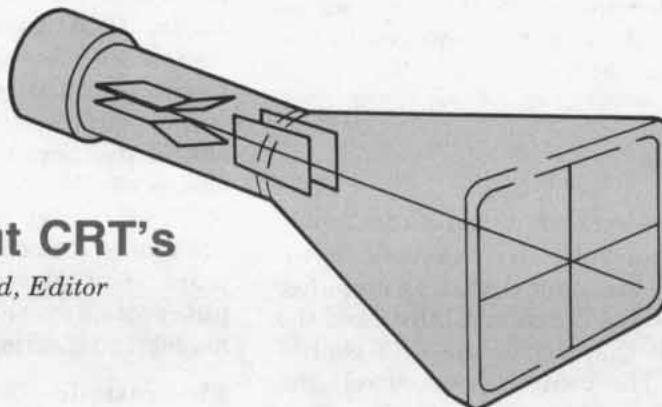


SERVICE INFORMATION FROM HEWLETT-PACKARD

MARCH-MAY 1981



All About CRT's

By Jim Bechtold, Editor

Introduction

In 1879, William Crookes demonstrated the ability to deflect cathode rays in a vacuum tube with a magnet. Cathode rays had earlier been shown capable of causing phosphorescence on the glass walls of a vacuum tube, but control of the area of phosphorescence was only possible by using shaping masks (solid structures in the tube incapable of producing dynamic deflection). The combination of focusing elements to produce a narrow electron beam (or cathode ray) aimed at a fluorescent target with dynamic electromagnetic-beam deflection became known as a *Crookes tube*. The Crookes tube, later to be commonly known as a *cathode-ray tube* (CRT) or more precisely as an *electron-beam tube*, offered much promise for displaying high-speed variations that could not be demonstrated on mechanical apparatus. By 1897, Carl F. Braun had constructed a "variable current apparatus" by using the Crookes tube, the first forerunner of the modern oscilloscope.

An oscilloscope is an instrument capable of presenting a luminous X-Y graph of any two related electrical parameters. One set of electrical signals is applied to the horizontal deflection (X-axis) system, and the other set of signals to the vertical deflection (Y-axis) system, whereupon the cathode-ray beam traces out the X-Y coordinate graph. The intensity of the beam can be controlled, or modulated, by an electrical signal (sometimes called the *video signal*) applied to the Z-axis system. Such a definition includes not only oscilloscopes and other related electronic instrumentation displays, but standard home television sets as well.

The major difference between an oscilloscope and a television is in the way the picture is formed on the screen of the CRT. In an oscilloscope, external signals control the vertical and horizontal movement of the electron beam. The path the beam traces on the phosphor of the CRT is a picture of those signals. In television, the beam is moved in a fixed pattern both vertically and horizontally; the picture is formed when the beam's intensity is modulated by the external video signal.

Elements and Terminology

In all X-Y display applications, the purpose is to draw an image on the screen for human interaction. However, before discussing the methods of drawing these images, it is important to discuss display-related terminology and some of the important elements of a picture. Once this common ground is established, the methods of forming a picture can be analyzed in detail.

The important aspects of any picture are resolution, brightness and data density.

Resolution

Two types of resolution, spot size and addressable, are important in discussing a display device. Spot size resolution is simply the diameter of the electron beam spot divided into the screen dimensions. Since the light intensity of a spot is not uniform across its diameter, measurement of spot size is not an exact science.

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To test spot size resolution, a raster is displayed on the screen and reduced in size until the lines just become indistinguishable. At that point, the size of the raster is measured and divided by the number of lines in the raster to determine the resolution.

Addressable resolution, on the other hand, has nothing to do with spot size, but simply is the incremental accuracy in which the beam can be positioned. The smallest positional movement of the electron beam divided into the CRT dimensions then gives the addressable resolution. Unlike spot resolution, addressable resolution is an exact computable number. It is important to realize that addressable resolution holds no fixed relationship to spot resolution. Addressable resolution can be either greater or less than spot resolution. The relationship of addressable resolution to spot resolution does play a significant role in the perceived "quality" of a display or picture. More on this later.

Brightness

Brightness is simply the light output of the picture being displayed. The relative light output of a displayed picture is significantly different from the maximum light output capability of the CRT as will become apparent later.

Data Density

The amount of data displayed (data density) is simply the area of the CRT screen that is lit versus the entire screen size (or the amount of lit area versus dark area). The lit portion of the screen consists of all the alphanumeric characters and vectors (lines) that comprise the picture being displayed.

Raster

Raster is a predetermined pattern of scanning lines that provides substantially uniform coverage of an area. In other words, the raster is the rectangular pattern of light which appears on the CRT screen when the screen is scanned by the electron beam.

Z-Axis

This refers to that part of the display that controls CRT intensity. It includes the input circuit, an amplifier (called the Z-axis amplifier), and the circuit that drives the CRT control grid. The control grid controls the amount of beam current allowed to fall on the phosphor at the front of the tube which varies the intensity of the picture.

CRT Deflection Fundamentals

Now that some of the basic CRT elements and terminology have been identified, let's discuss beam deflection techniques. There are two methods of deflecting the beam inside the CRT; electromagnetic and electrostatic.

Electromagnetic

Magnetic deflection systems utilize an inductive coil (called a yoke) surrounding the neck of the CRT through which a current signal is passed to generate a magnetic field to deflect the electron beam (see Figure 1). At high frequencies, inductors with few turns are necessary to obtain fast current changes, and larger currents are required to obtain the required field strength. Consequently, above repetition rates of 20 kHz, large power dissipations are required to obtain full-scan displays. Most television sets and computer display terminals use the magnetic deflection scheme.

Electrostatic

Electrostatic deflection systems consist of complex electron gun structures containing two sets of deflection plates; one set for horizontal deflection and one set for vertical deflection (see Figure 2). Electrostatic deflection, involving voltage charging of capacitive plates to deflect the electron beam, is capable of speeds several orders of magnitude higher than electromagnetic for a comparable amplifier cost (but not CRT cost). Since even inexpensive industrial oscilloscopes generally are capable of displaying 500 kHz or

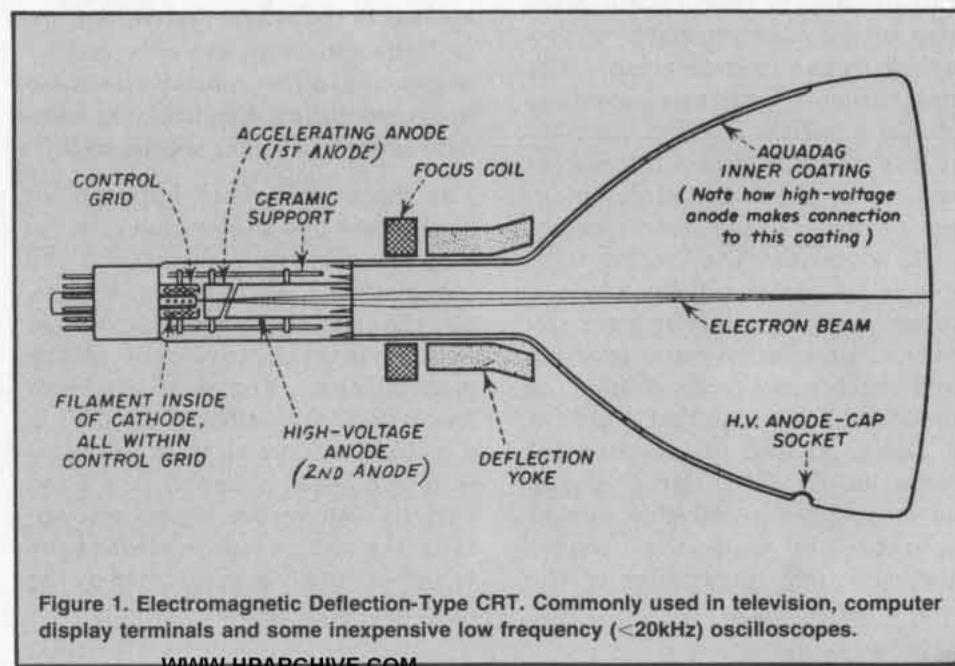


Figure 1. Electromagnetic Deflection-Type CRT. Commonly used in television, computer display terminals and some inexpensive low frequency (<20kHz) oscilloscopes.

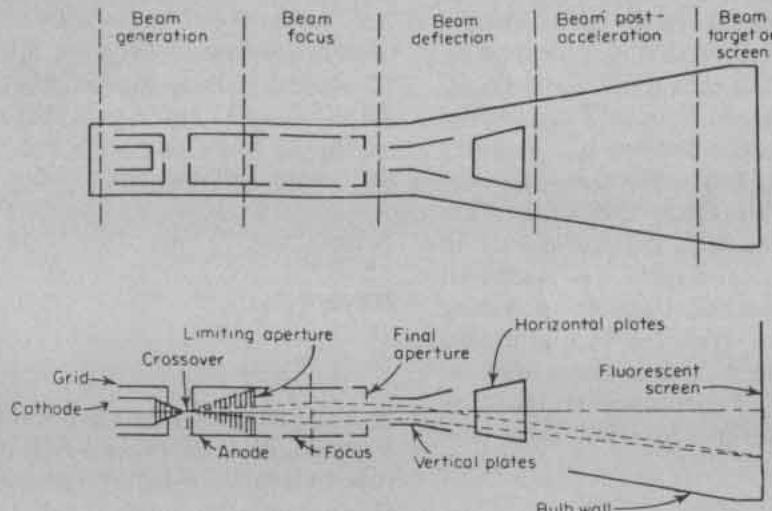


Figure 2. Electrostatic Deflection-Type CRT. Commonly used in X-Y displays and oscilloscopes.

more on the vertical axis (and often on the horizontal axis as well), it is not surprising that most oscilloscopes and X-Y displays use the electrostatic deflection scheme.

Electromagnetic vs Electrostatic

The major differences between the two systems are light output and frequency response. The magnetic system generally offers more light output while the electrostatic system offers high-speed response at low power consumption. In addition, magnetic deflection allows a wider beam-deflection angle than does electrostatic deflection. Moreover, when the full-screen deflection bandwidth desired is less than 20 kHz, the electromagnetic deflection system (amplifier and CRT) has a substantial cost advantage over an electrostatic system. This is one of the reasons television sets, many medical monitors, and some oscilloscopes rely upon CRTs with electromagnetic deflection.

Light Output

Brightness, which is a function of beam current, is governed by the internal construction of the CRT. Given the same spot size, with all other things equal, an electromagnetic CRT will be brighter than a comparable electrostatic CRT. This is mainly due to the fact that the electromagnetic CRT gun structure is very simple, allowing most of the beam current to pass through to the screen. The electrostatic gun has a large number of internal elements as shown in Figure 2. Notice that the front-most element of the focus lens has a relatively small aperture, which strips away 70-90% of the beam current just before the beam enters the deflection plate region. The gun is constructed this way because the beam diameter must be smaller than the distance between the plates as it passes between them.

Deflection Speed

In either type of CRT, it is desirable to deflect the beam at as large a mechanical distance from the screen as feasible. This optimizes deflection sensitivity by providing the greatest deflection distance at the screen per volt, or gauss, of applied deflection field. In the electrostatic CRT, the plates must also be reasonably close together to achieve sufficient deflection field strength with an applied voltage in the range of 300 volts. A greater swing would create significant X and Y amplifier design problems.

Electrostatic displays have faster deflection systems and use less current than electromagnetic displays. This is the result of physics; the load of the deflection plates is only the stray capacitance of a few picofarads. On the other hand, the inductance of the yoke is the load to the driving amplifiers. The higher the inductance (i.e., more turns and stronger magnetic field), the easier it is to deflect the beam; however, higher inductance requires high power. To lower the inductance reduces power requirements but also reduces deflection sensitivity. This then requires reduction in accelerating potentials in the CRT so that the beam can be deflected full screen, which also reduces the light output.

Some further points of comparison follow:

- 1. Linearity/Geometry:** In order to achieve a linear deflection in an electromagnetic display, it is necessary to apply an "S"-shaped non-linear voltage function to the deflection coils. To achieve good linearity in electromagnetic displays, complex, nonlinear circuits must be designed which add to the expense and component count. For good geometry (minimum barrel and pincushion distortion) in electromagnetic displays, specially wound coils and additional compensation circuits, or both, are required. Also the positioning of the yoke is very critical.

Electrostatic CRTs, on the other hand, have inherently good linearity. Only a variable dc voltage needs to be applied to an element in the CRT for any minor geometric pattern correction.

2. Z-Axis Delay: Since deflection coils act as a delay line, it is necessary to introduce delay into the Z-axis signal path in high-speed electromagnetic displays. This coordinates the blanking and unblanking with the beam position; these delay lines are unnecessary in electrostatic displays.

3. Resolution: In either type of CRT, there is a tradeoff of beam diameter vs brightness. Since an electromagnetic CRT passes so much more beam current, a much smaller spot size (higher resolution) can be obtained at the same level of brightness.

4. Weight: A high-speed electromagnetic display weighs 2-3 times more than a comparable electrostatic display does. The power transformer is bigger and more heat sinks are required to meet the higher power demands of electromagnetic displays. The mass of the yoke and the increased number of components contribute to the added weight.

5. Cooling: Fast electromagnetic displays require forced-air cooling; electrostatic displays require only convective cooling.

CRT Picture Drawing Fundamentals

In addition to how the beam is deflected inside the tube is the actual method in which the picture is drawn. Again, two basic methods are used; vector scan and raster scan.

Vector

Other common names for vector drawing are "dot writing", "directed beam", and "stroke writing." As the name implies, the beam is successively moved to each new location by signals applied to the X (horizontal) and Y (vertical) inputs. In an oscilloscope, the directed-beam is linearly deflected to follow the signal pattern in the vertical direction while often using a constant deflection rate in the horizontal direction to represent time. If the beam is left on during the writing cycle (as in a standard oscilloscope), the picture will be comprised of curves or straight-line segments on the CRT face (see Figure 3).

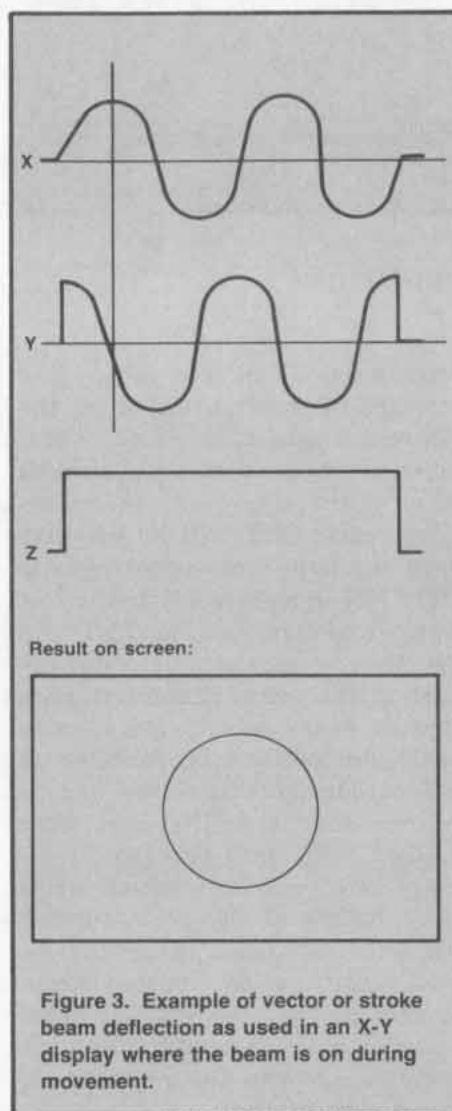


Figure 3. Example of vector or stroke beam deflection as used in an X-Y display where the beam is on during movement.

If the beam is blanked (turned off) during movement and turned on at rest, the picture will be comprised of a series of dots on the CRT face (see Figure 4a). This type of "dot writing" lends itself well to the CRTs used in spectrum analyzers, air traffic control monitors, and other displays where annotation is displayed on the screen along with the main picture (see Figure 4b).

Raster

In a raster system, the beam follows a fixed path covering the face of the tube in a series of interlaced parallel lines (usually horizontal), with blanked (turned off) retrace lines (see Figure 5). In a raster system there are two methods of modulating the beam intensity; analog and digital.

Analog modulation is used in television. The principle of operation involves varying the intensity of the beam as it moves across the screen in accordance with the picture impulses of the video signals applied to the grid of the CRT.

The picture is traced line-by-line. The first odd-numbered line of the picture is traced by one sweep from left to right. When the beam reaches the right side of the screen, the horizontal blanking signal biases the tube beyond cut-off and the beam is thus extinguished (blanked out). The beam remains blanked out long enough for it to move rapidly over to the left-hand side of the screen where it is in another position to start the trace of the second odd-numbered line of the picture. The horizontal blanking signal is now withdrawn and the beam moves across the screen as before, tracing another odd-numbered line of the picture.

As this process is repeated again and again, the vertical sweep signal is applied to the vertical deflection system of the CRT which causes the beam to move gradually toward the bottom of the screen. Due to the downward pull of the slowly moving vertical sweep, each horizontal scanning line will be slightly below the preceding line.

When the beam reaches the bottom of the screen, the vertical blanking signal biases the CRT beyond cut-off and the beam is blanked out for vertical retrace. The beam then moves rapidly (flyback) to the upper left-hand corner of the screen where it is in a position to start the traces of all the even-numbered lines to fill in the picture.

In the case of television, the composite picture is comprised of 525 lines scanned in an interlaced pattern at the rate of 1/30th of a second. That is, the odd-line picture (first field) is scanned in the first 1/60th of a second, and the even-line picture (second field) is scanned in the second 1/60th of a second. This means that the horizontal lines are scanned at the rate of 525 times 30 or 15,750 lines per second (color TV is 15,734).

All of this scanning and modulation results in a picture of gray shades where the beam intensity ranges from full on to full off. In other words, when the video signal increases the beam intensity to full on, the phosphor on the CRT glows brightly; and when the video cuts off the beam intensity, the phosphor does not glow. Everything in between is the gray range, which forms the picture.

The other method of drawing the picture in a raster format is by using a digital signal to modulate the beam as it sweeps across the face of the CRT. The interlaced scanning procedure is the same. In this

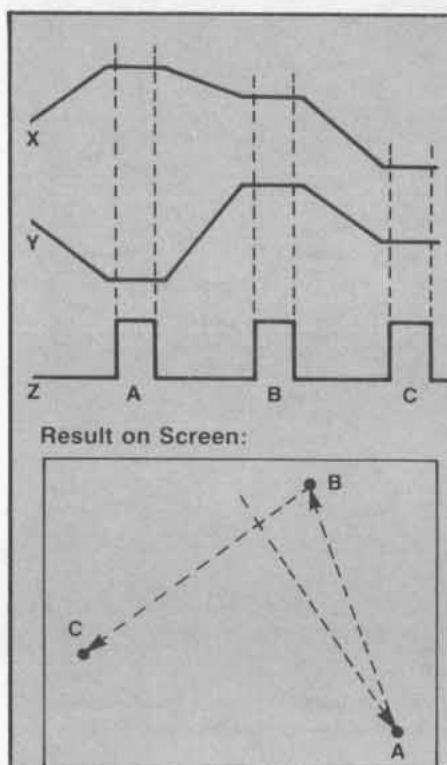


Figure 4a. Example of dot writing (vector deflection) where the beam is turned off during movement.

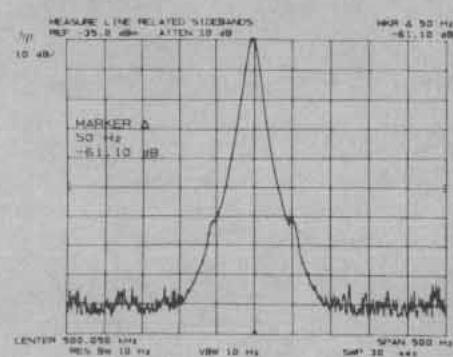


Figure 4b. Application example of dot writing (electrostatic vector deflection). This type of display uses A-D converters and a large interactive memory.

method, the face of the CRT is partitioned into rows and columns of dots which are called "pixels." Refer to Figure 6. Pixels are defined as the smallest location on screen where the beam can be modulated on or off. The picture is created from line segments and dots produced by turning the beam intensity on and off at appropriate times. Special effects can be created when the beam intensity is modulated at points between full on and off.

For a low-cost alphanumeric display, the raster scan method offers several advantages over the directed beam. First, it doesn't require accurate, high-speed, and therefore expensive digital-to-analog converters. Instead, it uses counters on both axes

to locate dots and characters. Second, the deflection circuitry need not have wideband, essentially identical channels; each axis can be optimized for its particular operating rate. Similarity with television techniques allows the use of low-cost television components in the deflection and high-voltage circuits. Finally, the raster display can minimize the power consumption of the monitor by means of an energy-conserving flyback-type horizontal deflection circuit.

However, "clean" graphics are difficult to display in a raster system. This is most obvious when lines are drawn which are close to, but not exactly horizontal; they will be displayed broken up into steps as shown in Figure 7.

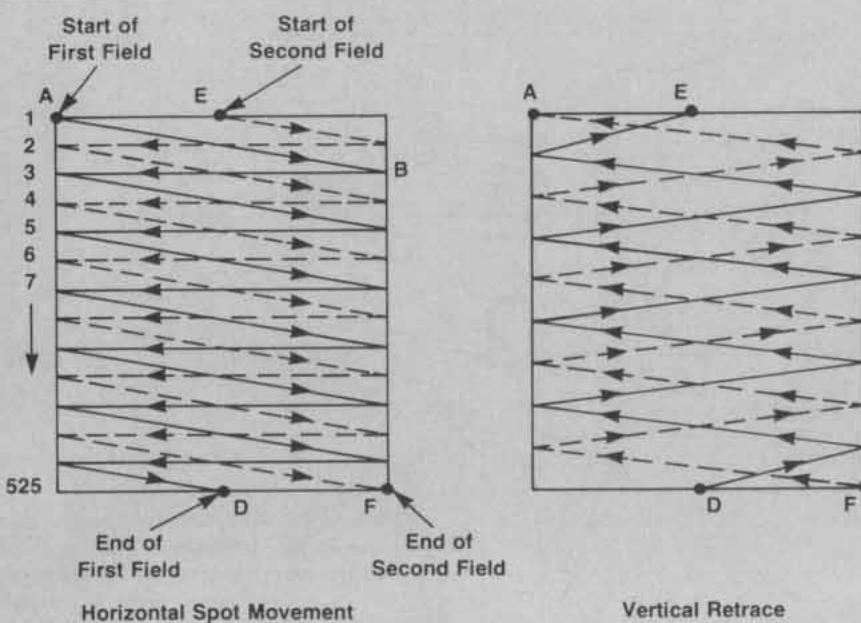


Figure 5. Typical TV interlaced raster scanning pattern. During left-to-right movement the beam is on. During right-to-left (retrace) and vertical retrace the beam is off.

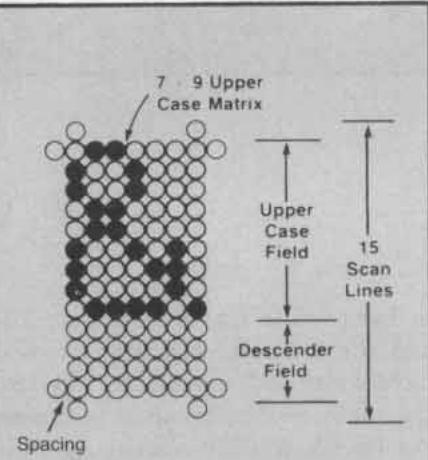


Figure 6. Example of digitally modulated raster scan method used to generate alphanumeric characters. This example shows a basic 7 pixel wide by 9 pixel high character cell as used in an HP CRT display terminal. The four additional scan lines beneath the 7 x 9 matrix are used for descender areas of lower case letters and underlining, one pixel is used on either side for character-to-character spacing. In this particular example the display screen has a low aspect ratio of 5 x 10 inches, for a capacity of 1920 character cells partitioned into 24 rows of 80 characters each. That equals 259,200 pixels (720 horizontal by 360 vertical).

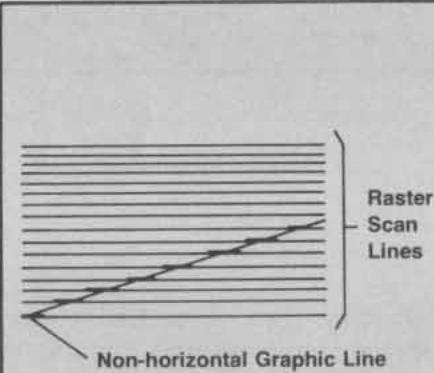


Figure 7. Exaggerated example of a non-horizontal graphics line drawn on a raster-type display.

The Final Criterion — Resolution

In high resolution line drawing situations, continuous lines have significant merit. It should be pointed out that vector systems have continuous lines at all addressable resolutions. Only the starting and stopping point accuracy of the vectors is sacrificed at lower resolutions. To achieve continuous lines in a raster system can place significant requirements upon it. Since, in a raster system, vectors are comprised of a series of dots or pixels, in order to achieve the effect of a continuous line, the dots must be spaced so close as to merge. In fact, they need to overlap by approximately two-thirds to three-quarters of the spot diameter. This means that the addressable resolution (number of scan lines) should be three or four times greater than the spot resolution of the CRT. Therefore, a 1000 line spot resolution CRT requires 3 or 4 thousand scan lines to achieve the same quality as a displayed line in a vector system. Of course, this has extremely adverse effects on light output, deflection systems, power, and cost. Therefore, in high resolution line drawing applications, the "quality" of the continuous line may also become an issue.

Another example of resolution restriction can occur when trying to use an alphanumeric raster-type computer terminal to display a voltage vs time phenomenon. Remember that this type of CRT is the digital raster type with a fixed scan rate that modulates pixels on and off with a certain portion of time set aside for retrace.

If the event you are trying to capture is nonrecurring, it may occur during retrace, or if it is quick enough, in-between pixels. In either case, the CRT will not show the phenomenon. Remember that our example shown in Figure 6 has only 720 pixels of visual horizontal resolution.

For Customers Who Repair Their Own

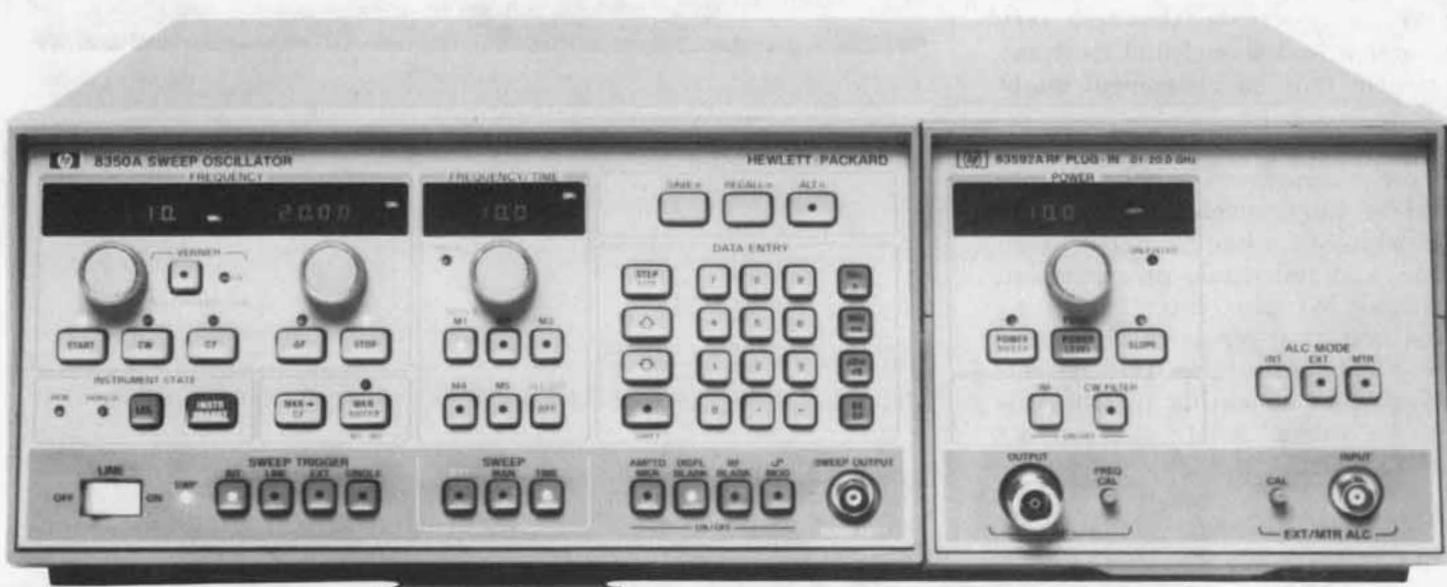
New 8350A Sweep Oscillator Service Accessory Kit

A new service accessory kit, HP Part No. 08350-60020, has been created for HP customers with their own repair facilities. This kit contains most of the unique parts necessary to perform routine service and calibration on the 8350A Sweep Oscillator.

Contents of the kit include:

- 2 ea extender boards
- 2 ea extender cables
- 1 ea 3/32 hex drive
- 1 ea 16-pin IC clip
- 1 ea 20-pin IC clip

You can order the kit from your local HP office.



New Test Procedures

8654B Signal Generator

A new service note (8654B-1) has been issued that provides improved performance tests and adjustments for the 8654B Signal Generator.

The 30-page performance test replaces the corresponding procedures

contained in either the 0854-90012 or 0854-90025 Operating and Service Manuals.

The new procedures require less test equipment, are faster and simpler, and are more thorough and accurate than the procedures in the manuals. Test set-ups, recommended test equipment and performance test records are all provided.

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8662A Verification Tape Available

A tape cartridge containing 11 programs which check the operation of the 8662A Synthesized Signal Generator via HP-IB is now available. These programs run on the 9825 desktop computer and use an 8568A or 8566A Spectrum Analyzer as the measuring instrument. These programs test all functions of the 8662A except modulation distortion. Although the tests are not complete performance tests, they are very thorough and should find most any problem that an instrument might have.

These programs are very easy to use and can run unattended. Results can be printed if a line printer is available, and individual programs can be made to repeat. Incoming inspection and after-repair check-out are two ideal applications. The tape cartridge and operating instructions can be ordered as HP part number 08662-60310.



Integrated Circuits

Replacement Part Cross Reference

When selecting replacement parts for your HP products, you may notice that many manuals list only an HP part number for the part, even though it appears that this part is manufactured by one of the large semiconductor manufacturers. Service personnel often ask why only HP part numbers are listed.

It is recommended that HP replacement parts be used to ensure that the original performance of the product will be obtained. While some parts used in HP instruments are identical to that which can be purchased at a local electronics distributor, many times parts will be selected for certain characteristics, such as gain, bandwidth, capaci-

tance, etc. There may also be slight mechanical differences, such as the shaping or length of leads. In some cases special quality checks are employed to ensure that high reliability parts are used at the factory and at HP field offices.

Therefore, we suggest obtaining replacement parts from HP to maintain the quality that you have paid for in your instrument. There may be situations however where HP replacement parts are not in stock and substituting parts will allow you to return the product to service immediately. In these cases it may be worthwhile to see if a substitute part will work in the circuit. Perhaps an HP part could be ordered and installed at some later date.

To help you in these situations, here's a cross-reference of HP integrated circuit part numbers to manufacturers "generic type" part numbers (whom in most cases is the originator of the part). Even though the cross-reference only lists one manufacturer, there may actually be several approved sources for an HP part. While every attempt was made to ensure the accuracy of the list, it is advisable to compare the description of the device being replaced with the description of the substituted part. For example, if the service manual describes the device being replaced as a "dual J-K flip-flop", check this against the description of the replacement part.

Manufacturers Code Number Cross Reference

Number	Manufacturer	Location	Number	Manufacturer	Location
00039	Nippon Electric Co.	Tokyo, JP	03334	Amperex Elek. Corp. Semicon. & MC Div.	Slatersville, RI
00350	Exar Integrated Systems Inc.	Sunnyvale, CA	03406	National Semiconductor Corp.	Santa Clara, CA
00575	Western Digital Corp.	Newport Beach, CA	03545	Teledyne Philbrick Nexus	Dedham, MA
01590	Plessey Semiconductors	Santa Ana, CA	03658	Optimax Inc.	Colmar, PA
01698	Texas Instr. Inc. Semicond. Cmptn. Div.	Dallas, TX	03677	American Micro Systems Inc.	Santa Clara, CA
01795	Synertek	Santa Clara, CA	03714	Intersil Inc.	Cupertino, CA
01876	HP Div. 02 Santa Clara IC's 86	Santa Clara, CA	03755	Hybrid Systems Corp.	Burlington, MA
01921	RCA Corp. Solid State Div.	Somerville, NJ	03758	Electronic Arrays, Inc.	Mountain View, CA
01973	GE Co. Semiconductor Prod. Dept.	Auburn, NY	03780	Intech Inc.	Santa Clara, CA
01991	Transitron Electronic Corp.	Wakefield, MA	03794	Advanced Micro Devices Inc.	Sunnyvale, CA
02023	Illinois Tool Works Inc. Licon Div.	Chicago, IL	03795	Motorola Inc.	Franklin Park, IL
02037	Motorola Semiconductor Products	Phoenix, AZ	03799	Harris Semicon. Div. Harris-Intertype	Melbourne, FL
02180	Precision Monolithics Inc.	Santa Clara, CA	03811	Intel Corp.	Mountain View, CA
02237	Fairchild Semiconductor Div.	Mountain View, CA	04078	Mostek Corp.	Carrollton, TX
02290	Raytheon Co. Semiconductor Div. HQ	Mountain View, CA	04092	Monolithic Memories Inc.	Sunnyvale, CA
02569	Crystalonics, Div. Teledyne	Cambridge, MA	04183	Nitron Div. McDonnell Douglas Corp.	Cupertino, CA
02598	Unitrode Corp.	Watertown, MA	04200	Sprague Electric Co.	North Adams, MA
02634	Sprague Elect. Co. Semiconductor Div.	Concord, NH	05436	Burr Brown Co.	Tucson, AZ
02713	General Instr. Corp. Semicon. Prod. GP	Hicksville, NY	06338	SGS Ates	Milan, IT
02763	Teledyne Semiconductor	Mountain View, CA	06545	Lambda Electronics Corp.	Melville, NY
02838	Dynamic Measurements Corp.	Winchester, MA	06563	Siemens Corp. Components Group	Scottsdale, AZ
02882	Zeltex Inc. Sub. of Redcor Corp.	Concord, CA	06852	Data Delay Devices	Clifton, NJ
02883	Siliconix	Santa Clara, CA	07653	Zilog Inc.	Cupertino, CA
02910	Signetics Corp.	Sunnyvale, CA	07810	Texas Instruments France	Nice, FR
03183	HP Div. 22 Data Systems	Cupertino, CA	07915	Hytek Microsystems Inc.	San Diego, CA
03285	Analog Devices Inc.	Norwood, MA			

HP P/N Mfr. Desc.

0950-0566	03795	K1100A-10.0MHZ	1813-0040	02882	ZD440	1813-0067	03795	K1115A-10MHZ
0950-0567	03795	K1100A-5.216MHZ	1813-0041	03406	LH0042CH	1813-0082	02598	PIC646
0950-0569	03795	K1100A-22.4571MHZ	1813-0043	03795	K1091A-10.485760MHZ	1813-0083	02598	PIC601
0960-0570	03795	K1114A-24.0MHZ	1813-0045	03795	K1091A-5.0MHZ	1813-0084	02598	PIC611
0960-0572	03795	K1100A-20.275MHz	1813-0046	03795	K1100A-15MHz	1813-0089	03795	K1100A-27MHz
0960-0581	03795	K1115A-1.0MHZ	1813-0047	03795	K1091A-10.0MHz	1813-0092	05436	DAC80-CCD-V
0960-0631	03285	DAC160M/C-R	1813-0048	03285	751N	1813-0093	02237	UAT8H12SC
0960-0632	03285	DAC12QS/C-B	1813-0049	02763	2740CE	1813-0098	05436	ADC80AG-12
1813-0013	03285	40K	1813-0052	03795	K1091A-7.50MHz	1813-0100	02237	UAT8H05SC
1813-0016	05436	3112/12C	1813-0053	03795	K1091A-6.9120MHz	1813-0105	05436	DAC80-CHI-V
1813-0034	03715	I15010CPD	1813-0054	03406	AH0154D	1813-0109	02598	PIC625
1813-0036	03755	DAC372-12-HCD	1813-0057	03406	LH0024CH	1813-0110	02598	PIC626
1813-0039	02882	ZD441	1813-0058	03406	LH0021CK	1813-0114	02598	PIC645
			1813-0061	03795	K1100A-8.389MHz	1813-0115	02598	PIC600
			1813-0062	03795	K1100A-10.486MHz	1813-0116	03795	K1100A-9.8304MHz

INTEGRATED CIRCUIT CROSS REFERENCE

HP P/N	Mfr.	Desc.	1816-1339	03406	DM8678CAR/N	1818-0762	01698	TMS2532-JL
1813-0117	03795	K1100A-1-792MHZ	1816-1558	01698	T8P14SA10N	1818-0772	03811	D2115A
1813-0119	03795	K1100A-40MHZ	1816-1582	03799	HM3-7621-5	1818-0794	03811	C2716
1813-0120	06852	DOU-4-5100	1816-1588	01698	TBP18522N	1818-0849	02037	MCM2147C-70
1813-0121	03795	K1114A-10-1376MHZ	1816-1590	02037	MCM10147L	1818-0850	03811	D2732
1813-0123	02237	UA78HGK	1816-1598	06344	MB7072N	1818-0851	01698	TMS2516-35JL
1813-0124	02237	UA78H15KC	1816-1406	03794	AM27S270C	1818-0895	03811	P2142
1813-0127	02237	UA79HGK	1816-1415	06344	MB7042N	1818-0912	02037	MCM68AT08L PROGRAMMED
1813-0128	03795	K1100A	1816-1416	03799	HM1-7611-5	1818-0913	03794	AM91248DC
1813-0129	03795	SP6235R	1816-1418	02910	N825129F	1818-0955	03799	HM3-6514-9
1813-0131	03795	K1135A	1816-1421	01698	SN74LS474N	1818-0977	03811	C8755A
1813-0133	02838	T162	1816-1429	03799	HM1-7643A-5	1818-0989	03799	HM3-6514-5
1813-0134	03795	K1100A-1-0MHZ	1816-1430	02037	MCM10145L	1818-0990	03799	HM1-6514-9
1813-0135	03795	K1100A-18.5MHZ	1816-1433	03714	TM5623CPE	1818-1009	03714	IR65X61-CJN
1813-0138	02037	MMW592	1816-1434	02037	MCM10146L	1818-1012	02237	47258PC
1813-0139	03795	K1100A-10.0MHZ	1816-1435	02037	MCM10143L	1818-1026	03811	D2125AL
1813-0140	05436	SDP857KG	1816-1447	02037	MCM10139L	1818-1027	03811	D2147H-3
1813-0142	03285	A0522BD	1816-1451	02290	29631ADC	1818-1062	03811	D2758
1813-0144	03795	K1115A-2.5MHZ	1816-1456	02037	MCM10149L	1818-1090	03811	P2141L-3
1813-0146	03795	K1144A-22.016MHZ	1816-1458	02910	N82519T	1818-1114	04078	MK#118P-3
1813-0147	04114	DAC-HA12DC	1816-1459	06347	HM10470	1818-1153	03811	P2142L
1813-0148	01417	HS-400-600KHZ	1816-1460	03406	DN10415AJ	1818-1162	04078	MK#118P-2
1813-0149	03795	K1148A-19.6608MHZ	1816-1461	02910	10149F	1818-1177	04078	MK#118N-2
1813-0150	03714	ICM7209IPA	1816-1462	06344	BMN1022H	1818-1178	04078	MK#118N-3
1813-0153	03795	K1135R	1816-1467	03799	HM3-7643-5	1818-1212	03811	D2148H-3
1813-0154	03795	K1100A-29.7984MHZ	1816-1468	01698	TBP185030J	1818-1213	04078	MK#118P-4
1813-0156	03795	K1100A-20.0MHZ	1816-1469	02237	F1001420C	1818-1214	04078	MK#118N-1
1813-0160	03406	DH0034CD	1816-1475	02910	N825137AN	1818-1215	03811	D2141-2
1813-0161	03444	CO-233ME-40.0MHZ	1816-1481	03799	HM1-7649-5	1818-1238	03811	P2114AL-3
1813-0162	03444	CO-233ME-80.0MHZ	1816-1482	02910	N825131F	1818-1254	03811	D2732-6
1813-0163	03444	CO-233ME-8.0MHZ	1816-1492	06344	BMN1047A	1818-1300	00039	UPD2114L-3
1813-0164	03795	K1100A-2.0MHZ	1816-1495	03794	AM27S07APC	1818-1330	00039	UPD44NC-1
1813-0166	03795	K1145A-22.016MHZ	1818-0036	02910	CG725Y MASKED	1818-1334	04078	MK#332P-3
1813-0167	01417	HS-200-1-8432MHZ	1818-0061	03406	MN5241A8LN	1818-1335	03406	MH5204D
1813-0168	08661	7516	1818-0093	02237	33410C	1818-1346	00039	UPD444/6514
1813-0170	01869	PE-21217	1818-0094	00575	PR1472R-01	1818-1350	06354	TC5514P
1813-0189	07915	HY-500Z	1818-0095	00575	P1148ZB-01	1818-1351	03714	IN6654-11JG
1813-0193	07397	TTLDM-200	1818-0102	01698	TM54103NC	1818-1370	03799	HM1-6514-5
1813-0197	07397	TTLDM-100	1818-0103	01698	TM54030JL	1818-1372	04078	MK#801P-90
1813-0199	07915	HY-5003	1818-0106	03406	MN5261N	1818-1396	00039	UP#16C-2 SELECTED
1813-0211	02037	MWA110	1818-0107	03714	IM7512CPE	1818-1397	00039	UP#16C-3 SELECTED
1813-0212	02037	MWA120	1818-0108	02037	6605L-1	1818-1398	01698	TM5404NL-45
1813-0213	02037	MWA130	1818-0114	04078	MK096-3	1818-1424	03811	D2118-4 SELECTED
1813-0214	02037	MWA210	1818-0115	03677	P1103A	1818-1425	03811	D2118-7 SELECTED
1813-0215	02037	MWA220	1818-0128	03811	C2107B	1818-1467	00039	UP#16C-1 SELECTED
1813-0216	02037	MWA230	1818-0134	03406	MN1010A/AIN	1818-1468	03811	D2148H
1813-0217	02037	MWA310	1818-0135	02037	MCH68A10L	1818-1520	03714	IN6653IJG
1813-0218	02037	MWA320	1818-0140	01795	SYP2112A-4	1818-1559	06347	MK#864-3 SELECTED
1813-0219	02037	MWA330	1818-0146	01698	TM54050JL SELCTD	1818-1581	01698	TM5232JDL-35
1813-0229	07397	TTLDM-40	1818-0147	01698	TM54050NL	1818-1583	06354	TC550P-1
1816-0015	03799	HPR0M1-1024-5H	1818-0155	02910	2606B	1818-1586	03811	D2147H-1
1816-0016	02910	N825123F	1818-0165	01698	TM54060JL SELECTED	1818-1596	06347	MH617P-3
1816-0041	04092	6300-1J PROGRAMMED	1818-0181	01698	TM54050-1JL SELCTD	1818-1611	06347	MH6116P-3
1816-0053	03714	IM5600CPE PROGRAMMED	1818-0197	03794	AM911L180C	1818-1614	04078	MK#801AN-90
1816-0129	04092	6300-1J	1818-0198	03406	MM2102AN-4L	1818-1616	08631	L8114-4CJ
1816-0217	03714	IM5610CPE	1818-0199	03744	AM9112APC	1818-1628	06347	MH4334P-3
1816-0348	04092	6330-1J	1818-0237	02713	R0-3-2513	1818-1633	03811	D2732A-3
1816-0355	04078	MK2302P	1818-0238	03794	AM9102APC	1818-1638	03811	P2114AL-2
1816-0409	03799	HPR0M-8256-50	1818-0247	01698	TM54060-2JL	1818-1643	04078	MK#802-3N
1816-0439	04092	6340-1J	1818-0250	03811	D2708	1818-1648	03811	D2732A
1816-0598	01698	SN74S20N	1818-0254	02910	2516N	1818-1660	03811	D2125H-2
1816-0605	02910	N825115F	1818-0277	03794	AM2813ADC	1818-1662	04078	MK#801AN-70
1816-0640	01698	SN74S189J	1818-0279	02237	3341AD	1818-1663	03811	D2125H-1
1816-0710	02910	N825111F	1818-0289	03794	AM1707AHDC	1818-1667	06347	MH614P
1816-0723	02237	93L415PC	1818-0294	03794	AM9112CPC	1818-1717	06344	MH816AE SELECTED
1816-0724	01698	SN74S189N	1818-0313	03794	AM9112E0DC	1818-1718	04078	MK#802N-1
1816-0728	02910	N82509I	1818-0317	01698	TM54027-15JL SELCTD	1818-1721	03811	D2732A
1816-0782	02910	N825129F	1818-0318	03794	C2101-1	1818-1722	03811	D2764
1816-0787	01698	SN74S28N	1818-0319	03811	PS101L-3	1818-2702	03811	D2716-2
1816-0860	02037	MCM5004AL	1818-0320	03794	P2101-2	1820-0001	01973	AJX194555
1816-0868	03811	P3604L-6 MASKED	1818-0322	03794	AM9112APC	1820-0006	01973	AJX194519
1816-0913	03794	AM31010PC	1818-0327	04078	MK1020P-6	1820-0010	01973	AJX194581
1816-0914	02237	934150C	1818-0328	02037	MCH6810AL	1820-0013	02037	MC3526
1816-0915	02910	N82523F	1818-0332	02150	D2115AL	1820-0044	01973	RA1A
1816-0916	02910	N825123F	1818-0334	01698	TM54027-20JL SELCTD	1820-0046	01921	CA3005
1816-0917	02910	N825126F	1818-0335	03794	AM91028PC	1820-0047	01921	CA3010
1816-0918	02910	N825130F	1818-0336	02037	MCH6572L	1820-0550	02037	MC15516
1816-0919	03811	D3624A	1818-0340	01698	TM54116-25JL SELCTD	1820-0551	02237	702HC
1816-0928	02910	N825140F	1818-0341	00339	UPD416D-2	1820-0552	02237	923HC
1816-0929	02910	N825141F	1818-0342	03811	P2101A-4	1820-0554	01698	SN74D0N
1816-0930	02910	N825136F	1818-0343	03794	AM9101DPC	1820-0055	01698	SN7490AN
1816-0931	02910	N825137F	1818-0348	02237	2102LHPC	1820-0056	01698	SN7492AN
1816-0934	02237	9403PC	1818-0350	03794	AM9131CDC	1820-0058	01991	TOA 2709V
1816-0987	03799	HM1-7641-5	1818-0381	01795	SYP2111A-2	1820-0063	01698	SN7451N
1816-0993	02237	93448DC	1818-0389	03794	AM9130EDC	1820-0065	01698	SN7470N
1816-0994	04092	6335J	1818-0390	03714	IM65081DE	1820-0067	02910	SP631N
1816-1008	01698	TBP18542J	1818-0422	02237	355110C	1820-0068	01698	SN7410N
1816-1015	02237	93L415PC	1818-0425	03811	P2101A-2	1820-0069	01698	SN7420N
1816-1032	02910	N825123N	1818-0438	01698	TM52114-45NL	1820-0070	01698	SN7430N
1816-1053	02037	MCM10144L	1818-0439	03799	HM1-6516-8	1820-0071	01698	SN7440N
1816-1054	02910	N825185F	1818-0440	03406	MN5269N	1820-0072	01698	SN7450N
1816-1055	01698	TBP18542N	1818-0443	00339	UPD2114LC-1	1820-0074	01698	SN7454N
1816-1056	03799	HPR0M1-0512-5	1818-0449	03811	P4002-1	1820-0075	01698	SN7473N
1816-1089	03406	DM74LS189N	1818-0491	01698	TM5227L08JL	1820-0076	01698	SN7476N
1816-1137	01698	TBP14S10N	1818-0492	03811	P2114A-4	1820-0077	01698	SN7474N
1816-1141	01698	SN74188AN	1818-0497	03799	HM-6551-90IP	1820-0078	02910	SP620N
1816-1142	02910	N825141F	1818-0498	01698	TM5216JL	1820-0081	02237	911HC
1816-1152	03799	HM1-7641-2	1818-0508	0340				

INTEGRATED CIRCUIT CROSS REFERENCE

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HP P/N	Mfr.	Desc.	1820-0346	01698	SN15833N	1820-0517	02237	9865DC
1820-0111	02037	MC8301P	1820-0348	01698	SN15844N	1820-0518	02237	9853DC
1820-0113	01991	TOA3709V	1820-0349	01698	SN15849N	1820-0519	02237	98220C
1820-0121	02910	N8T904	1820-0350	01698	SN15861N	1820-0520	02237	9806DC
1820-0122	02037	MC853P	1820-0351	01698	SN15863N	1820-0533	02037	MC838P
1820-0123	03406	LM300H	1820-0352	01921	CA3018	1820-0535	01698	SN75451BP
1820-0125	02237	711HC	1820-0357	02237	9304PC	1820-0536	02910	N8284N
1820-0127	02237	9002DC	1820-0361	01698	SN4935N	1820-0537	01698	SN7413N
1820-0128	01698	SN15857N	1820-0362	01698	SN7480N	1820-0538	01698	SN7423N
1820-0129	02237	9003DC	1820-0363	01698	SN7491AN	1820-0539	01698	SN7437N
1820-0130	02237	9004DC	1820-0365	01698	SN7481AN	1820-0542	02910	N8234N
1820-0131	02237	9009DC	1820-0366	01698	SN7494N	1820-0543	02910	N8233N
1820-0132	02237	9016DC	1820-0367	01698	SN7495AN	1820-0544	01698	SN74H103N
1820-0134	02237	9300PC	1820-0368	01698	SN7495N	1820-0545	01698	SN74191N
1820-0137	01921	CA3028B	1820-0370	01698	SN74H00N	1820-0546	01698	SN74192N
1820-0138	03545	S52	1820-0371	01698	SN74H10N	1820-0567	02037	MC4024P
1820-0140	02037	MC3026P	1820-0372	01698	SN74H11N	1820-0568	01698	SN75325N
1820-0141	02037	MC3001P	1820-0373	01698	SN74H20N	1820-0569	02910	N8243N
1820-0142	02037	MC1004P	1820-0374	01698	SN74H21N	1820-0574	01698	SN74173N
1820-0143	02037	MC1027P	1820-0375	01698	SN74H30N	1820-0575	02910	N8235N
1820-0144	02037	MC1018P	1820-0376	01698	SN74H40N	1820-0577	01698	SN7416N
1820-0145	02037	MC1010P	1820-0377	01698	SN74H50N	1820-0578	02037	MC1024P
1820-0146	02037	MC1017P	1820-0378	01698	SN74H51N	1820-0579	01698	SN74123N
1820-0147	02037	MC1007P	1820-0379	01698	SN74H52N	1820-0581	02037	MC1032P
1820-0157	02037	MC1023P	1820-0380	01698	SN74H53N	1820-0582	02037	MC1011P
1820-0158	03406	LM302H	1820-0381	01698	SN74H54N	1820-0583	01698	SN74L00N
1820-0160	02037	MC1431P	1820-0382	01698	SN74H55N	1820-0584	01698	SN74L02N
1820-0162	03406	LM709H	1820-0383	01698	SN74H60N	1820-0585	01698	SN74L03N
1820-0174	01698	SN7404N	1820-0384	01698	SN74H61N	1820-0586	01698	SN74L04N
1820-0175	01698	SN7405N	1820-0385	01698	SN74H62N	1820-0588	01698	SN74L20N
1820-0180	02037	MC1015P	1820-0386	01698	SN74H71N	1820-0589	01698	SN74L30N
1820-0181	02037	MC1433L	1820-0387	01698	SN74H72N	1820-0590	01698	SN74L51N
1820-0186	02237	9856DC	1820-0391	01698	SN74H73N	1820-0591	01698	SN74L54N
1820-0187	02237	9852DC	1820-0396	01698	TL702CN	1820-0592	01698	SN74L55N
1820-0192	01921	CA 3001	1820-0397	01698	UAT09CN	1820-0593	03406	DM74L71N
1820-0195	02910	N8T80N	1820-0398	01698	SN72710N	1820-0594	03406	DM74L72N
1820-0196	02037	MC1723CG	1820-0400	02910	N8281N	1820-0595	03406	DM74L73N
1820-0197	02237	T09AHM	1820-0408	02237	T27HL	1820-0596	03406	DM74L74N
1820-0200	02037	MC1030P	1820-0410	03406	MM507	1820-0597	03406	DM74L78N
1820-0201	02037	MC1439G	1820-0411	02037	MC817P	1820-0598	01698	SN74L86N
1820-0202	02910	SP3228	1820-0417	01921	CA3002	1820-0599	03406	DM74L95N
1820-0203	01921	CA741CT	1820-0418	02037	MC1812P	1820-0600	03406	DM74L90N
1820-0204	02037	MC3006P	1820-0419	02910	S8280F	1820-0601	03406	DM74L93N
1820-0205	02037	MC3003P	1820-0424	01698	SN74H04N	1820-0602	03406	DM74L164N
1820-0207	02037	MC8601P	1820-0425	01698	SN74100N	1820-0603	03406	DM74L85N
1820-0208	02910	N8826N	1820-0427	02037	MC1496G	1820-0604	02037	MC3025P
1820-0211	01698	TM53002LR	1820-0429	02910	LM309H	1820-0605	01698	SN74H01N
1820-0212	02037	MC1020P	1820-0430	02237	LM309K	1820-0606	01698	SN74141N
1820-0213	02037	MC1014P	1820-0433	01921	CA3023	1820-0607	02037	MC4012P
1820-0214	01698	SN7442AN	1820-0435	01698	SN74180N	1820-0608	02037	MC4006P
1820-0218	03285	106A	1820-0437	02037	MC4015P	1820-0609	02037	MC3016P
1820-0223	01921	CA301AT	1820-0439	02237	T23PC	1820-0610	02037	MC8309P
1820-0224	03406	LH0002CH	1820-0440	02037	MC1016P	1821-0611	01698	SN74182N
1820-0231	02237	9316PC	1820-0441	02037	MC1801P	1820-0612	02237	9030DC
1820-0235	02037	MC1031P	1820-0443	01698	SN74L33N	1820-0613	01698	SN74H05N
1820-0238	02037	MC1810P	1820-0444	02037	MC1025P	1820-0614	02237	93L08PC
1820-0239	02037	MC3002P	1820-0445	01698	SN5402N	1820-0615	02037	MC8312P
1820-0240	01921	CA3026	1820-0446	01598	SN5474N	1820-0616	02237	9322PC
1820-0242	03406	LM301AH, 22V	1820-0447	01698	SN5410N	1820-0617	02037	MC3022P
1820-0247	03406	LM305H	1820-0448	01698	SN5400N	1820-0618	01698	SN7417N
1820-0249	01921	CA3051	1820-0449	02037	MC3060P	1820-0619	01698	SN74H22N
1820-0252	02037	MC1026P	1820-0451	02037	MC3062P	1820-0620	01698	SN74153N
1820-0253	02037	MC1035P	1820-0454	02037	MC1805P	1820-0621	01698	SN7453N
1820-0256	01698	SN15858N	1820-0455	02910	N8288N	1820-0622	01698	SN74151AN
1820-0257	02037	MC857P	1820-0456	02910	N8855N	1820-0623	03406	DN8200N
1820-0258	01698	SN15882N	1820-0457	02910	N8162N	1820-0625	02037	MC666P
1820-0259	02037	MC840P	1820-0458	02910	N8816N	1820-0626	02037	MC314P
1820-0260	02037	MC839P	1820-0459	02910	N8440N	1820-0627	02237	93L01PC
1820-0261	01698	SN74121N	1820-0460	02910	N8480N	1820-0628	01698	SN7489N
1820-0262	03406	DM8590N	1820-0461	02910	N8880N	1820-0629	01698	SN745112N
1820-0269	01698	SN7403N	1820-0462	02910	N8251N	1820-0630	02037	MC404P
1820-0270	02237	T33HC	1820-0463	02910	N8H70N	1820-0631	01698	SN74H108N
1820-0272	02037	MC1022P	1820-0464	02910	N8H90N	1820-0637	02910	N8R75N
1820-0273	02037	MC1806P	1820-0465	02910	N8H80N	1820-0639	02037	MC4001P
1820-0274	02037	MC1808P	1820-0466	02910	N8825N	1820-0640	01698	SN74150N
1820-0275	02037	MC1039P	1820-0467	02910	N8881N	1820-0655	01698	SN7422N
1820-0276	02037	MC1033P	1820-0468	01698	SN7445N	1820-0656	01698	SN74L89N
1820-0277	02037	MC1460R	1820-0469	01698	SN74H102N	1820-0657	02237	93L18PC
1820-0279	01698	TIKL105	1820-0470	03285	11RA	1820-0658	02237	93L12PC
1820-0281	01698	SN74107N	1820-0471	01698	SN7406N	1820-0659	02237	93L00PC
1820-0282	01698	SN7486N	1820-0472	02037	MC1001P	1820-0661	01698	SN7432N
1820-0287	02037	MC672P	1820-0473	02037	MC1048P	1820-0665	02037	MC1814P
1820-0288	02037	MC662P	1820-0474	01921	CA3012	1820-0666	02037	MC1003P
1820-0294	02237	74164PC	1820-0475	03406	LM306H	1820-0667	02037	MC1040P
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1820-0301	01698	SN7475N	1820-0478	03406	LM308H	1820-0671	01698	SN74500N
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1820-0304	01698	SN7472N	1820-0484	01698	SN7444N	1820-0675	01698	SN74510N
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1820-0307	01698	SN15836N	1820-0488	02237	9842DC	1820-0678	01698	SN74586N
1820-0308	01698	SN15845N	1820-0491	01698	SN74145N	1820-0679	01698	SN74522N
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1820-0310	01698	SN15862N	1820-0493	03406	LM307N	1820-0681	01698	SN74545N
1820-0313	02237	931HC	1820-0494	02595	2100	1820-0682	01698	SN74565N
1820-0316	02037	MC1433G	1820-0495	01698	SN74154N	1820-0683	01698	SN74574N
1820-0317	02037	MC1433P	1820-0497	01698	SN74155N	1820-0684	01698	SN74586N
1820-0318	02910	SP616N	1820-0498	04200	UM1509	1820-0685	01698	SN74520N
1820-0319	02910	SP629N	1820-0505	03406	DM8220N	1820-0686	01698	SN74522N
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INTEGRATED CIRCUIT CROSS REFERENCE

HP P/N	Mfr.	Desc.	1820-0897	02037	MC1047P	1820-1037	01698	SN7446AN
1820-0710	02237	93L22PC	1820-0898	02237	9305PC	1820-1038	01698	SN744RN
1820-0713	01698	SN74163N	1820-0899	01698	SN74160N	1820-1042	01698	SN74165N
1820-0715	01698	SN74H106N	1820-0900	02910	SP370N	1820-1043	03406	DM5406N
1820-0716	01698	SN74161N	1820-0902	01698	SN75450BN	1820-1044	02237	9621DC
1820-0717	03406	MM5052	1820-0903	01698	SN74L164N	1820-1045	02910	N8273N
1820-0718	03406	DS0025CN	1820-0904	02237	93L24PC	1820-1046	01698	SN74156N
1820-0719	02037	MC7242P	1820-0906	03406	DM8214N	1820-1047	03406	DM74L42AN
1820-0720	01698	SN751R3N	1820-0907	01698	SN7412N	1820-1048	02290	RT20
1820-0721	03406	DS8820AN	1820-0908	02037	MC7479P	1820-1049	01698	SN74367N
1820-0722	01698	SN75109N	1820-0909	01698	SN74167N	1820-1050	01698	SN75454BP
1820-0723	01698	SN75107AN	1820-0910	01698	SN74LS83AN	1820-1052	02037	MC10125L
1820-0724	02037	MC4007P	1820-0911	01698	SN74L192N	1820-1053	01698	SN7414N
1820-0725	01698	SN74170J	1820-0912	01698	SN74L193N	1820-1056	01698	SN74132N
1820-0726	01698	SN74199N	1820-0913	01698	SN74L122N	1820-1057	03406	DM86L76N
1820-0727	02237	9321PC	1820-0914	02037	MC8307P	1820-1062	03794	C2401
1820-0730	02237	96L02DC	1820-0916	02037	MC1062P	1820-1063	02237	9313PC
1820-0733	03406	MM1402AD	1820-0917	02037	MC1065P	1820-1064	01698	SN74164N
1820-0734	01698	SN74190N	1820-0919	02037	MC1650L	1820-1065	03406	DS0026CG
1820-0737	02237	9346PC	1820-0920	02037	MC1692L	1820-1066	02237	7411PC
1820-0738	01698	SN74155N	1820-0921	01698	SN7485N	1820-1067	01698	SN54H11J
1820-0739	01698	SN74H101N	1820-0923	02037	MC3002P	1820-1068	01698	SN54H30J
1820-0740	01698	SN74H87N	1820-0924	01921	CD4038AE	1820-1069	01698	SN54H40J
1820-0741	02237	9328PC	1820-0925	01921	CD4032AE	1820-1070	01698	SN54S30J
1820-0742	02037	MC8308P	1820-0926	01921	CD4098AF	1820-1071	01698	SN54H74J
1820-0743	01698	SN74194N	1820-0927	01921	CD4028AF	1820-1072	01698	SN74S139N
1820-0744	01698	SN7497N	1820-0928	01921	CD4041AE	1820-1073	02910	N82542N
1820-0745	02237	90150C	1820-0929	01921	CD4022BE	1820-1074	01698	SN74128N
1820-0751	01698	SN74196N	1820-0930	01921	CD4026AE	1820-1075	01698	SN75150P
1820-0752	01698	SN74H76N	1820-0931	01921	CD4029BE	1820-1076	01698	SN74S174N
1820-0762	01698	SN74157N	1820-0932	01921	CD4033AE	1820-1077	01698	SN74S157N
1820-0763	01795	SYM1404A	1820-0933	01921	CD4017AE	1820-1078	02237	2102L-2PC
1820-0765	01698	SN74197N	1820-0934	01921	CD4018AF	1820-1079	02037	MC14501UBCP
1820-0770	03406	MM5006H	1820-0935	01921	CD4020BE	1820-1080	01698	SN75121N SELECTED
1820-0774	02910	SP374N	1820-0936	01921	CD4024BE	1820-1081	02037	MC8726AP
1820-0777	01698	SN74L42N	1820-0937	01921	CD4008BE	1820-1082	01698	SN74147N
1820-0778	02237	93L16PC	1820-0938	01921	CD4027BF	1820-1083	01698	SN54199J
1820-0780	03406	OS8831N	1820-0939	01921	CD413BE	1820-1084	02910	N8T09N
1820-0781	03714	IM5013COD	1820-0940	01921	CD4044AE	1820-1085	02237	9L24DC
1820-0782	01698	SNT427N	1820-0941	01921	CD4034AF	1820-1086	02634	UHP-40J
1820-0783	01698	SNT4200N	1820-0942	01921	CD4000AE	1820-1087	03811	P3208A
1820-0786	02037	MC7250P	1820-0943	01921	CD4023UBE	1820-1089	01698	SN74279N
1820-0788	01698	SN74174N	1820-0944	01921	CD4025UBE	1820-1091	01698	SN5413J
1820-0789	02910	N8293N	1820-0945	01921	CD4037AE	1820-1092	01698	SN54121J
1820-0790	02037	MC1660L	1820-0946	01921	CD4001UBE	1820-1093	01698	SN5400J
1820-0791	02037	MC1068P	1820-0947	01921	CD4030AE	1820-1094	01698	SN5410J
1820-0792	02037	MC1083P	1820-0948	01921	CD4002UBE	1820-1095	01698	SN5474J
1820-0793	02037	MC1674L	1820-0949	01921	CD4011UBE	1820-1096	01698	SN5416J
1820-0794	02037	MC1670L	1820-0950	01921	CD4012UBE	1820-1097	01698	SN5404J
1820-0795	02037	MC1664L	1820-0951	01921	CD4013BE	1820-1098	02910	S8292F
1820-0796	02037	MC1662L	1820-0952	02237	9520C	1820-1099	01698	SN5408J
1820-0797	02037	MC1672L	1820-0953	02237	9530C	1820-1100	01698	SN74298N
1820-0799	01698	SN754528P	1820-0954	02237	9540C	1820-1101	01698	SN5402J
1820-0801	02037	MC10101P	1820-0955	02237	9550C	1820-1106	02910	3101AN
1820-0802	02037	MC10102P	1820-0956	02237	9560C	1820-1107	01698	SN74166N
1820-0803	02037	MC10105P	1820-0957	02237	9570C	1820-1108	02037	MC1648P
1820-0804	02037	MC10106P	1820-0958	01921	CD4042AF	1820-1109	02037	MC4022P
1820-0805	02037	MC10107P	1820-0959	01921	CD4036AD	1820-1110	01698	SN75110AN
1820-0806	02037	MC10109P	1820-0960	01921	CD4039AD	1820-1111	02237	93L40DC
1820-0807	02037	MC10110P	1820-0961	01921	CD4021AF	1820-1112	01698	SN74LS74AN
1820-0808	02037	MC10111P	1820-0962	01921	CD4006AF	1820-1113	03406	DM8553N
1820-0809	02037	MC10115P	1820-0963	01921	CD4031AE	1820-1114	02037	MC14516CP
1820-0810	02037	MC10116P	1820-0964	02237	9640C	1820-1115	03406	DS8822P
1820-0811	02037	MC10117P	1820-0965	02237	9650C	1820-1116	01698	SN74109N
1820-0812	02037	MC10118P	1820-0966	02237	9660C	1820-1117	02237	9L86PC
1820-0813	02037	MC10119P	1820-0967	02237	9670C	1820-1119	02037	MC164RL
1820-0815	02037	MC10121P	1820-0968	02237	9680C	1820-1120	02634	UHP-40J
1820-0816	02037	MC10130P	1820-0969	01921	CD4035AE	1820-1121	01698	SN74125N
1820-0817	02037	MC10131P	1820-0970	01921	CD4011AE	1820-1122	02037	MC14518CP
1820-0818	02037	MC10135L	1820-0971	02237	9710C	1820-1123	04078	MK5009P
1820-0819	02037	MC10134L	1820-0972	02237	9520C	1820-1124	01698	SN7435N
1820-0820	02037	MC10135L	1820-0973	02237	9530C	1820-1129	02763	334CJ
1820-0821	02037	MC10136L	1820-0974	02237	9560C	1820-1130	01698	SN74S133N
1820-0822	02037	MC10137L	1820-0975	02237	9670C	1820-1131	03406	DM8160N
1820-0824	02037	MC10140AL	1820-0976	01921	CD4015BE	1820-1132	02037	MC1690L
1820-0825	02037	MC10141L	1820-0977	01921	CD4034AE	1820-1137	01698	SN15809N+
1820-0826	02037	MC10150L	1820-0978	01921	CD4007AE	1820-1140	02910	NB2562N
1820-0827	02037	MC10161P	1820-0979	01921	CD4099AF	1820-1141	01698	SN74185N
1820-0828	02037	MC10162P	1820-0980	01921	CD4010AF	1820-1142	01698	SN74L46N
1820-0829	02037	MC10164L	1820-0981	01921	CD4016AC	1820-1143	03406	DM8552N
1820-0830	02037	MC10179L	1820-0984	02037	MC7270P	1820-1144	01698	SN74LS02N
1820-0831	02037	MC10191L	1820-0985	02037	MC1800P	1820-1145	01921	CD4049UBE
1820-0832	02037	MC10191L	1820-0986	03406	DN86L75N	1820-1146	02037	MC40508E
1820-0833	02237	9334PC	1820-0987	02237	93L18PC	1820-1148	03406	DM8090N
1820-0834	02037	MCN038P	1820-0988	02237	934100C	1820-1149	03406	MM5260N
1820-0835	02910	NB267N	1820-0989	02910	N8271N	1820-1150	02037	MC14520BCP
1820-0836	02037	MC4010P	1820-0990	01698	SN75189AJ	1820-1155	02910	N82590N
1820-0837	02910	N8815N	1820-0992	01698	SN5490N	1820-1156	02037	MC2257L
1820-0839	01698	SN74175N	1820-0993	04078	MK636P	1820-1157	02037	MC2259L
1820-0842	02037	MC4003P	1820-0995	01698	SN7447AN	1820-1158	01698	SN74551N
1820-0843	02037	MC4002P	1820-0996	01698	SN745153N	1820-1162	03406	MM5057N
1820-0844	01698	SN682N	1820-0997	01698	SN745181N	1820-1163	01698	SN74L153N
1820-0845	02910	NB220N	1820-1002	01698	SN74104N	1820-1165	03406	MM5013N
1820-0846	03406	DM8094N	1820-1004	01698	SN7404W	1820-1166	03406	DM8515N
1820-0847	01698	SN74H153N	1820-1005	02337	9624DC	1820-1167	03406	DM81L23N
1820-0848	01698	SN7400J	1820-1006	03794	AM1101A	1820-1170	02037	MMH0026L
1820-0849	01698	SN7400J	1820-1007	02290	RC8723MP	1820-1171	01698	SN74143N
1820-0850	01698	SN7420J	1820-1008	02910	3207N	1820-1172	02237	S4160M
1820-0851	01698	SN7476J	1820-1009	02237	95H900C	1820-1173	02037	MC10124L
1820-0852	01698	SN7474J	1820-1015	01698	SN745158N	1820-1174	01698	TMS-4024NC
1820-0853	02037	MC851L	18					

INTEGRATED CIRCUIT CROSS REFERENCE

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HP P/N	Mfr.	Desc.	1820-1310	01698	SN75108BN	1820-1445	01698	SN74L5375N
1820-1193	01698	SN74LS197N	1820-1313	01921	CD4053BF	1820-1446	01698	SN74L5395N
1820-1194	01698	SN74LS193N	1820-1314	01921	CD4052BE	1820-1447	01698	SN74L5670N
1820-1195	01698	SN74LS175N	1820-1315	01921	CD4051BE	1820-1448	01698	SN74S09N
1820-1196	01698	SN74LS174N	1820-1316	01921	CD408RAE	1820-1449	01698	SN74S32N
1820-1197	01698	SN74LS00N	1820-1317	01921	CD4087AE	1820-1450	01698	SN74S37N
1820-1198	01698	SN74LS03N	1820-1318	01921	CD4054AE	1820-1451	01698	SN74S38N
1820-1199	01698	SN74LS04N	1820-1319	01698	SN74S151N	1820-1452	01698	SN74S162N
1820-1200	01698	SN74LS05N	1820-1320	02037	MC10216L	1820-1453	01698	SN74S163N
1820-1201	01698	SN74LS08N	1820-1321	01698	SN74S85N	1820-1454	01698	SN74S168N
1820-1202	01698	SN74LS10N	1820-1322	01698	SN74S02N	1820-1455	01698	SN74S169N
1820-1203	01698	SN74LS11N	1820-1323	01698	SN74S30N	1820-1456	01698	SN74S281N
1820-1204	01698	SN74LS20N	1820-1324	01698	SN74S124N	1820-1457	01698	SN74S299N
1820-1205	01698	SN74LS21N	1820-1325	01921	CD4066AE	1820-1458	01698	SN74S381N
1820-1206	01698	SN74LS27N	1820-1327	02037	MC14530BCP	1820-1459	01698	SN74L70N
1820-1207	01698	SN74LS30N	1820-1328	02037	MC14526BCP	1820-1460	01698	SN74265N
1820-1208	01698	SN74LS32N	1820-1329	02037	MC14515BCP	1820-1461	01698	SN74273N
1820-1209	01698	SN74LS38N	1820-1330	02037	MC14507CP	1820-1462	01698	SN74351N
1820-1210	01698	SN74LS55N	1820-1331	01921	CD4054BE	1820-1463	01698	SN74390N
1820-1211	01698	SN74LS86N	1820-1332	02037	MC401AP	1820-1464	01698	SN74393N
1820-1212	01698	SN74LS112AN	1820-1334	02037	MC1694L	1820-1465	01698	SN74490N
1820-1213	01698	SN74LS113AN	1820-1336	02237	#0118DC	1820-1466	02237	#0114PC
1820-1214	01698	SN74126N	1820-1337	02910	NR200N	1820-1467	02910	N82583N
1820-1215	01698	SN74LS136N	1820-1338	02910	N82550N	1820-1468	03406	D88542
1820-1216	01698	SN74LS138N	1820-1340	02037	MC14585BCP	1820-1469	01698	SN74LS107AN
1820-1217	01698	SN74LS151N	1820-1344	02037	MC12040L	1820-1470	01698	SN74LS157N
1820-1218	01698	SN74L157N	1820-1346	01698	TMS3120NC	1820-1471	02037	MC14539BCP
1820-1219	00575	TR1602A	1820-1347	02237	9356PC	1820-1472	03406	DMR5L52N
1820-1220	02910	2532B	1820-1348	03406	MH5307N	1820-1473	01698	SN74L48N
1820-1221	03411	DS008-1	1820-1349	03406	DH85L54N	1820-1474	02883	L0114CJ
1820-1222	02237	9504DC	1820-1353	03406	AHS024CN	1820-1475	02237	955160C
1820-1224	02037	MC10216P	1820-1355	02037	MC14532BCP	1820-1476	02910	N8T96N
1820-1225	02037	MC10231P	1820-1356	02037	MC14528BCP	1820-1477	02910	N8T95N
1820-1227	02037	MC1037P	1820-1357	03406	AM3705CD	1820-1478	01698	SN74LS93N
1820-1228	02910	2602N	1820-1359	02037	MC1017AP	1820-1479	02037	MC14553BCP
1820-1229	01698	SN74111N	1820-1360	02910	N8T09N	1820-1480	02037	MC6800L
1820-1230	01698	SN75491N	1820-1361	02237	9374PC	1820-1481	02037	MC6821L
1820-1231	01698	SN75492N	1820-1362	02838	220-V12GZ	1820-1482	02037	MC10211P
1820-1232	01698	TM50105NC	1820-1363	03714	IM5013ACD0	1820-1483	01921	CD4071BE
1820-1233	01698	SN74L47N	1820-1364	03406	MH5313N(X75-)	1820-1484	02237	#0098PC
1820-1234	02569	IH5035CPA	1820-1365	03406	MH74C157N	1820-1485	03406	MH74C221N
1820-1235	02569	IM018CPA	1820-1366	02037	MHH0026CP1	1820-1486	01921	CD4081BE
1820-1236	03406	MH5040H	1820-1367	01698	SN74S08N	1820-1488	01921	CD4081BE
1820-1237	03406	MH5050AH	1820-1368	01698	SN7436N	1820-1489	01698	SN74LS90N
1820-1238	01698	SN74LS253N	1820-1370	03406	AH0134CD	1820-1490	01698	SN74LS367AN
1820-1240	01698	SN74S138N	1820-1371	03406	AH0152CC	1820-1491	01698	SN74LS368AN
1820-1241	01921	CD4512BE	1820-1372	02237	74S103DC	1820-1492	01698	SN74LS163N
1820-1242	02037	MC12012L	1820-1373	02237	93510DC	1820-1493	03406	MH74C163N
1820-1243	01698	SN74LS151N	1820-1374	03285	A075100IJN	1820-1494	02037	MC14020BCP
1820-1244	01698	SN74LS153N	1820-1375	02037	MC3103L	1820-1495	02037	MC14013BCP
1820-1245	01698	SN74LS155N	1820-1376	02237	93L107M	1820-1496	02037	MC14025UBCP
1820-1246	01698	SN74LS09N	1820-1377	02237	93L14DM	1820-1497	02037	MC14001U8CP
1820-1247	01698	SN74L123N	1820-1378	01698	SN54172N	1820-1498	02037	MC14011URCP
1820-1249	02910	N8233N	1820-1379	01698	SN5403N	1820-1499	02037	MC14017BCP
1820-1250	01698	SN74136N	1820-1380	01698	SN5496N	1820-1500	02037	MC14015BCP
1820-1251	01698	SN74LS196N	1820-1381	01698	SN5432N	1820-1501	02037	MC14007UBCP
1820-1252	02883	LD110CJ	1820-1382	02037	MC10158L	1820-1502	02037	MC14017UBCP
1820-1253	01698	SN54S00J	1820-1384	01590	SPR641H	1820-1503	02037	MC14016BCP
1820-1254	03406	DH8095N	1820-1385	02037	MC14502BCP	1820-1504	02037	MC14049URCP
1820-1255	01698	SN74368N	1820-1386	02037	MC14506BCP	1820-1505	02037	MC14024BCP
1820-1256	01698	SN7422N	1820-1387	02037	MC14519BCP	1820-1506	02037	MC14012UBCP
1820-1257	01698	SN74159N	1820-1388	02037	MC14071CP	1820-1507	02037	MC14023UBCP
1820-1258	01698	SN74178N	1820-1389	02037	MC14538BCP	1820-1508	02037	MC14017UBCP
1820-1259	01698	SN74179N	1820-1390	03406	MH74C160N	1820-1509	02037	MC14002URCP
1820-1260	01698	SN74221N	1820-1391	03406	MH74C161N	1820-1510	02037	MC14028BCP
1820-1261	01698	SN74283N	1820-1392	03406	MH74C09N	1820-1511	01921	CD4051BF
1820-1262	01698	SN74290N	1820-1394	03406	DM86L99N	1820-1512	01921	CD4014BE
1820-1263	01698	SN74H15N	1820-1395	03811	P3406	1820-1513	01921	CD4556BE
1820-1264	01698	SN74293N	1820-1398	03794	AM2505PC	1820-1514	01921	CD4555BE
1820-1265	02037	MC14527BCP	1820-1399	02037	MC10176P	1820-1515	01921	CD4053BF
1820-1266	02237	#0097PC	1820-1400	02037	MC10104P	1820-1516	02037	MC14002URCP
1820-1267	01698	SN74184N	1820-1402	03406	MH80C95N	1820-1517	02037	MC14022BCP
1820-1268	01698	SN74LR5N	1820-1403	01921	CD4072RE	1820-1518	02037	MC14050BCP
1820-1269	01698	SN74L157N	1820-1404	01921	CD4069UBE	1820-1519	01921	CD4051BF
1820-1270	01698	SN74L121N	1820-1405	01921	CD4075HE	1820-1520	02037	MC3440P
1820-1271	01698	SN74143J	1820-1407	01921	CD4073BE	1820-1521	02037	MC8602L
1820-1272	01698	SN74L533N	1820-1408	01921	CD4073BE	1820-1522	02037	MC14008BCP
1820-1273	01698	SN74LS28N	1820-1409	01921	CD4082BE	1820-1523	02037	MC14022BCP
1820-1274	01698	SN74LS22N	1820-1410	01921	CD4068BE	1820-1524	01921	CD4029BF
1820-1275	01698	SN74S26N	1820-1411	01698	SN74LS75N	1820-1525	01921	CD4018AF
1820-1276	01698	SN74LS194AN	1820-1412	02037	MC14556BCP	1820-1526	01921	CD4027AF
1820-1277	01698	SN74LS192N	1820-1413	01921	CD4511BE	1820-1527	01921	CD4013AF
1820-1278	01698	SN74LS191N	1820-1414	01698	SN74L512N	1820-1528	01921	CD4044AF
1820-1279	01698	SN74LS190N	1820-1415	01698	SN74LS13N	1820-1529	01921	CD4043AF
1820-1280	01698	SN74LS181N	1820-1416	01698	SN74LS14N	1820-1530	01921	CD4001AF
1820-1281	01698	SN74LS139N	1820-1417	01698	SN74LS26N	1820-1531	01921	CD4025AF
1820-1282	01698	SN74LS109AN	1820-1418	01698	SN74LS42N	1820-1532	01921	CD4030AF
1820-1283	01698	SN74LS95BN	1820-1419	01698	SN74LS85N	1820-1533	01921	CD4002AF
1820-1284	01698	SN74LS555N	1820-1420	01698	SN74LS52N	1820-1534	01921	CD4011AF
1820-1285	01698	SN74LS54N	1820-1421	01698	SN74LS56N	1820-1535	01921	CD4012AF
1820-1286	01698	SN74LS40N	1820-1422	01698	SN74LS122N	1820-1536	01921	CD4042AF
1820-1287	01698	SN74LS37N	1820-1423	01698	SN74LS123N	1820-1537	01921	CD4045AF
1820-1288	02037	MHH0026CL	1820-1424	01698	SN74LS124N	1820-1538	01921	CD4049AF
1820-1289	02910	NBT14N	1820-1425	01698	SN74LS132N	1820-1539	01921	CD4050AF
1820-1290	02237	93S120C	1820-1426	01698	SN74LS145N	1820-1540	01921	CD4076BF
1820-1291	03406	DM8554N	1820-1427	01698	SN74LS156N	1820-1541	01921	CD4053BY
1820-1292	03406	DM8520N	1820-1428	01698	SN74LS158N	1820-1542	02037	MC14052BCP
1820-1293	03406	DM8130N	1820-1429	01698	SN74LS160N	1820-1543	02037	MC14051BCP
1820-1294	03406	DM8123N	182					

INTEGRATED CIRCUIT CROSS REFERENCE

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1820-2079	02037	MC14002BCP	1820-2223	02037	MC14032BCP	1820-2383	02037	MC14569BCP
1820-2080	02037	MC14035BCP	1820-2224	02037	MC14038BCP	1820-2384	01698	SN74LS539N
1820-2081	02037	MC68A21P	1820-2225	01921	CD4041UBF	1820-2385	02037	MC10189P
1820-2082	01698	SN54A2AJ	1820-2226	01921	CD405BF	1820-2389	02037	MC2902APC
1820-2083	02237	A0298PC	1820-2227	01921	CD40008F	1820-2390	02237	100101FC
1820-2084	01921	CD40188E	1820-2228	02037	MC1404N+BCP	1820-2391	02237	100102FC
1820-2085	02237	40198PC	1820-2229	01921	CD4512BF	1820-2392	02237	100107FC
1820-2086	01921	CD40068E	1820-2230	01921	CD4047BF	1820-2393	02237	100112FC
1820-2087	03714	IM64022CL	1820-2231	01921	CD4031BF	1820-2394	02237	100131FC
1820-2088	02237	9613TC	1820-2232	02037	MC14034BCP	1820-2395	02237	100136FC
1820-2089	02237	9612TC	1820-2233	01921	CD4099BF	1820-2396	02237	100141FC
1820-2090	02037	MC14082BCP	1820-2234	03406	DS3649N	1820-2397	02237	100151FC
1820-2091	02037	MC14075BCP	1820-2235	01698	SN54M538JG	1820-2398	02237	10000DC
1820-2092	01698	TMS3129NC	1820-2236	01698	SN54LS379N	1820-2399	02037	MC10123P
1820-2093	02237	F10010DC	1820-2238	03406	IDN2901ADC	1820-2400	02037	MC10128L
1820-2094	02237	9616P	1820-2239	03406	DP8304N	1820-2401	02037	MC10173P
1820-2095	02237	9627PC	1820-2240	02037	MC68A08P	1820-2402	02037	MC10175P
1820-2096	01698	SN74LS393N	1820-2241	01921	CD40103BF	1820-2403	02037	MC10186P
1820-2097	02037	MC14543BCP	1820-2242	02237	958030DC	1820-2404	02237	11C91DC
1820-2098	03406	DM8099N	1820-2243	01698	SN75469N	1820-2405	03794	AM25LS2520DC
1820-2099	02037	MC6802P	1820-2244	01698	SN74LS379N	1820-2407	02237	11C01FC
1820-2100	02237	3861EPC	1820-2245	03406	MH5369AA/N	1820-2408	02237	100164FC
1820-2102	01698	SN74LS377P	1820-2246	02910	NB251001	1820-2409	02037	MC10804L
1820-2103	03406	DS0056CJ-8	1820-2248	01698	SN54LS08J	1820-2410	03811	P8291
1820-2104	01698	SN74LS242N	1820-2249	01698	SN54LS10J	1820-2411	02037	MC6808P
1820-2105	02237	F11C06DC	1820-2250	01698	SN54LS30J	1820-2413	03406	MM82C19N
1820-2107	02037	SN74LS00N	1820-2251	01698	SN54LS19J	1820-2414	02237	9319PC
1820-2108	02910	N6T31N	1820-2252	01698	SN54S30J	1820-2415	02037	MC2918PC
1820-2109	03811	D8253	1820-2253	03406	MH5369AA/N	1820-2416	03406	MH5035P
1820-2110	01698	SN75477P	1820-2254	02037	MC1453BCP	1820-2417	03406	DS882C0N
1820-2111	01698	SN75468N	1820-2255	02037	MC14174BCP	1820-2419	00575	TR1863A
1820-2113	02037	MC68A88L	1820-2256	03406	IMD2911ANC	1820-2420	02037	MC10171P
1820-2114	02237	FCM7002PC	1820-2257	01698	SNS4LS11J	1820-2421	02037	MC10163P
1820-2117	02237	9636A1C	1820-2258	03794	AM25LS2539PC	1820-2422	03046	IDM2901A-1NC
1820-2118	02237	96502PC	1820-2259	02237	4008BPC	1820-2423	00575	TR1863B
1820-2120	03794	AM25LS14DC	1820-2260	02237	4008BPC	1820-2424	02037	MC3447P
1820-2121	01698	SN74LS348N	1820-2261	01698	SNS4LS11J	1820-2425	03406	DS2909PC
1820-2124	01921	C04043BE	1820-2262	01698	SN74LS645N	1820-2426	08608	SSI104A
1820-2125	02237	A01638PC	1820-2263	03794	AM25LS2569DC	1820-2427	08608	SSI105A
1820-2126	03406	MH5313N476*	1820-2264	03811	P8039	1820-2428	02037	MC68A48P
1820-2127	01698	SN74276N	1820-2265	02634	UDN2981A	1820-2429	03811	D8741A
1820-2128	01698	SN75116N	1820-2266	02634	ULN-2058R	1820-2430	03794	AM2909PC
1820-2129	02634	UHP-A07	1820-2267	03406	MH74C9DN	1820-2443	03406	INS8250N
1820-2130	02634	ULN-2074B	1820-2268	02910	NE590F	1820-2444	02037	MC145628P
1820-2132	03714	ICM7218A	1820-2269	01698	NE591F	1820-2445	03794	AM25LS161APC
1820-2133	02037	MC670P	1820-2270	03794	AN25LS2569DC	1820-2446	05917	PBD3529
1820-2134	01698	SN75234N	1820-2271	03811	P8039	1820-2449	02037	MC10165P
1820-2136	03406	DS8973N	1820-2272	02037	MC14175BCP	1820-2450	02037	MC10189P
1820-2137	02037	MC68A00P	1820-2273	01698	SN55461UG	1820-2451	02037	MC10168P
1820-2138	03406	DS8871N	1820-2274	01698	SN55462UG	1820-2452	08659	TDC1010J
1820-2140	01590	SP8610806	1820-2284	02037	MC68A50P	1820-2453	01698	SN74LS642N
1820-2141	01698	SN75498N	1820-2285	03795	MC6871A1-1.0MHZ	1820-2454	03794	AM25507DC
1820-2143	03811	P8251	1820-2287	02910	N745253N	1820-2455	02037	MC10172P
1820-2144	02037	MC3486P	1820-2288	03811	D8251A	1820-2456	00575	FD1791A-02
1820-2145	02037	MC3487P	1820-2289	03811	DS3632N	1820-2457	02910	B2100N
1820-2148	02037	MC68A488L	1820-2291	02037	MC68860P	1820-2458	03794	AM25510PC
1820-2150	03811	D8279-5	1820-2292	01590	SP861180G	1820-2459	03794	AM25518PC
1820-2151	02037	MC6802L	1820-2293	02037	MC68800P	1820-2460	01698	SN74LS169AN
1820-2154	02237	3816PC	1820-2296	02037	MC6802P	1820-2461	02037	MC3407P
1820-2155	02910	26511	1820-2297	02037	MC8500P	1820-2462	02037	MC14513BCP
1820-2156	03406	MH74C922N	1820-2298	04078	MK3880N-4	1820-2463	02037	MC6848P
1820-2157	02037	MC3450P	1820-2299	04078	MK3883N-4	1820-2464	01698	SN74LS76AN
1820-2158	02037	MC3452P	1820-2300	04078	MK3887N-4	1820-2465	03794	AM255138PC
1820-2159	01698	SN75117P	1820-2301	04078	MK3882N-4	1820-2466	02037	MC10170P
1820-2160	03794	AM74LS244N	1820-2304	01698	SN7422J	1820-2467	02037	MC10182P
1820-2161	03406	DS8635N	1820-2305	01698	SN74LS125J	1820-2468	02037	MC10194P
1820-2163	02910	26521	1820-2306	02037	MC14990P	1820-2469	02634	ULN-2065B
1820-2164	01698	SN74120N	1820-2307	02037	MC68A40P	1820-2470	02037	MC10179P
1820-2165	02037	MC6881P/MC3449P	1820-2308	03811	P8039-4	1820-2471	02037	MC10133P
1820-2166	02037	MC14412VP	1820-2309	03406	MH74C923N	1820-2472	02037	MC10132P
1820-2168	03794	AM2502PC	1820-2310	04078	MK50399N	1820-2477	02037	MC10170P
1820-2170	02634	ULN-2064B	1820-2311	03794	AM25LS2521PC	1820-2478	02037	MC10181P
1820-2172	02237	3852PC	1820-2313	01698	SN74LS673N	1820-2479	02037	MC10183L
1820-2173	02237	3854PC	1820-2315	02237	F3871P	1820-2480	02037	MC10194P
1820-2174	03406	DS5631N	1820-2321	02237	951020C	1820-2481	02037	MC10180P
1820-2175	02037	MC6852CP	1820-2322	04078	MK5009P	1820-2482	02037	MC10129L
1820-2176	03811	P8035L	1820-2323	02037	MC10166L	1820-2483	01698	SN75161N
1820-2177	00039	UPD8243C	1820-2324	02037	MC10114P	1820-2485	01698	SN75160N
1820-2179	01698	SN7405J	1820-2326	02037	MC14504BCP	1820-2487	01921	CD40568E
1820-2180	02037	MC68A21L	1820-2327	08323	IA03-6001	1820-2488	01698	SN74ALS74N
1820-2181	01698	SN75417NE	1820-2328	02910	2661-11	1820-2489	02037	MC6885P
1820-2185	04092	SN74S373J	1820-2329	00575	FD17918-02	1820-2490	02037	MC6880P
1820-2186	01698	SN75497N	1820-2330	01921	P8039-4	1820-2491	02910	B2103N
1820-2187	03714	ICM72226	1820-2331	01921	CD4078BF	1820-2495	02037	MC10210P
1820-2188	04078	MK3880N	1820-2338	01590	SP861780G	1820-2496	02037	MC10175L
1820-2190	03794	AM25LS2518PC	1820-2339	04078	MK3881N	1820-2497	02037	MC10174L
1820-2191	03811	D8275	1820-2340	03794	AM95110C	1820-2498	02037	MC10173L
1820-2193	02037	MC10176L	1820-2343	03406	MH74C83N	1820-2499	02037	MC10172L
1820-2195	02910	74L504N	1820-2344	02037	MC14557BCP	1820-2500	02037	MC10171L
1820-2198	02237	9637ATC	1820-2345	02883	D139P	1820-2501	02037	MC10170L
1820-2199	02237	9638TC	1820-2346	01698	SN74LS221J	1820-2502	02037	MC10165L
1820-2200	01698	SN74LS147N	1820-2347	02037	MC10159L	1820-2503	02037	MC10163L
1820-2201	01698	SN74LS222AN	1820-2348	02037	MC10805L	1820-2504	02037	MC10161L
1820-2202	01698	SN74LS123N	1820-2349	01698	TMS9900JL	1820-2505	02037	MC68000L
1820-2203	03794	AM26LS32PC	1820-2350	01698	SN74LS362N	1820-2506	02237	74F04PC
1820-2204	03714	IM6402-1IPL	1820-2351	01698	SN7438J	1820-2507	02037	MC10153L
1820-2205	03811	P8085A-2	1820-2352	01698	SN75119P	1820-2508	02037	MC10113P
1820-2206	01698	SN74LS40N	1820-2353	03406	DM813IN	1820-2509	02237	100122DC
1820-2207	01698	SN75471P	1820-2357	03811	D8291	1820-2510	02237	100136DC
1820-2208	01698	SN75462P	1820-2358	02037	MC68800L	1820-2511	02237	100163DC
1820-2209	01921	CD4097BE	1820-2359	02237	F10014PC	1820-2512	02237	100164DC
1820-2210	03406	MH74C00N	1820-2360	03794	AM8279PC	1820-2513	02237	100179DC
1820-2211	03406	MH74C04N	1820-2361	01698	SN75327N	1820-2514	02237	100181DC
1820-2212	03406	MH74C10N	1820-2362	01698	SN75159N	1820-2515	02237	100114DC
1820-2213	03406	MH74C32N	1820-2363	03406	DS8867N	1820-2516	02037	MC10231L
1820-2214	03406	MH74C162N	1820-2365	02237	9644TC	1820-2517	02037	MC10100P
1820-2215	03406	MH74C373N	1820-2366	02037	SN74LS569N	1820-2518	04078	MK3884N-4
1820-2216	03406	MH74C374N	1820-2369	01698	SN74LS529N	1820-2519	03811	P8259A
1820-2217</td								

INTEGRATED CIRCUIT CROSS REFERENCE

HP P/N	Mfr.	Desc.	1820-2690	02237	74F32PC	1826-0138	01698	LM339N
1820-2528	03811	ID8039	1820-2691	02237	74F74PC	1826-0139	01921	CA145RG
1820-2529	01698	SN54LS138J	1820-2692	02237	74F86PC	1826-0140	02037	MC1468R
1820-2536	01698	SN74LS352N	1820-2693	02237	74F109PC	1826-0141	03406	LM319J
1820-2537	03406	MM74C244N	1820-2694	02237	74F112PC	1826-0142	02037	MC145ACP1
1820-2538	03406	MM74C240N	1820-2695	02237	74F158PC	1826-0144	02037	MC7805CP
1820-2540	03406	MM74C925N	1820-2696	02237	74F175PC	1826-0145	02037	MC7806CP
1820-2541	00039	UPD1990C	1820-2697	02237	74F194PC	1826-0146	02037	MC7808CP
1820-2546	02037	MC6845P	1820-2698	02237	74F240PC	1826-0147	02037	MC7812CT
1820-2547	01698	SN75162N	1820-2699	02237	74F241PC	1826-0149	02037	MC7818CP
1820-2548	01698	TMS9514NL	1820-2700	02237	74F373PC	1826-0150	01698	UA7824CKC
1820-2550	01698	SN74LS137N	1820-2701	02237	74F374PC	1826-0152	02569	CDR125BK
1820-2551	01698	TMS9514JL	1820-2705	03794	AM9513PC	1826-0153	01921	CA3075
1820-2553	03794	ANZ8002DC	1821-0001	01921	CA3046	1826-0154	02883	DG2008A
1820-2556	03794	AM2901BDC	1821-0002	01921	CA3045	1826-0155	02037	MC1406L
1820-2557	01698	SN74AS808N	1821-0006	02237	SH6501PC	1826-0156	03406	MM550H
1820-2558	01698	SN74AS808N	1826-0002	02037	MC1510G	1826-0159	02037	MC1350P
1820-2559	01698	SN54LS659J	1826-0003	02037	MC1456CG	1826-0160	02237	7806KC
1820-2562	02037	MC6803P	1826-0004	02237	UA304HC	1826-0161	02037	MLM324P
1820-2563	02037	SN74LS182N	1826-0006	02037	MC1469G	1826-0162	03406	LM321H
1820-2565	03794	AM74S244N	1826-0008	02180	SSS725B	1826-0164	02237	742PC
1820-2566	03406	MM74C240N	1826-0009	02180	SSS725CJ	1826-0165	03406	LM4250CH
1820-2567	01698	AC598N	1826-0010	02237	723HM	1826-0167	01921	CA3094AT
1820-2569	02037	MC3453P	1826-0011	01698	SN52741	1826-0169	03406	LM320K-15
1820-2570	01698	SN75365N	1826-0013	02180	SSS741CJ	1826-0172	03406	LM308N
1820-2571	02037	MC1459BCL	1826-0014	02037	MC1595L	1826-0173	03406	LM320K-5.2
1820-2572	01854	L-13-04	1826-0015	01921	CA30600	1826-0175	03406	LM319N
1820-2573	03406	OPAL14H4NC	1826-0016	02037	ML204G	1826-0176	03285	AD5064H
1820-2574	03406	OPAL12L6NC	1826-0017	03406	LM205H	1826-0177	02763	723BC
1820-2575	03406	OPAL16R8NC	1826-0019	02037	MC1437L	1826-0178	03406	LM320H-12
1820-2576	02037	MC14011BCL	1826-0020	02180	DAC-01CY	1826-0179	03406	LM320H-5.2
1820-2577	01795	SYP6551	1826-0021	03406	LM310H	1826-0180	01698	NE555P
1820-2578	01698	SN74LS33J	1826-0022	02037	MC1439L	1826-0181	03406	LM323K
1820-2579	01698	SN74LS27J	1826-0023	02037	MC1496L	1826-0182	03285	AD540J
1820-2580	01698	SN74LS20J	1826-0024	02037	MC1469R	1826-0183	02237	UA734HC
1820-2581	01698	SN74LS08J	1826-0025	03406	LM208AH	1826-0184	02237	UA749DC
1820-2582	01698	SN74LS04J	1826-0026	01698	LM311L	1826-0185	01921	CA3080
1820-2583	01698	SN74LS00J	1826-0027	02037	MC1550G	1826-0188	02037	MC1408L-B
1820-2584	01698	SN74LS38J	1826-0029	02634	ULN-2111A	1826-0189	02910	NE566H
1820-2585	01698	SN74LS32J	1826-0031	02237	U4726HC	1826-0191	03406	LM319H
1820-2586	01698	SN74LS16J	1826-0032	02037	MC1463R	1826-0192	03406	LM320H-15
1820-2587	01698	SN74LS86J	1826-0033	02037	MC1463G	1826-0193	03714	IN5012CPE
1820-2588	01921	C040608E	1826-0035	03406	LM308AH	1826-0194	02910	NE592A
1820-2589	01795	SYC6502B	1826-0036	02037	MC1494L	1826-0195	02883	LD111CJ
1820-2590	03793	SG3627	1826-0037	02037	MC1590G	1826-0196	02290	RC4195TK
1820-2592	01698	SN74LS320N	1826-0038	02037	MC1436G	1826-0197	02180	DAC-100CC93
1820-2593	01698	SN7407J	1826-0040	02910	S5733A	1826-0198	02037	MFC4000B
1820-2596	03811	D8086-2	1826-0041	01921	CA3059	1826-0200	02037	MC1420G
1820-2597	03811	D8288	1826-0042	02037	MCC1741	1826-0201	03406	LM312J
1820-2598	03811	D8284	1826-0043	01921	CA3077	1826-0202	03406	LM320K-05
1820-2599	01698	SN74S482J	1826-0044	02237	U73990C	1826-0203	02237	7815KC
1820-2600	02237	96LS02PC	1826-0047	02910	NE5628	1826-0204	02910	NE565A
1820-2601	03811	D8259A	1826-0048	02037	MCC1456	1826-0205	02910	NE556A
1820-2602	02037	MC68821L	1826-0049	01698	UAT23CJ	1826-0206	03406	LM381N
1820-2604	03794	AN9513CC	1826-0051	01698	TL514CN	1826-0207	01698	LM318P
1820-2605	03406	MM74C73N	1826-0055	02237	U711DC	1826-0208	03406	LM310N
1820-2606	03406	MM74C76N	1826-0056	02237	U740HC	1826-0209	03406	LM380N-B
1820-2610	01698	SN74LS696N	1826-0059	01698	LM201AL	1826-0210	03406	LM361N
1820-2611	02237	1001010C	1826-0060	02037	MC1438R	1826-0212	02237	U7761C
1820-2612	02037	MC6809L	1826-0061	03793	SG3501AJ	1826-0213	02910	NE521A
1820-2613	01698	SN74LS356N	1826-0064	02037	MC1733CL	1826-0214	02037	MC7915CT
1820-2614	02237	10010120C	1826-0065	00039	UPC311C	1826-0215	02037	MC7905+CT
1820-2619	02910	2661-1T REV A	1826-0067	02910	NE531H	1826-0217	02290	RC4558T
1820-2620	03811	D8088	1826-0069	02237	LM301AD	1826-0218	01921	CA3100T
1820-2621	01698	SN74S522N	1826-0070	02037	MC1741CL	1826-0219	02910	NE567V
1820-2622	01698	SN74LS24N	1826-0071	02037	MC1456G	1826-0220	03406	LM320H-05
1820-2623	03406	MM5817N	1826-0072	02237	U208B8	1826-0221	01698	UA7912CKC
1820-2624	02037	MC68809P	1826-0074	03285	AD503K(SEL)	1826-0222	0237	UA4136PC
1820-2625	01425	KR2376-ST-P	1826-0075	01921	CA3079	1826-0224	02910	SE555CT
1820-2626	01698	AC5947N	1826-0077	03406	LM311F	1826-0225	03406	LM322N
1820-2627	01425	CRT5027P	1826-0078	01921	CA3030	1826-0226	02237	78M12HC
1820-2630	03406	MM74C941N	1826-0079	03545	1321	1826-0227	03780	A-4350
1820-2631	06344	BB8866-8	1826-0081	03406	LM318H	1826-0228	02180	OP-05CJ
1820-2634	01698	SN74ALS04N	1826-0082	03285	AD741LH	1826-0229	02180	OP-05CJ
1820-2635	01698	SN74ALS08N	1826-0086	02037	MC1776CG	1826-0230	03406	LM220K-15
1820-2637	03794	ANZ8002-1DC	1826-0087	01921	CA3004	1826-0231	03550	X322
1820-2638	03794	ANZ8001-1DC	1826-0089	03545	1322	1826-0232	03285	LM325AS
1820-2641	01698	SN74LS537N	1826-0090	03285	AD741KH(SEL)	1826-0233	02037	MC1558G
1820-2644	01921	C040508E	1826-0091	06563	DRAM 6.8810	1826-0234	02910	NE529A
1820-2646	03714	ICM7227AIP1	1826-0094	01698	SN75235N	1826-0235	03406	LM370N
1820-2647	03714	ICM7227CIP1	1826-0098	03406	LM211H	1826-0236	03285	AD7520LN
1820-2648	02237	100165DC	1826-0099	02237	7812UC	1826-0237	02037	MC7805CK
1820-2649	01425	KR2376-ST-P	1826-0100	01698	SNT7274J	1826-0238	03780	A-4350
1820-2650	04078	MK3880N-6	1826-0101	02910	NE565K	1826-0248	02037	MC1408L-6
1820-2651	04078	MK38P70/J02R	1826-0102	03406	LM312H	1826-0249	03285	AD504J
1820-2653	03794	AW25L52569PC	1826-0103	02037	MC1545G	1826-0251	03285	AD514K
1820-2654	02237	74F157PC	1826-0104	03406	LM371H	1826-0252	03285	AD7520JN
1820-2655	01698	SN74LS625N	1826-0105	02883	DG1728K	1826-0253	02037	MC3442P
1820-2656	01698	SN74ALS00N	1826-0106	02037	MC7815CP	1826-0254	02037	MC1741SCPI
1820-2657	01698	SN74ALS532N	1826-0108	03406	LMH0627H	1826-0256	02910	NE522A
1820-2658	01921	CA3161E	1826-0109	03799	HA2-2625-08593	1826-0258	03793	SG1502N
1820-2662	01921	C040116E	1826-0110	03406	LM212H	1826-0259	02037	MFC6070
1820-2664	02037	MC1678L	1826-0111	01921	CA1458T	1826-0262	02237	UA7824KC
1820-2665	00575	WD8250A	1826-0112	03406	LM316AH	1826-0263	03285	#0532J0
1820-2666	01698	SN74S37J	1826-0113	03406	LM207H	1826-0264	03285	AD7520LN
1820-2667	03794	AN2901BPC	1826-0114	02237	710HM	1826-0266	02180	OP-05EJ
1820-2668	01698	SN75114N	1826-0115	02910	NE526A	1826-0267	03406	LMH062C0
1820-2670	04092	PAL16L8CN	1826-0116	02180	CMP-01-CJ	1826-0268	03406	LM208D
1820-2671	04092	PAL12H6CN	1826-0117	02237	7812KC	1826-0269	02910	NE566N
1820-2672	01698	SN74LS623N	1826-0119	02910	NE555T	1826-0270	03799	HA-2005A
1820-2675	01698	SN74LS646N	1826-0120	03406				

P/N	Mfr.	Desc.		1826-0450	01698	TL497CN		1826-0591	06545	LAS 19U
1826-0293	02037	MC1306P		1826-0451	02037	MC7915CK		1826-0592	03406	LM358RAH
1826-0294	02037	MC7905CT		1826-0452	02883	LD130CJ		1826-0593	02763	8750CJ
1826-0295	03285	AD533JH		1826-0453	02180	DAC-100AC03		1826-0594	03406	LM0044CH
1826-0299	01698	UA7924CKC		1826-0454	02910	NE527K		1826-0595	03285	ADS22A1SEL
1826-0300	02237	UA79512AHC		1826-0455	03714	ICL 8013CC T2		1826-0598	02037	MC12002P
1826-0301	01698	SN72L022L		1826-0456	02237	UA7860UIC		1826-0599	02037	MC14568BCP
1826-0302	02037	MC1741SCG		1826-0457	03406	LM325H		1826-0600	01698	TL0744ACN
1826-0303	01921	CA741G		1826-0458	03406	LF255H		1826-0601	02180	OP-16FJ
1826-0304	03406	LF355H		1826-0459	03406	LH0424CD		1826-0602	03285	AD7050KD
1826-0305	02237	79MG72C		1826-0460	02237	UA78L26AWC		1826-0603	02237	UA78540PC
1826-0306	03406	LM339AJ		1826-0462	02037	MC3410CL		1826-0605	02883	DG508RK
1826-0307	01921	CA3130T		1826-0463	01921	CA3140T		1826-0606	02883	DG2018K
1826-0308	03285	AD562KD/BIN		1826-0467	02037	MC1403P1		1826-0607	03406	LM3401AT-15
1826-0309	03285	AD518J		1826-0468	02037	MC3423P1		1826-0609	02180	MUX08FQ
1826-0311	02037	MLM201AP1		1826-0469	03334	ATF43I		1826-0610	02180	MUX24FQ
1826-0312	02037	MC3403P		1826-0470	02037	MC14086BCP		1826-0611	03406	LM2904N
1826-0314	03406	LM355-1H		1826-0472	03406	LH0044+CH		1826-0616	02180	OP-11EY
1826-0315	03406	LM348N		1826-0474	02037	MC3467P		1826-0617	02910	T8H1V15U
1826-0316	03406	LM0070-1H		1826-0475	02037	MC3468P		1826-0620	01698	UA7924CKC
1826-0318	06338	TBA231		1826-0476	01698	TL601CP		1826-0621	02763	R7D2CN
1826-0319	02037	LF356G		1826-0477	01698	TL610CP		1826-0622	02180	REF-02D0J
1826-0320	03406	LM395K		1826-0478	02237	UA7906UC		1826-0623	03406	LM334Z
1826-0321	01921	CA3099E		1826-0479	01698	LM293P		1826-0624	05436	VFC32KP
1826-0324	03406	LM209K		1826-0480	03406	LF1333N		1826-0625	02910	NE5553N
1826-0325	02037	MCC1776		1826-0481	03406	LH0033CG		1826-0626	01921	CA3150AS
1826-0326	02290	RC4554NB		1826-0482	03714	HA2-2525-5		1826-0627	03285	AD542L
1826-0327	03285	AD518KH(SEL)		1826-0483	02237	UA79MGU1C		1826-0628	02180	OP-11F
1826-0328	02290	RV4558OE		1826-0484	02237	UA78MGU1C		1826-0629	01698	UA79M12CKC
1826-0329	03406	LM115-2H		1826-0485	03285	AD7530LN		1826-0631	03406	LM350K
1826-0330	03406	LM299H		1826-0486	02037	MC14052BCP		1826-0632	03406	LM343D
1826-0331	02037	XC79L12CG		1826-0488	03406	LM218H		1826-0633	02910	NE5532AT
1826-0332	02037	XC79L05CG		1826-0489	03714	IM5028CPE		1826-0634	03406	LM343H
1826-0333	02237	78L12AH		1826-0490	03714	IH50352CPE		1826-0635	02180	OP-07CP
1826-0334	02037	MC1445L		1826-0491	02237	UF455TC		1826-0636	03285	AD7525KN
1826-0336	03406	LM13340-1N		1826-0492	03406	DS3630N		1826-0638	03406	LM360N-B
1826-0338	03794	AM686HC		1826-0493	02037	MLM308AP1		1826-0639	03285	AD7524JN
1826-0342	02237	UA7490HC		1826-0495	02037	MC79L12ACG		1826-0640	01698	TL601CP
1826-0343	02037	MC1436CG		1826-0496	02037	MC79L05ACG		1826-0641	02180	OP-07EY
1826-0344	02037	MC7908CP		1826-0497	03406	LF311H		1826-0642	01698	TL431CLP
1826-0345	02237	UA78M12UC		1826-0498	01698	SN76549N		1826-0643	03714	HA2-2515-5
1826-0346	03406	LM358N		1826-0499	03406	LH0091CD		1826-0644	03406	LM342P-12
1826-0348	03406	LM377N		1826-0500	03285	A0536K		1826-0645	01921	CA3140E
1826-0349	02237	UA78M06HL		1826-0501	02037	MC14053BCP		1826-0646	03406	LM3630N
1826-0353	02037	MC78L15ACG		1826-0502	02037	MC14066BCP		1826-0647	03406	LM343H
1826-0356	03285	AD7530JD		1826-0503	03406	LF398H		1826-0648	03406	LM3914N
1826-0357	03406	LF357H		1826-0504	03285	AD7530LD		1826-0649	03285	AD584LH
1826-0358	03406	LF256H, SEL NOISE		1826-0505	02037	MC1741NCP1		1826-0650	02180	MC78M15CG
1826-0360	02037	MC3431P		1826-0506	01921	CA3140E		1826-0651	02037	SZA26S
1826-0364	02037	MC12040P		1826-0507	02037	SDA26		1826-0652	03406	AD561J0
1826-0365	03794	HA2065-5		1826-0508	03285	AD561J0		1826-0653	01698	TL071CP
1826-0367	02037	MC78M05CG		1826-0509	02037	MC1658P		1826-0654	02180	TL071HCP
1826-0370	03406	LM340K-R		1826-0510	03406	LF1333N		1826-0655	03406	LM311H
1826-0371	03406	LF256H		1826-0511	01698	UA79M15CLA		1826-0656	03714	HA2-2515-5
1826-0373	03406	LM555CN		1826-0512	02037	MC78M15CG		1826-0657	03406	LM342P-12
1826-0374	02237	9650-1DC		1826-0516	02180	OP-17FJ		1826-0658	01921	CA2210E
1826-0375	03406	LM5700H		1826-0517	03406	ADC0800PCD		1826-0659	03794	AM6081PC
1826-0377	03406	LM320T-18		1826-0519	01698	TL071CP		1826-0661	03285	AD590KH
1826-0382	02037	MC1355P		1826-0520	01698	TL071HCP		1826-0662	01698	TL5004CN
1826-0387	03714	ICL 8250 C PE		1826-0521	01698	TL072CP		1826-0663	02910	CA5240AE
1826-0388	03406	LM0071-1H		1826-0522	01698	TL074CN		1826-0664	03406	LM351N
1826-0390	03406	LM5911N		1826-0523	03406	LM337K		1826-0665	02037	UF5564L
1826-0391	03714	ICL741C-LN-TY		1826-0524	03406	LM324AN		1826-0666	02883	DL612RP
1826-0392	03794	AM301AH		1826-0526	02037	MC3420P		1826-0667	03285	AD518KH
1826-0393	01698	LM317K		1826-0527	03406	LM337T		1826-0668	02180	U217K
1826-0394	03406	LM78L10ACH		1826-0528	03406	LF356BH		1826-0669	03406	DA1200HGD
1826-0396	02237	78L15UC		1826-0529	02037	MC3410CP		1826-0670	01698	TL182CN
1826-0397	03406	LM220K-5.0		1826-0531	02237	UA79572C		1826-0671	03406	SL441A
1826-0398	03406	LM271H		1826-0532	03799	HA1-4605-5		1826-0672	03406	LM358K
1826-0399	02037	MC3340P		1826-0533	03406	LM326H		1826-0673	03406	LM358H
1826-0400	02037	MC1555G		1826-0534	01921	CA3080E		1826-0674	03406	LM368N-1
1826-0401	02883	L144CJ		1826-0536	03406	LM340AK-5		1826-0675	03406	LM368N-1
1826-0402	06545	LAS-1515		1826-0537	03406	LM220K-5+2		1826-0676	03406	LM351H
1826-0403	06545	LAS-1815		1826-0538	01698	TL084BCN		1826-0677	03406	LM351AH
1826-0404	02237	UA7952UC		1826-0539	03406	LM317H		1826-0678	03406	LM317HVK
1826-0405	03406	LM0022CH		1826-0540	03714	ICL8211LC		1826-0679	03406	LM342P-12
1826-0408	03714	ICL8212CPA		1826-0542	02180	OP-14CJ		1826-0680	03285	MC7902CT
1826-0409	02037	MC1723L		1826-0543	02180	OP-07CJ		1826-0681	03799	HA2-2535
1826-0410	01698	TL084CN		1826-0544	02037	MC1403U		1826-0682	03406	LM2-09-20
1826-0411	02037	MC14536BCP		1826-0545	01698	TL082ACP		1826-0683	03406	LM368N-1
1826-0412	03406	LM393H		1826-0546	02910	NE592K		1826-0684	03406	LM351H
1826-0413	03794	HA2-2605-5		1826-0548	03406	LM161J		1826-0685	03406	LM353H
1826-0414	03406	LM0070-2H		1826-0549	01921	CA3140H		1826-0686	03794	AM60120C
1826-0415	02910	SD5000B		1826-0550	02237	UA0801EPC		1826-0687	03285	AD7523JN
1826-0416	03406	LF13331D		1826-0551	01698	TL78054ACKC		1826-0688	02180	REF-01CP
1826-0417	03406	LF13333D		1826-0552	03406	LF13741H		1826-0689	03794	HA1-4925-5
1826-0418	02237	UA7912UC		1826-0554	03406	LM340LAZ-5		1826-0690	03406	LM340LAZ-5
1826-0419	03406	LM3909N		1826-0555	03406	LM340LAZ-5		1826-0691	03406	ADC0816CCN
1826-0420	02037	MC1458P1		1826-0556	02037	MC1458NG		1826-0692	03406	LM725H
1826-0422	03406	LF298H		1826-0557	03406	LM348J		1826-0693	03406	LF353N
1826-0423	03406	LM317K		1826-0558	03406	LM357H		1826-0694	03406	AD574JN
1826-0424	02037	MC3405P		1826-0559	03406	LM348J-24		1826-0695	03799	HA1-4925-5
1826-0425	03794	HA2-2655-5		1826-0559	03406	LM340K-24		1826-0696	02910	NE5534AN
1826-0426	03794	AM6874DL		1826-0565	01698	TL494CN		1826-0697	03406	AD574JN
1826-0428	01698	SG3524J		1826-0566	02037	MLMC101A		1826-0698	03406	AD574JN
1826-0429	03799	HT1-1818A-5		1826-0568	03406	LM320H-6		1826-0699	03406	ADC08040N
1826-0430	03285	AD559KD		1826-0569	02910	NE5534AT		1826-0700	03794	XR346CJ
1826-0431	02037	MC14433L		1826-0572	01698	TL084ACN		1826-0701	03406	SW-02FQ
1826-0432	03714	ICL 8049 CC PE		1826-0573	03714	ICL8069DC0		1826-0721	03799	HA1-2607-5
1826-0433	03406	LF356BN		1826-0574	02237	UA714LHC		1826-0726	03285	AD565JN/81
1826-0434	03406	LM341P-8-0		1826-0575	02763	9400CJ		1826-0727	02180	SMP-81YF
1826-0435	03406	LM341P-12		1826-0576	02180	OP-16E		1826-0728	03793	SG1532J
1826-0436	03406	LM341P-24		182						

INTEGRATED CIRCUIT CROSS REFERENCE

HP P/N	Mfr.	Desc.	1858-0045	01921	CA3018A	66PSL-1	02037	1818-0108
			1858-0046	01921	CA3097E	675176J	04092	1820-2521
			1858-0047	02634	ULN-2003A	7024C	02237	1820-0051
1826-0746	03714	ICL7109CPL	1858-0048	01921	CA3082E	709AHM	02237	1820-0197
1826-0747	03406	LM4250CN	1858-0052	02037	SPI01678	719HM	02237	1826-0114
1826-0748	03406	LM250K STEEL	1858-0055	02037	MPQ2369	711HC	02237	1820-0125
1826-0750	03406	ADC0101LCN	1858-0057	01921	CA3082F	715HC	02237	1820-0176
1826-0751	03406	DAC1202HCD	1858-0058	02037	MPQ3906	7162	02838	1813-0153
1826-0752	03285	AD7542BD	1858-0061	02634	ULN-2004A	723HF	02763	1826-0177
1826-0753	02037	MC34004BL	1858-0062	02037	MPQ3762	723H4	02237	1826-0010
1826-0754	06545	LAS1915	1858-0063	01921	CA3102E	725PC	02237	1820-0439
1826-0755	02910	ME527N	1858-0064	01921	CA3045H	727HL	02237	1820-0408
1826-0756	03406	ADC0804LCN	1858-0065	02634	ULN-2815A-2	735HC	02237	1820-0270
1826-0757	01698	TL170CLP	1858-0066	03714	IH401A	7411PC	02237	1820-1066
1826-0759	02037	LM339J	1858-0067	02634	ULN-2033A	74123N	02910	1820-1585
1826-0760	03406	LM335AZ	1858-0069	02634	ULN-2803A	74164PC	02237	1820-0294
1826-0761	03714	ICL7605CJN	1858-0071	02037	MPQ3798	742PC	02237	1826-0164
1826-0762	03406	LM261H	1858-0072	02634	ULN-2815A	740F0PC	02237	1820-2684
1826-0763	03406	LM237K	1858-0073	02634	ULN-2405A	740F2PC	02237	1820-2685
1826-0764	03285	AD590KF	1858-0074	02037	MPQ100	740F4PC	02237	1820-2506
1826-0765	03714	ICL7611RMTY	1858-0075	02037	MPQ3546	740F8PC	02237	1820-2686
1826-0766	03406	LM236H	1858-0076	02037	MPQ2907P	74109PC	02237	1820-2693
1826-0767	05436	3528AM	1858-0077	02037	MPQ2222P	74110PC	02237	1820-2687
1826-0768	01921	CA258AT	1902-0908	03406	LM399H	74F112PC	02237	1820-2694
1826-0769	02883	DG303BP	1902-0928	03406	LM329	74F111PC	02237	1820-2688
1826-0770	01698	TL022CP				74F157PC	02237	1820-2654
1826-0772	02037	LM317LZ				74F158PC	02237	1820-2695
1826-0773	03406	LN10CH				74F175PC	02237	1820-2696
1826-0774	03406	LN385BZ				74F194PC	02237	1820-2697
1826-0776	02883	DG302CJ				74F20PC	02237	1820-2689
1826-0777	02883	DG303CJ				74F240PC	02237	1820-2698
1826-0778	02883	DG300CJ				74F241PC	02237	1820-2699
1826-0779	03285	AD7502JN				74F12PC	02237	1820-2690
1826-0780	01921	CA3054				74F373PC	02237	1820-2700
1826-0781	08659	TDC1014J				74F374PC	02237	1820-2701
1826-0783	00350	XRS534ACN				74F64PC	02237	1820-2676
1826-0784	06545	LAS1912				74F74PC	02237	1820-2691
1826-0785	01698	TL072ACG				74F86PC	02237	1820-2692
1826-0786	01698	TL064CN				74LS04N	02910	1820-2195
1826-0790	03714	IHS020CPA				74LS154N	02910	1820-2053
1826-0791	03406	LF398V				74LS174PC	02237	1820-1700
1826-0792	03799	HA1-4905-5				74LS175PC	02237	1820-1699
1826-0793	02237	U7490H8AHC				74LS260PC	02237	1820-1905
1826-0794	01921	CA3240E				74LS3393PC	02237	1820-1989
1826-0798	02910	NE501RF				74LS109C	02237	1820-1372
1826-0801	02037	LF255N				7516	08661	1813-0168
1826-0802	03406	LM129AH				751N	03285	1813-0048
1826-0806	02910	NE5560N				75442PC	02237	1820-1670
1826-0810	01921	CA329DE				75491A	02910	1820-0617
1826-0811	02180	SW-01FQ				75805UC	02237	1820-0122
1826-0812	03406	LN103H-2+0				75806KC	02237	1826-0160
1826-0813	01921	CA258AG				75812KC	02237	1826-0117
1826-0814	01921	CA239AE				758120C	02237	1826-0099
1826-0819	06545	LAS15A15				75815KC	02237	1826-0203
1826-0820	06545	LAS18A15				75815UC	02237	1826-0396
1826-0821	03285	AD7512D1JN				758H15CU	02910	1826-0617
1826-0822	03285	AD542KH				758L12AHC	02237	1826-0333
1826-0823	09161	MT8865AE				758M12HC	02237	1826-0226
1826-0824	09161	MT8860AE				759MG72C	02237	1826-0305
1826-0825	03406	LN399Z				8007C	03714	1826-0121
1826-0826	03406	LNH070-1H				825100N	02910	1820-2457
1826-0828	02180	OP-15GJ				825103N	02910	1820-2494
1826-0829	02237	U74915AUC				82541A	02910	1820-1862
1826-0830	03285	AD590LH				82702C	02763	1826-0621
1826-0832	03794	AN6080PC				82750CJ	02763	1826-0593
1826-0833	02237	U7459U1C				82790	02290	1820-1048
1826-0837	03406	LN238K(STEEL)				83T3N	02910	1820-1875
1826-0838	03285	AD7533JN				8798R	02910	1820-1863
1826-0839	03285	AD566JN				9002D	02237	1820-0127
1826-0840	03285	AD583				9004D	02237	1820-0129
1826-0841	09274	MA-332-CP				9007D	02237	1820-0130
1826-0842	03406	LM2917N				9015D	02237	1820-0745
1826-0843	02237	UAF772HC				9016D	02237	1820-0132
1826-0845	02180	OP-07EJ				903900	02237	1820-0612
1826-0846	03406	LF13332D				9112DC	02237	1820-0516
1826-0847	02180	REF-02HP				9114C	02237	1820-0081
1826-0849	02180	MUX-BRGF				923HC	02237	1820-0052
1826-0850	02883	DG211CJ				93030PC	02237	1820-0134
1826-0851	03714	ICL7660CPA				93040PC	02237	1820-0357
1826-0853	02180	REF-01HJ				93050PC	02237	1820-0898
1826-0854	01921	CA3162E				9313PC	02237	1820-1063
1826-0855	03406	LM236AH				9315PC	02237	1820-0231
1826-0856	03794	AN6080APC				9316PC	02237	1820-0657
1826-0857	03285	AD7522LN				9319PC	02237	1820-2414
1826-0858	03285	AD558JD				931HC	02237	1820-0313
1826-0859	01698	TL376CNE				9321PC	02237	1820-0727
1826-0860	03794	H11-5624-5				9322PC	02237	1820-0616
1826-0861	03285	AD7533LN				9324PC	02237	1820-0706
1826-0863	03406	LM1877N-9				9328PC	02237	1820-0741
1826-0864	03406	DAC-87EX (RELAXED)				9334PC	02237	1820-0833
1826-0865	03285	AD7541LN				93410DC	02237	1820-0988
1826-0866	02037	MC145RSRG				93415DC	02237	1816-0914
1826-0867	03793	SG5547N				93415PC	02237	1816-1015
1826-0868	02634	UT-309				93422DC	02237	1816-1334
1826-0869	03794	AM686CN				93448DC	02237	1816-0993
1826-0870	03406	LM337HVK				9348PC	02237	1820-0737
1826-0872	03406	LM1524				9356PC	02237	1820-1347
1826-0873	00350	XR-2209CN				9368PC	02237	1820-1903
1826-0876	02763	ICL7107CPL				9368PC	02237	1820-1979
1826-0877	03285	AD7574KN				9370PC	02237	1820-2002
1826-0878	03285	AD7503JN				9374PC	02237	1820-1361
1826-0879	02883	DG3018A				93L00PC	02237	1820-0659
1826-0880	03406	LM335Z				93L01PC	02237	1820-0627
1826-0881	04114	ADC-856C				93L08PC	02237	1820-0614
1826-0882	01698	TL082CP				93L09PC	02237	1820-0708
1826-0884	01921	CA3049				93L100M	02237	1820-1376
1826-0888	02037	MHQ6001				93L10PC	02237	1820-0669
1826-0890	02037	MHQ6221				93L10PC	02237	1820-1752
1826-0891	02037	MPO2906				93L11PC	02237	1820-0702
1826-0892	02237	SH6401PC				93L12PC	02237	1820-0658
1826-0894	01921	CA3083				93L140M	02237	1820-1377
1826-0895	00004	01921	CA3049			93L14PC	02237	1820-0701
1826-0898	02037	MHQ6001				93L16PC	02237	1820-0778
1826-0900	02037	MHQ6221				93L18PC	02237	1820-0987
1826-0901	02037	MPO2906				93L21PC	02237	1820-1017
1826-0902	02237	SH6401PC						
1826-0904	01921	CA3083						
1826-0905	03793	SG3821N						
1826-0906	03793	SG3821E						
1826-0907	01921	CA3081E						
1826-0908	02180	CA3146E						
1826-0909	02037	MPQ3725					</td	

INTEGRATED CIRCUIT CROSS REFERENCE

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Desc.	Mfr.	HP P/N	AD7524AD	D3285	1826-0699	CA145RT	01921	1826-0111
93L22PC	02237	1820-0710	AD7524JN	03285	1826-0639	CA219AE	01921	1826-0814
93L24PC	02237	1820-0904	AD7525KN	03285	1826-0636	CA258AG	01921	1826-0813
93L28PC	02237	1820-0709	AD7530JD	03285	1826-0356	CA258AT	01921	1826-0768
93L34PC	02237	1820-1358	AD7530JN	03285	1820-1789	CA300D	01921	1820-0297
93L40DC	02237	1820-1111	AD7530LN	03285	1826-0504	CA300P	01921	1820-0417
93L412PC	02237	1816-1309	AD7533JN	03285	1826-0485	CA300S	01921	1826-0087
93L415PC	02237	1816-0723	AD7533LN	03285	1826-0838	CA3005	01921	1820-0464
93L422PC	02237	1816-1308	AD7541JN	03285	1826-0861	CA3010	01921	1820-0447
93S10DC	02237	1820-1373	AD7541KN	03285	1826-0697	CA3012	01921	1820-0474
93S12DC	02237	1820-1290	AD7542BD	03285	1826-0865	CA3018	01921	1820-0352
93S16DC	02237	1820-1475	AD7550BD	03285	1826-0752	CA3018A	01921	1858-0045
9400CJ	02763	1826-0575	AD7574JN	03285	1820-1995	CA301AT	01921	1820-0223
9401PC	02237	1820-2016	AD7574KN	03285	1826-0713	CA3020	01921	1820-0298
9403PC	02237	1816-0934	AD8211SPEC	03285	1826-0877	CA3023	01921	1820-0433
95003DC	02237	1820-2242	ADC-956C	04114	1826-0881	CA3026	01921	1820-0240
9504DC	02237	1820-1222	ADC0800PCD	03406	1826-0517	CA3028A	01921	1820-0206
95102DC	02237	1820-2321	ADC0801LCN	03406	1826-0750	CA3029	01921	1820-0137
9520C	02237	1820-0952	ADC0803LC0	03406	1826-0733	CA3030	01921	1826-0078
9530C	02237	1820-0955	ADC0804CN	03406	1826-0756	CA3045	01921	1821-0002
9530C	02237	1820-0973	ADC0816CCN	03406	1826-0710	CA3046	01921	1821-0001
9540C	02237	1820-0954	ADC804G-12	05436	1813-0098	CA3049	01921	1858-0004
9550C	02237	1820-0955	AF134-1CJ	03406	1826-0580	CA3051	01921	1820-0249
9560C	02237	1820-0956	AH0019CD	03406	1820-1588	CA3053	01921	1826-0230
9560C	02237	1820-0974	AH0134C0	03406	1820-1370	CA3054	01921	1826-0780
9570C	02237	1820-0957	AH0152CD	03406	1820-1371	CA3059	01921	1821-0002
9590C	02237	1820-0110	AH0154D	03406	1813-0054	CA30600	01921	1826-0015
95H90DC	02237	1820-1009	AH5024CN	03406	1820-1353	CA3075	01921	1826-0153
96000C	02237	1820-0675	AM1101A	03794	1820-1006	CA3079	01921	1826-0075
9600C	02237	1820-0309	AM1702AHDC	03794	1818-0289	CA307T	01921	1826-0043
9612TC	02237	1820-2089	AM2502PC	03794	1820-2168	CA3080	01921	1826-0185
9613TC	02237	1820-2088	AM2505PC	03794	1820-1398	CA3080E	01921	1826-0534
9616PC	02237	1820-2094	AM25L04PC	03794	1820-1978	CA3081E	01921	1858-0023
9621DC	02237	1820-1044	AM25LS07PC	03794	1820-1866	CA3082E	01921	1858-0048
9624DC	02237	1820-1005	AM25LS08PC	03794	1820-1865	CA3082F	01921	1858-0057
9627PC	02237	1820-2095	AM25LS09PC	03794	1820-1867	CA3083	01921	1858-0021
9636ATC	02237	1820-2117	AM25LS14DC	03794	1820-2120	CA3085	01921	1826-0292
9637ATC	02237	1820-2198	AM25LS1604PC	03794	1820-1992	CA3094AT	01921	1826-0167
9638RTC	02237	1820-2199	AM25LS161APC	03794	1820-2445	CA3097E	01921	1858-0046
9644TC	02237	1820-2365	AM25LS2518PC	03794	1820-2190	CA3099E	01921	1826-0321
9640C	02237	1820-0964	AM25LS2520DC	03794	1820-2405	CA3100T	01921	1826-0218
9650-1DC	02237	1826-0374	AM25LS2521PC	03794	1820-2311	CA3102E	01921	1858-0063
9650C	02237	1820-0965	AM25LS2538PC	03794	1820-2465	CA3127E	01921	1858-0040
9660C	02237	1820-0966	AM25LS2539PC	03794	1820-2262	CA3130AS	01921	1826-0626
9670C	02237	1820-0967	AM25LS2569DC	03794	1820-2270	CA3130T	01921	1826-0307
9680C	02237	1820-0568	AM25S070DC	03794	1820-2653	CA3140AT	01921	1826-0679
96L02DC	02237	1820-0730	AM25S080PC	03794	1820-2375	CA3140H	01921	1826-0549
96LS02PC	02237	1820-2600	AM25S09PC	03794	1820-1981	CA3140T	01921	1826-0465
9710C	02237	1820-2118	AM25S10PC	03794	1820-2458	CA3146E	01921	1858-0032
971DC	02237	1820-0571	AM25S18PC	03794	1820-2459	CA3161E	01921	1820-2658
9805DC	02237	1820-0520	AM26LS32PC	03794	1820-2203	CA3162E	01921	1826-0854
9816DC	02237	1820-0485	AM26S02PC	03794	1820-1782	CA3240AE	01921	1826-0653
9822DC	02237	1820-0519	AM27S07APC	03794	1816-1495	CA3240E	01921	1826-0794
9834DC	02237	1820-0486	AM27S27DC	03794	1816-1406	CA3290E	01921	1826-0810
9838DC	02237	1820-0482	AM2803HC	03794	1820-1579	CA741CT	01921	1820-0203
9842DC	02237	1820-0488	AM2813ADC	03794	1818-0277	CA741G	01921	1826-0303
9852DC	02237	1820-0187	AM29018DC	03794	1820-2556	C02210FE	01921	1826-0658
9853DC	02237	1820-0518	AM29018PC	03794	1820-2667	C04000AE	01921	1820-0942
9856DC	02237	1820-0186	AM29030DC	03794	1820-2377	C04000BF	01921	1820-2227
9865DC	02237	1820-0517	AM2909PC	03794	1820-2442	C04001AF	01921	1820-1534
9L24DC	02237	1820-1085	AM2910DC	03794	1820-2378	C04001UHE	01921	1820-0946
9L86PC	02237	1820-1117	AM301AH	03794	1826-0392	C04002AF	01921	1820-1537
9LS192PC	02237	1820-1684	AM31L01PC	03794	1816-0913	C04002URE	01921	1820-0948
9S41PC	02237	1820-1927	AM3705CD	03406	1820-1357	C04006AF	01921	1820-0962
A-4350	03780	1826-0247	AM6012DC	03794	1826-0705	C04006BE	01921	1820-2086
AC5947N	01698	1820-2626	AM6080APC	03794	1826-0856	C04007AE	01921	1820-0578
AC5947NF	01698	1820-2259	AM6080PC	03794	1826-0832	C04008AF	01921	1820-0526
AC5948N	01698	1820-2567	AM6081PC	03794	1826-0659	C04008BE	01921	1820-1955
AD503K(SEL)	03285	1826-0074	AM6851HL	03794	1826-0578	C04009AF	01921	1820-0979
AD504J	03285	1826-0249	AM686CN	03794	1826-0579	C040103F	01921	1820-2241
AD506JH	03285	1826-0176	AM686CN	03794	1826-0869	C04010AF	01921	1820-0980
AD514K	03285	1826-0251	AM686HC	03794	1826-0238	C04011GE	01921	1820-2662
AD518J	03285	1826-0309	AM687ADL	03794	1826-0426	C04011AF	01921	1820-1538
AD518KH	03285	1826-0672	AM74L1538N	03794	1820-1732	C04011UHE	01921	1820-0949
AD518KH(SEL)	03285	1826-0327	AM74LS175N	03794	1820-1733	C04012AF	01921	1820-1539
AD522A(SEL)	03285	1826-0595	AM74LS24N	03794	1820-2160	C04012UBE	01921	1820-0950
AD522BD	03285	1813-0142	AM74S160N	03794	1820-1877	C04013AF	01921	1820-1531
AD532JD	03285	1826-0263	AM74S161N	03794	1820-1876	C040139AE	01921	1820-1963
AD533JH	03285	1826-0295	AM74S24N	03794	1820-2565	C040138F	01921	1820-0939
AD536K	03285	1826-0500	AM74S533PC	03794	1820-2527	C04014AF	01921	1820-0970
AD540J	03285	1826-0182	AM74S534PC	03794	1820-2526	C04014BE	01921	1820-1514
AD542KH	03285	1826-0822	AM8244-4PC	03794	1820-2039	C04015AF	01921	1820-1541
AD542L	03285	1826-0627	AM8279PC	03794	1820-2360	C04015BE	01921	1820-0976
AD558J0	03285	1826-0858	AM9080A-2DC	03794	1820-1701	C04016AE	01921	1820-0981
AD559K0	03285	1826-0430	AM9080A-4DC	03794	1820-2006	C04016AF	01921	1820-1675
AD561J0	03285	1826-0508	AM91010PC	03794	1818-0345	C04016BE	01921	1820-1958
AD561K0	03285	1820-1984	AM91024PC	03794	1818-0238	C04017AF	01921	1820-0933
AD562J0/BIN	03285	1820-1838	AM91028PC	03794	1818-0335	C0401818Y	01921	1820-1666
AD562K0/BIN	03285	1826-0308	AM9112APC	03794	1818-0199	C0401828Y	01921	1820-1569
AD565JW/BIN	03285	1826-0726	AM9184BDC	03794	1818-0913	C04018AF	01921	1820-0934
AD566JN	03285	1826-0839	AM9130EDC	03794	1818-0389	C04018ABE	01921	1820-1529
AD581J	03285	1826-0742	AM9131CDC	03794	1818-0360	C04018BE	01921	1820-2084
AD581LH	03285	1826-0730	AM91L118DC	03794	1818-0197	C04019AF	01921	1820-1553
AD583	03285	1826-0840	AM91L12APC	03794	1818-0322	C04019BF	01921	1820-0951
AD584KH	03285	1826-0650	AM91L12CPC	03794	1818-0294	C0420BE	01921	1820-0935
AD584LH	03285	1826-0657	AM91L30EDC	03794	1818-0313	C04021AF	01921	1820-0961
AD590JH	03285	1826-0698	AM9354BPC	03794	1820-1968	C04021BE	01921	1820-2131
AD590KF	03285	1826-0764	AM95110C	03794	1820-2340	C04021BF	01921	1820-1898
AD590KH	03285	1826-0661	AM9513CC	03794	1820-2604	C04022BE	01921	1820-0929
AD590LH	03285	1826-0830	AM9513PC	03794	1820-2705	C04023BE	01921	1820-1552
AD741KH(SEL)	03285	1826-0090	AMZ8001-1DC	03794	1820-2638	C04023UE	01921	1820-

INTEGRATED CIRCUIT CROSS REFERENCE

Desc.	Mfr.	HP P/N	D2125H-2	03811	1818-1E60	DM85568J	03406	1820-1985	
CDA029BF		01921	1820-1528	D2147H-1	03811	1818-1215	DM86L78CAB/N	03406	1816-1339
CDA030AE		01921	1820-0947	D2147H-3	03811	1818-1586	DM86L75N	03406	1820-0986
CDA030AF		01921	1820-1536	D2148H-3	03811	1818-1027	DM86L76N	03406	1820-1957
CDA031AE		01921	1820-0963	D2148H	03811	1818-1212	DM86L99N	03406	1820-1394
CDA031BF		01921	1820-2231	D2708	03811	1818-0250	DM8884AN	03406	1820-1738
CDA032AE		01921	1820-0925	D2716-2	03811	1818-2702	DMPAL12L&NC	03406	1820-2574
CDA033AE		01921	1820-0932	D2732	03811	1818-0859	DMPAL14H&NC	03406	1820-2573
CDA034AE		01921	1820-0977	D2732-6	03811	1818-1254	DMPAL16R&NC	03406	1820-2575
CDA035AE		01921	1820-0969	D2732A	03811	1818-1648	DP8212N	03406	1820-2077
CDA035AF		01921	1820-1554	D2732A	03811	1818-1721	DP8304N	03406	1820-2239
CDA036AD		01921	1820-0959	D2732A-3	03811	1818-1533	DRAM 6-8810	06563	1826-0091
CDA037AE		01921	1820-0945	D2758	03811	1818-1062	DS0025CN	03406	1820-0718
CDA038AE		01921	1820-0924	D2764	03811	1818-1722	DS0026G	03406	1820-1065
CDA039AD		01921	1820-0960	D3242	03811	1820-2076	DS0056CJ-8	03406	1820-2103
CDA040AF		01921	1820-1525	D3624	03811	1816-0919	DS3611N	03406	1820-1796
CDA040B0F		01921	1820-0937	D4201	03811	1820-2071	DS3612N	03406	1820-2041
CDA041AE		01921	1820-0928	D4289	03811	1820-2070	DS3630N	03406	1820-092
CDA041UHF		01921	1820-2225	D8008-1	03811	1820-1221	DS3631N	03406	1820-2174
CDA042AF		01921	1820-0958	D8080A	03811	1820-1615	DS3632N	03406	1820-2290
CDA042AF		01921	1820-1540	D8086-2	03811	1820-2596	DS3649N	03406	1820-2234
CDA042BE		01921	1820-1556	D8088	03811	1820-2620	DS8800H	03406	1820-1021
CDA043AE		01921	1820-0941	D8224	03794	1820-1921	DS8820AN	03406	1820-0721
CDA043AF		01921	1820-1533	D8251A	03811	1820-2289	DS8822N	03406	1820-1115
CDA043BE		01921	1820-2124	D8253	03811	1820-2109	DS8831N	03406	1820-0780
CDA044AE		01921	1820-0940	D8259A	03811	1820-2601	DS8834N	03406	1820-1845
CDA044AF		01921	1820-1532	D8275	03811	1820-2191	DS8835N	03406	1820-2161
CDA045AE		01921	1820-1318	D8279-5	03811	1820-2150	DS8839N	03406	1820-1870
CDA045BF		01921	1820-2226	D8284	03811	1820-2598	DS8863N	03406	1820-1740
CDA046AF		01921	1820-1188	D8288	03811	1820-2597	DS8867N	03406	1820-2363
CDA047AE		01921	1820-1317	D8291	03811	1820-2357	DS8871N	03406	1820-2138
CDA047BF		01921	1820-2230	D8741A	03811	1820-2441	DS8979N	03406	1820-1739
CDA048AE		01921	1820-1316	D8748	03811	1820-2278	DS8RC20N	03406	1820-2417
CDA049AF		01921	1820-1542	DAC-01CY	02181	1826-0020	DS8973N	03406	1820-2136
CDA049UBE		01921	1820-1145	DAC-08EQ	02181	1820-1934	ER2051	02713	1818-0566
CDA050AF		01921	1820-1543	DAC-100ACQ3	02180	1826-0453	F100100C	02237	1820-2093
CDA050BE		01921	1820-1146	DAC-100HCQ3	02180	1826-0127	F100142DC	02237	1816-1469
CDA050BE		01921	1820-1976	DAC-100CCQ3	02180	1826-0197	F10014PC	02237	1820-2259
CDA050BE		01921	1820-2644	DAC-100CCQ4	02180	1826-0577	F10016DC	02237	1820-1788
CDA051BE		01921	1820-1315	DAC-87EX (RELAXED)	02180	1826-0864	F11C06DC	02237	1820-2106
CDA051BF		01921	1820-1513	DAC-HAL2DC	04114	1813-017	F3871PC	02237	1820-2315
CDA052BE		01921	1820-1314	DAC1200HCD	03406	1826-0674	FCM7002PC	02237	1820-2114
CDA053BE		01921	1820-1313	DAC1202HCD	03406	1826-0751	F017914-02	00575	1820-2456
CDA053BF		01921	1820-1510	DAC12Q5/C-B	03285	0960-0632	F017918-02	00575	1820-2329
CDA053BY		01921	1820-1545	DAC16Q5/C-B	03285	0960-0631	GX1018PP	02910	1820-2522
CDA054BE		01921	1820-1331	DAC372-12-BCD	03755	1813-0036	HA-2005A	03799	1826-0270
CDA055BE		01921	1820-1646	DAC80-CII-V	05436	1813-0105	HAI-4605-5	03799	1826-0532
CDA056BE		01921	1820-2487	DAC40-CCD-V	05436	1813-0092	HAI-4905-5	03799	1826-0792
CDA059AD		01921	1820-1649	DDU-4-5100	06852	1813-0120	HAI-4925-5	03799	1826-0714
CDA060AE		01921	1820-1667	DG172BK	02883	1826-0105	HAI-5195-5	03799	1826-0700
CDA060BE		01921	1820-2588	DG182BP	02883	1826-0659	HA2-2515-5	03714	1826-0644
CDA065AE		01921	1820-1325	DG184BP	02883	1820-1724	HA2-2525-5	03714	1826-0482
CDA065AY		01921	1820-1548	DG200RA	02883	1820-1807	HA2-2535	03799	1826-0689
CDA067BF		01921	1820-1660	DG200BA	02883	1826-0154	HA2-2605-5	03799	1826-0413
CDA067HF		01921	1820-2221	DG201BK	02883	1826-0606	HA2-2625-80593	03799	1826-0109
CDA068BE		01921	1820-1410	DG201CJ	02883	1820-1840	HA2-2655-5	03799	1826-0425
CDA068BF		01921	1820-2330	DG201CJ	02883	1820-1971	HA2065-5	03799	1826-0365
CDA069UBE		01921	1820-1404	DG211CJ	02883	1826-0850	HA3-2507-5	03799	1826-0735
CDA070BE		01921	1820-1601	DG300CJ	02883	1826-0778	HA3-2607-5	03799	1826-0721
CDA071BE		01921	1820-1483	DG301BA	02883	1826-0879	HA3-2627-5	03799	1826-0736
CDA071BF		01921	1820-1550	DG302CJ	02883	1826-1797	HII-1818A-5	03799	1826-0429
CDA072BE		01921	1820-1403	DG303BP	02883	1826-0769	HII-5624-5	03799	1826-0860
CDA073BE		01921	1820-1408	DG303CJ	02883	1826-0777	HII-200-5	03799	1820-1781
CDA075BE		01921	1820-1405	DG506BR	02883	1820-1841	HM-6551-901P	03799	1818-0497
CDA076BE		01921	1820-1578	DG508BK	02883	1826-0605	HM1-6514-5	03799	1818-1370
CDA076BF		01921	1820-1544	DG508CJ	02883	1820-1725	HM1-6514-9	03799	1818-0590
CDA077BE		01921	1820-1672	DH0034C0	03406	1813-0160	HM1-6518-9	03799	1818-0433
CDA078BE		01921	1820-1407	DH0035C6	03406	1820-1797	HM1-7611-5	03799	1816-1416
CDA078BF		01921	1820-2231	DH1015AJ	03406	1816-1460	HM1-7612-2	03799	1816-1152
CDA081BE		01921	1820-1486	DW2504CN	03406	1820-1720	HM1-7633-5	03799	1816-1429
CDA081BE		01921	1820-1488	DW5406H	03406	1820-1043	HM1-7644-5	03799	1816-0987
CDA081BF		01921	1820-1551	DW74L00N	03406	1820-1518	HM1-7649-5	03799	1816-1481
CDA082BE		01921	1820-1409	DW74L16N	03406	1820-0602	HM10470	06347	1816-1459
CDA085BF		01921	1820-2017	DW74L42AN	03406	1820-1047	HM3-6514-5	03799	1818-0989
CDA086BF		01921	1820-2018	DW74L71N	03406	1820-0593	HM3-6514-9	03799	1818-0955
CDA089BE		01921	1820-1661	DW74L72N	03406	1820-0594	HM3-7621-5	03799	1816-1382
CDA093BE		01921	1820-1600	DW74L73N	03406	1820-0595	HM3-7633-5	03799	1816-1467
CDA094BE		01921	1820-1577	DW74L74N	03406	1820-0596	HM4-534P-3	06347	1818-1628
CDA094BE		01921	1820-1662	DW74L78N	03406	1820-0597	HM4864-3 (SELECTED)	06347	1818-1559
CDA094BF		01921	1820-2222	DW74L85N	03406	1820-0603	HM6116P-3	06347	1818-1611
CDA095BE		01921	1820-1663	DW74L90N	03406	1820-0600	HM6147P	06347	1818-1667
CDA096BE		01921	1820-1664	DW74L93N	03406	1820-0601	HM6147P-3	06347	1818-1596
CDA097BE		01921	1820-2209	DW74L95N	03406	1820-0599	HPRDM-8256-5D	03799	1816-0409
CDA097BF		01921	1820-1881	DW74LS173N	03406	1820-1885	HPRDM1-1025-12	03799	1816-1056
CDA098BE		01921	1820-1650	DW74LS189N	03406	1816-1089	HS-200-1.8432MHZ	01417	1813-0167
CDA099BE		01921	1820-1665	DW8090N	03406	1820-1148	HS-400-600MHZ	01417	1813-0148
CDA099BF		01921	1820-2233	DW8094N	03406	1820-0846	HS-400-600MHZ	01417	1813-0148
CDA098BE		01921	1820-1959	DW8095N	03406	1820-1254	HY-5002	07915	1813-0189
CDA4511BE		01921	1820-1413	DW8099N	03406	1820-2098	HY-5003	07915	1813-0199
CDA4511BE		01921	1820-1957	DW8121N	03406	1820-1295	TCL R013CC FZ	03714	1826-0455
CDA4512BE		01921	1820-1241	DW8123N	03406	1820-1294	ICL 8049 CC PE	03714	1826-0432
CDA4512BE		01921	1820-2229	DW8130N	03406	1820-1293	ICL 8250 C PE	03714	1826-0387
CDA4514BE		01921	1820-1683	DW8131N	03406	1820-2353	ICL7101CPL	03714	1820-2025
CDA4516BF		01921	1820-1899	DW8160N	03406	1820-1131	ICL7107CPL	02763	1826-0876
CDA4520BF		01921	1820-1900	DW8123N	03406	1820-1167	ICL7109CPL	03714	1826-0746
CDA4555BE		01921	1820-1516	DW81L595N	03406	1820-1794	ICL71C-LN-TY	03714	1826-0391
CDA4555BF		01921	1820-1556	DW81L596N	03406	1820-1872	ICL7605CJN	03714	

INTEGRATED CIRCUIT CROSS REFERENCE

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Desc.	Mfr.	HP P/N	LF356BN	03406	1826-0433	LM338K	03406	1826-0677	
IDM2901ADC		03406	1820-2238	LF356G	02037	1826-0319	LM339AJ	03406	1826-0366
IDM2911ANC		03406	1820-2523	LF357H	03406	1826-0257	LM339AN	03406	1826-0666
IH401A		03714	1858-0056	LF398H	03406	1826-0503	LM339J	02037	1826-0759
IHS010CPD		03714	1813-0034	LH-0053CG	03406	1826-0791	LM339N	01698	1826-0138
IHS012CPE		03714	1826-0193	LH0002CH	03406	1826-0439	LM340AK-5	03406	1826-0536
IHS018CPA		02569	1820-1235	LH0021CK	03406	1820-0224	LM340AT-15	03406	1826-0697
IHS020CPA		03714	1826-0790	LH0022CH	03406	1826-0405	LM340K-24	03406	1826-0559
IHS027CPE		03714	1826-0442	LH0024CH	03406	1813-0057	LM340LAH-12	03406	1826-0438
IHS028CPE		03714	1826-0489	LH0033CG	03406	1826-0481	LM340LAZ-12	03406	1826-0554
IHS032CPE		03714	1826-0490	LH0042CD	03406	1826-0459	LM340LAZ-5	03406	1826-0555
IHS035CPA		02569	1820-1234	LH0042CH	03406	1813-0041	LM341P-12	03406	1826-0435
IHS043CDE		03714	1826-0740	LH0044ACH	03406	1826-0472	LM341P-24	03406	1826-0436
IHS013ACDD		03714	1820-1363	LH0044CH	03406	1826-0594	LM341P-R-0	03406	1826-0434
IM56013CDD		03714	1820-0781	LH0062CD	03406	1826-0267	LM342P-12	03406	1826-0648
IM56001CPE PROGRAMMED		03714	1816-0053	LH0062CH	03406	1826-0108	LM343D	03406	1826-0632
IM5610CPE		03714	1816-0217	LH0070-1H	03406	1826-0316	LM343H	03406	1826-0634
IM5523CPE		03714	1816-1433	LH0070-1H	03406	1826-0262	LM348J	03406	1826-0557
IM6402-1IPL		03714	1820-2204	LH0070-2H	03406	1826-0414	LM348N	03406	1826-0315
IM6402C0L		03714	1820-2087	LH0071-1H	03406	1826-0388	LM350K	03406	1826-0631
IM6508IDE		03714	1818-0390	LH0091C0	03406	1826-0499	LM355-1H	03406	1826-0314
IM65X61-CJW		03714	1818-1009	LH103H-2.0	03406	1826-0812	LM358AH	03406	1826-0592
IM6653IJD		03714	1818-1520	LH10CH	03406	1826-0773	LM358H	03406	1826-0678
IM6654-1IJG		03714	1818-1351	LH113-2H	03406	1826-0229	LM358N	03406	1826-0246
IM7512CPE		03714	1818-0107	LH129AH	03406	1826-0802	LM360N-8	03406	1826-0638
IMD2911ANC		03406	1820-2260	LM13340-1N	03406	1826-0336	LM361H	03406	1826-0272
INSR250N		03406	1820-2443	LM1524	03406	1826-0272	LM361N	03406	1826-0210
K1091A-10.0MHZ		03795	1813-0047	LM161J	03406	1826-0549	LM370N	03406	1826-0245
K1091A-10.485760MHZ		03795	1813-0043	LM1677N-7	03406	1826-0863	LM371H	03406	1826-0104
K1091A-5.0MHZ		03795	1813-0045	LM201AL	01698	1826-0059	LM377N	03406	1826-0348
K1091A-6.9120MHZ		03795	1813-0053	LM205H	03406	1826-0017	LM380N	03406	1826-0709
K1091A-7.50MHZ		03795	1813-0052	LM207H	03406	1826-0113	LM380N-8	03406	1826-0209
K1100A		03795	1813-0128	LM208AH	03406	1826-0625	LM381N	03406	1826-0206
K1100A-1.0MHZ		03795	1813-0134	LM208D	03406	1826-0268	LM385B	03406	1826-0774
K1100A-1.792MHz		03795	1813-0117	LM209K	03406	1826-0324	LM386N-1	03406	1826-0682
K1100A-10.0MHZ		03795	0960-0566	LM211H	03406	1826-0098	LM390N	03406	1826-0120
K1100A-10.486MHz		03795	1813-0139	LM212H	03406	1826-0110	LM390N	03406	1826-0419
K1100A-15MHz		03795	1813-0062	LM218H	03406	1826-0488	LM391N	03406	1826-0390
K1100A-18.5MHz		03795	1813-0046	LM220K-12	03406	1826-0235	LM391N	03406	1826-0655
K1100A-2.0MHz		03795	1813-0135	LM220K-15	03406	1826-0233	LM393N	03406	1826-0412
K1100A-20.275MHz		03795	0960-0572	LM220K-5.2	03406	1826-0397	LM395K	03406	1826-0320
K1100A-20.0MHz		03795	1813-0156	LM224J	03406	1826-0537	LM399Z	03406	1826-0825
K1100A-22.8571MHz		03795	0960-0569	LM236AH	03406	1826-0855	LM399H	03406	1902-0908
K1100A-27MHz		03795	1813-0089	LM236H	03406	1826-0766	LM425CN	03406	1826-0165
K1100A-29.7984MHz		03795	1813-0154	LM237K	03406	1826-0763	LM555CN	03406	1826-0373
K1100A-40MHz		03795	1813-0119	LM238K(STEEL)	03406	1826-0837	LM709H	03406	1820-0162
K1100A-8.589MHz		03795	1813-0061	LM250K STEEL	03406	1826-0748	LM725H	03406	1826-0711
K1100A-9.216MHz		03795	0960-0567	LM258H	03406	1826-0745	LM781L010ACH	03406	1826-039%
K1100A-9.8304MHz		03795	1813-0116	LM261H	03406	1826-0762	LM570H	03406	1826-0375
K1114A-10.1376MHz		03795	1813-0121	LM271H	03406	1826-0398	MA-352-ZP	09274	1826-0841
K1114A-24.0MHz		03795	0960-0570	LM290N	03406	1826-0611	MB7042N	06344	1816-1415
K1115A-1.0MHz		03795	0960-0581	LM2917N	03406	1826-0842	MB7072N	06344	1816-1398
K1115A-10MHz		03795	1813-0067	LM293P	01698	1826-0479	MB8164E(SELECTED)	06344	1818-1717
K1115A-2.5MHz		03795	1813-0144	LM299H	03406	1826-0330	MB8866-B	06344	1820-2631
K1135A		03795	1813-0131	LM300H	03406	1820-0123	MB10422H	06344	1816-1462
K1135B		03795	1813-0153	LM301AD	02237	1826-0069	MB10474	06344	1816-1492
K1144A-22.016MHz		03795	1813-0146	LM301AH_22V	03406	1820-0242	MC1001P	02037	1820-0472
K1145A-22.016MHz		02795	1813-0166	LM302H	03406	1820-0158	MC1004P	02037	1820-0142
K1148A-19.6608MHz		03795	1813-0149	LM305H	03406	1820-0247	MC1006P	02037	1820-0666
KR2376-ST-P		01425	1820-2625	LM306H	03406	1820-0475	MC1007P	02037	1820-0147
L-13-04		01854	1820-2572	LM307H	03406	1820-0493	MC10100L	02037	1820-1990
L144CJ		02883	1826-0401	LM308H	03406	1826-0035	MC10100P	02037	1820-2517
L2-0V-12		06545	1826-0693	LM309H	03406	1820-0478	MC10101P	02037	1820-0801
L2-0V-15		06545	1826-0692	LM309N	03406	1826-0172	MC10102P	02037	1820-0802
L2-0V-20		06545	1826-0691	LM309H	02910	1820-0429	MC10103L	02037	1820-1831
L2-0V-5		06545	1826-0694	LM309K	02237	1820-0430	MC10103P	02037	1820-1686
L6-0V-5		06545	1826-0731	LM310H	03406	1826-0021	MC10104P	02037	1820-1400
L6-0V-5		06545	1826-0732	LM310N	03406	1826-0208	MC10105P	02037	1820-0803
LR114-4CJ		08831	1818-1616	LM311F	02406	1826-0077	MC10106P	02037	1820-0804
LAS-19U		06545	1826-0591	LM311L	01698	1826-0026	MC10107P	02037	1820-0805
LAS-1515		06545	1826-0402	LM312H	03406	1826-0102	MC10109P	02037	1820-0806
LAS-1815		06545	1826-0403	LM312J	03406	1826-0201	MC1010P	02037	1820-0145
LAS15A15		06545	1826-0819	LM316AH	03406	1826-0112	MC10110P	02037	1820-0807
LAS18A15		06545	1826-0820	LM317H	03406	1826-0539	MC10111P	02037	1820-0808
LAS1912		06545	1826-0784	LM317HWK	03406	1826-0687	MC10113L	02037	1820-1882
LAS1915		06545	1826-0754	LM317K	03406	1826-0423	MC10113P	02037	1820-2508
LD110CJ		02883	1820-1552	LM317KC	02037	1826-0772	MC10114P	02037	1820-2324
LD111CJ		02883	1826-0195	LM317LZ	03406	1826-0081	MC10115L	02037	1820-1945
LD114CJ		02883	1820-1474	LM318H	03406	1826-0207	MC10116L	02037	1820-1308
LD120CJ		02883	1826-0588	LM318P	01698	1826-0207	MC10116P	02037	1820-0810
LD121CJ		02883	1826-0587	LM319H	03406	1826-0191	MC10117L	02037	1820-1946
LD130CJ		02883	1826-0452	LM319J	03406	1826-0141	MC10117P	02037	1820-0811
LF115080		03406	1826-0695	LM319N	03406	1826-0175	MC10118P	02037	1820-0812
LF13201D		03406	1826-0562	LM320H-05	03406	1826-0220	MC10119P	02037	1820-0813
LF13201N		03406	1820-1941	LM320H-12	03406	1826-0178	MC10119P	02037	1820-0813
LF13202N		03406	1820-1946	LM320H-15	03406	1826-0192	MC1011P	02037	1820-0582
LF13351		03406	1820-1795	LM320H-5.2	03406	1826-0179	MC10121P	02037	1820-0815
LF13331D		03406	1826-0416	LM320H-6	03406	1826-0568	MC10123P	02037	1820-2399
LF13332D		03406	1826-0846	LM320K-05	03406	1826-0202	MC10124L	02037	1820-1173
LF13332N		03406	1826-0510	LM320K-15	03406	1826-0169	MC10125L	02037	1820-1052
LF13333D		03406	1826-0417	LM320K-5.2	03406	1826-0173	MC10128L	02037	1820-2400
LF13333N		03406	1826-0480	LM320T-15	03406	1826-0277	MC10129L	02037	1820-2482
LF135080		03406	1826-0581	LM320T-18	03406	1826-0377	MC10130L	02037	1820-1944
LF135090		03406	1826-0590	LM320T-8.0	03406	1826-0449	MC10130P	02037	1820-0816
LF13741H		03406	1826-0552	LM321H	03406	1826-0162	MC10131P	02037	1820-0817
LF255H		03406	1826-0458	LM322N	03406	18			

INTEGRATED CIRCUIT CROSS REFERENCE

Desc.	Mfr.	HP P/N	MC14024BCP	02037	1820-1506	MC14569BCP	02037	1820-2383
MC10161L		02037 1820-2504	MC14025BCP	02037	1820-1965	MC1456G	02037	1826-0003
MC10161P		02037 1820-0827	MC14025UHCP	02037	1820-1498	MC14572UBCP	02037	1826-0071
MC10162L		02037 1820-2067	MC14027BCP	02037	1820-1496	MC1458BCP	02037	1820-1657
MC10162P		02037 1820-0828	MC14028BCL	02037	1820-1526	MC14584BCP	02037	1820-1389
MC10163L		02037 1820-2503	MC14032BCP	02037	1820-1512	MC14585BCP	02037	1820-2019
MC10163P		02037 1820-2421	MC14034BCP	02037	1820-2223	MC1458CP1	02037	1820-1340
MC10164L		02037 1820-0829	MC14035HCP	02037	1820-2080	MC1458N	02037	1826-0556
MC10165L		02037 1820-2502	MC14038BCP	02037	1820-2224	MC1458SG	02037	1826-0866
MC10165P		02037 1820-2449	MC1403P1	02037	1826-0467	MC1458P1	02037	1826-0420
MC10166L		02037 1820-2323	MC1405U	02037	1826-0544	MC1460R	02037	1820-0277
MC10166P		02037 1820-2381	MC14040BCL	02037	1820-2054	MC1463G	02037	1826-0033
MC10168P		02037 1820-2451	MC14040BCP	02037	1820-1495	MC1463R	02037	1826-0032
MC1016P		02037 1820-0440	MC14042BCP	02037	1820-1501	MC1468L	02037	1826-0128
MC10170L		02037 1820-2501	MC14042BCP	02037	1820-1512	MC1468R	02037	1826-0140
MC10170P		02037 1820-2477	MC14044BCP	02037	1820-2228	MC1469G	02037	1826-0006
MC10171L		02037 1820-2500	MC14046BCP	02037	1826-0470	MC1469R	02037	1826-0024
MC10171P		02037 1820-2420	MC14049UBCP	02037	1820-1505	MC1488L	02037	1820-0509
MC10172L		02037 1820-2499	MC14049UBCP	02037	1820-1746	MC1489L	02037	1820-0510
MC10172P		02037 1820-2455	MC14049US	02037	1826-0718	MC1494L	02037	1826-0036
MC10173L		02037 1820-2498	MC14050BCP	02037	1820-1521	MC1495L	02037	1826-0437
MC10173P		02037 1820-2401	MC14051BCL	02037	1820-1547	MC1496G	02037	1820-0427
MC10174L		02037 1820-2497	MC14051BCP	02037	1820-2013	MC1496L	02037	1826-0023
MC10174P		02037 1820-1359	MC14052BCL	02037	1820-1546	MC1510G	02037	1826-0002
MC10175L		02037 1820-2496	MC14052BCP	02037	1826-0486	MC1514L	02037	1826-0125
MC10175P		02037 1820-2402	MC14053BCP	02037	1826-0501	MC1531G	02037	1820-0050
MC10176L		02037 1820-2193	MC1405L	02037	1826-0642	MC1545G	02037	1826-0103
MC10176P		02037 1820-1399	MC14066BCP	02037	1826-0502	MC1550G	02037	1826-0028
MC10178L		02037 1820-2066	MC14068BCP	02037	1820-1931	MC1555G	02037	1826-0400
MC10178P		02037 1820-1632	MC14069UBCL	02037	1820-1592	MC1558G	02037	1826-0243
MC10179L		02037 1820-0830	MC14069UBCP	02037	1820-2014	MC1590G	02037	1826-0037
MC10179P		02037 1820-2474	MC1406L	02037	1826-0155	MC1595L	02037	1826-0014
MC1017D		02037 1820-0146	MC14070BCL	02037	1820-1908	MC164RL	02037	1820-1119
MC10180P		02037 1820-2481	MC14070BCP	02037	1820-2015	MC164RP	02037	1820-1108
MC10181L		02037 1820-0831	MC14071BCP	02037	1820-1970	MC1650L	02037	1820-0919
MC10182P		02037 1820-2478	MC14071CP	02037	1820-1388	MC1658P	02037	1826-0509
MC10183L		02037 1820-2479	MC14073BCL	02037	1820-1918	MC1560L	02037	1820-0790
MC10186P		02037 1820-2403	MC14075BCL	02037	1820-1909	MC1662L	02037	1820-0796
MC10189P		02037 1820-2385	MC14075BCP	02037	1820-2091	MC1664L	02037	1820-0795
MC10189P		02037 1820-2450	MC14076BCP	02037	1820-2220	MC1570L	02037	1820-0794
MC1018P		02037 1820-0144	MC14077BCL	02037	1820-1907	MC1672L	02037	1820-0797
MC10174P		02037 1820-2480	MC14078BCP	02037	1820-1930	MC1674L	02037	1820-0793
MC10195P		02037 1820-1685	MC14081BCP	02037	1820-2037	MC1678L	02037	1820-2664
MC10197P		02037 1820-2023	MC14082BCP	02037	1820-2090	MC1690L	02037	1820-1132
MC10198L		02037 1820-2376	MC1408L-6	02037	1826-0248	MC1692L	02037	1820-0920
MC1019P		02037 1820-1036	MC1408L-8	02037	1826-0188	MC1694L	02037	1820-1334
MC1020P		02037 1820-0212	MC14093BCL	02037	1820-1936	MC1697P	02037	1820-1852
MC10210L		02037 1820-1830	MC14174BCP	02037	1820-2258	MC1723C	02037	1820-0196
MC10210P		02037 1820-2495	MC14175BCP	02037	1820-2279	MC1723L	02037	1826-0409
MC10211P		02037 1820-1482	MC14206	02037	1826-0200	MC1733CL	02037	1826-0064
MC10212L		02037 1820-1832	MC1431P	02037	1820-0166	MC1741CL	02037	1826-0070
MC10212P		02037 1820-1950	MC1433G	02037	1820-0316	MC1741NCPI	02037	1826-0505
MC10216L		02037 1820-1320	MC1433L	02037	1820-0181	MC1741SCG	02037	1826-0302
MC10216P		02037 1820-1224	MC1433P	02037	1820-0317	MC1741SCP1	02037	1826-0254
MC1022P		02037 1820-0272	MC1436G	02037	1826-0343	MC1741SU	02037	1826-0743
MC10231L		02037 1820-2516	MC1436G	02037	1826-0038	MC1776CG	02037	1826-0086
MC10231P		02037 1820-1225	MC1437L	02037	1826-0019	MC1800P	02037	1820-0985
MC1023P		02037 1820-0157	MC1438R	02037	1826-0060	MC1801L	02037	1820-0868
MC1024P		02037 1820-0578	MC1439G	02037	1820-0201	MC1801P	02037	1820-0441
MC1025P		02037 1820-0444	MC1439L	02037	1826-0022	MC1805P	02037	1820-0454
MC1026P		02037 1820-0252	MC14411P	02037	1820-1779	MC1806P	02037	1820-0273
MC1027P		02037 1820-0143	MC14412VP	02037	1820-2166	MC1808P	02037	1820-0274
MC1030P		02037 1820-0200	MC14413L	02037	1826-0431	MC1810P	02037	1820-0238
MC1031P		02037 1820-0235	MC1445L	02037	1826-0334	MC1812P	02037	1820-0418
MC1032P		02037 1820-0581	MC14490FP	02037	1820-1947	MC1814P	02037	1820-0665
MC1033P		02037 1820-0276	MC14490VP	02037	1820-2306	MC2257L	02037	1820-1156
MC1034P		02037 1820-0101	MC14501UBCP	02037	1820-1079	MC2259L	02037	1820-1157
MC1035P		02037 1820-0253	MC14502BAL	02037	1820-1635	MC2902APC	02037	1820-2389
MC1037P		02037 1820-1227	MC14502BCP	02037	1820-1385	MC2918PC	02037	1820-2415
MC1039P		02037 1820-0275	MC14503BCP	02037	1820-2257	MC3001P	02037	1820-0141
MC1040P		02037 1820-0667	MC14504BCP	02037	1820-2326	MC3002P	02037	1820-0239
MC1043P		02037 1820-0792	MC14506BCP	02037	1820-1386	MC3002P	02037	1820-0923
MC1047P		02037 1820-0897	MC14507CP	02037	1820-1330	MC3003P	02037	1820-0205
MC1048P		02037 1820-0473	MC14508BCL	02037	1820-1693	MC3006P	02037	1820-0204
MC1062P		02037 1820-0916	MC14510BCP	02037	1820-1189	MC3007P	02037	1820-1031
MC1065P		02037 1820-0917	MC14513BCP	02037	1820-2462	MC3022P	02037	1820-0617
MC1068P		02037 1820-0791	MC14515BCP	02037	1820-1329	MC3025P	02037	1820-0604
MC10804L		02037 1820-2409	MC14516BCP	02037	1820-1114	MC3026P	02037	1820-0140
MC10805L		02037 1820-2348	MC14517BCP	02037	1820-1815	MC3029P	02037	1820-0700
MC12002P		02037 1820-0598	MC14518BCL	02037	1820-1591	MC3060P	02037	1820-0449
MC12012L		02037 1820-1242	MC14518BCP	02037	1820-1122	MC3061P	02037	1820-0609
MC12013L		02037 1820-1688	MC14519BCP	02037	1820-1387	MC3062P	02037	1820-0451
MC12040L		02037 1820-1344	MC14520BCP	02037	1820-1150	MC3103L	02037	1820-1375
MC12040P		02037 1820-0364	MC14520BCP	02037	1820-2021	MC3245L	02037	1820-1758
MC12040L		02037 1820-1915	MC14522BAL	02037	1820-1181	MC3340P	02037	1826-0399
MC12061P		02037 1820-1577	MC14522BCP	02037	1820-1175	MC34002AG	02037	1826-0741
MC12110L		02037 1820-1025	MC14526BCP	02037	1820-1328	MC34004RL	02037	1826-0753
MC1213L		02037 1820-1026	MC14527BCP	02037	1820-1265	MC3403P	02037	1826-0312
MC1306P		02037 1820-0293	MC14528BCL	02037	1820-2051	MC3405P	02037	1826-0424
MC1350P		02037 1820-0159	MC14528BCP	02037	1820-1356	MC3410CL	02037	1826-0862
MC1355P		02037 1820-0382	MC14530BCP	02037	1820-1327	MC3410CP	02037	1826-0529
MC14001BCP		02037 1820-1745	MC14532BCL	02037	1820-1570	MC3420P	02037	1826-0526
MC14001UBCP		02037 1820-1499	MC14532BCP	02037	1820-1359	MC3423P1	02037	1826-0468
MC14002BCP		02037 1820-2079	MC14534BCP	02037	1820-1855	MC3431P	02037	1826-0360
MC14002UBCP		02037 1820-1511	MC14536BCP	02037	1820-0411	MC3440P	02037	1820-1522
MC14007UBCP		02037 1820-1503	MC14538BCL	02037	1820-1569	MC3441AP	02037	1820-1558
MC14008BCP		02037 1820-1525	MC14538BCP	02037	1820-1932	MC3442P	02037	1820-1842
MC14011BCL		02037 1820-2576	MC14539BCL	02037	1820-1549	MC3442P	02037	1826-0253
MC14011BCP		02037 1820-1747	MC14539BCP	02037	1820-1971	MC3443P	020	

INTEGRATED CIRCUIT CROSS REFERENCE

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Desc.	Mfr.	HP P/N	MC849L	02037 1820-0866	MM74C151N	03406 1820-2065
MC4002P		02037 1820-0843	MC8500P	02037 1820-2297	MM74C154N	03406 1820-1827
MC4006P		02037 1820-0608	MC850P	02037 1820-2296	MM74C157N	03406 1820-1365
MC4007P		02037 1820-0724	MC851L	02037 1820-0687	MM74C160N	03406 1820-1390
MC4008P		02037 1820-0842	MC853P	02037 1820-0860	MM74C161N	03406 1820-1391
MC4010P		02037 1820-0836	MC857P	02037 1820-0122	MM74C162N	03406 1820-2214
MC4012P		02037 1820-0607	MC858L	02037 1820-0257	MM74C163N	03406 1820-1493
MC4015P		02037 1820-0437	MC8601P	02037 1820-0863	MM74C164N	03406 1820-1559
MC4016P		02037 1820-1183	MC8602L	02037 1820-0207	MM74C165N	03406 1820-1560
MC4018P		02037 1820-1352	MC8602P	02037 1820-1524	MM74C173N	03406 1820-1190
MC4022P		02037 1820-1109	MC889P	02037 1820-0515	MM74C175N	03406 1820-1562
MC4024P		02037 1820-0567	MC8T26AP	02037 1820-0323	MM74C192N	03406 1820-1575
MC4038P		02037 1820-0834	MC1156	02037 1820-1081	MM74C193N	03406 1820-1561
MC4044P		02037 1820-0630	MC11670	02037 1820-0448	MM74C20N	03406 1820-1626
MC650P		02037 1820-1520	MC11741	02037 1820-2429	MM74C221J	03406 1820-1612
MC652P		02037 1820-0288	MC11776	02037 1826-0042	MM74C221N	03406 1820-1485
MC653P		02037 1820-1519	MC110139L	02037 1826-0325	MM74C240N	03406 1820-2538
MC666P		02037 1820-0625	MC110143L	02037 1816-1447	MM74C240N	03406 1820-2566
MC657P		02037 1820-1606	MC110144L	02037 1816-1435	MM74C244N	03406 1820-2537
MC658P		02037 1820-1605	MC110145L	02037 1816-1053	MM74C30N	03406 1820-1674
MC670P		02037 1820-2133	MC110146L	02037 1816-1430	MM74C32N	03406 1820-2213
MC672P		02037 1820-0287	MC110147L	02037 1816-1390	MM74C374N	03406 1820-2216
MC68000L		02037 1820-2505	MC110149L	02037 1816-1456	MM74C42N	03406 1820-1755
MC68001L		02037 1820-1480	MC110152L	02037 1816-1335	MM74C73N	03406 1820-2605
MC6800P		02037 1820-2411	MC115101-1P	02037 1818-0695	MM74C74J	03406 1820-1933
MC6802L		02037 1820-2151	MC2147C-70	02037 1818-0849	MM74C74N	03406 1820-1753
MC6802P		02037 1820-2099	MC256AL	02037 1820-1020	MM74C76N	03406 1820-2606
MC6803L-1		02037 1820-2651	MC5004AL	02037 1816-0860	MM74C83J	03406 1820-1937
MC6803P		02037 1820-2562	MC6572L	02037 1818-0336	MM74C83N	03406 1820-2343
MC6809L		02037 1820-2612	MC6581P	02037 1818-0700	MM74C85N	03406 1820-1806
MC6809P		02037 1820-2490	MC6610AL	02037 1818-0328	MM74C86N	03406 1820-2276
MC6821L		02037 1820-1481	MC6681AL	02037 1818-0135	MM74C89N	03406 1820-1392
MC6828P		02037 1820-2030	MC6681B1P	02037 1818-0701	MM74C901N	03406 1820-1651
MC6840P		02037 1820-2469	MC6687A708L PROGRAMMED	02037 1818-0912	MM74C902N	03406 1820-1652
MC6844P		02037 1820-2463	MCFC400B	02037 1826-0198	MM74C903N	03406 1820-1653
MC6845P		02037 1820-2546	MCFC6070	02037 1826-0259	MM74C904N	03406 1820-1654
MC6848BL		02037 1820-2113	MHD007C	03406 1820-0832	MM74C905J	03406 1820-1935
MC6848BP		02037 1820-2219	MHQ2221	02037 1858-0009	MM74C906N	03406 1820-1655
MC6850L		02037 1820-1690	MHQ6001	02037 1858-0008	MM74C907N	03406 1820-1656
MC6850P		02037 1820-2470	MHW592	02037 1813-0138	MM74C90N	03406 1820-2275
MC6852CP		02037 1820-2175	MK2302P	04078 1816-0355	MM74C910N	03406 1818-0754
MC6870A		03795 1820-1637	MK3880N	04078 1820-2188	MM74C914N	03406 1820-1778
MC6871A-1-0MHZ		03795 1820-2285	MK3880N-4	04078 1820-2298	MM74C920N	03406 1818-0753
MC6875L		02037 1820-2036	MK3880N-6	04078 1820-2649	MM74C922N	03406 1820-2156
MC6881P/MC3449P		02037 1820-2165	MK3881N	04078 1820-2339	MM74C923N	03406 1820-2309
MC6885P		02037 1820-2489	MK3881N-4	04078 1820-2434	MM74C925N	03406 1820-2540
MC68A00P		02037 1820-2137	MK3882N-4	04078 1820-2301	MM74C941N	03406 1820-2630
MC68A08P		02037 1820-2240	MK3883N-4	04078 1820-2299	MHD0C95N	03406 1820-1402
MC68A21L		02037 1820-2180	MK3884N-4	04078 1820-2518	MHD0C97J	03406 1820-1823
MC68A21P		02037 1820-2681	MK3885P	04078 1820-2288	MH2C21CN	03406 1820-2413
MC68A40P		02037 1820-2307	MK3887TN-4	04078 1820-2300	MH882C94	03406 1820-2217
MC68A48BL		02037 1820-2148	MK38P70/02R	04078 1820-2650	MH88C30N	03406 1820-2218
MC68A48BP		02037 1820-2428	MK4096-3	04078 1818-0114	MH00262CL	02037 1820-1288
MC68A50P		02037 1820-2284	MK4102P-6	04078 1818-0327	MH00262CP1	02037 1820-1366
MC68B00L		02037 1820-2358	MK4118N-1	04078 1818-1214	MH00262E	02037 1820-1170
MC68B00P		02037 1820-2293	MK4118N-2	04078 1818-1177	MP02222P	02037 1858-0077
MC68B09P		02037 1820-2624	MK4118N-3	04078 1818-1178	MP02369	02037 1858-0055
MC68B21L		02037 1820-2602	MK4118P-2	04078 1818-1162	MP02906	02037 1858-0010
MC68B60P		02037 1820-2291	MK4118P-3	04078 1818-1114	MPQ2907P	02037 1858-0076
MC7242P		02037 1820-0719	MK4118P-4	04078 1818-1213	MP03546	02037 1858-004
MC7250P		02037 1820-0786	MK4332P-3	04078 1818-1334	MP03725	02037 1858-0034
MC7270P		02037 1820-0984	MK4801AN-70	04078 1818-1662	MP03762	02037 1858-0062
MC7414AP		02037 1820-0100	MK4801AN-90	04078 1818-1614	MP03798	02037 1858-0071
MC7479P		02037 1820-0908	MK4801P-90	04078 1818-1372	MP03906	02037 1858-0058
MC7805CK		02037 1826-0246	MK4902-3N	04078 1818-1643	MP06100	02037 1858-0074
MC7805CP		02037 1826-0144	MK4902N-1	04078 1818-1718	MPQ6842	02037 1820-1804
MC7806CP		02037 1826-0145	MK5009N	04078 1820-1123	MTH866AE	09161 1826-0824
MC7808CP		02037 1826-0146	MK5009P	04078 1820-2322	MTH865AE	09161 1826-0823
MC7812CT		02037 1826-0147	MK50399N	04078 1820-2310	MUX88FQ	02180 1826-0849
MC7815CP		02037 1826-0106	MK6036P	04078 1820-0593	MUX08FQ	02180 1826-0609
MC7818CK		02037 1826-0126	MK201A1P	02037 1826-0311	MUX24FQ	02180 1826-0610
MC7818CP		02037 1826-0149	MK204G	02037 1826-0016	MWA110	02037 1813-0211
MC78L05ACP		02037 1826-0276	MLM308AP1	02037 1826-0493	MWA120	02037 1813-0212
MC78L12ACP		02037 1826-0275	MLM324P	02037 1826-0161	MWA130	02037 1813-0213
MC78L15AC6		02037 1826-0353	MLMC101A	02037 1826-0567	MWA210	02037 1813-0214
MC78L15ACP		02037 1826-0274	MN101A1A/1N	03406 1818-0134	MWA220	02037 1813-0215
MC78M05CG		02037 1826-0367	MN1402A0	03406 1820-0733	MWA230	02037 1813-0216
MC78M15CG		02037 1826-0512	MN2102AN-4L	03406 1818-0198	MWA310	02037 1813-0217
MC78M15CP		02037 1826-0464	MN2114N-L	03406 1818-0643	MWA320	02037 1813-0218
MC7902CT		02037 1826-0688	MN5006H	03406 1820-0770	MWA330	02037 1813-0219
MC7905.2CT		02037 1826-0215	MN5013N	03406 1820-1165	N74S253N	02910 1820-2287
MC7905CT		02037 1826-0294	MN5035P	03406 1820-2416	N8162N	02910 1820-0457
MC7908CP		02037 1826-0344	MN5040H	03406 1820-1236	N8200N	02910 1820-1337
MC7912CK		02037 1826-0123	MN5050AH	03406 1820-1237	N8202N	02910 1820-0508
MC7915CK		02037 1826-0451	MN5052	03406 1820-0717	N8220N	02910 1820-0845
MC7915CT		02037 1826-0214	MN5057N	03406 1820-1162	N8233N	02910 1820-0543
MC79L03C		02037 1826-0286	MN507	03406 1820-0410	N8234N	02910 1820-0542
MC79L05ACG		02037 1826-0496	MN5204D	03406 1818-1236	N8235N	02910 1820-0575
MC79L05ACP		02037 1826-0285	MN5241ABL	03406 1818-0661	N8243N	02910 1820-0569
MC79L06C		02037 1826-0284	MN5260N	03406 1820-1149	N8251N	02910 1820-0462
MC79L12AC6		02037 1826-0495	MN5261N	03406 1818-0106	N8263N	02910 1820-0507
MC79L12ACP		02037 1826-0282	MN5269N	03406 1818-0440	N8267N	02910 1820-0835
MC79L15ACP		02037 1826-0281	MN5280J-5	03406 1818-0508	N8271N	02910 1820-0989
MC815P		02037 1820-0325	MN5307ABN	03406 1820-2001	N8273N	02910 1820-1045
MC816P		02037 1820-0106	MN5307N	03406 1820-1348	N8280N	02910 1820-0322
MC817P		02037 1820-0411	MN5312N	03406 1820-1756	N8281N	02910 1820-0400
MC824P		02037 1820-0324	MN5313N (75-)	03406 1820-1364	N8284N	02910 1820-0536
MC8266P		02037 1820-0506	MN5313N (76+)	03406 1820-2126	N8288N	02910 1820-0455
MC8301P		02037 1820-0111	MN5315N	03406 1820-2040	N8290N	02910 1820-0450
MC8307P		02037 1820-0514	MN5369AA/N	03406 1820-2246	N8291N	02910 1820-0492
MC8308P		02037 1820-0742	MN5371N	03406 1820-1755	N8292N	02910 1820-0703
MC8309P		02037 1820-0610	MN550H	03406 1825-0156	N8293N	02910 1820-0789
MC8310P		02037 1820-0705	MN58174N	03406 1820-2623	N82509I	02910 1816-0728
MC8312P		02037 1820-0615	MN5873	02023 1820-1849	N825100I	02910 1820-2247
MC8314P		02037 1820-0626	MN74C00J	03406 1820-2038	N825115F	02910 1816-0605
MC835L		02037 1820-0869	MN74C00N	03406 1820-2210	N825123F	02910 1816-0016
MC835P		02037 1820-0479	MN74C02N	03406 1820-1627	N825123F	02910 1816-0516
MC838P		02037 1820-0533	MN74C04N	03406 1820		

INTEGRATED CIRCUIT CROSS REFERENCE

Desc.	Mfr.	HP P/N	P4002-1	03811	1818-0449	SNS4H106N	01698	1820-1595	
N825131F		02910	1816-1482	P4040	03811	1820-2069	SNS4H11J	01698	1820-1067
N825136F		02910	1816-0930	P4265	03811	1820-2072	SNS4H30J	01698	1820-1058
N825137AN		02910	1816-1475	P5101L-3	03811	1820-2073	SNS4H40J	01698	1820-1069
N825137F		02910	1816-0931	P8035L	03811	1818-0319	SNS4H7J	01698	1820-1071
N825140F		02910	1816-0928	P8039	03811	1820-2176	SNS4LS00J	01698	1820-1879
N825141F		02910	1816-0929	P8039-6	03811	1820-2271	SNS4LS02J	01698	1820-1799
N825141F		02910	1816-1142	P8085A	03811	1820-2308	SNS4LS08J	01698	1820-2248
N825141F		02910	1816-1163	P8085A-2	03811	1820-2074	SNS4LS10J	01698	1820-2249
N825180F		02910	1816-1240	P8155	03811	1820-2205	SNS4LS11J	01698	1820-2261
N825181F		02910	1816-1160	P8215	03811	1820-1557	SNS4LS12J	01698	1820-1750
N825181N		02910	1816-1162	P8224	03811	1820-2380	SNS4LS13J	01698	1820-2529
N825185F		02910	1816-1054	P8257	03811	1820-2143	SNS4LS196J	01698	1820-2064
N825191II		02910	1816-1299	P8259A	03811	1820-2519	SNS4LS22J	01698	1820-2042
N825191I		02910	1816-1458	P8291	03811	1820-2410	SNS4LS27J	01698	1820-1880
N82523F		02910	1816-0915	PAL10HBCN	04092	1820-2677	SNS4LS30J	01698	1820-2250
N825270SF		02910	1816-1193	PAL12H6CN	04092	1820-2671	SNS4LS66J	01698	1820-2559
N82531N		02910	1820-1980	PAL14L4CN	04092	1820-2678	SNS4L574AJ	01698	1820-1798
N82533N		02910	1820-1249	PAL16H2CN	04092	1820-2679	SNS4S00J	01698	1820-1253
N82542N		02910	1820-1073	PAL16LBCN	04092	1820-2670	SNS4S30J	01698	1820-2252
N82550N		02910	1820-1338	PAL16R4CN	04092	1820-2681	SNS4S40J	01698	1820-2253
N82562N		02910	1820-1140	PAL16R6CN	04092	1820-2680	SNS4S538JG	01698	1820-2236
N82583N		02910	1820-1467	PBD3520	05917	1820-2446	SNS5461JG	01698	1820-2282
N82583N		02910	1820-1777	PE-21217	01869	1813-0170	SNS5462JG	01698	1820-2283
N82593N		02910	1820-1195	PIC600	02598	1813-0115	SNT2710L	01698	1820-0321
N8440N		02910	1820-0459	PIC601	02598	1813-0083	SNT2710N	01698	1820-0398
N8480N		02910	1820-0460	PIC611	02598	1813-0084	SNT2741P	01698	1826-0271
N8815N		02910	1820-0837	PIC625	02598	1813-0109	SNT2747J	01698	1826-0100
N8816N		02910	1820-0458	PIC626	02598	1813-0110	SNT2L022L	01698	1826-0301
N8825N		02910	1820-0466	PIC645	02598	1813-0114	SNT400J	01698	1820-0856
N8826N		02910	1820-0208	PIC646	02598	1813-0082	SNT400N	01698	1820-0054
N8855N		02910	1820-0456	PR1472B-01	00575	1818-0094	SNT401N	01698	1820-0327
N8875N		02910	1820-0637	PT1482B-01	00575	1818-0095	SNT402N	01698	1820-0328
N8880N		02910	1820-0461	R0-3-2513	02713	1818-0237	SNT403J	01698	1820-0864
N8881N		02910	1820-0467	RA1A	01973	1820-0044	SNT403N	01698	1820-0269
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N8H80N		02910	1820-0465	RC4558NB	02290	1826-0326	SNT404N	01698	1820-0174
N8H90N		02910	1820-0464	RC4558T	02290	1826-0217	SNT404V	01698	1820-1004
N8T09N		02910	1820-1084	RC8723MP	02290	1820-1007	SNT405J	01698	1820-2179
N8T09N		02910	1820-1360	RC8724MP	02290	1820-1030	SNT405N	01698	1820-0175
N8T14N		02910	1820-1289	REF-01CP	02180	1826-0708	SNT406N	01698	1820-0471
N8T28N		02910	1820-1828	REF-01HJ	02180	1826-0853	SNT407J	01698	1820-2593
N8T31N		02910	1820-2108	REF-02DQ	02180	1826-0622	SNT407N	01698	1820-0668
N8T37N		02910	1820-1817	REF-02HP	02180	1826-0847	SNT408J	01698	1820-0870
N8T40N		02910	1820-0195	RV4558DE	02290	1826-0328	SNT408N	01698	1820-0511
N8T70N		02910	1820-0121	S2350-2	03677	1820-1754	SNT409N	01698	1820-0513
N8T73N		02910	1820-1924	S52	03545	1820-0138	SNT4100N	01698	1820-0425
N8T75N		02910	1820-1477	S5733A	02910	1826-0049	SNT4104N	01698	1820-1002
N8T96N		02910	1820-1476	S8280F	02910	1820-0419	SNT4107N	01698	1820-0281
N8T97N		02910	1820-1884	S8292F	02910	1820-1098	SNT4109N	01698	1820-1116
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NE5018F		02910	1826-0798	S05000B	02910	1826-0415	SNT4111N	01698	1820-1229
NE501A		02910	1826-0588	S08857KG	05436	1813-0140	SNT4116N	01698	1820-1793
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NE526A		02910	1826-0115	SG1532J	03793	1826-0728	SNT4122N	01698	1820-0704
NE527K		02910	1826-0454	SG3501AJ	03793	1826-0061	SNT4123N	01698	1820-0579
NE527N		02910	1826-0755	SG3524J	01698	1826-0428	SNT4125N	01698	1820-1121
NE529A		02910	1826-0244	SG3547N	03793	1826-0867	SNT4126N	01698	1820-1214
NE529K		02910	1826-0124	SG3627	03793	1820-2590	SNT4128N	01698	1820-1074
NE531H		02910	1826-0067	SG3821N	03793	1858-0022	SNT412N	01698	1820-0907
NE550L		02910	1826-0130	SH6401PC	02237	1858-0020	SNT4132N	01698	1820-1056
NE550N		02910	1826-0137	SH6501PC	02237	1821-0006	SNT4136N	01698	1820-1250
NE5532AF		02910	1826-0716	SL441A	01590	1826-0676	SNT4143N	01698	1820-0537
NE5532AT		02910	1826-0633	SMP-81FY	02180	1826-0727	SNT4141N	01698	1820-0707
NE5534AT		02910	1826-0569	SN158094N	01698	1820-0341	SNT4143J	01698	1820-1271
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NE555T		02910	1826-0119	SN15830N	01698	1820-0086	SNT4147N	01698	1820-1082
NE5560N		02910	1826-0806	SN15843N	01698	1820-0096	SNT4148N	01698	1820-1473
NE556A		02910	1826-0205	SN15833N	01698	1820-0346	SNT414N	01698	1820-1053
NE562B		02910	1826-0467	SN15836N	01698	1820-0307	SNT4150N	01698	1820-0640
NE565A		02910	1826-0204	SN15837N	01698	1820-0128	SNT4151AN	01698	1820-0622
NE565K		02910	1826-0101	SN15844N	01698	1820-0348	SNT4153N	01698	1820-0620
NE566H		02910	1826-0189	SN15845N	01698	1820-0308	SNT4154N	01698	1820-0495
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NE570N		02910	1826-0703	SN15849N	01698	1820-0249	SNT4157N	01698	1820-0762
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NE592K		02910	1826-0546	SN15862N	01698	1820-0210	SNT4162N	01698	1820-1185
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OP-05CJ		02180	1826-0229	SN4935N	01698	1820-0361	SNT4165N	01698	1820-1042
OP-05EJ		02180	1826-0266	SN52741	01698	1826-0011	SNT4166N	01698	1820-1187
OP-07CJ		02180	1826-0543	SN5400J	01698	1820-1093	SNT4167N	01698	1820-0909
OP-07CP		02180	1826-0635	SN5400N	01698	1820-0448	SNT4168J	01698	1820-2586
OP-07EJ		02180	1826-0845	SN5402J	01698	1820-1101	SNT4169N	01698	1820-0577
OP-07EY		02180	1826-0641	SN5402N	01698	1820-0445	SNT4170J	01698	1820-0725
OP-11EY		02180	1826-0616	SN5404J	01698	1820-1097	SNT4170N	01698	1820-1459
OP-11FT		02180	1826-0628	SN5404N	01698	1820-1022	SNT4173N	01698	1820-0574
OP-14CJ		02180	1826-0542	SN5408J	01698	1820-1099	SNT4173N	01698	1820-1192
OP-15GJ		02180	1826-0828	SN5408N	01698	1820-1379	SNT4174N	01698	1820-0788
OP-16E		02180	1826-0576	SN5410J	01698	1820-1094	SNT4175N	01698	1820-0839
OP-16FJ		02180	1826-0601	SN5410N	01698	1820-0447	SNT4178N	01698	1820-1258
OP-17FJ		02180	1826-0516	SN5412J	01698	1820-1092	SNT4179N	01698	1820-1259
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P2101-2		03794</							

INTEGRATED CIRCUIT CROSS REFERENCE

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Desc.	Mfr.	HP P/N	SN74H73N	01698 1820-0726	SN74H74N	01698 1820-0512	SN74LS247N	01698 1820-1688
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SN7422J		01698 1820-1256	SN74L04N	01698 1820-0586	SN74L5259N	01698 1820-1729	SN74LS259N	01698 1820-1729
SN7422N		01698 1820-0538	SN74L10N	01698 1820-0587	SN74L5261N	01698 1820-1785	SN74LS261N	01698 1820-1785
SN7423N		01698 1820-1580	SN74L121N	01698 1820-1270	SN74L5266N	01698 1820-1297	SN74LS266N	01698 1820-1297
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SN7479N		01698 1820-1465	SN74L5132N	01698 1820-1426	SN74L5499N	01698 1820-1418	SN74LS3499N	01698 1820-1418
SN7479AN		01698 1820-0072	SN74L5132N	01698 1820-1422	SN74L5499N	01698 1820-1421	SN74LS3499N	01698 1820-1421
SN7479AN		01698 1820-0363	SN74L5136N	01698 1820-1215	SN74L5499N	01698 1820-1579	SN74LS3499N	01698 1820-1579
SN7479AN		01698 1820-0363	SN74L5137N	01698 1820-1243	SN74L5499N	01698 1820-2672	SN74LS3499N	01698 1820-2672
SN7479AN		01698 1820-0484	SN74L5138N	01698 1820-1216	SN74L5499N	01698 1820-2078	SN74LS3499N	01698 1820-2078
SN7479AN		01698 1820-0921	SN74L5139N	01698 1820-1281	SN74L5499N	01698 1820-1210	SN74LS3499N	01698 1820-1210
SN7479AN		01698 1820-0282	SN74L515N	01698 1820-1415	SN74L5548N	01698 1820-1285	SN74LS3548N	01698 1820-1285
SN7479AN		01698 1820-0628	SN74L5145N	01698 1820-1426	SN74L5640N	01698 1820-2206	SN74LS3640N	01698 1820-2206
SN7479AN		01698 1820-0055	SN74L5147N	01698 1820-2200	SN74L5642N	01698 1820-2453	SN74LS3642N	01698 1820-2453
SN7479AN		01698 1820-0364	SN74L5148N	01698 1820-1851	SN74L5645N	01698 1820-2268	SN74LS3645N	01698 1820-2268
SN7479AN		01698 1820-0056	SN74L5151N	01698 1820-1217	SN74L5646N	01698 1820-2672	SN74LS3646N	01698 1820-2672
SN7479AN		01698 1820-0099	SN74L5155N	01698 1820-1244	SN74L5648N	01698 1820-1434	SN74LS3648N	01698 1820-1434
SN7479AN		01698 1820-0366	SN74L5155N	01698 1820-1245	SN74L5649N	01698 1820-2369	SN74LS3649N	01698 1820-2369
SN7479AN		01698 1820-0367	SN74L5155N	01698 1820-1245	SN74L5649N	01698 1820-2206	SN74LS3649N	01698 1820-2206
SN7479AN		01698 1820-0368	SN74L5156N	01698 1820-1247	SN74L5649N	01698 1820-2453	SN74LS3649N	01698 1820-2453
SN7479AN		01698 1820-0744	SN74L5157N	01698 1820-1470	SN74L5649N	01698 1820-2268	SN74LS3649N	01698 1820-2268
SN7479AN		01698 1820-0744	SN74L5181N	01698 1820-1280	SN74L5649N	01698 1820-1112	SN74LS3649N	01698 1820-1112
SN7479AN		01698 1820-0371	SN74L5182N	02037 1820-2563	SN74L5650N	01698 1820-1411	SN74LS3650N	01698 1820-1411
SN7479AN		01698 1820-0613	SN74L5190N	01698 1820-1279	SN74L5651N	01698 1820-2464		

INTEGRATED CIRCUIT CROSS REFERENCE

Desc.	Mfr.	HP P/N	SP380N	02910	1820-1187	UA281HC	02237	1820-0104	
SN74S134N		01698	1820-1306	SP616N	02910	1820-0318	UA208H	02237	1826-0072
SN74S135N		01698	1820-1639	SP629N	02910	1820-0078	UA217K	02237	1826-0673
SN74S138N		01698	1820-1240	SP631N	03795	1813-0129	UA304HC	02237	1826-0004
SN74S139N		01698	1820-1072	SP659N	02910	1820-0067	UA709CN	02237	1826-0397
SN74S140N		01698	1820-0697	SP670N	02910	1820-0320	UA7110C	02237	1826-0055
SN74S151N		01698	1820-1319	SP680N	02910	1820-0303	UA714LHC	02237	1826-0574
SN74S153N		01698	1820-0598	SP861080G	01590	1820-2140	UA726HC	02237	1826-0031
SN74S157N		01698	1820-1077	SP861180G	01590	1820-2292	UA734HC	02237	1826-0183
SN74S158N		01698	1820-1015	SP861780G	01590	1820-2338	UA739DC	02237	1826-0044
SN74S159N		01698	1820-0687	SP862280G	01590	1820-2047	UA740HC	02237	1826-0056
SN74S162N		01698	1820-1452	SP86418	01590	1820-1384	UA747DM	02237	1826-0135
SN74S163J		01698	1820-1942	SP01578	02037	1858-0052	UA749DC	02237	1826-0184
SN74S163N		01698	1820-1453	SSI104A	08608	1820-2425	UA749DHC	02237	1826-0342
SN74S168N		01698	1820-1454	SSI105A	08608	1820-2426	UA759T2C	02237	1826-0531
SN74S169J		01698	1820-1943	SS5725B	02180	1826-0008	UA759U1C	02237	1826-0833
SN74S169N		01698	1820-1455	SS5725CJ	02180	1826-0009	UA7600C	02237	1826-0132
SN74S174N		01698	1820-1076	SS5741CJ	02180	1826-0013	UA760HC	02237	1826-0231
SN74S175N		01698	1820-1191	SW-01FQ	02180	1826-0811	UA776TC	02237	1826-0212
SN74S181J		01698	1820-1974	SW-02FQ	02180	1826-0720	UA7824CKC	01698	1826-0150
SN74S181N		01698	1820-0999	SYC65028	01795	1820-2589	UA7824KC	02237	1826-0262
SN74S182N		01698	1820-1305	SY1404A	01795	1820-0763	UA787GK	02237	1826-0443
SN74S189J		01698	1816-0640	SYP2111A-2	01795	1818-0381	UA786GUIC	02237	1826-0456
SN74S189N		01698	1816-0724	SYP2112A	01795	1818-0553	UA78H05SC	02237	1813-0100
SN74S194N		01698	1820-1304	SYP2112A-4	01795	1818-0140	UA78H12SC	02237	1813-0093
SN74S195N		01698	1820-1303	SYP6551	01795	1820-2577	UA78H15KC	02237	1813-0124
SN74S196N		01698	1820-1869	SZ4266	02037	1826-0507	UA78H6KC	02237	1813-0123
SN74S197N		01698	1820-1868	T0A2709V	01991	1820-0058	UA78L26AWC	02237	1826-0460
SN74S200N		01698	1816-0598	T0A231	06338	1826-0318	UA78L62AWC	02237	1826-0586
SN74S20N		01698	1820-0688	TP1451ON	01698	1816-1137	UA78M06HL	02237	1826-0349
SN74S225N		01698	1820-2621	TP14SA10N	01698	1816-1358	UA78M12UC	02237	1826-0345
SN74S22N		01698	1820-0689	TP185030J	01698	1816-1468	UA78MGHC	02237	1826-0584
SN74S240N		01698	1820-1633	TP185030N	01698	1816-1153	UA78MGU1C	02237	1826-0484
SN74S241N		01698	1820-1624	TP18522N	01698	1816-1388	UA78S0PC	02237	1826-0603
SN74S251N		01698	1820-1302	TP18542J	01698	1816-1008	UA7905UC	02237	1826-0445
SN74S257N		01698	1820-1301	TP18542N	01698	1816-1055	UA7906UC	02237	1826-0478
SN74S258N		01698	1820-1309	TP18546N	01698	1816-1329	UA7912CKC	01698	1826-0221
SN74S260N		01698	1820-1275	TP185A030N	01698	1816-1174	UA7912UC	02237	1826-0418
SN74S280N		01698	1820-1638	TC5504P-1	06354	1818-1583	UA7924CKC	01698	1826-0299
SN74S281N		01698	1820-1456	TC5514P	06354	1818-1350	UA7924UC	01698	1826-0620
SN74S283N		01698	1820-1871	TDC1010J	08659	1820-2452	UA7952UC	02237	1826-0404
SN74S289N		01698	1816-0787	TDC1014J	08659	1826-0781	UA796KC	02237	1826-0444
SN74S299N		01698	1820-1457	TIKL105	01698	1820-0279	UA797GUIC	02237	1826-0829
SN74S30N		01698	1820-1323	TL022CP	01698	1826-0770	UA79H6KC	02237	1813-0127
SN74S32N		01698	1820-1449	TL061CP	01698	1826-0640	UA79M06AH	02237	1826-0701
SN74S373J		04092	1820-2185	TL062CP	01698	1826-0683	UA79M08AH	02237	1826-0793
SN74S373N		01698	1820-1676	TL064CN	01698	1826-0786	UA79M12AH	02237	1826-0300
SN74S374N		01698	1820-1677	TL0718CP	01698	1826-0520	UA79M12CKC	01698	1826-0629
SN74S37J		01698	1820-2666	TL071CP	01698	1826-0519	UA79M12CKC	01698	1826-0649
SN74S37N		01698	1820-1458	TL072ACJG	01698	1826-0785	UA79M15AUC	02237	1826-0829
SN74S381N		01698	1820-1458	TL072ACP	01698	1826-0547	UA79M15CLC	01698	1826-0511
SN74S38N		01698	1820-1451	TL072CP	01698	1826-0521	UA79MGHC	02237	1826-0583
SN74S40N		01698	1820-0690	TL074ACN	01698	1826-0600	UA79MGU1C	02237	1826-0483
SN74S482J		01698	1820-2599	TL074CN	01698	1826-0522	UAF355TC	02237	1826-0491
SN74S51N		01698	1820-1158	TL082ACP	01698	1826-0545	UAF772HC	02237	1826-0229
SN74S64N		01698	1820-0691	TL082CP	01698	1826-0882	UDN-5703A	02634	1820-2682
SN74S65N		01698	1820-0692	TL084ACN	01698	1826-0572	UDN-5706A	02634	1820-2683
SN74S74N		01698	1820-0693	TL084BCN	01698	1826-0538	UDN-5707A	02634	1820-2200
SN74S85N		01698	1820-1321	TL084CN	01698	1826-0410	UDN-57981A	02634	1820-2273
SN74S86N		01698	1820-0694	TL170CLP	01698	1826-0757	UHP-402	02634	1820-1120
SN75107AN		01698	1820-0723	TL182CN	01698	1826-0675	UHP-407	02634	1820-2129
SN75108BN		01698	1820-1310	TL376CNE	01698	1826-0859	UHP-408	02634	1820-1086
SN75109N		01698	1820-0722	TL431CLP	01698	1826-0643	ULN-2003A	02634	1858-0047
SN7510L		01698	1820-0083	TL494CW	01698	1826-0565	ULN-2004A	02634	1858-0061
SN75110AN		01698	1820-1110	TL979CN	01698	1826-0450	ULN-2033A	02634	1858-0067
SN75112N		01698	1820-1826	TL500ACN	01698	1826-0651	ULN-2064B	02634	1820-2170
SN75114N		01698	1820-2668	TL514CN	01698	1826-0501	ULN-2065B	02634	1820-2473
SN75116N		01698	1820-2128	TL601CP	01698	1826-0476	ULN-2068B	02634	1820-2274
SN75117AN		01698	1820-2159	TL604IP	01698	1820-1973	ULN-2074B	02634	1820-2130
SN75119P		01698	1820-2352	TL607CP	01698	1820-1948	ULN-2111A	02634	1826-0029
SN75121N SELECTED		01698	1820-1080	TL618CP	01698	1826-0477	ULN-2803A	02634	1858-0069
SN75150P		01698	1820-1075	TL702CN	01698	1820-0396	ULN-2805A	02634	1858-0073
SN75151N		01698	1820-2362	TL7805ACKC	01698	1826-0551	ULN-2813A	02634	1858-0072
SN75160N		01698	1820-2485	TMS-4024NC	01698	1820-1174	ULN-2815A-2	02634	1858-0065
SN75161N		01698	1820-2483	TMS0105NC	01698	1820-1232	ULN2082A	02634	1858-0037
SN75162N		01698	1820-2547	TMS2114-45NL	01698	1818-0438	UM1500	04200	1820-0498
SN75183N		01698	1820-0729	TMS2516-35JL	01698	1818-0851	UP416C-1(Selected)	00039	1818-1467
SN75189AJ		01698	1820-0990	TMS2516JL	01698	1818-0498	UP416C-2(Selected)	00039	1818-1396
SN75254N		01698	1820-2154	TMS2532JDL-35	01698	1818-1581	UP416C-3(Selected)	00039	1818-1397
SN75255N		01698	1820-0094	TMS2532JL	01698	1818-0762	UPC301AC	00039	1820-0477
SN75322N		01698	1820-1673	TMS2716JL	01698	1818-0743	UPC311C	00039	1826-0065
SN75325N		01698	1820-0568	TMS27L08JL	01698	1818-0491	UPD1990C	00039	1820-2541
SN75327N		01698	1820-2361	TMS3002LR	01698	1820-0211	UPD2114L-3	00039	1818-1300
SN75361AN		01698	1820-1833	TMS3113NC	01698	1820-1186	UPD2114LC-1	00039	1818-0443
SN75361AP		01698	1820-1887	TMS3120NC	01698	1820-1346	UPD369C	00039	1820-2060
SN75363N		01698	1820-1982	TMS3122NC	01698	1820-1178	UPD416D-2	00039	1818-0341
SN75365N		01698	1820-2570	TMS3129NC	01698	1820-2092	UPD444/6514	00039	1818-1346
SN75367N		01698	1820-1611	TMS4027-15JL SELCTD	01698	1818-0317	UPD444C-1	00039	1818-1330
SN75417ME		01698	1820-2181	TMS5027-20JL SELCTD	01698	1818-0334	UPD5101LC	00039	1818-0708
SN75450BN		01698	1820-0902	TMS5030JL	01698	1818-0103	UPD8228D	00039	1820-1920
SN75451BP		01698	1820-0535	TMS5044NL-45	01698	1818-1398	UPD8243C	00039	1820-2177
SN75452BJG		01698	1820-1800	TMS5050-1JL SELCTD	01698	1818-0181	UPD8251D	00039	1820-1844
SN75452BL		01698	1820-1663	TMS5050JL SELCTD	01698	1818-0146	UPD8253D	00039	1820-2005
SN75452BP		01698	1820-0799	TMS4050NL	01698	1818-0147	UPD8255AD	00039	1820-1919
SN75453BP		01698	1820-1016	TMS4060-2JL	01698	1818-0247	UT-509	02634	1826-0868
SN75454BP		01698	18						

supplement to BENCH BRIEFS SERVICE NOTE INDEX

Need Any Service Notes?

They're free!

Here's the latest listing of Service Notes. They recommend modifications to Hewlett-Packard instruments to increase reliability, improve performance, or extend their usefulness.

Use the order form at the rear of Bench Briefs to select the notes that relate to your instruments.

181T/TR OSCILLOSCOPE

181T/TR-2. 181T serials 2034A and below; 181TR serials 2035A and below. Modification to prevent potential instrument damage during service.
 181T/TR-3. 181T serials 2034A and below; 181TR serials 2035A and below. Preferred HP part numbers for replacing the voltage reference tube in the positive or negative 100V power supply.

612A SIGNAL GENERATOR

612A-12A. Serials 1914A and below. Modification to improve external modulation accuracy.

613C SHF SIGNAL GENERATOR

613C-14. All serials. Part change to assure proper pulse performance of the signal generator when V701 is changed.

620B SHF SIGNAL GENERATOR

620B-16. All serials. Part change to assure proper pulse performance of the signal generator when V701 is changed.

339A DISTORTION ANALYZER

339A-7A. Serials 2025A-02365 and below. Solution to inadequate frequency vernier overlap.

651B TEST OSCILLATOR

651B-9. All serials. Procedure for adjusting attenuator shielding to improve attenuator accuracy specifications.

652A TEST OSCILLATOR

652A-5. All serials. Procedure for adjusting attenuator shielding to improve attenuator accuracy specifications.

1311A DISPLAY

1311A-20. Serials 1915A only. New RFI suppression capacitor A11C8 to improve reliability of 250V low voltage power supply.

1615A LOGIC ANALYZER

1615A-4. Serials 2032A05185 and below. Corrective measure for display jitter.

1722B OSCILLOSCOPE

1722B-3. Serials 2034A01155 and below. Component changes to prevent mistriggering at ECL logic speeds (100 MHz).

1725A OSCILLOSCOPE

1725A-7. Serials 2047A03560 and below. Component changes to prevent mistriggering at ECL logic speeds (100 MHz).

1742A OSCILLOSCOPE

1742A-1A. Serials 1807A. Modification to prevent false readings in delayed sweep "TRIG'D" mode.
 1742A-2. All serials. Improved connector mating reliability between A3 vertical preamp and A5 vertical output PC boards.

1980A/B OSCILLOSCOPE

1980A/B-3. Serials 1947A-. Preferred horizontal hybrid replacement.
 1980A/B-4. Serials 2106A and below. Preferred replacement trigger hybrid A5U1.

3060A BOARD TEST SYSTEM

3060A-2. All serials. Preventive maintenance procedure.
 3060A-3-S. 3060A board test system options 200/201/202/205 only. Serials 1801A00324 and below. 34196A Scanner Power Supply AC line is reverse wired.
 3060A-4. All serials. Procedure for cleaning DUT Power Supply relays.
 3060A-5. Serials 1801A00100 and up. CCD revision 1938. Modification of CCD programs "DIGITL" and "M0802" for proper 3455A operation during receiver test.
 3060A-6. All serials. How to identify CCD Rev 1938 signatures.
 3060A-7. All serials. BTL Rev2014 — BTL program abort due to missing SA card in scanner.
 3060A-8. All serials. BTL/IPG update tape for Revision 2014.
 3060A-9. All serials. Procedure for interfacing the 9885M disk drive in the 3060A system.
 3060A-11. All serials. 6253A DUT power supplies description.
 3060A-12. All serials. Loading BTL from a running program.
 3060A-13. All serials. Software BTL revision from 1903 to 2014.
 3060A-16A. All serials. Software CCD revision from 2027 to 2036.
 3060A-17. All serials. Proper use of 9825B/T controllers in 3060A or 44525A programming stations.

3200B VHF OSCILLATOR

3200B-6. Serials 1902A and below. Modification to increase output power.

3253A ANALOG STIMULUS/RESPONSE UNIT

3253A-3. All serials. Cleaning ASRU multiplexing relays.

3312A FUNCTION GENERATOR

3312A-4A. Serials 1432A06631 and below. Modification to prevent output signal clipping or frequency variations with amplitude control.

3325A SYNTHESIZER/FUNCTION GENERATOR

3325A-1B. Serials 1748A01200 and below (USA); 1818G00370 and below (Germany). Power supply modification to assure that the over-voltage protection circuit will operate properly.
 3325A-9. Serials 1748A-02476 to 1748A-04675. Modification to improve oscillator reliability.

3330A/B AUTOMATIC SYNTHESIZER

3330A/B-5A. All serials. Replacement part numbers for LED displays.
 3330A/B-14B. Serials 1313A01918 and below. Correct termination of HP-IB lines on A34 assembly.

3330A/B-17. All serials. On-site repair service kit for 3330A/B Option 004.
 3330B-16. All serials. Recommended replacement HP-IB A6 board to improve performance.

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3435A DIGITAL MULTIMETER

3435A-4A. All serials. Front panel switch information.
 3435A-5. All serials. Modification to prevent 20 ohm range drifting out of specification with zero ohms input.
 3435A-6. Serials 1606A07700 and below. Modification to improve high frequency response.

3437A SYSTEM VOLTMETER

3437A-4A. Serials 1630A02599 and below. Recommended replacement for IC A2U124.
 3437A-5. Serials 1630A03891 and below. Modification to reduce data propagation delay.
 3437A-6. Serials 1630A03530 and below. Recommended nanoprocessor replacement.

3438A DIGITAL MULTIMETER

3438A-5A. All serials. Front panel switch information.
 3438A-6. All serials. Modification to prevent 20 ohm range drifting out of specification with zero ohms input.

3456A DIGITAL VOLTMETER

3456A-1A. All serials. On-site service kit (03456-69801) for board level repair.
 3456A-2. All serials. 3456A digital voltmeter product support package (03456-69900) contents and operating instructions.
 3456A-3. All serials. Contents and operating instructions for the 03456-69901 product support package.

3465A/B DIGITAL MULTIMETER

3465A-6. Serials 15464A05400 and below. Adjustment procedures for the AC-DC converter.
 3465A-7A. All serials. Front panel switch information.
 3465B-3A. All serials. Front panel switch information.

3466A DIGITAL MULTIMETER

3466A-8A. All serials. Front panel switch information.

3467A LOGGING MULTIMETER

3467A-3. All serials. Recommended insulator spacer replacement (HP pn 4040-1415).

3476A/B DIGITAL MULTIMETER

3476A-5A. All serials. Front panel switch information.
 3476B-4A. All serials. Front panel switch information.

3495A SCANNER

3495A-6. All serials. Modifications to improve 3495A/3455A triggering.

3497A DATA ACQUISITION/CONTROL UNIT

3497A-3A. Serials 2011A00160 and below. Recommended outguard controller board EPROM to ROM update to improve performance.
 3497A-5. All serials. 3497A product support package (03497-69900) contents and operating instructions.
 3497A-6. Serials 2011A00160 and below. Recommended outguard controller board (03497-66501) when installing the 100 kHz Reciprocal Counter Assembly (Option 060/Field Installation Kit 44426A).

3498A EXTENDER

3498A-1. All serials. Modification to prevent intermittent response of digital input option 050 cards (44425A) while in a 3498A extender.
 3498A-2. Serials 2026A00186 and below. Modification to improve +5 volt outguard power supply operation.

3571A TRACKING SPECTRUM ANALYZER

3571A-3A. Serials 1435A00100 to 1435A00560. Recommended modification to eliminate 40 MHz oscillations from the + VDC supply.

3582A SPECTRUM ANALYZER

3582A-4B. All serials. Modification to improve high transfer function accuracy when servicing and retrofitting the Option 001.
 3582A-10. All serials. 3582A Spectrum Analyzer Service Kit contents and operating instruction.

3586A/B/C SELECTIVE LEVEL METER

3586A/B/C-1. All serials. Interpreting intermittent failure of self test step 3-2.
 3586A/B/C-2. 3586A serials 1927A00231 and below; 3586B serials 1928A00284 and below; 3586C serials 1929A00195 and below. Retrofit for Revision B software.
 3586A/B/C-3A. All serials. Interpreting auto-cal and self-test failure codes.
 3586A/B/C-4. All serials. Interpreting intermittent "Err 8" displays.
 3586A/B/C-5. 3586A serials 1927A00256 and below; 3586B serials 1928A00306 and below; 3586C serials 1929A00206 and below. Modification to cure intermittent digital problems.
 3586A/B/C-6. All serials. HP-IB verification program listing (9825).

3702B IF/BB RECEIVER

3702B-44. Serials 1930U-02731 and below. Improved cooling by retrofitting larger fan.

3710A IF/BB TRANSMITTER

3710A-23. Serials 1849U-02471 and below. Improved cooling by retrofitting larger fan.

3721A CORRELATOR

3721A-18. Serials 1123U and below and serials 1112A00135 and below. Preferred replacement for Timescale Switch (S10).

3738A OSCILLATOR

3738A-4. Serials 1730U-00356 and below. Preferred replacement for YIG OSC.

3738B RF MODULE

3738B-1. All serials. Cancelling restored part for YIG oscillator.

3744A BB SWEEPER ACCESSORY

3744A-2. Serials 2009U00226 and below. Modification to correct blowing line fuse when instrument operated on 100V or 220V.

3745A/B SELECTIVE LEVEL MEASURING SET

3745A/B-13B. All serials. Instructions for installing Option 040.
 3745A/B-22C. Serials 1812U and below. Preferred replacement of A109 ROM4.
 3745A/B-49A. 3745A serials 2032U00407 and below; 3745B serials 2030U00237 and below. Modification to eliminate variation in programmable attenuator steps.

3747A/B SELECTIVE LEVEL MEASURING SET

3747A/B-20. All serials. Preferred replacement for NPN transistor.
 3747A/B-24. 3747A serials 2030U00173 and below; 3747B serials 2036U00126 and below. Modification to eliminate variation in programmable attenuator steps.

3770A/B TELEPHONE LINE ANALYZER

3770A-42. All serials. Preferred replacement of 4-line to 10-line decoder.
 3770B-23. Serials 2045U-00591 and below. Modification to ensure enough range in all 20KHz adjustment.
 3770B-24. All serials. Preferred replacement of 4-line to 10-line decoder.

3771A DATA LINE ANALYZER

3771A/B-15B. 3771A serials 2002U-00180 and below. Modification to prevent possible loss of the 2040Hz transmission frequency when frequency shift is selected in the 3771A.
 3771A/B-19. 3771A serials 2038U-00250 and below; 3771B serials 2046U-00133 and below. Modification to prevent Decade Select Code (L1, L2, L3, L4) toggling intermittently when HP-IB Option 005 is fitted.

3779A/B PRIMARY MULTIPLEX ANALYZER

3779A-18A. Serials 2003U-00205 and below. Modification to improve reliability of power supply.
 3779A-20. Serials 2003U-00205 and below. Protection against loop holding currents.
 3779A-21. Serials 2028U-00225 and below. Modification to prevent possible corruption of NVM at switch on.
 3779B-19A. Serials 2005U-00265 and below. Modification to improve reliability of power supply.
 3779B-21. Serials 2015U-00270 and below. Protection against loop holding currents.
 3779B-22. Serials 2024U-00300 and below. Modification to prevent possible corruption of NVM at switch on.

3780A PATTERN GENERATOR ERROR DETECTOR

3780A-21. All serials. Preventive maintenance to minimize possibility of intermittent failures.

3781B PATTERN GENERATOR

3781B-1. Serials 2049U and below. Modification to prevent possible power supply failure at high temperature.
 3781B-2. Serials 2049U and below. Recommended replacement of 15V rectifier diodes A30CR26-29.

3782B ERROR DETECTOR

Serials 2049U and below. Modification to prevent possible power supply failure at high temperature.

4140A pA METER/DC VOLTAGE SOURCE

4140A-6. All serials. Modification to eliminate pulse noise in AC power line.
 4140A-7. All serials. Modification to improve auto ranging when the instrument is set to ramp () I-V or C-V function.
 4140A-8. All serials. Modification to improve auto ranging when the instrument is set to staircase () I-V function and is measuring a capacitive device.
 4140A-9. All serials. Modification to improve capacitance offset adjustment.
 4140A-10. All serials. Modification to improve V_B output abort function.
 4140A-11. All serials. Modification to correct the status byte state during HP-IB operation.
 4140A-12. All serials. Elimination of high frequency noise from voltage source outputs.

4140B pA METER/DC VOLTAGE SOURCE

4140B-1. Serials 2034J00180 and below. Elimination of pulse noise in AC power line.
 4140B-2. Serials 2034J00101 ~ 00104, 00107, 00108, 00110, 00111, 00113, 00114. Modification to improve auto ranging when the instrument is set to ramp () I-V or C-V function.
 4140B-3. Serials 2034J00101 ~ 00104, 00107, 00108, 00110, 00111, 00113, 00114. Modification to improve auto ranging when the instrument is set to staircase () I-V function and is measuring a capacitive device.
 4140B-4. Serials 2034J00101 ~ 00104, 00107, 00108, 00110, 00111, 00113, 00114. Modification to improve capacitance offset adjustment.
 4140B-5. Serials 2034J00101 ~ 00104, 00107, 00108, 00110, 00111, 00113, 00114. Modification to improve V_B output abort function.
 4140B-6. Serials 2034J00101 ~ 00104, 00107, 00108, 00110, 00111, 00113, 00114. Modification to correct the status byte state during HP-IB operation.

4274A MULTI-FREQUENCY LCR METER

4274A-15. Serials 2031J01060 and below. Modification to eliminate illegal DC bias voltage during HP-IB operation.

4275A MULTI-FREQUENCY LCR METER

4275A-10A. All serials. New RF filter for rejection of probe generated noise.
 4275A-12. Serials 2045J01072 and below. Modification to eliminate illegal DC bias voltage during HP-IB operation.

4904A CABLE FAULT LOCATOR

4904A-2. Serials 116A04700 and above. Modification to improve grounding.

4960A/B PAIR IDENTIFIER

4960A-6. Serials 2032A00500 and below. Recommended replacement for the power amplifier (U42).
 4960B-5. Serials 2003A01334 and below. Modification to prevent op amp (U41, U48 and U58) oscillation.
 4960B-7. Serials 2032A02090 and below. Recommended replacement for the power amplifier (U42).

4961B PAIR IDENTIFIER

4961B-2. Serials 1737A01230 and below. Recommended replacement power supply IC.

5004A SIGNATURE ANALYZER

5004A-1C. Serials 1736 and above. Data probe threshold voltage adjustment and compensation instructions.

5045A DIGITAL IC TESTER

5045A-22. All serials. Socket adapter recommended replacement.
 5045A-24. Serials 1916A and below. Overvoltage protection modification to $\pm 8V$ power supplies.

5062C CESIUM BEAM FREQUENCY REFERENCE

5062C-5. Serials 2016A and below. Modification to increase cesium beam tube life by operation at lower output current.

5312A HP-IB INTERFACE MODULE

5312A-3A. Instructions for troubleshooting the 5312A using signature analysis.

5328A UNIVERSAL COUNTER

5328A-28A. All serials. Revision of frequency response and sensitivity performance tests and operational verification for channel "C" (options 030 and 031).
 5328A-29A. 5328A/H99, all serials. Revision of Channel C sensitivity performance tests.
 5328A-30. 5328A/H99, Option 030, serials 2016 and below; H99 serials 2017 and below. Preferred replacement for A8U9 Dual Comparator.
 5328A-31. 5328A/H99, Option 041, serials 2004 and below; H99 serials 2017 and below. New A12 amplifier shielded-relay (K4) to prevent magnetic interaction with the two adjacent magnet-type REED relays K3 and K5.

5335A UNIVERSAL COUNTER

5335A-1B. All serials. 5335A HP-IB verification program (Rev. B) using the 9825A controller.
 5335A-3. All serials. How to use the service aid board (05335-60013).

5340A FREQUENCY COUNTER

5340A-17. All serials. Instructions for replacing the A1 Preamplifier Assembly.
 5340A-18. All serials. Instructions for replacing the A2 Preamplifier Assembly.

5342A MICROWAVE FREQUENCY COUNTER

5342A-29. All serials. Improved Option 002 troubleshooting procedure allows analog loop checkout.
 5342A-30. Serials 1720 and below. Modification to improve operation at high ambient temperatures.

5343A MICROWAVE COUNTER

5343A-3. Serials 2108A and below. Method to cure miscounting on instruments with Option 004 (DAC option).
 5343A-8. Serials 2026 and below. Modification procedures to correct miscounting between 18 and 26.5 GHz.
 5343A-9. Serials 2026 and below. Modification to improve operation at high ambient temperatures.

5345A ELECTRONIC COUNTER

5345A-9B. HP-IB verification program for 5345A Option 011.
5345A-12B. HP-IB verification program for 5345A Option 011.

5359A TIME SYNTHESIZER

5359A-4. Serials 2036A00331 and below. Modification to help keep the PC boards in their sockets.

5363A TIME INTERVAL PROBES

5363A-3B. All serials. Repair/replacement of the probes using modification kit P/N 05363-60109.

5382A 225 MHz FREQUENCY COUNTER

5382A-2. Serials 2024 and below. Modification to install new metal-cased temperature-compensated crystal oscillator.

5501A LASER TRANSDUCER

5501A-4. All serials. Repair of new high voltage power supply in the event the laser tube fails to light.

6131C DIGITAL VOLTAGE SOURCE

6131C-3. Serials 1934A-00920 and below. Modification to avoid oscillation in bias supplies.

6205B DC POWER SUPPLY

6205B-2-S. Serials 1949A-15876 through 2025A-17875. Modification to eliminate shock hazard when covers are off.

7220A/S GRAPHICS PLOTTERS

7220A/S-3-S. Serials 2047 and below. Modification to eliminate potential shock hazard at the plotter input power receptacle when the power on/off switch is off.

7221A GRAPHICS PLOTTER

7221A-9-S. Serials 2047 and below. Modification to eliminate potential shock hazard at the plotter input power receptacle when the power on/off switch is off.

7221B/S GRAPHICS PLOTTERS

7221B/S-3-S. Serials 2047 and below. Modification to eliminate potential shock hazard at the plotter input power receptacle when the power on/off switch is off.

7225 GRAPHICS PLOTTER

7225A-1. Serials 2050A and above. Modified disassembly procedure.

7240A PLOTTER/PRINTER

7240A-2A-S. Serials 2047 and below. Modification to eliminate potential shock hazard at the plotter input power receptacle when the power on/off switch is off.

7562A LOG VOLTMETER/CONVERTER

7562A-3A. Serials 1937A and below. AC amplifier PCA 07562-80020 obsolete P/N 1820-0083 OP amp. Recommended replacement operational amplifier and PCA.

8555A SPECTRUM ANALYZER

8555A-15. All serials. Instructions for replacing 500 MHz oscillator.

8558B SPECTRUM ANALYZER

8558B-1A. All serials. Instructions for replacing the A11 and A13 Bandwidth Filter boards.

8558B-9A. All serials. Application instructions for the intensity control of HP 8558B Spectrum Analyzer and 180-series oscilloscope mainframe with external horizontal input.

8559A SPECTRUM ANALYZER

8559A-2. Serials 1942A and below. Preferred replacement parts for A10 third converter.

8559A-3. Serials 1951A and below. Modification to prevent intermittent DPM blanking.

8559A-4. Serials 2019A00500 and below. Modification to prevent A7 Frequency Control Board oscillations.

8559A-6. Serials 2019A00720 and below. Recommended replacement attenuator brackets.

8568A SPECTRUM ANALYZER

8568A-26A. All RF section serials. Instructions for correcting intermittent digital operation.

8620C SWEEP OSCILLATOR

8620C-4A. Serials 1933A and below. Option 011 HP-IB installation kit, HP P/N 08620-60154.

8620C-5A. Serials 1933A and below. Elimination of frequency shift in 8620C HP-IB Option 001 with exchange replacement kit HP P/N 08620-60157.

8654B SIGNAL GENERATOR

8654B-1. All serials. Improved performance tests and adjustments using the 8901A.

8656A SIGNAL GENERATOR

8656A-2. Serials 2022A and below. Improved internal RF shielding.

8656A-3. Serials 2026A and below. Improved keyboard response.

8656A-4. Serials 2035A00535 and below. Modification to correct 5 MHz Time Base output.

8656A-5. Serials 2027A and below. Improved Voltage Tuned Filter (VTF) high end operation.

8656A-6. Serials 2032A and below. Improved HF oscillator lock with external AM.

8656A-7. Serials 2022A and below. Modification to eliminate 500.5 MHz spurs.

8662A SYNTHESIZED SIGNAL GENERATOR

8662A-3. Serials 2021A00420 and below. DCU ROM changes and assembly compatibility to improve performance.

8901A MODULATION ANALYZER

8901A-1. Serials 2032A and below. Software change summary.

9872A GRAPHICS PLOTTER

9872A-11-S. Serials 2047 and below. Modification to eliminate potential shock hazard at the plotter input power receptacle when the power on/off switch is off.

9872B AND 9872S GRAPHICS PLOTTERS

9872B/S-3-S. Serials 2047 and below. Modification to eliminate potential shock hazard at the plotter input power receptacle when the power on/off switch is off.

10023A TEMPERATURE PROBES

10023A-1. All serials. Modification to improve battery life and eliminate incorrect readings.

37203A HP-IB EXTENDER

37203A-1. Serials 2040U00356 and below. Modification to eliminate possible flashing Data Error LED.

59300-10001 HP-IB TEST TAPE

59300-1A. Revision K. List of HP-IB test tapes and instructions for counter-type products from HP Santa Clara Division.

59308A TIMING GENERATOR

59308A-4. Serials 2012A00990 and below. Jumper wire to correct intermittent and/or incorrect HP-IB operation.

59309A HP-IB CLOCK

59309A-6A. Serials 1712A01887 to 1920A02340. Jumper wire modification to correct improper store operation.

64100A LOGIC DEVELOPMENT SYSTEM MAINFRAME

64100A-1. Serials 1924A-00152 and below. Recommended replacement firmware ROMs.

64100A-2. Serials 1924A-00152 to 2033A-00932. Recommended replacement firmware ROMs.

64151A STATIC RAM CONTROLLER

64151A-1A. Serials 1924A and below, Rev. C and Rev. D boards. Modification to prevent incorrect sampling of control and status data in the SIMULATED I/O mode.

64151A-2. Serials 1924A Rev. F boards. Modification to prevent incorrect sampling of control and status data in the SIMULATED I/O mode.

64201-66506 8080/8085 EMULATION CONTROL BOARD

64201A-1. Control board repair numbers 2008 through 2033. Modification so board will recognize 8080 II-legal Op Codes.

64250A Z80 EMULATOR SUBSYSTEM

64251A-3. Z80 Emulation Control Board repair numbers 2009A and below. Modification for proper functioning of Emulation System during user DMA.

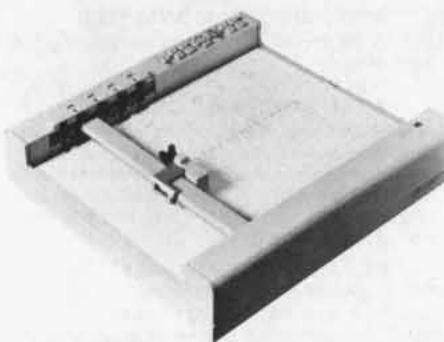
64252A-3. Z80 Emulator Pod Board repair numbers 2009A and below. Modification for proper functioning of Emulation System during user DMA.

645XX PROM PROGRAMMER

64500A. All serials. PROM programming procedure.

Safety-Related Service Notes

Service Notes from HP relating to personal safety and possible equipment damage are of vital importance to our customers. To make you more aware of these important notes, they are printed on paper with a red border, and the service note number has a "-S" suffix. In order to make you immediately aware of any potential safety problems, we are highlighting safety-related service notes here with a brief description of each problem. Also, in order to draw your attention to safety-related service notes on the service note order form at the back of *Bench Briefs* each appropriate number is highlighted by being printed in color.



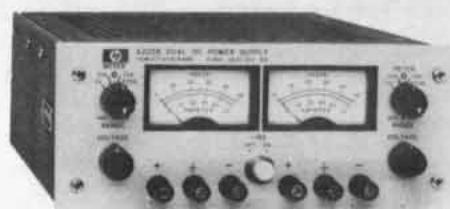
7220A/S, 7221A/B/S, 9872A/B/S Graphics Plotters

A shock hazard may exist at the power cord socket (or at the male end of the power cord) of the following plotters when the power switch is in the OFF position.

7220A/S serials 2047 and below
7221A serials 2047 and below
7221B/S serials 2047 and below
7240A serials 2047 and below
9872A serials 2047 and below
9872B/S serials 2047 and below

If the power switch is OFF the line filter capacitors retain a charge at the power socket that can shock an operator.

To eliminate the possibility of this hazard, it is necessary to install a bleeder resistor across the line terminals of the power socket. Safety Service Notes 7220A/S-3-S, 7221A-9-S, 7221B/S-3-S, 7240A-2A-S, 9872A-11-S and 9872B/S-3-S describes the procedure.



6205B Dual DC Power Supply

The AC and AC common lines are reversed at the line switch on units with serial numbers 1949A15826 thru 2025A17875. This wire reversal does not affect the operation of the unit, and poses no hazard to the operator. Only during service when the covers are removed will this hazard be exposed.

To correct the problem, exchange the gray wire and the white/yellow/gray wire attached to the line switch. Safety Service Note 6205B-2-S provides details and a photo of the correct wire connections.

3060A Board Test System

System options 200, 201, 202 and 205, serials 1801A00324 and below have the 34196A Scanner power supply AC line reversed wired. This places the fuses in the neutral side of the circuit.

Safety Service Note 3060A-3-S describes the step-by-step procedure for changing the wiring to comply with the National Electric Code.

*You may order any of the above listed Safety Service Notes from Hewlett-Packard with the form provided at the back of *Bench Briefs*.*



Service Note Order Form

Instructions

If you want service notes, please check the appropriate boxes below and return this form separately to one of the following addresses.

For European customers (ONLY)

Hewlett-Packard
Central Mailing Dept.
P. O. Box 529
Van Hueven Goedhartlaan 121
AMSTELVEEN—1134
Netherlands

All Others

Hewlett-Packard
1820 Embarcadero Road
Palo Alto, California 94303

NAME _____

COMPANY NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

- | | | | | | |
|------------------------------------|--------------------------------------|---------------------------------------|------------------------------------|--------------------------------------|--------------------------------------|
| <input type="checkbox"/> 181T/TR-2 | <input type="checkbox"/> 3253A-3 | <input type="checkbox"/> 3498A-1 | <input type="checkbox"/> 3779B-19A | <input type="checkbox"/> 5045A-24 | <input type="checkbox"/> 8555A-15 |
| <input type="checkbox"/> 181T/TR-3 | <input type="checkbox"/> 3312A-4A | <input type="checkbox"/> 3498A-2 | <input type="checkbox"/> 3779B-21 | <input type="checkbox"/> 5062C-5 | <input type="checkbox"/> 8558B-1A |
| <input type="checkbox"/> 339A-7A | <input type="checkbox"/> 3325A-1B | <input type="checkbox"/> 3571A-3A | <input type="checkbox"/> 3779B-22 | <input type="checkbox"/> 5312A-3A | <input type="checkbox"/> 8558B-9A |
| <input type="checkbox"/> 612A-12A | <input type="checkbox"/> 3325A-9 | <input type="checkbox"/> 3582A-4B | <input type="checkbox"/> 3780A-21 | <input type="checkbox"/> 5328A-28A | <input type="checkbox"/> 8559A-2 |
| <input type="checkbox"/> 618C-14 | <input type="checkbox"/> 3330A/B-5A | <input type="checkbox"/> 3582A-10 | <input type="checkbox"/> 3781B-1 | <input type="checkbox"/> 5328A-29A | <input type="checkbox"/> 8559A-3 |
| | | | | | |
| <input type="checkbox"/> 620B-16 | <input type="checkbox"/> 3330A/B-14B | <input type="checkbox"/> 3586A/B/C-1 | <input type="checkbox"/> 3781B-2 | <input type="checkbox"/> 5328A-30 | <input type="checkbox"/> 8559A-4 |
| <input type="checkbox"/> 651B-9 | <input type="checkbox"/> 3330A/B-17 | <input type="checkbox"/> 3586A/B/C-2 | <input type="checkbox"/> 3782B-1 | <input type="checkbox"/> 5328A-31 | <input type="checkbox"/> 8559A-6 |
| <input type="checkbox"/> 652A-5 | <input type="checkbox"/> 3330B-16 | <input type="checkbox"/> 3586A/B/C-3A | <input type="checkbox"/> 4140A-6 | <input type="checkbox"/> 5335A-1B | <input type="checkbox"/> 8568A-26A |
| <input type="checkbox"/> 1311A-20 | <input type="checkbox"/> 3435A-4A | <input type="checkbox"/> 3586A/B/C-4 | <input type="checkbox"/> 4140A-7 | <input type="checkbox"/> 5335A-3 | <input type="checkbox"/> 8620C-4A |
| <input type="checkbox"/> 1615A-4 | <input type="checkbox"/> 3435A-5 | <input type="checkbox"/> 3586A/B/C-5 | <input type="checkbox"/> 4140A-8 | <input type="checkbox"/> 5340A-17 | <input type="checkbox"/> 8620C-5A |
| | | | | | |
| <input type="checkbox"/> 1722B-3 | <input type="checkbox"/> 3435A-6 | <input type="checkbox"/> 3586A/B/C-6 | <input type="checkbox"/> 4140A-9 | <input type="checkbox"/> 5340A-18 | <input type="checkbox"/> 8654B-1 |
| <input type="checkbox"/> 1725A-7 | <input type="checkbox"/> 3437A-4A | <input type="checkbox"/> 3702B-44 | <input type="checkbox"/> 4140A-10 | <input type="checkbox"/> 5342A-29 | <input type="checkbox"/> 8656A-2 |
| <input type="checkbox"/> 1742A-1A | <input type="checkbox"/> 3437A-5 | <input type="checkbox"/> 3710A-23 | <input type="checkbox"/> 4140A-11 | <input type="checkbox"/> 5342A-30 | <input type="checkbox"/> 8656A-3 |
| <input type="checkbox"/> 1742A-2 | <input type="checkbox"/> 3437A-6 | <input type="checkbox"/> 3721A-18 | <input type="checkbox"/> 4140A-12 | <input type="checkbox"/> 5343A-3 | <input type="checkbox"/> 8656A-4 |
| <input type="checkbox"/> 1980A/B-3 | <input type="checkbox"/> 3438A-5A | <input type="checkbox"/> 3738A-4 | <input type="checkbox"/> 4140B-1 | <input type="checkbox"/> 5343A-8 | <input type="checkbox"/> 8656A-5 |
| | | | | | |
| <input type="checkbox"/> 1980A/B-4 | <input type="checkbox"/> 3438A-6 | <input type="checkbox"/> 3738B-1 | <input type="checkbox"/> 4140B-2 | <input type="checkbox"/> 5343A-9 | <input type="checkbox"/> 8656A-6 |
| <input type="checkbox"/> 3060A-2 | <input type="checkbox"/> 3456A-1A | <input type="checkbox"/> 3744A-2 | <input type="checkbox"/> 4140B-3 | <input type="checkbox"/> 5345A-9B | <input type="checkbox"/> 8662A-7 |
| <input type="checkbox"/> 3060A-3-S | <input type="checkbox"/> 3456A-2 | <input type="checkbox"/> 3745A/B-13B | <input type="checkbox"/> 4140B-4 | <input type="checkbox"/> 5345A-12B | <input type="checkbox"/> 8901A-1 |
| <input type="checkbox"/> 3060A-4 | <input type="checkbox"/> 3456A-3 | <input type="checkbox"/> 3745A/B-22C | <input type="checkbox"/> 4140B-5 | <input type="checkbox"/> 5359A-4 | <input type="checkbox"/> 9872B/S-3-S |
| <input type="checkbox"/> 3060A-5 | <input type="checkbox"/> 3465A-6 | <input type="checkbox"/> 3745A/B-49A | <input type="checkbox"/> 4140B-6 | <input type="checkbox"/> 5363A-3B | <input type="checkbox"/> 10023A-1 |
| | | | | | |
| <input type="checkbox"/> 3060A-6 | <input type="checkbox"/> 3465A-7A | <input type="checkbox"/> 3747A/B-20 | <input type="checkbox"/> 4274A-15 | <input type="checkbox"/> 5382A-2 | <input type="checkbox"/> 9872A-11-S |
| <input type="checkbox"/> 3060A-7 | <input type="checkbox"/> 3465B-3A | <input type="checkbox"/> 3747A/B-24 | <input type="checkbox"/> 4275A-10A | <input type="checkbox"/> 5501A-4 | <input type="checkbox"/> 59300-1A |
| <input type="checkbox"/> 3060A-8 | <input type="checkbox"/> 3466A-8A | <input type="checkbox"/> 3770A-42 | <input type="checkbox"/> 4275A-12 | <input type="checkbox"/> 6131C-3 | <input type="checkbox"/> 59308A-4 |
| <input type="checkbox"/> 3060A-9 | <input type="checkbox"/> 3467A-3 | <input type="checkbox"/> 3770B-23 | <input type="checkbox"/> 4904A-2 | <input type="checkbox"/> 6205B-2-S | <input type="checkbox"/> 59309A-6A |
| <input type="checkbox"/> 3060A-11 | <input type="checkbox"/> 3476A-5A | <input type="checkbox"/> 3770B-24 | <input type="checkbox"/> 4960A-6 | <input type="checkbox"/> 7220A/S-3-S | <input type="checkbox"/> 64100A-1 |
| | | | | | |
| <input type="checkbox"/> 3060A-12 | <input type="checkbox"/> 3476B-4A | <input type="checkbox"/> 3771A/B-15B | <input type="checkbox"/> 4960B-5 | <input type="checkbox"/> 7221A-9-S | <input type="checkbox"/> 64100A-2 |
| <input type="checkbox"/> 3060A-13 | <input type="checkbox"/> 3495A-6 | <input type="checkbox"/> 3771A/B-19 | <input type="checkbox"/> 4960B-7 | <input type="checkbox"/> 7221B/S-3-S | <input type="checkbox"/> 64201A-1 |
| <input type="checkbox"/> 3060A-16A | <input type="checkbox"/> 3495A-3A | <input type="checkbox"/> 3779A-18A | <input type="checkbox"/> 4961B-2 | <input type="checkbox"/> 7225A-1 | <input type="checkbox"/> 64251A-3 |
| <input type="checkbox"/> 3060A-17 | <input type="checkbox"/> 3497A-5 | <input type="checkbox"/> 3779A-20 | <input type="checkbox"/> 5004A-1C | <input type="checkbox"/> 7240A-2A-S | <input type="checkbox"/> 64252A-3 |
| <input type="checkbox"/> 3200B-6 | <input type="checkbox"/> 3497A-6 | <input type="checkbox"/> 3779A-21 | <input type="checkbox"/> 5045A-22 | <input type="checkbox"/> 7562A-3A | <input type="checkbox"/> 64500A |

READERS' CORNER

Converting Incident and Reflected dBm Readings To VSWR With an HP 25

In the September-October issue of *Bench Briefs* I printed a program submitted by Douglas Hoyer that converted network analyzer measurements to VSWR on an HP 25 calculator. And much to my consternation, a typographical error slipped by.

The following letter shows that BB readers do indeed read and verify the ideas printed in this column.

Editor

Dear Sir,

Being the proud, but slightly antiquated owner of an HP 55 (!) I got a wary eye for calculator programs containing unnecessary steps.

In D. Hoyer's one, I found about eight superfluous steps, plus a couple of errors, unless I am mistaken.

Steps 8 and foll.: multiplying a power in mW by 0.5 (4 steps) then dividing by 50 (3 more steps), eventually results in dividing by 1000 (or EEX 3) (= 3 steps)

Steps 26/31 and 30/32: storing intermediate results, then recalling them, when one has that beautiful STACK at one's fingertips ...

Loc. 27 should read "1", not "recall 1".

Loc. 34: R/S: it would be more convenient to "Goto 00", as inadvertently hitting the R/S key again would upset memory contents, and yield an error.

I include my suggestion, as worked out for an HP 25 or equivalent machine; it turns out to be 30 steps long (45 keystrokes), and saves two memory locations too.

Yours,

J. Eyckmans
Belgium

Store incident dBm in memory location 1
Store reflected dBm in memory location 2

```

01 00 0
02 23 04 store 4
03 24 01 recall 1
04 01 1
05 00 0
06 71 .
07 15 08 g 10x
08 33 eex
09 03 3
10 71 .
11 24 04 recall 4
12 15 71 g x = 0
13 13 27 go to 27
14 21 exchange x and y
15 23 05 store 5
16 24 03 recall 3
17 71 .
18 14 02 f √x
19 23 03 store 3
20 01 1
21 51 +
22 01 1
23 24 03 recall 3
24 41 -
25 71 .
26 13 00 go to 00 (or 74 R/S)
27 27 exchange x and y
28 23 04 store 4
29 24 02 recall 2
30 13 04 go to 04

```

When the program stops, display = VSWR
mem. loc. 1 = dBm incident
2 = dBm reflected
3 = refl. coeff. magn.
4 = incident watts
5 = reflected watts

HEWLETT-PACKARD COMPANY
1820 Embarcadero Road
Palo Alto, California 94303

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