

3725 Model 1  
Communication Controller

Configuration Guide

System/370, 30xx, and  
4300 Processors

**IBM**

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**IBM 3725 Model 1  
Communication Controller**

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**Configuration Guide**

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**IBM System/370,30xx,  
and 4300 Processors**

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This major revision obsoletes SA33-0012-3.

Information has been added describing:

- A new line attachment base, LABC, providing for the IBM Token-Ring Network.
- New LIC weights and speeds.
- Increments to the main memory (up to a maximum of 3M bytes).

These changes and others are indicated by a vertical line to the left of the change.

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## PREFACE

This manual is a guide for selecting a 3725/3726 Communication Controller and Expansion configuration.

The purpose of the manual is twofold:

1. To give the structure of the 3725/3726, explaining what the 3725 and 3726 features do and how they are related.
2. To explain how these features should be ordered to meet the customer's requirements.

It is assumed that the user of this manual has become familiar with the subject by reading 3725 Model 1 Communication Controller, Introduction GA33-0010.

This configuration guide is organized as follows:

- Chapter 1 explains how to use the guide and describes the feature structure.
- Chapter 2 shows examples of simple and typical configurations, together with lists of features to be ordered.
- Chapter 3 explains how to configure a complex controller via graphic aids and examples.
- Chapter 4 lists the features together with their prerequisites. It also explains how to configure and order Miscellaneous Equipment Specifications (MESs).
- Appendix A must be filled in to record the network configuration in terms of terminals, lines, token-rings, and ports.
- Appendixes B and C represent empty interface couplers (LICs/TICs) and empty line attachment bases (LABs).
- Appendix D explains how to configure and order Specified Configurations.

### Terminology Note

In this manual, 3725 or 3726 refers to the physical unit, whereas controller (or 3725/3726) refers to the functional aspect of the controller.

For configuration purposes, and for brevity, the following terms are used, with the meanings indicated.

Port (or LIC port): One of the positions of a line interface coupler (LIC) to which cables may be connected.

Line: The communication path that leads from one of the ports of a line interface coupler (LIC) to data terminal equipment (DTE) in a user application network, including the modems or other data circuit-terminating equipment (DCE), if any.

Token-Ring: The communication path that leads from one of the ports of one, or more, token-ring interface couplers (TICs) to an IBM Token-Ring Network.

Category-A speed:  $\leq 9600$  bps in BSC EBCDIC or SDLC half-duplex, or  $\leq 1200$  bps in asynchronous protocol (start-stop), or  $\leq 600$  bps in asynchronous protocol (start-stop, character mode).

Category-B speed: 9600 bps in SDLC duplex or in BSC ASCII, or  $\leq 2400$  bps in asynchronous protocol (start-stop), or  $\leq 1200$  bps in asynchronous protocol (start-stop, character mode).

Category-C speed: All speeds above category A and B, in all protocols.

Note: For a complete list of abbreviations and terms, refer to 3725 Model 1 Communication Controller, Introduction



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The structure of the 3725/3726 lends itself to easy configuring, both for initial orders and for upgrades to installed machines. There are few feature types, and performance does not depend on feature position.

To eliminate the need for feature position codes, the 3725/3726 is configured by a set of rules. Detailed information concerning these rules is given in Chapter 3.

HOW TO CONFIGURE WITH THIS GUIDE

1. DEFINE THE CUSTOMER'S NETWORK

List the characteristics of the lines that will be connected to the controller (speed, protocol, interface, and clocking) on the left-hand side of the figure in Appendix A.

2. CHECK WHETHER THE DESIRED CONFIGURATION IS SIMPLE

See if this configuration corresponds to one of the sample cases in Chapter 2 (Figure 2-1).

a. If the configuration is simple:

Pick the closest configuration and add or delete features as necessary.

Update the right-hand side of the figure in Appendix A with port number and cable information.

b. If the configuration is complex:

If none of the samples cases meets your requirements, you may build a configuration using "Chapter 3, Graphic Configuration Procedure."

To change an installed configuration or order a 3725/3726, see "Chapter 4, Ordering Procedure."

Note: Although this manual provides all the information required for all configurations, the rules and examples should be used with caution. Check storage, throughput, and feature quantities carefully before ordering.

CONTROLLER ORGANIZATION

The organization is:

- The IBM 3725 Communication Controller, which is basic, can accommodate up to 96 lines and up to two channel adapters (with or without a two-processor switch).
- The IBM 3726 Communication Controller Expansion, which is optional, can accommodate up to 160 lines and up to four channel adapters (two of which may be equipped with a two-processor switch).

This brings the total attachment capability (3725 and 3726) to 256 lines and six channel adapters (eight channel connections when using the two-processor switches). See Figure 1-4 for channel adapters and TPS location.

## THE BASIC 3725 AND ITS FEATURES

The basic 3725 (see Figure 1-1) contains:

- A central control unit (CCU)
- 512K bytes of storage
- The maintenance and operator subsystem (MOSS)
- Two line attachment bases (LABs) type A
- Space to accommodate a third LAB (type A, B, or C)
- A number of line interface couplers (LICs)
- Space to accommodate two channel adapters
- Space to accommodate one ICC in each of the LABs

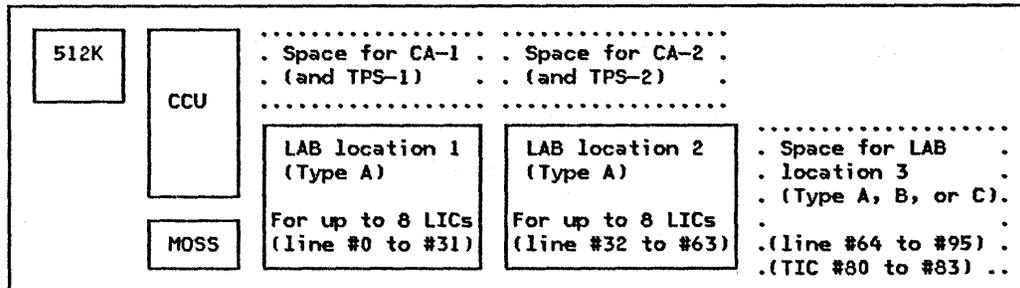


Figure 1-1. Contents of a Basic 3725

### Storage Increment (FC #7100)

The basic 3725 includes 512K of storage. Up to ten storage increments of 256K each may be ordered.

### 3M Byte Capability (FC #7101)

This feature allows the increase of storage above 2M bytes. It is not included with the basic controller and must be ordered separately, if required.

### Channel Adapter (FC #1561)

Two channel adapters can be installed on the basic 3725. Each channel adapter may be equipped with a two-processor switch (FC #8320).

### Line Attachment Base (FC #4771/4772/4774)

Two LABs (type A) are included in the basic 3725. To get the third LAB, order one FC #4771 (LABA), FC #4772 (LABB), or FC #4774 (LABC). To order a LABA without any LIC, order SC #9671. To order a LABB without any LIC, order SC #9672. To order a LABC without any LICs/TICs, order SC #9674. With three LABs LABA/LABB, the 3725 can accommodate a maximum of 96 lines. With two LABAs and a LABC, the 3725 can accommodate a maximum of 80 lines and four IBM Token-Ring Networks.

### Line Interface Coupler (FC #49xx)

Up to four lines can be connected to each line interface coupler (LIC). Up to eight LICs can be installed on each LABA and LABB and up to four on each LABC.

### Token-Ring Interface Coupler (FC #4991)

Up to four token-rings can be connected to a LABC, one per TIC. (One LABC can be installed in a basic 3725, in LAB location 3, supporting a maximum of four IBM Token-Rings and sixteen lines.)

Note: More than one TIC can connect a LABC to a token-ring for reasons of availability or performance.

Internal Clock Control (ICC) (FC #4666 or #4667)

One ICC feature may be installed on each LAB. The ICC is enabled for specific LICs by the CE or plant when the LICs are installed.

THE 3726 EXPANSION AND ITS FEATURES

The 3726 is required when more than two channel adapters or more than three LABs are needed.

The 3726 (see Figure 1-2), without the line increase feature, can accommodate up to four channel adapters (or up to two channel adapters equipped with a two-processor switch), and up to three LABs type A, B, or C (FC #4771/4772/4774). These LABs are installed in LAB locations 4, 5, and 6. They are referred to as LAB-4, LAB-5, and LAB-6.

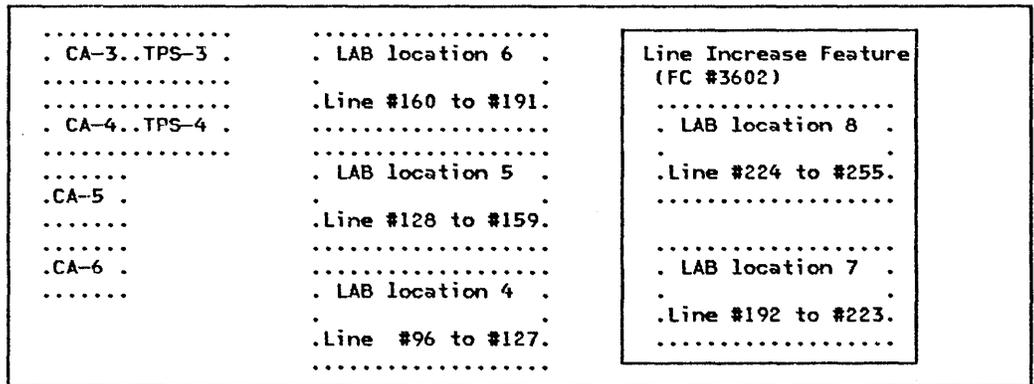


Figure 1-2. Feature Contents of a 3726

Line Increase Feature (LIF, FC #3602)

This accommodates two extra LABs type A, B, or C (FC #4771/4772/4774). These LABs are installed in LAB locations 7 and 8, and are referred to as LAB-7 and LAB-8.

Channel Adapter (FC #1561)

Four channel adapter (CA) features can be installed on the 3726 Expansion. The first two CAs may be equipped with a two-processor switch (TPS, FC #8320). The possibilities are:

- Four CAs, or
- Three CAs and one TPS, or
- Two CAs and two TPSs

Line Attachment Base (FC #4771/4772/4774)

Three LABs can be installed on the 3726 without the line increase feature. Two more LABs can be installed on the line increase feature. The LABs on the 3726 can be LAB type A (FC #4771), LAB type B (FC #4772), or LAB type C (FC #4774). To order a LABA without any LIC, order SC #9671. To order a LABB without any LIC, order SC #9672. To order a LABC without any LICs/TICs, order SC #9674. With five LABs, the controller can accommodate a maximum of 160 lines. If a LABC is installed the maximum is 144 lines and four token-rings.

Note: A maximum of two LAB type Cs can be installed on a 3725 with a 3726 extension. That is, if LAB-3 of the 3725 contains a LAB type C then the 3726 can contain only one LAB type C. If the 3725 contains no LAB type C then a maximum of two can be installed in the 3726.

### Line Interface Coupler (FC #49xx)

Up to four lines can be connected to each line interface coupler (LIC). Up to eight LICs can be installed on each LABA or LABB, and four on a LABC.

### Token-Ring Interface Coupler (FC #4991)

Up to four token-rings can be connected to a LABC, one per TIC.

More than one TIC may connect a LABC to a token-ring for reasons of availability or performance.

### Internal Clock Control (ICC) (FC #4666 or #4667)

One ICC feature may be installed on each LAB. The ICC is enabled for specific LICs by the CE or plant when the LICs are installed.

## THE OPERATOR CONSOLE

The IBM 3727 Operator Console consists of three elements: the logic, the display, and the keyboard. It provides the operator access to the controller via the MOSS.

- One 3727, called the primary operator console, is connected by a cable of 7.5 m (25 ft) in length.
- Optionally, another 3727, called the alternate operator console, can be connected by a cable of 150 m (492 ft) in length.

In E/ME/A, for the alternate operator console add FC #1480 (attachment feature) to the 3725 order.

## MINIMUM CONTROLLER CONFIGURATION

Figure 1-3 gives the minimum configuration. One operator console is required, for operation and maintenance.

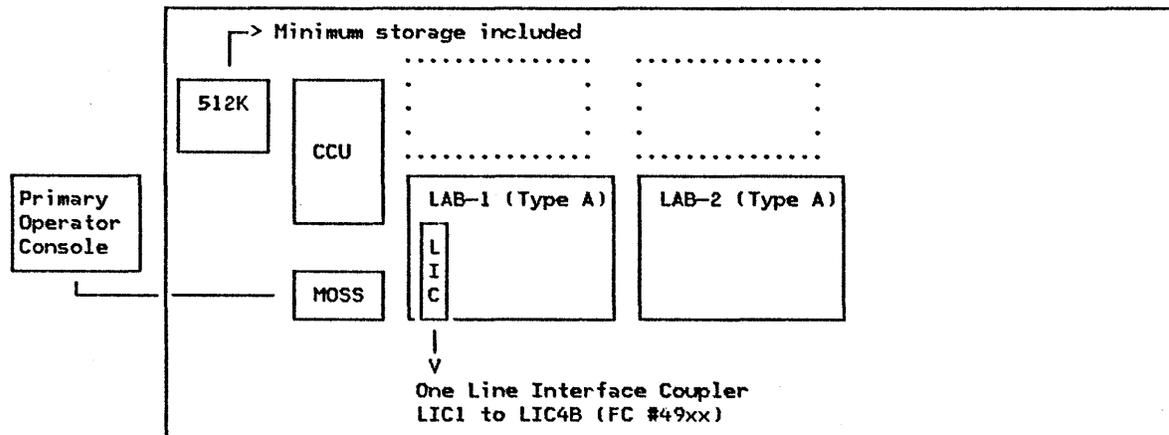


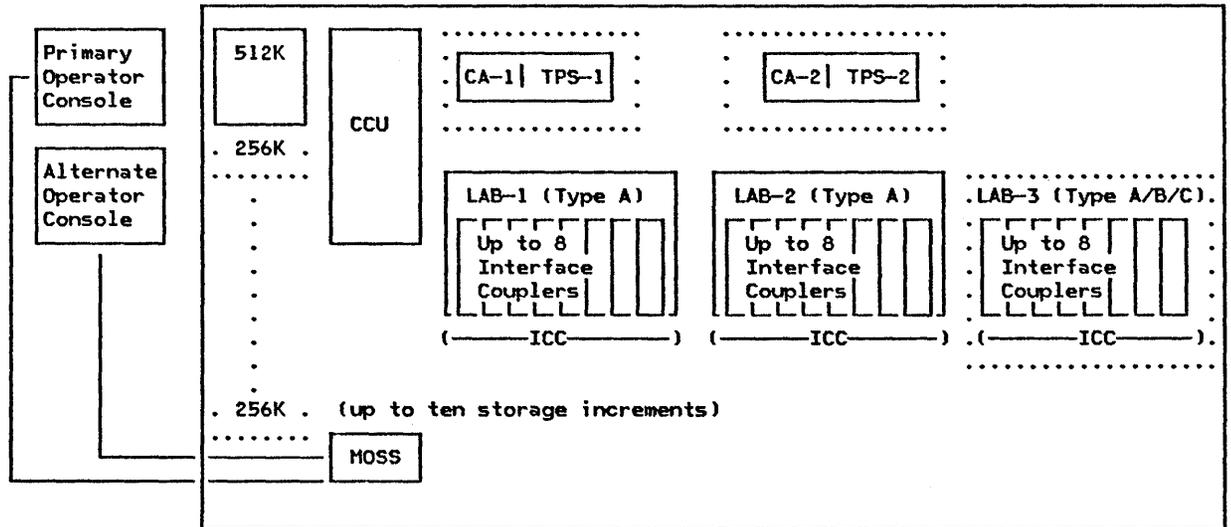
Figure 1-3. Minimum Controller Configuration (3725)

**Note:** If the controller is link-attached (that is, via another IBM controller), no channel adapter is required.

# MAXIMUM CONTROLLER CONFIGURATION

Figure 1-4 gives the maximum configuration (3725 and 3726).

## 3725 Unit



## 3726 Unit

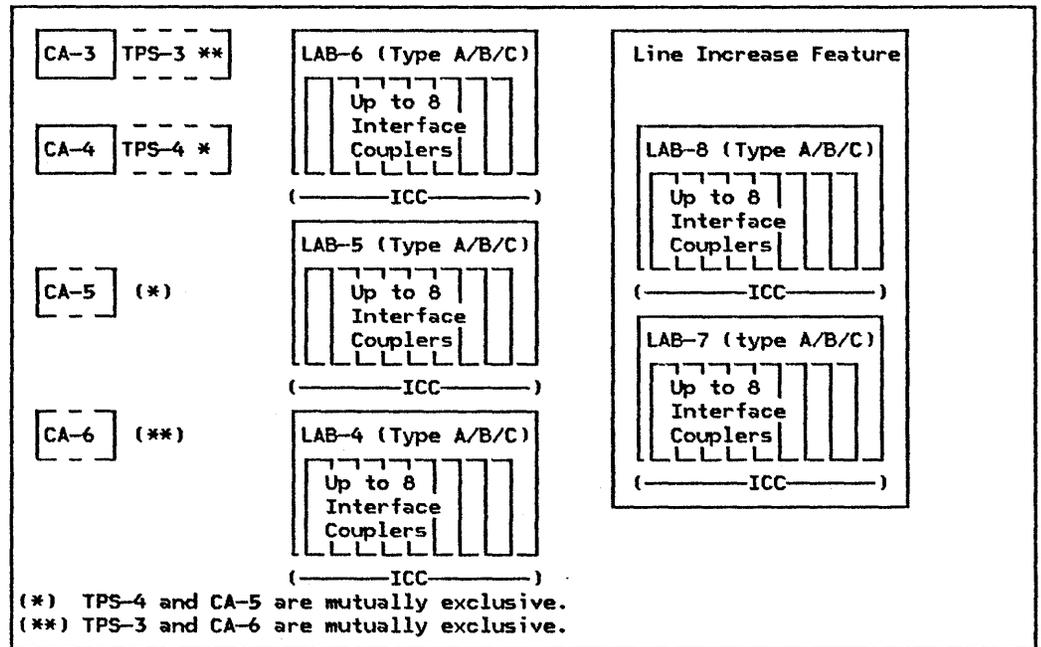


Figure 1-4. Maximum Controller Configuration (3725/3726)

**CONTROLLER COMPONENTS**

The 3725 controller contains three logical subsystems (see Figure 1-5):

- The control subsystem (CSS), which consists of a central control unit, up to 3072K bytes of storage, and zero through six channel adapters (CAs).
- The transmission subsystem (TSS), which consists of two through eight line attachment bases (LAB type A or B) with their scanners, one through 64 line interface couplers (LICs), and optionally one or two LAB type Cs each with up to four LICs and four TICs, and zero through eight internal clock control (ICC) features.
- The maintenance and operator subsystem (MOSS), which consists of a processor, storage, a diskette, and a control panel. MOSS is operated by means of the 3727.

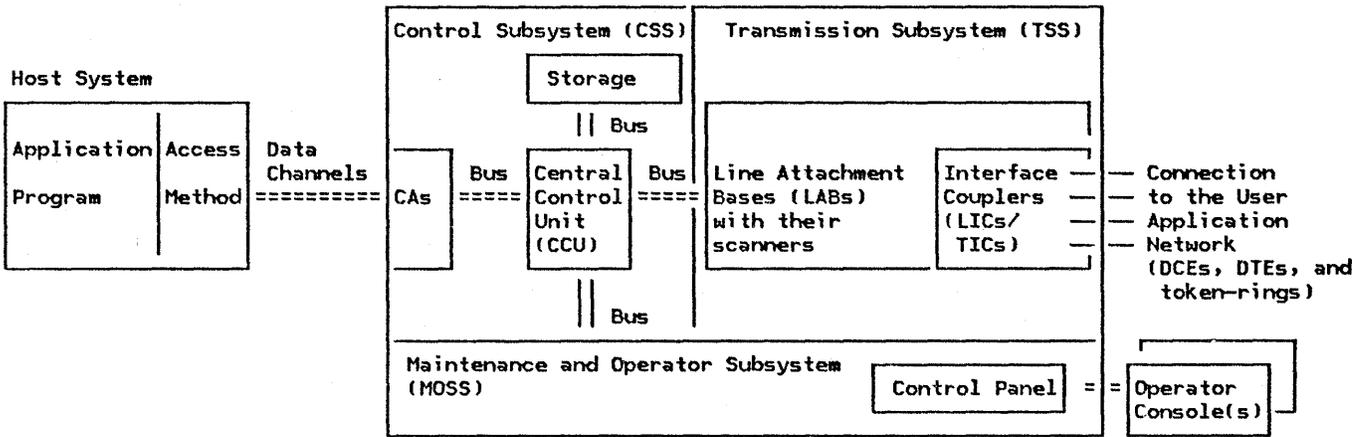


Figure 1-5. Controller Logic Block Diagram

**STORAGE**

Controller main storage needed depends on the requirements of the user application network and on the control program that is being used (NCP or EP).

The basic 3725 includes 512K of main storage. Up to ten storage increments of 256K each can be installed with the initial system or subsequently. This allows a maximum of 3072K.

If the storage capacity for new orders is to be more than 2M bytes then the 3M byte capability (FC #7101) is required. For existing controllers, see "Storage Increase" in Chapter 4.

Figure 1-6 indicates storage requirements for some simple configurations.

User Application Network (or 3705 being replaced)	Storage Required
Replacement of a 3705 model A through H or 1 to 50 medium speed lines or 1 to 12 high speed lines	512K (see note)
Replacement of a 3705 model J, K, or L	512K or 768K
More than 50 medium speed lines	768K or 1024K

Figure 1-6. Storage Requirements for Simple Configurations

Note: If the control program is EP, or if only asynchronous protocol is being used, 512K should be sufficient, whatever the number of terminals.

Complex configurations, using large control blocks, can require storage of up to 3M bytes.

## CHANNEL ADAPTER (CA)

A channel adapter feature (FC #1561) allows communication with IBM System/370, IBM 3030, 4300, or 3081 Processors, or equivalent processors.

Channel adapters are ordered by quantity. To identify them on the 3725 control panel, they are assigned numbers that correspond to their installation sequence: CA-1 through CA-6 (see Figure 1-4).

## TWO-PROCESSOR SWITCH (TPS)

A two-processor switch feature (FC #8320), when added to a channel adapter, allows this adapter to connect to two I/O channels of two different hosts, or to two I/O channels of the same host.

Data transfer occurs on only one channel interface at a time. Manual switches on the 3725 control panel allow the user to enable both channel interfaces, one interface or the other, or neither interface.

In the case where both interfaces are enabled, the processors must resolve any contention.

### TPS Location and Prerequisites

Like their corresponding channel adapters, TPSs occupy adjacent positions on the 3725 and 3726. They are assigned numbers that correspond to their installation sequence: TPS-1 through TPS-4.

Each TPS requires a channel adapter. Only the first four CAs (CA-1 through CA-4) may be equipped with TPSs, and the total number of channel connections in a two-unit controller (CAs + TPSs) cannot exceed eight (see notes in Figure 1-4).

## LINE ATTACHMENT BASE (LAB)

The controller communicates with the user application network by means of scanners located on line attachment bases (LABs).

There are three types of LAB: LAB type A (LABA), LAB type B (LABB), and LAB type C (LABC). (See Figure 1-7.)

LAB positions 1 and 2 always contain LABAs (included in basic 3725). LAB positions 3 through 8 may contain either LABAs, LABBs, or LABCs depending on the speed and type of the connection.

Note: The scanner is part of a LAB and does not have to be ordered.

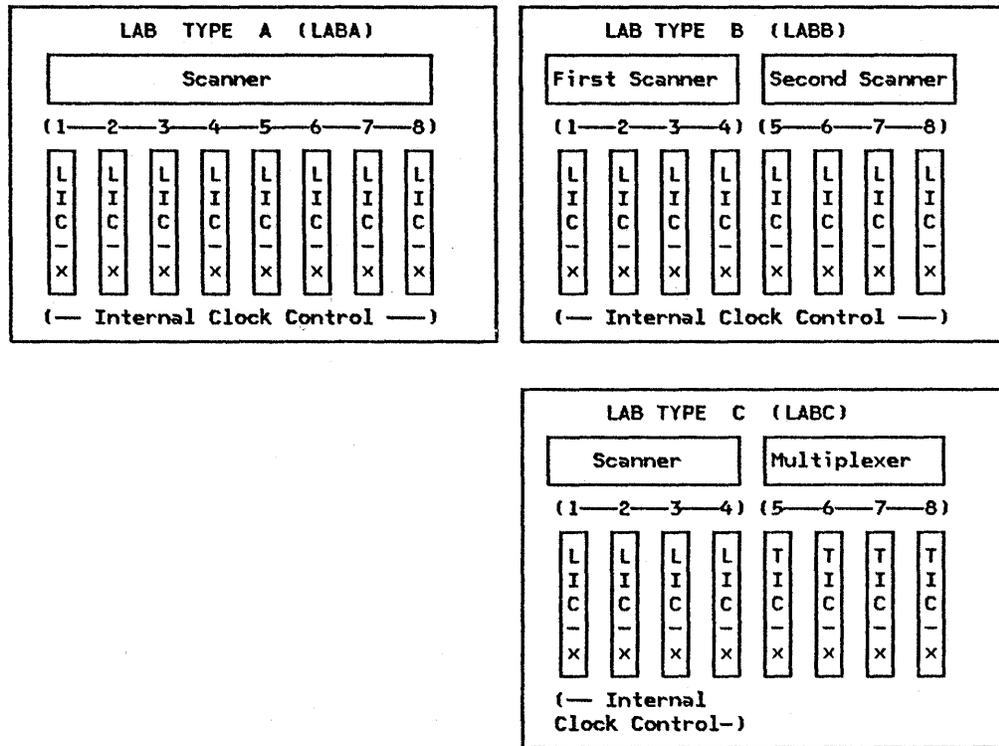


Figure 1-7. Types of Line Attachment Base

#### LAB Type A

A LABA has one scanner that manages up to 32 medium speed lines:

- In LAB locations 1 and 2, a LABA should not normally contain high speed lines (exceptions to this rule are given in Chapter 3).
- In LAB locations 3 through 8, a LABA contains only medium speed LICs (with speed category-A lines).

The maximum number of LICs is eight.

#### LAB Type B

A LABB has two scanners. Each scanner manages up to 16 medium and high speed lines (four LICs). The maximum number of LICs is eight. A LABB normally contains LICs with high speed lines, and may be "padded" with lower speed LICs.

#### LAB Type C

A LABC has one scanner that manages up to 16 lines (four LICs), and one multiplexer that manages up to four token-rings (four TICs).

#### LAB Location

LABs are assigned numbers corresponding to their installation sequence: LAB-1 to LAB-8 (see Figure 1-4). They are ordered by type and quantity, and their location need not be specified. If the location is to be specified, see "Appendix D".

#### INTERFACE COUPLERS (LICS/TICS)

A LIC provides the interface between the communication scanner and the lines of the user application network. LICs are defined by their type, attachment, and weight.

A TIC provides the interface between the multiplexer of a LABC and a token-ring. More than one TIC can connect a LABC to a token-ring.

### LIC Types

There are five types of LIC. Each LIC type has its own feature code and supports a different interface (see Figure 1-10).

### LIC Ports

LIC2, LIC3, or LIC4B can attach to only one high speed line (they are called one-port LICs).

LIC1 and LIC4A can attach to up to four medium speed lines (they are called four-port LICs). These four lines may have different speeds and protocols. A duplex line requires only one port of a LIC.

As shown in Figure 1-8, a LIC connects the controller to to:

- Communication lines, via DCEs
- Autocall units (LIC1 only)
- DTEs in direct-attached mode (without DCEs)

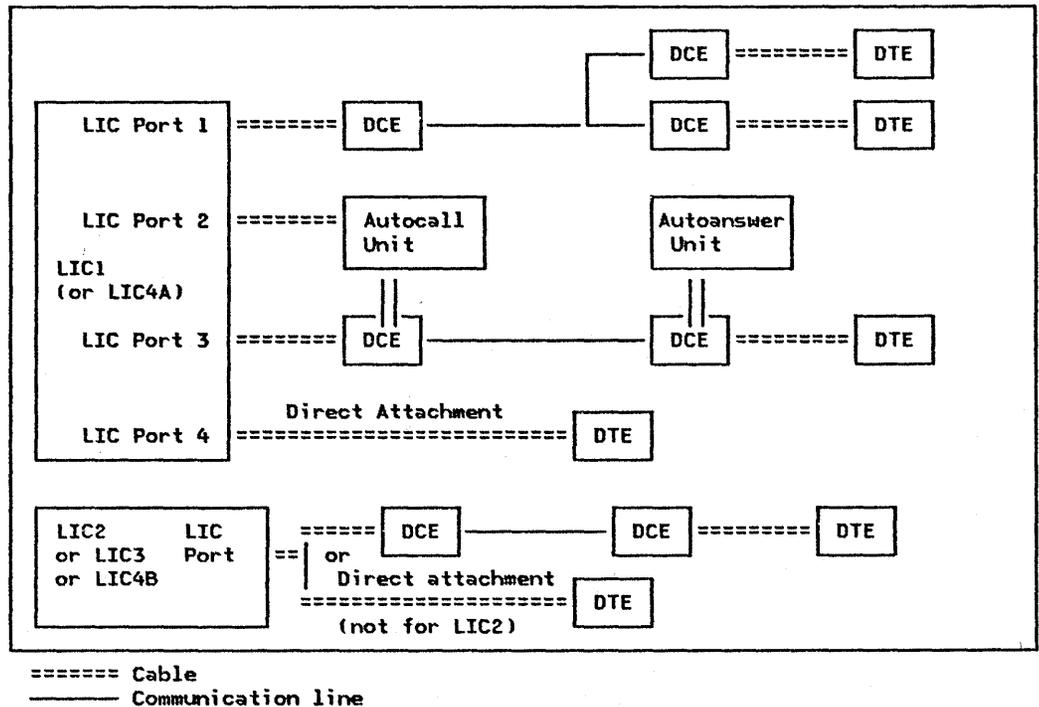


Figure 1-8. Assigning Lines to LICs

### Autocall

An "autocalled" line requires two LIC ports:

- One LIC port (on a LIC1 only) for the autocall function, with a cable connected to the autocall unit (the weight assigned to that port is the minimum one).
- One LIC port for the data transmission function, with a cable connected to the modem.

### Direct Attachment

LICs that are specified for one or several direct-attached lines are assigned a speed of 9600 bps at the plant. This speed may be modified at installation time at the customer's premises.

The speed will then be applicable to all the lines that are directly attached to this LIC.

#### EP/BSC Tributary Station

If a line is defined, under EP/3725 Release 1 control program, to connect the 3725 as a tributary station while using BSC protocol, it must use the character mode. (See "Internal Clock Control", later in this chapter).

#### LIC Weight

A scanner has a maximum capacity. The term "LIC weight" refers to the percentage of scanner capacity consumed by a LIC. It must not exceed 100.

The LIC weight is a value (12 to 100) attributed to a LIC at configuration time. This weight corresponds to the maximum load of the lines connected to that LIC. On LICs with several ports (LIC1 and LIC4A), the weight of the LIC is determined by the speed of the "heaviest" line (see Figure 1-9).

This weight is converted to a specify code (see Figure 1-10). This specify code is used by the plant to optimize the line traffic distribution and avoid scanner overload.

LA-1 SF-1 NY-1 free	-> 4800 bps BSC -> 4800 bps BSC -> Autocall	LA-2 NY-2 SF-3 SF-4	-> 19200 bps DX -> 4800 bps HDX -> 4800 bps HDX -> 4800 bps HDX	LA-3 - - -	-> High-Speed (V.35)
LIC: 1 W = 12	(Note 1)	LIC: 1 W = 50	(Note 2)	LIC: 3 W = 42	(Note 3)

Notes:

- 12 represents the weight of FOUR category-A speed lines on a LIC1 (although there are only three lines)
- 50 represents the weight of FOUR category-C speed lines on a LIC1 (the line with the highest speed dictates the weight of that LIC)
- 42 is the weight of the category-C speed line on this LIC3 (LIC3 has only one port)

Figure 1-9. Example of LICs Filled in and Weighed

#### LIC Position on a LAB

LAB type A or LAB type B have eight positions, and a LAB type C four, in which a LIC can be installed (see Figure 1-7):

- Positions 1, 2, 3, and 4 are referred to as the left half-LAB.
- Positions 5, 6, 7, and 8 are referred to as the right half-LAB.

Different LIC types may be installed on the same LAB.

#### LIC Position and Prerequisites

LICs occupy adjacent positions within the LAB or half-LAB controlled by one scanner. (See "Chapter 3, Graphic Configuration Procedure" for more details on LIC installation.) The types, quantities, and weights are specified. Positions need not be specified.

The main prerequisite of a LIC is the LAB. The quantity of LABs required depends mainly on the weight of the LICs. LICs with asynchronous (without modem clocking) or direct-attached devices require an internal clock control (ICC) on the LAB on which they are installed.



### Notes:

1. LIC1 or LIC4A are four-port LICs (4 cables). LIC2, LIC3, or LIC4B are one-port LICs (1 cable); see "Cable Ordering" in Chapter 4.
2. Speeds and/or LIC weights are not supported with control program EP/3725 Release 1 for tributary operations (see character mode).
3. a. Speeds and/or LIC weights are not supported if the control program level is ACF/NCP Version 2 or EP/3725 Release 1 (see character mode).  
b. Weights and specify codes apply to most commonly used DTEs, that is DTEs using transmission codes with at least 10 bits per character (start, data/parity, stops) like ASCII.  
c. DTEs using transmission codes with fewer than 10 bits per character (start, data/parity, stops) are also supported at speeds up to 600 bps.
4. At 14 400 and 19 200 bps, only two ports per LIC1 may be used. At 14 400 bps the DTEs are clocked externally.
5. This mode is used only when the control program is ACF/NCP Version 2 or EP/3725 Release 1.
6. This mode is used only with control program EP/3725 Release 1 for tributary operations.
7. The maximum line speed supported with control program EP/3725 Release 2 for tributary operations is 19 200 bps for LIC1, and 64 000 bps for LIC2 and LIC3.

### TIC Type, Position, and Prerequisites

There is one type of TIC with the feature code #4991. The maximum number of TICs per LABC is four.

The only prerequisite is a LABC with an empty TIC position. The position occupied within a LABC by a TIC is not significant.

Note: TICs do not have a "weight" like LICs.

### TIC Ports

As shown in Figure 1-11, a TIC connects the controller to a token-ring.

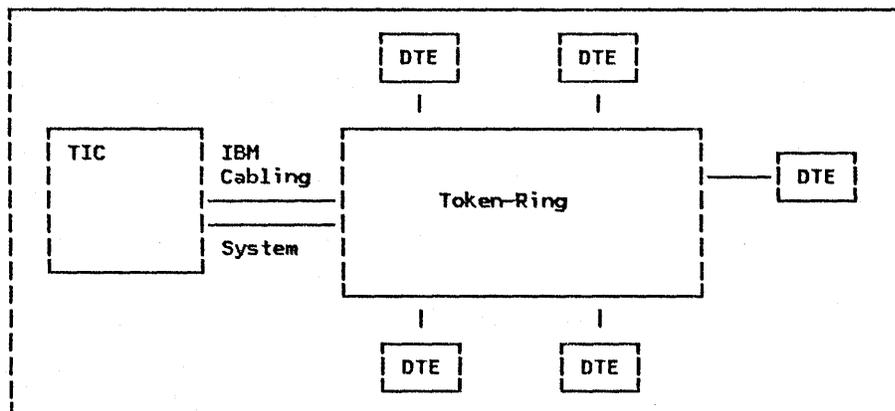


Figure 1-11. Assigning a Token-Ring to a TIC

### INTERNAL CLOCK CONTROL (ICC)

An internal clock control feature is needed when:

- A DCE is present but does not provide clocking. In this case, the DTE provides its own clocking and the ICC (FC #4667) provides clocking to the 3725 at the following rates:
  - Synchronous: 50, 110, 134.5, 200, 300, 600, and 1200 bps
  - Asynchronous: 50, 75, 100, 110, 134.5, 200, 300, 600, 1200, 2400, 4800, 9600, and 19 200 bps.

Note: The speed of the ICC is set for each DTE, at control program generation time and must match that of the internal clock of the DTE.

- No DCE is present. Therefore, no DCE clocking is provided. The DTEs are direct-attached:

- The DTE provides its own clocking and the ICC provides clocking to the 3725 at the following rates:

Synchronous: 50, 110, 134.5, 200, 300, 600, and 1200 bps  
Asynchronous: 50, 75, 100, 110, 134.5, 200, 300, 600,  
1200, 2400, 4800, 9600, and 19 200 bps.

Note: The speed of the ICC is set for each DTE, at control program generation time and must match that of the internal clock of the DTE.

- The DTE does not provide its own clocking. DTE clocking is external. The ICC (FC #4667) provides clocking to the 3725 and the DTE at the following rates:

Synchronous: 2400, 4800, 9600, 19 200, 56 000, and  
245 760 bps  
Asynchronous: 2400, 4800, 9600, and 19 200 bps.

Initially, the speed is set at 9600 bps and may be changed at installation on a per-LIC basis.

Note: ICC FC #4666 will be replaced by FC #4667. For availability dates, contact your IBM representative.



## CHAPTER 2. EXAMPLE CONFIGURATIONS

The example cases in this Chapter represent some common configurations that consider:

- The lines/token-rings in the network (Appendix A)
- The assignment of these lines/token-rings to LICs/TICs (Appendix B)
- The assignment of the LICs/TICs to LABs (Appendix C)
- The machines and features to be ordered for the network

Cases 11 and 12 are configurations that are attached to token-rings.

Case	Configuration Type	Case Characteristics
1	1 to 32 medium speed lines in BSC or SDLC	No asynchronous protocol. No high speed line.
2	Same as Case 1, but in WT E/ME/A	Different cable ordering.
3	1 to 32 medium speed lines (all protocols)	No high speed line. ICC for asynchronous.
4	Same as Case 3, but complicated example	Direct-attached devices.
5	1 to 12 medium speed lines, and 1 to 4 category-C speed lines	No need for second LAB (fewer than five LICs).
6	1 to 28 medium speed lines (all protocols) and 1 to 4 high speed lines (BSC, SDLC)	A few high speed lines. Requires a second LAB.
7	32 to 64 medium speed lines (all protocols)	No high speed lines. Requires a second LAB.
8	32 to 50 medium speed lines (all protocols) and 1 to 12 high speed lines (BSC, SDLC)	A few high speed lines. Requires third LAB (LABB).
9	97 to 256 medium speed lines (all protocols)	No high speed lines. Requires 3726 (fourth LAB).
10	65 to 256 medium speed lines (all protocols) and 1 to 4 high speed lines (BSC, SDLC)	Same as Case 9, but with a few high-speed lines.
11	Same as Case 7, plus two token-rings	Requires a second LAB and a LABC.
12	Same as Case 10, plus five token-rings	Requires two LABCs

Figure 2-1. Types of Configurations

### HOW TO USE THE EXAMPLE CASES

1. Select from Figure 2-1 the case that best corresponds to the telecommunications environment.

The examples are shown for guidance only. If there is any doubt, or if the configuration differs greatly from the cases listed, use the graphic configuration procedure in Chapter 3.

2. Update Appendixes A and C to suit the end user's application network. Filling in Appendix B is an optional, intermediate step, that illustrates the configuration rules followed.
3. Add to or subtract from the order list, according to the requirements.

**Note:** Most of the feature codes and specify codes used here apply to interface CCITT V.24 or RS232C for medium speed lines, and interface CCITT V.35 for some high speed lines. Should other interfaces, such as X.21, be used substitute the corresponding feature and specify codes (see Figure 1-10).

CASE 1

Configuration Type

One to 32 low or medium speed lines in BSC or SDLC. No asynchronous, no high speed, no 9600 bps duplex, no direct-attached devices.

Characteristics

Small and simple configuration in the US and WT A/FE.

Line Example

5 lines using BSC EBCDIC at 9600 bps  
16 lines using SDLC (HDX) at 4800 bps

Appendix A Contents

#	Line Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
1	Boston 1	9600	BSC EBCDIC	RS-232C	BOS1	1404	0	
2	Atlanta 1	9600	BSC EBCDIC	RS-232C	ATL1	1404	1	
3	Dallas 1	9600	BSC EBCDIC	RS-232C	DAL1	1404	2	
4	Miami 1	9600	BSC EBCDIC	RS-232C	MIA1	1404	3	
5	Boston 2	9600	BSC EBCDIC	RS-232C	BOS2	1404	4	
6	Boston 3	4800	SDLC (HDX)	RS-232C	BOS3	1404	5	
7	Boston 4	4800	SDLC (HDX)	RS-232C	BOS4	1404	6	
8	Chicago 1	4800	SDLC (HDX)	RS-232C	CHI1	1404	7	
9	Chicago 2	4800	SDLC (HDX)	RS-232C	CHI2	1404	8	
10	Seattle 1	4800	SDLC (HDX)	RS-232C	SEA1	1404	9	
11	Miami 2	4800	SDLC (HDX)	RS-232C	MIA2	1404	10	
12	Miami 3	4800	SDLC (HDX)	RS-232C	MIA3	1404	11	
13	Miami 4	4800	SDLC (HDX)	RS-232C	MIA4	1404	12	
14	Miami 5	4800	SDLC (HDX)	RS-232C	MIA5	1404	13	
15	Los Angeles 1	4800	SDLC (HDX)	RS-232C	LA-1	1404	14	
16	Los Angeles 2	4800	SDLC (HDX)	RS-232C	LA-2	1404	15	
17	San Francisco 1	4800	SDLC (HDX)	RS-232C	SF-1	1404	16	
18	San Francisco 2	4800	SDLC (HDX)	RS-232C	SF-2	1404	17	
19	Hartford 1	4800	SDLC (HDX)	RS-232C	HAR1	1404	18	
20	Hartford 2	4800	SDLC (HDX)	RS-232C	HAR2	1404	19	
21	Hartford 3	4800	SDLC (HDX)	RS-232C	HAR3	1404	20	

Note: 'Line Addr' column is filled in after the LICs are assigned to LABs.

LIC Contents

BOS1 ATL1 DAL1 MIA1	BOS2 BOS3 BOS4 CHI1	CHI2 SEA1 MIA2 MIA3	MIA4 MIA5 LA-1 LA-2	SF-1 SF-2 HAR1 HAR2	HAR3 free free free				
LIC1 Wt= 12 SC 9101									

## LAB-1 Contents

This figure shows how the lines will be connected to the controller. The line addresses are required when generating the control program.

LAB-1 type A	Pos. 8 -----	Pos. 7 -----	Pos. 6 -----	Pos. 5 -----	Pos. 4 -----	Pos. 3 -----	Pos. 2 -----	Pos. 1 -----
	28	24	20 HAR3	16 SF-1	12 MIA4	8 CHI2	4 BOS2	0 BOS1
	29	25	21 free	17 SF-2	13 MIA5	9 SEA1	5 BOS3	1 ATL1
	30	26	22 free	18 HAR1	14 LA-1	10 MIA2	6 BOS4	2 DAL1
Weight	31	27	23 free	19 HAR2	15 LA-2	11 MIA3	7 CHI1	3 MIA1
Sum:	-----	-----	-----	-----	-----	-----	-----	-----
72	free	free	LIC1	LIC1	LIC1	LIC1	LIC1	LIC1
-----			Wt = 12					
ICC:			FC #4911					
NO			SC #9101					

### Notes:

- All LICs being of equal weight and all cables being identical, you could change the position of the lines on those six LICs without any impact on throughput (but check that the line addresses correspond to those assigned at SYSGEN time).
- LIC1 being a four-port LIC (four cables), three more lines may be installed later (category-A speed, weight 12).
- Total LAB-1 weight being 72, LIC positions 7 and 8 are free: you can install up to two LICs in these positions, provided the total (72 + new LIC weights) does not exceed 100.

### Order List

1 3725	512K of storage are included
1 FC #1561 (CA)	Channel adapter in position 1 (CA-1)
6 FC #4911 (LIC1) 6 SC #9101	One FC #4911 for each LIC1 (four lines or fewer) One SC #9101 for each LIC1 weight 12 (modem-attached)
	Notes: 1. Color, voltage, and language need not be specified if the country default options satisfy the requirements. In Case 1, the defaults are: Pearl white (Blue in Canada), 60 Hz, 208 V, and US English. 2. LAB-1 is included in 3725 unit. Do NOT order it.
24 CG #1404	To be ordered on cable order form (see under "Cable Ordering" in Chapter 4).
1 3727	Primary operator console

**CASE 2**

**Configuration Type**

One to 32 low or medium speed lines in BSC or SDLC. No asynchronous, no high speed, no 9600 bps duplex, no direct-attached devices.

**Characteristics**

Small and simple configuration in WT E/ME/A.

**Line Example**

5 lines using BSC EBCDIC at 9600 bps  
16 lines using SDLC (HDX) at 4800 bps

**Appendix A Contents**

#	Line Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
1	London 1	9600	BSC EBCDIC	CCITT V24	LON1	1404	0	
2	Orleans 1	9600	BSC EBCDIC	CCITT V24	ORL1	1404	1	
3	Madrid 1	9600	BSC EBCDIC	CCITT V24	MAD1	1404	2	
4	Paris 1	9600	BSC EBCDIC	CCITT V24	PAR1	1404	3	
5	London 2	9600	BSC EBCDIC	CCITT V24	LON2	1404	4	
6	London 3	4800	SDLC (HDX)	CCITT V24	LON3	1404	5	
7	London 4	4800	SDLC (HDX)	CCITT V24	LON4	1404	6	
8	Glasgow 1	4800	SDLC (HDX)	CCITT V24	GLA1	1404	7	
9	Glasgow 2	4800	SDLC (HDX)	CCITT V24	GLA2	1404	8	
10	Dublin 1	4800	SDLC (HDX)	CCITT V24	DUB1	1404	9	
11	Paris 2	4800	SDLC (HDX)	CCITT V24	PAR2	1404	10	
12	Paris 3	4800	SDLC (HDX)	CCITT V24	PAR3	1404	11	
13	Paris 4	4800	SDLC (HDX)	CCITT V24	PAR4	1404	12	
14	Paris 5	4800	SDLC (HDX)	CCITT V24	PAR5	1404	13	
15	Nice 1	4800	SDLC (HDX)	CCITT V24	NIC1	1404	14	
16	Nice 2	4800	SDLC (HDX)	CCITT V24	NIC2	1404	15	
17	Lyon 1	4800	SDLC (HDX)	CCITT V24	LYO1	1404	16	
18	Lyon 2	4800	SDLC (HDX)	CCITT V24	LYO2	1404	17	
19	Bonn 1	4800	SDLC (HDX)	CCITT V24	BON1	1404	18	
20	Bonn 2	4800	SDLC (HDX)	CCITT V24	BON2	1404	19	
21	Bonn 3	4800	SDLC (HDX)	CCITT V24	BON3	1404	20	

Note: 'Line Addr' column is filled in after the LICs are assigned to LABs.

**LIC Contents**

LON1 ORL1 MAD1 PAR1	LON2 LON3 LON4 GLA1	GLA2 DUB1 PAR2 PAR3	PAR4 PAR5 NIC1 NIC2	LYO1 LYO2 BON1 BON2	BON3 free free free				
LIC1 Wt= 12 SC 9101									

## LAB-1 Contents

This figure shows how the lines will be connected to the controller. The line addresses are required when generating the control program.

LAB-1 type A	Pos. 8 -----	Pos. 7 -----	Pos. 6 -----	Pos. 5 -----	Pos. 4 -----	Pos. 3 -----	Pos. 2 -----	Pos. 1 -----
	28	24	20 BON3	16 LY01	12 PAR4	8 GLA2	4 LON2	0 LON1
	29	25	21 free	17 LY02	13 PAR5	9 DUB1	5 LON3	1 ORL1
	30	26	22 free	18 BON1	14 NIC1	10 PAR2	6 LON4	2 MAD1
Weight	31	27	23 free	19 BON2	15 NIC2	11 PAR3	7 GLA1	3 PAR1
Sum:	-----	-----	-----	-----	-----	-----	-----	-----
72	free	free	LIC1	LIC1	LIC1	LIC1	LIC1	LIC1
-----			Wt = 12					
ICC:			FC #4911					
NO			SC #9101					

### Notes:

1. All LICs being of equal weight and all cables being identical, you could change the position of the lines on those six LICs without any impact on throughput (but check that the line addresses correspond to those assigned at SYSGEN time).
2. LIC1 being a four-port LIC (four cables), three more lines may be installed later (category-A speed, weight 12).
3. Total LAB-1 weight being 72, LIC positions 7 and 8 are free: you can install up to two LICs in these positions, provided the total (72 + new LIC weights) does not exceed 100.

### Order List

1 3725	512K of storage are included
1 FC #1561 (CA)	Channel adapter in position 1 (CA-1)
6 FC #4911 (LIC1) 6 SC #9101	One FC #4911 for each LIC1 (four lines or fewer) One SC #9101 for each LIC1 weight 12 (modem-attached)
SC #2999	This specify code is mandatory when ordering in E/ME/A. It replaces the cable order form procedure for standard cabling requirements. In this example, 24 cables CG #1404 will be supplied with the 3725 (four cables for each LIC1). See details under "Cable Ordering" in Chapter 4.
	Notes: 1. Color, voltage, and language need not be specified if the country default options satisfy the requirements. In this example, the defaults are: Pearl white, 50 Hz, 220 V, and French 2. LAB-1 is included in 3725 unit. Do NOT order it.
1 3727	Primary operator console

CASE 3

Configuration Type

One to 32 low or medium speed lines in BSC or SDLC, and asynchronous. No category-B speed line (9600 bps duplex). No category-C speed line (high speed). No direct-attached devices.

Characteristics

Internal clock control (ICC) feature required for asynchronous lines.

Line Example

7 lines using start-stop at 1200 bps  
18 lines using SDLC (HDX) at 4800 bps

Appendix A Contents

#	Line Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
1	Dial-up 1	1200	Start-stop	RS-232C	DU1	1404	0	
2	Dial-up 2	1200	Start-stop	RS-232C	DU2	1404	1	
3	Dial-up 3	1200	Start-stop	RS-232C	DU3	1404	2	
4	Dial-up 4	1200	Start-stop	RS-232C	DU4	1404	3	
5	Dial-up 5	1200	Start-stop	RS-232C	DU5	1404	4	
6	Dial-up 6	1200	Start-stop	RS-232C	DU6	1404	5	
7	Dial-up 7	1200	Start-stop	RS-232C	DU7	1404	6	
8	Chicago 1	4800	SDLC (HDX)	RS-232C	CHI1	1404	7	
9	Chicago 2	4800	SDLC (HDX)	RS-232C	CHI2	1404	8	
10	Seattle 1	4800	SDLC (HDX)	RS-232C	SEA1	1404	9	
11	Miami 1	4800	SDLC (HDX)	RS-232C	MIA1	1404	10	
12	Miami 2	4800	SDLC (HDX)	RS-232C	MIA2	1404	11	
13	Miami 3	4800	SDLC (HDX)	RS-232C	MIA3	1404	12	
14	Miami 4	4800	SDLC (HDX)	RS-232C	MIA4	1404	13	
15	Los Angeles 1	4800	SDLC (HDX)	RS-232C	LA-1	1404	14	
16	Los Angeles 2	4800	SDLC (HDX)	RS-232C	LA-2	1404	15	
17	San Francisco 1	4800	SDLC (HDX)	RS-232C	SF-1	1404	16	
18	San Francisco 2	4800	SDLC (HDX)	RS-232C	SF-2	1404	17	
19	Hartford 1	4800	SDLC (HDX)	RS-232C	HAR1	1404	18	
20	Hartford 2	4800	SDLC (HDX)	RS-232C	HAR2	1404	19	
21	Hartford 3	4800	SDLC (HDX)	RS-232C	HAR3	1404	20	
22	New York 1	4800	SDLC (HDX)	RS-232C	NY1	1404	21	
23	New York 2	4800	SDLC (HDX)	RS-232C	NY2	1404	22	
24	Buffalo 1	4800	SDLC (HDX)	RS-232C	BUF1	1404	23	
25	Buffalo 2	4800	SDLC (HDX)	RS-232C	BUF2	1404	24	

Note: Column 'Line Addr' is filled in after the LICs are assigned to LABs.

LIC Contents

DU1 C	DU5 C	CHI2	MIA3	SF-1	HAR3	BUF2			
DU2 C	DU6 C	SEA1	MIA4	SF-2	NY-1	free			
DU3 C	DU7 C	MIA1	LA-1	HAR1	NY-2	free			
DU4 C	CHI1	MIA2	LA-2	HAR2	BUF1	free			
LIC1 C	LIC1 C	LIC1	LIC1	LIC1	LIC1	LIC1			
Wt=12	Wt=12	Wt=12	Wt=12	Wt=12	Wt= 12	Wt= 12			
SC 9121	SC 9121	SC 9101							

Notes:

1. Asynchronous lines and LICs requiring clocking are marked 'C'.
2. On LICs, install lines with ICC requirement first (LIC rule 4).

## LAB-1 Contents

This figure shows the machine layout. It corresponds to the configuration data set supplied by the plant. It is required to generate the control program.

LAB-1 type A	Pos. 8 -----	Pos. 7 -----	Pos. 6 -----	Pos. 5 -----	Pos. 4 -----	Pos. 3 -----	Pos. 2 -----	Pos. 1 -----
	28	24 BUF2	20 HAR3	16 SF-1	12 MIA3	8 CHI2	4 DU5 C	0 DU1 C
	29	25 free	21 NY-1	17 SF-2	13 MIA4	9 SEA1	5 DU6 C	1 DU2 C
	30	26 free	22 LA-1	18 MIA2	14 LA-1	10 MIA1	6 DU7 C	2 DU3 C
Weight Sum: 84	31 Free	27 free LIC1	23 BUF1 LIC1	19 HAR2 LIC1	15 LA-2 LIC1	11 MIA LIC1	7 CHI1 LIC1 C	3 DU4 C LIC1 C
ICC: Y FC4666 or FC4667		Wt = 12 FC #4911 SC #9101	Wt = 12 FC #4911 SC #9121	Wt = 12 FC #4911 SC #9121				

### Notes:

- LIC1 being a four-port LIC (four cables), three more lines may be installed later (category-A speed, weight 12).
- Total LAB-1 weight being 84, LIC position 8 is marked 'free': one more LIC (weight 12) can be installed in this position.
- Lines requiring an ICC can share a LIC with other types of line. The specify code to be used is the one for ICC (SC #9121 for LIC position 2 in this example).
- On LAB-1, start with LIC requiring ICC (LAB rule 4).

### Order List

1 3725	512K of storage are included
1 FC #1561 (CA)	Channel adapter in position 1 (CA-1)
7 FC #4911 (LIC1) 5 SC #9101 2 SC #9121	One FC #4911 for each LIC1 (four lines or fewer) One SC #9101 for each LIC1 weight 12 (BSC or SDLC) One SC #9121 for each LIC1 weight 12 (1200 bps Start-stop)
1 FC #4666 or FC #4667	One ICC required for asynchronous lines on LAB-1 ----- Notes: 1. Default color, voltage, and language are used. 2. LAB-1 is included in 3725 unit. Do NOT order it.
28 CG #1404	To be ordered on cable order form (see under "Cable Ordering" in Chapter 4).
1 3727	Primary operator console

**CASE 4**

**Configuration Type**

One to 32 low or medium speed lines using BSC or SDLC, and asynchronous. Some devices connected directly (without a DCE). Only Category-A speed lines (no 9600 bps duplex, no high speed).

**Characteristics**

Similar to Case 3, but the example is more complicated. Shows different line speeds mixed on one LIC.

**Line Example**

3 lines using start-stop at 2400 bps (modem-attached)
4 lines using start-stop at 300 bps (modem-attached)
6 lines using SDLC (HDX) at 9600 bps (direct-attached)
2 lines using SDLC (HDX) at 4800 bps (modem-attached)
4 lines using SDLC (DX) at 4800 bps (modem-attached)
6 lines using BSC EBCDIC at 4800 bps (modem-attached)

**Appendix A Contents**

#	Line Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
1	Dial-up 1	2400	Start-stop	RS-232C	DU1	1404	24	
2	Dial-up 2	2400	Start-stop	RS-232C	DU2	1404	25	
3	Dial-up 3	2400	Start-stop	RS-232C	DU3	1404	26	
4	Dial-up 4	300	Start-stop	RS-232C	DU4	1404	27	
5	Dial-up 5	300	Start-stop	RS-232C	DU5	1404	0	
6	Dial-up 6	300	Start-stop	RS-232C	DU6	1404	1	
7	Dial-up 7	300	Start-stop	RS-232C	DU7	1404	2	
8	Local 1	9600	SDLC (HDX)	RS-232C	None	1400	3	
9	Local 2	9600	SDLC (HDX)	RS-232C	None	1400	4	
10	Local 3	9600	SDLC (HDX)	RS-232C	None	1400	5	
11	Local 4	9600	SDLC (HDX)	RS-232C	None	1400	6	
12	Local 5	9600	SDLC (HDX)	RS-232C	None	1400	7	
13	Local 6	9600	SDLC (HDX)	RS-232C	None	1400	8	
14	Miami 1	4800	SDLC (HDX)	RS-232C	MIA1	1404	9	
15	Los Angeles 1	4800	SDLC (HDX)	RS-232C	LA-1	1404	10	
16	Los Angeles 2	4800	SDLC (DX)	RS-232C	LA-2	1404	11	
17	San Francisco 1	4800	SDLC (DX)	RS-232C	SF-1	1404	12	
18	San Francisco 2	4800	SDLC (DX)	RS-232C	SF-2	1404	13	
19	Hartford 1	4800	SDLC (DX)	RS-232C	HAR1	1404	14	
20	Hartford 2	4800	BSC EBCDIC	RS-232C	HAR2	1404	15	
21	Hartford 3	4800	BSC EBCDIC	RS-232C	HAR3	1404	16	
22	New York 1	4800	BSC EBCDIC	RS-232C	NY1	1404	17	
23	New York 2	4800	BSC EBCDIC	RS-232C	NY2	1404	18	
24	Buffalo 1	4800	BSC EBCDIC	RS-232C	BUF1	1404	19	
25	Buffalo 2	4800	BSC EBCDIC	RS-232C	BUF2	1404	20	

Note: 'Line Addr' column is filled in after the LICs are assigned to LABs.

**LIC Contents**

DU1 C	DU5 C	Loc2 D	Loc6 D	SF-1	HAR3	BUF2			
DU2 C	DU6 C	Loc3 D	MIA1	SF-2	NY-1	free			
DU3 C	DU7 C	Loc4 D	LA-1	HAR1	NY-2	free			
DU4 C	Loc1 D	Loc5 D	LA-2	HAR2	BUF1	free			
LIC1 C	LIC1 C	LIC1 C	LIC1 C	LIC1	LIC1	LIC1			
Wt= 25	Wt= 12								
SC 9122	SC 9121	SC 9121	SC 9121	SC 9101	SC 9101	SC 9101			

**Notes:**

- Asynchronous lines and LICs requiring clocking are marked 'C'. Lines attached directly to DTEs (without DCE) are marked 'D' to show that a direct-attached cable group is needed.
- On LICs, when line weights are equal, install lines with ICC requirement first, asynchronous lines followed by direct-attached lines (LIC rule 4).

## LAB-1 Contents

This figure shows the machine layout. It corresponds to the configuration data set supplied by the plant. It is required to generate the control program.

LAB-1 type A	Pos. 8	Pos. 7	Pos. 6	Pos. 5	Pos. 4	Pos. 3	Pos. 2	Pos. 1
	28	24 DU1 C	20 BUF2	16 HAR3	12 SF-1	8 Loc6 D	4 Loc2 D	0 DU5 C
	29	25 DU2 C	21 free	17 NY-1	13 SF-2	9 MIA1	5 Loc3 D	1 DU6 C
	30	26 DU3 C	22 free	18 NY-2	14 HAR1	10 LA-1	6 Loc4 D	2 DU7 C
Weight Sum:	31	27 DU4 C	23 free	19 BUF1	15 HAR2	11 LA-2	7 Loc5 D	3 Loc1 D
97	N/A	LIC1 C	LIC1	LIC1	LIC1	LIC1 C	LIC1 C	LIC1 C
ICC: Y		Wt = 25	Wt = 12					
FC4666		FC #4911						
or		SC #9122	SC #9101	SC #9101	SC #9101	SC #9121	SC #9121	SC #9121
FC4667								

### Notes:

1. LIC1 being a four-port LIC (four cables), three more lines may be installed later (category-A speed, weight 12).
2. Total LAB-1 weight being 97, LIC position 8 is marked 'not available' (N/A): no LIC can be installed in this position (minimum LIC weight being 12, the total would exceed 100).
3. Lines requiring an ICC can share a LIC with other types of line. The specify code to be used is the one for ICC (SC #9121 for LIC position 3 in this example).
4. On LAB-1, start with lowest weight LICs (LAB rule 1), and when LIC weights are equal, start with LICs requiring clocking (LAB rule 4).

### Order List

1 3725	512K of storage are included
SC #9063	Color: Specifies blue (default is pearl white)
SC #9914	Language: US default is US English.
	Voltage: Specifies 60 Hz, 240 V (US default is 60 Hz, 208 V)
1 FC #1561 (CA)	Channel adapter in position 1 (CA-1)
7 FC #4911 (LIC1)	One FC #4911 for each LIC1 (four lines or fewer)
3 SC #9121	One SC #9121 for each LIC1 weight 12 (300 bps start-stop or direct-attachment)
3 SC #9101	One SC #9101 for each LIC1 weight 12 (BSC or SDLC)
1 SC #9122	One SC #9122 for each LIC1 weight 25 (2400 bps start-stop)
1 FC #4666 or FC #4667	One ICC required for asynchronous and direct-attached lines
	----- Note: LAB-1 is included in 3725 unit. Do NOT order it.
22 CG #1404 6 CG #1400	To be ordered on cable order form (see under "Cable Ordering" in Chapter 4).
1 3727	Primary operator console

**CASE 5**

**Configuration Type**

One to 12 low and medium speed lines, and 1 to 4 lines of category-C speed (> 9600 bps duplex).

**Characteristics**

The limited number of lines allows high speed lines on left half of LAB-1 (LAB rule 8).

**Line Example**

1 line using SDLC (DX) at 56 000 bps (category-C speed, V.35)  
 4 lines using SDLC (DX) at 9600 bps (category-B speed)  
 6 lines using BSC EBCDIC at 4800 bps

**Appendix A Contents**

#	Line Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
1	Boston 1	9600	SDLC (DX)	RS-232C	BOS1	1404	8	
2	Atlanta 1	9600	SDLC (DX)	RS-232C	ATL1	1404	9	
3	Dallas 1	9600	SDLC (DX)	RS-232C	DAL1	1404	10	
4	Miami 1	9600	SDLC (DX)	RS-232C	MIA1	1404	11	
5	New York 1	56000	SDLC (DX)	V.35	NY-1	0087	12	
6	Los Angeles 1	4800	BSC EBCDIC	RS-232C	LA-1	1404	0	
7	Los Angeles 2	4800	BSC EBCDIC	RS-232C	LA-2	1404	1	
8	San Francisco 1	4800	BSC EBCDIC	RS-232C	SF-1	1404	2	
9	San Francisco 2	4800	BSC EBCDIC	RS-232C	SF-2	1404	3	
10	Hartford 1	4800	BSC EBCDIC	RS-232C	HAR1	1404	4	
11	Hartford 2	4800	BSC EBCDIC	RS-232C	HAR2	1404	5	

Note: 'Line Addr' column is filled in after the LICs are assigned to LABs.

**LIC Contents**

NY-1 N/A N/A N/A	BOS1 ATL1 DAL1 MIA1	LA-1 LA-2 SF-1 SF-2	HAR1 HAR2 free free						
LIC3 Wt= 42 SC 9302	LIC1 Wt= 25 SC 9102	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101						

Note: On LICs, install lines with heaviest weights first (LIC rule 2).

## LAB-1 Contents

This figure shows the machine layout. It corresponds to the configuration data set supplied by the plant. It is required to generate the control program.

LAB-1 type A	Pos. 8 -----	Pos. 7 -----	Pos. 6 -----	Pos. 5 -----	Pos. 4 -----	Pos. 3 -----	Pos. 2 -----	Pos. 1 -----
	28	24	20	16	12 NY-1	8 BOS1	4 HAR1	0 LA-1
	29	25	21	17	13 N/A	9 ATL1	5 HAR2	1 LA-2
	30	26	22	18	14 N/A	10 DAL1	6 free	2 SF-1
Weight Sum:	31	27	23	19	15 N/A	11 MIA1	7 free	3 SF-2
91	N/A	N/A	N/A	N/A	LIC3	LIC1	LIC1	LIC1
ICC: NO					Wt = 42 FC #4931 SC #9302	Wt = 25 FC #4911 SC #9102	Wt = 12 FC #4911 SC #9101	Wt = 12 FC #4911 SC #9101

### Notes:

- On LAB-1, start with LICs with lowest weights (LAB rule 1).
- On LAB-1, which is a LAB type A, you may install category-C speed lines (> 9600 bps) in the left part of the right half-LAB if no lower speed LIC remains to be installed (LAB rule 8, exception to LAB rule 5).
- When a category-C speed LIC (> 9600 bps duplex) is installed on a LABA, LIC positions 5, 6, 7, and 8 are marked 'not available' (N/A): no LICs can be installed in these positions.

### Order List

1 3725	512K of storage are included
1 FC #1561 (CA)	Channel adapter in position 1 (CA-1)
3 FC #4911 (LIC1) 2 SC #9101 1 SC #9102	One FC #4911 for each LIC1 (four lines or fewer) One SC #9101 for each LIC1 weight 12 (modem-attached) One SC #9102 for each LIC1 weight 25 (9600 bps duplex)
1 FC #4931 (LIC3) 1 SC #9302	One FC #4931 for each LIC3 (one line only) One SC #9302 for each LIC3 weight 42 (modem-attached)
	Notes: 1. Default color, voltage, and language are used. 2. LAB-1 is included in 3725 unit. Do NOT order it.
12 CG #1404 1 CG #0087	To be ordered on cable order form (see under "Cable Ordering" in Chapter 4).
1 3727	Primary operator console

**CASE 6**

**Configuration Type**

One to 32 low and medium speed lines in BSC, SDLC, and asynchronous, and 1 to 4 lines of speed category-C (>9600 bps duplex). Some direct-attached devices.

**Characteristics**

Like Case 5, but a second LAB is required.

**Line Example**

4 lines using SDLC (DX) at 19 200 bps (category-C speed)  
 4 lines using SDLC (DX) at 9600 bps (category-B speed)  
 8 lines using SDLC (HDX) at 4800 bps (direct-attached)  
 10 lines using BSC EBCDIC at 4800 bps (modem-attached)

**Appendix A Contents**

#	Line Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
1	Boston 1	19200	SDLC (DX)	RS-232C	BOS1	1404	32	
2	Atlanta 1	19200	SDLC (DX)	RS-232C	ATL1	1404	33	
3	Dallas 1	19200	SDLC (DX)	RS-232C	DAL1	1404	34	
4	Miami 1	19200	SDLC (DX)	RS-232C	MIA1	1404	35	
5	Boston 2	9600	SDLC (DX)	RS-232C	BOS2	1404	20	
6	Boston 3	9600	SDLC (DX)	RS-232C	BOS3	1404	21	
7	Boston 4	9600	SDLC (DX)	RS-232C	BOS4	1404	22	
8	Boston 5	9600	SDLC (DX)	RS-232C	BOS5	1404	23	
9	Local 1	4800	SDLC (HDX)	RS-232C	None	1400	0	
10	Local 2	4800	SDLC (HDX)	RS-232C	None	1400	1	
11	Local 3	4800	SDLC (HDX)	RS-232C	None	1400	2	
12	Local 4	4800	SDLC (HDX)	RS-232C	None	1400	3	
13	Local 5	4800	SDLC (HDX)	RS-232C	None	1400	4	
14	Local 6	4800	SDLC (HDX)	RS-232C	None	1400	5	
15	Local 7	4800	SDLC (HDX)	RS-232C	None	1400	6	
16	Local 8	4800	SDLC (HDX)	RS-232C	None	1400	7	
17	Los Angeles 1	4800	BSC EBCDIC	RS-232C	LA-1	1404	8	
18	Los Angeles 2	4800	BSC EBCDIC	RS-232C	LA-2	1404	9	
19	Los Angeles 3	4800	BSC EBCDIC	RS-232C	LA-3	1404	10	
20	Los Angeles 4	4800	BSC EBCDIC	RS-232C	LA-4	1404	11	
21	Los Angeles 5	4800	BSC EBCDIC	RS-232C	LA-5	1404	12	
22	Los Angeles 6	4800	BSC EBCDIC	RS-232C	LA-6	1404	13	
23	Hartford 1	4800	BSC EBCDIC	RS-232C	HAR1	1404	14	
24	Hartford 2	4800	BSC EBCDIC	RS-232C	HAR2	1404	15	
25	Hartford 3	4800	BSC EBCDIC	RS-232C	HAR3	1404	16	
26	Hartford 4	4800	BSC EBCDIC	RS-232C	HAR4	1404	17	

Note: 'Line Addr' column is filled in after the LICs are assigned to LABs.

**LIC Contents**

BOS1	BOS2	Loc1 D	Loc5 D	LA-1	LA-5	HAR3			
ATL1	BOS3	Loc2 D	Loc6 D	LA-2	LA-6	HAR4			
DAL1	BOS4	Loc3 D	Loc7 D	LA-3	HAR1	free			
MIA1	BOS5	Loc4 D	Loc8 D	LA-4	HAR2	free			
LIC1	LIC1	LIC1 C	LIC1 C	LIC1	LIC1	LIC1			
Wt=50	Wt=25	Wt=12	Wt=12	Wt=12	Wt= 12	Wt= 12			
SC 9103	SC 9102	SC 9121	SC 9121	SC 9101	SC 9101	SC 9101			

**Notes:**

- Asynchronous lines and LICs requiring clocking are marked 'C'. Lines attached directly to DTEs (without DCE) are marked 'D' to show that a direct-attached cable group is needed.
- On LICs, install lines with heaviest weights first (LIC rule 2); and when line weights are equal, install lines with ICC requirement first (LIC rule 4).

**LAB-1 and LAB-2 Contents**

LAB-1 type A	Pos. 8 -----	Pos. 7 -----	Pos. 6 -----	Pos. 5 -----	Pos. 4 -----	Pos. 3 -----	Pos. 2 -----	Pos. 1 -----
	28	24	20 BOS2	16 HAR3	12 LA-5	8 LA-1	4 Loc5 D	0 Loc1 D
	29	25	21 BOS3	17 HAR4	13 LA-6	9 LA-2	5 Loc6 D	1 Loc2 D
	30	26	22 BOS4	18 free	14 Har1	10 LA-3	6 Loc7 D	2 Loc3 D
Weight Sum: 85	31 ----- N/A	27 ----- free	23 BOS5 LIC1 Wt = 25 FC #4911 SC #9102	19 free LIC1 Wt = 12 FC #4911 SC #9101	15 HAR2 LIC1 Wt = 12 FC #4911 SC #9101	11 LA-4 LIC1 Wt = 12 FC #4911 SC #9101	7 Loc8 D LIC1 C Wt = 12 FC #4911 SC #9121	3 Loc4 D LIC1 C Wt = 12 FC #4911 SC #9121
ICC: Y FC4666 or FC4667								

LAB-2 type A	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----
	32 BOS1	36	40	44	48	52	56	60
	33 ATL1	37	41	45	49	53	57	61
	34 DAL1	38	42	46	50	54	58	62
Weight Sum: 50	35 MIA1 LIC1 Wt = 50 FC #4911 SC #9103	39 ----- free	43 ----- free	47 ----- free	51 ----- N/A	55 ----- N/A	59 ----- N/A	63 ----- N/A
ICC: NO								

**Notes:**

1. On LAB-1, start with LICs with lowest weights (LAB rule 1), and when weights are equal, start with LICs requiring clocking.
2. LAB-1 should not be used for category-C speed lines (LAB rule 5). LAB rule 8 gives the exception to this rule.
3. Total LAB-1 weight being 85, LIC position 7 is marked 'free': one more LIC (weight 12) can be installed.
4. On LAB-2, which is a LAB type A, you may install category-C speed lines (>9600 duplex) in the left half-LAB if no lower speed LIC remains to be installed (LAB rule 8, exception to LAB rule 5). LIC positions 5 through 8 are marked 'not available' (N/A).
5. Weight sum of CS position 1 on LAB-2 being 50, LIC positions 2, 3, and 4 are marked 'free': up to three more LICs can be installed.

Order List

1 3725 1 FC #1561 (CA) 7 FC #4911 (LIC1) 2 SC #9121 3 SC #9101 1 SC #9102 1 SC #9103 1 FC #4666 or FC #4667	512K of storage are included Channel adapter in position 1 (CA-1) One SC #4911 for each LIC1 (four lines or fewer) One SC #9121 for each LIC1 weight 12 (direct-attached) One SC #9101 for each LIC1 weight 12 (BSC or SDLC) One SC #9102 for each LIC1 weight 25 (9600 duplex) One SC #9103 for each LIC1 weight 50 (19 200 bps) One ICC required for direct-attached lines on LAB-1 ----- Notes: 1. Default color, voltage, and language are used 2. LAB-1 and LAB-2 are included in 3725 unit. Do NOT order them.
20 CG #1404 8 CG #1400	To be ordered on cable order form (see under "Cable Ordering" in Chapter 4).
1 3727	Primary operator console

CASE 7

Configuration Type

From 32 to 64 low and medium speed lines in BSC, SDLC, and asynchronous, modem-attached or direct-attached. No high speed, no 9600 bps duplex.

Characteristics

Requires second LAB. Has an alternate connection to a second host processor.

Line Example

10 lines using SDLC (HDX) at 4800 bps (direct-attached)  
 30 lines using BSC EBCDIC at 9600 bps (modem-attached)  
 12 lines using start-stop at 1200 bps (modem-attached)

Appendix A Contents

#	Line Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
1	Local 1	4800	SDLC (HDX)	RS-232C	None	1400	12	
2	Local 2	4800	SDLC (HDX)	RS-232C	None	1400	13	
3	Local 3	4800	SDLC (HDX)	RS-232C	None	1400	14	
4	Local 4	4800	SDLC (HDX)	RS-232C	None	1400	15	
5	Local 5	4800	SDLC (HDX)	RS-232C	None	1400	16	
6	Local 6	4800	SDLC (HDX)	RS-232C	None	1400	17	
7	Local 7	4800	SDLC (HDX)	RS-232C	None	1400	18	
8	Local 8	4800	SDLC (HDX)	RS-232C	None	1400	19	
9	Local 9	4800	SDLC (HDX)	RS-232C	None	1400	20	
10	Local 10	4800	SDLC (HDX)	RS-232C	None	1400	21	
11-40	(New York 1-30)	9600	BSC EBCDIC	RS-232C	NY1-30	1404	22-51	
41-52	(Dial-up 1-12)	1200	Start-stop	RS-232C	DUI-12	1404	0-11	

Note: 'Line Addr' column is filled in after the LICs are assigned to LABs.

LIC Contents

DU1 C	DU5 C	DU9 C	Loc1 D	Loc5 D	Loc9 D	NY-3	NY-7	NY-11	NY-15
DU2 C	DU6 C	DU10 C	Loc2 D	Loc6 D	Loc10 D	NY-4	NY-8	NY-12	NY-16
DU3 C	DU7 C	DU11 C	Loc3 D	Loc7 D	NY-1	NY-5	NY-9	NY-13	NY-17
DU4 C	DU8 C	DU12 C	Loc4 D	Loc8 D	NY-2	NY-6	NY-10	NY-14	NY-18
LIC1 C Wt=12 SC 9121	LIC1 C Wt= 12 SC 9121	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101				

NY-19	NY-23	NY-27							
NY-20	NY-24	NY-28							
NY-21	NY-25	NY-29							
NY-22	NY-26	NY-30							
LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC9101	LIC1 Wt= 12 SC 9101							

Notes:

- Asynchronous lines and LICs requiring clocking are marked 'C'. Lines attached directly to DTEs (without DCE) are marked 'D' to show that a direct-attached cable group is needed.
- On LICs, install lines with ICC requirement first (LIC rule 4).

### LAB-1 and LAB-2 Contents

LAB-1 type A	Pos. 8 -----	Pos. 7 -----	Pos. 6 -----	Pos. 5 -----	Pos. 4 -----	Pos. 3 -----	Pos. 2 -----	Pos. 1 -----
	28 NY-7	24 NY-3	20 Loc9 D	16 Loc5 D	12 Loc1 D	8 DU9 C	4 DU5 C	0 DU1 C
	29 NY-8	25 NY-4	21 Loc10 D	17 Loc6 D	13 Loc2 D	9 DU10 C	5 DU6 C	1 DU2 C
	30 NY-9	26 NY-5	22 NY-1	18 Loc7 D	14 Loc3 D	10 DU11 C	6 DU7 C	2 DU3 C
Weight	31 NY-10	27 NY-6	23 NY-2	19 Loc8 D	15 Loc4 D	11 DU12 C	7 DU8 C	3 DU4 C
Sum:	-----	-----	-----	-----	-----	-----	-----	-----
96	LIC1	LIC1	LIC1 C					
-----	Wt = 12							
ICC: Y	FC #4911							
FC4666 or FC4667	SC #9101	SC #9101	SC #9121					

LAB-2 type A	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----
	32 NY-11	36 NY-15	40 NY-19	44 NY-23	48 NY-27	52	56	60
	33 NY-12	37 NY-16	41 NY-20	45 NY-24	49 NY-28	53	57	61
	34 NY-13	38 NY-17	42 NY-21	46 NY-25	50 NY-29	54	58	62
Weight	35 NY-14	39 NY-18	43 NY-22	47 NY-26	51 NY-30	55	59	63
Sum:	-----	-----	-----	-----	-----	-----	-----	-----
60	LIC1	LIC1	LIC1	LIC1	LIC1	free	free	free
-----	Wt = 12							
ICC:	FC #4911							
NO	SC #9101							

#### Notes:

- On LAB-1 and LAB-2, start with LICs requiring clocking, first asynchronous then direct-attached lines (LAB rule 4).
- Total LAB-2 weight being 60, LIC position 6 to 8 are marked 'free': you can order an MES for three more LICs, without exceeding 100 for the scanner weight.

#### Order List

1 3725	512K of storage are included
1 FC #1561 (CA) 1 FC #8320 (TPS)	Channel adapter in position 1 (CA-1) Two-processor switch for CA-1 (TPS-1)
13 FC #4911 (LIC1) 6 SC #9121 7 SC #9101	One SC #4911 for each LIC1 (four lines or fewer) One for each LIC1 weight 12 (1200 bps start-stop and direct-attachment) One for each LIC1 weight 12 (BSC, SDLC via modem)
1 FC #4666 or FC #4667	One ICC for LAB-1 with direct-attached or asynchronous lines.
	Notes: 1. Default color, voltage, and language are used. 2. LAB-1 and LAB-2 are included in 3725 unit. Do NOT order them.
42 CG #1404 10 CG #1400	To be ordered on cable order form (see under "Cable Ordering" in Chapter 4).

1 3727	Primary operator console
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CASE 8

Configuration Type

From 32 to 50 low and medium speed lines in BSC, SDLC, and asynchronous, modem-attached or direct-attached. Some high speed, some 9600 bps duplex.

Characteristics

Requires three LABs.

Line Example

10 lines using SDLC (HDX) at 4800 bps (direct-attached)  
44 lines using BSC EBCDIC at 4800 bps (modem-attached)  
1 line using SDLC (DX) at 56 000 bps (interface V.35: LIC3)  
1 line using SDLC (DX) at 50 000 bps (wideband data service: LIC2)  
4 lines using SDLC (DX) at 9600 bps (modem-attached)

Appendix A Contents

#	Line Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
1	Local 1	4800	SDLC (HDX)	RS-232C	None	1400	0	
2	Local 2	4800	SDLC (HDX)	RS-232C	None	1400	1	
3	Local 3	4800	SDLC (HDX)	RS-232C	None	1400	2	
4	Local 4	4800	SDLC (HDX)	RS-232C	None	1400	3	
5	Local 5	4800	SDLC (HDX)	RS-232C	None	1400	4	
6	Local 6	4800	SDLC (HDX)	RS-232C	None	1400	5	
7	Local 7	4800	SDLC (HDX)	RS-232C	None	1400	6	
8	Local 8	4800	SDLC (HDX)	RS-232C	None	1400	7	
9	Local 9	4800	SDLC (HDX)	RS-232C	None	1400	8	
10	Local 10	4800	SDLC (HDX)	RS-232C	None	1400	9	
11-54	(New York 1-44)	9600	BSC EBCDIC	RS-232C	NY1-44	1404	10-53	
55	Boston 1	50000	SDLC (DX)	Wideband	BOS1	0086	64	
56	Boston 2	56000	SDLC (DX)	V.35	BOS2	0087	68	
57	Miami 1	9600	SDLC (DX)	RS-232C	MIA1	1404	56	
58	Miami 2	9600	SDLC (DX)	RS-232C	MIA2	1404	57	
59	Miami 3	9600	SDLC (DX)	RS-232C	MIA3	1404	58	
60	Miami 4	9600	SDLC (DX)	RS-232C	MIA4	1404	59	

Note: 'Line Addr' column is filled in after the LICs are assigned to LABs.

**LIC Contents**

BOS1 N/A N/A N/A	BOS2 N/A N/A N/A	MIA1 MIA2 MIA3 MIA4	Loc1 D Loc2 D Loc3 D Loc4 D	Loc5 D Loc6 D Loc7 D Loc8 D	Loc9 D Loc10 D NY-1 NY-2	NY-3 NY-4 NY-5 NY-6	NY-7 NY-8 NY-9 NY-10	NY-11 NY-12 NY-13 NY-14	NY-15 NY-16 NY-17 NY-18
LIC2 Wt= 42 SC 9202	LIC3 Wt= 42 SC 9302	LIC1 Wt= 25 SC 9102	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC9121	LIC1 C Wt= 12 SC9121	LIC1 Wt= 12 SC9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101

NY-19 NY-20 NY-21 NY-22	NY-23 NY-24 NY-25 NY-26	NY-27 NY-28 NY-29 NY-30	NY-31 NY-32 NY-33 NY-34	NY-35 NY-36 NY-37 NY-38	NY-39 NY-40 NY-41 NY-42	NY-43 NY-44 free free			
LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101								

**Notes:**

- Asynchronous lines and LICs requiring clocking are marked 'C'. Lines attached directly to DTEs (without DCE) are marked 'D' to show that a direct-attached cable group is needed.
- On LICs, install lines with heaviest weights first (LIC rule 2); and when line weights are equal, install lines with ICC requirement first (LIC rule 4).

LAB-1, LAB-2, and LAB-3 Contents

LAB-1 type A	Pos. 8 -----	Pos. 7 -----	Pos. 6 -----	Pos. 5 -----	Pos. 4 -----	Pos. 3 -----	Pos. 2 -----	Pos. 1 -----
	28 NY-19	24 NY-15	20 NY-11	16 NY-7	12 NY-3	8 Loc9 D	4 Loc5 D	0 Loc1 D
	29 NY-20	25 NY-16	21 NY-12	17 NY-8	13 NY-4	9 Loc10 D	5 Loc6 D	1 Loc2 D
	30 NY-21	26 NY-17	22 NY-13	18 NY-9	14 NY-5	10 NY-1	6 Loc7 D	2 Loc3 D
Weight Sum: 96	31 NY-22	27 NY-18	23 NY-14	19 NY-10	15 NY-6	11 NY-2	7 Loc8 D	3 Loc4 D
-----	LIC1	LIC1	LIC1	LIC1	LIC1	LIC1 C	LIC1 C	LIC1 C
-----	Wt = 12							
ICC: Y	FC #4911							
FC4666 or FC4667	SC #9101	SC #9121	SC #9121	SC #9121				

LAB-2 type A	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----
	32 NY-23	36 NY-27	40 NY-31	44 NY-35	48 NY-39	52 NY-43	56 MIA1	60
	33 NY-24	37 NY-28	41 NY-32	45 NY-36	49 NY-40	53 NY-44	57 MIA2	61
	34 NY-25	38 NY-29	42 NY-33	46 NY-37	50 NY-41	54 free	58 MIA3	62
Weight Sum: 97	35 NY-26	39 NY-30	43 NY-34	47 NY-38	51 NY-42	55 free	59 MIA4	63
-----	LIC1	N/A						
-----	Wt = 12	Wt = 25						
ICC: NO	FC #4911							
	SC #9101	FC #9102						

LAB-3 type B	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----	LABB
	64 BOS1	68 BOS2	72	76	80	84	88	92	
	65 N/A	69 N/A	73	77	81	85	89	93	
	66 N/A	70 N/A	74	78	82	86	90	94	
Weight Sum: 84	67 N/A	71 N/A	75	79	83	87	91	95	
-----	LIC2	LIC3	free	N/A	free	free	free	free	Weight Sum: -----
-----	Wt = 42	Wt = 42							
ICC: NO	FC #4921	FC #4931							ICC: NO
	SC #9202	SC #9302							

Notes:

1. On LAB-1 and LAB-2, start with LICs with lowest weights (LAB rule 1); and when weights are equal, start with LICs requiring clocking (LAB rule 4).
2. LAB-1 and LAB-2 should not be used for category-C speed lines (LAB rule 5).
3. Total LAB-2 weight being 97, LIC position 8 is marked 'not available' (N/A).
4. First LIC on LAB-3 has a weight over 18: it must be a LAB type B (LAB rule 7).
5. Each half of a LABB (LAB-3) has a maximum weight capacity of 100 and the assignment rules (LAB rules 2, 3, and 4) must be applied to each half-LAB separately (LAB rule 6).
6. On LAB-3, total weight of first scanner (CS Pos. 1) being 84, LIC position 3 is marked 'free': one more LIC (weight 12) can be installed without exceeding 100 for the scanner weight.
7. On LAB-3, total weight of second scanner (CS Pos. 2) being 0, LIC positions 5, 6, 7, and 8 are marked 'free': up to four more LICs can be installed.

Order List

1 3725	512K of storage are included
1 FC #7100 (SI)	One 256K-storage increment (total of 768K)
1 FC #1561 (CA)	Channel adapter in position 1 (CA-1)
1 FC #8320 (TPS)	Two-processor switch for CA-1 (TPS-1)
1 FC #4772 (LABB)	One for each LABB (starting from LAB-3) (two LABAs are already included in the basic 3725 in LAB positions 1 and 2)
1 FC #4921 (LIC2)	One for each LIC2 (one line per LIC)
1 SC #9202	One for each LIC2 weight 42 (modem-attached)
1 FC #4931 (LIC3)	One for each LIC3 (one line per LIC)
1 SC #9302	One for each LIC3 weight 42 (modem-attached)
15 FC #4911 (LIC1)	One for each LIC1 (four lines or fewer)
3 SC #9121	One for each LIC1 weight 12 (SDLC direct-attached)
11 SC #9101	One for each LIC1 weight 12 (BSC, SDLC via modem)
1 SC #9102	One for each LIC1 weight 25 (modem-attached)
1 FC #4666 or FC #4667	One ICC required for direct-attached lines in LAB position 1 ----- Note: Default color, voltage, and language are used.
50 CG #1404	To be ordered on cable order form (see under "Cable Ordering" in Chapter 4).
10 CG #1400	LIC1 via DCE
1 CG #0086	LIC1 direct-attached
1 CG #0087	LIC2
	LIC3 via DCE
1 3727	Primary operator console

CASE 9

Configuration Type

More than 100 low and medium speed lines in BSC, SDLC, and asynchronous. Some 9600 bps duplex (category-B speed), no high speed line.

Characteristics

Requires the 3726 for the fourth LAB.

Line Example

20 lines using start-stop at 1200 bps  
 78 lines using BSC EBCDIC at 4800 bps  
 8 lines using SDLC (DX) at 9600 bps  
  
 2 channel adapters

Appendix A Contents

#	Line Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
1	Dial-up 1	1200	Start-stop	RS-232C	DU1	1404	0	
2	Dial-up 2	1200	Start-stop	RS-232C	DU2	1404	1	
3	Dial-up 3	1200	Start-stop	RS-232C	DU3	1404	2	
4	Dial-up 4	1200	Start-stop	RS-232C	DU4	1404	3	
5	Dial-up 5	1200	Start-stop	RS-232C	DU5	1404	4	
6	Dial-up 6	1200	Start-stop	RS-232C	DU6	1404	5	
7	Dial-up 7	1200	Start-stop	RS-232C	DU7	1404	6	
8	Dial-up 8	1200	Start-stop	RS-232C	DU8	1404	7	
9	Dial-up 9	1200	Start-stop	RS-232C	DU9	1404	8	
10	Dial-up 10	1200	Start-stop	RS-232C	DU10	1404	9	
11	Dial-up 11	1200	Start-stop	RS-232C	DU11	1404	10	
12	Dial-up 12	1200	Start-stop	RS-232C	DU12	1404	11	
13	Dial-up 13	1200	Start-stop	RS-232C	DU13	1404	12	
14	Dial-up 14	1200	Start-stop	RS-232C	DU14	1404	13	
15	Dial-up 15	1200	Start-stop	RS-232C	DU15	1404	14	
16	Dial-up 16	1200	Start-stop	RS-232C	DU16	1404	15	
17	Dial-up 17	1200	Start-stop	RS-232C	DU17	1404	16	
18	Dial-up 18	1200	Start-stop	RS-232C	DU18	1404	17	
19	Dial-up 19	1200	Start-stop	RS-232C	DU19	1404	18	
20	Dial-up 20	1200	Start-stop	RS-232C	DU20	1404	19	
21-64	New York 1-44	4800	BSC EBCDIC	RS-232C	NY1-44	1404	20-63	
65-99	New York 45-78	4800	BSC EBCDIC	RS-232C	NY45-78	1404	72-105	
99	Miami 1	9600	SDLC (DX)	RS-232C	MIA1	1404	64	
100	Miami 2	9600	SDLC (DX)	RS-232C	MIA2	1404	65	
101	Miami 3	9600	SDLC (DX)	RS-232C	MIA3	1404	66	
102	Miami 4	9600	SDLC (DX)	RS-232C	MIA4	1404	67	
103	Miami 5	9600	SDLC (DX)	RS-232C	MIA5	1404	68	
104	Miami 6	9600	SDLC (DX)	RS-232C	MIA6	1404	69	
105	Miami 7	9600	SDLC (DX)	RS-232C	MIA7	1404	70	
106	Miami 8	9600	SDLC (DX)	RS-232C	MIA8	1404	71	

Note: 'Line Addr' column is filled in after the LICs are assigned to LABs.

**LIC Contents**

MIA1 MIA2 MIA3 MIA4	MIA5 MIA6 MIA7 MIA8	DU1 C DU2 C DU3 C DU4 C	DU5 C DU6 C DU7 C DU8 C	DU9 C DU10 C DU11 C DU12 C	DU13 C DU14 C DU15 C DU16 C	DU17 C DU18 C DU19 C DU20 C	NY-1 NY-2 NY-3 NY-4	NY-5 NY-6 NY-7 NY-8	NY-9 NY-10 NY-11 NY-12
LIC1 Wt= 25 SC 9102	LIC1 Wt= 25 SC 9102	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC 9121	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101

NY-13 NY-14 NY-15 NY-16	NY-17 NY-18 NY-19 NY-20	NY-21 NY-22 NY-23 NY-24	NY-25 NY-26 NY-27 NY-28	NY-29 NY-30 NY-31 NY-32	NY-33 NY-34 NY-35 NY-36	NY-37 NY-38 NY-39 NY-40	NY-41 NY-42 NY-43 NY-44	NY-45 NY-46 NY-47 NY-48	NY-49 NY-50 NY-51 NY-52
LIC1 Wt= 12 SC 9101									

NY-53 NY-54 NY-55 NY-56	NY-57 NY-58 NY-59 NY-60	NY-61 NY-62 NY-63 NY-64	NY-65 NY-66 NY-67 NY-68	NY-69 NY-60 NY-71 NY-72	NY-73 NY-74 NY-75 NY-76	NY-77 NY-78 free free			
LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt=12 SC 9101	LIC1 Wt=12 SC 9101	LIC1 Wt=12 SC 9101			

**Notes:**

- Asynchronous lines and LICs requiring clocking are marked 'C'.
- On LICs, install lines with heaviest weights first (LIC rule 2), and when line weights are equal, install lines with ICC requirement first (LIC rule 4).

**LAB-1, LAB-2, LAB-3, and LAB-4 Contents**

LAB-1 type A	Pos. 8 ----- 28 NY- 9	Pos. 7 ----- 24 NY- 5	Pos. 6 ----- 20 NY- 1	Pos. 5 ----- 16 DU-17 C	Pos. 4 ----- 12 DU-13 C	Pos. 3 ----- 8 DU-9 C	Pos. 2 ----- 4 DU-5 C	Pos. 1 ----- 0 DU-1 C
	29 NY-10	25 NY- 6	21 NY- 2	17 DU-18 C	13 DU-14 C	9 DU-10 C	5 DU-6 C	1 DU-2 C
	30 NY-11	26 NY- 7	22 NY- 3	18 DU-19 C	14 DU-15 C	10 DU-11 C	6 DU-7 C	2 DU-3 C
Weight Sum: 96	31 NY-12	27 NY- 8	23 NY- 4	19 DU-20 C	15 DU-16 C	11 DU-12 C	7 DU-8 C	3 DU-4 C
-----	LIC1	LIC1	LIC1	LIC1 C	LIC1 C	LIC1 C	LIC1 C	LIC1 C
-----	Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12
ICC: Y	FC #4911	FC #4911	FC #4911	FC #4911	FC #4911	FC #4911	FC #4911	FC #4911
FC4666 or FC4667	SC #9101	SC #9101	SC #9101	SC #9121	SC #9121	SC #9121	SC #9121	SC #9121

LAB-2 type A	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----
	32 NY-13	36 NY-17	40 NY-21	44 NY-25	48 NY-29	52 NY-33	56 NY-37	60 NY-41
	33 NY-14	37 NY-18	41 NY-22	45 NY-26	49 NY-30	53 NY-34	57 NY-38	61 NY-42
	34 NY-15	38 NY-19	42 NY-23	46 NY-27	50 NY-31	54 NY-35	58 NY-39	62 NY-43
Weight Sum: 96	35 NY-16	39 NY-20	43 NY-24	47 NY-28	51 NY-32	55 NY-36	59 NY-40	63 NY-44
-----	LIC1							
-----	Wt = 12							
ICC:	FC #4911							
NO	SC #9101							

LAB-3 Type B	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----	LABB
	64 MIA1	68 MIA5	72 NY-45	76 NY-49	80 NY-53	84 NY-57	88 NY-61	92 NY-65	
	65 MIA2	69 MIA6	73 NY-46	77 NY-50	81 NY-54	85 NY-58	89 NY-62	93 NY-66	
	66 MIA3	70 MIA7	74 NY-47	78 NY-51	82 NY-55	86 NY-59	90 NY-63	94 NY-67	
Weight Sum: 74	67 MIA4	71 MIA8	75 NY-48	79 NY-52	83 NY-56	87 NY-60	91 NY-64	95 NY-68	Weight Sum: 48
-----	LIC1	-----							
-----	Wt = 25	Wt = 25	Wt = 12	-----					
ICC:	FC #4911	C #4911	C #4911	ICC:					
NO	SC #9102	SC #9102	SC #9101	NO					

LAB-4 Type A	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----
	96 NY-69	100 NY-73	104 NY-77	108	112	116	120	124
	97 NY-70	101 NY-74	105 NY-78	109	113	117	121	125
	98 NY-71	102 NY-75	106 free	110	114	118	122	126
Weight Sum: 36	99 NY-72	103 NY-76	107 free	111	115	119	123	127
-----	LIC1	LIC1	LIC1	free	free	free	free	free
-----	Wt = 12	Wt = 12	Wt = 12					
ICC:	FC #4911	FC #4911	FC #4911					
NO	SC #9101	SC #9101	SC #9101					

**Notes:**

1. On LAB-1 and LAB-2, start with LICs with lowest weights (LAB rule 1), and when weights are equal, start with LICs requiring clocking (LAB rule 4).
2. LAB-1 and LAB-2 should NOT be used for category-C speed lines (LAB rule 5).
3. First LIC on LAB-3 has a weight over 18: it must be a LAB type B. First LIC on LAB-4 has a weight under 19: it must be LAB type A (LAB rule 7).
4. Each HALF of a LABB (LAB-3) has a maximum weight capacity of 100 and the filling-in rules (LAB rules 2, 3, and 4) must be applied to each half-LAB separately (LAB rule 6).
5. On LAB-4, total weight of first scanner being 36, LIC positions 4 through 8 are marked 'free': up to five more LICs can be installed (only weights 12 or 18).

## Order List

1 3725	512K of storage are included
2 FC #7100 (SI)	Two 256K-storage increment (total of 1024K)
2 FC #1561 (CA)	Channel adapter in positions 1 and 2 (CA-1, CA-2)
1 FC #4772 (LABB)	One for each LABB (starting from LAB-3) (two LABAs are already included in the basic 3725 in LAB position 1 and 2)
24 FC #4911 (LIC1)	One SC #4911 for each LIC1 (four lines or fewer)
17 SC #9101	One for each LIC1 weight 12 (BSC, SDLC via modem)
5 SC #9121	One for each LIC1 weight 12 (start-stop 1200 bps)
2 SC #9102	One for each LIC1 weight 25 (modem-attached)
1 FC #4666 or FC #4667	One ICC required for asynchronous lines on LAB-1 ----- Default color, voltage, and language are used.
96 CG #1404	To be ordered on cable order form (see under "Cable Ordering" in Chapter 4).
1 3726	Expansion machine required for fourth LAB (LAB-4)
1 FC #4771 (LABA)	One FC #4771 for each LABA (starting from LAB-4)
3 FC #4911 (LIC1)	One FC #4911 for each LIC1 (four lines or fewer)
3 SC #9101	One for each LIC1 weight 12 (BSC, SDLC via modem) ----- Default color and voltage are used.
12 CG #1404	To be ordered on cable order form (see under "Cable Ordering" in Chapter 4).
1 3727	Primary operator console

## CASE 10

### Configuration Type

More than 80 low and medium speed lines in BSC, SDLC, and asynchronous.  
Some 9600 duplex, some high speed lines.

### Characteristics

Requires four LABs. Like Case 9, but some high speed lines.

### Line Example

68 lines using BSC EBCDIC at 4800 bps  
20 lines using start-stop at 1200 bps  
8 lines using SDLC (DX) at 9600 bps (category-B speed)  
3 lines using SDLC (DX) at 56 000 bps (Interface V.35)  
  
3 channel adapters and one two-processor switch

### Appendix A Contents

#	Line Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
1	Dial-up 1	1200	Start-stop	RS-232C	DU1	1404	0	
2	Dial-up 2	1200	Start-stop	RS-232C	DU2	1404	1	
3	Dial-up 3	1200	Start-stop	RS-232C	DU3	1404	2	
4	Dial-up 4	1200	Start-stop	RS-232C	DU4	1404	3	
5	Dial-up 5	1200	Start-stop	RS-232C	DU5	1404	4	
6	Dial-up 6	1200	Start-stop	RS-232C	DU6	1404	5	
7	Dial-up 7	1200	Start-stop	RS-232C	DU7	1404	6	
8	Dial-up 8	1200	Start-stop	RS-232C	DU8	1404	7	
9	Dial-up 9	1200	Start-stop	RS-232C	DU9	1404	8	
10	Dial-up 10	1200	Start-stop	RS-232C	DU10	1404	9	
11	Dial-up 11	1200	Start-stop	RS-232C	DU11	1404	10	
12	Dial-up 12	1200	Start-stop	RS-232C	DU12	1404	11	
13	Dial-up 13	1200	Start-stop	RS-232C	DU13	1404	12	
14	Dial-up 14	1200	Start-stop	RS-232C	DU14	1404	13	
15	Dial-up 15	1200	Start-stop	RS-232C	DU15	1404	14	
16	Dial-up 16	1200	Start-stop	RS-232C	DU16	1404	15	
17	Dial-up 17	1200	Start-stop	RS-232C	DU17	1404	16	
18	Dial-up 18	1200	Start-stop	RS-232C	DU18	1404	17	
19	Dial-up 19	1200	Start-stop	RS-232C	DU19	1404	18	
20	Dial-up 20	1200	Start-stop	RS-232C	DU20	1404	19	
21-64	New York 1-44	4800	BSC EBCDIC	RS-232C	NY1-44	1404	20-63	
65-68	New York 45-48	4800	BSC EBCDIC	RS-232C	NY45-48	1404	72-75	
69-88	New York 49-68	4800	BSC EBCDIC	RS-232C	NY49-68	1404	96-115	
89	Miami 1	9600	SDLC (DX)	RS-232C	MIA1	1404	84	
90	Miami 2	9600	SDLC (DX)	RS-232C	MIA2	1404	85	
91	Miami 3	9600	SDLC (DX)	RS-232C	MIA3	1404	86	
92	Miami 4	9600	SDLC (DX)	RS-232C	MIA4	1404	87	
93	Miami 5	9600	SDLC (DX)	RS-232C	MIA5	1404	88	
94	Miami 6	9600	SDLC (DX)	RS-232C	MIA6	1404	89	
95	Miami 7	9600	SDLC (DX)	RS-232C	MIA7	1404	90	
96	Miami 8	9600	SDLC (DX)	RS-232C	MIA8	1404	91	
97	Houston 1	56000	SDLC (DX)	V.35	HOU1	0087	64	
98	Los Angeles 1	56000	SDLC (DX)	V.35	LA-1	0087	68	
99	San Francisco 1	56000	SDLC (DX)	V.35	SF-1	0087	80	

Note: 'Line Addr' column is filled in after the LICs are assigned to LABs.

**LIC Contents**

HOU1 N/A N/A N/A	LA-1 N/A N/A N/A	SF-1 N/A N/A N/A	MIA1 MIA2 MIA3 MIA4	MIA5 MIA6 MIA7 MIA8	DU1 C DU2 C DU3 C DU4 C	DU6 C DU6 C DU7 C DU8 C	DU9 C DU10 C DU11 C DU12 C	DU13 C DU14 C DU15 C DU16 C	DU17 C DU18 C DU19 C DU20 C
LIC3 Wt= 42 SC 9302	LIC3 Wt= 42 SC 9302	LIC3 Wt= 42 SC 9302	LIC1 Wt= 25 SC 9102	LIC1 Wt= 25 SC 9102	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC 9121

NY-1 NY-2 NY-3 NY-4	NY-5 NY-6 NY-7 NY-8	NY-9 NY-10 NY-11 NY-12	NY-13 NY-14 NY-15 NY-16	NY-17 NY-18 NY-19 NY-20	NY-21 NY-22 NY-23 NY-24	NY-25 NY-26 NY-27 NY-28	NY-29 NY-30 NY-31 NY-32	NY-33 NY-34 NY-35 NY-36	NY-37 NY-38 NY-39 NY-40
LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101

NY-41 NY-42 NY-43 NY-44	NY-45 NY-46 NY-47 NY-48	NY-49 NY-50 NY-51 NY-52	NY-53 NY-54 NY-55 NY-56	NY-57 NY-58 NY-59 NY-60	NY-61 NY-62 NY-63 NY-64	NY-65 NY-66 NY-67 NY-68			
LIC1 Wt = 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101						

**Notes:**

- Asynchronous lines and LICs requiring clocking are marked 'C'.
- On LICs, install lines with heaviest weights first (LIC rule 2), and when line weights are equal, install lines with ICC requirement first (LIC rule 4).

**LAB-1, LAB-2, LAB-3, and LAB-4 Contents**

LAB-1 type A	Pos. 8 -----	Pos. 7 -----	Pos. 6 -----	Pos. 5 -----	Pos. 4 -----	Pos. 3 -----	Pos. 2 -----	Pos. 1 -----
	28 NY- 9	24 NY- 5	20 NY- 1	16 DU-17 C	12 DU-13 C	8 DU-9 C	4 DU-5 C	0 DU-1 C
	29 NY-10	25 NY- 6	21 NY- 2	17 DU-18 C	13 DU-14 C	9 DU-10 C	5 DU-6 C	1 DU-2 C
	30 NY-11	26 NY- 7	22 NY- 3	18 DU-19 C	14 DU-15 C	10 DU-11 C	6 DU-7 C	2 DU-3 C
Weight Sum: 96	31 NY-12	27 NY- 8	23 NY- 4	19 DU-20 C	15 DU-16 C	11 DU-12 C	7 DU-8 C	3 DU-4 C
-----	LIC1	LIC1	LIC1	LIC1 C				
-----	Wt = 12							
ICC: Y	FC #4911							
FC4666 or FC4667	SC #9101	SC #9101	SC #9101	SC #9121				

LAB-2 type A	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----
	32 NY-13	36 NY-17	40 NY-21	44 NY-25	48 NY-29	52 NY-33	56 NY-37	60 NY-41
	33 NY-14	37 NY-18	41 NY-22	45 NY-26	49 NY-30	53 NY-34	57 NY-38	61 NY-42
	34 NY-15	38 NY-19	42 NY-23	46 NY-27	50 NY-31	54 NY-35	58 NY-39	62 NY-43
Weight Sum: 96	35 NY-16	39 NY-20	43 NY-24	47 NY-28	51 NY-32	55 NY-36	59 NY-40	63 NY-44
-----	LIC1							
-----	Wt = 12							
ICC: NO	FC #4911 SC #9101							

LAB-3 Type B	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----	LABB
	64 HOU1	68 LA-1	72 NY-45	76	80 SF-1	84 MIA1	88 MIA5	92	
	65 N/A	69 N/A	73 NY-46	77	81 N/A	85 MIA2	89 MIA6	93	
	66 N/A	70 N/A	74 NY-47	78	82 N/A	86 MIA3	90 MIA7	94	
Weight Sum: 96	67 N/A	71 N/A	75 NY-48	79	83 N/A	87 MIA4	91 MIA8	95	Weight Sum: 92
-----	LIC3	LIC3	LIC1	N/A	LIC3	LIC1	LIC1	N/A	-----
-----	Wt= 42	Wt= 42	Wt= 12		Wt = 42	Wt = 25	Wt= 25		-----
ICC: NO	FC #4931 SC #9302	FC #4931 SC #9302	FC #4911 SC #9101		FC #4931 SC #9302	FC #4911 SC #9102	FC #4911 SC #9102		ICC: NO

LAB-4 type A	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----
	96 NY-49	100 NY-53	104 NY-57	108 NY-61	112 NY-65	116	120	124
	97 NY-50	101 NY-54	105 NY-58	109 NY-62	113 NY-66	117	121	125
	98 NY-51	102 NY-55	106 NY-59	110 NY-63	114 NY-67	118	122	126
Weight Sum: 60	99 NY-52	103 NY-56	107 NY-60	111 NY-64	115 NY-68	119	123	127
-----	LIC1	LIC1	LIC1	LIC1	LIC1	free	free	free
-----	Wt = 12							
ICC: NO	FC #4911 SC #9101							

**Notes:**

- LAB-1 and LAB-2 should not be used for category-C speed lines (LAB rule 5).
- On LAB-1 and LAB-2, start with LICs with lowest weights (LAB rule 1), and, when weights are equal, start with LICs requiring clocking (LAB rule 4).
- First LIC on LAB-3 has a weight over 18: it must be a LAB type B. First LIC on LAB-4 has a weight under 19: it must be LAB type A (LAB rule 7).
- Each HALF of a LABB (LAB-3) has a maximum weight capacity of 100 and the filling-in rules (LAB rules 2, 3, and 4) must be applied to each half-LAB separately (LAB rule 6).
- On LAB-3 (LABB), total weight of first scanner (CS Pos. 1) being 96, LIC position 4 is marked 'not available' (N/A).
- On LAB-3 (LABB), total weight of second scanner (CS Pos. 2) being 92, LIC position 8 is marked 'not available' (N/A).

Order List

1 3725	512K of storage are included
2 FC #7100 (SI)	Two 256K-storage increment (total of 1024K)
2 FC #1561 (CA) 1 FC #8320 (TPS)	Channel adapter in position 1 and 2 (CA-1, CA-2) Two-processor switch for CA-1 (TPS-1)
1 FC #4772 (LABB)	One for each LABB (starting from LAB-3) (two LABs (LABAs) are already included in the basic 3725 in LAB position 1 and 2)
19 FC #4911 (LIC1) 12 SC #9101 5 SC #9121 2 SC #9102	One SC #4911 for each LIC1 (four lines or fewer) One for each LIC1 weight 12 (BSC, SDLC via modem) One for each LIC1 weight 12 (start-stop 1200 bps) One for each LIC1 weight 25 (modem-attachment)
3 FC #4931 (LIC3) 3 SC #9302	One SC #4931 for each LIC3 (one line in V.35) One for each LIC3 weight 42 (modem-attachment)
1 FC #4666 or FC #4667	One ICC required for asynchronous lines on LAB-1 ----- Default color, voltage, and language are used.
76 CG #1404 3 CG #0087	To be ordered on cable order form (see under "Cable Ordering" in Chapter 4).
1 3726	Expansion machine required for fourth LAB and for third channel adapter
1 FC #1561 (CA)	Channel adapter in position 3 (CA-3)
1 FC #4771 (LABA)	One FC 4771 for each LABA (starting from LAB-4)
5 FC #4911 (LIC1) 5 SC #9101	One FC #4911 for each LIC1 (four lines or fewer) One for each LIC1 weight 12 (BSC, SDLC via modem) ----- Default color and voltage are used.
20 CG #1404	To be ordered on cable order form (see under "Cable Ordering" in Chapter 4).
1 3727	Primary operator console

## CASE 11

### Configuration Type

From 32 to 64 low and medium speed lines in BSC, SDLC, and asynchronous, modem-attached or direct-attached. No high speed or 9600 bps duplex. Two token-rings.

### Characteristics

Requires second LAB and a LAB type C in LAB-3. Has an alternate connection to a second host processor.

### Line Example

10 lines using SDLC (HDX) at 4800 bps (direct-attached)  
30 lines using BSC EBCDIC at 9600 bps (modem-attached)  
12 lines using start-stop at 1200 bps (modem-attached)

### Token-Ring Example

2 token-rings

### Appendix A Contents

#	Line Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
1	Local 1	4800	SDLC (HDX)	RS-232C	None	1400	12	
2	Local 2	4800	SDLC (HDX)	RS-232C	None	1400	13	
3	Local 3	4800	SDLC (HDX)	RS-232C	None	1400	14	
4	Local 4	4800	SDLC (HDX)	RS-232C	None	1400	15	
5	Local 5	4800	SDLC (HDX)	RS-232C	None	1400	16	
6	Local 6	4800	SDLC (HDX)	RS-232C	None	1400	17	
7	Local 7	4800	SDLC (HDX)	RS-232C	None	1400	18	
8	Local 8	4800	SDLC (HDX)	RS-232C	None	1400	19	
9	Local 9	4800	SDLC (HDX)	RS-232C	None	1400	20	
10	Local 10	4800	SDLC (HDX)	RS-232C	None	1400	21	
11-40	(New York 1-30)	9600	BSC EBCDIC	RS-232C	NY1-30	1404	22-51	
41-52	(Dial-up 1-12)	1200	Start-stop	RS-232C	DUI-12	1404	0-11	

#	Token-ring Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
53	Head Office	N/A	N/A	N/A	N/A	1666	80	
54	Warehouse	N/A	N/A	N/A	N/A	1666	81	

Note: 'Line Addr' column is filled in after Appendix C has been completed.

**Appendix B Contents**

DU1 C DU2 C DU3 C DU4 C	DU5 C DU6 C DU7 C DU8 C	DU9 C DU10 C DU11 C DU12 C	Loc1 D Loc2 D Loc3 D Loc4 D	Loc5 D Loc6 D Loc7 D Loc8 D	Loc9 D Loc10 D NY-1 NY-2	NY-3 NY-4 NY-5 NY-6	NY-7 NY-8 NY-9 NY-10	NY-11 NY-12 NY-13 NY-14	NY-15 NY-16 NY-17 NY-18
LIC1 C Wt=12 SC 9121	LIC1 C Wt=12 SC 9121	LIC1 C Wt=12 SC 9121	LIC1 C Wt=12 SC 9121	LIC1 C Wt=12 SC 9121	LIC1 C Wt= 12 SC 9121	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101

NY-19 NY-20 NY-21 NY-22	NY-23 NY-24 NY-25 NY-26	NY-27 NY-28 NY-29 NY-30							
LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC9101	LIC1 Wt= 12 SC 9101							

**Notes:**

- Asynchronous lines and LICs requiring clocking are marked 'C'. Lines attached directly to DTEs (without DCE) are marked 'D' to show that a direct-attached cable group is needed.
- On LICs, install lines with ICC requirement first (LIC rule 4).

Head Office	Ware-house						
TIC1	TIC1						

**Appendix C Contents**

LAB-1 type A	Pos. 8 -----	Pos. 7 -----	Pos. 6 -----	Pos. 5 -----	Pos. 4 -----	Pos. 3 -----	Pos. 2 -----	Pos. 1 -----
	28 NY-7	24 NY-3	20 Loc9 D	16 Loc5 D	12 Loc1 D	8 DU9 C	4 DU5 C	0 DU1 C
	29 NY-8	25 NY-4	21 Loc10 D	17 Loc6 D	13 Loc2 D	9 DU10 C	5 DU6 C	1 DU2 C
	30 NY-9	26 NY-5	22 NY-1	18 Loc7 D	14 Loc3 D	10 DU11 C	6 DU7 C	2 DU3 C
Weight Sum: 96	31 NY-10 ----- LIC1 Wt = 12	27 NY-6 ----- LIC1 Wt = 12	23 NY-2 ----- LIC1 C Wt = 12	19 Loc8 D ----- LIC1 C Wt = 12	15 Loc4 D ----- LIC1 C Wt = 12	11 DU12 C ----- LIC1 C Wt = 12	7 DU8 C ----- LIC1 C Wt = 12	3 DU4 C ----- LIC1 C Wt = 12
ICC: FC4666 or FC4667	Y FC #4911 SC #9101	FC #4911 SC #9101	FC #4911 SC #9121	FC #4911 SC #9121	FC #4911 SC #9121	FC #4911 SC #9121	FC #4911 SC #9121	FC #4911 SC #9121

LAB-2 type A	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----
	32 NY-11	36 NY-15	40 NY-19	44 NY-23	48 NY-27	52	56	60
	33 NY-12	37 NY-16	41 NY-20	45 NY-24	49 NY-28	53	57	61
	34 NY-13	38 NY-17	42 NY-21	46 NY-25	50 NY-29	54	58	62
Weight Sum: 60	35 NY-14 ----- LIC1 Wt = 12	39 NY-18 ----- LIC1 Wt = 12	43 NY-22 ----- LIC1 Wt = 12	47 NY-26 ----- LIC1 Wt = 12	51 NY-30 ----- LIC1 Wt = 12	55 ----- free	59 ----- free	63 ----- free
ICC: NO	FC #4911 SC #9101							

LAB-3 type C	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----	LAB-3 type C
	64	68	72	76	(80) Head Office	(81) Ware- house	(82)	(83)	
	65	69	73	77					
	66	70	74	78					
Weight Sum: free	67 ----- free	71 ----- free	75 ----- free	79 ----- free	----- TIC1	----- TIC1	----- free	----- free	
ICC:					FC #4991	FC #4991			ICC: NO

**Notes:**

1. On LAB-1 and LAB-2, start with LICs requiring clocking, first asynchronous then direct-attached lines (LAB rule 4).
2. Total LAB-2 weight being 60, LIC position 6 to 8 are marked 'free': An MES can be ordered for up to three more LICs.
3. The two token-rings can be attached to any position in the TIC half of the LABC. In this example positions 7 and 8 are marked as free. The positions 1 to 4 are free for LICs.

**Order List**

<p>1 3725</p> <p>1 FC #1561 (CA) 1 FC #8320 (TPS)</p> <p>13 FC #4911 (LIC1) 6 SC #9121 7 SC #9101</p> <p>1 FC #4774 2 FC #4991 (TIC)</p> <p>1 FC #4666 or FC #4667</p>	<p>512K of storage are included</p> <p>Channel adapter in position 1 (CA-1) Two-processor switch for CA-1 (TPS-1)</p> <p>One SC #4911 for each LIC1 (four lines or fewer) One for each LIC1 weight 12 (1200 bps start-stop and direct-attachment) One for each LIC1 weight 12 (BSC, SDLC via modem)</p> <p>One LAB type C for LAB-3 One for each token-ring</p> <p>One ICC for LAB-1 with direct-attached or asynchronous lines. ----- Notes: 1. Default color, voltage, and language are used. 2. LAB-1 and LAB-2 are included in 3725 unit. Do NOT order them.</p>
<p>42 CG #1404 10 CG #1400 2 CG #1666</p>	<p>To be ordered on cable order form (see "Cable Ordering" in Chapter 4).</p>
<p>1 3727</p>	<p>Primary operator console</p>

## CASE 12

### Configuration Type

More than 80 low and medium speed lines in BSC, SDLC, and asynchronous. Some 9600 bps duplex and high speed lines. Five token-rings.

### Characteristics

Requires four LABs. Like Case 10 with five token-rings.

### Line Example

68 lines using BSC EBCDIC at 4800 bps  
20 lines using start-stop at 1200 bps  
8 lines using SDLC (DX) at 9600 bps (category-B speed)  
3 lines using SDLC (DX) at 56 000 bps (Interface V.35)  
  
3 channel adapters and one two-processor switch

### Token-Ring Example

5 token-rings

### Appendix A Contents

#	Line Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
1	Dial-up 1	1200	Start-stop	RS-232C	DU1	1404	0	
2	Dial-up 2	1200	Start-stop	RS-232C	DU2	1404	1	
3	Dial-up 3	1200	Start-stop	RS-232C	DU3	1404	2	
4	Dial-up 4	1200	Start-stop	RS-232C	DU4	1404	3	
5	Dial-up 5	1200	Start-stop	RS-232C	DU5	1404	4	
6	Dial-up 6	1200	Start-stop	RS-232C	DU6	1404	5	
7	Dial-up 7	1200	Start-stop	RS-232C	DU7	1404	6	
8	Dial-up 8	1200	Start-stop	RS-232C	DU8	1404	7	
9	Dial-up 9	1200	Start-stop	RS-232C	DU9	1404	8	
10	Dial-up 10	1200	Start-stop	RS-232C	DU10	1404	9	
11	Dial-up 11	1200	Start-stop	RS-232C	DU11	1404	10	
12	Dial-up 12	1200	Start-stop	RS-232C	DU12	1404	11	
13	Dial-up 13	1200	Start-stop	RS-232C	DU13	1404	12	
14	Dial-up 14	1200	Start-stop	RS-232C	DU14	1404	13	
15	Dial-up 15	1200	Start-stop	RS-232C	DU15	1404	14	
16	Dial-up 16	1200	Start-stop	RS-232C	DU16	1404	15	
17	Dial-up 17	1200	Start-stop	RS-232C	DU17	1404	16	
18	Dial-up 18	1200	Start-stop	RS-232C	DU18	1404	17	
19	Dial-up 19	1200	Start-stop	RS-232C	DU19	1404	18	
20	Dial-up 20	1200	Start-stop	RS-232C	DU20	1404	19	
21-64	New York 1-44	4800	BSC EBCDIC	RS-232C	NY1-44	1404	20-63	
65-68	New York 45-48	4800	BSC EBCDIC	RS-232C	NY45-48	1404	72-75	
69-88	New York 49-68	4800	BSC EBCDIC	RS-232C	NY49-68	1404	128-147	
89	Miami 1	9600	SDLC (DX)	RS-232C	MIA1	1404	100	
90	Miami 2	9600	SDLC (DX)	RS-232C	MIA2	1404	101	
91	Miami 3	9600	SDLC (DX)	RS-232C	MIA3	1404	102	
92	Miami 4	9600	SDLC (DX)	RS-232C	MIA4	1404	103	
93	Miami 5	9600	SDLC (DX)	RS-232C	MIA5	1404	104	
94	Miami 6	9600	SDLC (DX)	RS-232C	MIA6	1404	105	
95	Miami 7	9600	SDLC (DX)	RS-232C	MIA7	1404	106	
96	Miami 8	9600	SDLC (DX)	RS-232C	MIA8	1404	107	
97	Houston 1	56000	SDLC (DX)	V.35	HOU1	0087	64	
98	Los Angeles 1	56000	SDLC (DX)	V.35	LA-1	0087	68	
99	San Francisco 1	56000	SDLC (DX)	V.35	SF-1	0087	96	

#	Token-ring Reference	Speed	Protocol	Interface	Modem (DCE)	Cable Group#	Line Addr	Cable Length
100	Head Office	N/A	N/A	N/A	N/A	1666	80	
101	Warehouse	N/A	N/A	N/A	N/A	1666	81	
102	Showroom	N/A	N/A	N/A	N/A	1666	112	
103	Accounts 1	N/A	N/A	N/A	N/A	1666	115	
104	Accounts 2	N/A	N/A	N/A	N/A	1666	114	

Note: 'Line Addr' column is filled in after Appendix C has been completed.

### Appendix B Contents

HOU1 N/A N/A N/A	LA-1 N/A N/A N/A	SF-1 N/A N/A N/A	MIA1 MIA2 MIA3 MIA4	MIA5 MIA6 MIA7 MIA8	DU1 C DU2 C DU3 C DU4 C	DU6 C DU6 C DU7 C DU8 C	DU9 C DU10 C DU11 C DU12 C	DU13 C DU14 C DU15 C DU16 C	DU17 C DU18 C DU19 C DU20 C
LIC3 Wt= 42 SC 9302	LIC3 Wt= 42 SC 9302	LIC3 Wt= 42 SC 9302	LIC1 Wt= 25 SC 9102	LIC1 Wt= 25 SC 9102	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC 9121	LIC1 C Wt= 12 SC 9121

NY-1 NY-2 NY-3 NY-4	NY-5 NY-6 NY-7 NY-8	NY-9 NY-10 NY-11 NY-12	NY-13 NY-14 NY-15 NY-16	NY-17 NY-18 NY-19 NY-20	NY-21 NY-22 NY-23 NY-24	NY-25 NY-26 NY-27 NY-28	NY-29 NY-30 NY-31 NY-32	NY-33 NY-34 NY-35 NY-36	NY-37 NY-38 NY-39 NY-40
LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101

NY-41 NY-42 NY-43 NY-44	NY-45 NY-46 NY-47 NY-48	NY-49 NY-50 NY-51 NY-52	NY-53 NY-54 NY-55 NY-56	NY-57 NY-58 NY-59 NY-60	NY-61 NY-62 NY-63 NY-64	NY-65 NY-66 NY-67 NY-68			
LIC1 Wt = 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101	LIC1 Wt= 12 SC 9101						

#### Notes:

- Asynchronous lines and LICs requiring clocking are marked 'C'.
- On LICs, install lines with heaviest weights first (LIC rule 2), and when line weights are equal, install lines with ICC requirement first (LIC rule 4).

Head Office	Ware-house	Show-room	Accounts 1	Accounts 2			
TIC1	TIC1	TIC1	TIC1	TIC1			

**Appendix C Contents**

LAB-1 type A	Pos. 8 -----	Pos. 7 -----	Pos. 6 -----	Pos. 5 -----	Pos. 4 -----	Pos. 3 -----	Pos. 2 -----	Pos. 1 -----
	28 NY- 9	24 NY- 5	20 NY- 1	16 DU-17 C	12 DU-13 C	8 DU-9 C	4 DU-5 C	0 DU-1 C
	29 NY-10	25 NY- 6	21 NY- 2	17 DU-18 C	13 DU-14 C	9 DU-10 C	5 DU-6 C	1 DU-2 C
	30 NY-11	26 NY- 7	22 NY- 3	18 DU-19 C	14 DU-15 C	10 DU-11 C	6 DU-7 C	2 DU-3 C
Weight Sum: 96	31 NY-12	27 NY- 8	23 NY- 4	19 DU-20 C	15 DU-16 C	11 DU-12 C	7 DU-8 C	3 DU-4 C
----- LIC1	LIC1	LIC1	LIC1	LIC1 C				
Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12
ICC: Y	FC #4911							
FC4666 or FC4667	SC #9101	SC #9101	SC #9101	SC #9121				

LAB-2 type A	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----
	32 NY-13	36 NY-17	40 NY-21	44 NY-25	48 NY-29	52 NY-33	56 NY-37	60 NY-41
	33 NY-14	37 NY-18	41 NY-22	45 NY-26	49 NY-30	53 NY-34	57 NY-38	61 NY-42
	34 NY-15	38 NY-19	42 NY-23	46 NY-27	50 NY-31	54 NY-35	58 NY-39	62 NY-43
Weight Sum: 96	35 NY-16	39 NY-20	43 NY-24	47 NY-28	51 NY-32	55 NY-36	59 NY-40	63 NY-44
----- LIC1	LIC1							
Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12	Wt = 12
ICC: NO	FC #4911							
	SC #9101							

LAB-3 type C	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----	LAB-3 type C
	64 HOU1	68 LA-1	72 NY-45	76	(80) Head Office	(81) Ware- house	(82)	(83)	
	65 N/A	69 N/A	73 NY-46	77					
	66 N/A	70 N/A	74 NY-47	78					
Weight Sum: 96	67 N/A	71 N/A	75 NY-48	79					
----- LIC3	LIC3	LIC3	LIC1	N/A	TIC1	TIC1	free	free	
Wt = 42	Wt = 42	Wt = 42	Wt = 12						
ICC: NO	FC #4931	FC #4931	FC #4911		FC #4991	FC #4991			ICC: NO
	SC #9302	SC #9302	SC #9101						

LAB-4 type C	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----	LAB-4 type C
	96 SF-1	100 MIA1	104 MIA5	108	(112) Show-room	(113)	(114) Accounts 2	(115) Accounts 1	
	97 N/A	101 MIA2	105 MIA6	109					
	98 N/A	102 MIA3	106 MIA7	110					
Weight Sum: 92	99 N/A	103 MIA4	107 MIA8	111					
----- LIC3	LIC3	LIC1	LIC1	N/A	TIC1	free	TIC1	TIC1	
Wt = 42	Wt = 42	Wt = 25	Wt = 25						
ICC: NO	FC #4931	FC #4911	FC #4911		FC #4991		FC #4991	FC #4991	ICC: NO
	SC #9302	SC #9102	SC #9102						

LAB-5 type A	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----
	128 NY-49	132 NY-53	136 NY-57	140 NY-61	144 NY-65	148	152	156
	129 NY-50	133 NY-54	137 NY-58	141 NY-62	145 NY-66	149	153	157
	130 NY-51	134 NY-55	138 NY-59	142 NY-63	146 NY-67	150	154	158
Weight Sum: 60	131 NY-52	135 NY-56	139 NY-60	143 NY-64	147 NY-68	151	155	159
-----	LIC1	LIC1	LIC1	LIC1	LIC1	free	free	free
-----	Wt = 12							
ICC:	FC #4911							
NO	SC #9101							

Notes:

- LAB-1 and LAB-2 should not be used for category-C speed lines (LAB rule 5).
- On LAB-1 and LAB-2, start with LICs with lowest weights (LAB rule 1), and, when weights are equal, start with LICs requiring clocking (LAB rule 4).
- First LIC on LAB-3 has a weight over 18: it cannot be a LAB type A. First LIC on LAB-5 has a weight under 19: it must be LAB type A (LAB rule 7).
- The LIC half of a LABC (LAB-3 and LAB-4) has a maximum weight of 100 and the filling-in rules (LAB rules 2, 3, and 4) must be applied to each half-LAB separately (LAB rule 6).
- On LAB-3 (LABC), total weight of the LIC half being 96, LIC position 4 is marked 'not available' (N/A).
- On LAB-4 (LABC), total weight of the LIC half being 92, LIC position 4 is marked 'not available' (N/A).
- The five token-rings can be attached to any position in the TIC half of the two LABCs. There are a total of eight positions available. In this example positions 7 and 8 of LAB-3, and position 6 of LAB-4 are marked as free.

Order List

<p>1 3725</p> <p>2 FC #7100 (SI)</p> <p>2 FC #1561 (CA)</p> <p>1 FC #8320 (TPS)</p> <p>1 FC #4774 (LABC)</p> <p>19 FC #4911 (LIC1)</p> <p>12 SC #9101</p> <p>5 SC #9121</p> <p>2 SC #9102</p> <p>3 FC #4931 (LIC3)</p> <p>3 SC #9302</p> <p>2 FC #4991 (TIC)</p> <p>1 FC #4666 or FC #4667</p>	<p>512K of storage are included</p> <p>Two 256K-storage increment (total of 1024K)</p> <p>Channel adapter in position 1 and 2 (CA-1, CA-2)</p> <p>Two-processor switch for CA-1 (TPS-1)</p> <p>One LABC (LAB-3) (two LABs (LABAs) are already included in the basic 3725 (LAB-1 and LAB-2))</p> <p>One SC #4911 for each LIC1 (up to four lines) One for each LIC1 weight 12 (BSC, SDLC via modem)</p> <p>One for each LIC1 weight 12 (start-stop 1200 bps)</p> <p>One for each LIC1 weight 25 (modem-attachment)</p> <p>One SC #4931 for each LIC3 (one line in V.35)</p> <p>One for each LIC3 weight 42 (modem-attachment)</p> <p>One for each token-ring</p> <p>One ICC required for asynchronous lines on LAB-1</p> <p>----- Default color, voltage, and language are used.</p>
<p>76 CG #1404</p> <p>3 CG #0087</p>	<p>To be ordered on cable order form (see "Cable Ordering" in Chapter 4).</p>
<p>1 3726</p> <p>1 FC #1561 (CA)</p> <p>1 FC #4771 (LABA)</p> <p>1 FC #4774 (LABC)</p> <p>5 FC #4911 (LIC1)</p> <p>5 SC #9101</p> <p>3 FC #4991 (TIC)</p>	<p>Expansion machine required for LAB-4 and LAB-5, and for third channel adapter</p> <p>Channel adapter in location 3 (CA-3)</p> <p>One LABA (LAB-5)</p> <p>One LABC</p> <p>One FC #4911 for each LIC1 (four lines or fewer) One for each LIC1 weight 12 (BSC, SDLC via modem)</p> <p>One for each token-ring</p> <p>----- Default color and voltage are used.</p>
<p>20 CG #1404</p> <p>5 CG #1666</p>	<p>To be ordered on cable order form (see "Cable Ordering" in Chapter 4).</p>
<p>1 3727</p>	<p>Primary operator console</p>



Configuring the controller means mainly configuring the transmission subsystem, that is, simulating the installation of the lines of your user application network on your future controller. This pseudo-installation will tell you what quantity and type of features are required.

3725 GRAPHIC CONFIGURATION STEP BY STEP

The transmission subsystem configuration must be done in four steps:

1. Gathering line and terminal information
2. Assigning lines/token-rings to LICs/TICs
3. Assigning LICs/TICs to LABs
4. Updating the LABs

STEP 1. GATHERING INFORMATION

Enter on left side of Appendix A (or a copy of it), all information concerning the lines/token-rings: protocol, speed, type of attachment (autocall, direct-attached).

Enter the modem reference on the right-hand side of Appendix A.

STEP 2. ASSIGNING LINES/TOKEN-RINGS TO LICs/TICs

Appendix B represents drawings of LICs (one-port LICs for LIC2, LIC3, and LIC4B; four-port LICs for LIC1 and LIC4A) and token-ring TICs.

LIC port: one of four positions of a LIC to which cables may be connected.

Using Appendix B (or a copy of it), simulate the installation of the user application network lines on the LIC/TIC drawings.

The following section gives the rules for assigning lines to these LICs. Figure 1-10 gives the types, weights, and specify codes of the LICs required for each interface, protocol, and line speed.

Line Assignment Rules for LICs

LIC Rule 1: Each LIC type accepts only certain interfaces. Do not mix lines of incompatible interfaces on the same LIC (for example, CCITT V.24 and X.21).

LIC Rule 2: Within a LIC type, start with the heaviest line.

LIC Rule 3: Pad a LIC that is not full with lower weight lines, before starting to assign lines to a new LIC.

LIC Rule 4: For lines of identical weights, start with the ones that require a clock (first asynchronous lines, then direct-attached lines).

LIC Rule 5: LIC2, LIC3, or LIC4B are ONE-port LICs (one cable for one line). Only one line address is used, the three remaining line addresses are not available.

## Procedure for Assigning Lines to LICs

### 1. Enter for each line:

- a. The line 'reference' on one line of a LIC represented on Appendix B.

This reference may be any group of letters and numbers that distinguish this line from another, for example, 1031a, LON1.

- b. The clocking requirements (if any). In the examples in Chapter 2, 'C' is used for an asynchronous line and 'D' for a line that is direct-attached (without DCE).
- c. 'A' if the line is using 'Autocall'.
- d. 'Free' in empty lines of four-port LICs (LIC1 and LIC4A), if less than four lines are assigned to that LIC.

Note: If several terminals or clusters will use the same communication line (switched or multipoint), count only one line.

### 2. Enter for each LIC:

- a. The LIC type (LIC1, LIC2, LIC3, LIC4A, or LIC4B):

Add a 'C' if one of the lines in that LIC requires an ICC (asynchronous or direct-attached).

- b. The LIC weight (see Figure 1-10):

For LICs with four ports (LIC1 and LIC4A), the LIC weight is determined by the speed of the "heaviest" line installed (the one in the first port, on top of that LIC).

For one-port LICs (LIC2, LIC3, and LIC4B), the LIC weight is determined by the speed of the line installed on that LIC.

- c. The LIC specify code (see Figure 1-10):

The specify code is determined from the LIC type, the LIC weight, and whether or not an ICC is required.

Examples of lines assignment to LICs are given in Figure 1-9 and in the "LIC Contents" section for each case in Chapter 2.

## Assigning Token-Rings to TICs

There are no rules for the assignment of token-rings to TICs, as each TIC provides only one token-ring attachment.

## STEP 3. ASSIGNING LICs/TICs TO LABs

When the lines/token-rings have been assigned to the LICs/TICs in Appendix B, the LABs are configured. That is, the installation position of the LICs/TICs within the LAB locations LAB-1 to LAB-8 (represented in Appendix C) is determined. Enter the data into Appendix C, or a copy of it.

IMPORTANT: This pseudo-installation of the LICs/TICs on the LABs must follow the precise rules so as to match the real installation (that is, the way the machine is going to be built in the plant).

## WHAT TO TRANSFER TO THE LABS

For each LIC to be 'installed', transfer:

1. The line reference(s) with the 'C', 'D', or 'A' indicator
2. The LIC type and clocking indicator (if any)
3. The LIC weight into field 'Wt='.
4. The LIC specify code into field 'SC='.

For each TIC to be 'installed', transfer:

1. The token-ring reference.

There are two slightly different procedures for assigning LICs to LABs: one for LAB-1 and LAB-2, and one for the other LABs.

All rules for configuring the transmission subsystem are given in Figure 3-1 at the end of this Chapter.

### LIC TRANSFER PROCEDURE FOR LAB-1 AND LAB-2

Remember that LAB-1 and LAB-2 are both LABAs (one scanner that controls up to eight medium speed LICs).

Assign LICs to LAB-1 and LAB-2 in ascending-weight sequence, starting from position 1, and install each LIC contiguously (position 2, then position 3, and so on) as long as:

1. The LIC is a LIC1 or a LIC4A.
2. The weight of the LIC is 25 or less.
3. The weight of the LIC added to the weight of the LICs already installed on the LAB does not exceed 100.

LAB rule 8 gives the possible exceptions.

#### LAB Rules for Assigning LICs to LAB-1 and LAB-2

The LAB rules that apply to LAB-1 and LAB-2 are:

LAB rule 1, 3, 4, 5, and 8.

These are listed in Figure 3-1.

#### Transfer Sequence for LAB-1 and LAB-2

The following list gives the precise sequence, but the basic rules to apply are: Ascending-weight sequence (LAB rule 1), then by LIC type (LAB rule 3), then LIC with ICC first (LAB rule 4).

Seq	Weight	LIC	ICC	Specify Code
1	12	LIC1	Yes	#9121
2	12	LIC1	No	#9101
3	12	LIC4A	Yes	#9421
4	12	LIC4A	No	#9401
5	18	LIC1	Yes	#9111
6	25	LIC1	Yes	#9122
7	25	LIC1	No	#9102
8	25	LIC4A	Yes	#9422
9	25	LIC4A	No	#9402
-----				
10	25	LIC1	Yes	#9125
11	25	LIC1	No	#9105
12	25	LIC2	No	#9201
13	25	LIC3	Yes	#9321
14	25	LIC3	No	#9301
15	25	LIC4B	Yes	#9423
16	25	LIC4B	No	#9403
17	37	LIC1	Yes	#9112
18	37	LIC1	No	#9106
19	42	LIC1	No	#9107
20	42	LIC1	Yes	#9113
21	42	LIC2	No	#9202
22	42	LIC3	Yes	#9322
23	42	LIC3	No	#9302
24	42	LIC4B	Yes	#9424
25	42	LIC4B	No	#9404
26	50	LIC1	Yes	#9123
27	50	LIC1	No	#9103
28	50	LIC2	No	#9204
29	50	LIC3	No	#9305
30	100	LIC1	Yes	#9124
31	100	LIC1	No	#9104
32	100	LIC2	No	#9203
33	100	LIC3	Yes	#9323
34	100	LIC3	No	#9303
35	100	LIC4B	Yes	#9425
36	100	LIC4B	No	#9405

Note: LIC specify codes listed below the broken line can be installed only in positions 1 to 4 of LAB-1 and LAB-2, and prevent installation of any LICs in positions 5 to 8 (LAB rule 8).

#### LIC TRANSFER PROCEDURE FOR LAB-3 TO LAB-8

Remember, in LAB-3 to LAB-8 that LABAs, LABBs, or LABCs can be installed.

Install the LIC with the highest weight on the first (leftmost) position of the LAB.

1. If the weight of the LIC in the first position is over 18 (category-B or category-C speed), the LAB must be type B or C.

The basic principles to apply when assigning LICs to a LABB are:

- a. Install the LICs in descending-weight sequence, starting with highest weight LIC in position 1 (leftmost); but do not install on the right half-LAB (positions 5 to 8) before making sure that no lighter weight can "fill in the gap" in the left half-LAB.
- b. Restart the sequence for each half-LAB. Each half of a LABB is controlled by a scanner that has a maximum weight capacity of 100, and LIC assignment rules must be applied to each half-LAB separately (LAB rule 6). Case 10 in Chapter 2 shows a LABB (LAB-3).

2. If the weight of the LIC in the first position is 18 or less (category-A speed), the LAB may be type A, B, or C.

As a consequence, in LAB location 3 to 8, a LABA does not contain LICs with a weight over 18.

The basic principle to apply when assigning LICs to a LABA is the following:

Install the LICs on the LAB starting with the highest weight LIC in position 1 (leftmost), and install contiguously (position 2 up to position 8) as long as the weight of the LIC added to the weight of the LICs already installed does not exceed 100.

TICs are installed in any position in the TIC half of a LABC.

LAB Rules for Assigning LICs to LAB-3 to LAB-8

The LAB rules that apply to LAB-3 to LAB-8 are:

LAB rule 2, 3, 4, 5, 6, and 7.  
These are listed in Figure 3-1.

Transfer Sequence for LAB-3 to LAB-8

The list below gives the precise sequence, but the basic rules to apply are: Descending-weight sequence (LAB rule 2), then by LIC type (LAB rule 3), then LICs with ICC first (LAB rule 4).

Seq	Weight	LIC	ICC	Specify Code (see Note)
1	100	LIC2	No	#9203
2	100	LIC3	Yes	#9323
3	100	LIC3	No	#9303
4	100	LIC4B	Yes	#9425
5	100	LIC4B	No	#9405
6	100	LIC1	Yes	#9124
7	100	LIC1	No	#9104
8	50	LIC3	No	#9305
9	50	LIC2	No	#9204
10	50	LIC1	Yes	#9123
11	50	LIC1	No	#9103
12	42	LIC1	Yes	#9113
13	42	LIC2	No	#9202
14	42	LIC3	Yes	#9322
15	42	LIC3	No	#9302
16	42	LIC4B	Yes	#9424
17	42	LIC4B	No	#9404
18	42	LIC1	No	#9107
19	37	LIC1	No	#9106
20	37	LIC1	Yes	#9112
21	25	LIC2	No	#9201
22	25	LIC3	Yes	#9321
23	25	LIC3	No	#9301
24	25	LIC4B	Yes	#9423
25	25	LIC4B	No	#9403
26	25	LIC1	Yes	#9122
27	25	LIC1	No	#9102
28	25	LIC4A	Yes	#9422
29	25	LIC4A	No	#9402
30	25	LIC1	Yes	#9125
31	25	LIC1	No	#9105
-----				
32	18	LIC1	Yes	#9111
33	12	LIC1	Yes	#9121
34	12	LIC1	No	#9101
35	12	LIC4A	Yes	#9421
36	12	LIC4A	No	#9401

**Note:** When assigning LICs to a LABA, use only the last five elements of the sequence list (below the broken line).

## LAB Physical Position Sequence

For new orders:

1. LABs will usually be physically positioned, within the 3725/3726, into LAB locations 3 to 8, according to LAB type. The sequence is contiguous, beginning with LAB location 3:
  - LABCs with LICs/TICs
  - LABCs without LICs/TICs
  - LABBs with LICs
  - LABBs without LICs
  - LABAs with LICs
  - LABAs without LICs.

Note: For other sequences, see "Appendix D".

2. It is recommended that an "empty" LAB "follows" the "last" LAB of a type. This will allow the controller to be upgraded without unnecessary loss of efficiency. For example:
  - LAB-3 containing LABC
  - LAB-4 containing empty LABC
  - LAB-5 containing LABB
  - LAB-6 containing empty LABB
  - LAB-7 containing LABA
  - LAB-8 containing empty LABA.

For existing controllers: if there are no free LIC or TIC positions in a LAB of the required type, follow the two steps above starting from the "first" free LAB location.

Note: Remember that there is a difference between "free" interface coupler positions and those that are "not available". This is explained in the following: "Step 4: Updating the LABs".

## STEP 4: UPDATING THE LABS

After entering LIC information in the LABs, update the LAB information, that is:

1. Enter the LAB type (see LAB rule 7):
  - a. 'C' if a token-ring is attached.
  - b. 'A' if the LIC in position 1 has a weight of 18 or less.
  - c. 'B' in all other cases (LAB-1 and LAB-2 are always a LABA).
2. Enter 'Yes' in the box 'ICC' if one or more LICs of the LAB have lines marked with 'C' or 'D'.
3. Enter the total weight of the LICs on each LAB:
  - a. For a LABA, enter the total weight of all LICs installed on the LAB in box 'weight sum'.

- b. For a LABB, enter the total weight of the LICs installed on the left half-LAB in box 'weight sum', and the total weight of the LICs installed on the right half-LAB in box 'weight sum'.
  - c. For a LABC, enter the total weight of the LICs installed on the left half-LAB in box 'weight sum'.
4. Mark the LIC positions that are free:
- a. 12 being the minimum LIC weight, 88 (100 - 12) is the threshold.
  - b. For a LABA, if the total weight of the LICs is 88 or less, mark empty LICs of that LAB as free.
  - c. For a LABB, if the total weight of the left half-LAB is 88 or less, mark empty LICs of the left half-LAB as free. Do the same for the right half-LAB.
  - d. For a LABC, if the total weight of the LICs is 88 or less, mark empty LICs as free.
5. Mark the LIC positions that are not available:
- a. 12 being the minimum LIC weight, 88 (100 - 12) is the threshold.
  - b. For a LABA, if the total weight of all the LICs installed exceeds 88, mark all empty LIC positions of that LAB as not available (N/A).
  - c. For a LABB, if the weight of left half-LAB exceeds 88, mark all empty LIC positions of the left half-LAB as not available (N/A). Do the same for right half-LAB (check weight sum).
  - d. For a LABC, if the weight of the LIC half of the LAB exceeds 88, mark all empty LIC positions as not available.
6. For each LIC installed, convert the LIC type into the appropriate feature code (see Figure 1-10) and enter it next to 'FC='. For each TIC installed enter the feature code #4991.
7. For each LIC2, LIC3, or LIC4B (one-port LIC) installed on a LAB, mark as not available ('N/A') the three remaining line addresses.
8. For each line of Appendix C:
- a. Select the appropriate cable group (see Figure 1-10, Figure 4-3, and Figure 4-4), and enter it in Appendix A.
  - b. Copy the line address number from Appendix C to Appendix A.

Chapter 2 contains examples of LAB updating.

LIC CONFIGURATION RULES	
LIC Rule 1	Each LIC type accepts only certain interfaces (see Figure 1-10). Do not mix lines of incompatible interfaces on the same LIC (for example CCITT V.24 and X.21).
LIC Rule 2	Within a LIC type, start with the 'heaviest' lines.
LIC Rule 3	Pad a LIC that is not full with 'lower' weight lines before starting to assign lines to a new LIC.
LIC Rule 4	For lines of identical weights, start with the ones that require a clock (first asynchronous lines, then direct-attached lines).
LIC Rule 5	LIC2, LIC3, and LIC4B have only ONE port (one cable for one line), and only one address is used.
LAB CONFIGURATION RULES	
LAB Rule 1	On LAB-1 and LAB-2 (which are LABAs), LICs must be assigned in ascending-weight sequence (LICs of weight 12, then LICs of weight 18, then LICs of weight 25; category A or B only).
LAB Rule 2	On LAB-3 to LAB-8, LICs must be assigned in descending-weight sequence (LICs of weight 100, then LICs of weight 50, and so on).
LAB Rule 3	In addition to the ascending or descending sequence rule, and in the case of identical weights, the LIC assignment priority is defined in the transfer sequence table according to the LABs.
LAB Rule 4	In the case of identical weight and identical LIC type (LAB rules 1, 2, and 3), start with the LIC that requires an ICC (LIC with asynchronous lines first, then LIC with direct-attached lines).
LAB Rule 5	A LABA has a maximum weight capacity of 100. In LAB 1 or 2, a LABA should NOT contain category-C speed lines. In LAB 3 to 8, a LABA contains ONLY category-A speed lines (weights 12 or 18).
LAB Rule 6	Each HALF of a LABB has a maximum weight capacity of 100, and the LIC assignment sequence (LAB rules 2, 3, and 4) must be applied to each half-LAB separately. This rule also applies to the LIC half of a LABC.
LAB Rule 7	When the first LIC on a LAB has a weight 18 or less, this LAB is a LABA; otherwise it must be a LABB or LABC (except LAB positions 1 and 2 which are always LABAs).
LAB Rule 8	Exception to LAB rule 5. Up to four category-C speed lines can be installed in LAB 1 or 2 by following the rules in Appendix D.
LAB Rule 9	A spare LAB is positioned just after the last used LAB of the same type (A or B).
Note: The result of LAB rules 2 and 7 is that on LAB positions 3 to 8 LABs of type B (LABB) are installed first.	

Figure 3-1. Summary of LIC and LAB Configuration Rules

Order the units in the following sequence:

- 3725
- Primary operator console
- 3726 (if necessary)
- Alternate operator console (if requested)

Color, voltage, and language: For available and default options, see the IBM representative. If the default country options meet your requirements, you need not enter specify codes.

Common data: Customer number and request date.

Although the operator console(s) and the two units (3725 and 3726) are ordered separately, they must contain identical scheduling information so that all these machines are delivered together at the customer's premises.

Country ordering difference: In WT E/ME/A, enter specify code #2999 (see "Cable Ordering", later in this chapter).

### 3725 ORDERING INFORMATION

If required, order:

1. Up to ten 256K storage increment features (see Figure 1-6). The basic model contains 512K of storage.
2. The 3725 channel interface features: One or two channel adapters and one or two two-processor switches (see Figure 4-1).
3. The 3725 transmission subsystem (TSS) features (marked in Appendix C in LAB locations 1, 2, and 3):
  - a. One LAB (type A, B, or C) for LAB location 3. Two LABs type A are included in the 3725 LAB-1 and LAB-2, and need not be ordered.
  - b. Up to 24 LIC1s, LIC2s, LIC3s, LIC4As, and LIC4Bs. This is, for each LIC type, the quantity of LIC positions that have at least one entry filled.

Enter the quantity for each LIC specify code.

Within a LIC type, the sum of LIC specify codes quantity must be equal to the LIC feature codes quantity (see examples of order lists in Chapter 2).

- c. Up to four TICs, when LAB-3 is to be a LABC.
- d. Up to three ICCs (one per LAB). This applies to 'ICC' boxes marked 'Yes'.

Note: If the alternate operator console is required in E/ME/A, add the alternate console attachment feature (FC #1480) to the 3725 order.

### 3726 ORDERING INFORMATION

If required (see Figures 4-1 and 4-2), order:

1. 3726 channel interface features: Up to four channel adapters and one or two two-processor switches (see Figure 4-1).

2. 3726 transmission subsystem (TSS) features (marked in Appendix C in LAB location 4 through 8).

- a. Up to five LABs (type A, B, or C) for LAB positions 4 through 8.

Specify the following location codes:

LAB A FC #4771	LAB B FC #4772	LAB C FC #4774	LAB Location
SC #8941	SC #8942	SC #8944	4
SC #8951	SC #8952	SC #8954	5
SC #8961	SC #8962	SC #8964	6
SC #8971	SC #8972	SC #8974	7
SC #8981	SC #8982	SC #8984	8

One or two LAB type C for LAB location 4 through 8. There is a maximum of one, when the 3725 base contains a LAB type C.

Note: When a LABC is to be installed on a 3726, then its 3725 base must be at an appropriate EC level. Therefore, orders for LABCs (on new or existing 3726s) must be accompanied by an MES, specify code 9710, for the base 3725. After checking the plant records, IBM will upgrade the EC level of the 3725, if necessary, before or during the installation of the LABC on the 3726.

- b. The line increase feature (FC #3602), if LAB location 7 or 8 is to be used.
- c. Up to 40 LIC1s, LIC2s, LIC3s, LIC4As, and LIC4Bs. Enter the quantity for each LIC specify code.
- d. Up to four/eight TICs if one/two LAB type Cs are specified.
- e. Order up to five ICCs (one per LAB).

Channel Adapters	TPS Quantity	Machines and Features To Be Ordered
1	0 or 1	The 3725 with one FC #1561 (CA-1) with zero or one FC #8320 (TPS-1)
2	0, 1, 2	The 3725 with two FC #1561 (CA-1 and CA-2) with zero to two FC #8320 (TPS-1, TPS-2)
3	0 to 3	The 3725 with two FC #1561 (CA-1 and CA-2) with zero to two FC #8320 (TPS-1, TPS-2) AND The 3726 with one FC #1561 (CA-3) with zero or one FC #8320 (TPS-3)
4	0 to 4	The 3725 with two FC #1561 (CA-1 and CA-2) with zero to two FC #8320 (TPS-1, TPS-2) AND The 3726 with two FC #1561 (CA-3 and CA-4) with zero to two FC #8320 (TPS-3, TPS-4)
5	0 to 3	The 3725 with two FC #1561 (CA-1 and CA-2) with zero to two FC #8320 (TPS-1, TPS-2) AND The 3726 with three FC #1561 (CA-3, CA-4, and CA-5) with zero or one FC #8320 (TPS-3)
6	0 to 2	The 3725 with two FC #1561 (CA-1 and CA-2) with zero to two FC #8320 (TPS-1, TPS-2) AND The 3726 with four FC #1561 (CA-3, CA-4, CA-5, and CA-6)

Figure 4-1. Machine and Feature Prerequisites for Channel Adapters

LABs	Machines and Features To Be Ordered
1 or 2	The 3725 (which includes two LABAs in LAB location 1 and 2)
3	The 3725 (which includes two LABAs in LAB location 1 and 2) with one FC #4771 (LABA), one FC #4772 (LABB), or one FC #4774 (LABC) for LAB location 3
4, 5, 6	The 3725 (which includes two LABAs in LAB location 1 and 2) with one FC #4771 (LABA), one FC #4772 (LABB), or one FC #4774 (LABC) for LAB location 3 AND The 3726 with one to three FC #4771 (LABA), FC #4772 (LABB), or one FC #4774 (LABC) for LAB location 4 through 6
7 or 8	The 3725 (which includes two LABAs in LAB location 1 and 2) with one FC #4771 (LABA), one FC #4772 (LABB), or one FC #4774 (LABC) for LAB location 3 AND The 3726 with FC #3602 (line increase feature, space for LAB location 7 and 8) with four or five FC #4771 (LABA), FC #4772 (LABB), or one FC #4774 (LABC) for LAB location 4 through 8

Figure 4-2. Machine and Feature Prerequisites for LABs

## CABLE ORDERING

With each 3725 or 3726 ordered, specify the cables for the LIC and TIC connections, for the channel connections, and optionally for the alternate console.

Because cable ordering procedures are country-dependent, the two possible procedures are explained in the following sections.

More technical information on cables is to be found in the IBM Input/Output Equipment IM-PP: System/360, System/370, 4300 Processors, GC22-7064.

TIC cables are only supplied in standard lengths. Custom length cables must be ordered from cable vendors. When a Token-Ring uses Telephone Twisted Pair, a filter is required in the network. Check with an IBM Installation and Planning Representative.

## ORDERING CABLES IN THE US AND WT A/FE

In North America, Latin America, and Taiwan:

1. Order channel cables by cable group number, up to the maximum length as shown under "3725/3726 Custom-Length Cables."
2. Whenever possible order LIC, TIC, and alternate operator console cables at standard lengths as shown under "3725/3726 Standard Cables for North America, Latin America, and Taiwan."
3. If the standard lengths are not suitable, order custom-length cables as shown under "3725/3726 Custom-Length Cables."

In WT A/FE (except in North America, Latin America, and Taiwan), order all cables by cable group number as shown under "3725/3726 Custom-Length Cables."

## ORDERING CABLES IN WT E/ME/A

60-Hz machines are all shipped from Raleigh, N.C., USA. Cables for these machines must be ordered by an exception telex order according to the exception order process.

50-Hz machines are supplied automatically with standard cables as shown under "3725/3726 Standard Cables for WT E/ME/A." These cables need not be ordered. If the type and/or the length of the standard cables do not meet the customer requirements, process as follows:

1. Order the cables through an exception telex order.
2. Use the cable part numbers.
3. Specify the cable length up to the maximum length defined under "3725/3726 Custom-Length Cables."

### 3725/3726 STANDARD CABLES FOR NORTH AMERICA, LATIN AMERICA, AND TAIWAN

If possible order the standard-length cable groups shown below. For shorter cables, or for an alternate operator's console cable up to 20 m (64 ft) long, order the cable groups shown under "3725/3726 Custom-Length Cables."

Feature	Group Number	Number of Cables	Length		Comments	Notes
			m	ft		
	0099	1	13.5	45	Alternate Operator Console	
4911 (LIC1)	0082	1	13.5	45	V.25/RS366 Autocall Unit	1, 3
	0085	1	13.5	45	V.24/RS232C Direct Attachment, Asynchronous	1, 3
	1400	1	13.5	45	V.24/RS232C Direct Attachment, Synchronous	1, 3
	1404	1	13.5	45	V.24/RS232C DCE	1, 3
4921 (LIC2)	0086	1	13.5	45	Wideband DCE	2, 3
4931 (LIC3)	0087	1	13.5	45	V.35 DCE	2, 3
	0088	1	13.5	45	V.35 Direct Attachment	2, 3
4941 (LIC4A)	0089	1	13.5	45	X.21 DCE	1, 3
	0091	1	30	100	X.21 Direct Attachment	1, 3
4942 (LIC4B)	0089	1	13.5	45	X.21 DCE	2, 3
	0091	1	30	100	X.21 Direct Attachment	2, 3
4991 (TIC)	1666	1	22.9	75		2, 3

Figure 4-3. 3725/3726 Standard Cables for North America, Latin America, and Taiwan

#### Notes:

1. Four cable groups can be ordered for each LIC.
2. One cable group can be ordered for each LIC and TIC.
3. 3725 Model 1 Communication Controller, Introduction GA33-0010, lists terminals that may be connected to various LIC and TIC types.

3725/3726 STANDARD CABLES FOR WT E/ME/A

Feature	Group Number	Number of Cables	Standard Length		Comments
			m	ft	
1480	0099	1	13.5	45	Alternate Operator Console
1561	3920	1	7.5	25	Channel Adapter
	1178	1	18	60	
4911	1404	4	13.5	45	LIC1 Except UK and Belgium LIC1 UK LIC1 Belgium
	0092	4	13.5	45	
	0096	4	13.5	45	
4921	0086	1	13.5	45	LIC2
4931	0087	1	13.5	45	LIC3 Except France LIC3 France
	0095	1	13.5	45	
4941	0089	4	13.5	45	LIC4A
4942	0091	1	30	100	LIC4B except France TRANSFIX LIC4B France TRANSFIX
	0155	1	13.5	45	
8320	3920	1	12	40	TPS
	1178	1	18	60	
4991	none	1	9	30	(See note)

Figure 4-4. 3725/3726 Standard Cables for WT E/ME/A

**Note:** For custom length TIC cables contact a referenced distributor of the IBM cabling system. The length of TIC cables must meet IBM cabling system specifications.

3725/3726 CUSTOM-LENGTH CABLES

Feature	Group Number	Qty	US, A/FE Regular Order		MES Order, or E/ME/A Telex Order		Part Number	Comments	Notes
			Maximum Length		Maximum Length				
			m	ft	m	ft			
1480	0689	1	20	64	150	492	2667243	Alternate Operator Console	10
1561	3920 1178	2	62	200	62	200	5353920	First Channel	
		1	45	150	45	150	5351178	Power Control, First Channel	
1561	3920 1178	2	62	200	62	200	5353920	Second Channel	
		1	45	150	45	150	5351178	Power Control, Second Channel	
1561	3920 1178	2	62	200	62	200	5353920	Third Channel	
		1	45	150	45	150	5351178	Power Control, Third Channel	
1561	3920 1178	2	62	200	62	200	5353920	Fourth Channel	
		1	45	150	45	150	5351178	Power Control, Fourth Channel	
1561	3920 1178	2	62	200	62	200	5353920	Fifth Channel	8 8
		1	45	150	45	150	5351178	Power Control, Fifth Channel	
1561	3920 1178	2	62	200	62	200	5353920	Sixth Channel	9 9
		1	45	150	45	150	5351178	Power Control, Sixth Channel	
4911 (LIC1)	0081	1	13.5	45	35	115	2667349	V.24 DCE, Japan NTT	4, 7
	0083	1	13.5	45	35	115	1733914	V.25 Autocall, French Caducee	4
	0092	2	13.5	45	35	115	1736733+	V.24 DCE, United Kingdom	4, 7
								1743584	
	0093	1	13.5	45	35	115	2667696	V.25 NTT Autocall, Japan	4
	0094	2	13.5	45	35	115	1733747+	V.25 Autocall, United Kingdom	4
								674570	
	0096	2	13.5	45	35	115	1736733+	V.24 DCE, Belgium	4, 7
						1489985			
0682	1	13.5	45	35	115	1733747	V.25/RS366 Autocall (Ex French Caducee, UK, Japan)	4	
0683	1	13.5	45	-	-	2667351	V.24/RS232C Direct Attachment, Asynchronous	1, 4	
0690	1	13.5	45	-	-	1733746	V.24/RS232C Direct Attachment, Synchronous	1, 4	
0691	1	10.6	35	35	115	1736733	V.24/RS232C DCE (Except Japan NTT, UK, Belgium)	4, 7	
4921 (LIC2)	0684	1	10.6	35	13.5	45	1733817	Wideband Modem	5
4931 (LIC3)	0095	2	10.6	35	35	115	1733820+	V.35 DCE, French PTT	5
							1749352		
	0685	1	10.6	35	35	115	1733820	V.35 DCE (Except French PTT Modem)	5
	0686	1	13.5	45	150	492	1733822	V.35 Direct Attachment	5, 11
4941 (LIC4A)	0687	1	13.5	45	150	492	1733825	X.21 DCE	2, 4
	0688	1	30	100	-	-	2667352	X.21 Direct Attachment	3, 4
4942 (LIC4B)	0155	1	13.5	45	-	-	2667777	X.21 DCE, French Transmic	2, 5
	0687	1	13.5	45	-	-	1733825	X.21 DCE (Except French Transmic)	2, 5
	0688	1	30	100	-	-	2667352	X.21 Direct attachment	3, 5
4991 TIC	1667	1	22.5	75	75	250	61X3229	Token-Ring	

Figure 4-5 (Part 1 of 2). 3725/3726 Custom-Length Cables

8320	3920 1178	2 1	62 45	200 150	62 45	200 150	5353920 5351178	First Two-Processor Switch Power Control, First Two-Processor Switch	
8320	3920 1178	2 1	62 45	200 150	62 45	200 150	5353920 5351178	Second Two-Processor Switch Power Control, Second Two-Processor Switch	
8320	3920 1178	2 1	62 45	200 150	62 45	200 150	5353920 5351178	Third Two-Processor Switch Power Control, Third Two-Processor Switch	9 9
8320	3920 1178	2 1	62 45	200 150	62 45	200 150	5353920 5351178	Fourth Two-Processor Switch Power Control, Fourth Two-Processor Switch	8 8

Figure 4-5 (Part 2 of 2). 3725/3726 Custom-Length Cables

**Notes:**

1. A maximum distance of 35 m (115 ft) meets the CCITT specifications. However, if the terminal is a 3725, it operates correctly up to 150 m (492 ft).
2. The maximum length is:
 

Up to 56 000 bps	150 m (492 ft)
Up to 128 000 bps	60 m (197 ft)
Above 128 000 bps	30 m (98 ft)
3. The maximum distance to meet the CCITT specifications is:
 

Up to 56 000 bps	150 m (492 ft)
Above 56 000 bps	60 m (197 ft)

 However, if the terminal is a 3725, it operates correctly:
 

Up to 19 200 bps	600 m (1969 ft)
Above 19 200 bps	300 m (984 ft)
4. Four cable groups can be ordered for each LIC.
5. One cable group can be ordered for each LIC.
6. 3725 Model 1 Communication Controller, Introduction GA33-0010, lists terminals that may be connected to various LIC types.
7. When the DCE is an IBM 3863, 3864, or 3865 Modem, the maximum length is 100 m (328 ft) if the suffix level of the modem (two alphabetic characters on the date tag) is FG or later for the US and America/Far East, or KF or later for Europe/Middle East/Africa. For earlier suffix level modems, if data multiplexer feature 3260 is not installed, the modem must have EC 344120 installed. If data multiplexer feature 3260 is installed, the modem must have EC 323406 installed.
8. Fifth channel 1561 and fourth TPS 8320 are mutually exclusive.
9. Sixth channel 1561 and third TPS 8320 are mutually exclusive.
10. Feature #1480 is required in E/ME/A only.
11. For speeds  $\geq$  64 000 bps, the maximum cable length is 35 m (115 feet).

FEATURE LISTS

Customer id.:				
Machine: 3725 or 3726		Request date:		
Voltage: Color:		Language: E/ME/A Cables (Note 1):		
Feature Code	Quantity	Maximum Quantity		
		3725	3726	
256K: FC #7100	->	6	-	(Fig. 1-6)
3M byte: FC #7101	->	1	-	
FC #1480	->	1	-	(Note 2, 4)
CA: FC #1561	->	2	4	(Fig. 4-1)
TPS: FC #8320	->	2	2	(Fig. 4-1)
LABA: FC #4771	->	1	5	(Fig. 4-2)
LABB: FC #4772	->	1	5	(Fig. 4-2)
LABC: FC #4774	->	1	2	(Fig. 4-2 and 4-6)
ICC: FC #4666 or FC #4667	->	3	5	(one per LAB) (Note 5)
LIC1: FC #4911 -----	->	24	40	(Note 3)
W=12 (w/o ICC) SC #9101	->	24	40	
W=12 (with ICC) SC #9121	->	24	40	
W=25 (w/o ICC) SC #9102	->	16	40	
W=25 (with ICC) SC #9122	->	16	40	
W=25 (w/o ICC) SC #9105	->	16	40	
W=25 (with ICC) SC #9125	->	16	40	
W=37 (w/o ICC) SC #9106	->	8	20	
W=42 (w/o ICC) SC #9107	->	8	20	
W=50 (w/o ICC) SC #9103	->	8	20	
W=50 (with ICC) SC #9123	->	8	20	
W=18 (with ICC) SC #9111	->	18	40	
W=37 (with ICC) SC #9112	->	8	20	
W=42 (with ICC) SC #9113	->	8	20	
W=100 (w/o ICC) SC #9104	->	4	10	
W=100 (with ICC) SC #9124	->	4	10	
LIC2: FC #4921 -----	->	16	40	
W=25 (w/o ICC) SC #9201	->	16	40	
W=42 (w/o ICC) SC #9202	->	8	20	
W=50 (w/o ICC) SC #9204	->	8	20	
W=100 (w/o ICC) SC #9203	->	4	10	
LIC3: FC #4931 -----	->	16	40	
W=25 (w/o ICC) SC #9301	->	16	40	
W=25 (with ICC) SC #9321	->	16	40	
W=42 (w/o ICC) SC #9302	->	8	20	
W=42 (with ICC) SC #9322	->	8	20	
W=50 (w/o ICC) SC #9305	->	8	20	
W=100 (w/o ICC) SC #9303	->	4	10	
W=100 (with ICC) SC #9323	->	4	10	
LIC4A: FC #4941 -----	->	24	40	
W=12 (w/o ICC) SC #9401	->	24	40	
W=12 (with ICC) SC #9421	->	24	40	
W=25 (w/o ICC) SC #9402	->	16	40	
W=25 (with ICC) SC #9422	->	16	40	

Figure 4-6 (Part 1 of 2). Feature Lists

Customer id.:			
Machine: 3725 or 3726		Request date:	
Voltage:      Color:		Language:      E/ME/A Cables (Note 1):	
Feature Code	Quantity	Maximum Quantity	
		3725	3726
LIC4B: FC #4942 -----	->	16	40
W=25 (w/o ICC)    SC #9403	->	16	40
W=24 (with ICC) SC #9423	->	16	40
W=42 (w/o ICC)    SC #9404	->	8	20
W=42 (with ICC) SC #9424	->	8	20
W=100 (w/o ICC) SC #9405	->	4	10
W=100 (with ICC) SC #9425	->	4	10
			(Note 4)
			(Note 4)
TIC: FC #4991 -----	->	4	8

Figure 4-6 (Part 2 of 2). Feature Lists

Notes:

1. For E/ME/A, enter specify code #2999 on the 3725 and 3726 orders to get the cables. In the US and A/FE, cables must be entered on the cable order form (see preceding section).
2. In E/ME/A, FC #1480 is mandatory if an alternate operator console is required.
3. The maximum quantity of LICs of each type depends on the weight of the LICs, the type of LAB, and the other LIC types installed (Figures 1-4 and 1-10).
4. In E/ME/A only.
5. For feature availability, contact an IBM representative.
6. There is a maximum of one LABC for a 3725 and two for a 3725 with a 3726.

ALTERING A CONTROLLER CONFIGURATION AFTER INSTALLATION

Altering a configuration after the installation of the controller is done by ordering a miscellaneous equipment specification (MES) or request for price quotation (RPQ), for 3725 only.

The controller can determine what features are installed and display a graphic representation of the current configuration on the console. This graphic representation can be transmitted to a host to be printed.

MES CONFIGURATION PROCEDURE

1. Determine the speeds and protocols of the lines to be added.
2. Get a picture of the current configuration from the graphic configuration file on the diskette.
3. If there are any unused ports in the LICs currently installed, use these first.
4. If additional LICs are needed, assign them to unused positions of installed LABs if scanner capacity is available (that is, if the sum of the weights of currently installed LICs plus additional LICs is less than or equal to 100).
5. If additional LIC positions are needed beyond those available in the LABs currently installed, one or more additional LABs will be needed. To order the LAB(s), find your current LAB configuration in the left-hand column of

the following figure. The corresponding line in the right-hand column lists the features required.

Present Number of LABs	Machines and Features To Be Ordered for an Additional LAB
2	MES for 3725: FC #4771 (LABA), #4772 (LABB), or #4774 (LABC) for LAB-3
3	New 3726 order (not MES): with FC #4771 (LABA), #4772 (LABB), or #4774 (LABC) for LAB-4
4	MES for 3726: FC #4771 (LABA), #4772 (LABB), or #4774 (LABC) for LAB-5
5	MES for 3726: FC #4771 (LABA), #4772 (LABB), or #4774 (LABC) for LAB-6
6	MES for 3726: FC 3602 (line increase feature) with FC #4771 (LABA), #4772 (LABB), or #4774 (LABC) for LAB-7
7	MES for 3726: FC #4771 (LABA), #4772 (LABB), or #4774 (LABC) for LAB-8

6. The choice between LABA, LABB, or LABC depends upon the lines to be installed and the customer's plan for the network.
  - a. If all the lines to be installed are medium speed lines (category-A speed), LABA would be the proper choice.
  - b. If the lines to be installed are all high speed lines, or a mix of high speed and medium speed, LABB allows maximum flexibility with minimum disruption. LABB is also a good choice for a purchased machine because of its flexibility.
  - c. A LABC is installed to provide an attachment to one or more token-rings.
7. Add ICCs as needed, one per LAB.
8. Update the graphic configuration to show the physical relationship of the new line/token-ring and LIC/TIC positions within the LAB locations.
9. Order the additional features by quantity and type.
10. Put the MES number provided by the IBM representative in the appropriate MES field on the graphic diagram. Retain a copy of the graphic configuration and send a copy to the FE/CE branch office that will install the MES. FE/CE need this information to install the MES correctly, matching the SYSGEN.
11. Enter the cable group numbers, or the part numbers, in the proper LIC/TIC position on the graphic configuration (or on Appendix A), and order the cables.
12. Enter the channel adapters and TPSs. To order the channel adapter, find the current channel adapter configuration in the left-hand column of the following figure. The corresponding line in the right-hand column lists the features required.

Present Number of CAs	What to order for an Additional Channel Adapter
0	MES for 3725: FC #1561 (for CA-1)
1	MES for 3725: FC #1561 (for CA-2)
2	MES for 3726: FC #1561 (for CA-3) or, if 3726 is not already installed, New order for 3726 with one FC #1561 (for CA-3)
3	MES for the 3726: FC #1561 (for CA-4)
4	MES for the 3726: FC #1561 (for CA-5)
5	MES for the 3726: FC #1561 (for CA-6)

- When the MES is installed, FE/CE will update the configuration data file on the diskette.

## DIFFERENCES BETWEEN AN MES ORDER AND AN INITIAL ORDER

### Checking Differences

For an initial order, the plant checks both units (3725 and 3726) for weight compatibility and prerequisite features. For an MES, no cross-checking is performed between the existing configuration and the additional features ordered.

### Configuration Differences

Before proceeding as for a new order:

- Assign lines to empty ports on a graphic representation of the LABs.
- Assign lines to LICs in Appendix B (see step 2 of Chapter 3).
- Assign these LICs/TICs, and token-rings to TICs, to free LIC/TIC positions of installed LABs, that is "fill in the gaps".

Follow the weight rules and, whenever possible, the sequence rules that apply to initial orders (see step 3 of Chapter 3). LIC rules 1 and 5 and LAB rules 5 and 8 must always apply; and it is suggested that other LAB and LIC rules also be followed.

Note: Update also the total scanner weight(s) and the ICC requirements.

When no new LICs or TICs can fit into an existing LAB, proceed with the remaining LICs/TICs as for the new order of a LAB.

### Ordering Differences

First, determine which type of order is required: MES or RPQ for a 3725, MES on 3726, or new order for 3726. The request date need not be related to that of the base machine.

- The machine type is followed by the the serial number of that machine (or the order number if the machine has not been installed yet).
- Only the additional features have to be entered on the order.

Notes:

1. If LIC combined weight exceeds standard initial order limits, specify code SC #6000 must be ordered unless it is already in the machine's history.
2. In case of MES on LAB, specify code SC #6000 must be ordered unless it is already in the machine's history.

Storage Increase

Storage capacity can be increased in increments of 256K bytes, up to a total of 3M bytes, by installing one storage increment (FC #7100) for each 256K of additional storage required. The 3M byte capability (FC #7101) is required, in addition, if the total storage is to be more than 2M bytes.

Note: If the storage is to be increased to more than 2M bytes for controllers installed before EC level A20965:

- An original capacity of 0.5M bytes requires:
  - The 3M byte capability (FC #7101)
  - A basic storage upgrade (RPQ 8Q0455)in addition to between seven and ten storage increments (FC #7100), giving between 2.25 and 3M bytes in total.
- An original capacity of 0.75M bytes requires:
  - The 3M byte capability (FC #7101)
  - A basic storage upgrade (RPQ 8Q0455)
  - A storage increment upgrade (RPQ 8Q0459)in addition to between six and nine storage increments (FC #7100), giving between 2.25 and 3M bytes in total.
- An original capacity of 1M bytes requires:
  - The 3M byte capability (FC #7101)
  - A basic storage upgrade (RPQ 8Q0455)
  - Two storage increment upgrades (RPQ 8Q0459)in addition to between five and eight storage increments (FC #7100), giving between 2.25 and 3M bytes in total.



**APPENDIX A: USER APPLICATION NETWORK**

**User Application Network (Part 1 of 4)**

#	Line Reference Token-Ring Reference	C/D/A	Speed*	Protocol*	Interface*	Modem* (DCE)	Cable Group#	Line Address	Cable Length
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	.....		.....	.....	.....	.....	.....	.....	.....

**Line Reference:** Any short reference that identifies the line (for example, DTE machine number, owner name, or location). Enter also: C for asynchronous, D for direct attachment, and A for autocal.

**Token-Ring Reference:** Any short reference that identifies the Token-Ring. Speed, Protocol, Interface, and Modem columns are not applicable.

**Speed and Protocol:** Maximum speed and line protocol (start-stop, BSC EBCDIC or ASCII, SDLC DX or HDX).

**Interface:** (CCITT V.24, RS-232C, V.35, and so on).

**Modem:** Short reference that identifies the modem (if any) to which the cable will be connected.

**Cable Group# and Cable Length:** See under "Cable Ordering" in Chapter 4.

**Line Address:** Line address (0 to 255) for cable connection.

User Application Network (Part 2 of 4)

#	Line Reference Token-Ring Reference	C/D/A	Speed*	Protocol*	Interface*	Modem* (DCE)	Cable Group#	Line Address	Cable Length
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	.....		.....	.....	.....	.....	.....	.....	.....

**Line Reference:** Any short reference that identifies the line (for example, DTE machine number, owner name, or location). Enter also: C for asynchronous, D for direct attachment, and A for autocal.

**Token-Ring Reference:** Any short reference that identifies the Token-Ring. Speed, Protocol, Interface, and Modem columns are not applicable.

**Speed and Protocol:** Maximum speed and line protocol (start-stop, BSC EBCDIC or ASCII, SDLC DX or HDX).

**Interface:** (CCITT V.24, RS-232C, V.35, and so on).

**Modem:** Short reference that identifies the modem (if any) to which the cable will be connected.

**Cable Group# and Cable Length:** See under "Cable Ordering" in Chapter 4.

**Line Address:** Line address (0 to 255) for cable connection.

User Application Network (Part 3 of 4)

#	Line Reference Token-Ring Reference	C/D/A	Speed*	Protocol*	Interface*	Modem* (DCE)	Cable Group#	Line Address	Cable Length
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									

Line Reference: Any short reference that identifies the line (for example, DTE machine number, owner name, or location). Enter also: C for asynchronous, D for direct attachment, and A for autocal.

Token-Ring Reference: Any short reference that identifies the Token-Ring. Speed, Protocol, Interface, and Modem columns are not applicable.

Speed and Protocol: Maximum speed and line protocol (start-stop, BSC EBCDIC or ASCII, SDLC DX or HDX).

Interface: (CCITT V.24, RS-232C, V.35, and so on).

Modem: Short reference that identifies the modem (if any) to which the cable will be connected.

Cable Group# and Cable Length: See under "Cable Ordering" in Chapter 4.

Line Address: Line address (0 to 255) for cable connection.

User Application Network (Part 4 of 4)

#	Line Reference Token-Ring Reference	C/D/A	Speed*	Protocol*	Interface*	Modem* (DCE)	Cable Group#	Line Address	Cable Length
76	.....								
77	.....								
78	.....								
79	.....								
80	.....								
81	.....								
82	.....								
83	.....								
84	.....								
85	.....								
86	.....								
87	.....								
88	.....								
89	.....								
90	.....								
91	.....								
92	.....								
93	.....								
94	.....								
95	.....								
96	.....								
97	.....								
98	.....								
99	.....								
100	.....								

**Line Reference:** Any short reference that identifies the line (for example, DTE machine number, owner name, or location). Enter also: C for asynchronous, D for direct attachment, and A for autocall.  
**Token-Ring Reference:** Any short reference that identifies the Token-Ring. Speed, Protocol, Interface, and Modem columns are not applicable.  
**Speed and Protocol:** Maximum speed and line protocol (start-stop, BSC EBCDIC or ASCII, SDLC DX or HDX).  
**Interface:** (CCITT V.24, RS-232C, V.35, and so on).  
**Modem:** Short reference that identifies the modem (if any) to which the cable will be connected.  
**Cable Group# and Cable Length:** See under "Cable Ordering" in Chapter 4.  
**Line Address:** Line address (0 to 255) for cable connection.

**APPENDIX B: GRAPHIC REPRESENTATION OF LICs/TICs**

**Note:** "Step 2. Assigning Lines/Token-Rings to LICs/TICs" in Chapter 3 explains how to use this Appendix.

**Four-Port LICs: LIC1 and LIC4A (Part 1 of 2)**

1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
LIC =									
Wt =									
SC =									

1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
LIC =									
Wt =									
SC =									

1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
LIC =									
Wt =									
SC =									

**One-Port LICs: LIC2, LIC3, or LIC4B (Part 1 of 2)**

1	1	1	1	1	1	1	1	1	1
LIC =									
Wt =									
SC =									

1	1	1	1	1	1	1	1	1	1
LIC =									
Wt =									
SC =									

Four-Port LICs: LIC1 and LIC4A (Part 2 of 2)

1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
LIC =									
Wt =									
SC =									

1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
LIC =									
Wt =									
SC =									

1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
LIC =									
Wt =									
SC =									

One-Port LICs: LIC2, LIC3, or LIC4B (Part 2 of 2)

1	1	1	1	1	1	1	1	1	1
LIC =									
Wt =									
SC =									

1	1	1	1	1	1	1	1	1	1
LIC =									
Wt =									
SC =									

IBM Token-Ring TICs (LAB Type C)

1	1	1	1	1	1	1	1
TIC = 1							

**APPENDIX C: GRAPHIC REPRESENTATION OF LABS IN A CONTROLLER**

**Note:** "Step 3. Assigning LICs/TICs to LABs" in Chapter 3 explains how to use this Appendix.

LAB-1 Type A	Pos. 8 -----	Pos. 7 -----	Pos. 6 -----	Pos. 5 -----	Pos. 4 -----	Pos. 3 -----	Pos. 2 -----	Pos. 1 -----
	28	24	20	16	12	8	4	0
	29	25	21	17	13	9	5	1
	30	26	22	18	14	10	6	2
Weight Sum:	31	27	23	19	15	11	7	3
-----	LIC =							
-----	Wt =							
ICC:	FC #49..							
FC466.	SC #9...							

LAB-2 Type A	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----
	32	36	40	44	48	52	56	60
	33	37	41	45	49	53	57	61
	34	38	42	46	50	54	58	62
Weight Sum:	35	39	43	47	51	55	59	63
-----	LIC =							
-----	Wt =							
ICC:	FC #49..							
FC466.	SC #9...							

LAB-3 Type A/B/C	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----	Weight Sum: (LAB B only)
	64	68	72	76	(80)	(81)	(82)	(83)	
	65	69	73	77	80	84	88	92	
	66	70	74	78	81	85	89	93	
	67	71	75	79	82	86	90	94	
Weight Sum:	67	71	75	79	83	87	91	95	
-----	LIC =	LIC =	LIC =	LIC =	(TIC = )	(TIC = )	(TIC = )	(TIC = )	
-----	Wt =	Wt =	Wt =	Wt =	LIC =	LIC =	LIC =	LIC =	
ICC:	FC #49..								
FC466.	SC #9...								

**Note:** For LAB-3 to LAB-8, inclusive, the port addressing and TIC number for a LAB-C is shown in brackets. For example, if LAB-4 is a LAB-C then the TICs have the addresses 112, 113, 114 and 115 for the positions 5, 6, 7 and 8 respectively.

LAB-4 Type A/B/C	Pos. 1 -----	Pos. 2 -----	Pos. 3 -----	Pos. 4 -----	Pos. 5 -----	Pos. 6 -----	Pos. 7 -----	Pos. 8 -----	Weight Sum: (LAB B only)
	96	100	104	108	(112)	(113)	(114)	(115)	
	97	101	105	109	112	116	120	124	
	98	102	106	110	113	117	121	125	
	99	103	107	111	114	118	122	126	
Weight Sum:	99	103	107	111	115	119	123	127	
-----	LIC =	LIC =	LIC =	LIC =	(TIC = )	(TIC = )	(TIC = )	(TIC = )	
-----	Wt =	Wt =	Wt =	Wt =	LIC =	LIC =	LIC =	LIC =	
ICC:	FC #49..								
FC466.	SC #9...								

LAB-5	Pos. 1	Pos. 2	Pos. 3	Pos. 4	Pos. 5	Pos. 6	Pos. 7	Pos. 8	
Type	-----	-----	-----	-----	-----	-----	-----	-----	
A/B/C	128	132	136	140	(144)	(145)	(146)	(147)	
	129	133	137	141	144	146	152	156	
	130	134	138	142	145	149	153	157	
Weight	131	135	139	143	146	150	154	158	
Sum:	-----	-----	-----	-----	-----	-----	-----	-----	Weight
	LIC =	LIC =	LIC =	LIC =	(TIC = )	(TIC = )	(TIC = )	(TIC = )	Sum:
-----	Wt =	Wt =	Wt =	Wt =	LIC =	LIC =	LIC =	LIC =	(LAB B
ICC:	FC #49..	only)							
FC466.	SC #9...								

LAB-6	Pos. 1	Pos. 2	Pos. 3	Pos. 4	Pos. 5	Pos. 6	Pos. 7	Pos. 8	
Type	-----	-----	-----	-----	-----	-----	-----	-----	
A/B/C	160	164	168	172	(176)	(177)	(178)	(179)	
	161	165	169	173	176	180	184	188	
	162	166	170	174	177	181	185	189	
Weight	163	167	171	175	178	182	186	190	
Sum:	-----	-----	-----	-----	-----	-----	-----	-----	Weight
	LIC =	LIC =	LIC =	LIC =	(TIC = )	(TIC = )	(TIC = )	(TIC = )	Sum:
-----	Wt =	Wt =	Wt =	Wt =	LIC =	LIC =	LIC =	LIC =	(LAB B
ICC:	FC #49..	only)							
FC466.	SC #9...								

LAB-7	Pos. 1	Pos. 2	Pos. 3	Pos. 4	Pos. 5	Pos. 6	Pos. 7	Pos. 8	
Type	-----	-----	-----	-----	-----	-----	-----	-----	
A/B/C	192	196	200	204	(208)	(209)	(210)	(211)	
	193	197	201	205	208	212	216	220	
	194	198	202	206	209	213	217	221	
Weight	195	199	203	207	210	214	218	222	
Sum:	-----	-----	-----	-----	-----	-----	-----	-----	Weight
	LIC =	LIC =	LIC =	LIC =	(TIC = )	(TIC = )	(TIC = )	(TIC = )	Sum:
-----	Wt =	Wt =	Wt =	Wt =	LIC =	LIC =	LIC =	LIC =	(LAB B
ICC:	FC #49..	only)							
FC466.	SC #9...								

LAB-8	Pos. 1	Pos. 2	Pos. 3	Pos. 4	Pos. 5	Pos. 6	Pos. 7	Pos. 8	
Type	-----	-----	-----	-----	-----	-----	-----	-----	
A/B/C	224	228	232	236	(240)	(241)	(242)	(243)	
	225	229	233	237	240	244	248	252	
	226	230	234	238	241	245	249	253	
Weight	227	231	235	239	242	246	250	254	
Sum:	-----	-----	-----	-----	-----	-----	-----	-----	Weight
	LIC =	LIC =	LIC =	LIC =	(TIC = )	(TIC = )	(TIC = )	(TIC = )	Sum:
-----	Wt =	Wt =	Wt =	Wt =	LIC =	LIC =	LIC =	LIC =	(LAB B
ICC:	FC #49..	only)							
FC466.	SC #9...								

**Notes:**

1. The line numbers in positions 5 through 8, of LAB-3 through LAB-8, apply only to LABAs or LABBs. For LABCs the positions 5 through 8, of LAB-3 through LAB-8, are reserved for token-rings.
2. Once LABs are filled in, write the port# and cable information on right-hand side of Appendix A.
3. Appendix C, or a copy of it, should be left with the end user so as to allow a later comparison with the configuration data set sent by the manufacturing plant.





## APPENDIX D: CONFIGURING AND ORDERING SPECIFIED CONFIGURATIONS

It is possible to configure the 3725 Model 1 and the 3726 Expansion without following all the rules described in Chapter 3.

This procedure does not modify the ordering process for Specify Features such as:

Voltage, Power Cord Length (ISG), Automatic Cable Shipment (E/ME/A), Color, and Machine Nomenclature,

and the following Special Features:

Channel Adapter, Two-Processor Switch, Storage Increment, Alternate Console Attachment (E/ME/A) of a 3725, and Line Increase Feature of a 3726.

It allows flexibility in positioning LICs and ICC in the LABs. It should apply only when matching very specific configuration requirements.

Such configurations are called "Specified Configurations" and should be ordered with Specify Code SC #6000.

LIC and ICC positions are defined in the Specification Sheet available from the IBM representative.

For initial orders, order alterations, and MESSs, see the IBM representative.

The following configuration rules must apply when configuring a Specified Configuration:

### Rule 1 (Order Rule)

In the Specification Sheet, the total LIC weight must not exceed 100; that is 100 for a LABA, 100 for each half of a LABB, and 100 for the LIC half of a LABC.

### Rule 2 (Scanning Rate/LIC Placing Rule)

The maximum scanning capacity authorized per communication scanner is 307 200 bps in full or half-duplex mode. The scanning rate of a LIC port must be at least equal to the highest speed used on the line attached to that port.

The scanning rate of a single port LIC2, 3, or 4B is obtained by dividing 307 200 bps by the number of LICs installed in its communication scanner (including the spare positions between the first position and the last occupied position). This number may vary from 1 through 8 for a LABA, from 1 through 4 for each half of a LABB, and from 1 through 4 for the LIC half of a LABC.

The scanning rate of each port of a LIC1 or 4A is obtained by dividing the above result by four.

LIC positions run from the right to the left in the LAB1, and from the left to the right in all other LABs. (See Appendix C.)

The maximum speed supported by a communication scanner is, however, limited to 256 000 bps in full or half-duplex mode.

### Rule 3 (Operational Rule)

When a 3725/3726 is used as a back-up of several other 3725/3726s, or when all the plugged LICs are not operational at the same time, it may happen that the actual LIC weight per communication scanner exceeds 100. In such a case, the combined LIC weights of the LICs concurrently operational in a given configuration must never exceed 100.

#### Notes:

1. A LIC is "operational" when at least one of its lines has been defined in the NCP/EP system generation and has been activated by the access method.
2. The number of LIC3s should not exceed four on the first two LABs.

### Rule 4 (Start-Stop 9600 and 19 200 bps Placing Rule)

When attaching Start-Stop terminals at 9600 or 19 200 bps, the following LIC placing restrictions should apply in order to comply with the ICC distribution scheme:

1. On a LAB Type A or C, a LIC1 may attach Start-Stop lines running at 9600 bps only in the first or second LIC positions and lines running at 19 200 bps only in the first LIC position.
2. On a LAB Type B, a LIC1 may attach Start-Stop lines running at 9600 bps only in LIC positions 1, 2, 5 and/or 6 and lines running at 19 200 bps only in LIC positions 1 and/or 5.

Other LIC positions may only be used, as defined above, for lines not requiring an ICC to provide business machine clocking.

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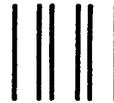
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