

UNIVERSITY OF QUEENSLAND

Prentice Computer Centre

NEWSLETTER

authorization: Director of the Centre

1 CHANGEOVER OF FORTRAN VERSIONS

Versions of F40, F10 and FOROTS have now been under test on NEW for some time. All these versions are substantially later than the versions on STD and, particularly in respect of FOROTS, a number of consultation problems have been traced to errors in the STD versions which are fixed in the NEW versions. In the near future, the following changes will be made. Details of the actual changeover date will be given in NOTICE.TXT.

F40 V26A now on STD: will be transferred to OLD:

F40 V27(360) now on NEW: will be reassembled to include the object code address in the listing and put onto STD:

F10 V1A(124) now on STD: will be transferred to OLD:

F10 V4(210) now on NEW: will be transferred to STD:

FOROTS & FORLIB V3(340) now on STD: will be transferred to OLD:

FOROTS & FORLIB V4B(460) now on NEW: will be reassembled to include some local changes and transferred to STD:

The changes to be made to FOROTS/FORLIB are -

- (a) The U.Q. NEWLIB functions are included. These are ENTIER, INTIER, BYTE, IBYTE, OVERLA, ICOST, JOBBAL, JOBDEV, JOBIO, .MXFOR.
- (b) The device table is changed so that units 5 and 6 default to teletype and all other units to DSK.
- (c) Digital plotting routines have been removed.

These changes should provide all the facilities now available in the present STD: version of FOROTS except for a difference in the handling of ERR= and the new version is known to correct a number of reported errors. To provide for users of the older ERR= option, a version of FORERR, the routine which has been changed, will in

due course be put onto REL: and may be loaded with those special programs that require this facility.

The versions on OLD: will be deleted a month after the changeover and users who have problems are urged to have them resolved before this time through the consulting service.

2 REMOVAL OF FORSE

There are at present two flavours of Fortran operating system - FOROTS and FORSE. FOROTS is currently (and has been for the last two years) the only one supported by Digital and has for most of this time been the default system used. FORSE is used by a number of older programs and in fact several versions exist because of particular programs which were loaded to specify a particular version.

The Centre is not in a position to continue supporting FORSE as well as FOROTS and thus FORSE in all its variants is to be removed from the system at the end of April. Users who have saved programs invoking various versions of FORSE will have to recompile and resave them by that date.

Please contact the consulting service or C. de Voil if the removal of FORSE is likely to cause other problems to you.

3 ERSATZ DEVICE NAMES

When the Centre released the first 5.07 monitor in late September 1974, a note was made of the fact that an incompatibility existed between the standard Digital usage of ersatz device names and that current in earlier UQ monitors (N-171 & N-172). At that time, as an aid to conversion of procedures, an interim patch was made to give recognition of the older UQ 4 character names in most cases.

We have discovered that we never actually got around to removing this interim patch and since it has some mildly undesirable side effects, we have taken steps to remedy the situation. Within the next fortnight, a new monitor will be assembled without this patch - the actual date will be announced in NOTICE.TXT.

4 NEW DEALLOCATION PROCEDURE

A new terminal deallocation procedure was implemented on 8.3.76. The following differences from the previous procedure will be noticed:

- 4.1 Every terminal is given 60 seconds use of the line from time of allocation (i.e. typing initial ↑C). Lines will never be deallocated within 60 seconds of typing the initial ↑C. (This does not apply to lines allocated by ALCTTY which are always deallocated as 4.2(d) and (e) below).
- 4.2 After the initial 60 seconds have elapsed, lines will be deallocated immediately the output ceases for any of the following events:
 - (a) A logged in job logs out.
 - (b) A logged in job is detached.
 - (c) An unlogged in line gives any of the following - HELP, INITIA, SYSTAT, QUEUE (or equivalent) commands.
 - (d) An assigned terminal is deassigned.
 - (e) An inited terminal is released.
- 4.3 Lines which never fit into categories (a) to (e) above will be deallocated on demand. That is, the line will be deallocated when 60 seconds have elapsed and someone else requires the line.
- 4.4 Deallocation will continue to be notified by the *DEALLOCATED* message only when deallocated under 4.3 above.

5 MICROPROCESSOR SEMINAR - MAY 12-13-14

Perhaps one of the most significant technical advances of recent times in computer technology has been the availability of an 8-bit processor on a single chip selling at around \$60 (commonly referred to as a microprocessor). Typically, such processors execute between 50 to 70 different instructions (basic arithmetic, shift and control instructions) and provide execution times of around 3 to 4 microseconds. They are usually associated in configurations with low cost random access memory, a read only memory (for program storage) and peripheral interface chips.

We believe that such systems have important application within the University environment in providing greater intelligence and control in instrumentation and specific use terminals as well as data communications. Certainly, the availability of microprocessor technology has commenced to revolutionize computer architecture and, apart from specific applications within Departments, there is good reason for those involved in computing and instrumentation to be generally aware of developments.

The Department of Computer Science and the Prentice Computer Centre have been actively engaged in the study of microprocessors and their applications in some areas. Although we do not pretend to be experts at this stage, we feel that we have obtained sufficient knowledge and experience to conduct a useful seminar.

The
SEMINAR:

The University of Queensland Prentice Computer Centre in conjunction with the Department of Computer Science is holding a seminar on microprocessors and microcomputers.

Time: 0900 - 1700 hours
Date: May 12-13-14
Venue: University of Queensland
Lecture Theatre: To be advised to those who register to attend the seminar.
Registration: On the attached form by 23 April 1976.

SYNOPSIS:

The Prentice Computer Centre and Department of Computer Science have selected the Motorola M6800 Microprocessor System for several projects, which include "intelligent" terminal (printers, plotters, digitiser) interfacing to the PDP-10 Time Share System and Flexible Disk Controllers to PDP-11 and TI 980A Minicomputers. A hardware packaging system has been developed to this end and software development is well supported with the Motorola Exorciser and the Cross Assembler and Simulator on the PDP-10 Time Share System.

The co-seminar will cover:

1. Opening remarks by Professor Gordon Rose, Head of the Department of Computer Science.
2. General Introduction to Microprocessors and Microcomputers.
The seminar will be specifically oriented to the M6800 system. However, the currently available range and types will be summarised.
3. The M6800 System.
 - system family and architecture
 - instruction set
 - programming and techniques

This section will be supported with slides from Motorola.

4. M6800 Support System.
 - assembler & simulator
 - exorciser
 - ROM loaders
 - operating systems.
5. University of Queensland design.
 - general philsophy of the U.Q. design including the hardware packaging system
 - MPU and options
 - DMA access
 - Memory modules
 - I/O modules
6. Case Studies.
 - Diablo Printer & Keyboard
 - U.Q. Electrical Engineering Department
 - Flexible Disk
7. Closing remarks by Director, Prentice Computer Centre.

ENTRY:

The seminar is open free to all University of Queensland and Griffith University Staff and Post-Graduate Students and at a nominal cost of \$150 to other participants.

All attendees will receive copies of the lecture notes and be invited to use the Cross Assembler and Simulator on the PDP-10 Time Share System and the Motorola Exorciser at no additional charge.

The seminar will be aimed at the system designer or system analyst level. A good technical and/or software background would be a desirable pre-requisite.

LITERATURE:

Attendees will be able to purchase Motorola M6800 manuals during the seminar:

Introductory Material	\$2.00	(this is a must)
Programming Manual	\$10.00	(also good)
Applications Manual	\$35.00	

All microprocessor suppliers have been invited to make available, free or at cost, any relevant literature and this can be ordered during the seminar.

