

SHARE PROGRAM LIBRARY AGENCY



PROGRAM NUMBER

234006

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SHARE PROGRAM LIBRARY SUBMITTAL FORM



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SPLA CONTROL NUMBER: SHR00269

This form should be completed and submitted with the program package to the SHARE Program Library Agency at the address shown above. Standards and instructions for submitting programs are in the SHARE Reference Manual, Section 6.

- (1) Program Number (to be filled by SPLA) 370D-23.4.006
- (2) Title of Program IBM NUMERICAL CONTROL PAPER TAPE INPUT/OUTPUT ROUTINES
FOR SUPPORT OF IBM MVS/370 AND PROPOSED MODIFICATIONS
TO SUPPORT IBM MVS/XA OPERATING SYSTEM. DEVICE IS 2671
- (3) System Type(s) (Machine) 33xx, 30xx and 43xx
- (4) Search Key(s) Numerical Control Paper Tape, N/C Paper
Tape I/O Devices, Paper Tape Read/Punch
IBM 2671, NC Paper Tape I/O Sam Support
- (5) Programming Systems/Languages Assembler and Macro
- (6) Primary Subject Code Manufacturing(23), Numerical Control
(4)
- (7) Minimum System Requirements Any MVS/XA supported IBM System 30xx, 33xx and 43xx
- (8) New (N) or Revision (R) (if revision, show prior Program Number in Item 1) N
- (9) Date of Submittal November 1, 1983
- (10) Documentation (number of original pages submitted) 3 attachment pages and
program listings
- (11) Author's Name and Address IBM Corporation
Dept. 7C2 NADHQ
1133 Westchester Avenue
White Plains, NY 10604
- (12) Direct Technical Inquiries to Name & Address (if different than Author) Mr. Theodore Antonio
IBM Branch Office No. 270
2200 Whitney Ave.
Mamden, CT 06518
- (13) Submitter's Installation Membership Code IBM Corporation - Irving, TX
- (14) Abstract (should contain sufficient information for a reader to determine the value of the program). Listed on the reverse side of this form are subjects which may serve as a guide for a descriptive abstract.

SHARE PROGRAM LIBRARY SUBMITTAL FORM

Subject Guide:

- Purpose
- Programming Language used
- Version and modification level or release number
- Field of application
- Type of routine (main program, subroutine, etc.)
- Specific description of machine requirements

Purpose: To support IBM paper tape read/punch (2671) under IBM MVS/XA Operating System. Other IBM devices can be supported by modifying the "IODEVICE" Macro.

ROUTINES: 13 translation routines in source and object form are included. In addition, the SYSGEN source "IODEVICE" Macro is included with proposed modifications.

Field of Application: NUMERICAL CONTROL PAPER TAPE I/O DEVICES.

Types of Routines: See ATTACHMENTS I, II, and III.

Specific System Requirements: 2822 Control Unit , 2671 Paper Tape I/O Unit and RPQ No.

MM4950.

PLUS: Attached to any IBM System Supported Under MVS/XA Operating System (30xx, 33xx and 43xx).

Installation Procedures:

- 1.) Dump and restore the tape.
- 2.) Customise the JCL.
- 3.) Modify the IODEVICE Macro.
- 4.) Link Edit The 13 routines.
- 5.) Run a sample problem and compare results.

P. S.) IBM Customers should consult their local Systems Representative to for MVS/XA Requirements and RPQ No. MM 4950.

(Please attach additional pages if necessary) Total pages attached 3

An "Acknowledgement of Assistance" statement must be attached to this Submittal Form.

Permission to Publish

"I hereby give the SHARE Program Library Agency permission to reprint, reproduce, and distribute this program"

(15) Signature of Submitter and Date Badr S. Asmail 11-11-83

(15) Signature of Installation Addressee John A. Arthur

DISCLAIMER

ATTACHMENT I

N/C SAM I/O DEVICE SUPPORT UNDER IBM MVS/XA OPERATING SYSTEM.

November 11, 1983

TAPE CONTENTS:

There are seven files on the distributed tape. The tape is an unlabeled tape. The tape was created using the IBM utility IEBGENER. The files are:

- 1.) IBM.COPY.RIGHT : An IBM COPYRIGHT statement (RECFM=FBA,LRECL=167, BLKSIZE=6,179)
- 2.) IODEVICE.P8B.PHC.COMPARE : A side-by-side comparison listings of MVS/XA version without vs. with paper tape support. Same format as 1.) above (46 pages).
- 3.) IODEVICE.P6B.PHC.COMPARE : A side-by-side comparison listings of MVS/370 vs. MVS/XA with paper tape support. Same format as 1.) above (63 pages).
- 4.) IGG0191G.P8B.PHC.COMPARE : A side-by-side comparison listings of MVS/XA without paper tape support vs. MVS/XA with paper tape support (11 pages).
- 5.) Source Code : Source code of 13 routines (see ATTACHMENT II). (RECFM=FB, LRECL=80, BLKSIZE=800).
- 6.) Object Code : JCL and object code to link edit the 13 routines in 5.) above and same format (see ATTACHMENT III).
- 7.) IODEVICE Macro : Contains the source of the SYSGEN macro IODEVICE as it was modified to support paper tape devices.

ATTACHMENT II

N/C SAM I/O DEVICE SUPPORT UNDER IBM MVS/XA OPERATING SYSTEM.

November 11, 1983

LIST OF ROUTINES SUBMITTED BY IBM TO SHARE PROGRAM LIBRARY AGENCY

<u>ROUTINE NUMBER:</u>	<u>ROUTINE NAME:</u>	<u>ROUTINE FUNCTION:</u>
1	IGG019AT	PAPER TAPE GET TRANSLATE.
2	IGG019BF	READ PAPER TAPE TYPE U TRANSLATE.
3	IGG019BG	PAPER TAPE CHECK ROUTINE.
4	IGG019CM	TELETYPE TRANSLATION TABLE.
5	IGG019CN	ASCII TRANSLATION TABLE.
6	IGG019CO	BURROUGHS TRANSLATION TABLE.
7	IGG019CP	FRIDEN TRANSLATION TABLE.
8	IGG019CQ	IBM PTTC/8 TRANSLATION TABLE.
9	IGG019CR	NCR TRANSLATION TABLE.
10	IGG019CS	CHANNEL END APPENDAGE FOR PAPER TAPE.
11	IGG0191G	BUILD IOBS.
12	IGG01912	LOAD ACCESS METHOD ROUTINES.
13	IGE0002A	2671 ERP.

ATTACHMENT III

LINK EDIT LISTINGS OF 13 OBJECT CODE ROUTINES FOR SHARE DISTRIBUTION TO SUPPORT MVS/XA.
 November 11, 1983

```
//LINKMODS JOB (V893158,'A=F135,B=61E,D=B91'),VERONEAU,MSGLEVEL=(1,1) 00000100
//STEP1 EXEC PGM=HEWL,PARM='LIST,LET,XREF,NCAL,RENT,refr' 00000200
//SYSPRINT DD SYSOUT=A 00000300
//SYSLIB DD DSN=SYS1.Linklib,VOL=SER=MVS38A,UNIT=3330-1,DISP=SHR 00000400
//SYSLMOD DD DSN=SYS1.Linklib,UNIT=3330-1,VOL=SER=MVS38A 00000500
// DISP=(OLD,KEEP) 00000600
//SYSUT1 DD UNIT=3330,SPACE=(CYL,(5,1)) 00000700
//SYSLIN DD * 00000800
<object for igg019at> 00000900
  entry igg019at 00002600
  name igg019at(r) 00002700
<object for igg019bf> 00000900
  entry igg019bf 00004100
  name igg019bf(r) 00004200
<object for igg019bg> 00000900
  entry igg019bg 00005000
  name igg019bg(r) 00005100
<object for igg019cm> 00000900
  entry igg019cm 00006800
  name igg019cm(r) 00006900
<object for igg019cn> 00000900
  entry igg019cn 00008200
  name igg019cn(r) 00008300
<object for igg019co> 00000900
  entry igg019co 00009600
  name igg019co(r) 00009700
<object for igg019cp> 00000900
  entry igg019cp 00011400
  name igg019cp(r) 00011500
<object for igg019cq> 00000900
  entry igg019cq 00013200
  name igg019cq(r) 00013300
<object for igg019cr> 00000900
  entry igg019cr 00015000
  name igg019cr(r) 00015100
<object for igg019cs> 00000900
  entry igg019cs 00015600
  name igg019cs(r) 00015700
<object for igg019lg> 00000900
  entry igg019lg 00017800
  name igg019lg(r) 00017900
<object for igg019l2> 00000900
  entry igg019l2 00019700
  name igg019l2(r) 00019800
/* 00019900
//LINKMODS JOB (V893158,'A=F135,B=61E,D=B91'),VERONEAU,MSGLEVEL=(1,1) 00020000
//STEP1 EXEC PGM=HEWL,PARM='LIST,LET,XREF,NCAL,RENT' 00020100
//SYSPRINT DD SYSOUT=A 00020200
//SYSLIB DD DSN=SYS1.LPALIB,VOL=SER=MVS38A,UNIT=3330-1,DISP=SHR 00020300
//SYSLMOD DD DSN=SYS1.LPALIB,UNIT=3330-1,VOL=SER=MVS38A, 00020400
// DISP=(OLD,KEEP) 00020500
//SYSUT1 DD UNIT=3330,SPACE=(CYL,(5,1)) 00020600
//SYSLIN DD * 00020700
<object for ige0002a> 00000900
  entry iec267la 00022900
  name ige0002a(r) 00023000
/* 00023100
```

Tape format.

ADDENDUM IV
JCL TO CREATE TAPE

1	//D10LJT1C JOB 'D1004P,D10,B9212X41','LAUREL',CLASS=5,	JOB 5293
	// MSGLEVEL=(1,1),MSGCLASS=R,NOTIFY=D10LJT1	00020004
	***JOBPARM SYSAFF=AQXA	0002100
	*** *****	00030001
	*** ** COPY EACH OF FOUR FILES FROM TAPE NAMED COMPARE, **	00040004
	*** ** ONE FILE FROM TAPE NAMED SOURCE AND, **	00041004
	*** ** EACH OF TWO FILES FROM TAPE NAMED OBJECT **	00041104
	*** ** TO CREATE SEVEN FILES ON TAPE NAMED SHARE **	00041204
	*** *****	00042001
2	//STEP1 EXEC PGM=IEBGENER	00050000
3	//SYSPRINT DD SYSOUT=*	00060000
4	//SYSIN DD DUMMY	00070000
5	//SYSUT1 DD DSN=IBM.COPY.RIGHT,UNIT=BIRCH,LABEL=(1,NL),DISP=(OLD,PASS),	00090008
	// DCB=(DEN=4,RECFM=FBA,LRECL=167,BLKSIZE=6179),	00100009
	// VOL=SER=T1	00101008
6	//SYSUT2 DD DSN=IBM.COPY.RIGHT,UNIT=BIRCH,LABEL=(1,NL),DISP=(NEW,PASS),	00110008
	// DCB=*.SYSUT1,VOL=SER=T2	00130008
	***	00131004
7	//STEP2 EXEC PGM=IEBGENER,COND=(4,LE)	00140001
8	//SYSPRINT DD SYSOUT=*	00150001
9	//SYSIN DD DUMMY	00160001
10	//SYSUT1 DD DSN=IODEVICE.P8B.PHC.COMPARE,	00170008
	// UNIT=BIRCH,LABEL=(2,NL),DISP=(OLD,PASS),	00170108
	// DCB=(DEN=4,RECFM=FBA,LRECL=167,BLKSIZE=6179),	00171008
	// VOL=SER=T1	00172008
11	//SYSUT2 DD DSN=IODEVICE.P8B.PHC.COMPARE,	00173008
	// UNIT=BIRCH,LABEL=(2,NL),DISP=(OLD,PASS),	00180008
	// DCB=*.SYSUT1,VOL=SER=T2	00181008
	***	00190001
12	//STEP3 EXEC PGM=IEBGENER,COND=(4,LE)	00191001
13	//SYSPRINT DD SYSOUT=*	00192001
14	//SYSIN DD DUMMY	00193001
15	//SYSUT1 DD DSN=IODEVICE.P6B.PHC.COMPARE,	00193108
	// UNIT=BIRCH,LABEL=(3,NL),DISP=(OLD,PASS),	00193208
	// DCB=(DEN=4,RECFM=FBA,LRECL=167,BLKSIZE=6179),	00194108
	// VOL=SER=T1	00194208
16	//SYSUT2 DD DSN=IODEVICE.P6B.PHC.COMPARE,	00194308
	// UNIT=BIRCH,LABEL=(3,NL),DISP=(OLD,PASS),	00195108
	// DCB=*.SYSUT1,VOL=SER=T2	00195208
	***	00196001
17	//STEP4 EXEC PGM=IEBGENER	00200001
18	//SYSPRINT DD SYSOUT=*	00210001
19	//SYSIN DD DUMMY	00220001
20	//SYSUT1 DD DSN=IGG0191G.P8B.PHC.COMPARE,	00221008
	// UNIT=BIRCH,LABEL=(4,NL),DISP=(OLD,PASS),	00222008
	// DCB=(DEN=4,RECFM=FBA,LRECL=167,BLKSIZE=6179),	00223008
	// VOL=SER=T1	00224008
21	//SYSUT2 DD DSN=IGG0191G.P8B.PHC.COMPARE,	00225008
	// UNIT=BIRCH,LABEL=(4,NL),DISP=(OLD,PASS),	00226008
	// DCB=*.SYSUT1,VOL=SER=T2	00227008
	***	00250001
22	//STEP5 EXEC PGM=IEBGENER	00260001
23	//SYSPRINT DD SYSOUT=*	00270001
24	//SYSIN DD DUMMY	00280001
25	//SYSUT1 DD DSN=SOURCE,	00281008
	// UNIT=BIRCH,LABEL=(1,NL),DISP=(OLD,KEEP),	00290008
	// DCB=(DEN=4,RECFM=FB,LRECL=80,BLKSIZE=800),	00291008
	// VOL=SER=T3	00292008
26	//SYSUT2 DD DSN=SOURCE,	00300108
	// UNIT=BIRCH,LABEL=(5,NL),DISP=(OLD,PASS),	00300208

	//	DCB=*.SYSUT1,VOL=SER=T2	00300308
	***		00310001
27	//STEP6 EXEC PGM=IEBGENER		00320001
28	//SYSPRINT DD SYSOUT=*		00330001
29	//SYSIN DD DUMMY		00340001
30	//SYSUT1 DD DSN=SYS1.LINKLIB,		00350008
	//	UNIT=BIRCH,LABEL=(1,NL),DISP=(OLD,PASS),	00350108
	//	DCB=(DEN=4,RECFM=FB,LRECL=80,BLKSIZE=800),	00351008
	//	VOL=SER=T4	00352008
31	//SYSUT2 DD DSN=SYS1.LINKLIB,		00353008
	//	UNIT=BIRCH,LABEL=(6,NL),DISP=(OLD,PASS),	00354008
	//	DCB=*.SYSUT1,VOL=SER=T2	00355008
	***		00370001
32	//STEP7 EXEC PGM=IEBGENER		00380001
33	//SYSPRINT DD SYSOUT=*		00390001
34	//SYSIN DD DUMMY		00400001
35	//SYSUT1 DD DSN=SYS1.LPALIB,		00401008
	//	UNIT=BIRCH,LABEL=(2,NL),DISP=(OLD,PASS),	00402008
	//	DCB=(DEN=4,RECFM=FB,LRECL=80,BLKSIZE=800),	00403008
	//	VOL=SER=T4	00404008
36	//SYSUT2 DD DSN=SYS1.LPALIB,		00405008
	//	UNIT=BIRCH,LABEL=(7,NL),DISP=(OLD,PASS),	00406008
	//	DCB=*.SYSUT1,VOL=SER=T2	00407008
	***		00430001

```

1  //D10LJ11A JOB 'D1004P,D10,B9212X41','LAUREL',CLASS=5,
2  //MSGLEVEL=(1,1),MSGCLASS=Z,NOTIFY=D10LJ11
3  ***JOBPARM SYSAFF=AQXA
4  ***SETUP USER TAPE (SHARE) VALID T2 WILL BE GIVEN TO OUTER CONTROL
5  ***OUTPUT OUT CHARS=(GT15)
6  *** *****
7  *** PRINT ALL FILES FROM TAPE NAMED SHARE T2 *****
8  *** *****
9  *** STEP2 EXEC PGM=IEBGENER,COND=(4,LE) *****
10 //SYSPRINT DD SYSOUT=Z *****
11 //SYSIN DD DUMMY *****
12 //SYSUT1 DD UNIT=BIRCH,VOL=SER=T2,LABEL=(2,NL),DISP=(OLD,PASS),
13 DCB=(DEN=4,RECFM=FBA,LRECL=167,BLKSIZE=6179)
14 //SYSUT2 DD SYSOUT=(Z,,OUT),DCB=*.SYSUT1 *****
15 *** STEP3 EXEC PGM=IEBGENER,COND=(4,LE) *****
16 //SYSPRINT DD SYSOUT=Z *****
17 //SYSIN DD DUMMY *****
18 //SYSUT1 DD UNIT=BIRCH,VOL=SER=T2,LABEL=(3,NL),DISP=(OLD,PASS),
19 DCB=(DEN=4,RECFM=FBA,LRECL=167,BLKSIZE=6179)
20 //SYSUT2 DD SYSOUT=(Z,,OUT),DCB=*.SYSUT1 *****
21 *** STEP4 EXEC PGM=IEBGENER *****
22 //SYSPRINT DD SYSOUT=Z *****
23 //SYSIN DD DUMMY *****
24 //SYSUT1 DD UNIT=BIRCH,VOL=SER=T2,LABEL=(4,NL),DISP=(OLD,PASS),
25 DCB=(DEN=4,RECFM=FBA,LRECL=167,BLKSIZE=6179)
26 //SYSUT2 DD SYSOUT=(Z,,OUT),DCB=*.SYSUT1 *****
27 *** STEP5 EXEC PGM=IEBGENER *****
28 //SYSPRINT DD SYSOUT=Z *****
29 //SYSIN DD DUMMY *****
30 //SYSUT1 DD UNIT=BIRCH,VOL=SER=T2,LABEL=(5,NL),DISP=(OLD,PASS),
31 DCB=(DEN=4,RECFM=FB,LRECL=80,BLKSIZE=800)
32 //SYSUT2 DD SYSOUT=(Z,,OUT),DCB=*.SYSUT1 *****
33 *** STEP6 EXEC PGM=IEBGENER *****
34 //SYSPRINT DD SYSOUT=Z *****
35 //SYSIN DD DUMMY *****
36 //SYSUT1 DD UNIT=BIRCH,VOL=SER=T2,LABEL=(6,NL),DISP=(OLD,PASS),
37 DCB=(DEN=4,RECFM=FB,LRECL=80,BLKSIZE=800)
38 //SYSUT2 DD SYSOUT=(Z,,OUT),DCB=*.SYSUT1 *****
39 *** STEP7 EXEC PGM=IEBGENER *****
40 //SYSPRINT DD SYSOUT=Z *****
41 //SYSIN DD DUMMY *****
42 //SYSUT1 DD UNIT=BIRCH,VOL=SER=T2,LABEL=(7,NL),DISP=(OLD,KEEP),
43 DCB=(DEN=4,RECFM=FB,LRECL=80,BLKSIZE=800)
44 //SYSUT2 DD SYSOUT=(Z,,OUT),DCB=*.SYSUT1 *****

```



March 19, 1984

MEMORANDUM

TO: Users of SHARE Program No. 370D-23.4.006
(2671 Paper Tape I/O Routines for Support of MVS/370 and
Proposed Mods to Support MVS/XA)

FROM: Melinda J. Hickman, Manager SPLA

SUBJECT: Suggested Fixes for 370D-23.4.006

Attached is some material sent to us by a user of the paper
tape routines. You may find his suggestions useful in installing
this code.



RECEIVED
MAY 1 1984
FBI
COMM

Belk Stores Services, Inc. / Management Information Systems
Mart Office Building / 800 Briar Creek Road, Charlotte, NC 28205 / Telephone (704) 372-8900

March 14, 1984

Dear Ms. Hickman,

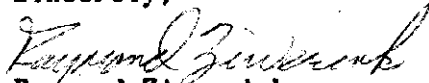
Thank you for the quick response to my order of Program Number 870D-23.4.006 (code for Paper Tape Reader).

I have had a great deal of trouble in getting the paper tape code provided by SPLA to run in our environment (SP2.1.1). After my intense efforts to contact the responsible IBM person failed, my local IBM branch office became involved and was able to get answers to my questions. Everything I have received has been second hand, at the very least. Listed below are comments, additional code to install and/or additional installation instructions.

- 1) We have been informed that code in program number 870D-23.4.006 is for SP2.1.2, which has just been announced for 2nd Qtr 84.
- 2) IODEVICE macro sent on share tape will work but PTF UZ66773 will replace that macro, causing lack of 2671 support. Attachment A has the necessary code for a usermod to the IODEVICE macro at UZ66773 level.
- 3) Code is required for macro SGIEC202 in SYS1.AGENLIB. Attachment B has this code as a usermod at JBB2110 base level.
- 4) I/O Gen was required.
- 5) Installation of the following modules:
IGG019AT, BF, BG, CM, CN, CO, CP, CQ, CR, CS and
IGE0002A as directed by documentation into USERLPA.
Note: IGG0191G and 12 are already part of SP2.1.1 operating system in IGG01911, and therefore were not installed.

Hopefully, this will help others who attempt to install this code. If I can be of any additional assistance, please call.

Sincerely,


Raymond Zieverink
Senior Technical Analyst
BELK Datacenter
(704) 372-1170 Ext. 2953

Attachment A

**** TSO FOREGROUND HARDCOPY ****
DSNAME=TSOTAG1.XAPTF.DATA

(MYMOD09)

** USERMOD (MYMOD09) /* THIS MODIFICATION UPDATES THE IODEVICE
MACRO IN SYSL.AGENLIB WITH CODE FOR THE
2671 PAPER TAPE READER.

WORKED FOR MVS/XA

RD. ZIEVERINK MARCH 13, 1984

*/

** VER (2038) FMID(JDP1110) PRE(UZ66773) .

** MACUPD(IODEVICE) DISTLIB(AGENLIB) .

./ CHANGE NAME=IODEVICE

```

.*      &AP      - (DELETED)      MYMOD09 01570025
.* 06 * BSC1 * * 3066 3211 2671 83B3 * * 3705 09 04700025
.*      &SGDCLSB(21) - 2671 PAPER TAPE READER MYMOD09 07565000
.*      &IOC - CONTROL UNIT MYMOD09 09720000
.*      AIF ('&UNIT' EQ '2671').RDR2671 MYMOD09 13680000
&IOC SETB 1 SET LOCAL FOR C.U. OF SGADRA MYMOD09 29840000
.RDR2671 MNOTE *, 2671 PAPER TAPE READER MYMOD09 53404000
&SGDU06BI&I SETB 1 MYMOD09 53454000
&SGDCLSB(21) SETB 1 MYMOD09 53504000
AGO .MODCHK MYMOD09 53554000

```

```
**** TSO FOREGROUND HARDCOPY ****
DSNAME=TSOTAG1.XAPTF.DATA

(MYMOD11 )

** USERMOD (MYMOD11) /* THIS MODIFICATION UPDATES MACRO SGIEC202 IN
   SYSL.AGENLIB FOR 2671 PAPER TAPE READER SUPPORT.
   ****
   WORKED FOR MVS/XA
   RD. ZIEVERINK MARCH 13, 1984
   ****
   ****
   ** VER (Z038) FMID(JBB2110) .
   ** MACUPD(SGIEC202) DISTLIB(AGENLIB) .
   ./ CHANGE NAME=SGIEC202
   AIF (SGDU06B(&COUNTB)).E2671 TEST FOR 2671 2D02A MYMOD11 58700000
   .E2671 ANOP 2671 ERRTAB/TYPE 2D02A MYMOD11 59850000
   &ERRTAB SETC '15' SET ERRTAB 2671 2D02A MYMOD11 59900000
   &TYPEA SETC '10000810' SET 2671 PAPER T 2D02A MYMOD11 59950000
   AGO .UCBOPUT 2D02A MYMOD11 60000000

   */ .
```