

HP Archive

This vintage Hewlett Packard document was preserved
and distributed by

[www. hparchive.com](http://www.hparchive.com)

Please visit us on the web !

On-line curator: Glenn Robb

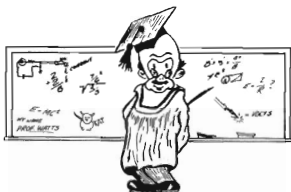
This document is for FREE distribution only!



YOUR PRIVATE LINE TO HEWLETT-PACKARD'S CUSTOMER SERVICE DEPT.

October-November 1964

Vol. 1 No. 4

PROFESSOR WATTS - SCHOOL FOR SERVICE TIPS
AND HINTS**HP MODEL 187B
DUAL TRACE VERTICAL AMPLIFIER**
Serials Below 406-01579

Should CR513 or CR613 in the above instrument need replacing, use the HP Stock Number 1902-0199 diode. The specifications of the previous 1902-0067 diode have been loosened and the diode is no longer suitable for replacement.

There is no need to replace the diodes now in your instrument if it is operating properly. Make the change only if CR513 or CR613 should fail. Remember to show this change in the Replaceable Parts section of your HP Model 187B Operating and Service Manual.

**HP MODEL 202C LOW FREQUENCY OSCILLATOR
AND HP MODEL HO-207A OSCILLATOR**

The line fuse specified for the above two instruments is 1 amp. Actually this rating is a little marginal. If you find that the fuses have been blowing occasionally without apparent cause, use a 1-1/4 amp slow-blow. The HP Stock Number for this item is 2110-0021.

**HP MODEL 412A DC VOLTMETER-OHMMETER-
AMMETER; HP MODEL 413A DC NULL VOLTMETER**

Just a reminder that can save you dollars....The Modulator Assembly, HP Stock Number 412A-95A, is a replacement part in the 412A and 413A. You need not replace the entire Amplifier Assembly (HP Stock Number 412A-58A) if the Modulator Assembly needs replacing.

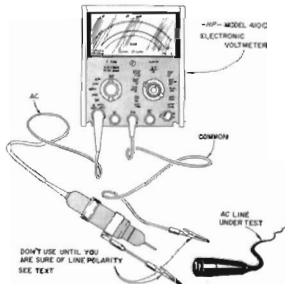
Some early Operating and Service Manuals for these instruments do not show the 412A-95A as a replacement part. Check the Replaceable Parts section of your manual and, if necessary, add the following: 412-95A Modulator Assembly (includes V110A/B).

HP MODEL 410C ELECTRONIC VOLTMETER

Here's an important reminder for HP Model 410C users' When measuring AC, the COM lead, AC probe clip, and cabinet (chassis) of the 410C are tied to earth ground through the third wire of a standard three wire power line system. When the 410C is being used to make AC voltage measurements, the above is true even though you do not use a shorting strap between circuit ground (⚡) and cabinet ground (⚡) on the rear panel. This means you must observe certain precautions when measuring any AC voltage directly related to the AC line voltage. (If you use a shorting strap between circuit ground and cabinet ground on the rear chassis, you must be careful not to measure any DC voltage which is directly related to the AC line, i.e., the DC power supply of an AC/DC radio.)

The COM lead or AC probe clip must always be attached to the ground side of the AC line voltage under test. Incidentally, this is the rule for any line operated HP AC Voltmeter. Here's a safe and sure way of telling the AC line "hot" side from the ground side. Simply measure the AC line related voltage without using the COM lead or AC clip. Using this procedure, you will find when you measure the "hot" side of the line, the meter will deflect (probably even read the correct voltage or close to it. When you measure the ground side, you will get little or no meter deflection.

Once you have properly identified the leads carrying the AC voltage, you can measure the AC in the normal manner using the COMMON or AC probe clip lead on the ground side of the AC line.



HP MODEL 114BR TIME COMPARATOR
Serials 150-00300 and below

Increase the reliability of the sweep-retrace multi-vibrator in your HP Model 114BR with one easy modification. Change R4 on the A7 Sweep and Marker Generator Assembly to a 270 ohm, 1/4 W, 5% resistor (HP Stock Number 0683-2715). No adjustments are necessary as a result of the modification.



NEW SERVICE TOOLS! :

MORE EXPLOSIONS! !!!

In the last issue of BENCH BRIEFS we described two Illustrated Parts Identification Lists which are available for the HP Models 606A and 608C or D. These documents are excellent service tools which, with the help of effective exploded views, will enable you to:

- 1) Identify parts of complicated mechanical subassemblies used in these instruments.
- 2) Service these subassemblies.

Reader response to this offer was very enthusiastic. Accordingly, we are making available a list for the HP Model 616A or B. If you would like to receive a copy of this Illustrated Parts Identification List, circle 616A/B under SERVICE NOTE ANNEX.

SERVICE NOTES

Here are the latest Service Notes . . . all designed to insure top-notch performance from your HP family instruments. If there are any you would like to receive, circle the appropriate number of each under SERVICE NOTE ANNEX.

310A-3 Here's a modification for your HP Model 310A Wave Analyzer that will improve the low-pass filter stability.

No special tools are needed to do the job, and no calibration is necessary as a result of the modification. 310A Wave Analyzers with serials above 436-00375 already have the modification installed.

204B-1 If you are interested in installing a battery-pack, AC power supply, or rechargeable batteries in your HP Model 204B Oscillator, this Service Note gives you all the instructions.

3440A-2 You can reduce warm-up time and improve ramp generator stability of your HP Model 3440A Digital Voltmeter by installing a reference amplifier. The reference amplifier is an interesting device - a transistor and diode encapsulated in the same case - which replaces A3Q14 and A3CR12 in the voltmeter.

No special tools are required to do the job and the modification takes about 25 minutes. 3440A voltmeters with serials prefixed above 415 already have this modification installed.

5242L/5244L-1 Install a resistor-capacitor filter in the inhibit circuit of your HP Model 5244L Electronic Counter and improve compatibility when the counter is connected to an HP Model 562A Digital Recorder/HP Model HO3-5718R Digital Clock combination.

This is an easy to perform modification and no adjustments are necessary as a result of it. 5242L Counters with serials prefixed above 316, and 5244L Counters with serials prefixed above 328 already have this modification installed.

5243L/5245L-2 This modification is the same as described under 5242L/5244L-1 except it affects two different counters - the HP Model 5243L, serials prefixed 328 and below, and HP Model 5245L, serials prefixed 335 and below.

8614A-1 This Service Note outlines the procedure for modifying HP Model 8614A Signal Generators, serials below 411-00376, to reduce residual FM in the FM mode of operation.

The modification consists of changing two conductors to shielded leads. No adjustments are necessary as a result of the change.

HP HARRISON DIVISION (H-LABS)
FIELD ADJUSTMENTS

Here's some excellent information! There are available twenty-one Service Notes chock full of valuable calibration instructions for your H-Labs Power Supplies. The literature is designed to be used with the Operating and Service Manuals for each instrument - all to help you do a top notch calibration job.

The Service Notes available are listed under SERVICE NOTE ANNEX. (The Service Note number, of course, indicates the power supply to which the note applies.) Circle the number of those you would like to receive.

HP PRODUCT TRAINING NEWS! :

While it is likely that you are well acquainted with the one and two day HP instrument training seminars conducted periodically in your area, did you know that more formalized one and two week programs are also available for your benefit? These programs are conducted in the HP Product Training facilities in Palo Alto, California. Both instrument maintenance and instrument applications courses are offered.

Two week training sequences are generally scheduled each month. The first week of each sequence is devoted to a particular instrument family with the second week utilized to cover a related family. In this way you have the advantage of selecting the first week, the second week, or both weeks as you prefer. Courses are repeated periodically throughout the year so that you may preplan your attendance to best fit your needs.

Instrument maintenance courses scheduled for January and February include:

Jan. 25-29 HP 600 series Klystron Signal Generators and HP 680 series Electronic Sweep Oscillators.

Feb. 1-5 Repair, maintenance, and techniques of use of HP Waveguide and Coaxial passive devices.

Feb. 8-12 HP 8600 series Klystron Signal Generators and HP 690 series Electronic Sweep Oscillators.

As you have already guessed, attendance in each program is limited so you'll want to make your reservation early. Your HP Field Engineer will be glad to make arrangements for you as well as provide you with a detailed outline of each program and long-term schedule of programs available.

SERVICE . . . SERVICE . . . SERVICE

Next page you'll find a listing of HP Sales and Service Offices in the U.S. and Canada. They are equipped to offer you fast repair service . . . fast service on your replacement part orders. In short, they are ready to help you with all your HP service needs.

Keep the list handy, and give your nearest HP Sales and Service Office a call when you need assistance.

Cut Along Dotted Line

SERVICE NOTE ANNEX . . . Here is a list of the latest Service Notes to help insure a maximum usage from your HP family instruments. To obtain a copy, simply circle the Service Note number you wish. Cut along dotted line, enclose this portion of Bench Briefs in an envelope and send it to your nearest field office or to us at HP Customer Service. In Western Europe send order to: Hewlett-Packard S. A., 54 Route des Acacias, Geneva, Switzerland.

Do you have a friend who would enjoy receiving Bench Briefs? If so, please give us his name and address. (Please Print)

<u>Name</u>		<u>Address</u>	
<u>-HP-</u>	<u>H-Labs</u>	<u>H-Labs</u>	<u>H-Labs</u>
310A-J	510A-1	809A-1	6201A-1
204B-1	520A-1	810B-1	6204AM-f
3440A-2	800A-2-1	814A-1	6206A-1
5242L/5244L-1	800B-2-1	855B-1	6224-1
5243L/5245L-2	801C-1	865B-1	6226A-1
8614A-1	802B-1	6209A-1	6242A-1
	808A-1	6263-1	6244A-1

SALES AND SERVICE OFFICES IN THE U.S. AND CANADA

ALABAMA
Birmingham, 36801
Brewitt-Packard
Southern Sales Division
Shelby Office Bldg., Suite 19
(205) 451-8591

ARIZONA
Scottsdale, 85251
Brewitt-Packard
Nevly Sales Division
3000 N. Tatum Blvd.,
Suite 944-7601
Tucson, 85716
Brewitt-Packard
Nevly Sales Division
314 S. Tatum Blvd.,
Suite 632-3664

CALIFORNIA
Los Angeles Area
Brewitt-Packard
Nevly Sales Division
2851 Lunderwood Blvd.,
North Hollywood, Calif. 91604
(818) 771-1582 and 756-3811

CONNECTICUT
Newtown, 06455
Brewitt-Packard
Nevly Sales Division
2951 Capital Ave.
07461-8017
San Diego, 92108
Brewitt-Packard
Nevly Sales Division
1055 Shafter Street
07142-4100

San Francisco Area
Brewitt-Packard
Nevly Sales Division
581 Laurel Street
San Carlos, Calif. 94071
(415) 395-7981

COLORADO
Denver (Boulderwood) 80110
Brewitt-Packard
Lexus Sales Division
1801 East Frontiere
(303) 771-3465

CONNECTICUT
Middletown, 06454
Brewitt-Packard
Travel Sales Division
1801 Stephens Rd.,
06457-8412

FLORIDA
Miami
Brewitt-Packard
Florida Sales Division
2895 N. W. 5th St.,
03614-8379
Orlando, 32809
Brewitt-Packard
Florida Sales Division
623 Commonwealth Ave.
(305) 485-8341

St. Petersburg, 33706
Brewitt-Packard
Florida Sales Division
412 110th Ave., Madeira Beach
(813) 391-0211

GEORGIA
Atlanta, 30305
Brewitt-Packard
Southern Sales Division
1130 Maple Drive, N.E.
(404) 223-1143

ILLINOIS
Chicago, 60645
Brewitt-Packard
Crowley Sales Division
2025 West Parkview Ave.,
01127-2710

INDIANA
Indianapolis, 46205
Brewitt-Packard
Crowley Sales Division
1918 Madison Dr.,
(317) 548-4881

KENTUCKY
Lexington, 40514
Brewitt-Packard
Southern Sales Division
Route 1, 2411 Bardonia Rd.,
00049-4140

MARYLAND
Baltimore, 21207
Brewitt-Packard
Business Sales Division
8880 Security Blvd.,
02113-9430

Washington, D.C. Area
Brewitt-Packard
Business Sales Division
841 Collins Avenue
Bethesda, Md. 20814
(301) 487-7520

MARSHMOUTH
Boston Area
Brewitt-Packard
Travel Sales Division
Mathews Triangle
Bedford, Mass. 01744
(617) 272-8688

MICHIGAN
Detroit, 48221
Brewitt-Packard
Crowley Sales Division
14420 West Eight Mile Road
(313) 342-5302

MINNESOTA
St. Paul, 55114
Brewitt-Packard
Crowley Sales Division
843 Raymond Avenue
(612) 446-7981

MISSOURI
Kansas City, 64131
Hercules-Bosco Company
7015 Paseo Street
(816) 944-3494

St. Louis, 63144
Hercules-Bosco Company
3214 South Brentwood Blvd.,
0716-677-4202

NEW JERSEY
Rutgers Park Area
Brewitt-Packard
Southern Sales Division
Boroughway, New Jersey
(201) 767-2962

Englewood, 07624
Brewitt-Packard
RMC Sales Division
200 Grand Avenue
(201) 467-3933

NEW MEXICO
Albuquerque, 87106
Brewitt-Packard
Nevly Sales Division
6021 Lomas Blvd., N.E.
(505) 251-5456

Las Cruces, 88011
Brewitt-Packard
Nevly Sales Division
114 S. Water Street
(505) 326-2688

NEW YORK
New York, 10661
Brewitt-Packard
RMC Sales Division
226 East 75th Street
(212) 879-3822

Rochester, 14605
Brewitt-Packard
Business Sales Division
300 Linden Avenue
07602-3011-0122

Phoenician, 13004
Brewitt-Packard
Business Sales Division
62 Washington St.,
(914) 454-7338

Stamens, 13211
Brewitt-Packard
Business Sales Division
Purdum Bldg., W. Melroe Rd.,
(315) 494-2466

NORTH CAROLINA
High Point, 27033
Brewitt-Packard
Southern Sales Division
1223 N. Main Street
(319) 882-6712

OHIO
Cleveland, 44129
Brewitt-Packard
Crowley Sales Division
1579 Pearl Road
(216) 884-9019

Dayton, 45409
Brewitt-Packard
Crowley Sales Division
120 N. Dunlap Lane
(513) 228-2694

PENNSYLVANIA
Camp Hill
Brewitt-Packard
Southern Sales Division
(717) 371-8191

Philadelphia Area
Brewitt-Packard
Business Sales Division
141 E. 63rd Street
West Conshohocken, Pa. 19380
(610) 291-1000 and 428-4280

Warrenburg Area
Brewitt-Packard
Crowley Sales Division
2945 Moss Dale Blvd.,
Morgantown, Pa. 17146
(482) 471-1527

TEXAS
Dallas, 75220
Brewitt-Packard
Southern Sales Division
P. O. Box 7106, 3000 Rosswood Rd.,
(214) 357-1981 and 332-6667

Houston, 77027
Brewitt-Packard
Southern Sales Division
P. O. Box 12111, 8343 Rothwood Jr.
(713) 667-2427

VTAR
Salt Lake City, 84115
Brewitt-Packard
Lexus Sales Division
1402 Major St.
(801) 468-8986

VIRGINIA
Richmond, 23220
Brewitt-Packard
Business Sales Division
1112 Sumner Road
(703) 882-2461

WASHINGTON
Seattle, 98108
ARVA, Inc.
1528 Fremont Street
(206) 462-4177

After-Act. I, (205)
Baffle (Baltimore)
Brewitt-Packard
Nevly Sales Division
11606 N. E. 8th St.,
(800) 434-3971

CANADA
Montreal, Quebec
Brewitt-Packard (Canada) Ltd.
4270 Boulevard Street
(514) 733-2278

Ottawa, Ontario
Brewitt-Packard (Canada) Ltd.
1763 Carling Avenue
(613) 733-2223

Toronto, Ontario
Brewitt-Packard (Canada) Ltd.
1411 Lawrence Avenue, West
(416) 548-1444



bench briefs

HEWLETT-PACKARD COMPANY

395 Page Mill Road • Palo Alto, California 94306