

C.S.I.R.O. COMPUTING RESEARCH SECTION

NEWSLETTER NO. 7 - 1.12.65

POLICY CHANGE REGARDING THE NEWSLETTER

It has been decided that for the next few months as an experiment the Newsletter will be issued regularly once a month. This will mean that information on system changes or proposed changes will reach the user more rapidly than hitherto.

The presentation of the Newsletter will also be changed so that it will be sectioned as below:

- I General i.e. of interest to all users
- II 3600 i.e. of interest only to 3600 users
- III 3200 i.e. of interest only to 3200 users.

Section III will also be partitioned when appropriate into three parts, Adelaide, Melbourne and Sydney to cover items of interest local to those centres.

In future the Newsletter will not list all of the Section's publications and subroutine write-ups. Only those issued since the previous Newsletter will be included. Newsletter No. 6 contains a full list of all the Section publications up to 1.10.65.

I GENERAL

FUTURE FORTRAN COURSES AND LECTURES

Basic Fortran:

Adelaide, December 6th-10th. Details D.C. Knight
Phone 235511

Canberra, December 13th-17th. Details J.S. Armstrong
Phone 40455 ext 519

Advanced Fortran:

Adelaide, December 8th. 2.00 p.m.

Interpretation of Fortran, Scope and Compass Diagnostics.

Adelaide, December 9th. 2.00 p.m.

Debugging Hints and Optimum Programming Techniques
Details D.C. Knight. Phone 235511

These advanced lectures together with one on the topic
"Interpretation of Compass Listings of Fortran Programs" will
be given in each centre in due course.

SEMINAR

List Processing - Dr. W.M. Waite.

Canberra - 24th February. 3.30 p.m. (Computer Building)

Details J.S. Armstrong. Phone 40455 ext 519.

COMPUTING IN THE C.S.I.R.O.

Following the previous announcements of a series of two
day conferences on "Computing in the C.S.I.R.O." the first
two have been held in Canberra and Sydney during October and
November respectively. Similar conferences are being organised
for Adelaide and Melbourne for February, 1966.

II 3600

EFFICIENT USE OF TAPE UNITS

On the 3600 there is a shortage of tape units. It would
be helpful and occasionally save time for the user if each tape
was unloaded immediately after reading from or writing on it
was completed. This is particularly important when jobs use
several units.

The above remarks apply only to those units which are to
be saved. Scratch units of any logical unit number must not
be unloaded.

For units used during execution the programmer should
CALL UNLOAD (i) (C.R.S. Manual Supplement No. 8).

For units from which programs are loaded, the UNLOADT macro
(C.R.S. Technical Note No. 10) should be used.

e.g. $\begin{matrix} 7 \\ 9 \end{matrix}$ LOAD,15

$\begin{matrix} 7 \\ 9 \end{matrix}$ UNLOADT,15

$\begin{matrix} 7 \\ 9 \end{matrix}$ RUN

The UNLOADT macro consumes at most 64 locations, and should rarely inconvenience the programmer. The UNLOAD subroutine uses even fewer locations.

The M.S.U. statistical routines are now on the 3600 library tape. The alterations in deck structure will be publicised in Manual Supplement No. 20.

MATHEMATICAL PROGRAMMING

Facilities are now available for solving problems in linear programming (revised simplex with product form inverse) certain non-linear systems (separable programming), integer programming (Gomory) and the Hitchcock-Koopmans transportation problem (Ford and Fukerson). Intending users should contact J.A.B. Palmer, 40455 extension 507.

III 3200

NEW FORTRAN SYSTEM

3200 Fortran 2.0 is now available at the subsidiaries. This version permits the use of an extended set of statements and gives improved compatibility with 3600 Fortran. A Manual Supplement indicating the changes will be issued shortly.

COBOL and SORT/MERGE

The commercial programming language COBOL and the SORT/MERGE system are being implemented at the subsidiaries. Enquiries to local computer manager.

TIME and PRINT LIMITS

Time limits on 3200 JOB and RUN cards can be three decimal digits. Print limits should now be included on the 3200 RUN card in the same way as for the 3600 RUN card.

SECTION PUBLICATIONS

Manual Supplement No. 19, Additions to the 3200 System Library. (Ref. Pubs. 3200 SCOPE/COMPASS Manual 60057700, Technical Note No. 10, Manual Supplement No. 8) D.C. Knight. October, 1965.

MATHEMATICAL FUNCTIONS

* New versions of the mathematical functions in the 3200 Fortran Library have been provided. The following table gives comparative times:-

<u>Function</u>	<u>New Time</u>	<u>Old Time</u>
SORT	430 μ secs	1180 μ secs
EXPF	580 "	2280 "
ALOG	510 "	2160 "
ATAN	650 "	2080 "
POWER	1280 "	4720 "

The SIN/COS functions will be amended shortly.

NOTE ON MANUAL 60057700

There is a list of IØ error diagnostics on Page 9-7 of the 3200 Scope/Compass Reference Manual (Pub. No. 60057700), which is not mentioned in the list of contents.

ADELAIDE

STATISTICS

The following table gives average statistics for network usage in Adelaide over the past 3 months.

	Total (per month)	Use by C.S.I.R.O.	Use by University	Use by Comm.Gov.	Use by State Gov. and others
3200 No. of Jobs	2200	22%	68%	5%	5%
3200 time used	167 hrs	29%	60%	4%	7%
3600 No. of Jobs	160	37%	52%	10%	1%
3600 time used	8 hrs	39%	47%	13%	1%