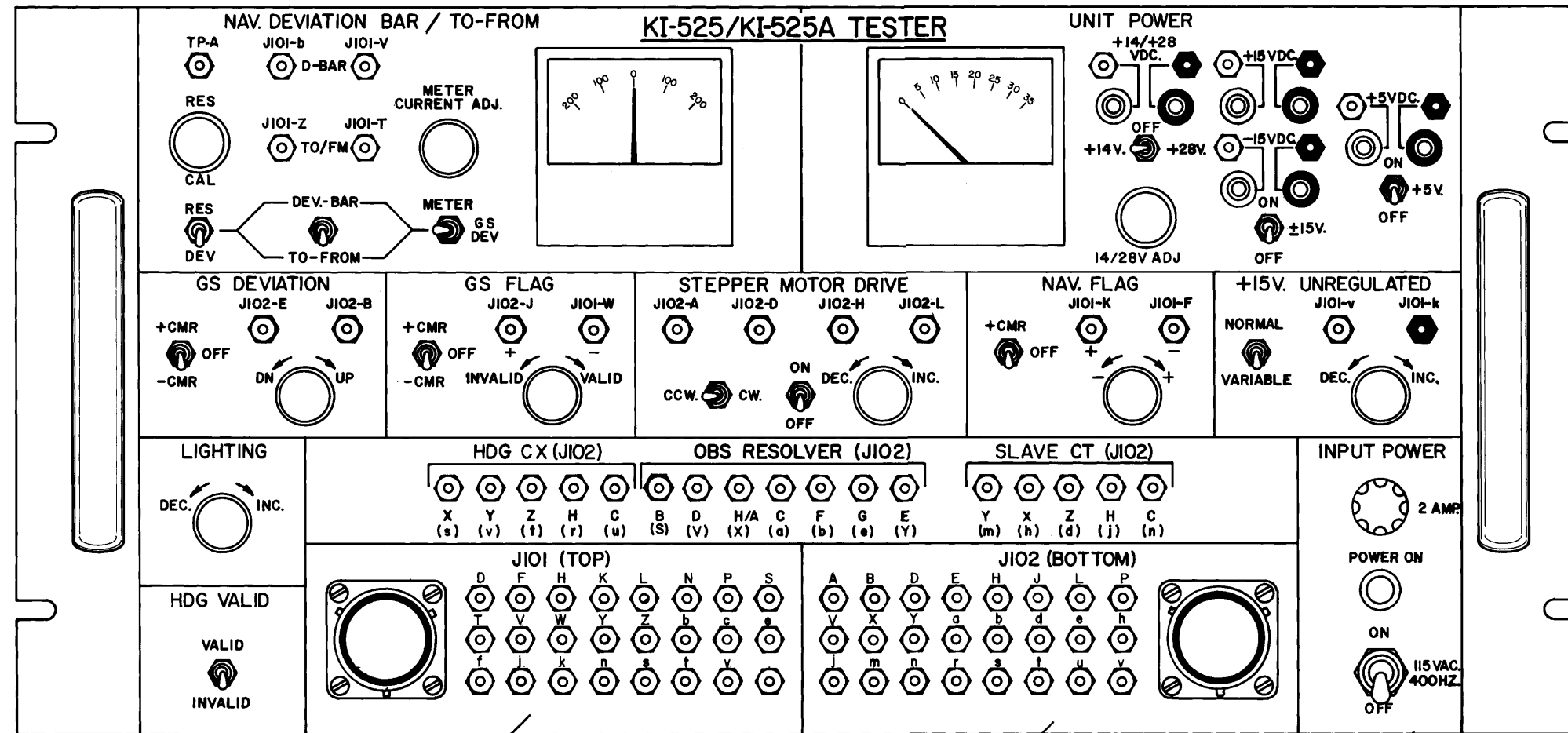


FIGURE 6-12 P.C. BOARD ASSEMBLY, BOARD 213, DRAWING  
(Dwg. 300-06011-0000 Rev. 0)

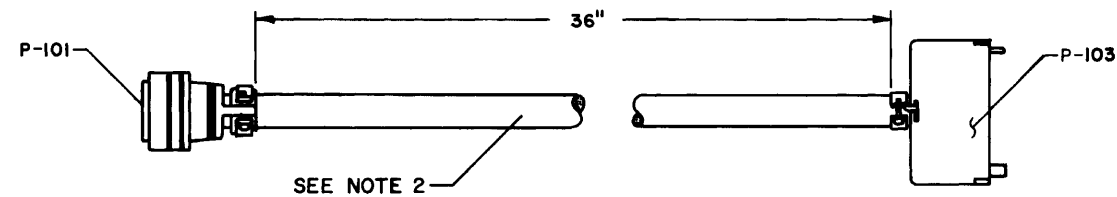
THIS PAGE IS RESERVED



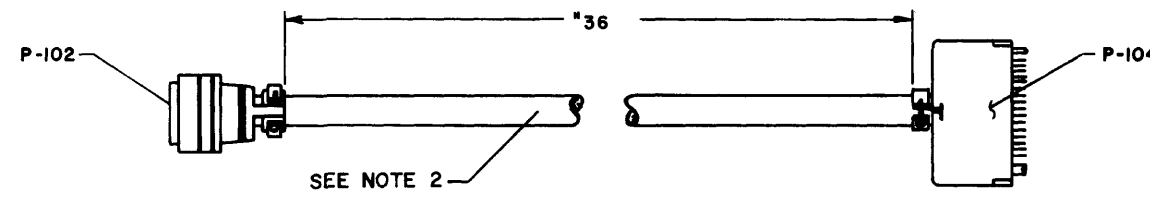


SEE NOTE 2

SEE NOTE 2



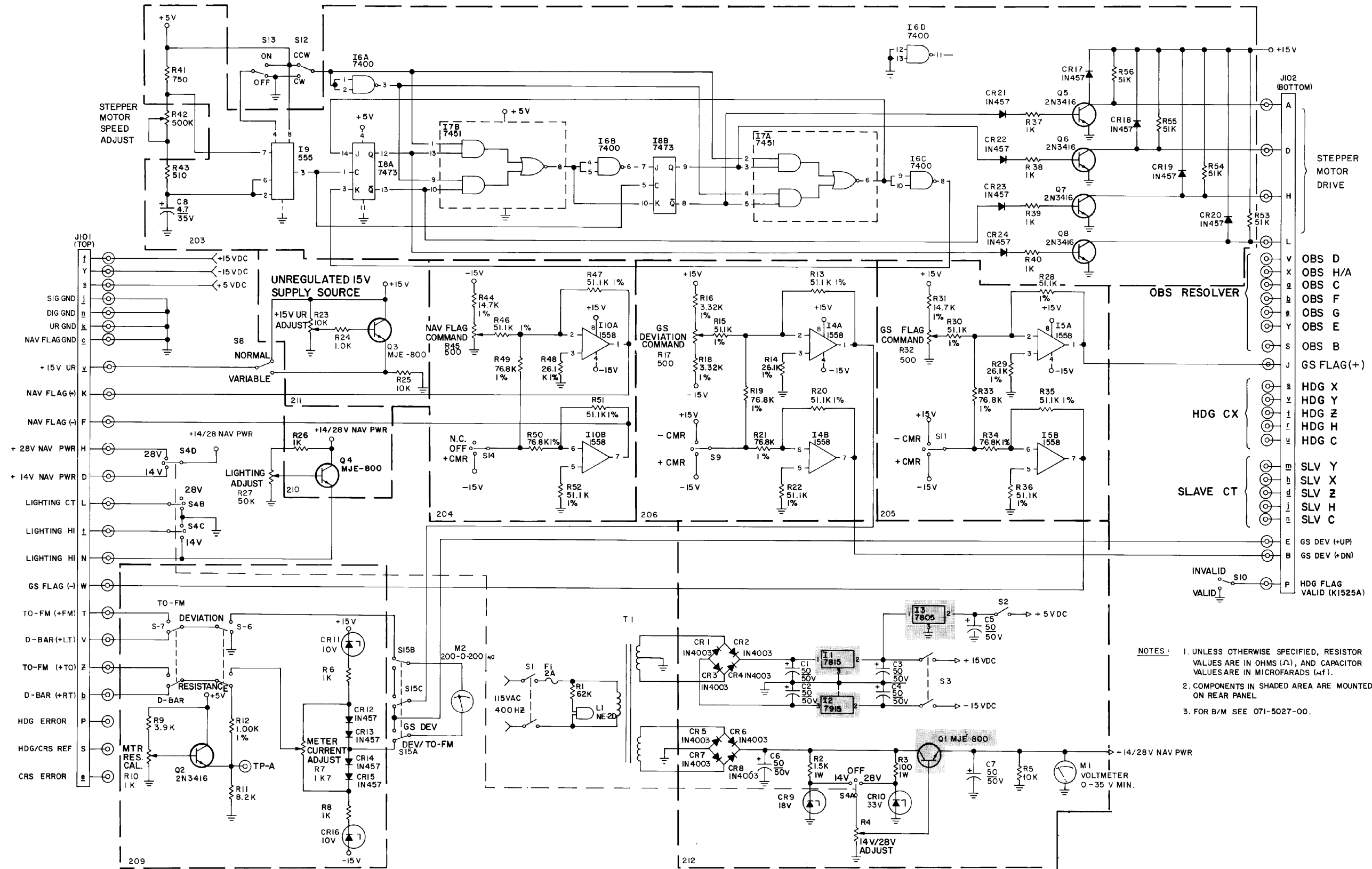
CABLE #1  
SCALE: HALF



CABLE #2  
SCALE: HALF

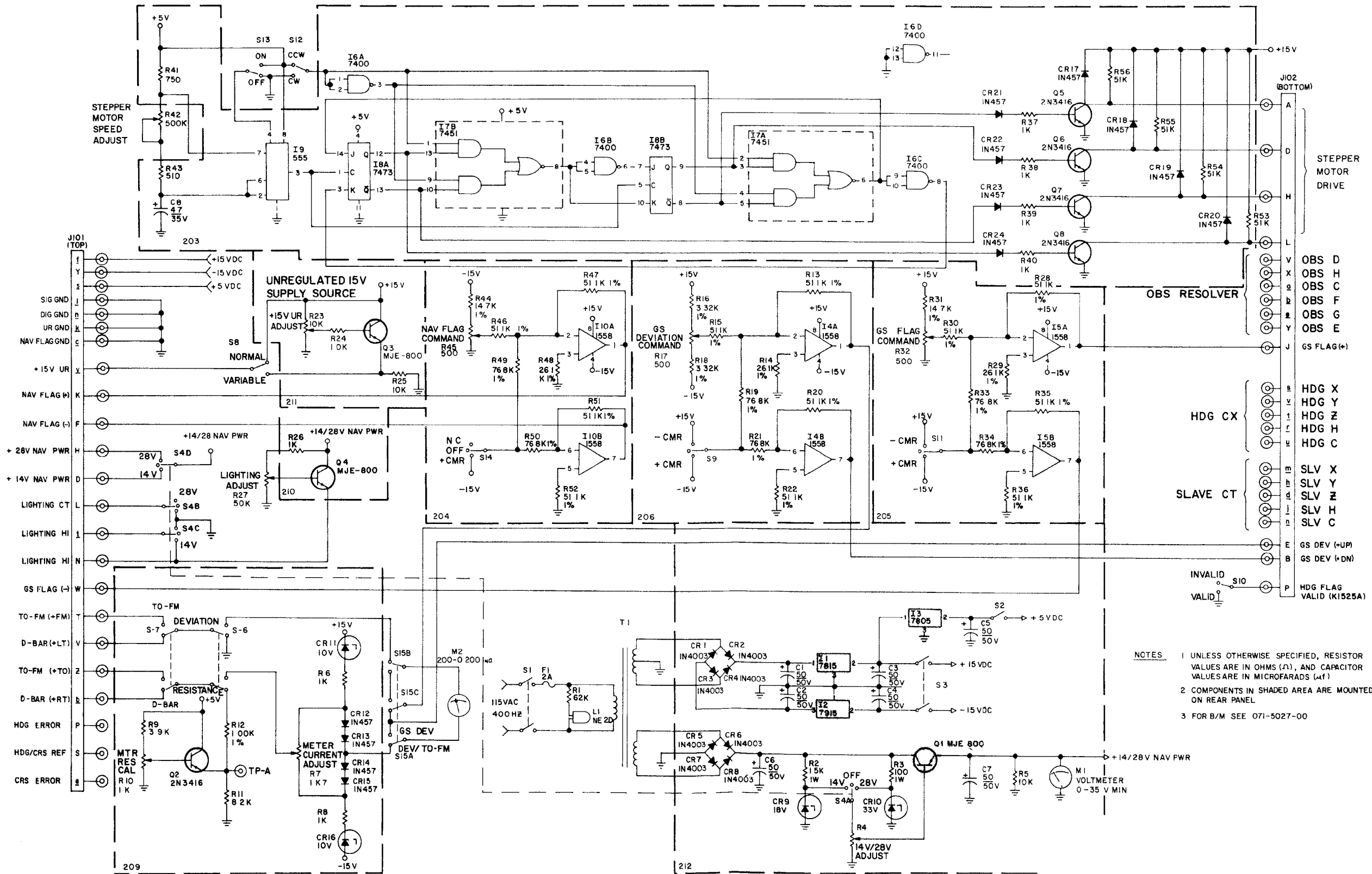
- NOTES:  
 1. FOR COMPLETE BILL OF MATERIAL SEE 071-5027-00.  
 2. FOR PIN TO PIN WIRING SEE 155-2058-00

FIGURE 6-13 KTS 153 TEST SET  
 (Dwg. 300-02004-0000 Rev. 5)



- NOTES:
1. UNLESS OTHERWISE SPECIFIED, RESISTOR VALUES ARE IN OHMS ( $\Omega$ ), AND CAPACITOR VALUES ARE IN MICROFARADS ( $\mu$ f).
  2. COMPONENTS IN SHADED AREA ARE MOUNTED ON REAR PANEL.
  3. FOR B/M SEE 071-5027-00.

FIGURE 6-14 KTS 153 SCHEMATIC  
(Dwg. 002-00436-0000 Rev. 9)



NOTES  
 1 UNLESS OTHERWISE SPECIFIED, RESISTOR VALUES ARE IN OHMS (Ω), AND CAPACITOR VALUES ARE IN MICROFARADS (μf)  
 2 COMPONENTS IN SHADED AREA ARE MOUNTED ON REAR PANEL  
 3 FOR B/M SEE 071-5027-00

FIGURE 6-14A KTS 153 SCHEMATIC (Dwg. 002-00436-0000 Rev. 7)

<u>Test Panel</u>		<u>Test Panel</u>		<u>155-2058-02</u> <u>Cable #2</u>		<u>155-2058-01</u> <u>Cable #1</u>	
<u>From</u> <u>Test Jack J102</u>	<u>To</u> <u>J102 Pin</u>	<u>From</u> <u>Test Jack J101</u>	<u>To</u> <u>J101 Pin</u>	<u>From</u> <u>P102 Pin</u>	<u>To</u> <u>P104 Pin</u>	<u>From</u> <u>P101 Pin</u>	<u>To</u> <u>P103 Pin</u>
A	A	D	D	A	A	D	D
B	B	F	F	B	B	F	F
D	D	H	H	D	D	H	H
E	E	K	K	E	E	K	K
H	H	L	L	H	H	L	L
J	J	N	N	J	J	N	N
L	L	P	P	L	L	P	P
P	P	S	S	P	P	S	S
V	V	T	T	V	V	T	T
X	X	V	V	X	X	V	V
Y	Y	W	W	Y	Y	W	W
a	a	Y	Y	a	a	Y	Y
b	b	Z	Z	b	b	Z	Z
d	d	b	b	d	d	b	b
e	e	c	c	e	e	c	c
h	h	e	e	h	h	e	e
j	j	f	f	j	j	f	f
m	m	j	j	m	m	j	j
n	n	k	k	n	n	k	k
r	r	n	n	r	r	n	n
s	s	s	s	s	s	s	s
t	t	t	t	t	t	t	t
u	U	v	A	u	u	u	v
v	C			v	v	v	
S	S			S	S	A	

FIGURE 6-15 KTS 153 TEST PANEL WIRING HARNESS AND CABLES INTERCONNECT  
(Dwg. 155-02058-0000/0002 Rev. 3)