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2. DISCUSSION

2.1 PROGRAM DESCRIPTION

MAINPL/LEMSCO is a modified version of the modified G-189A routine MAINPL/G that provides for the utilization of the DISSPLA plotting software, replacing the original SC-4060 software package. These modifications do not alter the program description as it appears in reference 1.

2.2 PROGRAM CAPABILITIES

In addition to the capabilities and program options offered by MAINPL/G that are documented in reference 2, MAINPL/LEMSCO provides the user with a choice of plotted output types consisting of Tektronix or FR80 microfilm. It should be noted, however, that since most G-189A computer models exceed the present demand mode core restriction of 45,000 words exclusive of the core storage required by the DISSPLA package (approximately 40,000), the on-line Tektronix option will rarely be available.

It is possible, however, to produce Tektronix plots by using the Tektronix option.in BRKPT in batch mode (see figure 1 (a) and by later reading the print file on the Tektronix terminal (figure 2).

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15. Supplementary Notes

16. Abstract

Data from a G-189A execution is formatted and plotted. The plotting may be done at the time of execution of the program. DISSPLA plot packages are used. The user has the choice of FR80 or TEKTRONIX output.

17. Key Words (Suggested by Author(s)) FR80 Tektronix	18. Distribution Statement		
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CONTENTS

1. INTRODUCTION

The G-189A computer program plotting package (reference 1) has been updated to replace existing plot packages with the DISSPLA software system and to provide for the use of the on-line data plotting capabilities described in reference 2.

This work was done to partially fulfill the requirements of Task TA-81-2 of Job Order 51-209.

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option.in BRKPT in batch mode (see figure 1 (a) and by later reading the
print file on the Tektronix terminal (figure 2).

3. INPUT DESCRIPTION

Data input required by MAINPL/LEMSCO is identical to that required by MAINPL/G with the exception of one card - a device designating card that must be placed in the data deck immediately following the ENDC card. The user specifies the plotting hardware device by simply putting the device name (i.e. Tektronix or FR80) on this card, starting in card column 5. For example for FR80 microfilm plotting, the user punches the letters FR80 (correct spelling is not necessary since the first character is the only one interrogated).

All other data cards are identical to those required for execution of G-189PL/P and are described in section 10 of reference 1.

Runs generating FR80 microfilm require the assignment of a magnetic tape with the filename $P-PLOT. This filename is equated to unit 8 (see figure 1 (b)). No tape or other devices are required for the generation of Tektronix plots, but the print file must be saved via secure file element to be read on the Tektronix.

Runstream control cards to save plot data in the required element are shown in Figure 1 (a). Control cards required to plot data on the Tektronix are shown in Figure 2.

4. OUTPUT DESCRIPTION

See figures 3 and 4 for sample FR80 and Tektronix plots.

5. REFERENCE

1. G-189A Generalized Environmental/Thermal Control and Life Support Systems Computer Program, MDAC-G2444 McDonnel Douglas Aeronautics Co., Huntington Beach, California, September 1971.

2. DISSPLA Plotting Routines for the G-189A EC&LS Computer Program, LEC-13339 Lockheed Electronics Company, Inc., Houston, Texas, May 1979.

```
@RUN
@ASG,CP PRTFIL.
@BRKPT PRINT$/PRTFIL
@PREP
@MAP, SW SEGPRG/LEMSCO, SEGPRG/LEMSCO
@XQT SEGPRG/LEMSCO
@BRKPT PRINT$
@FREE PRTFIL.
@COPY,I PRTFIL., SECFIL.ELT
```

Figure 1 (a) Control Card Set Up To Save File Element for Tektronix Plots.

```
@RUN
@JSC*CALLUP.TAPELABEL                          (REQUIRED FOR FR80)
@ASG,T $P-PLOT.,U9V,,1^.^FIFR80 PACKED MODE     (REQUIRED FOR FR80)
@USE 8.,$P-PLOT.                               (REQUIRED FOR FR80)
@PREP
@MAP,SW SEGPRG/LEMSCO, SEGPRG/LEMSCO
@XQT SEGPRG/LEMSCO
@FREE^8.
```

Figure 1 (b) Control Cards Required In Runstream to Effect FR80 Plots.
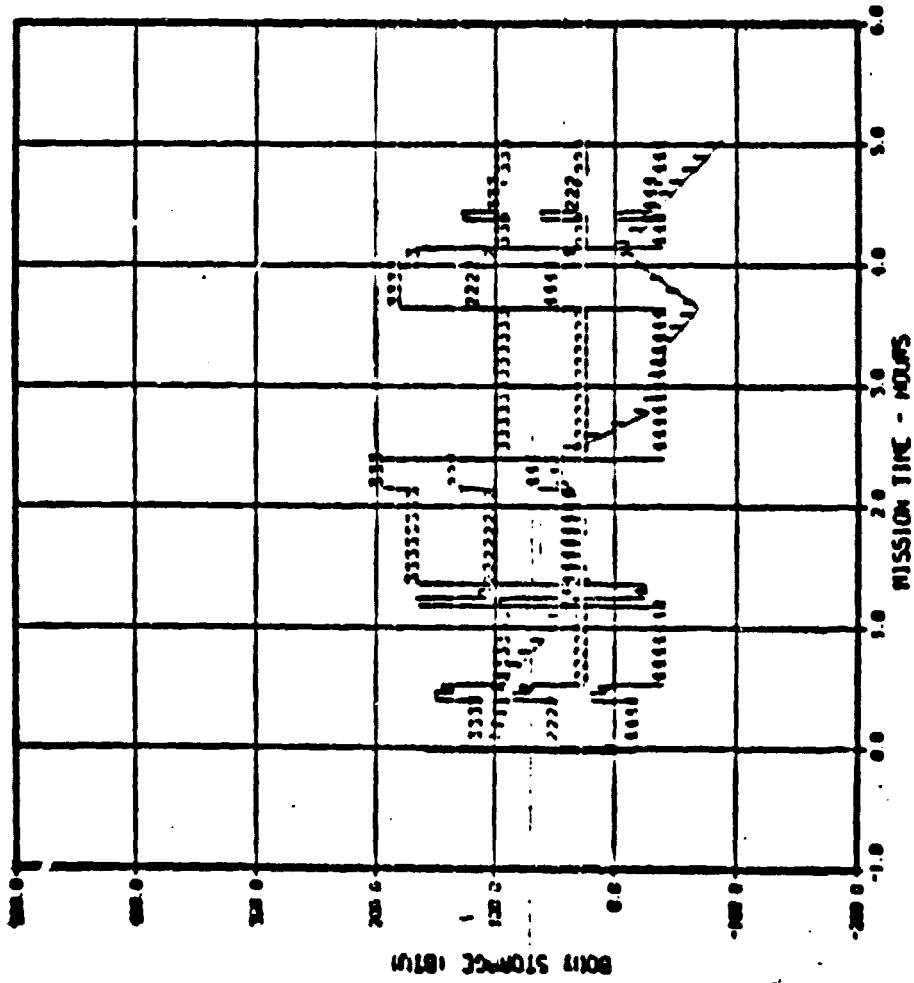
Figure 1. - Sample runstreams.

1. @ED,R SECFIL.ELT

2. To avoid printing the entire G-189 printout
   O:>L PLOTTING CC'MENCING

3. To print plots on screen
   3800:>P 10000

4. 9820:>ASCII ON

   To make sure element is converted to fielddata.

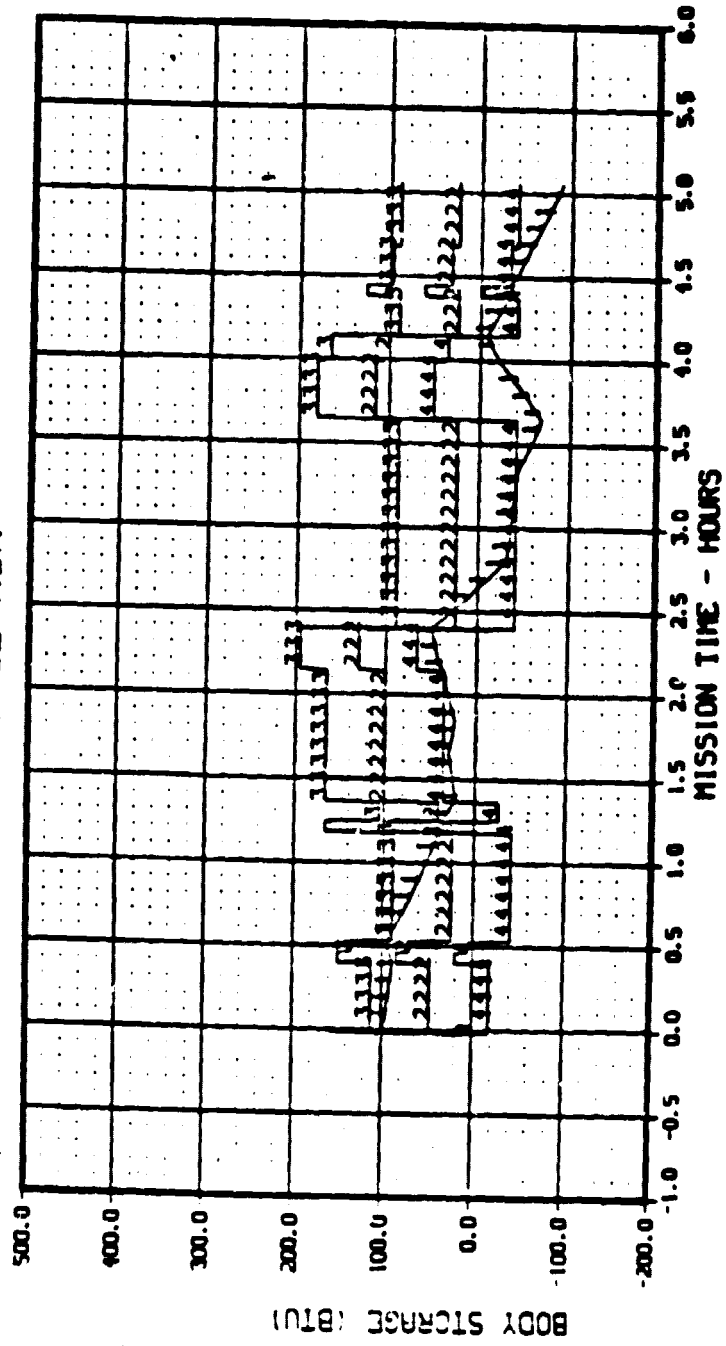Figure 2. - How To Read Plot Print File Data to Plot on Tektronix.

Figure 3. - Sample FR80 Plot

Figure 4. - Sample Tektronix Plot