DIAL PULSE MONITOR CIRCUIT TEST SD-3B033-01

CONTENTS

1. GENERAL INFORMATION

1.1 General

The Dial Pulse Monitor (DPM) circuit provides a means for detecting on-hook, off-hook, and dial pulsing when bridged across a customers tip and ring pair by the Service Observing Circuit (SOC) in a No. 2ESS office.

1.2 Description

This section provides a method of testing a Dial Pulse Monitor circuit.

1.21 Additional information refer to CD-3B033-01 and BSP 252-246-505 issue 2.

1.3 Circuits

SD-3B033-01

1.4 Precautions

This equipment contains semi-conductor devices subject to damage by improper procedures. Methods of Handbook 59, Section 0.3 must be observed at all times.

2. RECORDS AND REQUIREMENTS

2.1 Forms SD-97-1313 and SD-97-1315 are required for recording the results of these tests. For further information on records, refer to Handbook 3, Section 6B.

3. TEST EQUIPMENT

Amt	Code or ITE	Description
1	ITE-5632	Digital Multimeter
1	ITE-5237/A or 453 Tektronix Scope or ITE-5237/B or 456 Tektronix Scope	
1	WECo 13A	Extender Board

4. POWER VERIFICATION

4.1 Before -48V is connected to the DPM visually inspect for damage, loose, shorted or nonconnected wiring.

4.11 Verify JW-461 and JW-466 circuit packs are in their designated location and are correctly seated.

4.12 Verify fuse panel designated for DPM is a 1 1/3 amp.

4.13 Connect -48V to DPM TS-A pin 11 and GRD to TS-A pin 31.

4.14 With the ITE-5632 digital multimeter verify voltage between pins on JW-461 connector per TABLE A.

TABLE A

CPS1 JW 461	Voltage Pin	RTN Pin	Voltage Required
	1	101	
	2	102	-48 ± -42.75 to
	3	103	-52.50V
	5	8	+12V ± .24V
	6	9	
	11	8	*
	12	9	
	205	207	+5V ± .2V
	206	208	

* The -12V must be equal to the +12V ± 1%.

NOTICE - NOT FOR USE OR DISCLOSURE OUTSIDE THE BELL SYSTEM EXCEPT UNDER WRITTEN AGREEMENT

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5. TIP DETECTOR ADJUSTMENT

NOTE: Figure 1 shows location of potentiometers.

5.1 Remove JW-466 circuit pack from DPM and insert JW-466 into 13A extender board. Install JW-466 and 13A extender board into DPM JW-466 connector.

5.2 Connect a jumper between TS-A TA pin 23 and GRD A pin 31.

Connect ITE-5632 between TS-A GRD pin 31 and JW-466 TP-1. Adjust potentiometer R45 until voltmeter reads 0 ± .005V.

5.3 Remove jumper connected in Paragraph 5.1 and ITE-5632 connected in 5.2.

NOTE: The following adjustments are only required when the DPM fails to operate into SES.

5.4 The gain adjustment is made by connecting a jumper between TS-A TA pin 23 and -48V A pin 11.

5.5 Connect ITE-5632 between TS-A -48V A pin 11 and GRD A pin 31. Note voltage reading on ITE-5632.

5.6 Remove ITE-5632 lead from TS-A -48V A pin 11 and connect it to JW-466 TP-1. The voltage reading should be one-tenth the voltage taken in Paragraph 5.5. Example: if -48.00V was noted in 5.5 than the voltage at TP-1 should be -4.800 ± .005V. If the voltage is not correct at TP-1, adjust JW-466 potentiometer R46.

5.7 Remove jumper connected in Paragraph 5.4 and ITE-5632 connected in 5.6.

5.8 The offset for TP-2 is dependent upon the reading noted in Paragraph 5.5, therefore refer to Table B for required voltage at TP.

a) Connect jumper between TS-A TA pin 23 and GRD A pin 31.

b) Connect ITE-5632 between TS-A GRD A pin 31 and JW-466 TP-2.

c) Adjust JW-466 potentiometer R57 to the calculated voltage.

5.9 Remove jumper and ITE-5632 connected in Paragraph 5.8.

6. RING DETECTOR ADJUSTMENT

6.1 Connect jump between TS-A RA pin 13 and GRD A pin 31.

6.2 Connect ITE-5632 between TS-A GRD pin 31 and JW-466 TP-4. Adjust potentiometer R49 until voltmeter reads 0 ± .005V.

6.3 Remove jumper connected in Paragraph 6.1 and ITE-5632 connected in 6.2.

NOTE: The following adjustments are only required when the DPM fails to operate into SES.

6.4 The gain adjustment is made by connecting a jumper between TS-A RA pin 13 and -48V A pin 11.

6.5 Connect ITE-5632 between TS-A -48V A pin 11 and GRD A pin 31. Noted voltage reading in ITE-5632.

6.6 Remove ITE-5632 lead from TS-A -48V A pin 11 and connect it to JW-466 TP-4. The voltage reading should be one-tenth the voltage taken in Paragraph 6.5. Example: if -48.00V noted in 6.5 then the voltage at TP-4 should be -4.800 ± .005V. If the voltage is not correct at TP-4, adjust JW-466 potentiometer R48.

6.7 Remove jumper connected in Paragraph 6.5 and ITE-5632 connected in 6.6.

6.8 The voltage for TP-5 is dependent upon the reading noted in Paragraph 6.5, therefore refer to Table B for required voltage at TP.

a) Connect jumper between TS-A RA pin 13 and -48V A pin 11.

b) Connect ITE-5632 between TS-A GRD A pin 31 and JW-466 TP-5.

c) Adjust JW-466 potentiometer R63 to the calculated voltage.

6.9 Remove jumper and ITE-5632 connected in Paragraph 6.8.

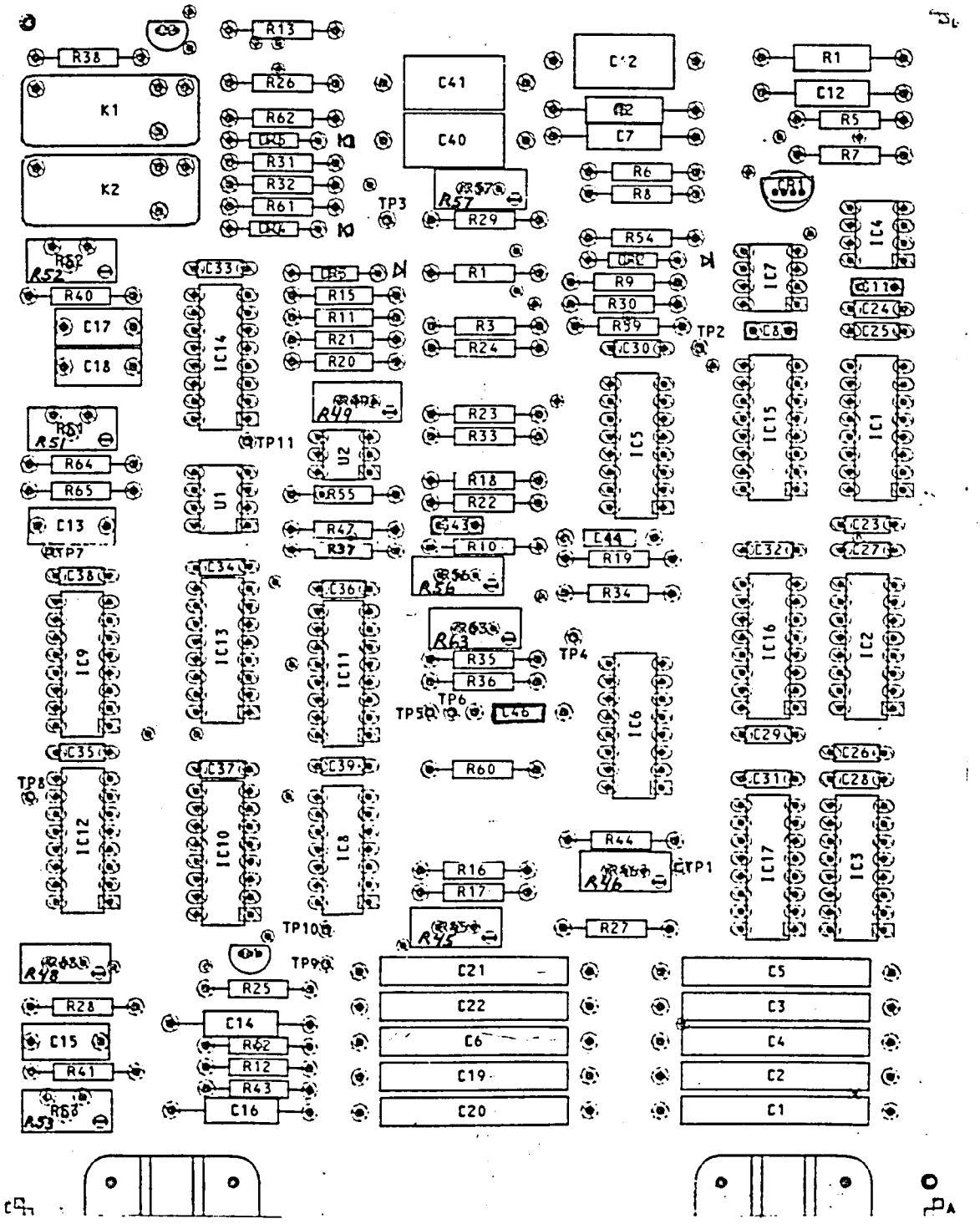
Manager, Product Engineering
Control Center

Reason for Reissue:
To make revisions and add Table B.

TABLE B

C O BAT VOLTAGE	TP-2 VOLTAGE	TP-5 VOLTAGE	C O BAT VOLTAGE	TP-2 VOLTAGE	TP-5 VOLTAGE
-42.70	-0.346	.3.9899	-47.60	-0.377	-4.4615
-42.80	-0.347	-3.9995	-47.70	-0.378	-4.4711
-42.90	-0.347	-4.0091	-47.80	-0.378	-4.4808
-43.00	-0.348	-4.0187	-47.90	-0.379	-4.4904
-43.10	-0.349	-4.0284	-48.00	-0.380	-4.5000
-43.20	-0.349	-4.0380	-48.10	-0.380	-4.5096
-43.30	-0.350	-4.0476	-48.20	-0.381	-4.5192
-43.40	-0.350	-4.0572	-48.30	-0.382	-4.5289
-43.50	-0.351	-4.0669	-48.40	-0.382	-4.5385
-43.60	-0.352	-4.0765	-48.50	-0.383	-4.5481
-43.70	-0.352	-4.0861	-48.60	-0.384	-4.5577
-43.80	-0.353	-4.0957	-48.70	-0.384	-4.5674
-43.90	-0.354	-4.1054	-48.80	-0.385	-4.5770
-44.00	-0.354	-4.1150	-48.90	-0.385	-4.5866
-44.10	-0.355	-4.1246	-49.00	-0.386	-4.5962
-44.20	-0.356	-4.1342	-49.10	-0.387	-4.6059
-44.30	-0.356	-4.1439	-49.20	-0.387	-4.6155
-44.40	-0.357	-4.1535	-49.30	-0.388	-4.6251
-44.50	-0.357	-4.1631	-49.40	-0.389	-4.6347
-44.60	-0.358	-4.1727	-49.50	-0.389	-4.6444
-44.70	-0.359	-4.1824	-49.60	-0.390	-4.6540
-44.80	-0.359	-4.1920	-49.70	-0.391	-4.6636
-44.90	-0.360	-4.2016	-49.80	-0.391	-4.6732
-45.00	-0.361	-4.2112	-49.90	-0.392	-4.6829
-45.10	-0.361	-4.2209	-50.00	-0.392	-4.6925
-45.20	-0.362	-4.2305	-50.10	-0.393	-4.7021
-45.30	-0.363	-4.2401	-50.20	-0.394	-4.7117
-45.40	-0.363	-4.2497	-50.30	-0.394	-4.7214
-45.50	-0.364	-4.2594	-50.40	-0.395	-4.7310
-45.60	-0.364	-4.2690	-50.50	-0.396	-4.7406
-45.70	-0.365	-4.2786	-50.60	-0.396	-4.7502
-45.80	-0.366	-4.2882	-50.70	-0.397	-4.7599
-45.90	-0.366	-4.2979	-50.80	-0.398	-4.7695
-46.00	-0.367	-4.3075	-50.90	-0.398	-4.7791
-46.10	-0.368	-4.3171	-51.00	-0.399	-4.7887
-46.20	-0.368	-4.3267	-51.10	-0.400	-4.7984
-46.30	-0.369	-4.3364	-51.20	-0.400	-4.8080
-46.40	-0.370	-4.3460	-51.30	-0.401	-4.8176
-46.50	-0.370	-4.3556	-51.40	-0.401	-4.8272
-46.60	-0.371	-4.3652	-51.50	-0.402	-4.8369
-46.70	-0.371	-4.3749	-51.60	-0.403	-4.8465
-46.80	-0.372	-4.3845	-51.70	-0.403	-4.8561
-46.90	-0.373	-4.3941	-51.80	-0.404	-4.8657
-47.00	-0.373	-4.4037	-51.90	-0.405	-4.8754
-47.10	-0.374	-4.4134	-52.00	-0.405	-4.8850
-47.20	-0.375	-4.4230	-52.10	-0.406	-4.8946
-47.30	-0.375	-4.4326	-52.20	-0.407	-4.9042
-47.40	-0.376	-4.4422	-52.30	-0.407	-4.9139
-47.50	-0.377	-4.4519	-52.40	-0.408	-4.9235
			-52.50	-0.408	-4.9331
			-52.60	-0.409	-4.9427

Figure 1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R26
R62
R31
R32
R61
K1
K2
C41
C40
C42
C7
R6
R8
R57
R29
TP3
R1
C12
R5
R7
CR1
R54
R9
R30
R39
C30
TP2
IC4
IC7
C11
C24
C25
C8
IC15
IC1
R52
R40
C17
C18
C33
IC14
R15
R11
R21
R20
R3
R24
R49
TP11
U2
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R37
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R18
R22
C43
R10
R56
IC5
C44
R19
R34
R51
R64
R65
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TP7
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C34
C36
IC9
IC13
IC11
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R36
TP4
TP5
TP6
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C1