

MRX/OS System Generation

Checklist

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This edition is a major revision and obsoletes all previous editions. It documents the operating procedures at their level in MRX/OS Release 2.

Technical changes are marked with a bar in the outer margin. Changes due to subsequent releases will be documented in future publications bulletins or revisions.

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PREFACE

This document is a question-and-answer checklist that should be used to select system generation options. The answers to the questions comprise your input data to the system generation programs. Coding forms are printed after each question so that you can code your system generation options directly into this document and thereby create a permanent record of your particular system. Appendix C shows samples of completed Checklists. After each sample is an explanation of the coded statements as well as the defaults that have been selected. Appendix A lists the Control Language statements required to execute the system generation programs.

This Checklist should be used in conjunction with the **MRX/OS System Generation Reference** manual. Before you attempt to complete the Checklist, read this reference manual. Section 5 of the manual lists and explains possible answers to all of the Checklist questions. Material is presented in this section that is not discussed in the Checklist itself.

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1. INTRODUCTION

PREPARING THE SYSTEM GENERATION INPUT DECK

This Checklist has been designed to allow you to prepare your system generation input deck in three steps.

- STEP 1. Read the Checklist questions and answer those that describe your hardware configuration and software system. Put your answers on the coding lines provided with each question. When you finish answering the questions you will have coded your input data for JOBONE.
- STEP 2. Code the Control Language statements listed in Appendix A of this Checklist. Additional statements for SYSGEN-related jobs appear in Appendix B of the **MRX/OS System Generation Reference** manual.
- STEP 3. Key punch your answers to the Checklist questions and the Control Language statements. After you have keypunched this information, arrange your input deck. Insert the Checklist data (answers to Checklist questions) after the //DATA statement for JOBONE.

If you have previously initialized the disc pack that will contain your new resident operating system, you are now ready to execute the system generation programs. If you have not initialized your disc pack, do so before you execute the system generation programs. Use the Disc Initialize utility that is described in the **MRX/OS Utility Programs Reference** manual to perform the initialization procedure.

If at the completion of this procedure the console contains messages that list the tracks on your disc that are bad, make sure that your PCAT, CCAT, \$MSGLIB, and \$NUCLIB files are not assigned to cylinders containing the bad tracks.

HOW TO USE THE CHECKLIST

All of the questions (and possible answers) that appear in this Checklist are explained in Section 5 of the **MRX/OS System Generation Reference** manual. If you have any questions about a particular item in the Checklist, refer to Section 5. When you have finished keypunching your input data and you have initialized the disc pack that will contain your new resident operating system, refer to Section 4 of the **System Generation Reference** manual for the operating procedures that you should follow to perform your system generation.

When answering the Checklist questions, remember the following rules:

1. The choices to the questions are in boldface type. If the question applies to your system, select one of the choices; or you may choose not to answer and select the default value.
2. Default values in this Checklist are italicized. If a question has a default value, it is shown immediately after the coding choices. When you decide to accept the default value for a particular question, you need not code an answer for that question. If you define answers in *addition* to the default answers, you must also code the default answer.

If you do not have a telecommunications network in your system, you can ignore all the questions in the Telecommunications section. If you have no COBOL compiler, you can ignore all the questions in the COBOL Language section.
3. Begin your answer to each question in card column 6.
4. *Always leave card column 5 blank.*
5. Remember to keypunch the information that has been precoded in card columns 1 through 4 for every question that you answer. These numbers are used to identify the questions to the SYSGEN programs.
6. If you do not answer a question because it does not pertain to your system or because you have decided to accept the system generation default, *do not* keypunch the first four digits of that particular card.
7. If you want to add comments to your answers to the Checklist questions, leave one or more blank spaces after the last character of your answer and then code your comments.

The following examples show the types of questions and answers that appear on the Checklist. Questions that do not show default values have no defaults.

EXAMPLE 1

What is the main memory size of your computer? Specify one:

16KB, 24KB, 32KB, 48KB, 64KB

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
2001 24KB MAIN MEMORY																																			76	77	78	79	80

This answer shows a computer system that has 24KB of central storage. (MAIN MEMORY is a comment entry.)

EXAMPLE 2

Specify, on separate data cards, the device type and device address of each magnetic tape drive in your configuration. Appendix B lists the device type entry for supported devices. The device address is a three-digit hexadecimal number that begins with a 1 or 2. Use a comma to separate the device type from the device address.

Refer to Appendix D for the byte requirement of each tape drive and each controller. A maximum of four drives can be connected to one controller. The 800 bpi drives can be connected to 1600 bpi controllers, but 1600 bpi drives cannot be connected to 800 bpi controllers.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80
3401 68,221 1600 TAPE 1																																								76	77	78	79	80
3402 68,222 1600 TAPE 2																																								76	77	78	79	80

This answer shows two 1600 bpi tape drives located at device addresses 221 and 222.

EXAMPLE 3

How many cards are there in your average Assembler Language program? Specify a number from 1 through 65,535. Do not include a comma in your answer.

Default is 1000.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80
5201																																								76	77	78	79	80

Because no answer is coded here, the SYSGEN programs will automatically supply the default value 1000. Remember, do *not* keypunch the card unless you code an answer to the question. Because you have accepted the default for this question, you would not submit a card numbered 5201.

2. SYSTEM GENERATION CHECKLIST

SYSGEN CONTROL

1. What type of SYSGEN are you performing? Specify one:

- 1 Type 1 is a complete system generation.
- 2 Type 2 is a modification of the resident operating system.
- 3 Type 3 is a modification of the programming services.

Default is 1.

If you are performing a Type 1 SYSGEN, you must read all of the sections in this Checklist and answer the questions that describe your configuration and your system. If you are performing a Type 2 SYSGEN, you must answer the questions that pertain to features you wish to modify in the following Checklist sections: SYSGEN Control, System Control, Input Spooler, I/O Devices, and Telecommunications. If you are performing a Type 3 SYSGEN, you must answer the questions that pertain to features you wish to modify in the following Checklist sections: SYSGEN Control, Control Language Services, Assembly Language, and COBOL Language.

Refer to Section 3 in the **MRX/OS System Generation Reference** manual for a description of the file (library) of object modules used for each type of SYSGEN. This file is used as input to the Linkage Editor in SYSGEN job 2.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
1001																																						76	77	78	79	80

2. Which resident operating system do you have? Specify one:

MINIMUM (8KB)

RESIDENT EXTENSION (10KB)

Default is RESIDENT EXTENSION.

The final size of your resident operating system depends upon the hardware-related options and software features that you decide to add to either the Minimum system or the Resident Extension system. Table D-1 in Appendix D lists the features and their byte requirements that can be added to both systems. Table D-2 lists the byte requirements of the telecommunications lines.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
1002																																						76	77	78	79	80

3. What is the name of your library that contains the file of SYSGEN object modules that you want updated by the SYSGEN programs? The library name must be a 1 to 8 character alphanumeric name, and it must match the name you supply on the //CALL statement in GENPROC3.

Default is \$SGOBJ.

Refer to Section 3 in the **MRX/OS System Generation Reference** manual for a description of the library (\$SGOBJ) that contains the file of object modules that you want updated.

Refer to Appendix A in this manual for the //CALL statement of GENPROC3.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
1003																																						76	77	78	79	80

SYSTEM CONTROL

1. What is the main memory size of your computer? Specify one:

16KB, 24KB, 32KB, 48KB, 64KB

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
2001																																						76	77	78	79	80

2. Does your system have the hardware Error Correction (ECC) feature? Specify one:

YES

NO

Default is NO.

This feature is not available on the MRX 7200 Processing Unit. Table D-1 in Appendix D lists the software byte requirements.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
2002																																						76	77	78	79	80

3. If you have a two-partition system, specify in bytes the size of partition 1. Otherwise, omit this question, and the SYSGEN programs will automatically assign the memory that is not occupied by the resident operating system to your single user partition. No partition can be smaller than 8,192 bytes.

5. If you have the Resident Extension operating system, specify whether or not you have selected Performance Option 2. Specify one:

YES

NO

Default is NO.

See Table D-1 in Appendix D for the byte requirement of this feature.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80
2005																																												

OUTPUT SPOOLER

Answer the questions in this section if you have the Resident Extension system. If you specify NO in answer to question 1, skip the remaining questions in this section. If you have the Minimum system omit this section entirely.

1. Does your system have the Output Spooler feature? Specify one:

YES

NO

Default is NO.

See Table D-1 in Appendix D for the byte requirement of this feature.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80
2501																																												

2. If your system has the Output Spooler, what is the maximum number of printers that you want dedicated to the Spooler at any one time? Specify a number in the following range:

1-14

Default is 1.

The number of device addresses coded in answer to question 4 in this section must not exceed the number of devices specified in answer to this question. The buffer space required for printers is determined from the answer to this question and the answer to question 5 in this section. Refer to Table D-2 in Appendix D for specific details.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80
2502																																												

3. If you have a reader/punch, do you want it dedicated to output spooling? Specify one:

YES

NO

Default is NO.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80																																			
2503																																																																															

4. If your system has the Output Spooler specify a list of the device addresses for the printers that you want assigned to the Spooler. Separate the device addresses one from another with a comma.

Default is 21E.

All device addresses specified in answer to this question must also be specified in answer to question 4 in the I/O Devices section of this Checklist. Note also that the device type must also be specified when answering question 4 in the I/O Devices section. The number of printers that can be assigned depends on the printer blocking factor that you select. See Table D-2 in Appendix D for details.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80																																			
2504																																																																															

5. If your system has the Output Spooler, specify the printer blocking factor. Refer to Table D-2 in Appendix D for the ranges allowed.

Default is 1.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80																																			
2505																																																																															

6. If your system has the Output Spooler, specify the punch blocking factor. Refer to Table D-1 in Appendix D for the byte requirement of the Spooler punch. Specify a number in the following range:

1-2

Default is 1.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80																																			
2506																																																																															

7. If your system has the Output Spooler, what is the maximum number of files that you want to allow queued on the Spooler queue? Specify a number in the following range:

45-255

Default is 45.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80					
2507																																																	

8. If your system has the Output Spooler, do you want the Job Accounting feature? Specify one:

YES

NO

Default is NO.

See Table D-1 in Appendix D for the byte requirement of this feature.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80					
2508																																																	

I/O DEVICES

1. Does your system have the Second Channel feature? Specify one:

YES

NO

Default is NO.

See Table D-1 in Appendix D for the byte requirement of this feature.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80					
3000																																																	

2. Do you have a card reader attached to your integrated card reader attachment feature? Specify one:

YES

NO

If you specify YES, the SYSGEN programs assign your card reader to device address 204. The device type will be 23 to denote a buffered reader with the early return feature. If this device is your standard input device, refer to question 2 in the Control Language Services section of this Checklist.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
3100																														76	77	78	79	80					

3. Do you have a card reader/punch attached to your integrated card reader/punch attachment feature? Specify one:

YES

NO

If you specify YES, the SYSGEN programs will automatically assign your card reader/punch to device address 20C. The device type will be 11 to denote a buffered card reader/punch. If this device is your standard input device, refer to question 2 in the Control Language Services section of this Checklist.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
3200																														76	77	78	79	80					

4. Specify, on separate data cards, the device type and device address of each line printer in your configuration. Appendix B lists supported device types. Use a comma to separate the device type from the device address. The device address is a three-digit hexadecimal number that must begin with 1 or 2 (in order to begin your device address with a 1, you must have answered YES to question 1 in this section).

Two speeds of line printers are available. They are: 600 lpm and 1200 lpm.

Default is 51,21E.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
3300																														76	77	78	79	80					
3301																														76	77	78	79	80					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
3302																														76	77	78	79	80					

One printer is supported under both resident operating systems. Cards numbered 3303 through 3314 are available for additional line printers attached via the Selector Channel under both systems. Refer to Table D-1 in Appendix D for the byte requirements for additional line printers.

5. Specify, on separate data cards, the device type and device address of each magnetic tape drive in your configuration. Appendix B lists supported device types. Use a comma to separate the device type from the device address. The device address is a three-digit hexadecimal number that must begin with 1 or 2 (in order to begin your device address with a 1, you must have answered YES to question 1 in this section).

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40				
3400																																							76	77	78	79	80
3401																																							76	77	78	79	80
3402																																							76	77	78	79	80
3403																																							76	77	78	79	80
3404																																							76	77	78	79	80
3405																																							76	77	78	79	80

Additional cards numbered 3406 through 3459 are available for additional tapes under both resident operating systems. Refer to Table D-1 in Appendix D for the byte requirements for tape drives and tape controllers. A maximum of 4 drives can be attached to one controller. Do not attempt to attach 1600 bpi drives to the MRX 3237 Model 12 Magnetic Tape Drive controller (800 bpi controller).

6. Specify, on separate data cards, the device type and device address of each disc drive in your configuration. Appendix B lists supported device types. Use a comma to separate the device type from the device address. The device address is a three-digit hexadecimal number that must begin with a 3.

Defaults are: 70,300

70,301

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
3500																																						76	77	78	79	80
3501																																						76	77	78	79	80
3502																																						76	77	78	79	80
3503																																						76	77	78	79	80
3504																																						76	77	78	79	80
3505																																						76	77	78	79	80
3506																																						76	77	78	79	80
3507																																						76	77	78	79	80

Both systems support two disc drives. A maximum of 8 drives can be added under either resident operating system. It is also possible to configure a system containing only one drive. Refer to Table D-1 in Appendix D for the byte requirement for additional disc drives. Address 300 is assumed to be assigned to the system disc.

7. Do you want the disc Seek-on-Position software feature in your system? Specify one:

YES

NO

Default is NO.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
3601																																						76	77	78	79	80

See Table D-1 in Appendix D for the byte requirements of this feature.

8. If you want automatically shared discs at IPL (initial program load) time, enter the addresses of the discs you want shared. Separate the addresses one from another using a comma. If you do not want this feature, omit this question.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
3700																																						76	77	78	79	80

9. What UCS (universal character set) images do you want associated with each of your printers? Enter the printer address and the associated image for each UCS printer. Separate the printer address from the character image with a comma. Separate each pair one from another with a comma.

Example:

21E, PN, 21A, XX

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
3800																																						76	77	78	79	80

TELECOMMUNICATIONS

If you have a telecommunications network in your configuration, you must answer the following series of questions. Otherwise omit them.

1. How many telecommunications lines do you have in your configuration? For MRX/40 Resident Extension users, specify a decimal number from 1 through 7. For MRX/50 Resident Extension users, specify a decimal number from 1 through 15. For each line you declare in answer to this question, you must code a data card that answers question 2. For example, if you specify 6 in answer to this question, you must code six data cards to answer question 2.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
4001																																						76	77	78	79	80

CONTROL LANGUAGE SERVICES

1. What is the maximum number of entries that you will allow in your job queue?
Specify a number in the following range:

1-62

Default is 1, which gives you first-in, first-out, job flow.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40															
5101																																								76	77	78	79	80										

2. What device are you using as your standard input device for job control purposes?
Specify one:

READER

READER/PUNCH

Default is READER.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40															
5102																																								76	77	78	79	80										

3. What value do you want Control Language Services to supply for the keyword
PRIORITY when the keyword is omitted from //JOB statements? Specify a number
in the following range:

1-9

Default is 1.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40															
5103																																								76	77	78	79	80										

4. What value do you want Control Language Services to supply for the keyword TIME when the keyword is omitted from //EXECUTE statements? Specify a number in the following range:

1-1439

Default is 1439 (23 hours, 59 minutes).

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80
5104																																												

5. Do you want the keyword USER to be a required keyword on all //JOB statements? Specify one:

YES

NO

Default is NO.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80
5105																																												

6. Which entry do you want Control Language Services to supply for the keyword SPL when the keyword is omitted from //ROUTE statements? Specify one:

YES

NO

Default is NO.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	76	77	78	79	80
5106																																												

10. What character set do you want to be the default for the UCS parameter on //ROUTE statements? Answer this question only if you have one or more printers that have the universal character set.

Default is PN.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
5110																																						76	77	78	79	80

ASSEMBLER LANGUAGE

1. How many cards are there in your average Assembler Language program? Specify a number in the range given below. Do not include a comma in your answer.

1-65535

Default is 1000.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
5201																																						76	77	78	79	80

2. In which column do you want the Assembler to quit processing source statements? Specify a number in the following range:

41-120

Default is 72.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
5202																																						76	77	78	79	80

3. How many lines per page do you want printed on your Assembler Language listing? Specify a decimal number. The answer to this question depends upon the size of your paper and the number of lines per inch that your printer prints.

Default is 56.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
5203																																						76	77	78	79	80

A. CONTROL LANGUAGE STATEMENTS FOR SYSTEM GENERATION

These are the Control Language statements needed to execute the System Generation programs. Only the statements for JOBONE, JOBTWO, JOB2A, and JOB2B (the formal SYSGEN jobs) are shown here. Insert your input data (answers to Checklist questions) where shown. Refer to Appendix B in the **MRX/OS System Generation Reference** manual for specific details about keyword parameters. The shaded //CALL statements are valid only for Procedure B. See the **MRX/OS System Generation Reference** manual, Section 4, for details.

JOBONE CLS

```
//JOB      NAME=JOBONE, TYPE=1 [,USER=] [,PRIORITY=]
//CALL     PROC=SGALLOC, NUCLOC= ____, MSGLOC=7, SYSVOL= ____
//CALL     PROC=SGCOPYA, LIST=YES, INFILE=$SYSLODLIB,
//         OUTFILE=$SYSLODLIB, OCAT=NO, OLOC= ____, ONUM= ____,
//         INVOL= ____, OUTVOL= ____
//CALL     PROC=SGCPYCAT, INVOL= ____, OUTVOL= ____
//CALL     PROC=SGCOPY, INFILE=SYSGEN-MAC-BACKUP,
//         OUTFILE=$SYSMACLIB
* { //EXEC   PGM=LIBUTIL
  //PAR    COMMAND=DELETE, MEM=$OSCEPL, MEM=$OSCEPL2, MTYPE=ABS **
  //DEF    ID=LIST, DEV=PRINTER
  //DEF    ID=OUTPUT, STA=(P,O), FIL=$SGOBJ, VOL=volume
                                     input
                                     identifier
}
//CALL     PROC=GENPROC1
//DATA     FIL=CHECKLISTDATA
•
•       Insert input data (answer to Checklist questions) here.
•
//EOJ
```

*Omit for Procedure B.

**Omit for Type 2 and Type 3.

JOB TWO CLS

Defaults are underlined in the //CALL statements for GENPROC3.

```
//JOB      NAME=JOB TWO, TYPE=1 [,USER=] [,PRIORITY=]
//CALL     PROC=GENPROC2
//CALL     PROC=GENPROC3, SYSVOL=____, DEVADDR=____
//         [ ,FULLGEN= { YES } ] [ ,STDNUC= { YES } ] [ ,OBJNAME= { your name } ]
//         [ ,RESLOC= { nnn } ]
//         [ ,RESLOC= { YES } ]
//CALL     PROC=GENPROC4
//CALL     PROC=SGMERGE, SYSVOL=____
//CALL     PROC=SGPURGE, FILE=$SYSLODLIBA
//CALL     PROC=SGRTNCAT, INVOL=____, OUTVOL=____
//EOJ
```

Omit the //CALL statement to GENPROC3 for Type 3 SYSGENs.

JOB2A CLS

Insert the second to the last //DEF statement only if you answered YES to question 8 in the Output Spooler section of the Checklist.

```
//JOB      NAME=JOB2A, TYPE=1 [,USER=] [,PRIORITY=]
//EXEC     PGM=LIBUTIL
//PAR      COMMAND=COPY
//DEF      ID=INPUT, FIL=$SYSPROCLIB, STA=P, VOL=____
//DEF      ID=OUTPUT, FIL=$SYSPROCLIB, STA=P, SIZ=80, NUM=1560,
//         ORG=S, CON=YES, VOL=____
//DEF      ID=CAT, FIL=$SYSELOG, STA=P, ORG=S, CON=YES, NUM=520,
//         SIZ=40, CSD=NO, BLK=1, CAT=YES, LOC=____
//DEF      ID=CAT, FIL=$OSSPLJA, STA=P, ORG=R, CON=YES, NUM=200,
//         SIZ=54, CSD=NO, BLK=1, CAT=YES [,LOC=____] [,VOL=____] } Optional
//DEF      ID=LIST, DEV=PRINTER
//EOJ
```

JOB2B CLS

This job is not required if you are using Procedure B for your SYSGEN jobs.

```
//JOB      NAME=JOB2B, TYPE=1 [,USER=] [,PRIORITY=]
//CALL     PROC=SGCOPYA, OSIZ=80, OCSD=YES, OLOC=NO,
//         INFILE=$SYMACLIB, OUTFILE=$SYMACLIB, ONUM=17550,
//         INVOL=____, OUTVOL=____, LIST=YES
//CALL     PROC=SGCOPYA, INFILE=$SGOBJ, OUTFILE=$SGOBJ,
//         ONUM=8000, INVOL=____, OUTVOL=____ LIST=YES
//EOJ
```

COMMENTS

1. If you specified YES in answer to question 5 in the Control Language Services section of the Checklist, USER= becomes a required parameter for your system generation //JOB statements.
2. If you are performing a Type 3 system generation (refer to question 1 in the SYSGEN Control section of the Checklist), omit the //CALL statement to GENPROC3 in JOBTWO.
3. Because all of the SYSGEN jobs must be run sequentially, do not put the next job in the card reader until the preceding job has finished executing.

B. DEVICE DESCRIPTIONS

Table B-1. I/O Equipment Table

Device Name	Generic Name	Equipment Type	Device Type
Line Printer	PRT	132 char, nonbuffered	50
Line Printer	PRT	132 char, buffered	51
IBM 1403 Printer	PRT	132 char, buffered	59
Magnetic Tape	TAPE8	800 bpi density	60
Magnetic Tape	TAPE16	1600 bpi density	68
Disc	DISC	200 cylinder	70

Table B-2. Telecommunications Equipment Table

Modem Name	Generic Name	Trans	Leased/ Switched	Use	Device Type
NONE (Local EIA-RS-232-C)	TP80	ASYNC	L	Switched Manual Dial/Answer	80
WE 103A, E, F WE 113B WE 202C,D 4-Wire	TP84	ASYNC	L	Switched Manual Dial/Answer	84*
WE 103F WE 202C,D 4-Wire } Multi-point	TP85	ASYNC	L	Switched Manual Dial/Answer	85
WE 103A,E WE 113B	TP86	ASYNC ASYNC	S	Answer (only)	86
WE 202C,D	TP88	ASYNC	L	Switched Manual Dial/Answer	88
2-Wire Secondary Channel	TP8A	ASYNC	S	Answer (only)	8A
WE 202C,D	TP8C	ASYNC	L	Switched Manual Dial/Answer	8C
2-Wire	TP8E	ASYNC	S	Answer (only)	8E
Split Speed	TP98	ASYNC	L	Switched Manual Dial/Answer	98
	TP9A	ASYNC	S	Answer (only)	9A
WE 201A,B WE 202C,D WE 203A WE 208A	TPA4	SYNC	L	Switched Manual Dial/Answer	A4
WE 201A,B WE 202C,D WE 203A WE 208A } Multi-point	TPA5	SYNC	L	Switched Manual Dial/Answer	A5
WE 201A WE 202C,D	TPA6	SYNC	S	Answer (only)	A6
WE 202C,D	TPA8	SYNC	L	Switched Manual Dial/Answer	A8
2-Wire Secondary Channel	TPAA	SYNC	S	Answer (only)	AA
WE 201A,B WE 202C,D WE 203A WE 208A	TPB4	SYNC	L	Switched Manual Dial/Answer	B4
WE 201A,B WE 202C,D WE 203A WE 208A } Multi-point	TPB5	SYNC	L	Switched Manual Dial/Answer	B5
WE 201A WE 202C,D	TPB6	SYNC	S	Answer (only)	B6
WE 202C,D 2-Wire	TPB8	SYNC	L	Switched Manual Dial/Answer	B8
Secondary Channel	TPBA	SYNC	S	Answer (only)	BA

*84 is the line type used to describe direct line connections which do not include modems of 10, 15, or 30.

C. SYSTEM GENERATION EXAMPLES

SAMPLE 1: MINIMUM SYSTEM

Figure C-1 shows a system generation data deck (answers to Checklist questions) used to generate a Minimum 8KB resident operating system. The hardware environment under which this resident operating system has been designed to operate includes:

- 24KB main memory
- One buffered card reader with the early return feature located at device address 204 and used as the system input device (default accepted for data card 5102)
- One buffered printer located at device address 21E and used as the system output device
- One disc drive located at device address 300

Additional features present include:

- Maximum of 4 entries in the job queue
- Value of 60 for the TIME= keyword on //EXEC statements
- 800 cards in the average Assembler Language program

No COBOL compiler is present. Defaults selected include:

- \$SGOBJ is the library containing the file of SYSGEN object modules updated by the SYSGEN programs
- No hardware ECC (error correction feature)
- Single partition system
- No Second Channel feature
- No disc Seek-on-Position software feature
- Priority of 1 for the PRIORITY= keyword on //JOB statements
- NO as the value of the keyword USER= on //JOB statements
- 72 as the column where the assembler should quit processing source language statements
- 56 lines per page on an Assembler Language listing

MEMOREX

Assembler Coding Form

Punching Instructions

Date _____ Page 1 of 1

Graphic	Ø	/	I	Z
Punch	ZERO	ONE	CAP. I	CAP. Z

Programmer _____
 Program SYSGEN for MINIMUM SYSTEM-INPUT DECK

NAME	OPERATION	OPERAND	IDENTIFICATION
1 2 3 4 5 6 7 8 9	10 11 12 13 14 15 16 17 18	19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72	73 74 75 76 77 78 79 80
* SYSGEN CONTROL			
1002 MINIMUM			
* SYSTEM CONTROL			
2001 24KB MAIN MEMORY SIZE			
* I/O DEVICES			
3100 YES CRD. READER SYS. STAN. INPUT DEVICE			
3200 NO NO READER/PUNCH			
3500 70, 300 ONE DRIVE SYSTEM			
* CONTROL LANGUAGE SERVICES			
5101 4 MAX. ENTRIES IN JOB QUEUE			
5104 60 VALUE FOR TIME PARAMETER ON I.IEXEC CARD			
* ASSEMBLER LANGUAGE			
5201 800 AVERAGE NUM CARDS IN ASM LANG. PROGRAM			

SAMPLE ONE

02

*Do not insert these headings in your input deck.

This system does not include clock processing (the timing feature). No entry is shown describing the printer because the default has been selected.

SAMPLE 2: RESIDENT EXTENSION SYSTEM

Figure C-2 shows a system generation data deck (answers to Checklist questions) used to generate a Resident Extension (10 KB) operating system. The hardware configuration under which this resident has been designed to operate includes:

- 48KB main memory
- Hardware ECC (error correction feature)
- Two partitions, the first being 13056 bytes
- Performance Option 1
- Output Spooler feature
- Two dedicated printers at device addresses 21E, and 21A
- One dedicated reader/punch at device address 20C
- Printer blocking factor of 4 and reader/punch blocking factor of 2
- Maximum of 100 files in the job queue
- Job Accounting feature
- Second Channel feature
- One buffered card reader with early return feature at device address 204
- One buffered card reader/punch on device address 20C used as the standard system input device
- Three buffered printers at device addresses 21E, 21A, and 217
- One 800 bpi tape at device address 100
- Two 1600 bpi tapes at device addresses 107 and 10E
- Four discs at device addresses 300, 301, 302, and 303
- One device type 84 communications line at device address 001
- Three device type A4 communications lines at device address 002, 003, and 004

Additional features present include:

- Disc Seek-on-Position feature
- Two shared discs on device addresses 302 and 303
- PN on device address 21E and XX on device address 21A (UCS printers)
- Logical communications capability
- Maximum of 12 entries in the job queue
- PN is the default character set on //RTE statements
- Value of 30 for the TIME= keyword on //EXEC statements
- USER= keyword required on //JOB statements
- 120 as the column where the Assembler and the COBOL compiler quite processing source statements
- Floating-point hardware feature
- 1500 cards in the average COBOL program

Defaults selected include:

- Type 1 SYSGEN
- Resident Extension system
- \$SGOBJ is the library containing the file of SYSGEN object modules updated by the SYSGEN programs
- SPL=YES on //RTE statements
- NUM=1000 for first and second position parameters on //RTE statements
- NUM=1000 on //DATA statements
- Priority of 1 as the value of the keyword USER= on //JOB statements
- 1000 cards in the average Assembler Language program
- 56 lines per page on an Assembler Language listing
- COBOL USASI errors are treated as fatal.

MEMOREX

Assembler Coding Form

Punching Instructions

Graphic	Ø	1	I	Z	
Punch	ZERO	ONE	CAP. I	CAP. Z	

Date _____ Page 1 of 3

Programmer _____

Program SYSGEN DATA FOR RESIDENT EXTENSION OPERATING SYSTEM

NAME	OPERATION	OPERAND	IDENTIFICATION
*SYSGEN CONTROL			
*SYSTEM CONTROL			
2001	48KB	MAIN MEMORY SIZE	SAMPLE TWO
2002	YES	ERR. CORR. FEATURE	
2003	13056	SIZE PARTITION 1 IN BYTES	
2005	YES	PERFORMANCE OPTION 1	
*OUTPUT SPOOLER			
2501	YES	OUTPUT SPOOLER FEATURE PRESENT	
2502	2	2 DEDICATED PRINTERS	
2503		1 DEDICATED RDR/PNCH	
2504	21E, 21A	PRINTER ADDRS. ASGN. TO SPOOLER	
2505	4	PRINTER BLK. FACTOR	
2506	2	PUNCH BLK. FACTOR	
2507	100	MAX NO. OF FILES ON SPOOLER QUEUE	
2508	YES	JOB ACCT. FEATURE PRESENT	
*I/O DEVICES			
3000	YES	2ND. CHAN. FEATURE PRESENT	
3100	YES	BUF CRD. RDR. ON DEV. ADDR 204	
3200	YES	BUF RDR/PCH. ON DEV. ADDR 20C	

C-5

*Do not insert these headings in your input deck.

Graphic	Ø	I	Z	
Punch	Ø	I	Z	

Programmer _____
 Program **SYSGEN DATA FOR RESIDENT EXTENSION OPERATING SYSTEM**

NAME	OPERATION	OPERAND	IDENTIFICATION
3300 51, 21E		PRINTER 1	
3301 51, 21A		PRINTER 2	
3302 51, 217		PRINTER 3	
3400 60, 100		TAPE 1 800 BPI	
3401 68, 107		TAPE 2 1600 BPI	
3402 68, 10E		TAPE 3 1600 BPI	
3500 70, 300		DISC 1	
3501 70, 301		DISC 2	
3502 70, 302		DISC 3	
3503 70, 303		DISC 4	
3601 YES		DISC SEEK ON POSITION FEATURE	
3700 302, 303		SHARED DISCS	
3800 21E, PN, 21A, XX			
*TELECOMMUNICATIONS			
4001 4		NUM OF TCOM LINES	
4101 84, 001		TCOM LINE 1	
4102 A4, 002		TCOM LINE 2	
4103 A4, 003		TCOM LINE 3	
4104 A4, 004		TCOM LINE 4	
*CONTROL LANGUAGE SERVICES			
5101 12		NUM OF ENTRIES IN JOB QUEUE	
5102 READER/PUNCH		STAND INPUT DEVICE	

SAMPLE TWO

C-6

*Do not insert these headings in your input deck.

MEMOREX

Assembler Coding Form

Punching Instructions

Graphic	0	1	I	Z	
Punch	ZERO	ONE	CAP. I	CAP. Z	

Date _____ Page 3 of 3

Programmer _____
Program SYSDATA FOR RESIDENT EXTENSION OPERATING SYSTEM

NAME	OPERATION	OPERAND	IDENTIFICATION
5104 30		VALUE OF TIME PARM ON //JOB STMTS	
5105 YES		USER= PARM ON //JOB STMTS	
5106 YES		SPL= PARM DEFAULT ON //RTE STMTS.	
*ASSEMBLER LANGUAGE			
5202 120		COL WHERE ASSM QUILTS PROCESSING SOURCE: TCOM LIMIT	
5204 YES		FLOAT PT HDWE FEATURE	
*COBOL LANGUAGE			
5301 1500		NUM OF CARDS IN AVG COBOL PROGRAM	
5302 120		COL WHERE COBOL QUILTS PROCESSING SOURCE: TCOM LIMIT	
SAMPLE TWO			

C-7

*Do not insert these headings in your input deck.

D. BYTE REQUIREMENTS FOR OPTIONAL FEATURES

The byte requirements for the various options that are available under both MRX operating systems are within 10% of the actual byte requirements.

Table D-1. Byte Requirements for Available Options

Option Name	Byte Requirement
Error Correction Feature (ECC Log)	160
Performance Option 1 (Resident Extension system only)	270
Performance Option 2 (Resident Extension system only)	250+X+Y+Z*
Job Accounting Feature (Resident Extension system only)	250
Output Spooler (Resident Extension system only)	4096**
Spooler Punch (Resident Extension System only)	220+142 x punch blocking factor
Second Selector Channel Feature	150
Additional Line Printers (each)	18
Magnetic Tape Controller, including One Tape Drive	462
Additional Tape Drives (each)	14
Additional Disc Drives (each)	14
Disc Seek-on-Position Feature	30
Logical Communications Feature (Resident Extension system only)	1650
Floating-point Hardware Feature	<i>8K control storage</i>

*Where X = nominal associative list length, Y = TCOM associative list length, and Z = Spooler associative list length.

**An additional 452 bytes are required for system labels and default buffers.

Table D-2. Printer Spooler Blocking Factors

Number of Printers*	Blocking Factor Range
1	1-14
2	1-14
3	1-7
4	1-5
5	1-3
6	1-3
7	1-2
8	1-2
9-14	1

*Byte requirements for spooled printer = 220 + 142 x blocking factor.

Use Table D-3 to calculate the byte requirements for each line type in your configuration. The basic driver byte requirement is 2046.

Table D-3. Byte Requirements for Telecommunications Lines

Line (Device) Type	Byte Requirement
80	2180
84	2354
85	2502
86	2442
88	2354
8A	2442
8C	2502
8E	2590
98	2406
9A	2494
A4	2850
A5	2850
A6	2938
A8	2706
AA	2794
B4	2980
B5	2980
B6	3068
B8	2836
BA	2924

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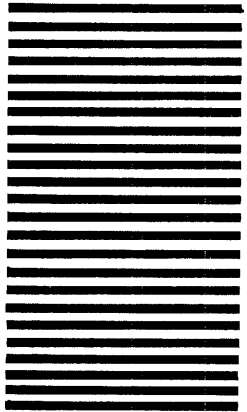
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