



















SECTION 4  
MAINTENANCE

4.1 General

Insure that the input GR-874 connector has not loosened. A loose connector may cause one or more of the following checks to fail.

4.2 Battery Replacement

Batteries should be replaced when voltage drops below 1.33 V or after one year. With the GR-874 connector facing you and oriented at the top, remove two screws on left side of front casting and two screws on same side of rear casting. Slightly loosen the two remaining screws on back of rear casting. Remove left cover side.

IMPORTANT

Always keep two remaining screws tight on the GR-874 connector end of detector when removing the side cover. This is necessary to avoid disturbing the detector RF section.

Battery replacement will not alter frequency response if the above note is followed.

4.3 DC Input Resistance Check

Check the DC input resistance by connecting a DC resistance bridge to the GR-874 connector. The DC resistance must be 50 OHM, +1%.

This should be a 4 terminal measurement to avoid errors due to lead resistance.

4.4 Input VSWR (return loss) Check

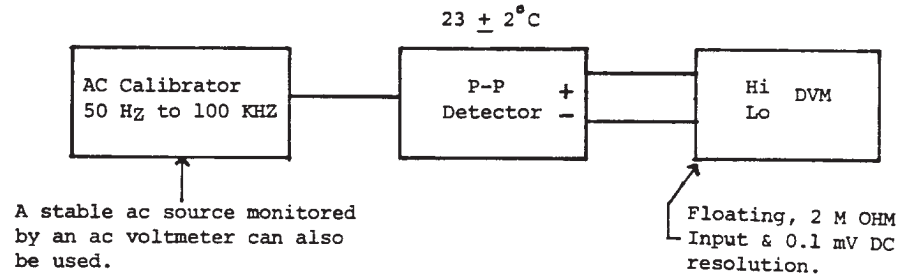
Measure the input VSWR of the detector using a slotted line, VSWR bridge, or reflectometer at 500 MHz. Measured VSWR should be less than 1.15 (> 23 dB return loss). A high VSWR indicates a defective connector or possibly damaged termination and/or diodes.

NOTE

If the Input Resistance Check (step 4.3) or the input VSWR Check (step 4.4) does not meet the requirements stated, return the 067-0625-00 Peak-to-Peak Detector to the factory for repairs.

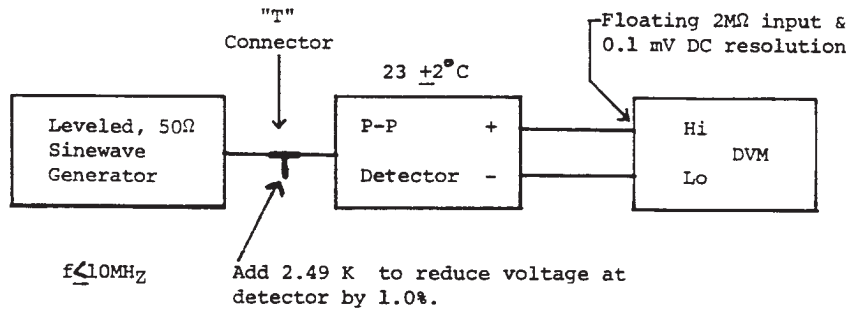
4.5  $\Delta DC/\Delta V$  p-p Check

1a. To check the detector sensitivity, connect equipment as follows:



1b. Adjust source output to about 1.2V p-p (424 m Vrms) for zero detector output. Change input voltage to detector by 1%. DVM should read  $10 \pm 1$  mVdc.

1c. If an ac voltmeter or ac calibrator is not available connect equipment as follows:



Repeat step 1b. Place 2.49 kΩ across "T"; DVM should read  $-10.0 \pm 1$  mV.

Refer to adjustment procedure in case of sensistivity check failure.

SECTION 5  
ADJUSTMENTS

5.1 Sensitivity Adjustment

There are two adjustments that will calibrate the sensitivity of the detector. The required sensitivity is  $10 \pm 1\text{mV}/1\%$  input change at approximately 1.2V p-p signal level. The adjustments may be necessary when new batteries are installed. Refer to the maintenance section of this manual for battery replacement procedure.

5.2 Sensitivity Calibration

1. Perform these steps only if maintenance check in step 4.5 of this manual fails. If new batteries are installed, refer to maintenance checks before attempting adjustments.
2. Remove the right side cover while ensuring that the RF head is not disturbed (see note, paragraph 4.2, page 4-1).
3. Connect equipment as shown on page 4-2. If the 2nd set-up is used, omit step 11 of this procedure.
4. Adjust source for a 1.2V p-p (424 mV rms) input signal to the detector.
5. Connect DVM to measure the plus (+) output of the detector. No connection should be made to the minus (-) detector output at this time. Connect other DVM lead to detector ground.
6. Adjust R8 for  $OV \pm .1 \text{ mV}$  on the DVM.
7. Connect DVM to measure the minus (-) output of the detector. No connection should be made to the plus (+) detector output at this time. Connect other DVM lead to detector ground.
8. Adjust R9 for  $OV \pm .1 \text{ mV}$  on the DVM.
9. Connect DVM to measure the full output of the detector; i.e. Hi to plus (+) output, and Lo to minus (-) output. Do not ground either the Hi or Lo inputs. This must be a floating voltage measurement.
10. Fine adjust source amplitude for a 0.0 mV indication on the DVM.
11. Change input voltage to detector by  $\pm 1\%$ ; DVM should indicate  $\pm 10 \pm 0.5 \text{ mV}$ .

12. Repeat step 11 except change input voltage to detector by -1%.  
DVM should indicate  $-10 \pm 0.5$  mV.

If readings from steps 11 and/or 12 are high, reduce source voltage to no less than 1.15V p-p (407 mV rms) and repeat entire procedure beginning at step 5.

Conversely, if readings are too low increase source voltage to no greater than 1.25V p-p (442 mV rms) and repeat procedure beginning at step 5.

The detector should show the required sensitivity at some voltage between 1.15 and 1.25V p-p.

Additional points can be checked also by this procedure. Table 1 lists the tolerances for up to 10% input change.

TABLE 1

% Change	DC OUTPUT (mV)	Tolerance (mV)
0	0	reference set
0.5	5.0	$\pm 0.5$
1	10.0	$\pm 1$
3	30.0	$\pm 3$
5	50.0	$\pm 5$
10	100	$\pm 10$

## NOTE

It is not recommended that any part of the RF head be altered unless suitable standards exist to recalibrate the frequency and impedance response of the detector. If repairs or calibration data are required return the detector to the factory.

Section 6  
**REPLACEABLE PARTS**

CROSS INDEX - MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip Code
01121	ALLEN-BRADLEY CO	1201 SOUTH 2ND ST	MILWAUKEE WI 53204
04222	AVX CERAMICS DIV OF AVX CORP	19TH AVE SOUTH P O BOX 867	MYRTLE BEACH SC 29577
18488	CONNOR SPRING AND MFG CO DIV OF SLOSS AND BRITTAIN	831 MONTEREY PASS RD	MONTEREY PARK, CA 91754
19701	MEPCO/ELECTRA INC A NORTH AMERICAN PHILIPS CO	P O BOX 760	MINERAL WELLS TX 76067
24655	GENRAD INC	300 BAKER AVE	CONCORD MA 01742
24931	SPECIALTY CONNECTOR CO INC	2620 ENDRESS PLACE P O BOX D	GREENWOOD IN 46142
32997	BOURNS INC TRIMPOT DIV	1200 COLUMBIA AVE	RIVERSIDE CA 92507
50434	HEWLETT-PACKARD CO OPTOELECTRONICS DIV	640 PAGE MILL RD	PALO ALTO CA 94304
59660	TUSONIX INC	2155 N FORBES BLVD	TUCSON, ARIZONA 85705
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON, OR 97077-0001
83385	MICRODOT MANUFACTURING INC GREER-CENTRAL DIV	3221 N BIG BEAVER RD	TROY MI 48098
91637	DALE ELECTRONICS INC	P O BOX 609	COLUMBUS NE 68601
TK0435	LEMIS SCREM CO	4114 S PEORIA	CHICAGO IL 60609

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Name & Description	Mfr. Code	Mfr. Part No.
BT1	146-0015-00	B000000	B003240	BATTERY, DRY: 1.35V, 1.1AH, MERCURY	80009	146-0015-00
BT1	146-0015-01	B003241		1.5V, 650MAH, ALKALINE-MANGANESE DIOXIDE	80009	146-0015-01
BT2	146-0015-00	B000000	B003240	BATTERY, DRY: 1.35V, 1.1AH, MERCURY	80009	146-0015-00
BT2	146-0015-01	B003241		1.5V, 650MAH, ALKALINE-MANGANESE DIOXIDE	80009	146-0015-01
C1	281-0728-00			CAP, FXD, CER DI: 8500PF, +100-0%, 500V	59660	327-010-X5M0852P
C2	281-0728-00			CAP, FXD, CER DI: 8500PF, +100-0%, 500V	59660	327-010-X5M0852P
C3	283-0177-00			CAP, FXD, CER DI: 1UF, +80-20%, 25V	04222	SR302E105ZAATR
C4	283-0177-00			CAP, FXD, CER DI: 1UF, +80-20%, 25V	04222	SR302E105ZAATR
CR1	152-0322-00			SEMICOND DVC, DI: SCHOTTKY BARRIER, SI, 15V	50434	5082-2672
CR2	152-0322-00			SEMICOND DVC, DI: SCHOTTKY BARRIER, SI, 15V	50434	5082-2672
J1	131-0106-02			CONN, RCPT, ELEC: BNC, FEMALE	24931	28JR178-1
J2	131-0106-02			CONN, RCPT, ELEC: BNC, FEMALE	24931	28JR178-1
R1	322-0618-00			RES, FXD, FILM: 50 OHM, 1%, 0.25M, TC=TO	91637	CMF6042G50R00F
R2	317-0101-00			RES, FXD, CMPSN: 100 OHM, 5%, 0.125M	01121	881015
R3	317-0101-00			RES, FXD, CMPSN: 100 OHM, 5%, 0.125M	01121	881015
R4	315-0105-00			RES, FXD, FILM: 1M OHM, 5%, 0.25M	19701	5043CX1M000J
R5	315-0105-00			RES, FXD, FILM: 1M OHM, 5%, 0.25M	19701	5043CX1M000J
R6	315-0303-00			RES, FXD, FILM: 30K OHM, 5%, 0.25M	19701	5043CX30K00J
R7	315-0303-00			RES, FXD, FILM: 30K OHM, 5%, 0.25M	19701	5043CX30K00J
R8	311-0644-00			RES, VAR, NONMM: TRMR, 20K OHM, 0.5M	32997	3329H-648-203
R9	311-0644-00			RES, VAR, NONMM: TRMR, 20K OHM, 0.5M	32997	3329H-648-203
R10	315-0124-00			RES, FXD, FILM: 120K OHM, 5%, 0.25M	19701	5043CX120K0J
R11	315-0124-00			RES, FXD, FILM: 120K OHM, 5%, 0.25M	19701	5043CX120K0J

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Qty	12345	Name & Description	Mfr. Code	Mfr. Part No.
1-1	132-0002-00			1		SHELL,ELEC CONN: ATTACHING PARTS	24655	0874-0603
-2	132-0001-00			1		NUT,COUPLING:0.75-27 X 0.814 OD X 0.31, BRS END ATTACHING PARTS	80009	132-0001-00
-3	132-0029-00			1		CONTACT,ELEC: ATTACHING PARTS	24655	0874-0612
-4	132-0122-00			1		CONTACT,ELEC:0.25 HEX X 0.6,BRS SIL PL END ATTACHING PARTS	80009	132-0122-00
-5	132-0028-00			1		INSULATOR,DISK:0.165 ID X 0.625 OD X 0.125	24655	0874-0700
-6	132-0007-00			1		RING,RETAINING:0.575 ID X 0.031 THK,PH BRZ	18488	ORDER BY DESCR
-7	204-0227-24			1		BODY,P-P DETECT:INPUT ATTACHING PARTS	80009	204-0227-24
-8	211-0091-00			4		SCREW,MACHINE:2-56 X 0.875,OVH,SST END ATTACHING PARTS	TK0435	ORDER BY DESCR
-9	214-0270-01			1		PIN,STR,HDLS:0.062 DIA X 0.4 L,BRASS	80009	214-0270-01
-10	210-0259-00			2		TERMINAL,LUG:0.099 ID,LOCKING,BRS CD PL ATTACHING PARTS FOR EACH	80009	210-0259-00
-11	211-0079-00			1		SCREW,MACHINE:2-56 X 0.188,PNH,STL END ATTACHING PARTS	TK0435	5549-418
-12	204-0461-00			1		BODY,P-P DETECT:	80009	204-0461-00
-13	200-0684-00			2		COV HALF,P ADAP: ATTACHING PARTS FOR EACH	80009	200-0684-00
-14	211-0122-00			2		SCREW,MACHINE:2-56 X 0.312,OVH,STL END ATTACHING PARTS	83385	ORDER BY DESCR
-15	131-0106-02			2		CONN,RCPT,ELEC:BNC,FEMALE	24931	28JR178-1
-16						CKT BD ASSY:(AVAILABLE UNDER 067-0625-00)		
-17	204-0227-25			1		BODY,P-P DETECT:TERMINATION	80009	204-0227-25
ACCESSORIES								
	062-1306-XX			1		DATA SHEET:	80009	062-1306-XX

EXPLODED VIEW

