Computer News OEM edition
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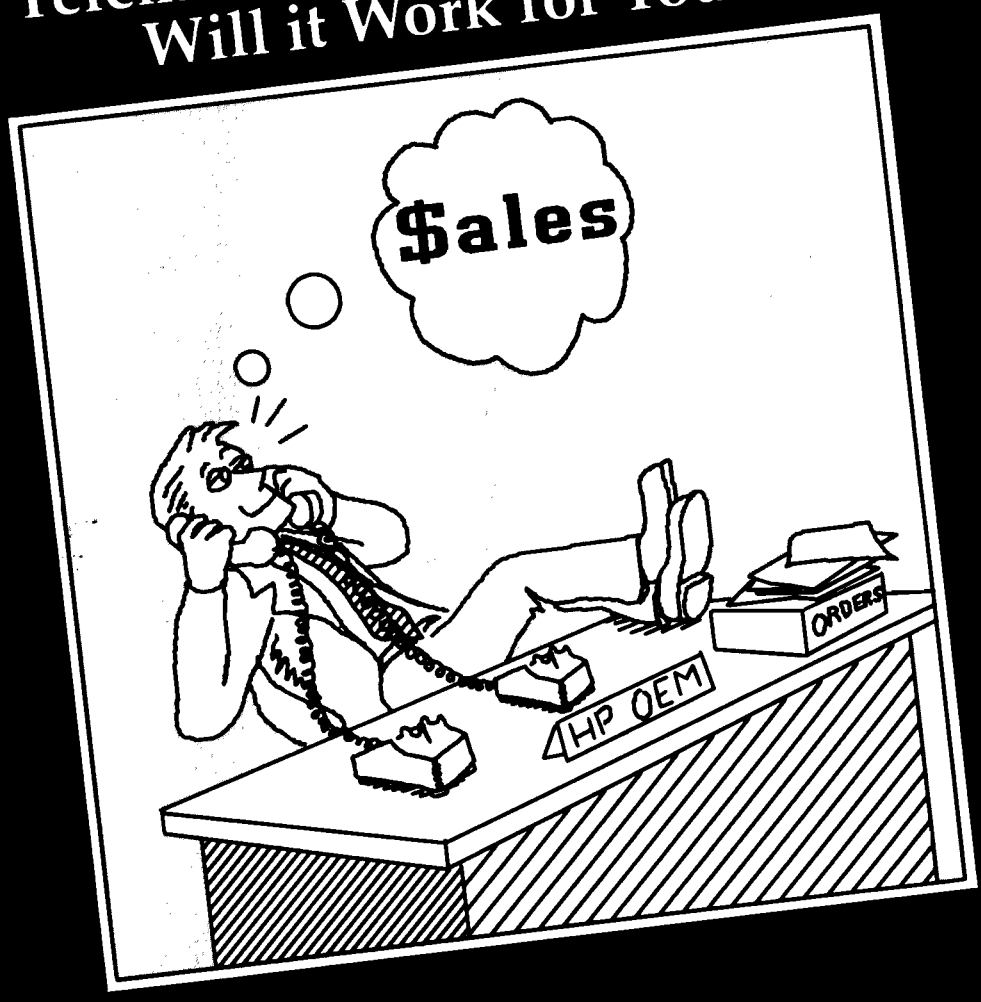
Telemarketing as a Sales Aid: Will it Work for You?



HEWLETT PACKARD

Computer News OEM edition

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On the Cover:

Our cover cartoon illustration is an example of the versatility possible with HP PAINTBRUSH/2700. Now you have the capability to produce custom art for a variety of applications ranging from presentation-quality charts, process control pictures, and logos to more relaxed art such as cartoon illustrations. For more information see the articles on special effects and PAINTBRUSH/2700 beginning on page 18.

Cartoonist: Dave Buchanan, HP

Our featured Management Topic this month is on Telemarketing. What criteria should you use to determine when it's right for you? This article begins on page 3.

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Selling by Telephone:

Will It Work for You?

With sales calls approaching $200 per visit, many software firms are asking this question. The norm for many years has been the field sales and technical support force. Increasing costs and competition are forcing companies to look at alternate channels of distribution. Telemarketing is one of these channels.

Selling by phone is attractive for many reasons besides reducing marketing costs. It centralizes selling and, therefore, provides classical advantages of centralization over decentralization: tighter control with single point information and feedback. A less obvious benefit is that the phone sales force requires less experience and training than the field force. This is due, in part, to the type of product that can be marketed via the phone channel. Often, people with no computer or sales background can be quickly trained to successfully sell software by phone.

Choosing the "right" product is critical for the success of your phone marketing program. Let's look at some of the criteria in evaluating a product for the phone channel: i.e., if we've already decided to market the product, will it fit in the phone channel?

1. **Identity**. Is the function/use of the product easily identified by the target prospect? Generally, utility software has good identity because it is performing a known function better or correcting an acknowledged deficiency. A few examples are sorts, flowcharters, file utilities and data compressors. These "simple" products are good candidates for the phone channel.

   At the other end of the spectrum, products that involve a system, a new concept, or a methodology are "complex": complex because the product is going to drastically change the way in which people perform their jobs. The impact and benefits of the product are carefully studied. On-site vendor involvement is a prerequisite. Many application products, DBMSs and online productivity tools fall in this category. These are not good candidates.

   In summary:
   "simple" product = product sale ◊ phone channel
   "complex" product = system sale ◊ field channel

2. **Competition.** The greater the number of competitors, the more difficult the sale.

   How are your competitors selling? By phone? Field? Other? Would you be **more** or **less** competitive if you used the phone channel? Do you believe the market place is highly price-sensitive? If so, the phone channel can enable you to be "low-priced" and generate high-volume sales.

3. **Price.** There is a tendency to place artifical price ceilings on software sold by phone. For example, if the price is over $10,000, it is a field product; under $10,000 it is a phone product. Evidently, the assumption is made that buyers expect on-site representation if they are paying over $10,000.

   There is no "phone" price ceiling any more than there is a "field" price ceiling for software. Simply "selling by phone" does not imply that the product should be low-cost.

   Someday, someone will market the $50,000 "phone product."

4. **Self-installed.** The installation and implementation of the product should be easily accomplished in less than a day by the **customer**. The simpler, the better.

5. **Packaging.** Marketing material must be specifically designed for the phone channel to guide the prospect through the selling cycle from initial contact to close. The literature must quickly communicate the product features/functions/benefits.

6. **Training.** Training requirements will have little or no impact on the phone channel decision. Training methods, be they video, audio or in-person, are independent of how the product is sold.

Should you decide to market by phone and have identified the target prospect, you must now decide how to best locate the target prospect. Direct mail, advertising and cold calling should all be considered.

Even if you are not planning any telemarketing, you should review your utilization of the telephone. Qualifying leads for the field sales force, generating leads, contacting old inquiries and selling add-on products/services can all be done effectively by phone.

Written by Steve Kassay of Kassy Consulting Services, Los Angeles. Reprinted from the November 1982 ICP *Insiders' Letter*.

Sales and Marketing:

Working Together for Fun and Profit

"One of the biggest problems with sales and marketing efforts in our industry," laments a software executive, "is that they are planned in a vacuum. Sales has absolutely no idea what the people in marketing are doing, and the marketing staff is totally in the dark about what's going on in sales. They really need to work together."

The executive's point is well taken. Unless the sales force knows what marketing efforts are planned and when, it cannot make use of those efforts to enhance its sales activities. At the same time, unless the marketing staff knows how its various activities are influencing sales, it cannot evaluate them in terms of their cost-effectiveness.

This month's Roundtable addresses the question of how best to coordinate the joint efforts of the company's marketing and sales organizations, so as to get the most "bang for the buck."

Ron Alley, advertising sales manager, ICP — Poor communication between sales and marketing is a common problem that exists to a degree in all companies, large and small, from the "marketing oriented" IBM down to the small company that is struggling to define market segments and arrive at a meaningful "market mix." Too often it's caused by a lack of understanding of the marketing function. The sales function is relatively clear and straight forward, and not often misunderstood.

As the tactical arm of the marketing function, it's the sales department's job to put into action its segment of the overall marketing strategy as developed by the marketing department. The sales strategy involved can't be developed in a vacuum by the marketing department. It **must** include input from the people who are calling on the customers and prospects, trying to define their needs, uncover their objections, and apply the benefits of the product. Sales provides a "feedback mechanism" to allow you to measure the effectiveness of your marketing strategy.

The breakdown in communication occurs when marketing makes a statement regarding strategy to sales — the tendency is for the salesperson to interpret the statement in terms of his/her experience with the marketplace. If the strategy is inconsistent with what sales knows to be true about the product or the marketplace, the statement is frequently ignored or misunderstood, and the breakdown in communication begins.

If your sales and marketing departments are not talking to each other, it's a pretty good indication that the sales department's tactics are not in step with your overall marketing strategy and corrective action needs to be taken. One possible step toward correcting the problem might be the "marketing audit." Dr. Philip Kotler, writing in *Boardroom Reports*, suggests that what is needed is an early warning system that alerts the company when its products or marketing approach are heading for trouble. He suggests that one way is the marketing audit that:

- Covers the firm's marketing environments, objectives, strategies, organization and systems.
- Is done by someone independent of the marketing operation, either inside or outside the company.
- Uses an orderly investigation sequence rather than random questions that vary from audit to audit.

Dr. Kotler suggests specific areas and methods of addressing the problem. He in essence agrees that it's possible and desirable to develop a market strategy that focuses both **inward**, on product innovation and quality, and **outward**, on market research and effective sales strategies and tactics.

Intelligent strategic planning and effective communications would seem to be the only paths to success.

Richard T. Lilly, president, Key Systems, Inc. — The lamenting software executive has an organizational problem. At some level, a single individual must be responsible for both the marketing staff and the sales force. When this responsibility resides at the presidential level, there is a greater tendency for marketing/sales communication breakdowns. My personal preference is to have this responsibility lie with the executive who has responsibility for attaining corporate sales objectives.

When we were building Software International in the early seventies, the sales and marketing functions were the responsibility of the vice president of sales. Because of our substantial growth, the functions were split and assigned respectively to the vice president of sales and the vice president of marketing. It quickly became apparent that a more formal method of communication between the two was necessary, despite the fact that they occupied adjoining offices and were old friends. In retrospect, we created one problem while solving another. The responsibility for sales/marketing coordination was pushed from the vice president level up the CEO level.

As to the mechanics of communication between the two groups, proper planning is the key. Time required for planning tends to increase in proportion to the growth of the company.

The cycle and manpower required to design, implement, and coordinate a marketing plan for a 50-man sales force is much greater than for a five-man sales force.

At Key Systems, being a small software company, our sales/marketing communication has been mainly verbal, simply because the people who will implement the plan participated in the decision process. As the staff becomes larger, the decision makers will not be the implementors and, therefore, new levels of communication will be required — sales management with marketing management, sales management with marketing staff, marketing staff with sales staff, etc. As levels of management are added, communications requirements increase geometrically.

The software company is not unique with the sales/marketing interface problem. The magnitude of the problem becomes more apparent for a company in the mass merchandising field. What is the ratio of sales/marketing interface personnel to sales people at General Motors? One sure answer: a higher ratio than contemplated by any software firm.

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Closing Techniques to Maximize Your Sales Efforts

A **close** is that point in selling at which you attempt to obtain a commitment from a prospect for your proposal. That proposal could be for a purchase, for another appointment, for a demonstration or for any number of things.

When Do You Close?

When it feels right to you. Your own feelings will tell you best, because you will sense some of the following:

- The prospect agrees with what you say
- The product satisfies the prospect's application
- The prospect understands he will benefit from owning the product
- You believe he should buy it

Attempting to close before you sense these conditions may be perceived by your prospect as high-pressure selling. Guard against a close that makes your prospect feel so uncomfortable that you are not welcome back. Trying to close aggressively before you have established credibility may do exactly that. But when you feel that the prospect is ready to make a decision, you are obliged to get the business in a firm, assertive manner. You are helping your prospect to make a decision he needs to make.

For What Commitment Do You Close . . . with Whom?

Do not close for more than your prospect has the capacity to deliver. For instance,

- If you are talking to a junior engineer who is evaluating a piece of test equipment, seek a commitment to **recommend** your product. Do not ask him to purchase it if he has no budgetary authority to do so.
- If you are talking to the section manager, try to get **approval** of the junior engineer's recommendation.
- Then speak to the department manager and try to get **authorization** of the expenditure.

In this manner no single individual is asked to do more than he or she is able to do, and no one is asked to make the entire purchase decision.

Buying Signals

There are many things prospects will say that signal they are ready to make a decision. Listen to buying signals such as these:

- "This looks good to me."
- "What delivery are you quoting?"
- "How closely can you work with us after delivery?"

Such positive statements or questions indicate that the prospect has already made a mental decision to purchase the product, which should be your cue to attempt to close. **You want the prospect to express that mental decision out loud so you can reinforce it, get a commitment and go about your other business.**

Closing Techniques

The following are some examples of specific closing techniques. Try them all, but don't persist in using the ones that feel unnatural to you.

Assumptive Close

This close is the classic technique that begins with your assumption that the prospect will buy and asks him to make a minor decision. You've heard it many times in a store. "Cash or charge?" or "Do you want it wrapped?" The technique is very powerful when the presentation has gone smoothly and the prospect has raised no serious objections. It will work because you do not really ask for the order and the prospect does not have to make that formidable decision to buy

something. Instead, he makes some lesser decision, and the decision to buy just happens.

The close proceeds through four steps:

1. **Test for Further Questions**

   "Well, Fred, have you any other questions?"

Avoid asking questions that allow the prospect to reject your proposal, such as:

Salesperson: "Well, Fred, what do you think of the system proposed?"
Customer: "Frankly, I don't think it will do the job!"

Look for the unanswered questions, not his reaction to your proposal.

2. **Summarize the Benefits**

If the sale has been a long process, this is your opportunity to state how the prospect will benefit from a decision to buy your proposal.

"OK, Fred, let's summarize what this proposal means to you. Our company can . . ."

3. **Ask an Either/Or Question**

   "Fred, will you recommend the lease or purchase option?"

   Or

   "Fred, do you want to get two disk drives now or one now and one later?"

4. **Remain silent and wait for an answer**

A single assumptive close may not build a sufficient commitment to result in a sale. You may need to use several assumptive closes to build a stronger commitment and then ask the question that requires the prospect to indicate clearly his decision.

"When can we expect your order?"

The Recommendation Close

This close is a natural technique for many sales representatives due to the technical nature of the marketplace and products. You often are involved in long applications discussions in which the prospects educate you about their requirements and you, in turn, educate them about your equipment. This gives you the opportunity to assume a counselor relationship with the prospect in which you present yourself as a resource involved in discovering a solution to the prospect's problem. A counselor relationship requires effective use of questions to set the tone for the selling process in the investigation phase:

"Before I can recommend a solution, I need to know the answers to a few questions."

This closing technique merges the presentation and closing stages of the sales process into a four-step close.

1. **Test for Further Questions**

   "George, can you think of anything else we should consider?"

   "No, I can't."

   "Neither can I."

2. **Summary of Analysis**

   "OK, George, let's summarize some of the points we have established about your application."

3. **Recommendation**

   "Well, George, based upon the things we have talked about and the priorities you have placed upon your requirements, I recommend that you purchase a HP 1000 computer system rather than a desktop computer. How long do you think it will take you to get a requisition of this size through your approval cycle?"

4. **Remain Silent and Wait for Answer**

Variation of the Recommendation Close

Long delivery quotes fit readily into a variation of the recommendation close. This is appropriate when you sense that the prospect favors your proposal but wants to hesitate. As he hesitates, he may find more objections or discover your competition. In this case, you might go through your test for further questions and summary of analysis steps and then end with a recommendation that the prospect minimize the penalty of a long delivery delay.

"OK, George. We seem to be in agreement that the HP 1000 will do the job. However, you said earlier that you will need this for a project that would start in June. But, our company is quoting a four-month delivery. And you will need a week or so to get proficient with the machine. If we back these time requirements down from your required date, we're almost at a drop-dead point now. If you really need the machine by June, I would recommend you start your requisition now."

Again, remain silent and wait for the prospect to speak. He will be under pressure and silence allows the pressure to build.

The Sole Objection Close

Not all sales will proceed so smoothly that the assumptive close is appropriate. Nor will they always involve prospects who allow sales reps to assume a counselor role and use the recommendation close. The sole objection close may be effective for these more difficult cases. It is often your only recourse if you have encountered a string of phony objections. The sole objection technique involves three steps:

1. Isolate the Sole Objection

Salesperson: "Bob, if I am correct, what I hear you saying is that you will be willing to go ahead with the purchase order if we can deliver in four weeks."

2. Make Satisfying That Objection the Condition for Purchase

Salesperson: "OK, let's do this then. I will call my contact to see if we can do that for you. If I can get the delivery down to four weeks, will you place an order with me?"

3. Answer the Objection

Make sure you take action to fulfill the objection.

In summary, closing is a way to help move your prospect down the sales funnel. It allows you to obtain commitment from your prospect and lead him in the same direction you are going. Assertiveness plays a key role in closing. Being too assertive may be abrasive and cause your prospect to behave defensively. On the other hand, being too unassertive, for fear of antagonizing the prospect, may never result in an order. Closing is a skill that needs practice. Find the style that best fits your personality and the sales situation. Above all, make sure you close during a sale.

Enhancements for HP Series 100 Software

Enhancements have been made to HP Series 100 core software — VisiCalc®, Graphics, DSN/Link, and Word. All new "B" versions for these products include downsized, looseleaf manuals (8½" x 5½"). Other improvements are listed below.

Series 100/Graphics

Vertical text slides can now be plotted, and the size of any slide is controllable. In addition, subscripts, superscripts, and local characters can now be plotted.

Series 100/DSN/Link

This new Link product allows Series 100 POCS to transfer files to HP 3000 host systems in either binary or ASCII format, with error checking. An expanded command file library enables your customer to customize his/her file transfer process.

For more information on software enhancements, see the *Series 100 Communicator* (issue number 3).

VisiCalc is a registered trademark of VisiCorp.

Special Options Available on HP 262X Terminals

Composite Video Output

Option V04 provides a composite video signal on the backpanel of the terminal or computer that can be connected to a monitor which accepts ANSI standard RS 170 input. This option is very popular in seminars and classroom environments that require the information displayed on the terminal/computer screen to be displayed in several locations simultaneously. While this composite video signal is compatible with many commercially available monitors, it has been tested and verified with the CONRAC series of monitors, the ELECTROHOME projection display device, and the TEKTRONICS hardcopy unit.

Special Option V04 is available for the HP 262X terminals (except the HP 2621B) and the HP 125.

Membrane Keyboard

The HP 2622A Special Option K21 features a membrane keyboard panel housed in a sheet metal enclosure. The top surface of the panel has key outlines in an 8" x 16" rectangular layout; under this surface is a pocket into which a transparent mylar insert can be placed. This insert can be labeled using an HP plotter and transparency pens. The HP 2622A Special Option K21 provides the customer with a reliable data entry station for noncorrosive environments such as a warehouse or factory floor. The keys on the membrane keyboard are spaced wide enough apart so that gloved operators can use the keyboard easily.

The Option K21 is available only on the HP 2622A.

HP-86/87 Advanced Programming ROM Is Now Available!

Hewlett-Packard is pleased to announce that the Advanced Programming ROM is now available for the HP-86/87 Personal Computers.

The functions, statements, and commands provided by the Advanced Programming ROM give you extended control over data, programs, and your Series 80 system operations. This ROM set allows you to perform operations which were not possible using your Series 80 Personal Computer alone.

Some of the capabilities that this ROM set provides are:

- Subprogramming
- Full cursor and CRT control
- Full keyboard control
- Find and Replace variable names
- Cross-Reference program lines, numbers and variables
- Merge programs
- Set, clear and test 64 flags
- Save and Get programs as Data files

Series 40 Extension Module Comparison

Two recently introduced extension modules for Series 40 Handheld Computers, the HP-IL Development Module (00041-15043) and the Extended I/O Module (82183A), enhance the many capabilities of the HP-41. The Development Module is highly recommended for those individuals who are designing their own HP-IL peripherals. The Extended I/O Module is designed for the user who wants enhanced control over existing HP-IL peripherals. This article highlights the major features of both modules.

HP-41 Development Module

- Scope mode — A second HP-41 can be added to the loop and used only to display the mnemonics for HP-IL messages as they travel around the loop.
- I/O Buffer — A block of data registers can be set up as a buffer area to facilitate the input or output of data. This circumvents the problems and limitations associated with using the Alpha register for I/O operations (specifically the loss of characters with byte values of zero).
- Input and output numbers using the X-register. A 1- to 7-byte integer can be sent or received.
- Direct access to the HP-IL integrated circuit. The contents of any control register can be changed, and certain status bits can be polled.
- Alpha register functions. Characters can be inserted at, or removed from, any position in the Alpha register.
- Transmit all HP-IL messages to devices on the loop. Several of these messages can be sent by specifying their mnemonic.
- Calculations in hexadecimal, octal and binary (with the aid of a program contained in the Owner's Manual).
- Boolean operations upon 32-bit unsigned integers.

Extended I/O Module

- Mass storage functions — Tape-to-tape copy of individual files or entire cassettes (private option available), and access to directory information, such as file name, file type, file length, and the location of the file on the tape.
- Character manipulation functions — The Alpha register is used as an I/O buffer to send or receive information over the loop or to the x-register (the problem with sending and receiving null characters has been taken care of). Characters can be inserted at, and removed from, any position in the Alpha register.
- HP-IL control functions — These functions make device control, loop configuration and data transfer operations simple and straightforward. They automatically take care of "overhead" commands such as loop addressing and designating devices as talkers or listeners. An important feature of the data transfer functions is the ability to input or output an HP-41 program as a series of hexadecimal-coded ASCII data bytes, the same format in which a program is stored in the HP-41's memory.
- Advanced control functions — These are the low-level HP-IL commands which control the transfer of data around the loop. Use of these functions requires a detailed knowledge of loop protocol and the response of each device to these commands.

Should your customers consider using either of the two modules, we recommend that they become thoroughly familiar with the concepts and protocol of the HP-IL interface loop. An excellent source for this information is "The HP-IL System: An Introductory Guide to the Hewlett-Packard Interface Loop", by Kane, Harper, and Ushijima.

Please note that the Extended I/O Module does not contain any functions for generating Series 40 bar code. This capability was shifted to the HP 82184A Plotter Module.

Transferring Data Between HP-IL Controllers

As the number of HP-IL controllers and peripherals grows, we are seeing an increasing interest in transferring data between mainframes. This interest is being driven primarily by the use of the HP-41 and the HP-75C as data collection devices, and the desire to process collected data on larger, faster machines.

Control of communications via HP-IL is currently supported by three mainframes: the HP-41 Handheld Computer, the HP-75C Portable Computer, and HP-85/86/87 Personal Computers (referred to collectively as Series 80). The ease and practicality of transferring information between these controllers varies somewhat, and this article provides a brief synopsis of what is currently possible.

HP-41 to HP-75C

Direct data transfer between these two mainframes is not possible at this time. Both the HP-41 and the HP-75C wake up as active HP-IL controllers, and neither has the capability of giving up this control. Therefore, to transfer data between them, an intermediate device must be used. At this time, the only suitable device is the HP 82161A Digital Cassette Drive. The HP-41 can read information in LIF (Logical Interchange Format) files written by the HP-75C. The HP-75C can read information stored in HP-41 ASCII files or data files, and can

write numeric data to HP-41 data files. Both the HP-41 and the HP-75C are capable of reading the byte values for information stored anywhere on the cassette (with the aid of available firmware and software). As a practical matter, it makes sense to transfer only numeric data or ASCII-coded text between the two machines.

HP-41 to Series 80

The ability of the Series 80 mainframes to relinquish control makes data transfer between the HP-41 and an HP-8X relatively straightforward. These two controllers can be connected directly to each other, via the HP 82938A HP-IL/Series 80 Interface, thus eliminating the need for an intermediate mass storage device. The HP-8X will accept numeric data or ASCII-coded text from the HP-41. Additionally, it will also accept RPN programs in two forms: text strings representing the program listings as they would appear on a printer, or the actual byte values for each program instruction. Either of these two forms can be sent by the HP-41 to the HP-8X and stored in text strings. (The transfer of byte values requires the use of the Series 40 HP 82183A Extended I/O Module.) The HP-41 will accept ASCII text, numeric data or RPN programs (the byte values for each instruction) sent from the HP-8X.

HP-75C to Series 80

An obvious advantage of this link is the BASIC language common to both machines. In anticipation of the most commonly asked question, it is possible to transfer programs between the two controllers. However, since the HP-75C is capable of sending only ASCII-coded character strings, a program can be sent only as the character strings associated with a program listing. If these strings are written to a file, the Series 80 GETSAVE binary program can then be used to transform the text into an executable BASIC program. Conversely a program to be sent to the HP-75C must first be converted into the corresponding lines of text before it is sent. Once this information has reached a destination file on the HP-75C, the TRANSFORM command can be used to change the text file back into a BASIC program.

Numeric data and ASCII text can also be sent and received by either machine.

An in-depth discussion of how these data transfers are accomplished is beyond the scope of this article. HP-IL controller application notes will be available later this year to provide more detailed information on each of these HP-IL applications.

General License for Software

Our differentiated pricing structure for software is now even more competitive with the expansion of our policy to include a General License. The General License addresses original software or "A" copy purchase requirements and is designed for purchasers of multiple processor types in the HP 1000 family. It is specifically designed for purchasers across the range of A-Series processors.

As an alternative to purchasing an 'A' copy for each processor type before you can purchase an 'R' copy, we have expanded the definition of Option 890 for the A900 Computer to be a General License. This license allows you to run the software on any one A-Series processor, and also satisfies the prerequisite for further purchase of Right-to-Copy products. Software products such as FORTRAN or IMAGE may also be copied to an E- or F-Series processor.

For example, if you wish to buy RTE-A(92077) for an A600 and an A900, you would purchase 92077A Opt. 890 as a General License for execution on the A900, and 92077R Opt. 600 for the right-to-copy the software to the A600. The General License is transferable from any CPU to another. You could purchase Option 890 software for execution on an A600 and later transfer the General License to an A900, after purchase of an A900. You would then purchase the Right-to-Copy product for the A600.

Maximum flexibility is possible with this scheme. You can choose the General License if you plan to use the entire range of A-Series processors, or you may take advantage of the lower priced "A" copies for the A600 and A700 if there are no immediate plans to expand to an A900. Software products which are available for the General License are:

92077 RTE-A
92836 FORTRAN 77
92833 Pascal
92857 BASIC/1000C
92860 Symbolic Debug/1000
92069 IMAGE/1000
92841 Graphics/1000-II DGL
92842 Graphics/1000-II AGP

Please contact your HP sales rep with any questions on this new policy.

RFI/EMC Compliance

As of October 1, 1983, all computer systems and related peripherals sold in the U.S. must comply with FCC RFI/EMC (Radio Frequency Interference/Electro Mechanical Compatibility). Similar regulations (VDE) are now in effect in Europe. This applies not only to systems sold by HP but also to systems sold by our OEMs.

HP has put forth considerable effort to meet these FCC and VDE RFI/FMC standards. All A-Series CPUs and System Processor Units comply and are certified to be used with the most popular HP peripherals. Since these products have been certified by HP, it is not necessary for you to go through this process unless you add non-HP equipment.

For our existing E/F-Series OEMs we have introduced two new Model 60 and 65 systems (HP 2178C and HP 2179C) that meet FCC and VDE standards. E-F-Series CPUs (HPs 2109E, 2111F, 2113E and 2117F) are considered components and will continue to be offered. If you purchase an E/F CPU instead of a certified system, it will be your responsibility to ensure your system meets all applicable regulations. Present CPU customers should consider moving to certified systems and avoid the effort and cost associated with certifying systems.

There are exemptions to the regulations:

- Electronic Control Applications in industrial plants are exempt from FCC regulations (but not VDE). This is significant because of HP's Industrial Automation charter.
- Test Equipment (ATS) and medical equipment are exempt in both the U.S. and Europe.
- Outside the U.S. and Europe, there are presently no standards or restrictions.

Because of the exemptions, HP will continue to sell non-complying systems to exempt customers. However, before we ship a non-complying system, HP will need a letter stating the nature of the exemptions. The following non-complying systems will continue to be sold.

System	Model
HP 2176C	40
HP 2177C	45
HP 2178A	60
HP 2179A	65

The desk-style cabinet systems will be removed from the July price list. The HP 2176D (Model 40), HP 2177D (Model 45), HP 2178B (Model 60) and HP 2179B (Model 65) will no longer be offered after July 1983.

Remember:

- As of October 1, 1983, in the U.S., all computers or products containing computers must comply with RFI/EMC regulations. In Europe, similar standards (VDE) already apply. Outside of the U.S. and Europe, there are no restrictions.
- HP offers certified and non-certified systems. In order to purchase non-certified systems, HP will need a letter stating the nature of the exemption.
- HP offers certified and non-certified components (Box Level CPUs are considered

components). OEMs purchasing components are responsible for certifying their final configuration. Component customers should consider buying certified systems.

New RFI/EMC Certified E/F Systems

In January, HP introduced two new RFI/EMC certified E/F Series systems. The new Model 60 (HP 2178C) and Model 65 (HP 2179C) have been certified to meet FCC (U.S.) and VDE (European) standards. Availability is eight weeks.

The new systems are housed in the HP 29431F cabinet, which is the same cabinet used with the A-Series systems. The HP 29431F is a 56-inch tall steel cabinet. It offers better cooling than the existing Models 60/65 (which use an HP 29402C cabinet), and can rack mount HP 7908/11/12/14R CS-80 discs. Options are available for a mag tape trim for the upper part of the cabinet (Option 051), and a solid lower door (Option 053) if you do not need a cut out for a Linus tape unit.

Previously, we have required an HP 264X terminal as a system console. However, we are dropping this requirement on the new Models 60/65. A 262X terminal can be used as a system console. However, an off-line load device, (mag tape or 264X terminal), must still be available on-site.

Presently, there are no RFI/EMC certified 264X terminals, although plans call for a 264X terminal to be qualified before October 1, 1983. The implications are that in Europe, where VDE standards are in effect today, a 264X terminal can not be purchased with a 2178C or 2179C system. The customer must buy a mag tape unit or use a previously purchased 264X terminal. In the U.S., a mag tape or noncertified 264X terminal can be purchased until October 1, 1983 or a certified 264X terminal can be purchased after that date.

If you want a mag tape with your system, you should consider the HP 7914TD. The 7914TD incorporates a 7914R (132MB disc), and a 7970E (1600 bpi mag tape unit), into an HP 29431 style cabinet, at an outstanding price. The 7914TD has been qualified with the 2178C and 2179C. If you are in the process of purchasing a 264X terminal and a 7908/11/12R disc, you should consider a 262X terminal and a 7914TD. The incremental cost is surprisingly low, while system capability is significantly increased. The system and 7914TD cabinet can be bolted together with an HP 40026A bolt-together kit.

To ensure compliance, it is important to purchase only certified peripherals and accessories. Two products, in particular, have options for RFI/EMC compliance. The HP 12979B (I/O Extender) Option 001 provides a shielded cable and modified power cord. Option 001 must be ordered if you want an I/O Extender with a 2178C or 2179C. On the HP 12966A (terminal interface card) Options 105 and 106 provide special RFI/EMC cables.

Remember:

- The RFI/EMC qualified E/F Systems now available include Model 60 (2178C) and Model 65 (2179C).
- There are no more 264X system console requirements. However, an off-line utilities load device (264X terminal or mag tape) must be available on site.
- 7914TD is an outstanding value if you need a disc and a mag tape. Buy the 40026A bolt-together kit if you want the system and peripheral bays tied together.

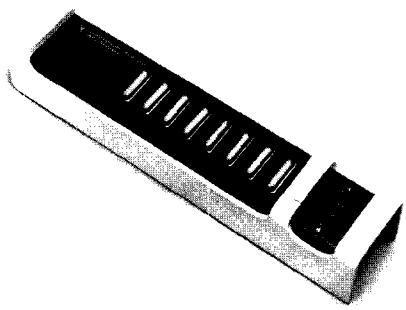
  For further information, please contact your local HP sales office.

M-Series Obsolescence

After a long and successful life, HP is going to stop manufacturing and selling the M-Series product line. All M-Series products will be removed from the May 1984 price list. This will give you one year to plan for the product's obsolescence.

The products listed below will be discontinued. These products are all M-Series related and are not compatible with the E/F-Series. Note that the products which compose the memory packages will not be discontinued since they are used on the E/F-Series.

HP 2108B	CPU with no memory
HP 2108K	CPU board set with no memory
HP 2108M	CPU — 8¾" box
HP 2108MK	CPU board set with memory
HP 2112B	CPU with no memory
HP 2112M	CPU — 12¼" Box
HP 12587B	Async Data Set Interface
HP 12589A	Autocall Unit Interface
HP 12604B	Data Source Interface
HP 12728C	Front Panel
HP 12728D	Documentation Kit
HP 12728E	Base Instruction Set
HP 12778B	Dynamic Mapping ROMs
HP 12784A-D	Parity Memory Packages
HP 12785A-D	ECC Memory Packages
HP 12945A	User Control Store
HP 12976B	Dynamic Instruction Set
HP 12977B	Fast FORTRAN Processor
HP 92852M	RTE-IV HW Upgrade



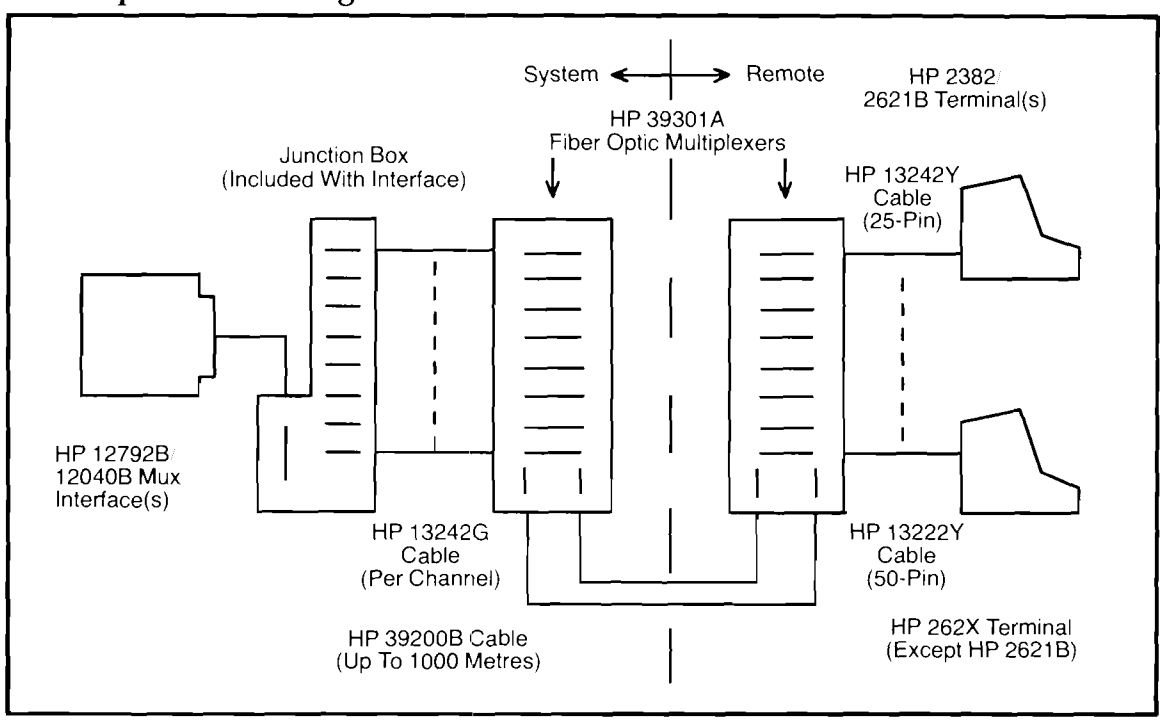
HP 39301A Fiber Optic Multiplexer Support on A-Series

The HP 39301A Fiber Optic Multiplexer is now supported for use with the HP 12040B and HP 12792B multiplexer cards on the A/E/F-Series. The HP 39301A Multiplexer allows up to eight terminal channels to be multiplexed over two fiber optic cables covering a distance up to 1000 metres. This product is ideal for terminal clusters that are to be installed remotely from the main CPU.

To use the HP 39301A, you must use one HP 13242G cable for each channel that is to be connected from the HP 12040B/12792B junction box to one of the two HP 39301As. To connect the terminal on the other end, use the same terminal cable that you would use to connect a terminal to the HP 12040B/12792B junction box. The diagram below will help you with your configuration specifications.

In order to meet system RFI requirements, the HP 39301A that is connected to the system should be rack mounted in the system cabinet. Option 001 with the HP 39301A includes the necessary rack-mounting hardware.

Fiber Optic Mux Configuration:



New HP-UX Right-to-Copy and Upgrade Policies

We have recently made some changes in the policies regarding the purchase of additional copies of HP-UX Operating Systems and upgrades from single-user to multi-user systems.

Additional Copies

Due to licensing requirements specified in our agreement with Western Electric, we can't offer right-to-copy HP-UX software. We have therefore removed all "M" and "R" HP-UX products from the CPL. Products removed are: HP 97070M/R, HP 97079M/R, HP 97080M/R, HP 97089M/R. In their place, we have created an option to the "A" product that offers you additional copies for the same price as the old "M" and "R" product.

With this new scheme, you receive your additional copy from HP rather than making it yourself. HP is required by the licensing agreement to produce all copies of HP-UX for additional computers. Of course, you can make a back-up copy for a computer for which you have already received HP-UX from HP.

We have also liberalized the prerequisites for purchasing additional copies of HP-UX. This new policy lets you leverage software between the Model 20 and Models 30/40. The prior purchase of a single-user version of HP-UX allows you to purchase additional copies of any single-user product. If a multi-user version is purchased, additional copies of either single- or multi-user versions may also be purchased.

The HP-UX product which is bundled into the HP 9020S, HP 9020T and HP 9040S systems does not qualify as a prerequisite for additional copies because you are already getting this software at a discount. Note that we continue to offer the traditional right-to-copy products for all other HP 9000 software (BASIC, FORTRAN, Pascal, DGL, AGP, etc.).

Addit. HP-UX Copy Descript.	Old Prod. No.	New Prod. No.	Prior Purch. Prerequisite
Single-user Mod. 20	HP 97070M/R	HP 97070A Opt. 005	HP 97070A, HP 97079A, HP 97080A, HP 97089A
Single-user Mod. 30/40	HP 97079M/R	HP 97079A Opt. 005	HP 97070A, HP 97079A, HP 97080A, HP 97089A
Multi-user Mod. 20	HP 97080M/R	HP 97080A Opt. 005	HP 97080A, HP 97089A
Multi-user Mod. 30/40	HP 97089M/R	HP 97089A Opt. 005	HP 97080A, HP 97089A

Data Comm Cable Available for HP 3092/93A Industrial Terminals

Four facts are important to remember when ordering and installing the HP 3092A Industrial Display Terminal or the HP 3093A Industrial Graphics Terminal:

1. These terminals do not come with a data comm cable (nor a power cord).
2. You can't use a HP 262X cable because it has a connector.
3. The terminal must be opened so the data comm cable can be attached at the screw connections.
4. The HP 92179D shielded, 5-wire, 24-gauge cable that is available meets the requirement that a data comm cable must have a diameter of between 7mm and 9mm.

How Do You Describe Terminal Ruggedness?

One characteristic shared by the HP 3092A Industrial Display Terminal and the HP 3093A Industrial Graphics Terminal is an IP rating of 55. The industrial bar code wands have an IP rating of 64, while the bar code slot reader is rated IP 65. What does this mean?

These ratings are based on a standard provided by the International Electro-technical Commission (IEC) which is affiliated with the International Organization for Standardization (ISO). This standard classifies degrees of protection provided by the enclosures of electrical equipment.

After the letters "IP" you see a pair of numerals. The first numeral represents the degree of protection against particles, and the second represents the degree of protection against liquids. The following is a table describing degrees of protection:

The HP 3092/93A terminals with a rating of IP 55 are, therefore, protected from dust (particles smaller than 75 microns cannot penetrate the enclosure in amounts sufficient to disrupt operation) and from water jets.

The industrial bar code wands are dust-tight (they are protected from dust regardless of the particle size) and protected from splashing water. The bar code slot reader is also dust-tight and is protected from water jets.

For comparison's sake, notice that the IP rating of an ordinary office terminal such as the HP 262X is IP 20.

IP ratings are useful for describing the suitability of a terminal for a factory environment. Right now you may find yourself explaining the ratings to customers. The day will come, however, when customers start off an inquiry about a terminal by asking, "What's its IP rating?"

IEC Standards for Classifying Enclosures

Class	Particles	Liquids
0	No protection	No protection
1	>50mm (e.g. hand)	Protected from dripping water (vertical only)
2	>12mm (e.g. finger)	Protected from dripping water (+/− 15 degrees from vertical)
3	>2.5mm (e.g. screwdriver)	Protected from splashing water (+/− 60 degrees from vertical)
4	>1mm (e.g. steel wire)	Protected from splashing water (any direction)
5	>75 microns (e.g. metal filings)*	Protected from water jets (.3 bar/12.5 liter/min)
6	Total protection from dust whatever the particle size	Protected from water jets (1 bar/100 liter/min)
7	—	Protected from accidental immersion (150mm depth)
8	—	Protected from continuous immersion

* Smaller particles cannot penetrate the enclosure in amounts sufficient to disrupt operation

New Improved Media Protection System

Hewlett-Packard's 3½" microfloppy drives and media now have an Auto Shutter feature included in the Media Protection System.

Increased Data Protection

When the 3½" microfloppy was introduced, the Media Protection System consisted of a protective hardcover housing, a contamination shield over the read/write gap, a hard-centered disc for precise head placement and a Media Monitor for optinum disc life.

The new Auto Shutter feature ensures further protection by automatically opening the contamination shield when the media are inserted in the drive and automatically closing the shield when the media are removed.

Auto Shutters Shipped

This feature requires a new drive mechanism for the HP 9121D/S and HP 9133A/B. Drives with this mechanism are currently being shipped and are identified by serial number only. Following are the beginning serial numbers for each 3½" Auto Shutter microfloppy product:

HP 9121D	2229A03501
HP 9121S	2244A00311
HP 9133A	239A00728
HP 9133B	2240A00118

All HP media now incorporate Auto Shutter and are identified as such on the contamination shield. For both media and disc drive, the part number remains the same as does the price.

Auto Shutter Software Available

Major software packs are now available on Auto Shutter media. Both Hewlett-Packard software and HP PLUS software have been converted to the new media.

Media Features

Auto Shutter media are different from regular media in two ways. First, the contamination shield is now spring loaded to close. Second, a latch on the top left corner of the media holds the contamination shield open, allowing you to use Auto Shutter media in non-Auto Shutter drives. Other 3½" media vendors do not offer this backward-compatibility latch. Auto Shutter media and drives can be used interchangeably with non-Auto Shutter media and drives.

Warranty Reminder

Customers should be strongly encouraged to use only HP 3½" Auto Shutter media. The HP warranty and contract policy states that: "Hewlett-Packard reserves the right to exclude from this agreement any repairs for damage to HP products which HP reasonably determines or believes was caused by use of non-HP media . . . ." Since not all media are of HP quality, using HP 3½" Auto Shutter media will ensure continued service for your customer.

Upgrade to Auto Shutter

For customers with a non-Auto Shutter drive who would like to have an Auto Shutter drive, there is an upgrade kit, P/N 09121-88875, which will be available May 1. The kit includes a single Auto Shutter drive mechanism to be installed in the Field Repair Centers.

Users of the 3½" microfloppy now have an extended Media Protection System, which insures minimum risk of damage by contamination. Both media and drives are currently being shipped to customers, and major software packs are immediately shippable. Current users can also take advantage of this feature. HP microfloppy users are assured of the maximum data protection available.

HP 1360S Graphics Display System to be Obsoleted

As of May 1, the HP 1360S Graphics Display System will no longer be offered as a bundled product. Customers will still be able to order the equivalent of an HP 1360S by ordering these individual components:

- HP 1351A option 002 Graphics Generator with 16-bit interface board (HP 52106A)
- HP 1310B 19" Large Screen CRT Display with tall tilt stand (any large screen display and optional tilt stand may be acceptable)
- HP 52113A InteGral/60 Interactive Graphics Library
- HP 52121A two-metre 16-bit Inter-connect Cable (interfaces the Series 200 controller to the HP 1351A)
- HP 52122A one-metre BNC Analog Inter-connect Cable (interfaces the HP 1351A to the large screen CRT display)
- HP 10492A one-metre z-Axis Inter-connect Cable

In addition, the HP 98620A DMA controller card is no longer required in the controller for the HP 1360S, but it may be necessary for other mass-storage peripherals that may be configured in the user's system.

Any HP 52113A orders after February 1 will automatically receive the HP 2307 version of the software, which adds some features not found in the HP 2217 version. It is the only version compatible with the 2.0 version of Pascal.

It was also found that the SIS form of support (HP 98086K) did not match the needs of customers. Consequently, the SIS product has been deleted from the price list, and all software support information is now being included in the Software Notification Service (SNS) product (HP 98081N) offered for desktop controllers. Therefore,

all information relating to SSBs or software status will be included in *The Communicator* and other documents in the HP 98081N product.

Please consult the HP 1360 Graphics System Configuration sheet for information on the contents of the product, or contact your HP sales rep if you need assistance on system configurations.

HP-IL Components Available to Other Manufacturers

The Hewlett-Packard Interface Bus (HP-IB) became an industry standard a few years ago because its high speed and performance made it suitable for large computer system applications. HP now envisions the same fate for the Hewlett-Packard Interface Loop (HP-IL), thanks to fast-growing demand for small, portable computers and calculators.

In February HP made it possible for other manufacturers to design HP-IL into their products at the component level. Hewlett-Packard has developed special components to make products compatible with HP-IL and will sell the components both separately and as part of a complete interface kit. This development should be especially useful for large-scale instrument, mainframe and consumer peripheral OEMs for whom small size, low power and low cost are major concerns.

Three components are key to component-level implementation of the HP-IL standard:

- **HP-IL Integrated Circuit,** a general purpose IC providing a convenient interface from most standard microprocessors to HP-IL.
- **HP-IL Transformer Set,** providing electrical isolation between devices on the loop, as well as voltage-level conversion and impedance matching.
- **HP-IL Panel Receptacle,** providing a foolproof mechanical method for connecting HP-IL devices.

To make HP-IL and the devices that use it widely available as quickly as possible, HP has created the HP 82166C HP-IL Interface Kit. The kit includes the necessary components, full documentation and an HP-IL Development Module for the HP-41C or HP-41CV hand-held computer.

HP-IL Ideally Suited to Become Standard Interface

A bit-serial interface, HP-IL features low power consumption and conveniently portable size. This compatibility with small, low-cost, battery-operable instruments, calculators and computers make it a welcome addition to small systems. Today, HP-IL can be found in field portable and simple benchtop systems that use highly portable controllers, such as Series 40 and Series 70 computers.

HP-IL supports up to 31 devices in a closed-loop configuration, providing full control capability for small systems. The RS-232 interface supports only one device per connection. HP-IL is faster than RS-232 uses the basic protocol of HP-IB (IEEE 488, 1978), while adding such friendly functions as power-down, auto address and accessory ID.

On December 1, HP introduced the HP-41 Development Module P/N 00041-15043), which is included in the HP-IL Interface Kit. This module aids in developing and debugging firmware (software code burned on the ROM) required to drive HP-IL. Scope mode lets the user monitor HP-IL messages as they pass around the loop. Other features permit taking control of the loop to send individual messages and to read and write data in the registers of the HP-IL IC contained in the HP-41.

Together, HP-IL components and the HP-41 Development Module allow powerful product and system adaptations. For more information about HP-IL, see *The HP-IL System: An Introductory Guide to the Hewlett-Packard Interface Loop* by Gerry Kane, Steve Harper and David Ushijima (Osborne/McGraw-Hill, 1982. 106 pages).

Use Object Libraries for Special Effects

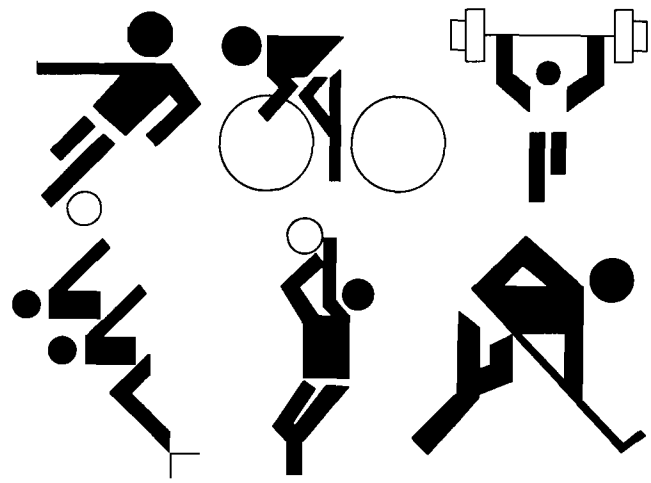
We may not all be artists, but we can use pictures drawn by artists to customize our own graphics presentations. With premade object libraries and PAINTBRUSH/2700, anyone can create his/her own presentation materials.

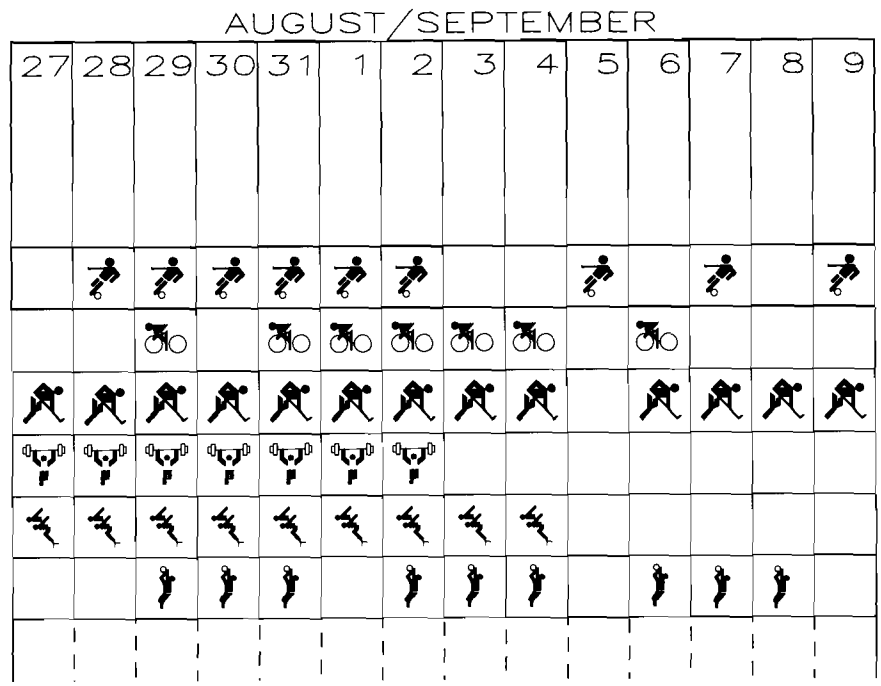
Object libraries ease the task of creating presentation materials. For example, at a division review this year, the staff needed several charts with pictures of the different terminals. The basic terminal models such as the 2X, 4X, 2700 and keyboards existed in an object library from the prior year. The charts were quickly created by simply combining the desired terminal models and then adding the appropriate annotations.

Company logos are another prime example. Since the logo exists as an object, it can be scaled and rotated to any size or orientation. We do this with the HP logo in our customer demonstrations. And, customers are even more impressed when the presentation materials contain their own logos!

Another effective use for object libraries is embellishing AUTOPLOT/2700 charts. Replacing bars with the theme of a bar chart transforms a generic bar chart into a customized chart. For instance, a tree for a lumber chart can be easily scaled to the height of the bars. Or, changing the labels for a pie chart into pictures is another effective use. This was done in the *Business Week* advertisement for the HP 2700, whereby the words "milk", "ice cream", "cheese", and "butter" were replaced with their corresponding objects.

Another example of object libraries is shown above which is a compiled picture file of sports figures. These





were used in creating the Olympic calendar depicted here. Once the object library was drawn, the creation of the calendar was easy.

The library can be reused for making calendars in the future, or for any other pictures.

Once an object has been drawn with PAINTBRUSH/2700, it can be used in any future pictures. A company can keep a growing library of objects that are continually used in their business, making the creation of customized presentation materials a snap.

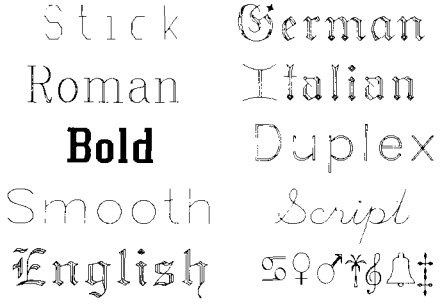
Use Your Own Fonts with PAINTBRUSH and AUTOPLOT

The two software packages (AUTOPLOT/2700 and PAINTBRUSH/2700) provided with the HP 2700 color graphics terminal give the user the flexibility of loading up to six fonts simultaneously. Both packages come standard with bold, roman and smooth fonts.

If a custom font is desired, the user may define his own. The definition is done by entering a series of escape sequences. The escape sequence basically consists of the ASCII character number, the font number, and a set of xy coordinates representing the character shape.

The custom font may be an additional font definition, or it may overlay an existing font. If just a single character change is desired, then only that character cell definition need be entered. This allows for customization of the fonts that are standard with the software. Customers have the flexibility to define a font style that enables them to put their logo into business reports or other documents generated by AUTOPLOT/2700. This will enhance the presentation quality of these reports.

The figure here shows a few of the fonts that have been used with PAINTBRUSH/2700 and AUTOPLOT/2700.



Use PAINTBRUSH/ 2700 to Create Process Control Pictures

PAINTBRUSH/2700 is a picture creation tool that can simplify the task of designing a Process Control Diagram. The pictures are used in conjunction with a host application.

For a PC shop application, a chemical holding tank was created and saved as an object that could be copied as many times as needed. Then connecting lines were drawn between the tanks to show the overall system configuration. Text was added to identify the process components. The wide range of color allows for emphasis on certain components of the process that may need special attention. Since all the picture information is stored locally in the terminal, the host process control application can update the picture with just a few simple commands. This means a process supervisor can receive immediate feedback as to the state of the system and initiate corrective action as soon as needed.

PAINTBRUSH/2700 is the right tool for designing a process control diagram or any multidimensional chart. Invite your customers to try PAINTBRUSH/2700 for themselves today.

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OEM News is published monthly for Hewlett-Packard OEMs to keep you informed of HP products and services and to provide information to help you be more successful.

If you work for a company that is an OEM for Hewlett-Packard and want to receive your own copy of **OEM News,** call your Hewlett-Packard sales representative.

For further information on any of the products and services discussed in **OEM News,** please contact your HP sales rep.

Note: Not all HP computer products are sold and supported in all countries. Please check with your local HP Sales Office.

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