

Technical Bulletin

Name..... OS/3.....
..... Bulletin #5.....
Order No..... UP-8605.5.....

OS/3 TECHNICAL BULLETIN

This bulletin contains user considerations for:

OS/3 Release 5.2 Data Utilities.

The document also contains a formula for calculating the memory size of the product.

Request additional copies by submitting Sales Help Requisition form (UD1-578) through your local Sperry Univac representative to:

CUSTOMER INFORMATION DISTRIBUTION CENTER (CIDC)
Sperry Univac
555 Henderson Road
King of Prussia, PA 19406

Lists:	Bulletin No.:	Date:
18, 19, 20, 21, 75, 76, CZ	5	May, 1979

OS/3 TECHNICAL BULLETIN SUMMARY

The following Technical Bulletins are published for the OS/3 system. Current items are identified with an "*" in column one; scheduled items are identified with an "***" in the date column:

<u>SYSTEM</u>	<u>DATE</u>	<u>ORDER#</u>	<u>ITEM and DESCRIPTION</u>
*OS/3	1/78	UP-8605.1	OS/3 Technical Bulletin #1 (This document presents an overview of the UTS400 support and gives some user guidelines.)
*OS/3	3/78	UP-8605.1-A	OS/3 Technical Bulletin #1 -A (This update contains page replacements to UP-8605.1.)
*OS/3	4/78	UP-8605.2	OS/3 Technical Bulletin #2 (This document provides a list of the options that can affect the performance of an OS/3 IMS 90 system.)
*OS/3	1/78	UP-8605.3	OS/3 Technical Bulletin #3 (This document is a User Guide for the UTS400 CHARACTER PROTECTION MODE available with release 4.3.)
*OS/3	7/78	UP-8605.3-R1	OS/3 Technical Bulletin #3-R1 (This document contains updated guidelines for the UTS400 CHARACTER PROTECTION MODE available with release 5.0.)
*OS/3	11/78	UP-8605.4	OS/3 Technical Bulletin #4 (This document contains information on the use of the 8413 DISKETTE FILE CREATION UTILITY.)
*OS/3	5/79	UP-8605.5	OS/3 Technical Bulletin #5 (This document contains information on the use of DATA UTILITIES for OS/3 Release 5.2.)
*OS/3	12/78	UP-8605.6	OS/3 Technical Bulletin #6 (This document contains information on the use of IMS 90 Multi-Thread.)

OS/3 TECHNICAL BULLETIN SUMMARY (cont'd)

<u>SYSTEM</u>	<u>DATE</u>	<u>ORDER#</u>	<u>ITEM and DESCRIPTION</u>
*OS/3	3/78	UP-8605.7	OS/3 Technical Bulletin #7 (This document contains information concerning techniques for processing unordered IRAM files.)
OS/3	**	UP-8605.8	OS/3 Technical Bulletin #8 (This document contains information on the use of CHARACTER PROTECTION MODE UTILITY for the UTS400) This utility is available with Release 5.2/5.2.1.
OS/3	**	UP-8605.9	OS/3 Technical Bulletin #9 (This document contains information on the use of the IBM 3741 MEDIA COMPATIBILITY UTILITY for the UTS400) This utility is available with Release 5.2/5.2.1.

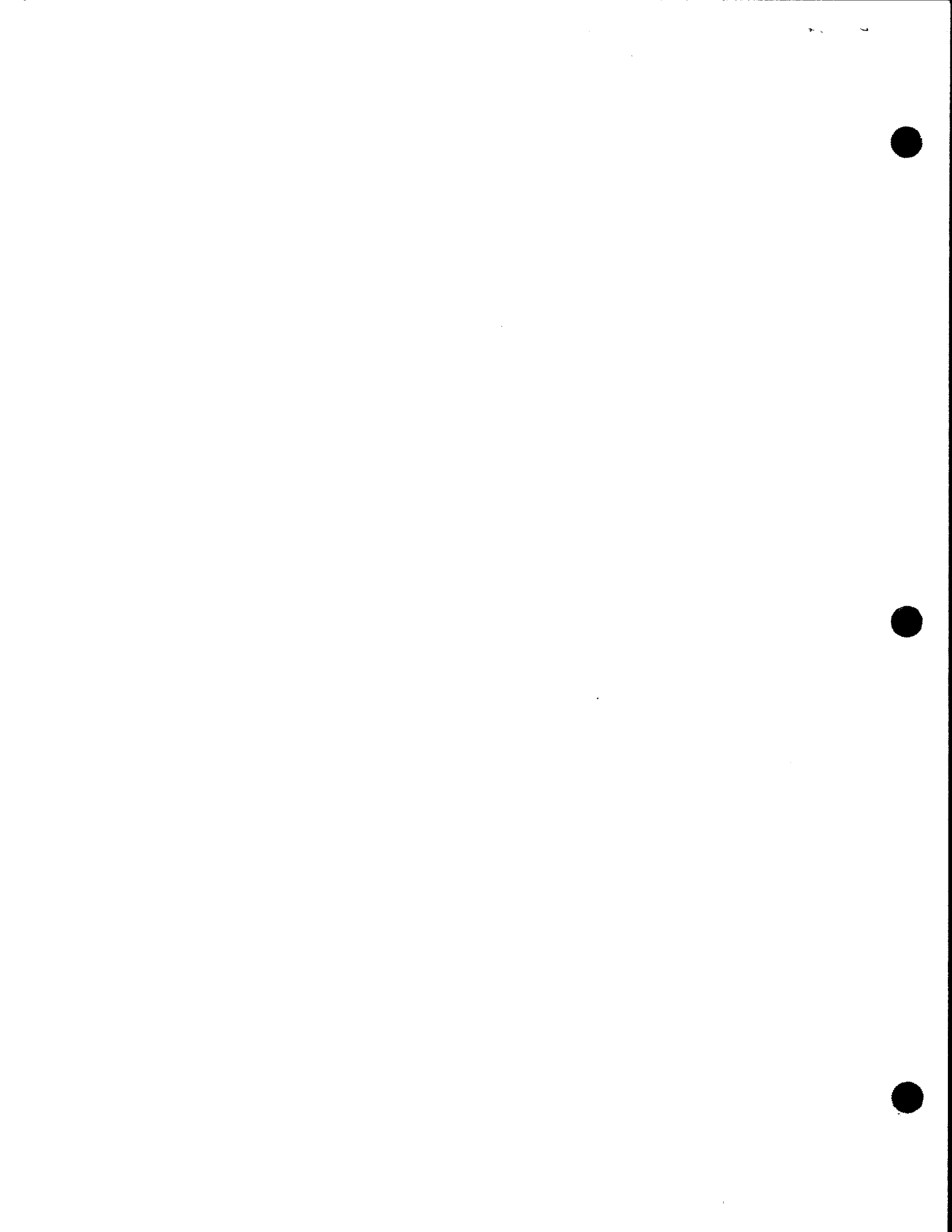
Note: Technical Bulletins are issued as they become available, and may or may not be issued in sequential order.

OS/3 Release 5.2

DATA UTILITIES

Technical Bulletin #5

Contains General Information
and the formula for calculating
the memory size of the product.



CONTENTS

<u>DESCRIPTION</u>	<u>PAGE</u>
1. GENERAL INFORMATION	1
2. DATA UTILITY FORMULA	2
3. USER COMMENT SHEET	6



2

1. GENERAL INFORMATION

There will be two versions of OS/3 Data Utilities available on Release 5.2. The load module name is always DATA. The new version of the product will be in the load library (\$Y\$LOD). If the previous version is desired, then the user must relink the product in the field. The Data Utilities can only be linked when the SYSRES pack contains the SYSGEN file SG\$OBJ. There are two JPROCS available for the purposes of linking the two version of Data Utilities. Note: That in a non-shared Data Management environment the version of the Data Utilities you are using should always be relinked whenever a Data Management patch is applied.

```
RU J$LINKDU, [SHARE= { YES } ] [OUT=VSN  
                { No  } ]
```

This will cause the Pre R5.2 version of Data Utilities to be linked into \$Y\$LOD. If SHARE=YES is specified, then shared Data Management modules will be linked in and the system should be generated with shared Data Management. If SHARE=NO is specified, then non-shared Data Management is linked in. The optional OUT=VSN parameter is provided to redirect the load module from \$Y\$LOD on the SYSRES pack to \$Y\$LOD on the volume specified in the OUT=VSN parameter.

```
RU J$DULINK, [SHARE= { YES } ] [OUT=VSN  
                { No  } ]
```

This will cause the R5.2 version of Data Utilities to be linked into \$Y\$LOD. If SHARE=YES is specified, then shared Data Management modules will be linked in and the system should be generated with shared Data Management. If SHARE=NO is specified, then non-shared Data Management modules will be linked in. The optional OUT=VSN parameter is provided to redirect the load module from \$Y\$LOD on the SYSRES pack to \$Y\$LOD on the volume specified in the OUT=VSN parameter.

2. Data Utility formula

Most Data Utility executions will run in 32K bytes of memory. If a more accurate size is required (larger or smaller), the following formula may be used:

$M = \text{Maximum of } (24000, B)$

where: M - is the minimum amount of memory required for this job.

B - is the total size of the required functional routines, DTF's and IOCS modules, and Data Management buffers. B can be calculated by using the following formula:
 $B = (16000 + FT + IOT + C + D + E + F + G + H)$

where: FT - is the total size of the functional routines required by this job. The sizes of the available functional routines are specified in the functional routine table, along with the parameters that specify the function.

IOT - is the size of all DTF's and IOCS modules for all files used in this job. Printer file DTF's and IOCS modules are included in the Printer Routine size in the functional routine table, so printer files are not included in this value. If non-Shared Data Management is used, then the non-shared I/O Routine table should be used to calculate this value. If Shared Data Management is used, then the Shared Data Management I/O Routine table should be used to calculate this value.

- C - is the INPUT1 record size from the first entry of the A=() parameter.
- D - is the INPUT1 block size from the second entry in the A=() parameter.
- E - is the INPUT2 or OUTPUT1 record size from the first entry of the B=() parameter.
- F - is the INPUT2 or OUTPUT1 block size from the second entry of the B=() parameter.
- G - is the INPUT1 Key length from the first entry of the V=() parameter. This is used for ISAM or IRAM files only!
- H - is the INPUT2 or OUTPUT1 Key length from the second entry of the V=() parameter. This is used for ISAM or IRAM files only!

Functional Routine Table

FUNCTION	INVOKING PARAMETER	SIZE (DECIMAL)
Correction	COR Statement	6300
Select/Delete	SEL/DEL Statement	1400
Field Selection	FS Statement	3000
Sequence Numbering	Q=() Parameter	1000
Sequence Checking	X=() Parameter	700
Compare	K2 Parameter	2000
COPY	K1 Parameter	1600
Print Routine	UCP,UTP,UDP,or DP	5100

I/O Routine Table (Non-Shared DM)

 	INPUT1	INPUT2	OUTPUT1	OUTPUT2
CARD	800	800	1200	1400
SAM DISK	2300	2300	2200	
TAPE	3700	3700	3500	
ISAM DISK	3000	3000	2000	
DAM DISK	1600	1600	1600	
NI DISK	4300	4300	4200	
IRAM DISK	2800	2800	2800	

I/O Routine (Shared DM)

	INPUT1	INPUT2	OUTOUT1	OUTPUT2
CARD	120	120	120	120
SAM DISK	260	260	260	
TAPE	260	260	260	
ISAM DISK	390	390	390	
DAM DISK	260	260	260	
NI DISK	790	790	790	
IRAM DISK	340	340	340	

Example 1. SAM Disk to Tape Copy

UDT A=(128,256), B=(128,1024), IS,K1

B=(16000+FT+IOT+C+D+E+F+G+H)

FT= COPY → 1600

IOT= SAM DISK INPUT = 2300

TAPE OUTPUT = 3500

3500 + 2300 = 5800

C= input record size = 128

D= input block size = 256

E= output record size = 128

F= output block size = 1024

G&H are for ISAM & IRAM files only.

(FT) (IOT) (C) (D) (E) (F)

B=(16000+1600+5800+128+256+128+1024)=24,936

M=MAX(24000,24,936)=24,936=X'6168'

Example 2. ISAM Disk to ISAM Disk & Printer Copy

UDD A=(122,256), B=(122,256), DP,TD,OB,PY,II,OI,
V=(20,20), W=(0,0)

B=(16000+FT+IOT+C+D+E+F+G+H)

FT= Copy → 1600 (K1 by default)

Print Rtn. → 5100

1600+5100=6700

IOT= ISAM INPUT1=3000

ISAM OUTPUT1=2000

3000+2000=5000

C= INPUT1 Rec Size = 122

D= INPUT1 Block Size = 256

E= OUTPUT1 Rec Size = 122

F= OUTPUT1 Block Size = 256

G= INPUT1 Key Size = 20

H= OUTPUT1 Key Size = 20

$$\begin{aligned}
 & \text{(FT) (IOT) (C) (D) (E) (F) (G) (H)} \\
 B &= (16000 + 6700 + 5000 + 122 + 256 + 122 + 256 + 20 + 20) \\
 B &= 28,496
 \end{aligned}$$

$$M = \text{MAX}(24, 000, 28,496) = 28,496 = \text{X}'6F50'$$

Example 3 Card To Tape Compare with Field Select

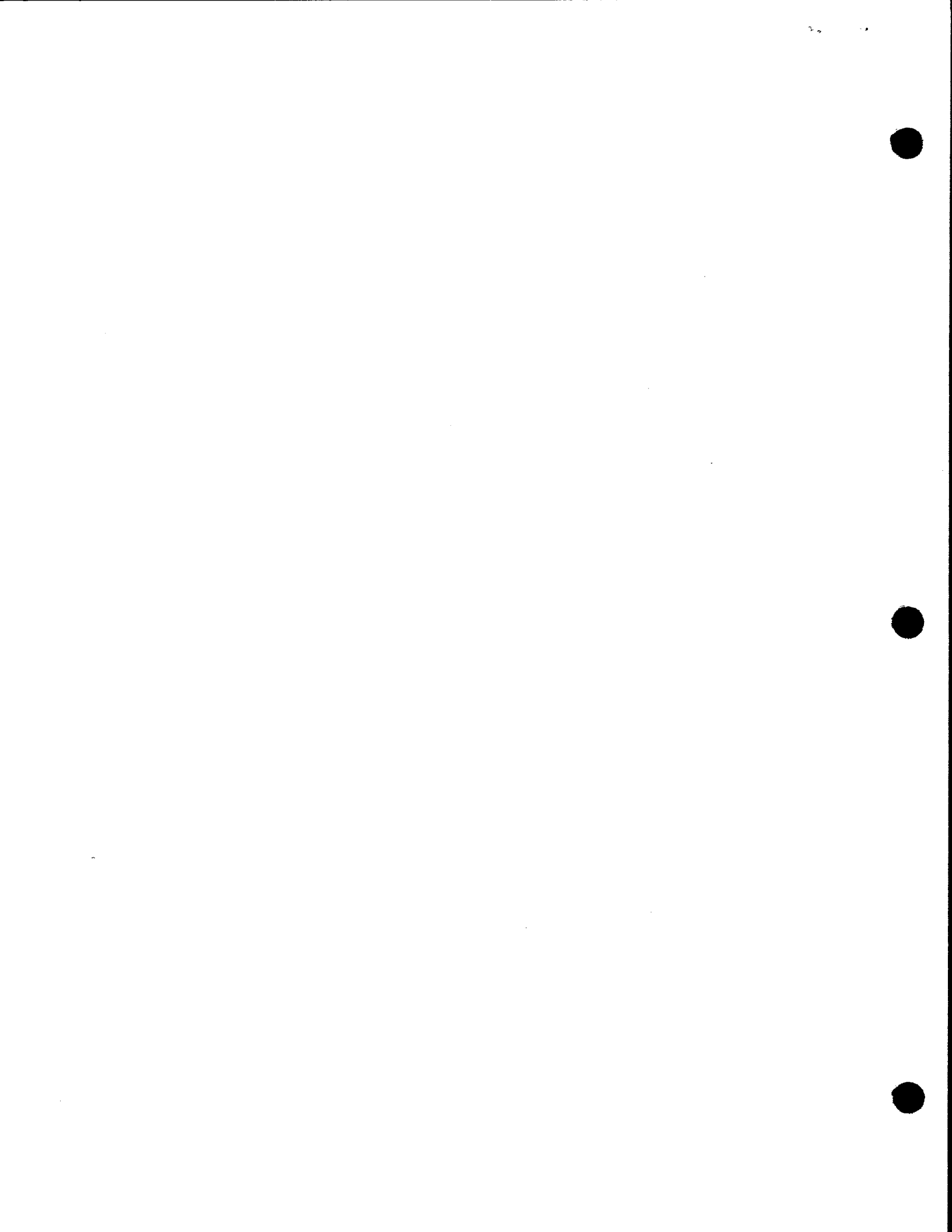
UCT A=(80,80), B=(80,800), OR,K2
 FS 1,5,1/6,10,70/20,10,20

$$B = (16,000 + \text{FT} + \text{IOT} + \text{C} + \text{D} + \text{E} + \text{F} + \text{G} + \text{H})$$

FT=compare → 2000
 Field Select → 3000
 2000+3000=5000
 IOT=Card INPUT1 → 800
 Tape INPUT2 → 3700
 800+3700=4500

C = Input1 Rec Size = 80
 D = Input1 Block Size = 80
 E = Input2 Rec Size = 80
 F = Input2 Block Size = 800
 G&H = Only for IRAM & ISAM
 (FT) (IOT) (C) (D) (E) (F)
 B=(16000+5000+4500+80+80+80+800)
 B=(26540)

$$M = \text{MAX}(24000, 26540) = 26,540 = \text{X}'67AC'$$



USER COMMENT SHEET

Your comments concerning this document will be welcomed by Sperry Univac for use in improving subsequent editions.

Please note: This form is not intended to be used as an order blank.

(System)

(Release)

(Level)

(Document Title)

(Issue Number)

(Revision Number)

(UP- Number)

(Revision Number)

Comments:

From:

(Name of User)

(Business Address)

Fold on dotted lines, and mail. (No postage stamp is necessary if mailed in the U.S.A.)
Thank you for your cooperation

1 1/2



CUT



FOLD



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

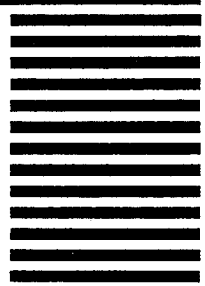
FIRST CLASS PERMIT NO. 21 BLUE BELL, PA.

POSTAGE WILL BE PAID BY

SPERRY UNIVAC

ATTN.: SERIES 90
SOFTWARE CONTROL

P.O. BOX 500
BLUE BELL, PENNSYLVANIA 19424



FOLD