Journal of Hewlett-Packard Technical Computer User Groups

MAR.-APRIL 1986

HP 2603A daisywheel fills a niche

The HP 2603A is the new impact daisywheel printer from Vancouver Division that offers letter-quality printing and multipart forms. This product fills a niche in HP's printer offerings between the letter-quality laser printers and the draft-quality personal-convenience printers. Read on to find out where the HP 2603A fits in your customers' applications.

- COST The HP 2603A is less expensive than many other high-performance printers capable of letter-quality print. Use HP 2603A for those price-sensitive customers.
- PRINT QUALITY Daisywheel printers are capable of the high-quality print that business customers expect in business correspondence. When a customer wants to send the very best, "typewriter"-quality print is still the norm in business.
- PAPER The HP 2603A works with an optional forms tractor and a triple-bin envelope sheet-feeder. This single-vendor solution lets your customer automate business-letter printing. Because the HP 2603A is an impact printer, customers can use multipart forms such as purchase orders, invoices, and so on.
- PAPER TYPE The HP 2603A prints on just about any kind of plain paper including highquality bond! In business, people appreciate the very best where correspondence is concerned.
- HOST COMPATIBILITY The HP 2603A uses the Diablo API 2 commanding language, which is a defacto standard in the IBM PC world. Most software packages which support the Diablo 630 printer will work with the HP 2603A. The HP 2603A is supported on the IBM PC, compatibles, and of course the HP Vectra.
- PRICE/PERFORMANCE At a speed of 45 cps, the price/performance ratio is one of the most competitive in the industry. There are less expensive daisywheel printers on the market, but HP gives you the most features for the least amount of money.

CONTENTS

- New Products
- **PPPM**
- Desktop Forum
- HP Training Philosophy

New Dual HP-IL Adapter for the **HP-71**

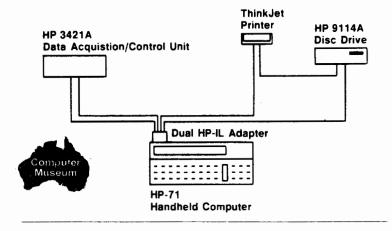
Two loops instead of one — that's what you get with the new Dual HP-IL Adapter from the Handheld Computer and Calculator Operation (HCCO). The adapter is a plug-in HP-IL module that expands the range of manufacturing and portable data acquisition applications for the HP-71 by allowing two HP 82401A HP-IL modules to be plugged into the HP-71 simultaneously.

With the adapter, the HP-71 treats each HP-IL module as an independent interface. The HP-71 operates as a controller on both loops; a controller on one loop and a device on the other, interfacing with a local area network; or a device on both loops.

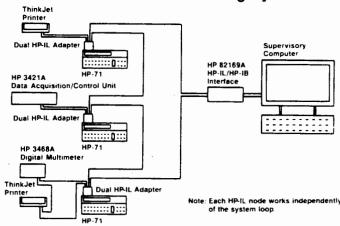
Plugging two HP-IL modules into the HP-71 is especially useful in manufacturing situations where control and communications functions must exist simultaneously, yet independently.

The Dual HP-IL Adapter allows control of instruments and peripherals at the same time that data is sent to a supervisory computer. This capability makes the HP-71 an ideal solution for small networked instrument and test control applications.

Typical Portable Data Acquisition System



Test and Process Monitoring System



In portable data acquisition settings, the adapter allows short-battery-life peripherals like the HP 9114A disc drive and HP ThinkJet printer to operate on an independent loop — accessed only as needed to conserve battery life - while

intensive data acquisition is occurring on the other loop. By leaving the peripherals powered down and buffering the data in the HP-71, the effective battery time of these devices can be extended significantly.

ACADS

ACADS is a non-profit association of technical computer-user organizations with Australia-wide membership of 650 (and growing rapidly).

Founded in 1970 specifically to promote computeraided design of structures, ACADS has widened its interests to encompass all technical applications; architecture, the various engineering disciplines, geomechanics, mapping, mining, production planning, computer-aided and integrated manufacture and the like.

The objective of ACADS is to heighten the awareness of, and the competence in, the use of computers, to promote their use in technical applications by extending the knowledge of available techniques and benefits, and to foster exchange of computer-user experience in technical applications.

ACADS employs full-time staff, located in State and Regional offices throughout Australia, having considerable expertise in a wide range of technical fields and computer applications, enabling ACADS to assist their members; architects, computer operators, educators, engineers, managers, planners, etc. with advice relating to the selection, application, and use of technical-computer systems.

ACADS fulfills its role by providing -

- · telephone consultation with technical staff,
- education through meetings, seminars and like activities,
- book and program libraries and other publications,
- independent evaluation and standards
- information exchange through periodical publications and operation of technical-interest groups.

FOR FURTHER INFORMATION contact — **ACADS N.S.W. OFFICE (Laurie Smith)** P.O. Box 148, Milsons Point, 2061 (Suite 313, 30 Glen Street) Telephones: (02) 929 6097, 929 8333.

NOTE

CROSSTALK is a publication of the HP1000 and HP Desktop Computer user groups. Hewlett-Packard accepts no responsibility for the content herein, which is subject to change without notice. Hewlett-Packard shall not be liable for errors contained herein or for incidential or consequential damages in connection with the furnishing, performance or use of this material. Furthermore, no endorsement or promotion of any product by Hewlett-Packard is implied by its inclusion in this publication.

Argo would like to offer you:

INFOTEK SYSTEMS

- •1, 2 and 4 megabyte memory cards,
- BASIC compiler,
- Floating point processor cards, and the A/D converter card

DATA PHYSICS CORPORATION

signal processing software with over 40 powerful functions including:

- power spectral density;
- frequency response;
- · coherence;
- convolution;
- correlation and histogram in addition to;
- comprehensive display capabilities

STRUCTURAL MEASUREMENT SYSTEMS

- · modal analysis,
- finite element
- · analysis and
- plant monitoring software.

JENSEN TRANSFORMERS

AC circuit analysis package

ARGO SOFTWARE INTEGRATION

- · condition monitoring software and
- · general software consulting

all for the HP series 200/300 desktop computers.

Please ring Jason Tranter for all details, at

Argo Software Integration Pty. Ltd. Level 2, 286 Toorak Road, SOUTH YARRA, VIC., 3141 Tel. (03) 240 8461 Telex: 134977

GET MORE FROM YOUR HANDHELD COMPUTER

CONTACT:-POCKET PORTABLE PROGRAMMERS OF MELBOURNE INC., CLUB OF HP HAND-HELD USERS OF SYDNEY

INTRODUCTION

The POCKET PORTABLE PROGRAMMERS of MELBOURNE INC. and the CLUB OF HP HAND-HELD USERS of SYDNEY are membersupported, non-commercial, groups of enthusiastic people whose primary aim is to communicate new techniques, discoveries, programming strategies, advanced applications and programs for, or relating to, the use of programmable calculators or small personal computers (particularly the Hewlett-Packard Series 40 calculators and Series 70 computers) and their related and associated devices.

Membership to P.P.P.M. Inc. and C.H.H.U.S. is open to anyone, from novice to expert, interested in programmable calculators or small personal computers and who would like to communicate with, or share or exchange ideas and information with, other users of such devices.

Both groups welcome members from all round Australia.

In 1979, John McGechie brought together a number of members of the PERSONAL PROGRAMMING CENTRE — P.P.C. (U.S.A.) who lived in the Melbourne area. Those members formed the basis of what was to become the Melboume Chapter of P.P.C. The group continued to grow and, through its activities and achievements over the following years, earned the respect of users and user groups world-wide, becoming an important link in the international user community. 1981 saw a number of P.P.C. members come together in Sydney to form the Sydney Chapter of P.P.C. During 1985, as a result of the need to re-establish their identity and independence, and events within the international user community, the groups changed their names to the POCKET PORTABLE PROGRAMMERS of MELBOURNE Inc. and to the CLUB of HP HAND-HELD USERS of SYDNEY.

Times (and names) change, but the philosophy of open communication and the sharing of ideas on which both groups were originally founded is still the basis of C.H.H.U.S. and P.P.P.M. today.

ACTIVITIES

Both C.H.H.U.S. and P.P.P.M. are active user groups which have a number of on-going activities.

P.P.P.M. conducts occasional elementary and advanced courses on the HP41 calculator under the auspices of the Victorian Council for Adult Education. The success of these courses is due primarily to the ceaseless efforts of John McGechie.

In addition to the local newsletter (details below), P.P.P.M. publishes TECHNICAL NOTES, a journal of new techniques, ideas, programs, miscellaneous items of interest from users around the world and extracts from the newsletter. This well-respected journal is co-ordinated and edited by John McGechie and produced with the assistance of P.P.P.M. members on a volunteer "when we can" basis. Subscription to TECHNICAL NOTES is additional to P.P.P.M./C.H.H.U.S. membership (contact P.P.P.M. for details).

An important activity of both C.H.H.U.S. and P.P.P.M. is the establishing and maintaining of links with other user groups around the globe. TECHNICAL NOTES and the Newsletter play important roles in this regard by communicating the activities of both groups to the rest of the world.

MEMBER SERVICES

P.P.P.M. and C.H.H.U.S. both hold regular monthly meetings (details on this page) where members are able to hear presentations given by other members or invited guests, participate in club activities and personally meet other people with a common interest in small personal computers and calculators.

Members receive a monthly newsletter (called TECHNICAL NOTES: the NEWSLETTER) which keeps them up-to-date on local activities. The newsletter usually contains one or two main articles plus items of general interest, miscellaneous bits and pieces, tips, etc. Because of the close relationship between C.H.H.U.S. and P.P.P.M., and since the two groups use common equipment, the newsletter is a combined effort and shared by both groups.

P.P.P.M. has a library of technical books, journals, papers, and other reference material (mainly for the HP41/HP71/HP75) and a small inventory of equipment which may be borrowed by members. The programmable calculator and hand-held computer journals held in the library are probably the best collection of such material in Australia. C.H.H.U.S. also has a small library of reference material available to members.

MEETINGS

The POCKET PORTABLE PROGRAMMERS of MELBOURNE INC. meets at 8 pm. on the THIRD TUESDAY of each month in Room 903 (9th floor), Menzies Building (Humanities Wing), Monash University, Clayton, Victoria, 3168.

The CLUB of HP HAND-HELD USERS of SYDNEY meets at 7.30 pm. on the THIRD MONDAY of each month at Charley Business Services, 22 Elsie Street, Burwood, N.S.W. 2134.

MEMBERSHIP

P.P.P.M. Membership:

ONE Year: \$20. Two Years: \$35.

C.H.H.U.S. Membership:

ONE Year: \$20

All cheques, etc. should be made payable in Australia \$\$.

P.P.P.M. Membership/Technical Notes

P.P.P.M. Inc.

P.O. Box 512

Ringwood, Vic. 3134.

C.H.H.U.S. Membership

C.H.H.U.S.

C/- K. Besley.

Charley Bus. Services,

22 Elsie Street,

Burwood, N.S.W. 2134.

CONTACTS/INFORMATION

For more information about P.P.P.M. or C.H.H.U.S., contact one of the following members or write to one of the addresses shown above.

P.P.P.M. Inc.

John McGechie

(03) 870-8755 H., 541-3205 B.

Paul Cooper (03) 898-7672 H.

Graham Fraser (03) 842-4586 H., 339-2480 B.

C.H.H.U.S.

Ken Besley (02) 868-3712 H., 747-1011 B.

Nigel Davies

(02) 560-7186 H.

PUZZLE SOLUTION

Answer to last issue's puzzle is:

MORE CUBES & OTHERS MORE CUBES & OTHERS

a) Find rational (ie fractional) numbers, 'z' and 'y', such that x³+y³=6. [Numerators and denominators <100.]

b) As for a), but x³+y³=9 [2 Solutions!]

c) A square and cube of a given numbers use each digit once exactly. What is the given number?

d) Using the digits 1,2...9, form the largest product eg 3746 x 2819 (obviously not the largest)

- Mark Michell

DESKTOP FORUM

H.P.D.C.U.G.V. GENERAL MEETING

A well attended General Meeting held on 8th April heard the report of the President Chris Simpson.

During the year the Group met every second month. In addition to meetings there were two outside visits and four workshops.

A substantial effort was made to improve the Group's "visibility" and to increase the membership.

Crosstalk magazine appeared regularly mainly through the efforts of John Green and Derrin Johnson. Chris expressed his appreciation to all contributors to the magazine, as well as to the speakers at the Group's meetings. He appealed for greater support of the magazine.

Chris thanked also the retiring committee members Gordon Roberts and Mark Michell. John Hedger thanked, in turn, Chris, who is also retiring, for his efforts in steering the Group and for his hard work in promoting the aims of the Group.

All present joined with John in expressing their appreciation of Chris's leadership.

After presentation of Treasurer's and Secretary's reports, a new committee was elected.

The General Meeting was followed by a brief talk of John Valesiz of HP about RISC (Reduced Instruction Set Computers). This new development is prompted by the evaluation of computer activities. It appears that 20% of instructions are used to account for 80% of computer time, whilst 80% of instructions account for only 20%.

The RISC approach increases the speed of processing and is proving cost-effective.

The meeting closed with members exchanging information and John Velezis showing an HP video tape on RISC.

Workshop on Translations from 9845 to 200 Series Machines (on 14/3/86)

Chris Simpson conducted the workshop which was held on his premises.

Chris found that Translation program from 9845 is very efficient and if one leaves the basic programming approach the same then some 80% of the task is done by Series 200 machine (actual model used was 217).

The rest must be done by the programmer who is assisted by warning lines inserted into the program.

Chris described also some features of the $200\,\mathrm{Series}$ which include $3.0\,\mathrm{and}~4.0\,\mathrm{Basic}$, Pascal and SRM (System Resource Manager).

The required System is loaded into the machine, which necessitates careful consideration of machine memory requirements. The machine has 8 slots with 2 cards per slot. It is possible to configure your own system by specifying only some binaries (e.g. Matrix Extension), as well as writing commands to the key-board, lifting binary programs, etc.

Another useful feature is the fact that length of ASCII files need not be specified as the length is automatically expanded.

Basic 3.0 and Basic 4.0 are very powerful and well documented.

The present were also impressed by the speed of the machine.

There were six participants who enjoyed not only the workshop itself, but also Chris's hospitality.

Thanks Chris, well done.

HP DESKTOP USERS GROUP

Minutes of the Annual General Meeting of the Hewlett-Packard Desktop Users Group held at HP N.S.W. headquarters, North Ryde, at 6.30 pm. on Wednesday, 2nd of April, 1986.

 $8604.01\colon The meeting opened with <math display="inline">10$ members and HP's representative Mr Bob Coulthurst present.

8604.02: The meeting was chaired by Mr Paul Fekete who welcomed the members for the Annual General Meeting for 1986.

8604.03: The treasurer, Mr Paul Fekete presented the accounts for the 1985-1986 membership year. The motions for receiving and adopting the report was put to the members and carried.

8604.04: Next the retiring secretary, Mr David Sade, presented his report to the meeting. A motion to accept the report was put to the meeting and was carried.

8604.05: The librarian, Mr Kevin Monaghan, presented his annual report which was accepted by the membership.

8604.06: Mr Paul Fekete called for the nomination of new office bearers for the coming year. There were no new nominations for the positions of the treasurer or librarian, therefore the current office bearers, Mr Paul Fekete and Mr Kevin Monaghan were re-elected. Mr Sade did not wish to re-nominate for the position of the secretary due to his other commitments. A new member, Mr Gerald Byme volunteered his services and was elected as the the new secretary for 1986. Mr John Geremin volunteered to liaise between the desktop user's group and the HP-1000 user's group.

This completed the election of new office bearers.

8604.07: Mr Fekete called for an increased contribution from the membership for ideas and topics for future meetings. A discussion followed on how to increase interest in the user's group and enlarge the membership.

8604.08: Mr Fekete concluded the General Meeting and gave the floor to Mr Bob Coulthurst, who announced, that Mr Bill Dimopoulos would be taking over as HP's new co-ordinator for the user's group. He also pointed out that Mr Dimopoulos will not be able to attend our meetings, but someone else will be representing HP at regular meetings.

8604.09: Mr Coulthurst continued with his talk on an overview of the Hewlett-Packard 'SPECTRUM' concept. Members were given a wide variety of brochures describing the details and specifications of the new Precision Architecture (as it is called by HP). Mr Coulthurst described the development of the new system, which is centred around the RISC architecture. The new systems are much faster owing to a simplified but more modern design at both software and hardware levels.

The membership discussed various aspects of the talk, including the question of upgrading existing equipment. Mr Coulthurst concluded his talk and Mr Fekete thanked him for his valuable contribution to the meetings.

8604.10: After some further discussions Mr Paul Fekete closed the meeting.

David Sade, Retiring Secretary

Note: Members will be informed by mail of the time and location of the next meeting.

Correspondence until further notice is to be addressed to Mr Paul Fekete, 21 Parraween Street, Cremorne, N.S.W. 2090. (02) 909-2081.

Ink-Jet Paper in A4

Lamson have released paper in A4 format for Ink-Jet Printers. The reference number is: 1195/SFC.

DESKTOP FORUM

A Short Entry-Search Routine

The following routine makes possible a partial entry of a name and searching for a corresponding name starting with the entry.

The program is contained in lines 5292-5300. The subroutines are printed in the order of their occurrence.

The last statement in line 5292:gosub 900 may be omitted or replaced by another "speeding-up" routine.

Line 3168 requires a binary (or AP ROM) for highlighting display and may be replaced by a simple "DISP "Input Customer's Name etc." statement.

Lines 978 and 986 search in the Main Reference File (Line 1006) and if the search is successful, look for additional information (Line 1010).

H. Drillich

5232 OFF ERROR & CLEAR & GOSUD 3168 & GOSUB 900 5293 DEF ERROR & IF Ut=0 THEN 5292 5294 508UB 974 & 508UB 855 5296 1608UB 650 5296 IF X=1 THEN GOSUB 882 & BOSUB 884 & RETURN 5396 IF X=2 THEN UT=0UST+1 & GOTO 5294 ELSE GOTO 5202 Above is the main routine Following requires an aproprite Rinary programme
3168 DISP "INSUTTANGLIA" (* CLUSTOMER'S NAME ".[18" - START MITH STATE IDENT.NO. (1-FOR Vic., 2-M
5169 IF Y, 24 THEN DISP "THE NAME to LOW FILEN (CS)
3170 ON ERROR GOTO 3172 È IF Y=0 OR VAL (CS(1,11)(1 OR VAL (CS(1,12))S THEN JIGS ELSE OFF ERR

Additional routine to speed-up the search
898 OFF ERROR @ DISP "Wrong Entry." @ UI=O @ GOTO 752
300 ON ERROR GOTO 898
902 IF C\$[2, 2]="A" THEN U1=1 @ U2=48 @ OFF ERROR @ RETURN
974 15 C#I2, 21=787 THEN 1:=49 % 12=30 & CFF ERROR @ RETURN
906 IF C\$(2, 2)="C" THEN U1=91 € U2=180 € OFF ERROR € RETURN
908 IF C\$(2,2)="D" OR C\$(2,2;="E" THEN U!=181 8 U2=255 @ OFF ERROR @ RETURN
910 IF C\$(2, 2)="F" OR C\$(2, 2)="B" THEN U1=256 @ U2=316 @ OFF ERROR @ RETURN
etc., etc.
Search coutine
970 IF ERRN =33 THEN OFF ERROR @ GOTO 980 ELSE DISP "END OF CUSTOMER'S LIST." @ GOTO 752
972 OFF ERROR @ 1F CUST (1050 THEN 1002 ELSE DISP "END OF CUSTOMER'S LIST. " @ GOTO 752
974 NL=0 @ FOR CUST=U1 TO U2
976 ON ERROR GOTU 970
978 GOSUB 1005
980 IF CI\$="0" DR CI\$="00" THEN 990
984 UN ERROR GOTO 988
986 IF C\$=C1\$(1,Y) THEN OFF ERROR @ GOSUB 1010 @ RETURN ELSE 990
988 OFF ERROR @ IF ERRN =56 AND CUST (U2-1 THEN DISP "Does NOT exist " @ GOTO 990 ELSE RETURN
77.0 A2.4 CUST
991 15 CUSTOUZ THEN DISP "NOT LISTED." & WAIT 2000 : **********
992
993
994 FOR CUST=CUST+1 TO CUSTN
996 DN ERROR SOTO 970 & GOSUB 1010
998 IF STATAD=CUSTO THEN RETURN
1000 IF CUST) 1049 THEN GOTO 1004 ! 1498 WAS
1002 NEXT CUST
1004 DISP "NO MULTIPLES." & NL=1 & RETURN
1006 ON ERROR GOTO 1008 & READE 1, CUST ; C198 OFF ERROR & RETURN
1008 OFF ERROR & IF ERRN =71 THEN CIS="O" & STATAD=0 & RETURN ELSE RETURN
1010 ON ERROR GOTO 1012 @ READ& 2, CUST ; ADS, STATAD@ GOSUB 5738 @ OFF ERROR @ RETURN
1012 OFF ERROR & IF ERRN =71 THEN ADIS, ADZS, ADZS, ADZS=" " & STATAD=0 & RETURN ELSE ADIS, ADZS.
AD3\$, AD4\$=" " @ STATAD=O @ RETURN
836 DISP HGL?\$ (C1\$,1)
838 DISP ADI\$
840 DISF AD2\$
842 DISP AD34, "CODE No. is:"; CUST, "ACCOUNT No. for sending the Statements:"; STATAD @ DISP @ R
ETURN
860 DISP "INPUT 1 IF CUSTOMER DETAILS ARE CORRECT, 2 TO CONTINUE SEARCH, 3 FOR OTHER SELECTIO
N. " @ INPUT X@ RETURN

Focus 1000



INTERNATIONAL USERS GROUP MEMBERSHIP

At its Annual Meeting, the Melbourne HP/1000 Users Group announced that it was about to become a full member of the International Association of Hewlett-Packard Computer Users (INTEREX). This will include a copy of the full contributed Library. The Treasurer of the Melbourne Group, Norm Kay (03) 544 0633, will be the holder of the tape and limited copies of software will be available for members to use, without the need to join INTEREX.

HP TRAINING PHILOSOPHY

By Elaine Dawes — Customer Education Co-ordinator

Training can be your single most effective investment in the performance and productivity of your staff. Hewlett-Packard's customer education training centre offers comprehensive training programs covering the theory and operation of HP's software.

Ensuring that you receive the most value for the time and money you invest is a major part of the philosophy behind HP's course development.

Our Instructors and HP System Engineers are trained to meet your every need from on-site training to personal tuition. Enclosed with this newsletter is a brochure containing the new July-December training schedule. Also included are course descriptions, price lists and registration forms. Please direct any enquiries regarding this new schedule or any query to the Customer Education Co-Ordinator.

NEW POLICY REGARDING COURSE SCHEDULING

HP reserves the right to change or cancel courses in the training schedule at any time prior to accepting a confirmed reservation. Classes will be taught if a minimum of one confirmed student is registered five working days prior to the start of a class.

This new policy will enable you to forward plan your staff's training programme without disruption.

H.P.D.C.U.G.V. — Momhorshin 1025/1026

Memoership 1703/1700
Name:
Company:
Address:
Phone:
Telex:
Subscription \$12 enclosed: Renewal or New
Return to: Peter Hendy I.G. Hendy Manufacturing Pty. Ltd. 11 Terracotta Drive Blackburn, Vic. 3130
Cheques should be made payable to 'HPDCUGU'

WHAT'S NEW

NEW, IMPROVED RTE TRAINING CURRICULUM

The RTE Training Curriculum has been updated to provide you with a clear, step-by-step progression from an introduction to the interactive programming environment of the HP1000 to the intricacies of the internals of the operating system. Each course, with approximately 40% lab time, allows you to practice what you are learning with examples directly applicable to your job.

START HERE . .

To learn about the HP1000 and its programming environment, you can take advantage of the following courses:

INTRODUCTION TO RTE

A 3-day introduction to RTE-A and RTE-6 concepts for new users. It covers CI, EDIT/1000, compilers, real-time capabilities and the hierarchical file structure.

INTRODUCTION TO PROGRAMMING WITH RTE

A 2-day introduction to the programming environment available on the RTE-A and RTE-6 systems.

LEARN MORE . . .

To become more familiar with your system, you can take advantage of the following courses:

RTE-A PROGRAMMING OR RTE-6 PROGRAMMING

A 5-day continuation to the Introduction to Programming with RTE course for programmers who need to make extensive use of the RTE programmatic services. It covers RTE organization, device I/O and control, class I/O, programmatic file access, EMA and VMA programming and multi-level segmentation.

RTE-A SYSTEM MANAGEMENT OR RTE-6 SYSTEM MANAGEMENT

A 5-day course for system managers or system designers to maintain the RTE system. It covers system generation, installation, maintenance and back-up.

LEARN MORE AND MORE . . .

To learn about the intricacies of the operating system, you can attend the following courses:

INTRODUCTION TO RTE-A INTERNALS OR INTRODUCTION TO RTE-6 INTERNALS

This 5-day course allows you to become more effective in writing application programs or designing system configurations. It covers the

HP1000 Users Group — Membership 1985/1986

Company		
Address: .		
Phone:		
Telex:		
Subscription	on \$12 enclosed: Renewal or New	
Return to	: Norm Kay HP1000 Users Group c/- CSIRO P.O. Box 160 Clayton, 3168	

Cheques should be made payable to 'HP1000 Users Group'

RTE theory of operation and RTE organization — RTE tasks, lists and data structures.

ADVANCED RTE-6 INTERNALS

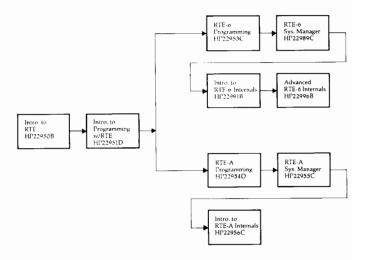
This 5-day course allows you to obtain maximum optimization of the RTE-6 system's operation. It covers the organization and functions of RTE modules.

More information on course contents will be available after June 1. Please contact the Customer Education Co-ordinator for details on (03) 859 2661.

RTE TRAINING

	Product No.	Description	Course Length	HP Site Price	Cust. Site* Price
	HP22950B	Introduction to RTE	3 days	\$578	\$4620
	HP22951D	Introduction to			
		Programming with RTE	2 days	\$385	\$3520
	HP22953C	RTE-6/VM Programming	5 days	\$963	\$8800
	HP22989C	RTE-6/VM System	-		
		Management	5 days	\$963	\$8800
	HP22991B	Introduction to			
		RTE-6/VM Internals	5 days	\$1238	\$10,175
	HP22996B	Advanced RTE-6/VM	,-		
		Internals	5 days	\$1238	\$9487
	HP22954D	RTE-A (VC+) Programming	5 days	\$963	\$8800
	HP22955C	RTE-A (VC+) System			
		Management	5 days	\$963	\$8800
	HP22956C	Introduction to RTE-A			
		(VC+) Internals	5 days	\$1238	\$9213
		, ,			

^{*} Customer site price includes 10 students.



9080

PROGRAMMING IN 'C'

This is a new course directed at HPUX and System Programs. The course objective is to teach the student the principles of designing a written program in C. This course is now available in Sydney on Monday, 8th September at a cost of \$963 for five days or in Melbourne on a demand basis.

"EDUCATION FOCUS" RTE-6VM SESSION MONITOR

Enrolments are now open for an extra training class on RTE-6VM Session Monitor on Monday, June 30 for 10 days at a cost of \$1925. Session Monitor is now only available on a demand basis, so contact the Customer Education Co-ordinator on $(03)\,895\,2661$ to reserve your place now as class numbers are limited.

Purchase the following courses together and qualify for a 10% discount: Fortran 77

Introduction to RTE

Introduction to RTE Programming

or

Introduction to HPUX Series 500 HPUX System Admin.

The only stipulation we make is that the three courses are conducted within six months of purchase date and paid in advance.

This offer is available until July 17.

At last.....full function wordprocessing for HP1000 systems! Introducing.....

MINIWORD

The word processing system for both minis and micros, including :-

- * The Integral* The Portable
- * HP150 Touchscreen
- * HP1000
- * HP9000
- * HP3000
- * IBM PC and compatibles

Now you can choose the solution that is best for you. You decide whether to operate PC or mini-based, or even operate PC-based with built-in links to your mini host!

Call us today! TUSC

Computer Systems Tel: (03) 89**6** 963

QLD: call CES on (07) 356 8066 NSW: call IAS on (049) 581 589 587200 WA: call COMSYS on (09) 381 7877

SPECIFICATIONS FOR SUBMISSION OF ARTICLES AND ADVERTISEMENTS

All material for Crosstalk should be sent to one of the addresses listed below from where it will be forwarded to the co-ordinator for publication. Publication dates are subject to receipt of sufficient material. For specific details contact Glenda Patterson on (03) 895 2576.

ARTICLES: Articles should be typed with any diagrams and program listings in camera-ready form (Author's name, address and phone number should be included).

ADVERTISEMENTS: Display ads. should be in camera-ready artwork form. The printer may be instructed to layout ordinary typeface ads.

CURRENT ADVERTISING RATES:

Full page — \$250 Half page — \$125 Column/cm — \$4

There is a 20% discount on these rates for regular advertisers. Classified ads. are free for user group members, and \$10 each for non-members.

Advertisers will be billed upon receipt of ad. The user groups reserve the right to change rates, limit space availability and reject advertising which is deemed inappropriate.

ADDRESSES FOR SUBMISSION OF ARTICLES AND ADVERTISEMENTS:

HP Technical Computer Users Group, N.S.W. Box 3060 GPO, Sydney, 2001. N.S.W.

Norm Kay, HP1000 Users Group (Vic.) C.S.I.R.O. Box 160, Clayton, 3168, Vic.

H.P.D.C.U.G.V. Chris Simpson Simpson Computer Services. 63 Hartington Street. Kew. Victoria, 3101.

HP Desktop Users Group (N.S.W.) Dr. R. W. Harris, C/o C.S.I.R.O. Division of Mineral Physics, PMB 7, Sutherland, N.S.W. 2232.

FOR SALE

1 9825 A based Audio Production Testing System

The system includes —

- 3 6269B Power Supplies
- 1 9825 A 24K
- 1 9885 Disc Drive
- 1 9878A I/O Expander
- 1 6940B Multiprogrammer
- 1 3455A Digital Voltmeter
- 1 5300B Measuring System
- 1 2131A B & K Digital Frequency Analyser

Software is available to connect the system to run as a horn and audio production testing system. System components can be sold separately

Telephone No. for enquiries (03) 772 7968
Ask for David Butler

WANTED

Obsolete HP Computer Equipment and Manuals, etc.

PLEASE PHONE (02) 764 4855

to negotiate collection.

John Geremin

CLASSIFIED ADVERTISEMENTS

FOR SALE

HP150 Touchscreen Computer

including 15mb Winchester Disc Drive (HP9133)

Six Pen Plotter (HP7475) Epson FX80 Printer Shuttle 1200 baud full duplex modem (Telecom Approved)

All equipment in perfect condition. Purchased May. 1984.

\$7500

(will consider offers for all equipment, or will split, if required)

Includes some software.

Contact Ian Little, (03) 895 2876 for further details.

All prices are negotiable by phoning -

Mr A. Garwood on 729-6477.

Description	Model No.	Condit
HP Flexi Single		
Disc Drive	82902 M	Used
HP Flexi Dual	0270214	Oseu
Disc Drive	82901 M	Used
HP Terminal with	0270111	Osca
Screen	3075A	Used
HP Terminal	007011	Osea
without Screen	3075A	New
HP Terminal with	00/011	riew
Screen	3075A	Used
HP Terminal with	007011	Osea
two Screens	3075A	Used
HP Terminal with	007011	Osca
Screen	3075A	Used
Screen	40204A OPT006	New
Screen	40204A OPT006	New
Screen	40204A OPT006	New
Data Terminal	102011101 1000	11000
Systems	951	Used
2 × 8 Channel Mux	,	Osed
Panel — One B		Used
		Osed
HP 125 Personal C		
Console Unit	45500A	Used
Dual Floppy Disc		
Drive	8201M	Used
Printer	2631B	Used

* SALE * SALE * SALE

The following equipment is for sale. immediate availability:

HP85F — \$3,855.60 — Mint Condition HP8903A — \$7,971.30 —

Mint Condition

Interested parties may contact — **Ron Sebrechts, HP Perth** for further details.

FOR SALE

HP7970B MAG TAPE SYSTEM

including:

Tape Drive, HP13181 controller, cables, mounted in HP Bay.

AUST-AM GRAPHIC SERVICES (054) 430 165

FOR SALE

2 x HP 150 B TOUCHSCREEN PERSONAL COMPUTERS (45660BK) with 15 MB Winchester Disc with integral double-sided 3½ inch diskette. \$7,500 each

3 x HP 150 B TOUCHSCREEN PERSONAL COMPUTERS (45650BK) with dual double-sided $3\frac{1}{2}$ inch diskettes.

\$5,250 eachComprehensive software included in above prices.

Equipment bought new January/March 1985. Contact: A. ANTONIOU (03) 387 2922 Business Hours

FOR SALE OR HIRE

9800 Series Computers, Peripherals & Accessories

- 9835, 9831, 9825, etc.
- Disc-drives, Printers, etc.
- HP Software PAC's
- HP Manuals and Binders
- HP Course folders
- Used diskettes (for 9885)
- Pertec Tape-drive
- 9876A fast Thermal Line-printer (new)
- Greyhound' controller for 7906 (new)
- 98032A Interfaces (new)
- Computer parts

MANY CONTACTS also wish to buy/sell all kinds of desktop computer equipment.

CHRIS SIMPSON — (03) 859 6643

FOR SALE

TWO HP 9111A GRAPHICS TABLETS (HP-1B)

Add interactive graphics control (cursor moving and picking) and a digitising capability to your system.

Purchased in 1983. Maintained in excellent condition since new by HP under current service contract.

AT \$2050 SAVE MORE THAN 50% OFF THE NEW PRICE.

Telephone David Cohn at Wilson Electric Transformers, (03) 560 0411

FOR SALE

HP 1000 E MINICOMPUTER

complete with 2 Mbyte of memory, 3×8 channel Mux boards, fast Fortran

RTE 6 V/M. Image, DGL/AGP, Fortran 77. etc.

Plus:-

HP 7970 B tape drive HP 7912 disc drive HP 2645 A terminal HP 2647 A terminals (2 off) HP 2648 A terminal HP 2608 A line printer plus other items.

AVAILABLE JANUARY 1986

Very interested in moving as one package. however will discuss separate items.

Please contact — Mike Clarke on 4207-233

8

Vra Confuct

ton

886

(57a)