LSX 3000 Computer Line

LSX 3000

Hardware Configuration Guide

olivetti

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Hardware Configuration Guide

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PREFACE

This manual indicates the various available hardware components of the LSX 3000 minicomputer family operating in either X/OS or MOS software environments. The information in this manual helps in setting up the correct system configuration and to fill out the order form correctly.

SUMMARY

This manual presents:

- the LSX 3000 minicomputer components
- the mass storage devices installed in the basic module and in the expansion cabinets
- the workstations for LSX 3000 X/OS and LSX 3000 MOS
- the printers and optional modules connected to a workstation or to the basic module directly
- the line controllers
- the main characteristics of power supply units and the power consumptions of the hardware modules
- some configuration examples
- a general list of hardware modules with relevant denominations and random codes
- a list illustrating all the variable characteristics to be indicated in the order form.

REFERENCES: LSX 3000 Minicom.Fam. - System Summary (Code 4049890T)

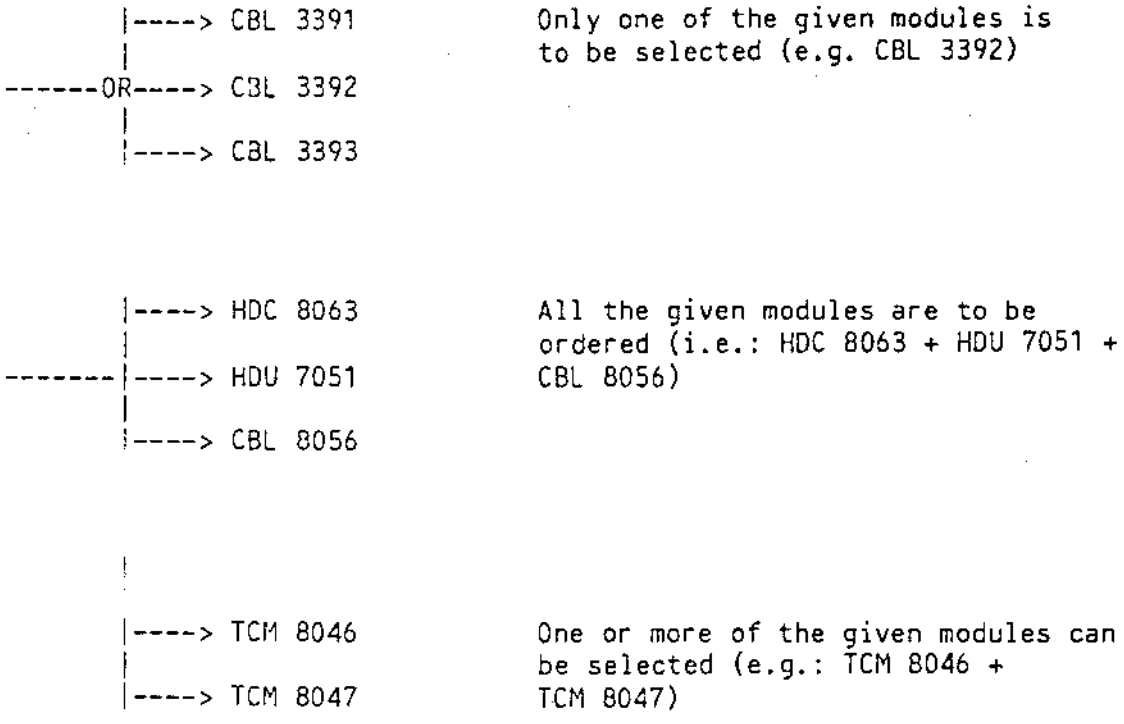
DISTRIBUTION: as per Mailing List

FIRST EDITION: February 1988

CONTENTS

NOTATION - CONVENTIONS

The symbols used in this manual have the following meaning:



Any exception to these rules are indicated clearly inside the description of the module or at the bottom of the page (e.g.: the ELB 3684 work station can connect .....). Please pay attention to notes that you may find in the manual.

Remember that to order a system module correctly, the following must always be indicated:

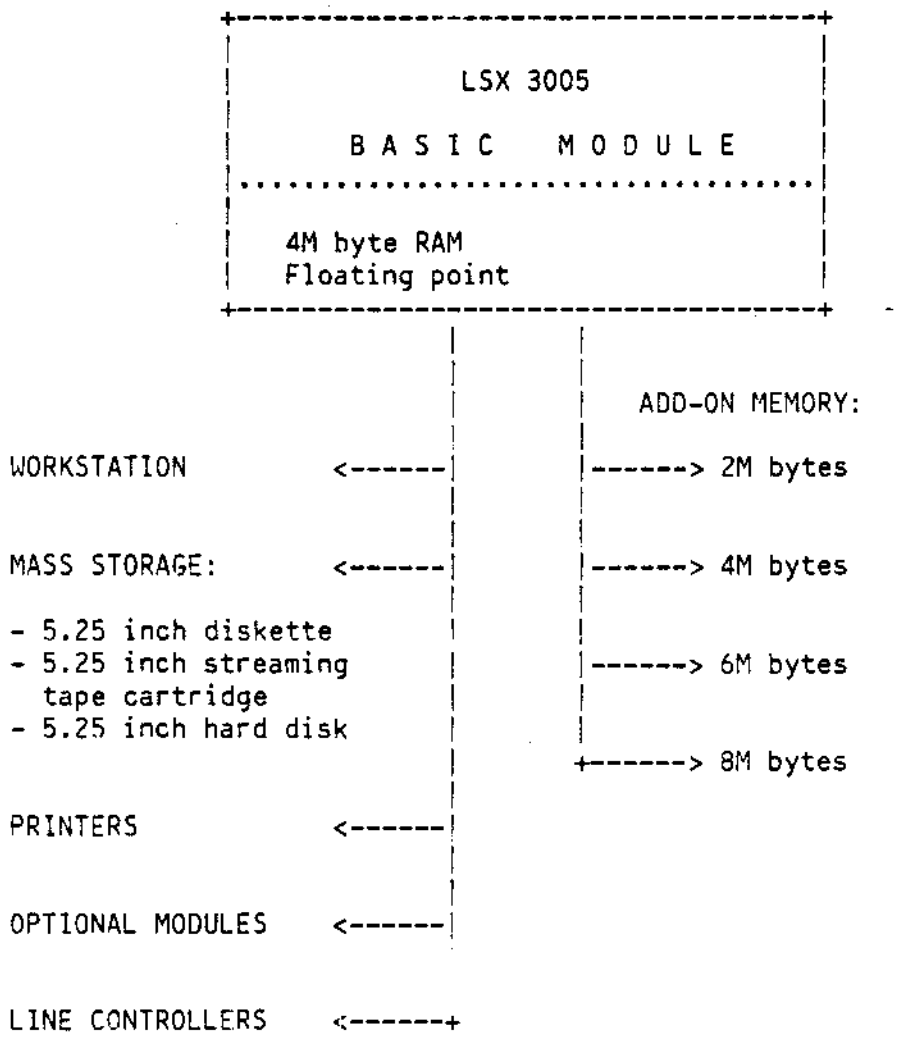
a) the **DENOMINATION** (e.g.: BU 8009)

b) the **RANDOM CODE** (e.g.: 53104 R)

c) and, if any, the **VARIABLE CHARACTERISTICS** selected according to the country where the system will be used (e.g.: TEN 004 to indicate 220V-50Hz) and/or the capabilities required (e.g.: CAV 001 to indicate the 1.10 m display module cable and the 2 m keyboard cable). The variable characteristics are sometimes found under the description of the module, in order to facilitate selection. But to be perfectly sure that the module is ordered with all its necessary variable characteristics, always refer to the table given in Chapter 15.

1. LSX 3005 MINICOMPUTER

MAJOR COMPONENTS



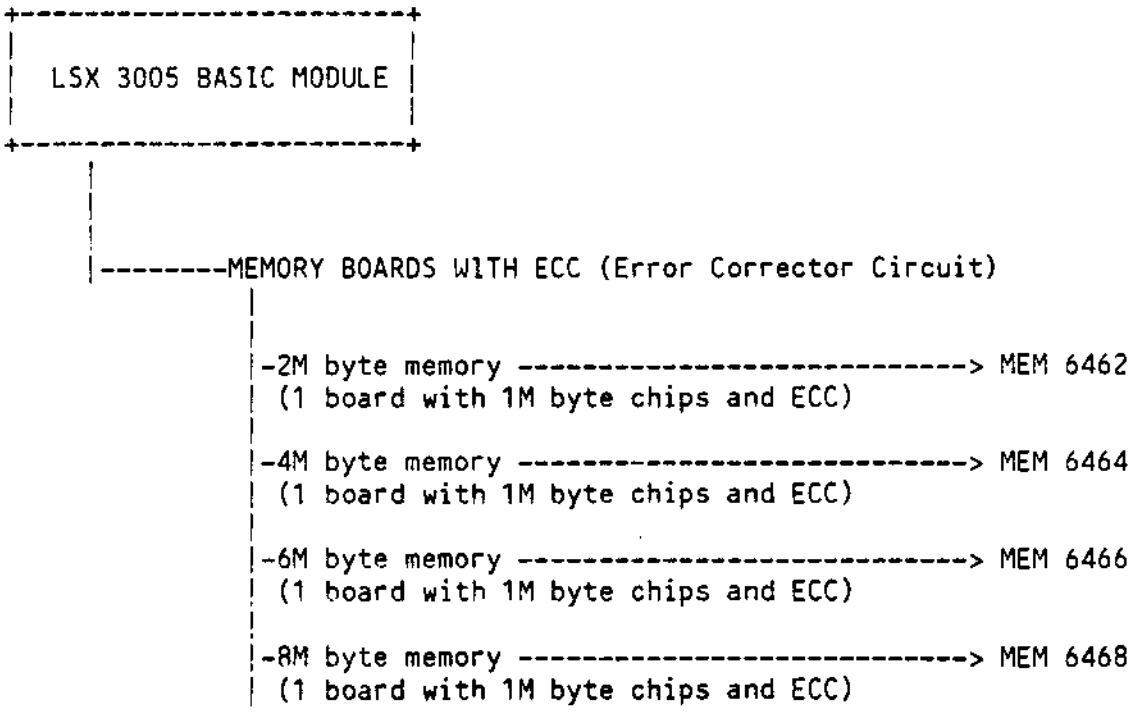
LSX 3005 BASIC MODULE

LSX 3005 BASIC MODULE ----------> BU 8825

Containing:

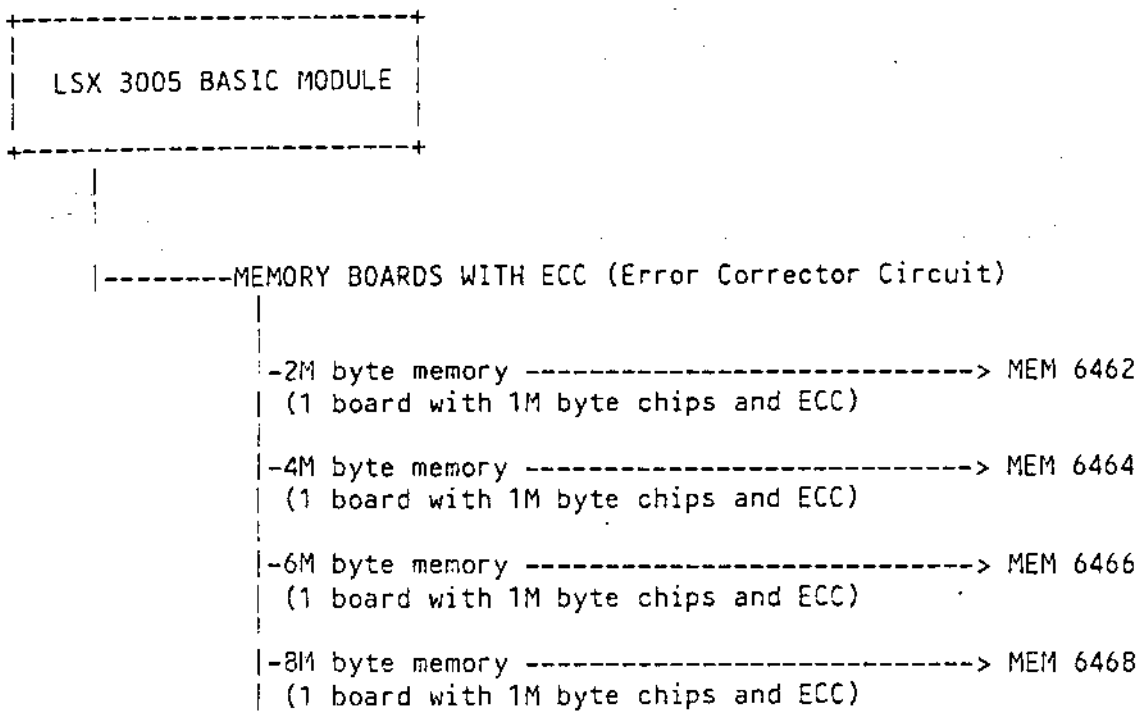
- Box
- 9 board slot rack
- CPU board with EAROM, MMU, two RS 232 C interfaces, 4M byte RAM with parity check, real-time clock
- Floating point coprocessor
- Operator console with key
- 240 W power supply
- Communication set and fans

ADD-ON MEMORY



NOTE 1 - Maximum memory size is 14M bytes.

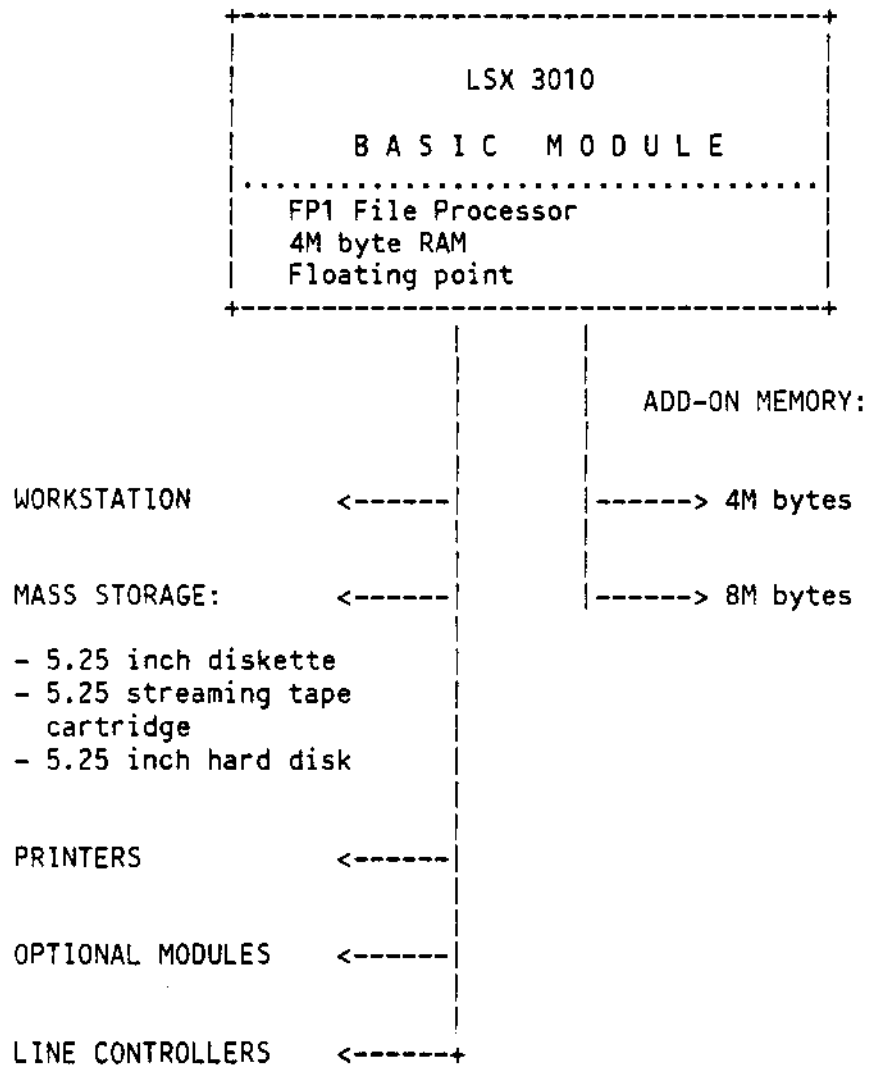
MEMORY ADD-ONS



NOTE 1 - The total amount of memory that can be installed is 14M bytes.

2. LSX 3010 MINICOMPUTER

MAJOR COMPONENTS



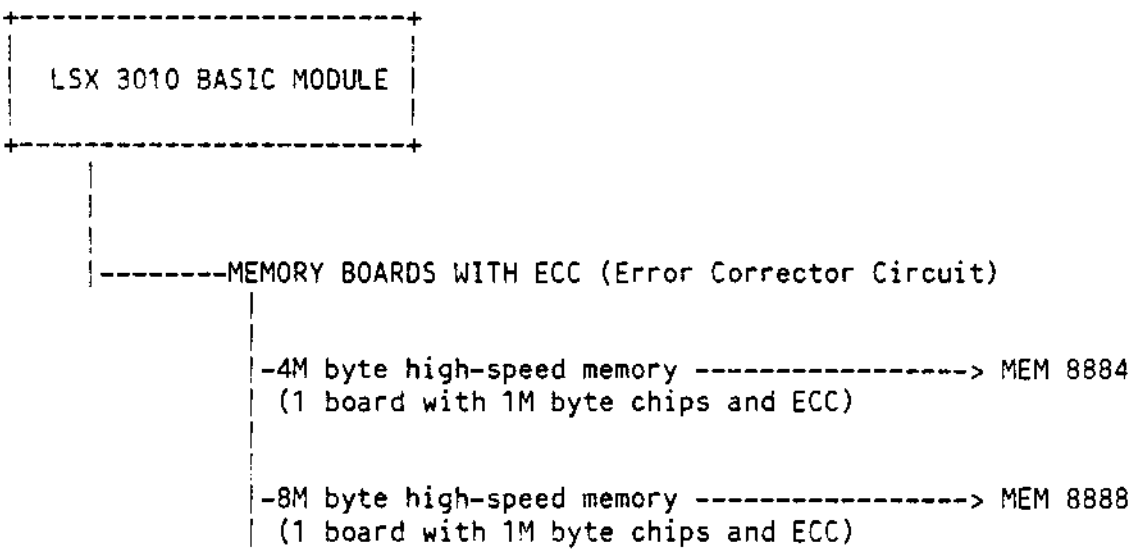
LSX 3010 BASIC MODULE

LSX 3010 BASIC MODULE ----------> BU 8826

Containing:

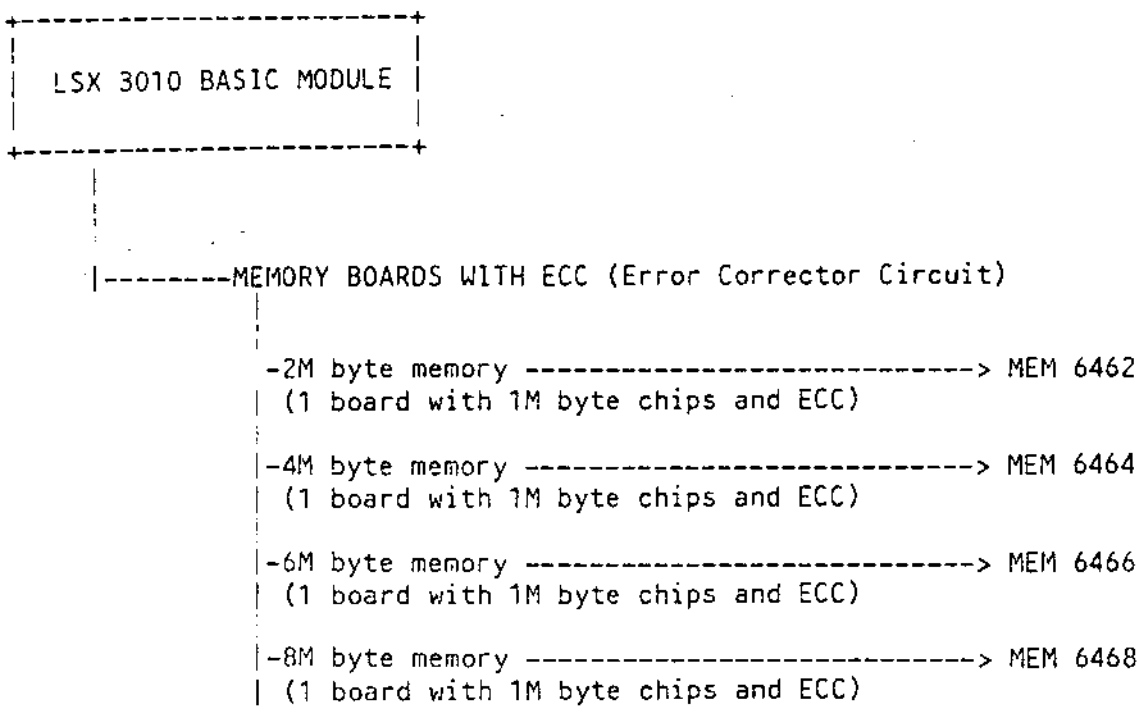
- Box
- 9 board-slot rack
- CPU board with EAROM, MMU, two RS 232 C interfaces, 4M byte RAM with parity check, real-time clock
- Floating point coprocessor
- Operator console with key
- 240 W power supply
- FP1 File processor (HDU, MFU, STU)
- Communication set and fans

ADD-ON MEMORY



NOTE 1 - Maximum memory size is 14M bytes.

MEMORY ADD-ONS

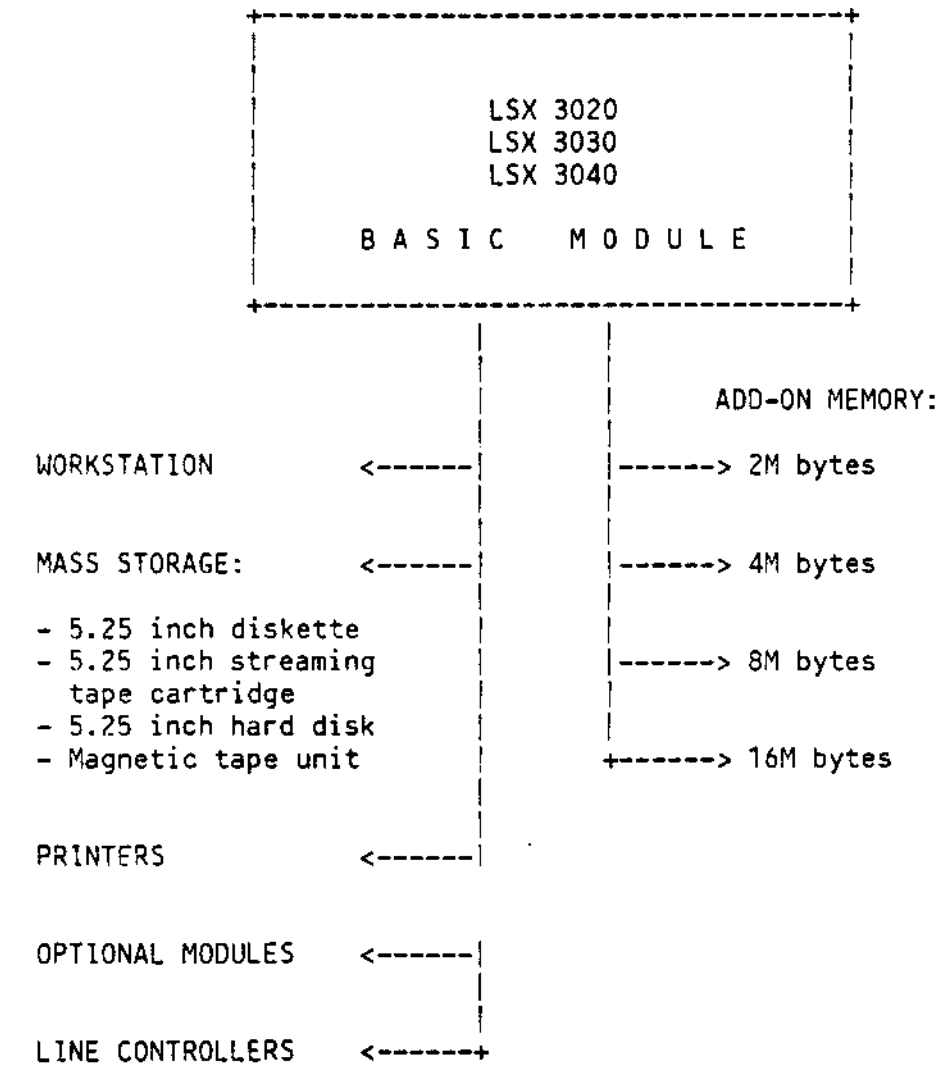


NOTE 1 - The total amount of memory that can be installed is 14M bytes.

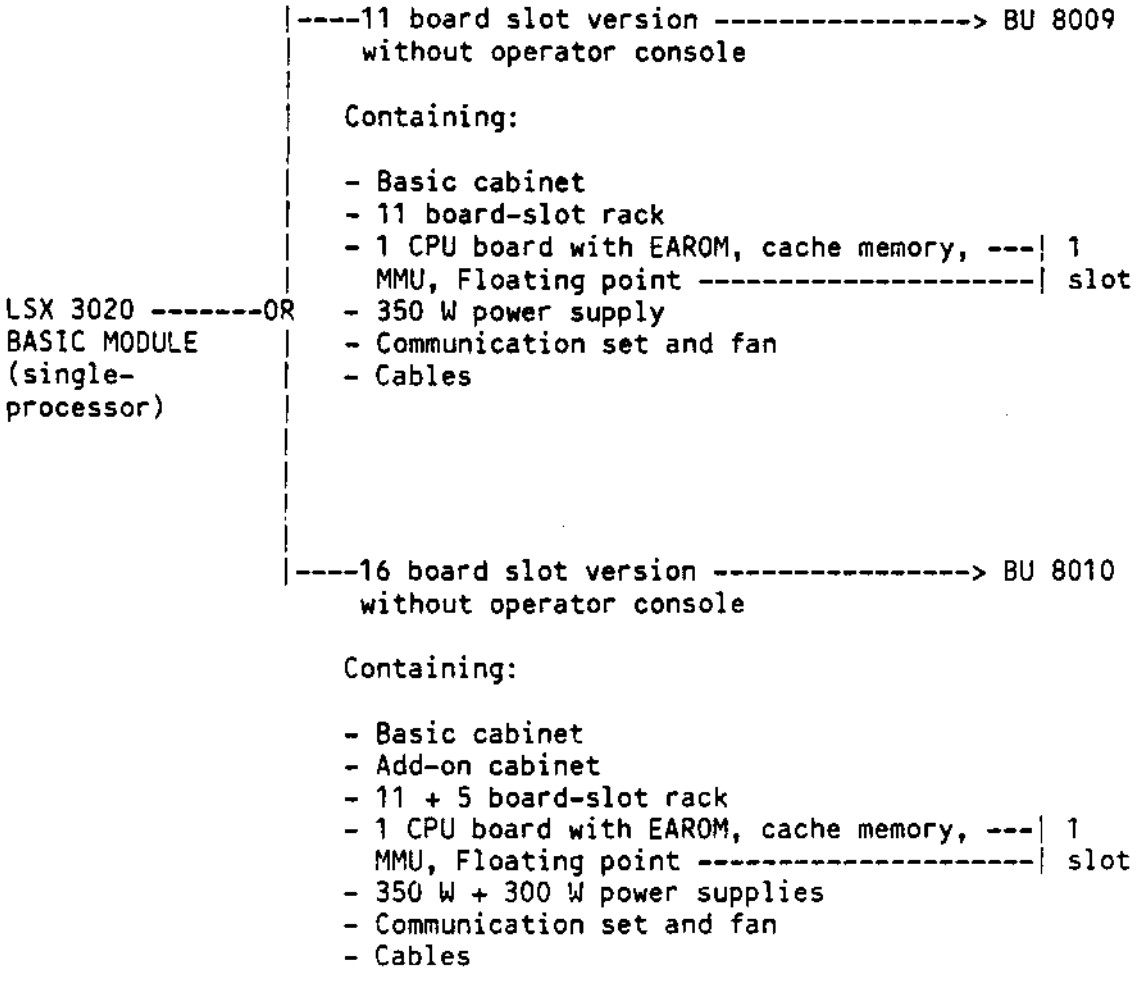
3. LSX 3020/3030/3040/3035/3045 MINICOMPUTERS

LSX 3020/3030/3040 MINICOMPUTERS

MAJOR COMPONENTS



LSX 3020 BASIC MODULE (single-processor)



UPGRADING LSX 3020 TO LSX 3030/3040

Set to upgrade LSX 3020 (single-processor) ----------> APU 8022 (*)
into LSX 3030 (dual processor), LSX 3040 (triprocessor)

Containing:

- APU (Auxiliary Processing Unit) board comprising: CPU, EAROM, cache memory, MMU Floating point
- Cable
- Labels

(*) For LSX 3030 and LSX 3040 configurations the following must be ordered:

- 1 APU 8022 module for LSX 3030 (dual processor)
or - 2 APU 8022 modules for LSX 3040 (triprocessor).

NOTE 1 - If the APU 8022 upgrading sets are ordered together with BU 8009 and BU 8010, they are supplied already installed on the basic module.

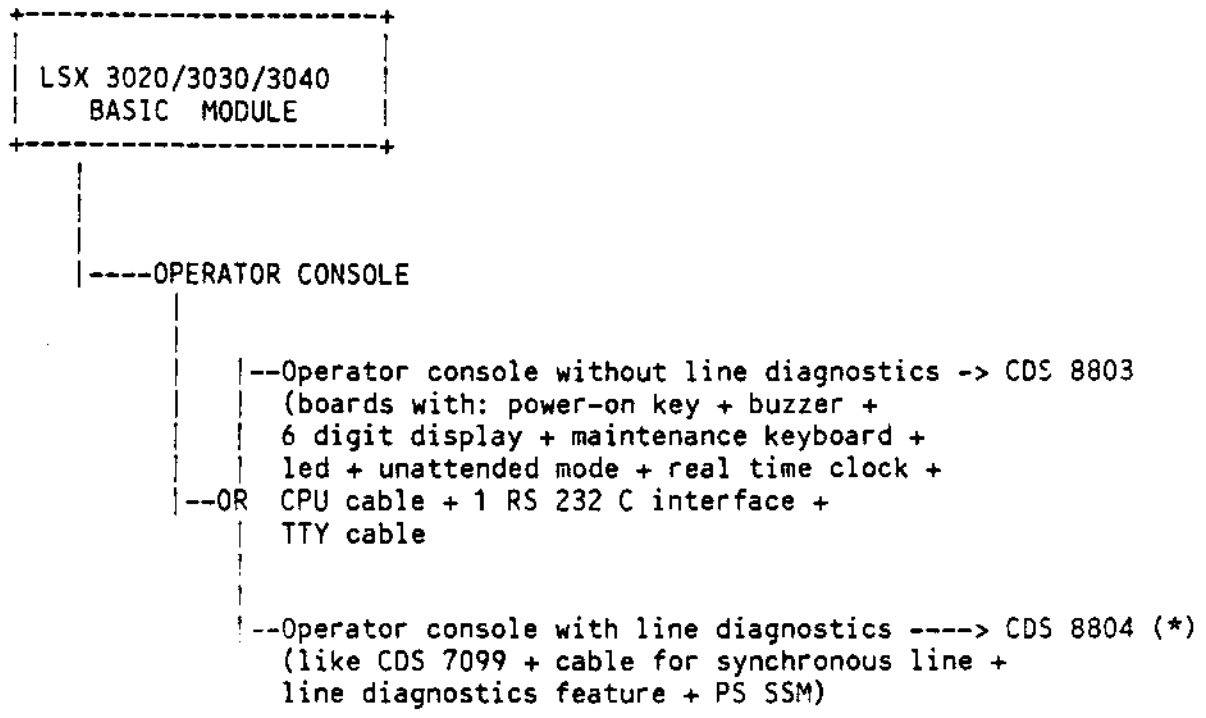
UPGRADING BU 8009 INTO BU 8010

Set to upgrade BU 8009 (11 board slots) ----------> KIT 8079
into BU 8010 (16 board slots)

Containing:

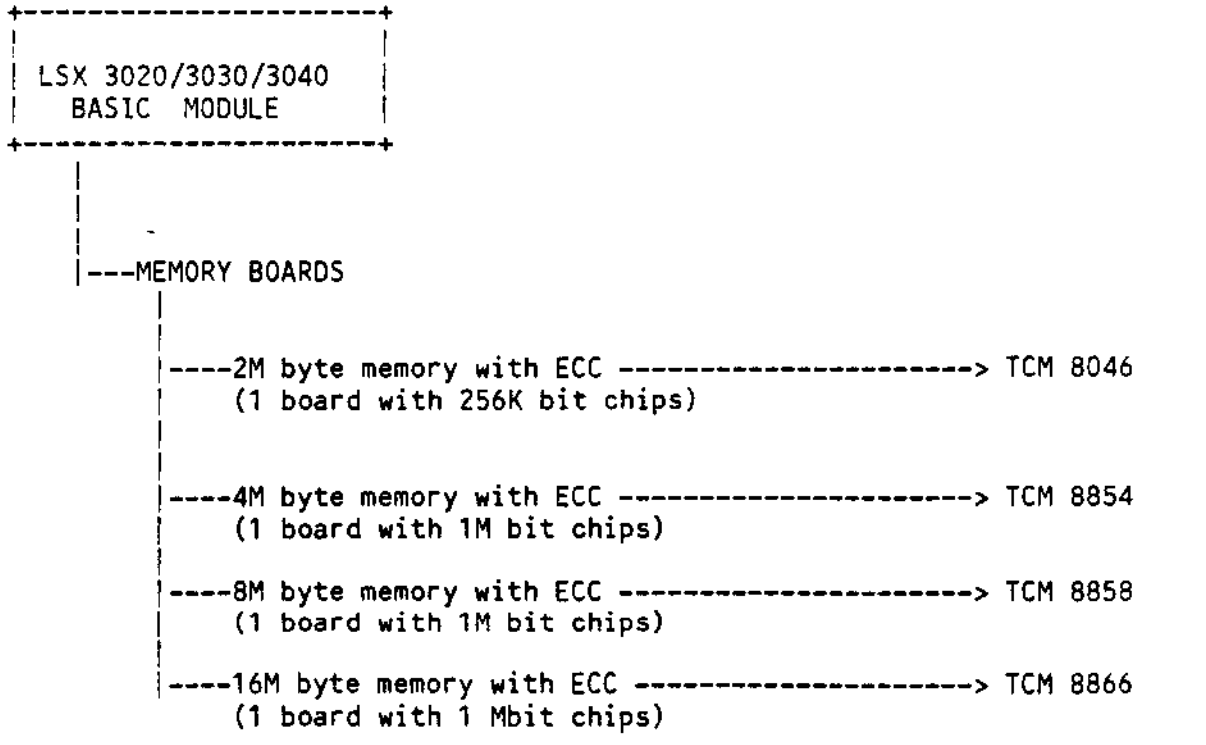
- 11 + 5 board-slot rack
- Back plane
- 300 W power supply unit
- Network group and fan
- Cables

OPERATOR CONSOLE



(*) The CDS 8804 console requires ROM 326 (firmware release 6.2).

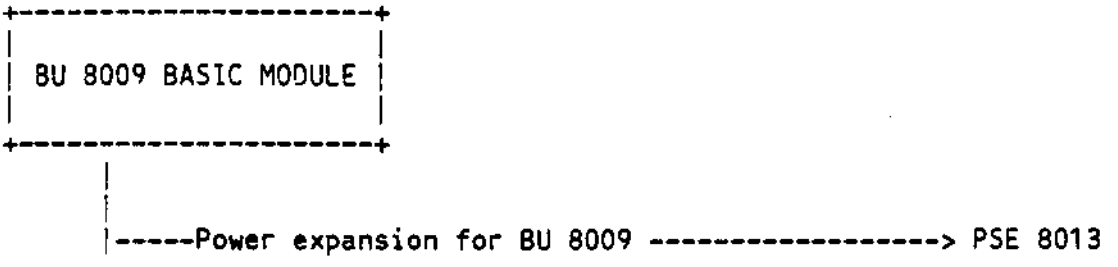
MEMORY BOARDS



NOTE 1 - Maximum memory size is 14M bytes.
The bytes of the 16M byte board (TCM 8866) used are the first 14M bytes.

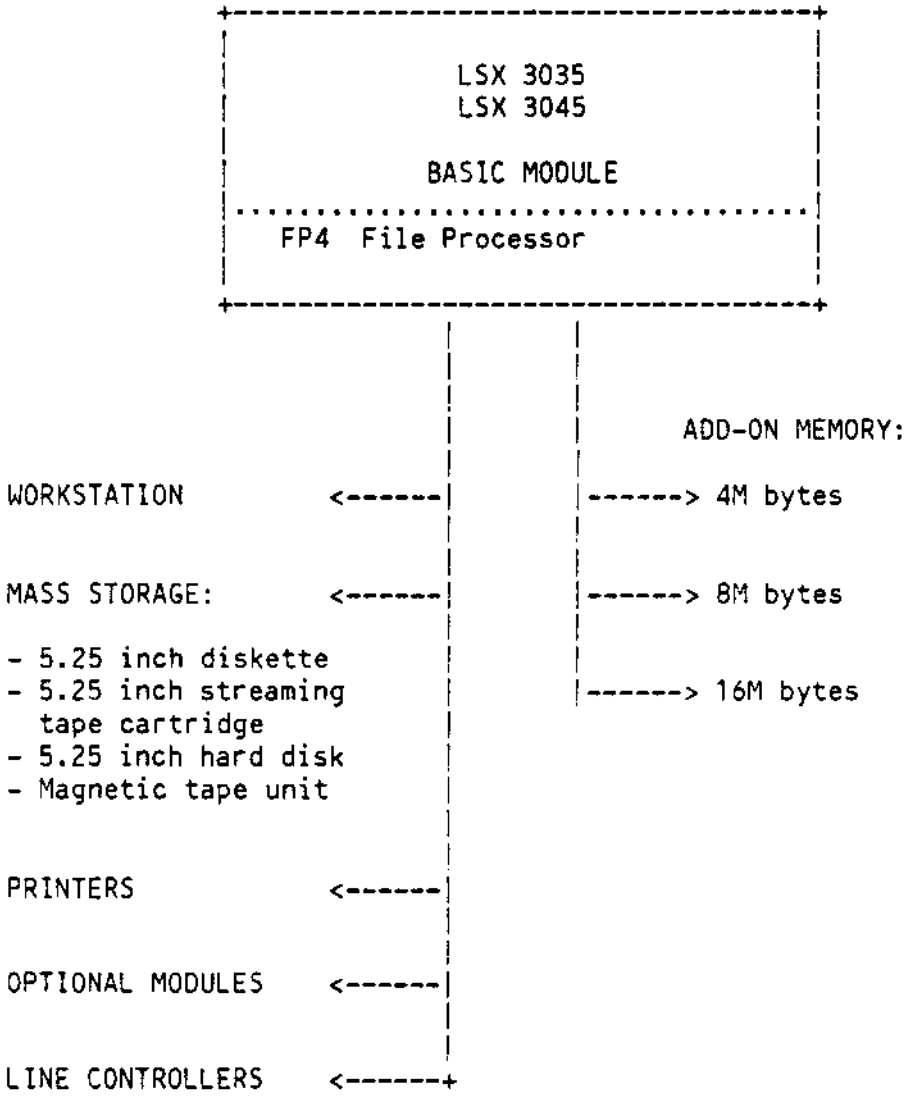
NOTE 2 - MIX boards can be used:
boards with 256K bit chips and boards with 1M bit chips.

POWER EXPANSION FOR LSX 3020 (11 board slots)



NOTE 1 - The PSE 8013 power expansion contains a shield plate mounted on the diskette drive MFU 8097 used.

MAJOR COMPONENTS



LSX 3035 BASIC MODULE (single processor)

LSX 3035 BASIC MODULE, 16 BOARD SLOTS, WITHOUT CONSOLE -----> BU 8516

Containing:

- Basic cabinet
- 11 + 5 board-slot rack
- SB1 add-on cabinet
- 1 CPU with EAROM, cache memory, ---------| 1
  MMU, Floating point ------| slot
- 350 W power supply
- Communication set and fan
- Terminating/support plate
- FP4 File Processor ---------- 1 slot

UPGRADING LSX 3035 TO LSX 3045

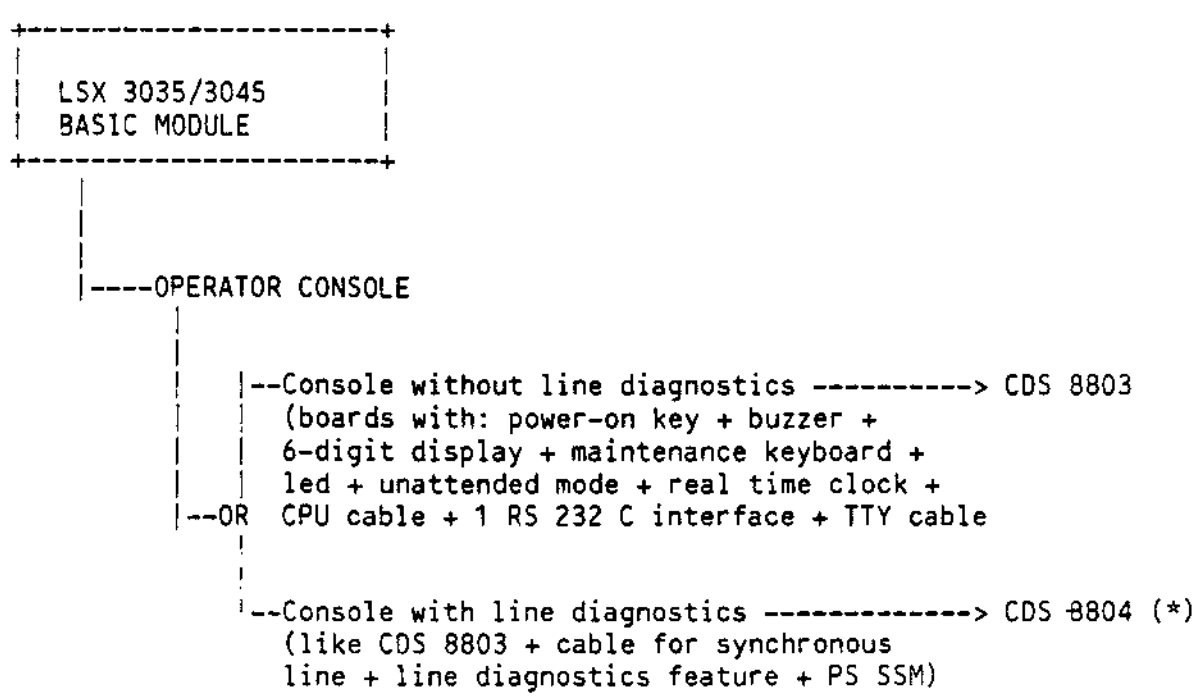
Set to upgrade LSX 3035 (single processor) ----------> APU 8517 (*)
to LSX 3045 (dual processor)

Containing:

- APU (Auxiliary Processing Unit) board
  comprising: CPU, EAROM, cache memory,
  MMU, Floating point
- Cable
- Labels

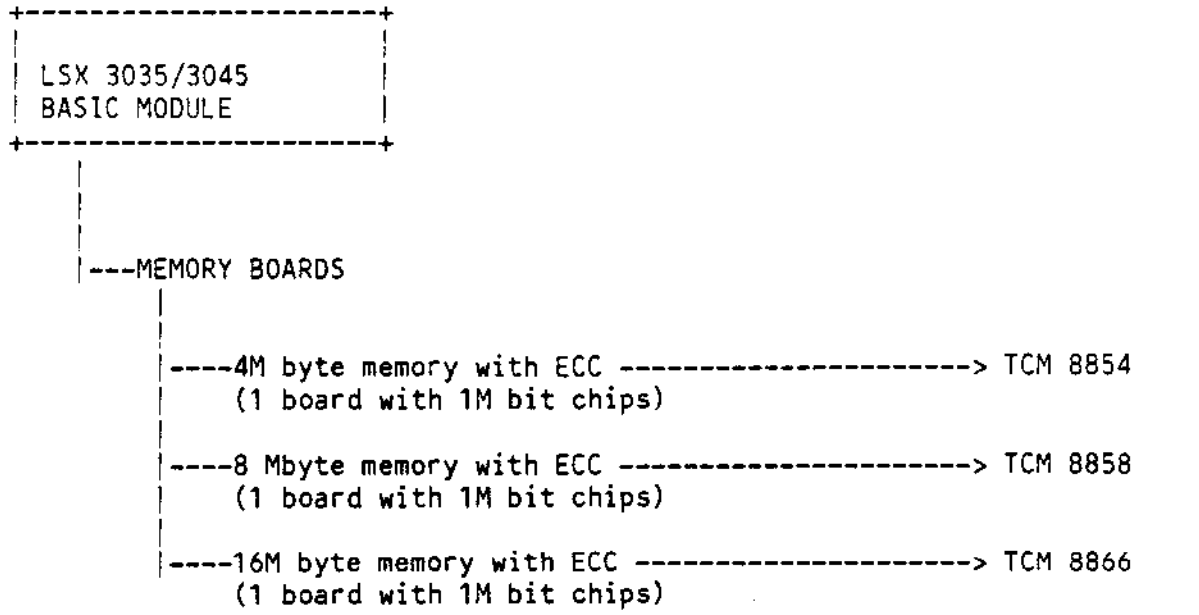
NOTE 1 - The APU 8022 upgrading set is already comprised in the basic module BU 8516, so there is no need to order it separately.

OPERATOR CONSOLE



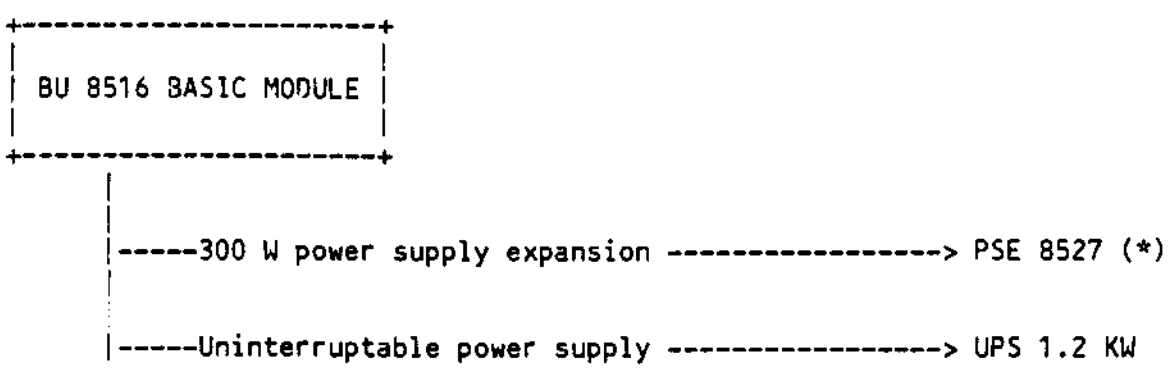
(*) The CDS 8804 console requires ROM 326 (firmware release 6.2).

MEMORY BOARDS



NOTA 1 - Maximum memory size is 64M bytes.

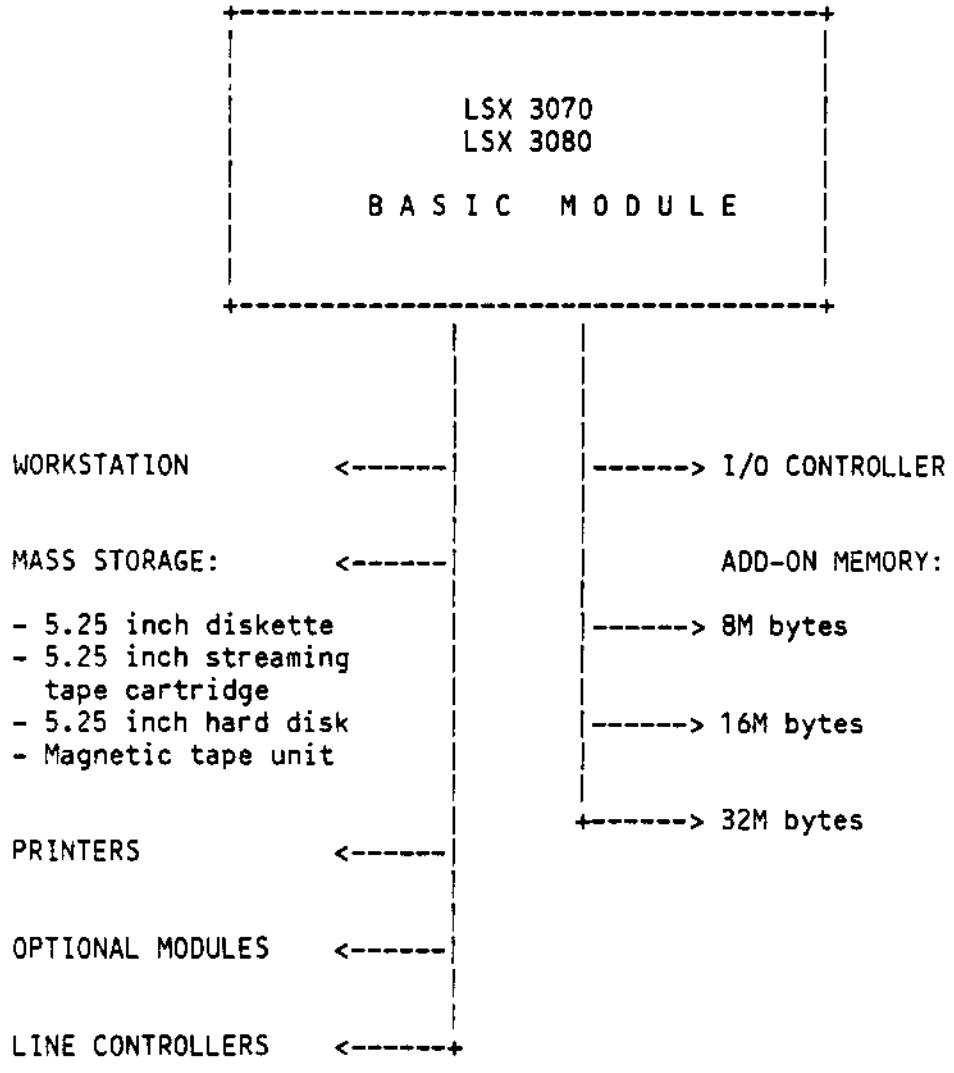
POWER SUPPLY EXPANSION FOR LSX 3035/3045



(*) This is required for all the modules configured with more than 11 boards.

4. LSX 3070/3080 SUPER-MINICOMPUTERS

MAJOR COMPONENTS



LSX 3070 BASIC MODULE (single processor)

BASIC MODULE (without File Processor) ----------> BU 9001

Containing:

- **ESBO (cabinet for EDGE modules)**
  - 1 CPU board with Floating point ----------| 5
  - MMU/SP (Memory Manag. + System Support) | slots
  - MCU (Memory Control Unit) -------|
  - 1000 W power supply
  - Communication set
  - 10 board-slot rack with DC Fans, Fan controller, back plane
  - Cables
- **OSBO (cabinet for Olivetti modules)**
  - 11 board-slot rack
  - BAM 90 with cables ---------- 1 slot
  - SSM (System Support Module) with cables
  - Console with line diagnostics (with ROM 325)
  - 350 W power supply
  - Communication set and fan
  - Cables

BASIC MODULE (with File Processor)----------> BU 9010

Containing:

- **ESBO (cabinet for EDGE modules)**
  - 1 CPU with Floating point -----| 5
  - MMU/SP (Memory Manag. + System Support) | slots
  - MCU (Memory Control Unit) ---------|
  - 1000 W power supply
  - Communication set
  - 10 board-slot rack with DC Fans, Fan controller, back plane
  - Cables
- **OSBO (cabinet for Olivetti modules)**
  - 11 board-slot rack
  - BAM 90 with cables ---------- 1 slot
  - SSM (System Support Module) with cables
  - Console with line diagnostics
  - 350 W power supply
  - Communication set and fan
  - Cables
  - FP4 File Processor ---------- 1 slot

UPGRADING LSX 3070 TO LSX 3080

Set to upgrade LSX 3070 (single processor) ----------> APU 9009 (*)
to LSX 3080 (dual processor)

Containing:

- APU (Auxiliary Processing Unit) board
- Floating point unit
- Cable
- Label

(*) Order 1 APU 9009 for the LSX 3080 configuration.

NOTE 1 - The APU 9009 upgrading set is already comprised in the basic module BU 9001/9010; there is no need to order it separately.

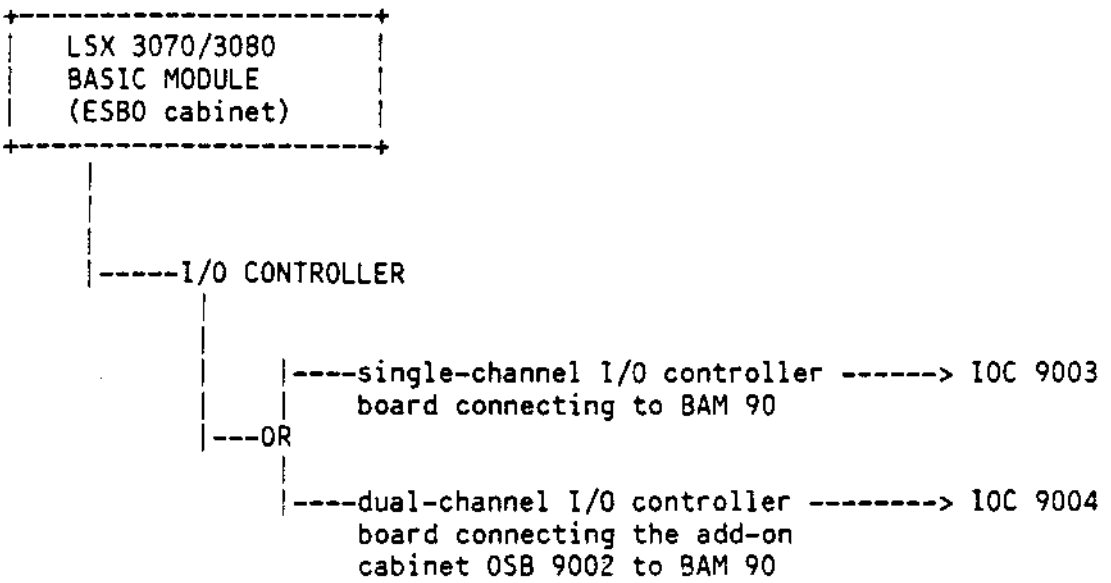
ADD-ON CABINET FOR THE SECOND I/O CHANNEL

ADD-ON CABINET ----------> OSB 9002

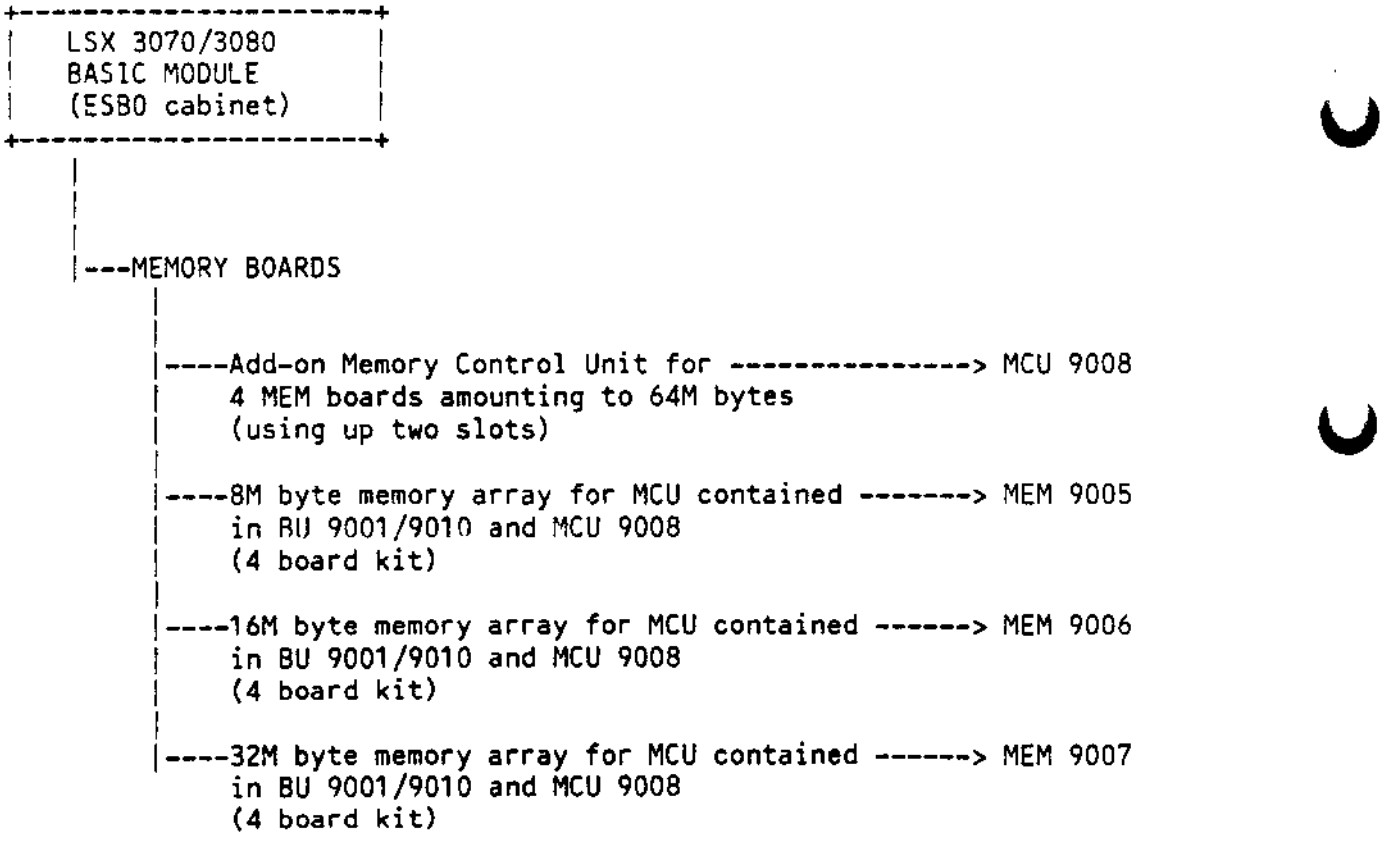
Containing:

- Add-on cabinet for Olivetti modules
- 11 board-slot rack
- BAM 90 with cables ---------- 1 slot
- 350 W power supply
- Communication set and fan

I/O CONTROLLER



MEMORY BOARDS



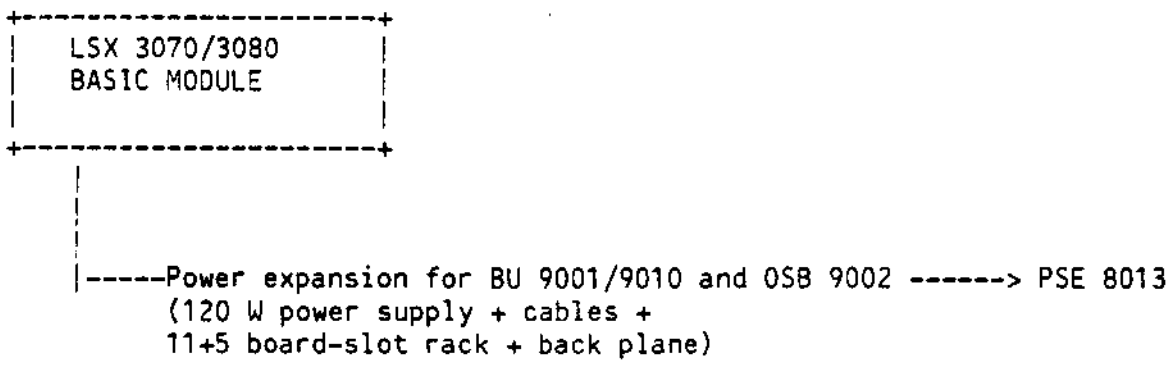
NOTE 1 - The memory consists of an MCU board mounting the memory arrays. Each minicomputer may contain two boards: one board is supplied with the basic module (BU 9001/9010), the other must be ordered separately.

NOTE 2 - Memory upgrading is performed by substituting the memory arrays.

NOTE 3 - Memory expansion amounts to 64M bytes.

NOTE 4 - Examples on how to order memory boards:
- 32M byte capacity: order MEM 9007 (MCU comprised in BU)
- 48M byte capacity: order MEM 9007
  MCU 9008 (second MCU)
  MEM 9006

POWER EXPANSION FOR BU 9001 - BU 9010 - OSB 9002

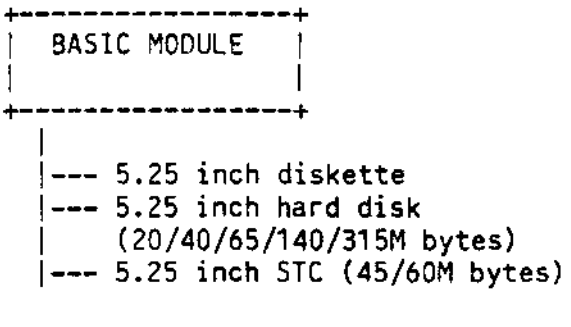


NOTE 1 - The PSE 8013 power expansion comprises a shield plate mounted on the MFU 8097 diskette drive used.

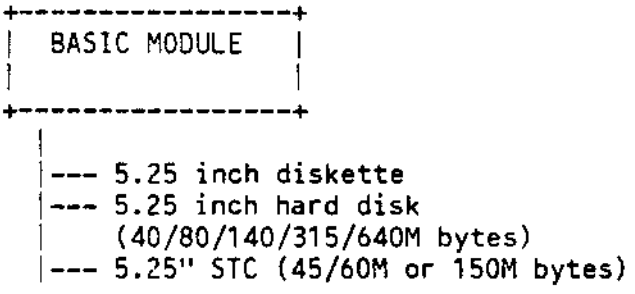
5. MASS STORAGE FOR LSX 3005/3010/3020/3030/3040/3035/3045

LSX 3005/3010/3020/3030/3040: MASS STORAGE CONFIGURATIONS

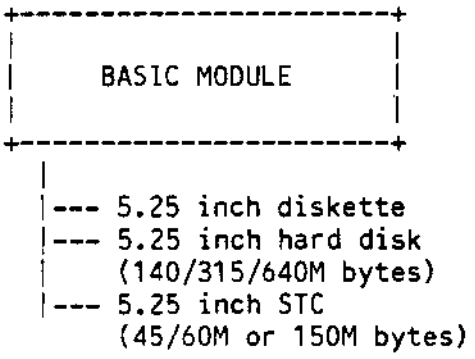
**** LSX 3005 ****

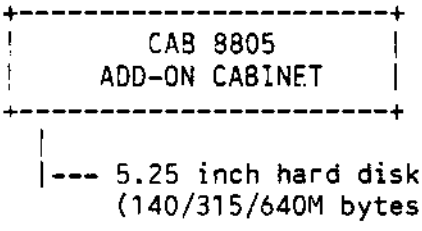


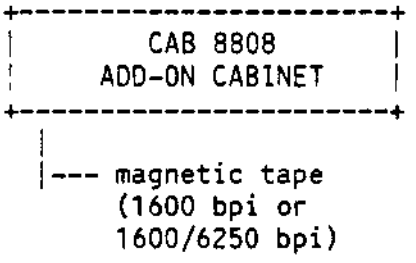
**** LSX 3010 ****



**** LSX 3020/3030/3040 ****

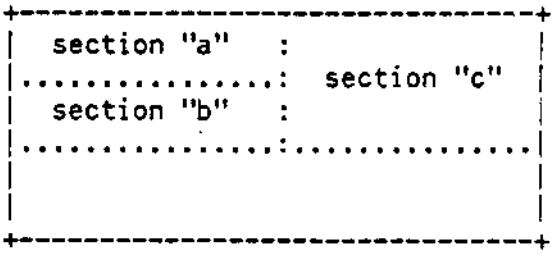






LSX 3005: MASS STORAGE CONFIGURATION

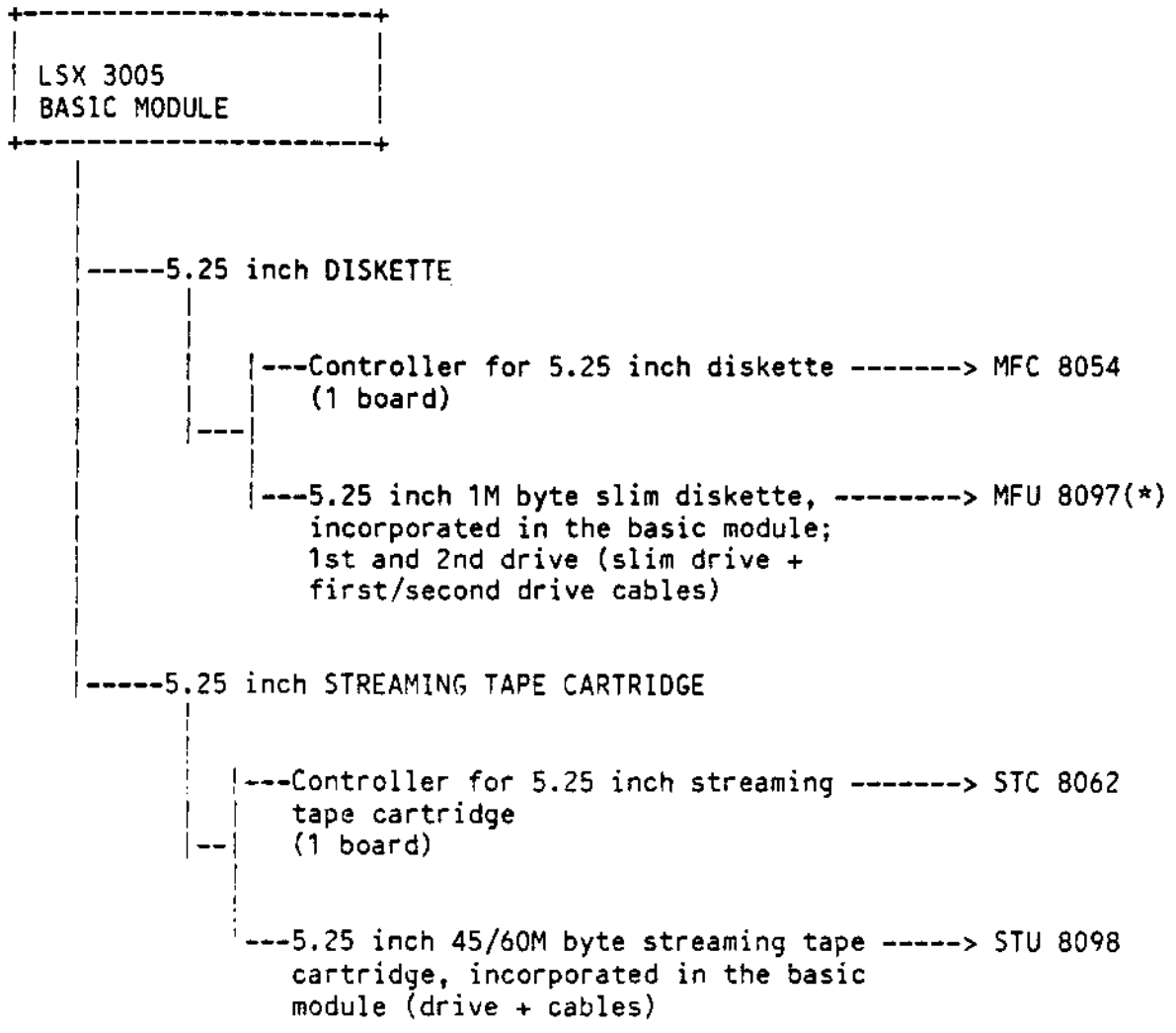
The front side of the LSX 3005 basic module is divided into separate sectors as follows:



The following table shows the configuration of the mass storage devices on LSX 3005 and the indication of possible upgradings.

CONF.	SECTION "a"	SECTION "b"	SECTION "c"	UPGRADING
A1	1 diskette	--	--	A2-A3-A4-A6
A2	1 diskette	--	1 hdu	A4-A6
A3	1 diskette	1 diskette	--	A4
A4	1 diskette	1 diskette	1 hdu	
A5	--	1 stc	1 hdu	A6
A6	1 diskette	1 stc	1 hdu	

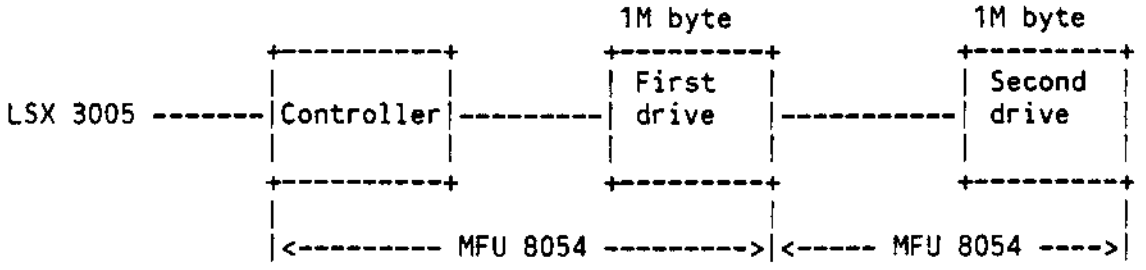
LSX 3005 DISKETTE/STC



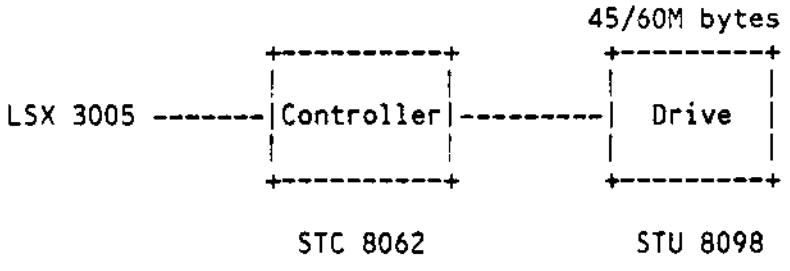
(*) With CAV variant: CAV 204 (for 1 drive), CAV 205 (for 2 drives).

DIAGRAMS ON LSX 3005 DISKETTE/STC

*** FIRST AND SECOND 5.25 inch 1M byte DISKETTE DRIVE ***



*** 5.25 inch 45/60M byte STREAMING TAPE CARTRIDGE ***



LSX 3005 HARD DISK

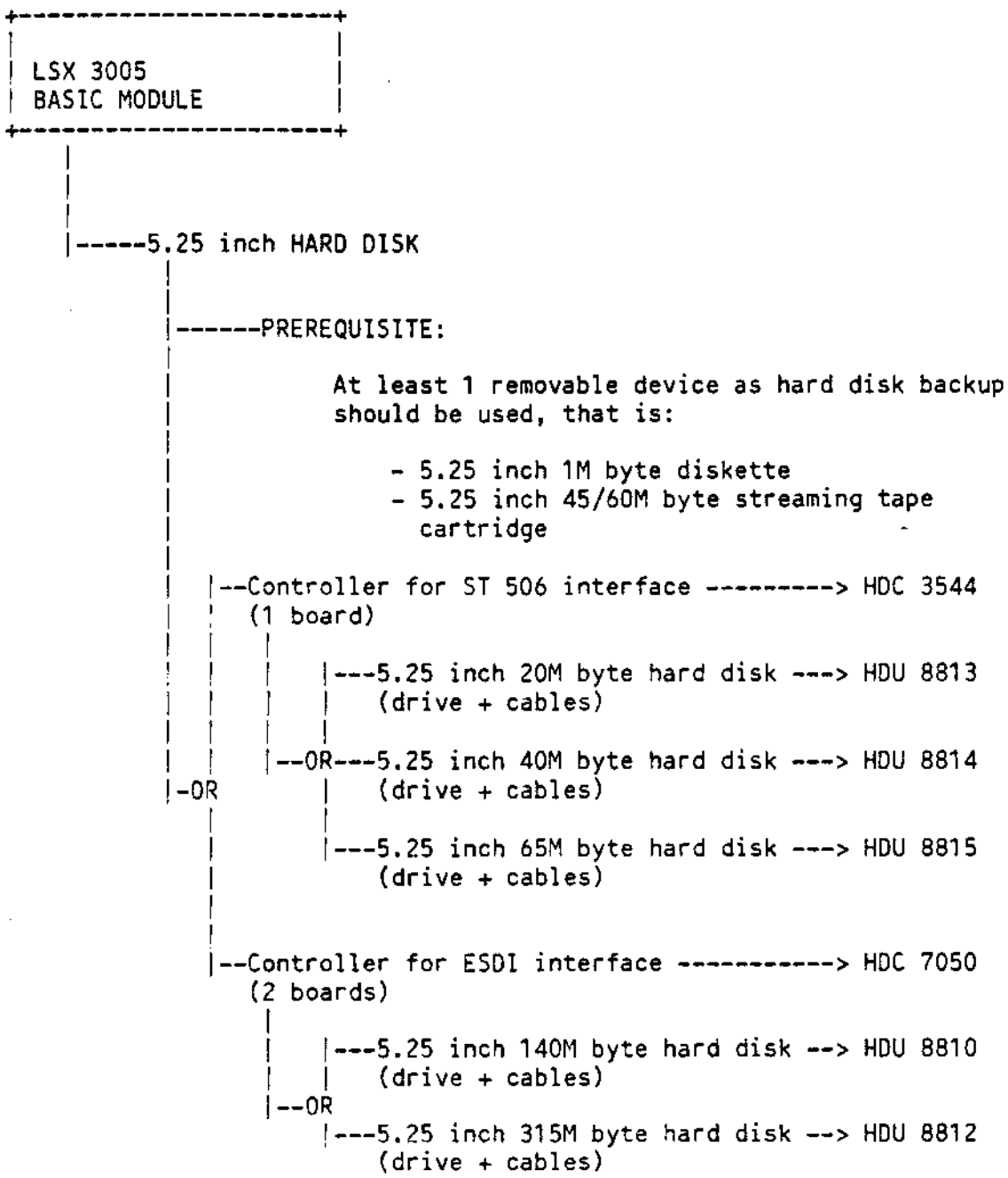
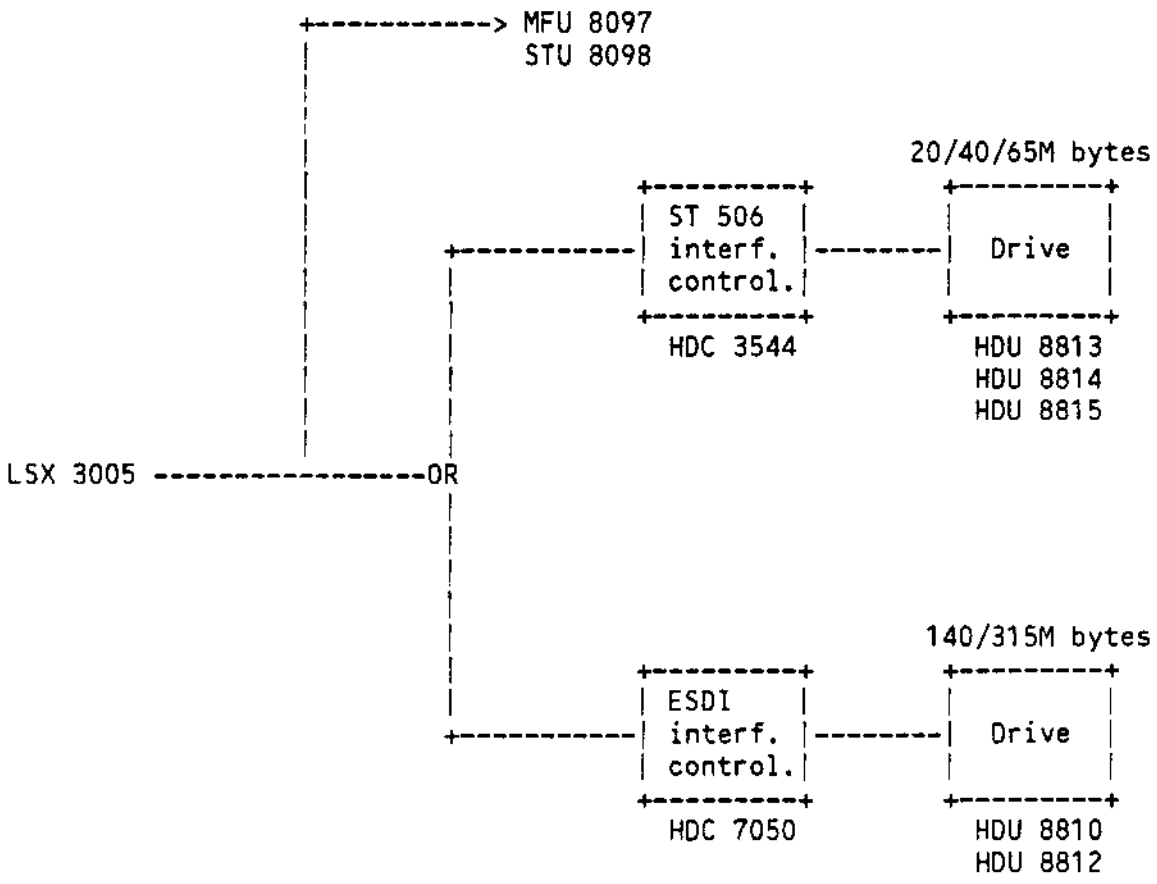


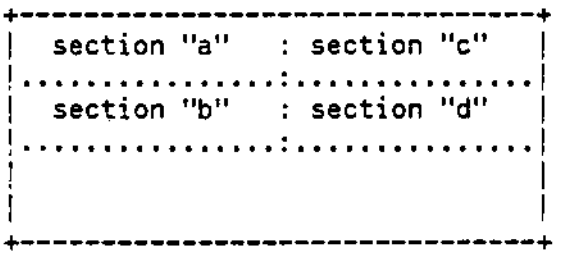
DIAGRAM ON LSX 3005 WITH HARD DISK

*** 20/40/65M byte ST 506 HARD DISK ***
*** 140/315M byte ESDI HARD DISK ***



LSX 3010: MASS STORAGE CONFIGURATION

The front side of the LSX 3010 basic module is divided into separate sections as follows:

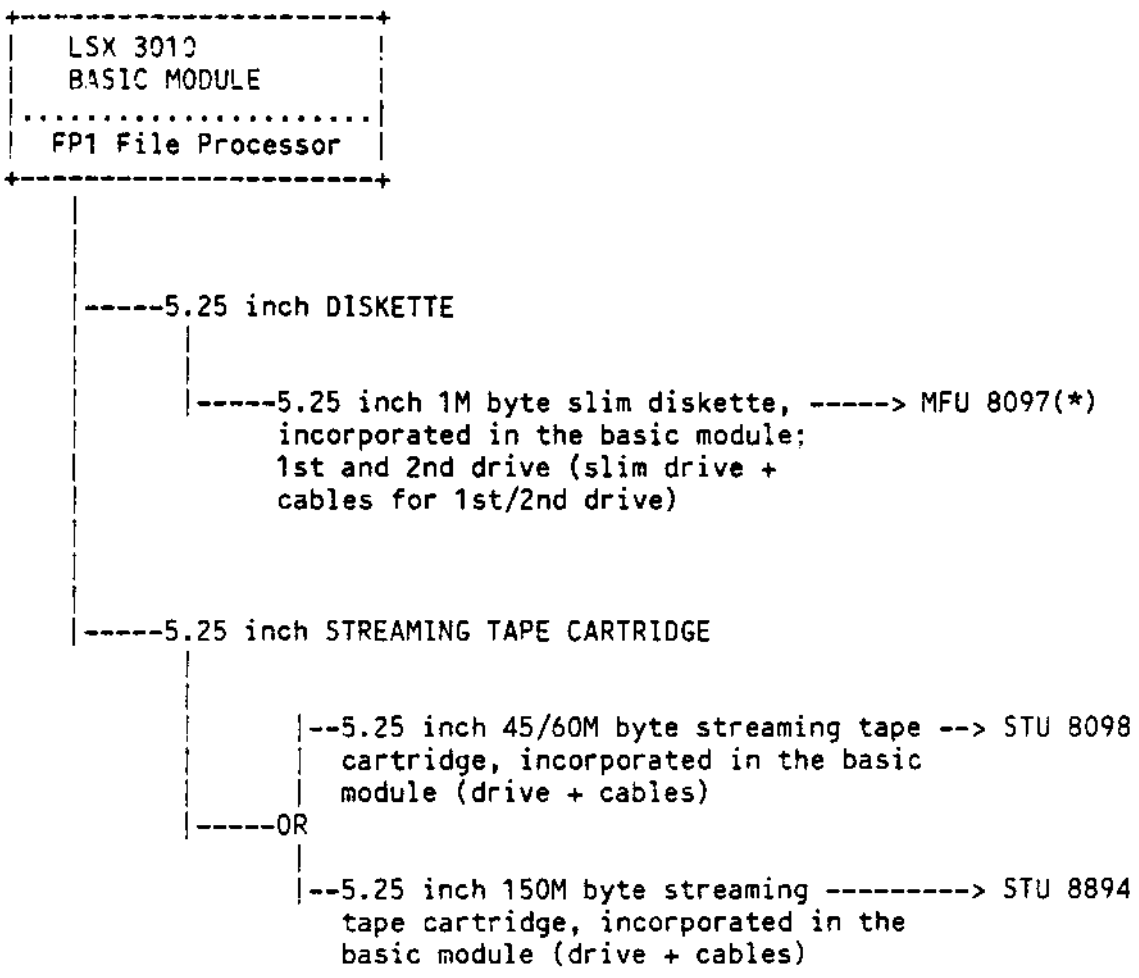


The following table shows the configurations of the mass storage devices on LSX 3010 and the possible upgradings.

CONF.	SECTION "a"	SECTION "b"	SECTION "c"	SECTION "d"	UPGRADING
A1	1 diskette	--	--	--	A2-A3-A4 A5-A6-A9 A10
A2	1 diskette	--	1 hdu	--	A3-A5 A6-A9-A10
A3	1 diskette	--	1 hdu	1 hdu	A6-A10
A4	1 diskette	1 diskette	--	--	A5-A6
A5	1 diskette	1 diskette	1 hdu	--	A6
A6	1 diskette	1 diskette	1 hdu	1 hdu	
A7	--	1 stc	1 hdu	--	A8-A9-A10
A8	--	1 stc	1 hdu	1 hdu	A10
A9	1 diskette	1 stc	1 hdu	--	A10
A10	1 diskette	1 stc	1 hdu	1 hdu	

NOTE 1 - The 140/315/640M byte hard disks are full-size hard disks housed in "c" and "d" sections, occupying both sections. Thus only one full-size hard disk can be mounted.

LSX 3010 WITH DISKETTE/STC

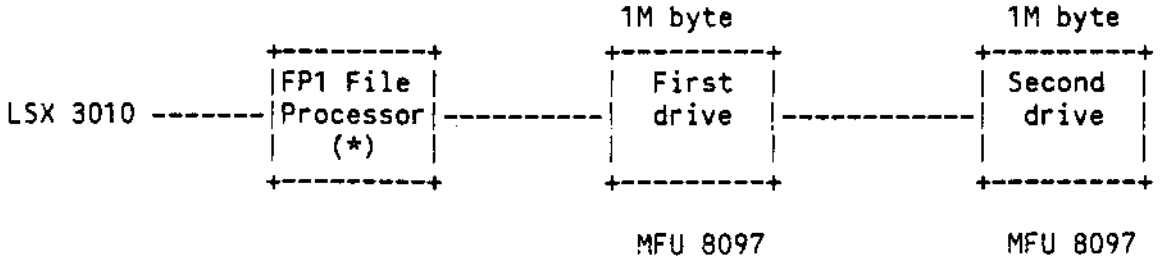


(*) With CAV variant: CAV 204 (for 1 drive), CAV 205 (for 2 drives).

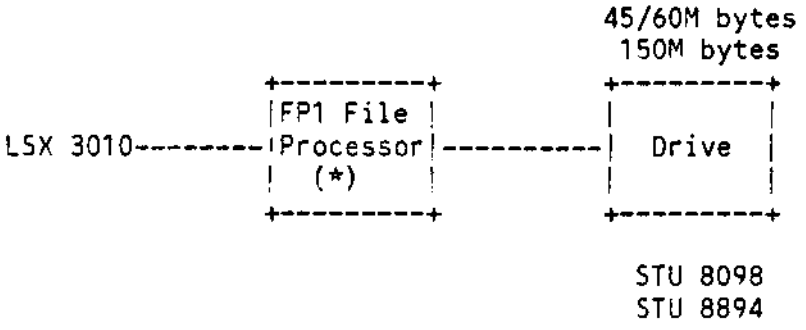
NOTE 1 - The FP1 File Processor is part of the basic module and occupies one slot in the board-slot rack.

DIAGRAMS ON LSX 3010 DISKETTE AND STC

*** FIRST AND SECOND DRIVE FOR 5.25 inch 1M byte DISKETTE ***

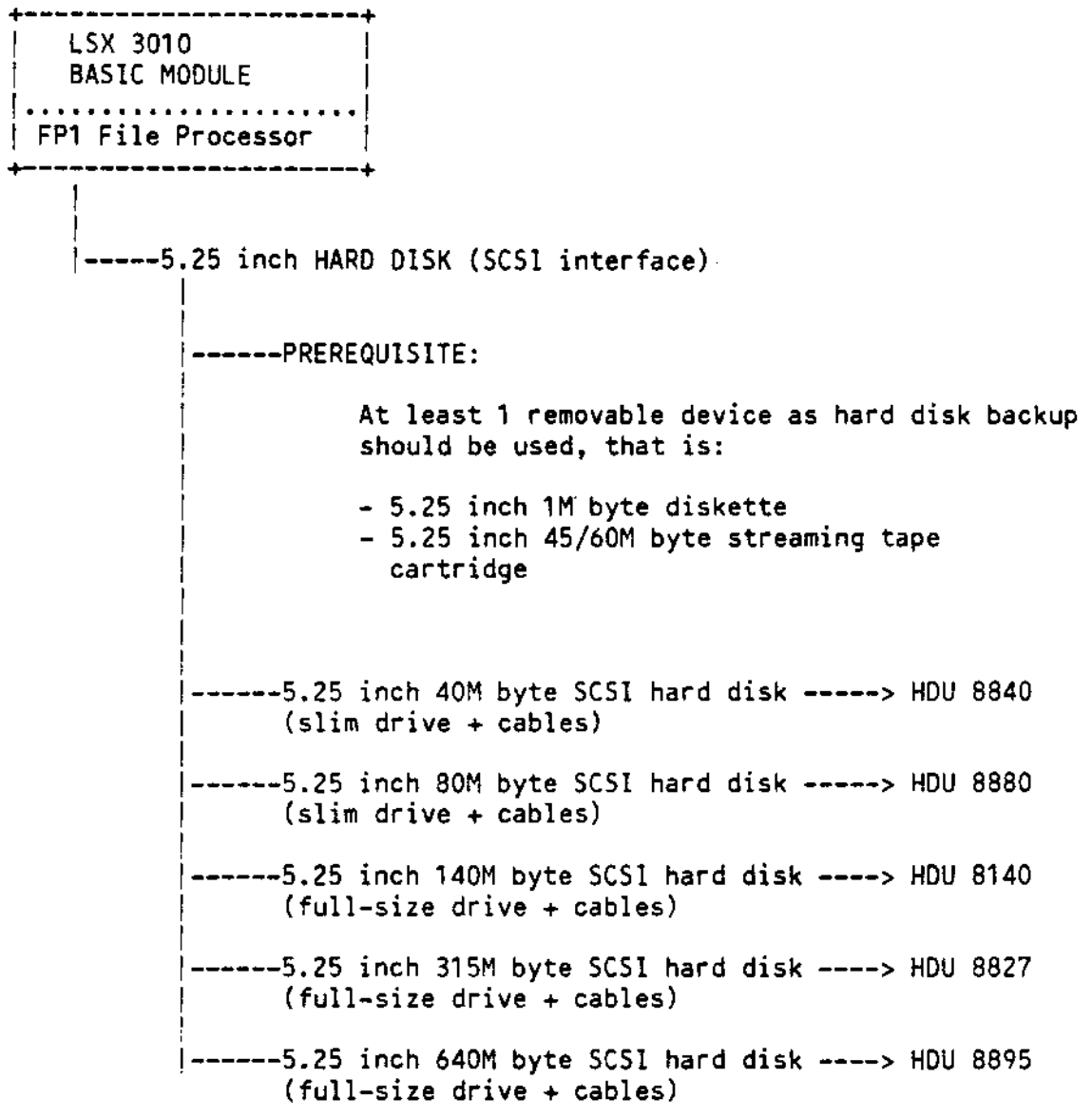


*** 5.25 inch 45/60M and 150M byte STREAMING TAPE CARTRIDGE ***



(*) The F1 File Processor is incorporated in the basic module.

LSX 3010 WITH HARD DISK

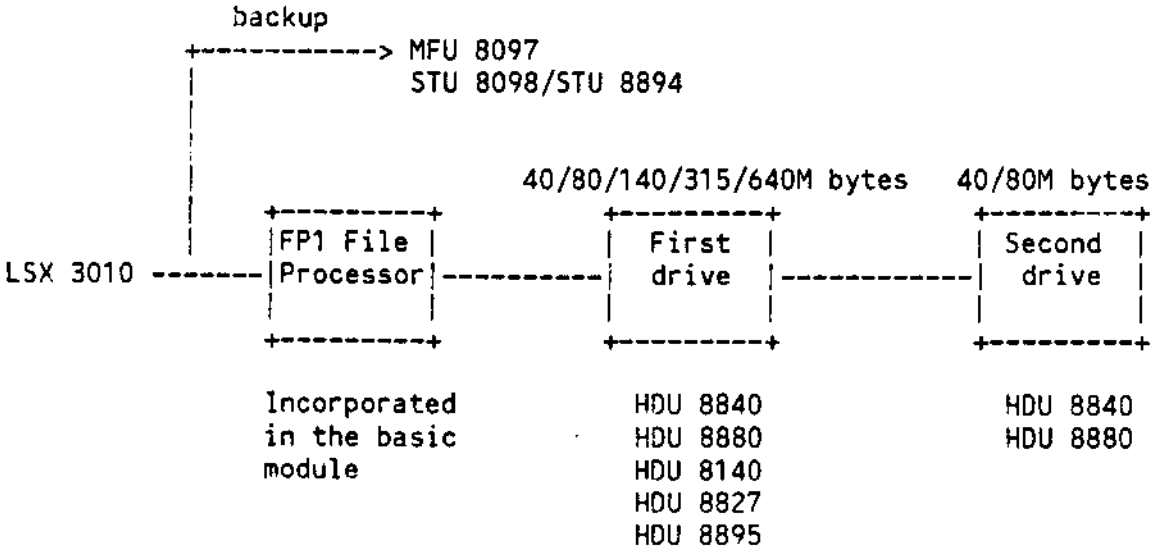


NOTE 1 - The LSX 3010 basic module may incorporate:

- 1 or 2 slim hard disks (HDU 8840/8880)
or - 1 full size hard disk (HDU 8140/8827/HDU ....)

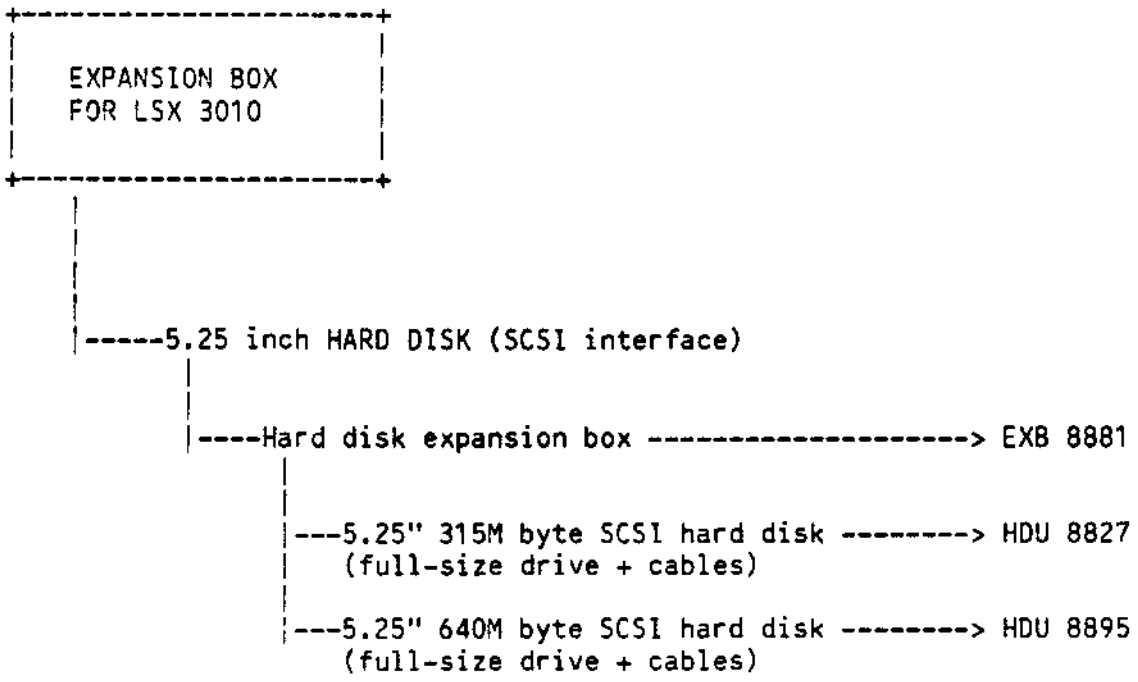
DIAGRAMS ON LSX 3010 WITH HARD DISK

*** 40/80/140/315/640M byte SCSI HARD DISKS ***



NOTE 1 - A mixture of different-capacity hard disks can be used.

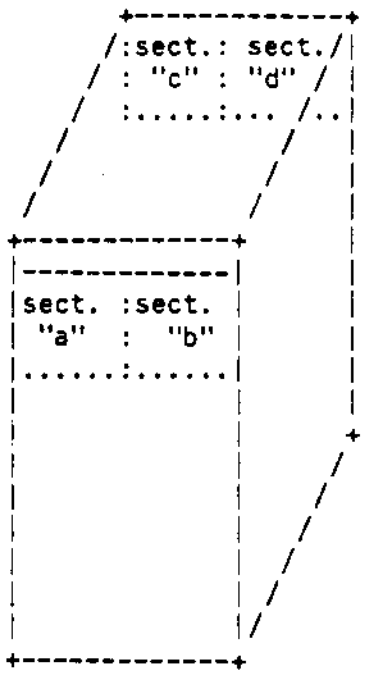
LSX 3010: EXPANSION BOX FOR HARD DISK



NOTE 1 - A mixture of different-capacity hard disks can be used.

LSX 3020/3030/3040: CONFIGURATION OF THE BASIC CABINET

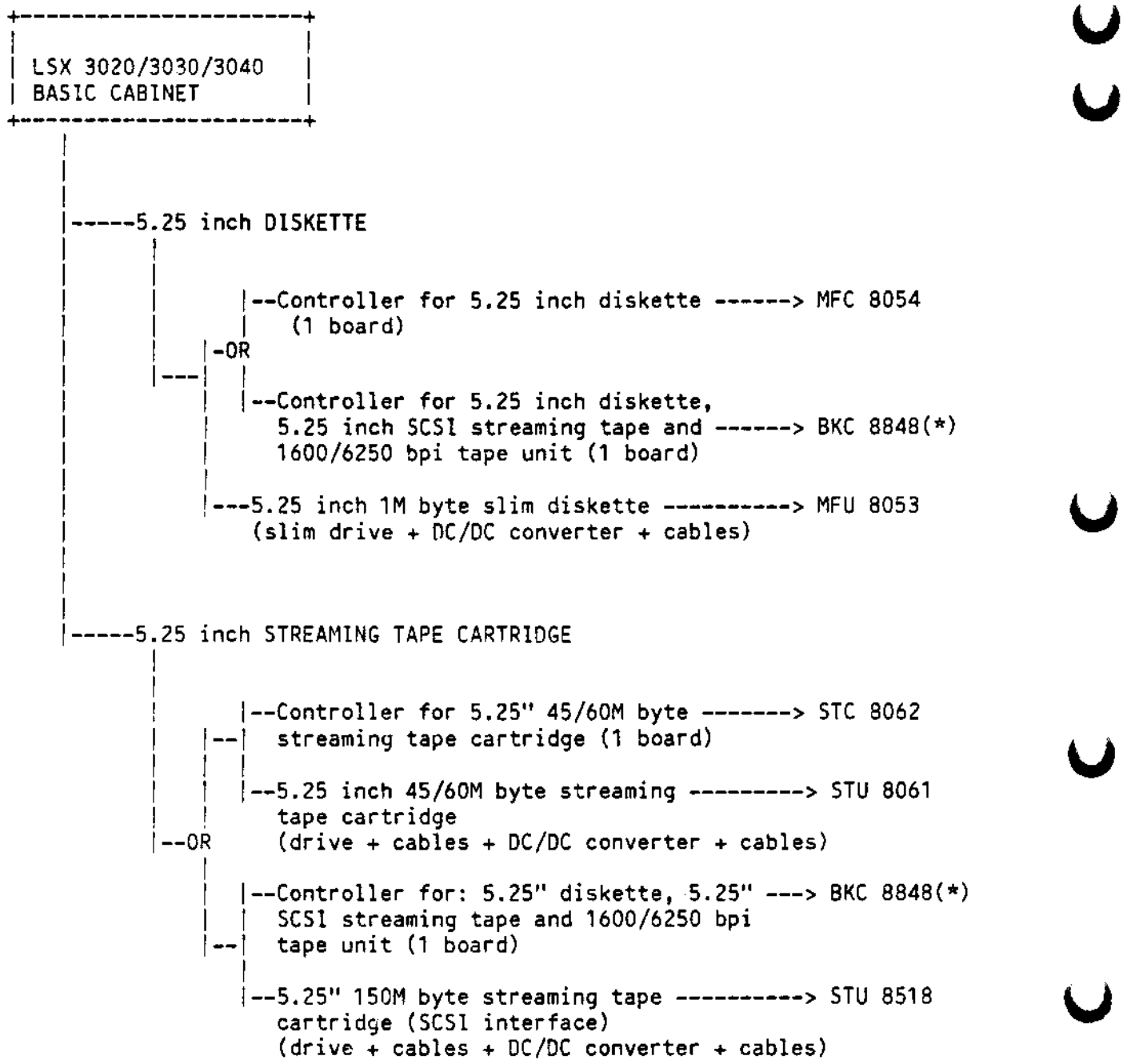
When looking at the LSX 3020/3030/3040 basic module from the front, the basic cabinet has the following sectors:



The two front sectors "a" and "b" can house removable storage devices, whereas the back sectors "c" and "d" can house fixed disk units. The following table indicates the various configurations possible for the LSX 3020/3030/3040 basic cabinet together with the indication of upgradings.

CONF.	SECT. "a"	SECT. "b"	SECT. "c"	SECT. "d"	UPGRADING
A1	1 diskette	--	1 hard disk	--	A3-A4-A6
A2	--	1 stc	1 hard disk	--	A3-A5-A6
A3	1 diskette	1 stc	1 hard disk	--	A6
A4	1 diskette	--	1 hard disk	1 hard disk	A6
A5	--	1 stc	1 hard disk	1 hard disk	A6
A6	1 diskette	1 stc	1 hard disk	1 hard disk	

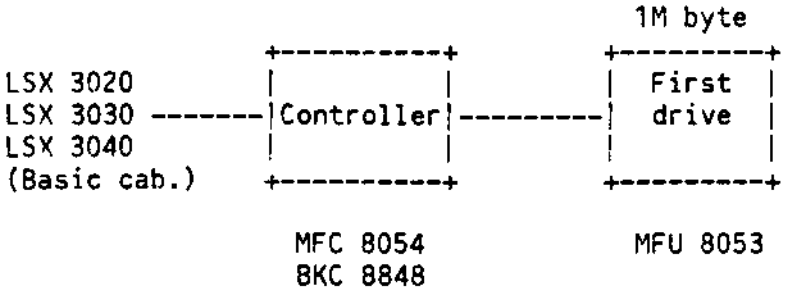
LSX 3020/3030/3040: BASIC CABINET WITH DISKETTE/STC



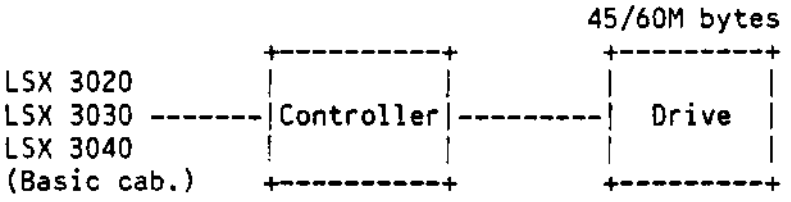
(*) A single BKC 8848 controller can control the diskette, the streaming tape, and the 1600/6250 bpi magnetic tape all at the same time.

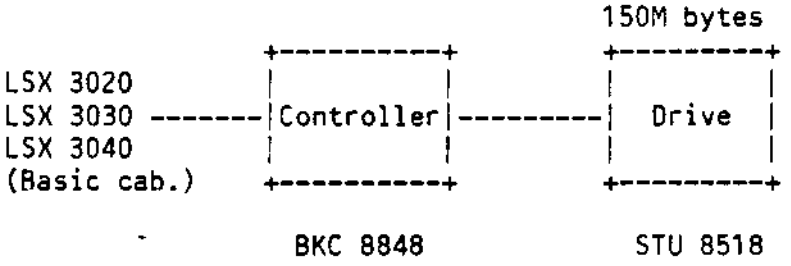
LSX 3020/3030/3040: DIAGRAMS ON BASIC CABINET WITH DISKETTE/STC

*** 5.25 inch 1M byte DISKETTE DRIVE ***

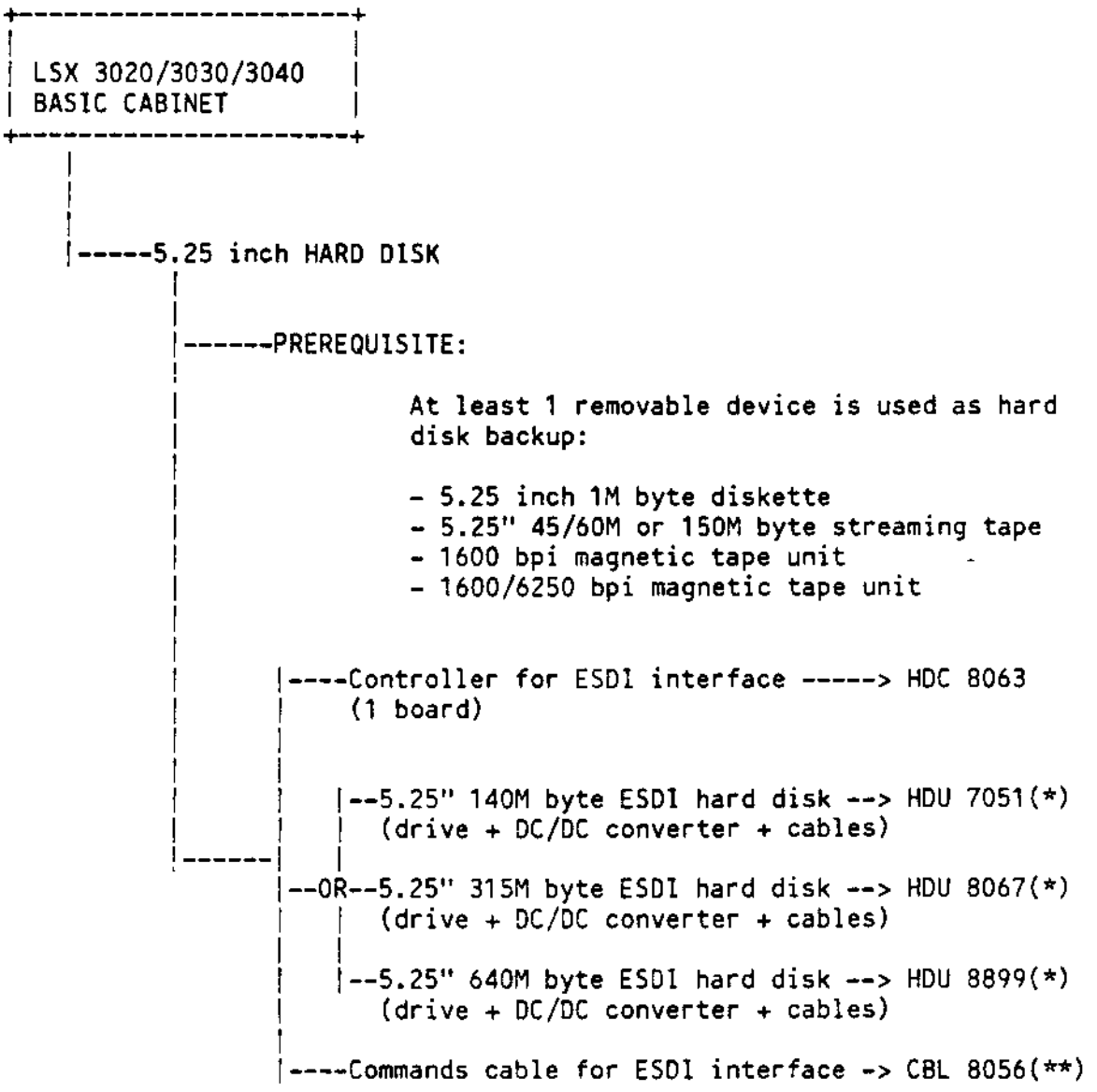


*** 5.25 inch 45/60M byte and 150M byte STREAMING TAPE CARTRIDGE ***





LSX 3020/3030/3040: BASIC CABINET WITH HARD DISK



(*) Order the same HDU .... item for the second drive, for example a configuration of two 140M byte hard disks requires:

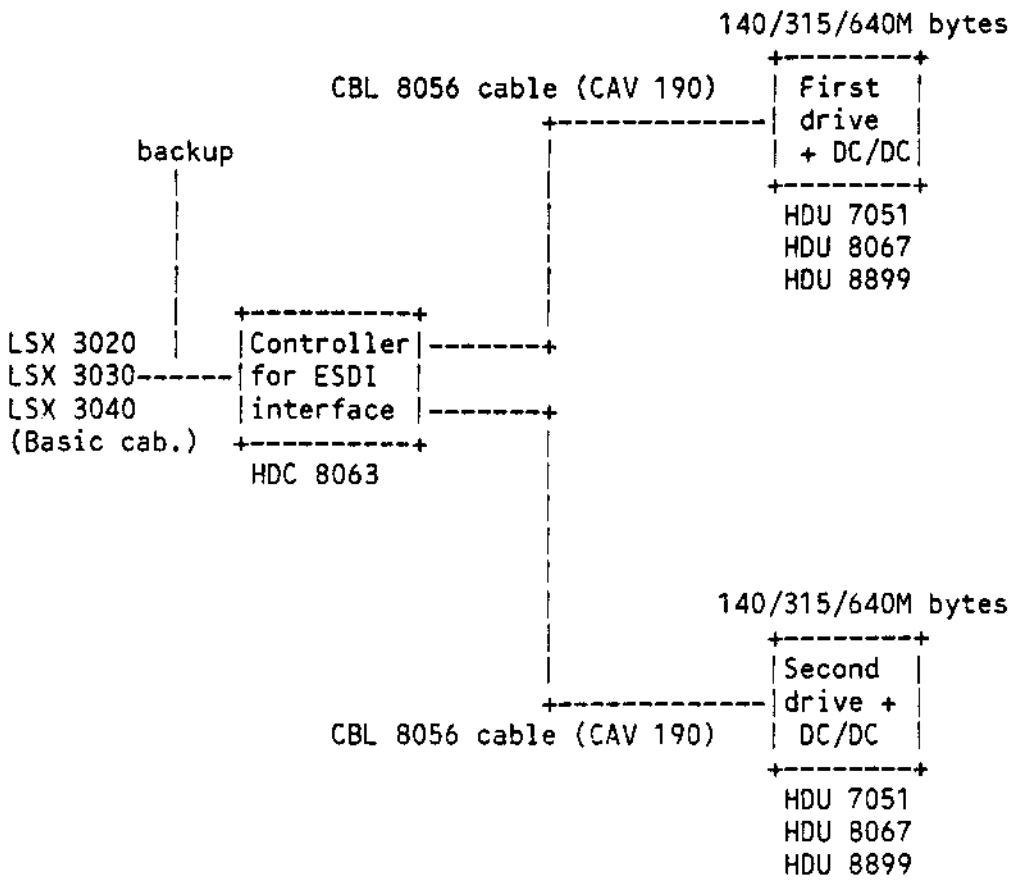
- 1 HDC 8063
- 2 HDU 7051
- 2 CBL 8056 (CAV 190): one cable for each hard disk

(**) Commands cable for connecting:

- the first/second drive in the basic cabinet (CAV 190)
- the third/fourth drive in CAB 8805 (CAV 191)

LSX 3020/3030/3040: DIAGRAM ON BASIC CABINET WITH HARD DISK

*** FIRST AND SECOND 140/315/640M byte (ESDI) HARD DISKS ***

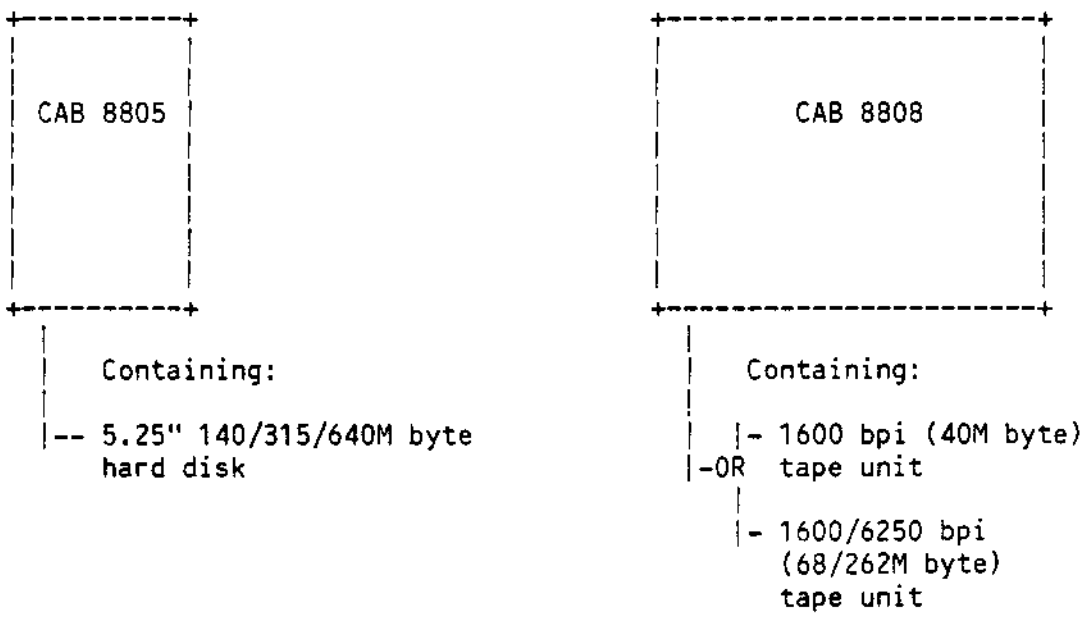


NOTE 1 - A mixture of different-capacity hard disks can be used.

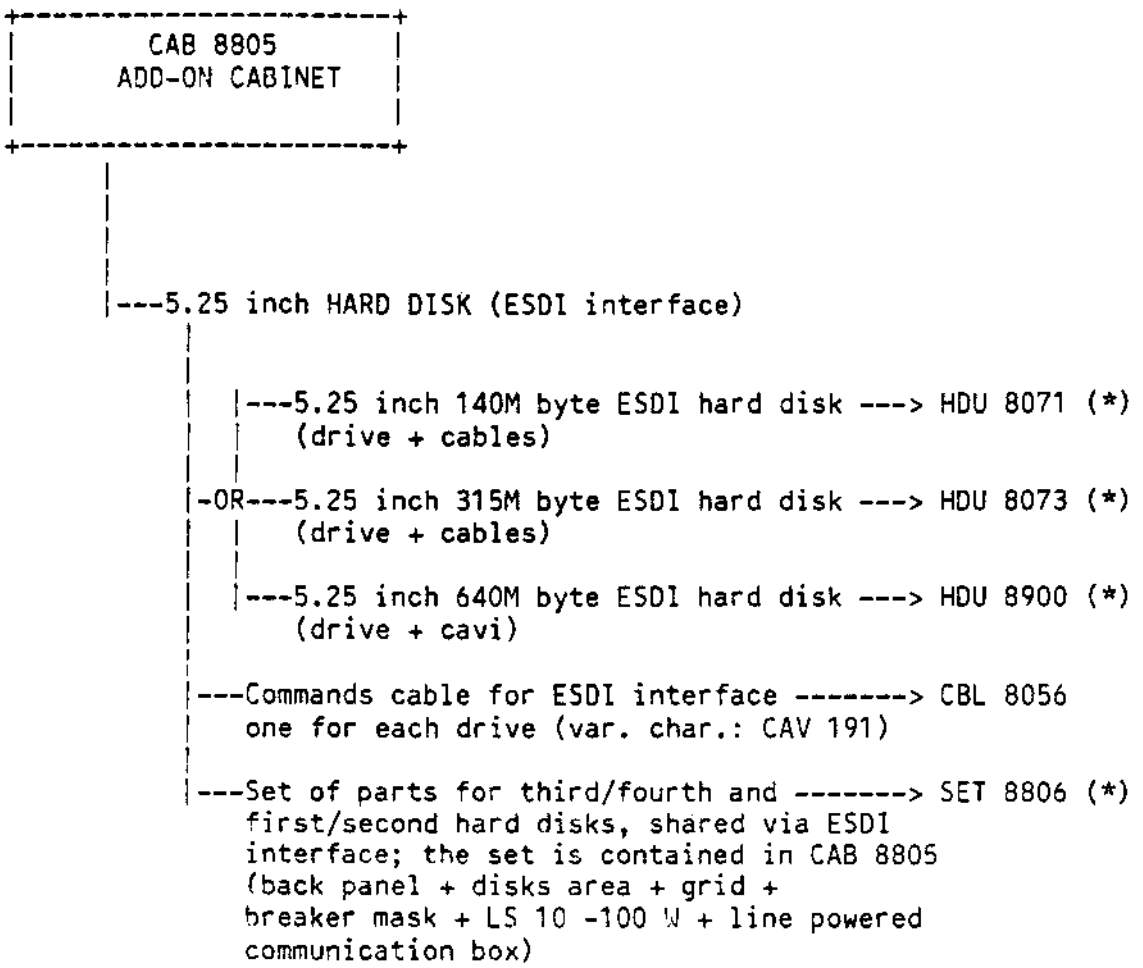
LSX 3020/3030/3040: ADD-ON CABINETS

The LSX 3020/3030/3040 minicomputers can be connected to two add-on cabinets placing them at the side of the individual basic cabinet. The add-on cabinets are:

- **CAB 8805,** containing one or two 5.25 inch hard disks
- **CAB 8808,** containing a magnetic tape unit of 1600 bpi (40M bytes) or 1600/6250 bpi (68/262M bytes).



LSX 3020/3030/3040: ADD-ON CABINET CAB 8805 WITH DISKETTE/HARD DISK

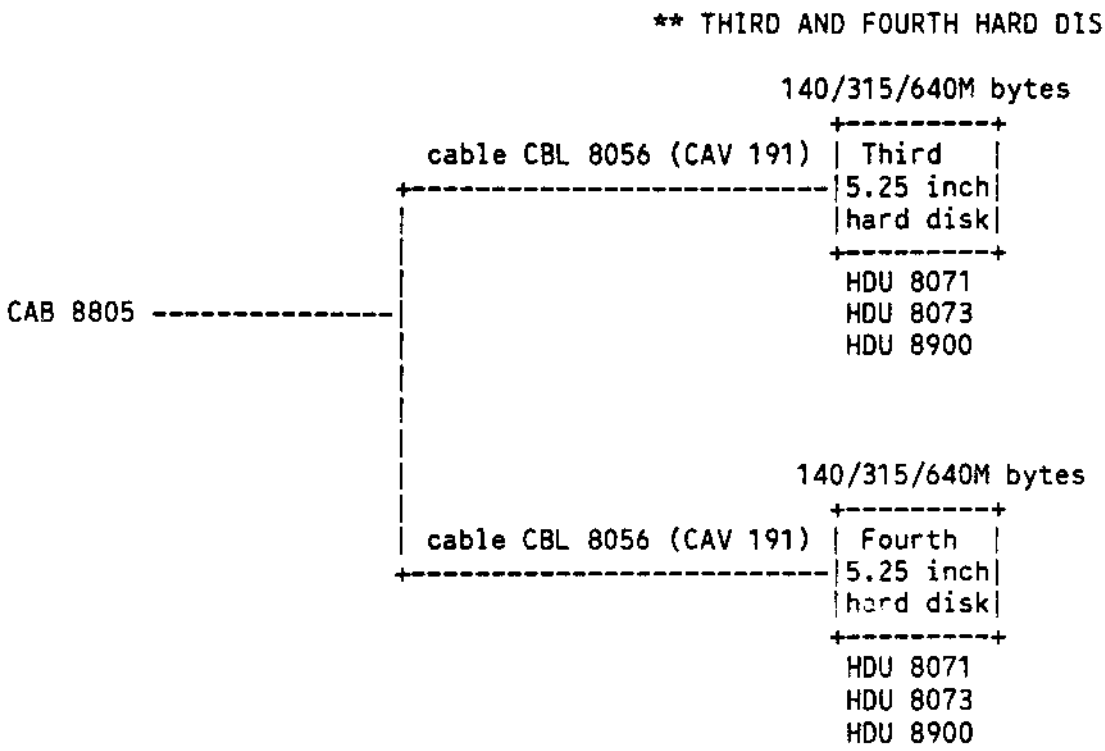


(*) The first hard disk drive contained in CAB 8805 must be provided with SET 8051.

NOTE 1 - When ordering the basic module in the 16 board-slot version BU 8010, the add-on cabinet CAB 8805 need not be ordered since this cabinet is already comprised in the BU module.

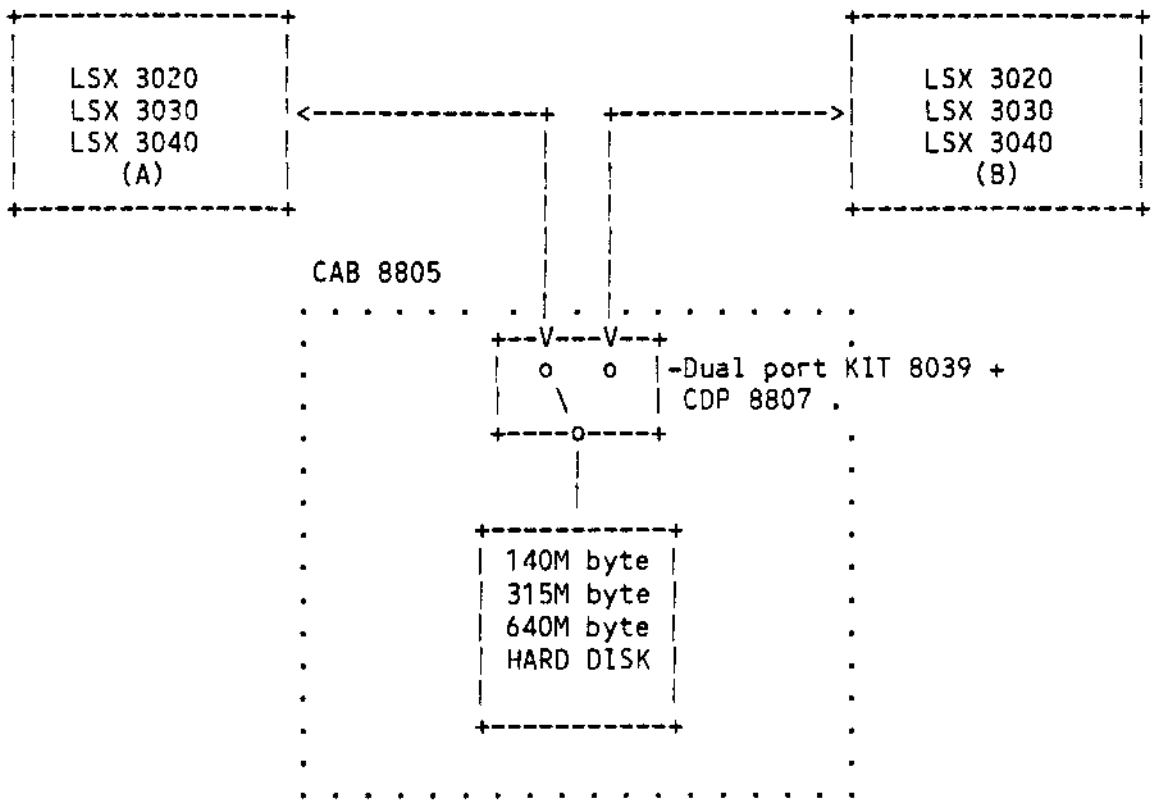
LSX 3020/3030/3040: DIAGRAM ON ADD-ON CABINET CAB 8805

*** CAB 8805 WITH 140/315/640M byte ESDI HARD DISK ***



SHARING OF HARD DISK BETWEEN TWO LSX 3020/3030/3040 MINICOMPUTERS

The 5.25 inch hard disks (140/315/640M bytes) can be shared by two LSX 3020/3030/3040 minicomputers (A and B), using the optional devices KIT 8039 and CDP 8807, housed in the add-on cabinet CAB 8805.



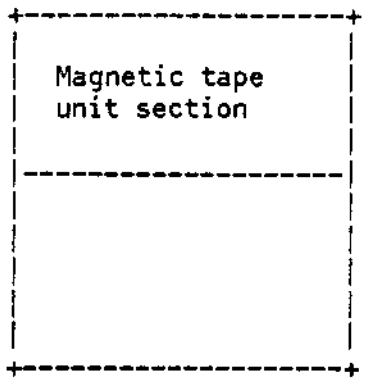
(*) CDP 8807 is supplied with the CAV variable feature that indicates the cables required according to the number of hard disks shared (1 or 2). The CAV available are:

- CAV 194: set of cables for the sharing of 1 hdu in CAB 8805.
- CAV 195: set of cables for the sharing of 2 hdus in CAB 8805.

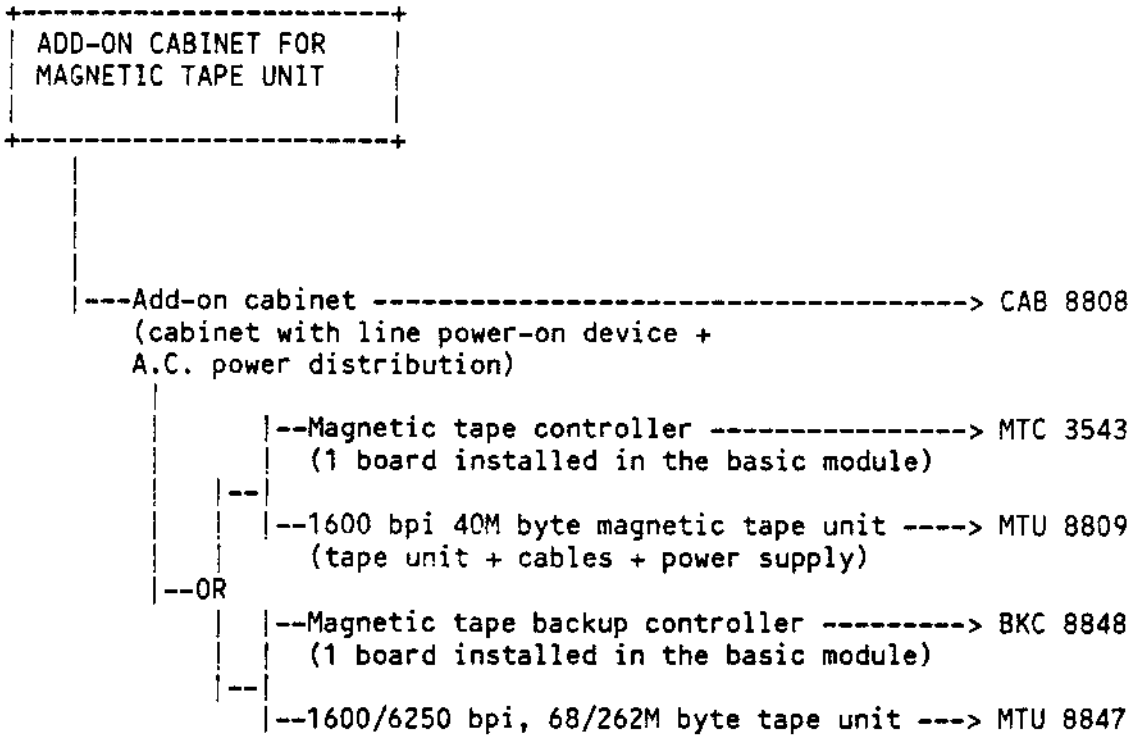
NOTE 1 - Order 1 KIT 8039 plus 1 CDP 8807 for every shared hard disk.

LSX 3020/3030/3040: ADD-ON CABINET CAB 8808 FOR THE TAPE UNIT

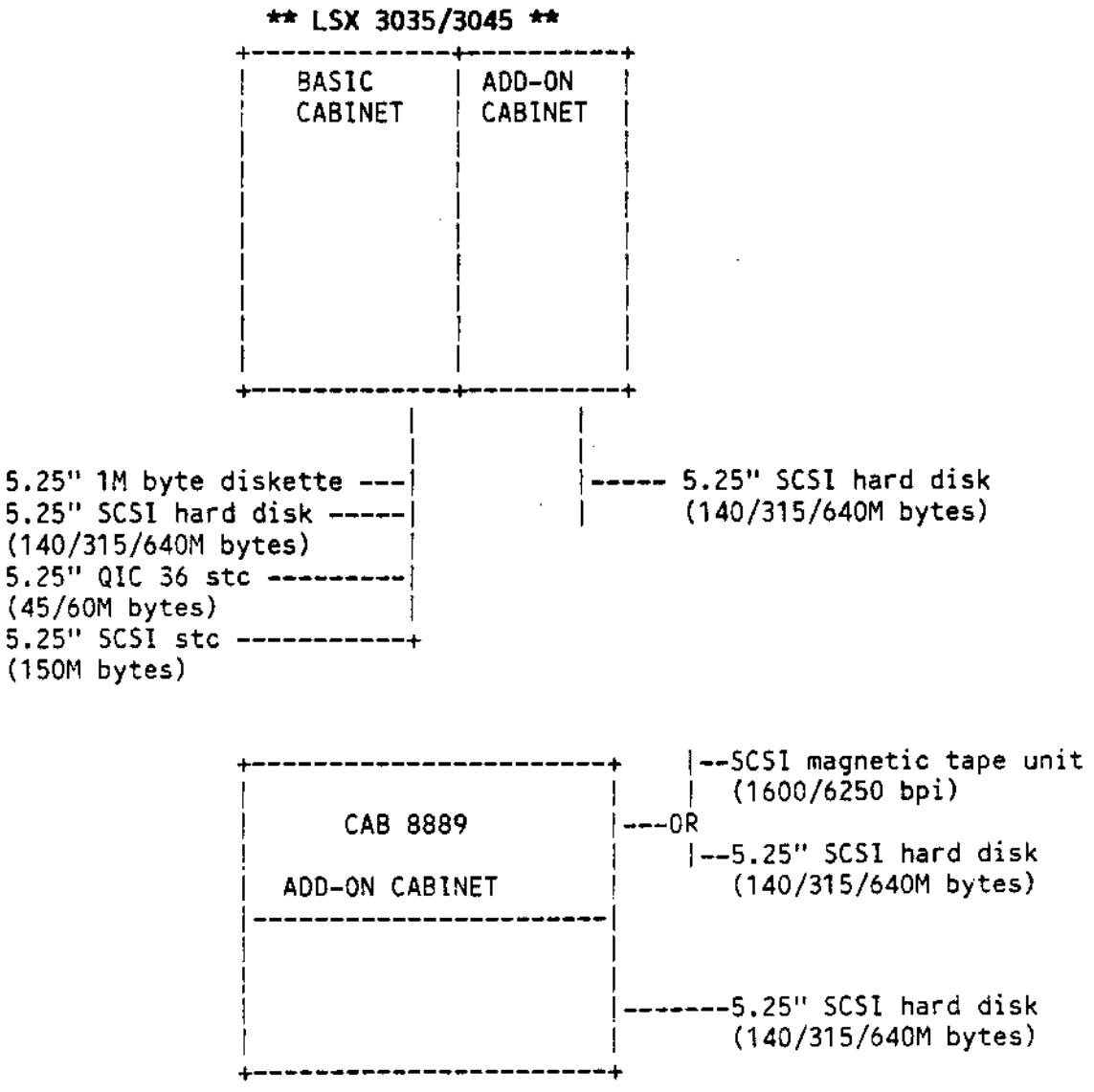
The front side of the add-on cabinet CAB 8808 is as follows:



CAB 8808 CONFIGURATION



LSX 3035/3045: MASS STORAGE DEVICE CONFIGURATION



LSX 3035/3045: FILE PROCESSOR

The File Processor is the controller of the storage devices handling both removable devices (diskette, streaming tape and magnetic tape) and fixed devices.

The File Processor uses two different operating modes:

- **MODE 1 (FP4 basic comprised in BU 9010)**

  . connects a 5.25 inch diskette using the SA 450 interface

  . connects one 5.25 inch 45/60M byte streaming tape using the QIC 36 interface

  . connects up to seven 5.25 inch storage devices using the SCSI interface; the devices connected in this way can be hard disks, streaming tape, or magnetic tape.

The FP4 SCSI interface operating in "MODE 1" can connect:

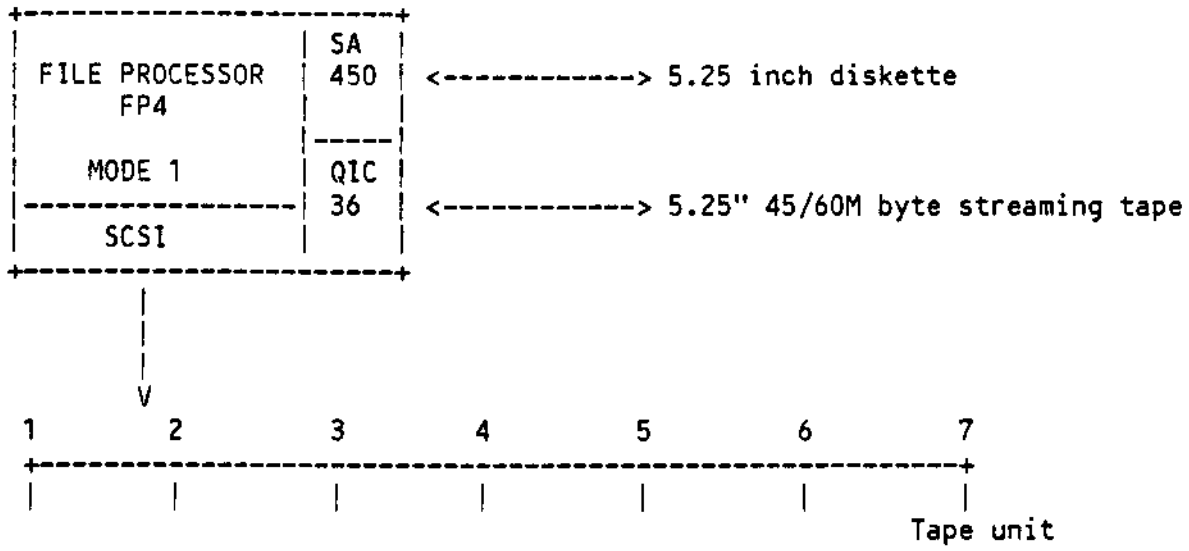
- up to 6 hard disks (without SCSI removable units)
- up to 4 hard disks (with SCSI removable units).

- **MODE 2 (HDC 8519 - named FP4D)**

  . connects up to six 5.25 inch hard disks using the SCSI interface.

The File Processor controller, whether operating in **MODE 1** or **MODE 2,** is inserted in the board rack and occupies 1 slot. Each minicomputer is configured with 1 FP4 controller (always present) and up to 2 HDC 8519 controllers.
When a minicomputer configuration comprises an HDC 8519 controller, all the hard disks present must connect to this controller and not to FP4.

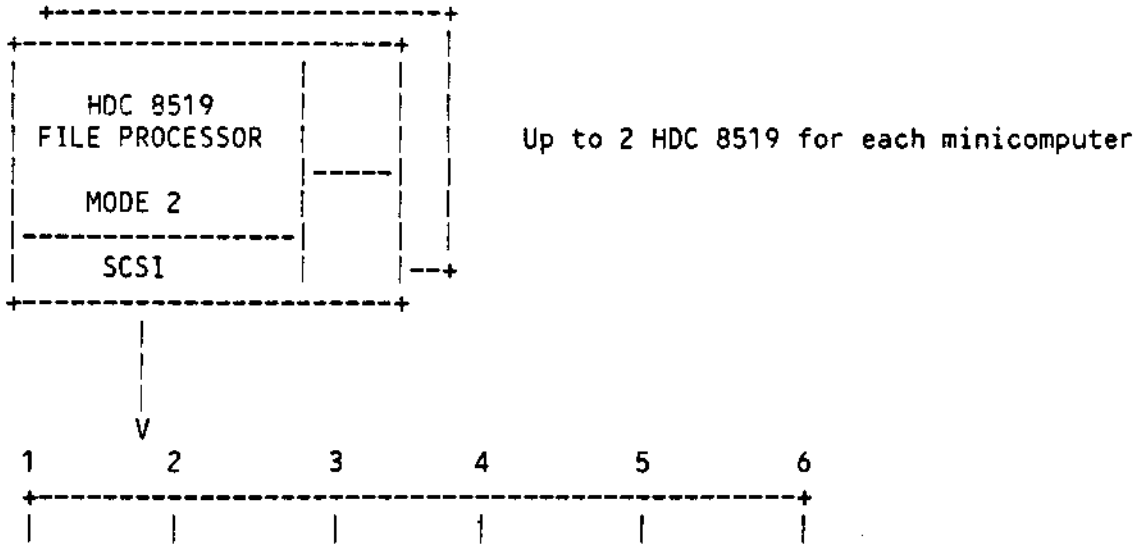
LSX 3035/3045: FILE PROCESSOR CONFIGURATION



THE 1 TO 6 OUTPUT ARE USED TO CONNECT

up to 6 SCSI hard disks, if there are no SCSI removable devices
or up to 4 SCSI hard disks + 1 SCSI 150M byte streaming tape
or up to 4 SCSI hard disks + 1 SCSI 1600/6250 bpi streaming tape

NOTE 1 - The 45/60M byte and tthe 150M byte streaming tapes cannot be both present on the same minicomputer.



Possibility to connect from 1 to 6 SCSI hard disks including the mirroring and/or static sharing features.

LSX 3035/3045: BASIC COMPONENTS FOR MASS STORAGE CONFIGURATION

The following list identifies all the **basic components** related to the storage devices housed in the various minicomputer cabinets.

1. FP4/HDC 8519 (FP4D) controller

2. 2 removable storage devices in the basic module

   - 2 removable storage devices with SA 450/QIC 36 interface (45/60M byte STU)

   - 2 removable storage devices with SCSI interface (150M byte STU)

3. 2 +2 hard disks with SCSI interface in basic module (2 in the "basic Cabinet" + 2 in the "add-on Cabinet")

4. MTU in CAB 8889, with the following variants:

   - CAV 216: cable for the first MTU

   - CAV 217: cable for the first MTU + output for external SCSI devices or the second MTU

5. Drawer in CAB 8889 housing 4 hard disks

6. BU 8516 exit for external devices

7. Distribution box with 4 exits.

The single **Component** can be connected to another component, the File processor controller, or the distribution box.

LSX 3035/3045: STORAGE DEVICE CABLES

Cable	Length (mm)	Description
Cables that connect the various components on the SCSI channel		
CBL 8890	1300	Cable that connects SCSI removable devices to controller and distribution box inside BU 8516.
CBL 8522	1800	Cable that connects SCSI hard disks to controller and distribution box inside BU 8516. (2 CBL 8522 are required to connect 4 HDUs)
CBL 8891	900 + 2000	Group of cables to connect external SCSI devices to the minicomputer
CBL 8525	2300	Cable to connect the distribution box to CAB 8889, the drawer containing 4 HDUs, or MTU
CBL 8892	1350	Cable to connect: - 1 drawer containing 4 HDUs to MTU or to a second drawer containing HDU - the controller to MTU inside CAB 8889 (with CAV 217 variant)
Internal cables (comprised in the hardware modules, or indicated as variable feature CAV ...)		
	1850	Cable contained in the drawer housing 4 HDUs. I1 connects the hard disks inside the drawer.
CAV 216	870	Cable connecting the MTU inside CAB 8889
CAV 217	1740	Cable connecting the MTU inside CAB 8889 with external exit

NOTE 1 - The total length of the cables contained on the SCSI channel cannot be over 6 meters with 50 cm of tolerance.

LSX 3035/3045: CONFIGURATION EXAMPLES (WITH FP4)

	Magnetic devices	Cables required
	FP4 connections without exits to external SCSI devices (Note: at least one removable device has a SCSI interface)	
1	2 removable devices in BU 8516 + 1 MTU in CAB 8889	CBL 8890 + CBL 8525 + CAV 216 = 4.47 m
2	2 removable devices in BU 8516 + 4 HDUs in BU 8516	CBL 8890 + 2 CBL 8522 = 4,9 m
3	1 MTU in the first CAB 8889 + 1 MTU in the second CAB 8889	2 CBL 8892 + CAV 216 + CAV 217 = 5.31 m
4	4 HDU + 1 MTU in CAB 8889	2 CBL 8892 + HDU cable + CAV 216 = 5.42 m
5	2 removable devices in BU 8516 + 4 HDU in CAB 8889	CBL 8890 + CBL 8825 + HDU cable = 5.45 m
6	2 removable devices in BU 8516 + 2 HDU in BU 8516 + 1 MTU in CAB 8889	CBL 8890 + CBL 8522 + CBL 8525 + CAV 216 = 6.27 m
	FP4 connections without exits to extermal SCSI devices (Note: the removable devices must not have the SCSI interface)	
1	2 removable devices + 2 HDUs in BU 8516	CBL 8522 = 1.8 m
2	2 removable devices + 4 HDUs in BU 8516	2 CBL 8522 = 3.6 m
3	2 removable devices + 2 HDUs in BU 8516 +4 HDUs in CAB 8889	CBL 8522 + CBL 8525 + HDU cable = 5.95 m

LSX 3035/3045: CONFIGURATION EXAMPLES (WITH FP4)

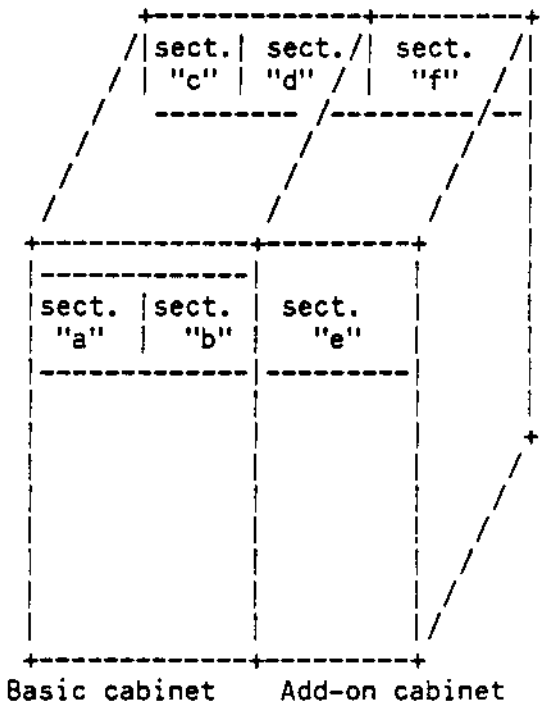
	Magnetic devices	Cables required
	FP4 connections with exit for SCSI external devices (Note: at least one removable device has a SCSI interface)	
1	2 removable devices + exit for SCSI external devices	CBL 8890 + CBL 8891 = 4.2 m
2	2 removable devices + 2 HDUs in BU 8516 + exit for SCSI external devices	CBL 8890 + CBL 8522 + CBL 8891 = 6 m
3	MTU + exit for SCSI external devices	CBL 8892 + CBL 8891 + CAV 217 = 5.99 m

LSX 3035/3045: CONFIGURATION EXAMPLES (WITH FP4D)

	Magnetic devices	Cables required
	HDC 8519 (FP4/D) connections without shared disks (Note: the removable devices are connected to FP4)	
1	2 HDU in BU 8516	CBL 8522 = 1.8 m
2	2 HDUs in BU 8516 + 4 HDUs in CAB 8889	CBL 8522 + CBL 8525 + HDU cable = 5.95 m
3	4 HDUs in BU 8516	2 CBL 8522 = 3.6 m

LSX 3035/3045: BASIC MODULE CONFIGURATION

The basic module of the LSX 3035/3045 minicomputers consists of a basic cabinet and an add-on cabinet.

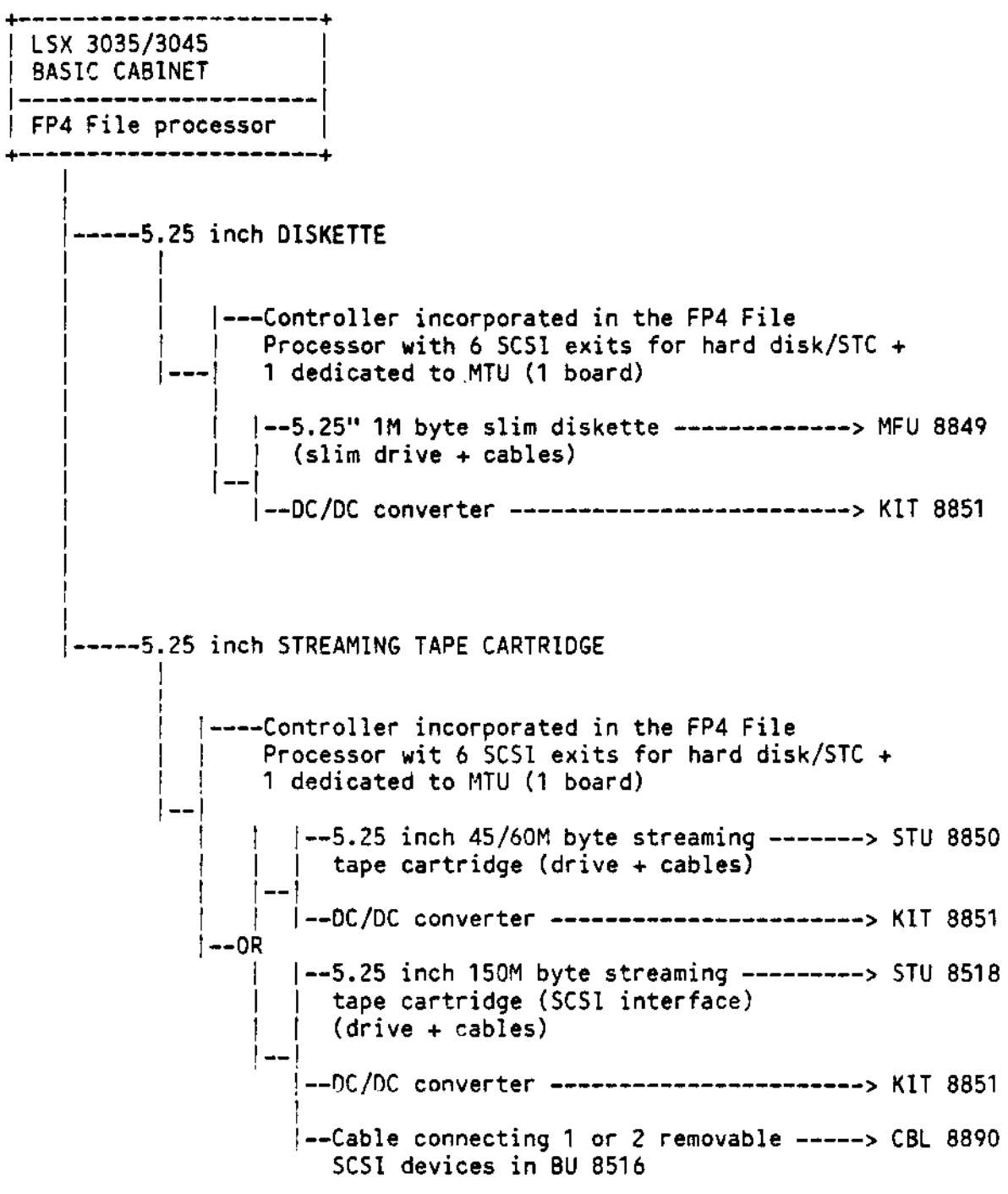


The two front sections "a" e "b" house the removable devices, and the back sections "c" and "d" house fixed devices. The following table shows different configuration possibilities for the LSX 3035/3045 basic cabinet and upgrading.

CONF.	SECT. "a"	SECT. "b"	SECT. "c"	SECT. "d"	UPGRADING
A1	1 diskette	--	1 hard disk	--	A3-A4-A6
A2	--	1 stc	1 hard disk	--	A3-A5-A6
A3	1 diskette	1 stc	1 hard disk	--	A6
A4	1 diskette	--	1 hard disk	1 hard disk	A6
A5	--	1 stc	1 hard disk	1 hard disk	A6
A6	1 diskette	1 stc	1 hard disk	1 hard disk	

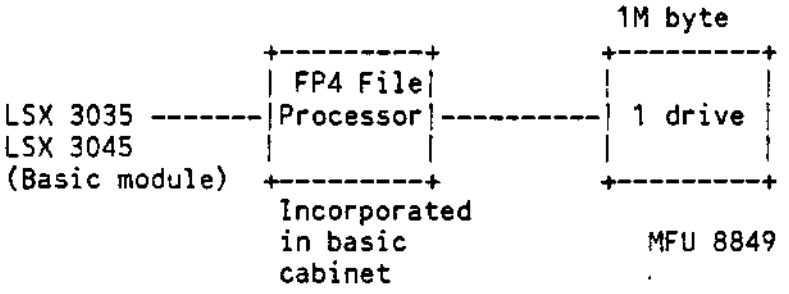
The sections "e" and "f" of the add-on cabinet house 1 or 2 hard disks operating as third and fourth storage devices.

LSX 3035/3045: BASIC CABINET WITH DISKETTE/STC

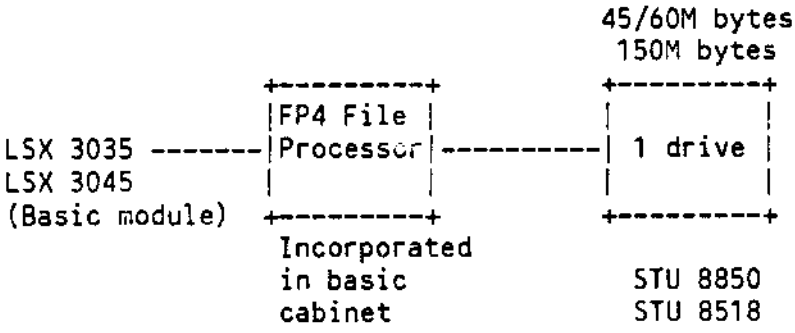


LSX 3035/3045: DIAGRAM ILLUSTRATING BASIC CAB. WITH DISKETTE/STC

*** 5.25 inch 1M byte DISKETTE DRIVE ***

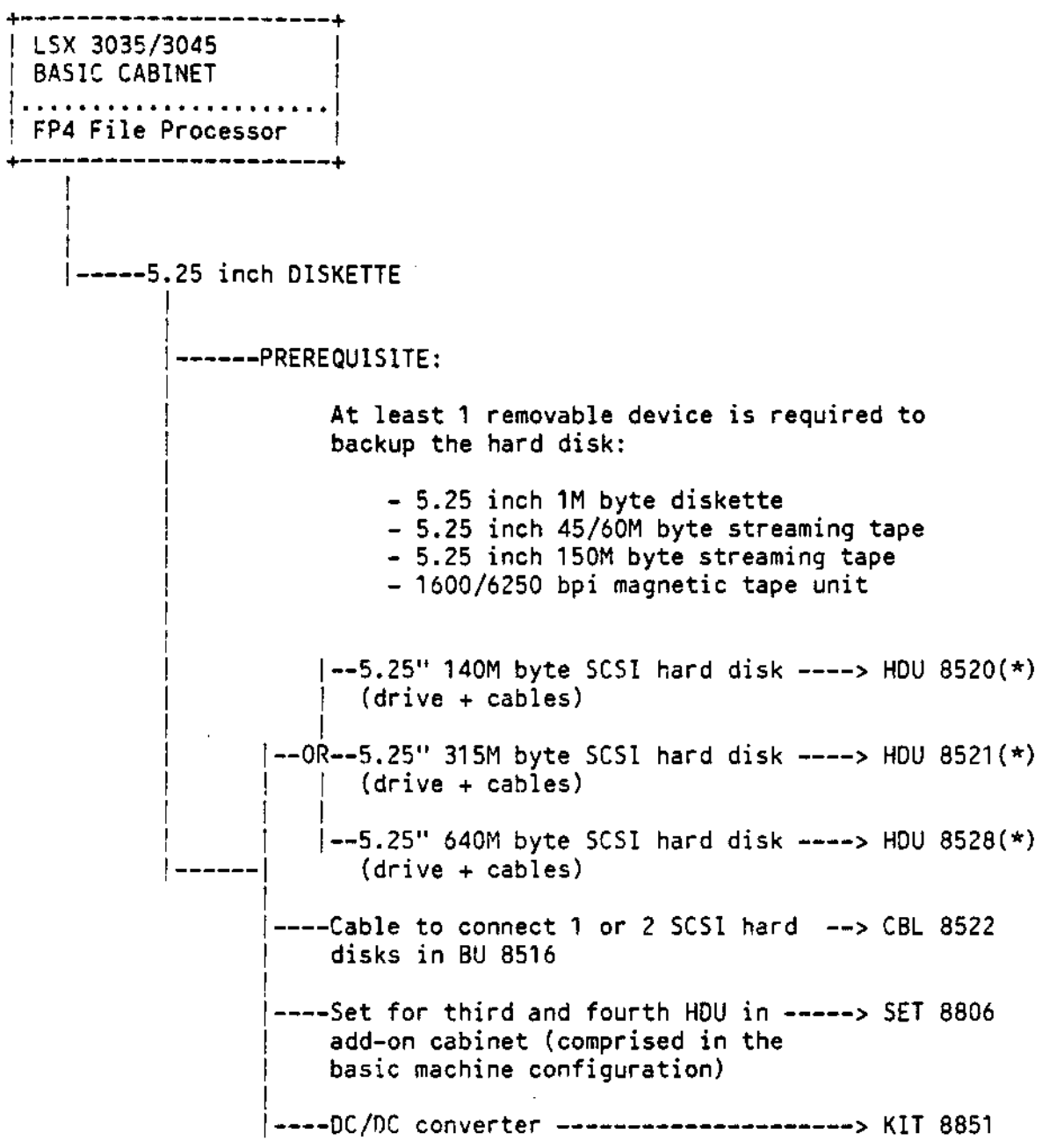


*** 5.25" 45/60M and 150M byte STREAMING TAPE CARTRIDGE ***



NOTE 1 - Each minicomputer requires 1 KIT 8851 to power-on 1 or 2 removable magnetic storage devices.

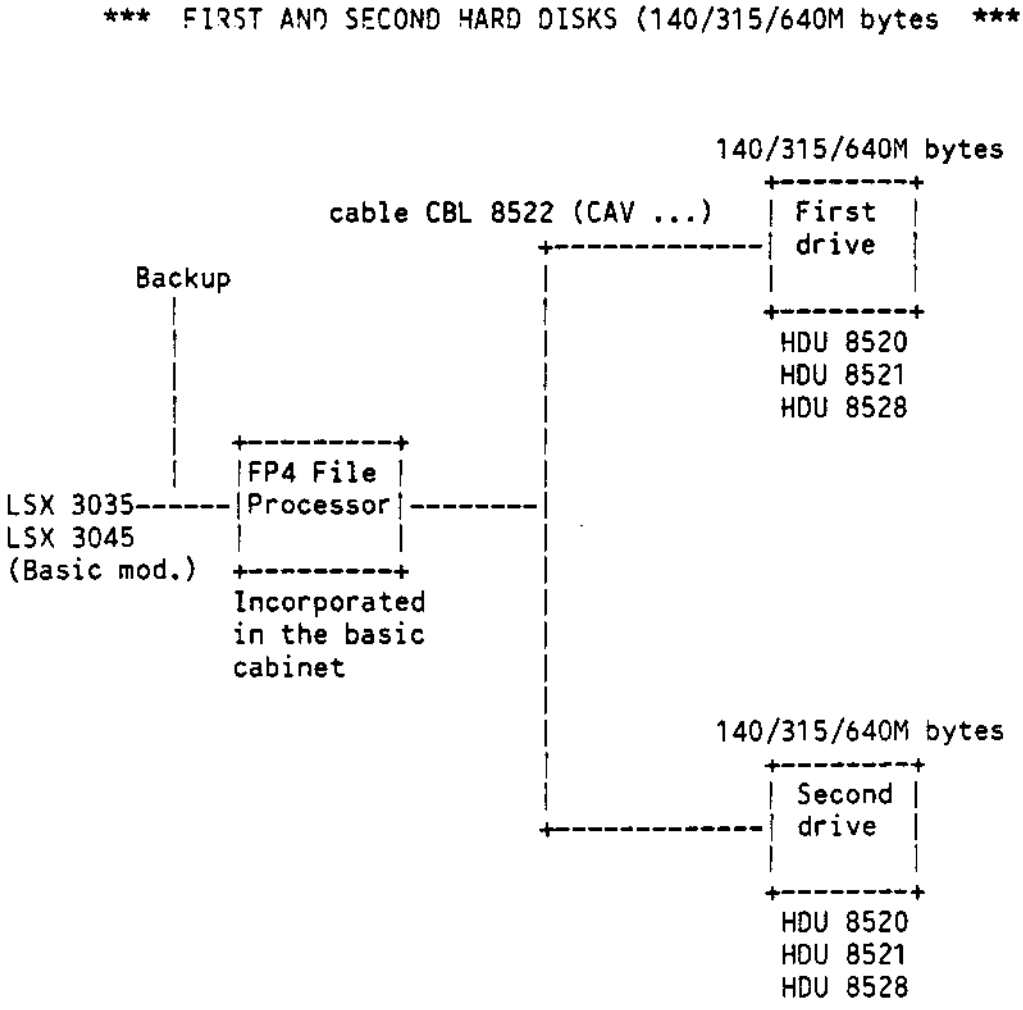
LSX 3035/3045: BASIC CABINET WITH HARD DISK



(*) Order the same code for quantities greater than 1.

NOTE 1 - For the first two hard disks housed in the basic cabinet, order one KIT 8851 for each disk. The hard disks housed in the add-on cabinet (comprised in the basic machine configuration) require KIT 8851.

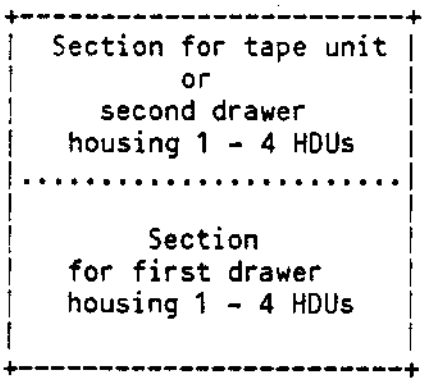
LSX 3035/3045: DIAGRAM ILLUSTRATING BASIC MODULE WITH HARD DISK

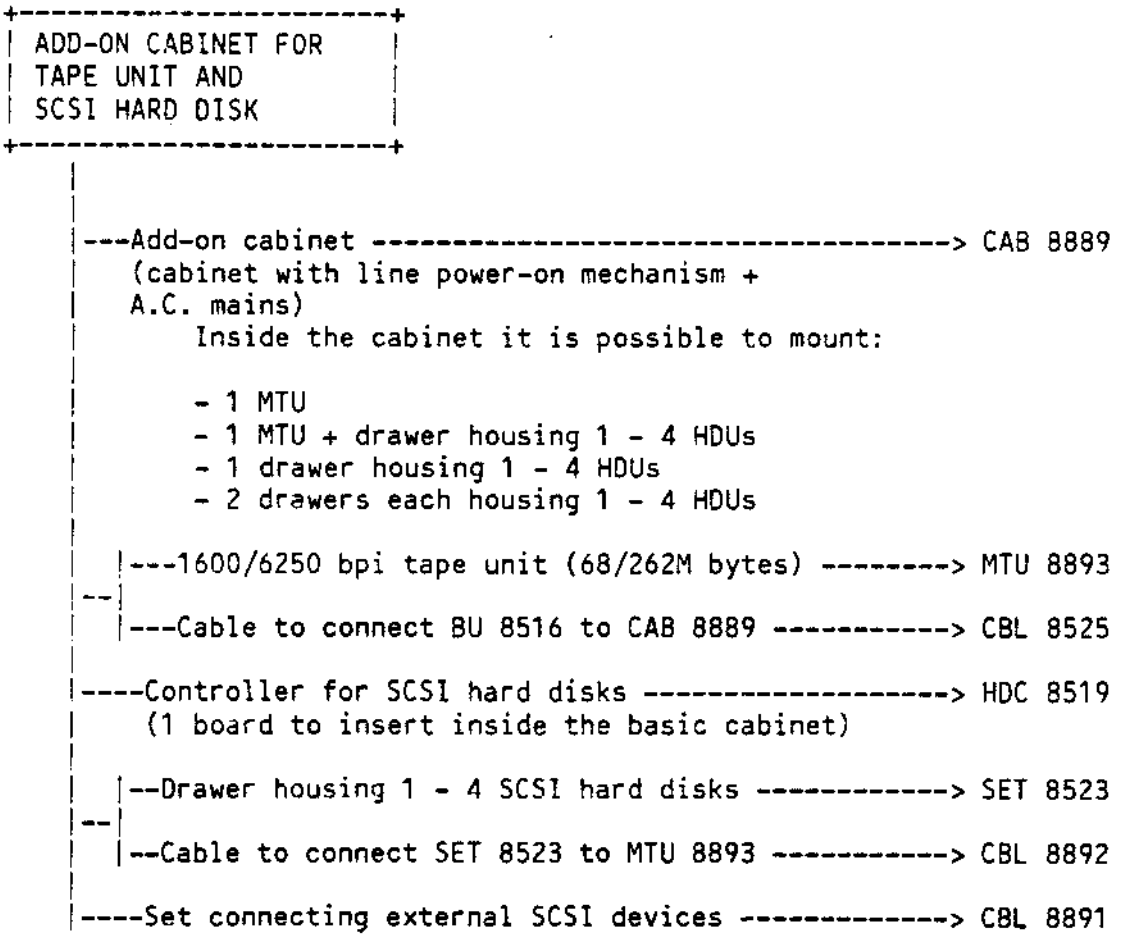


NOTE 1 - A mixture of different hard disk capacities can be used.

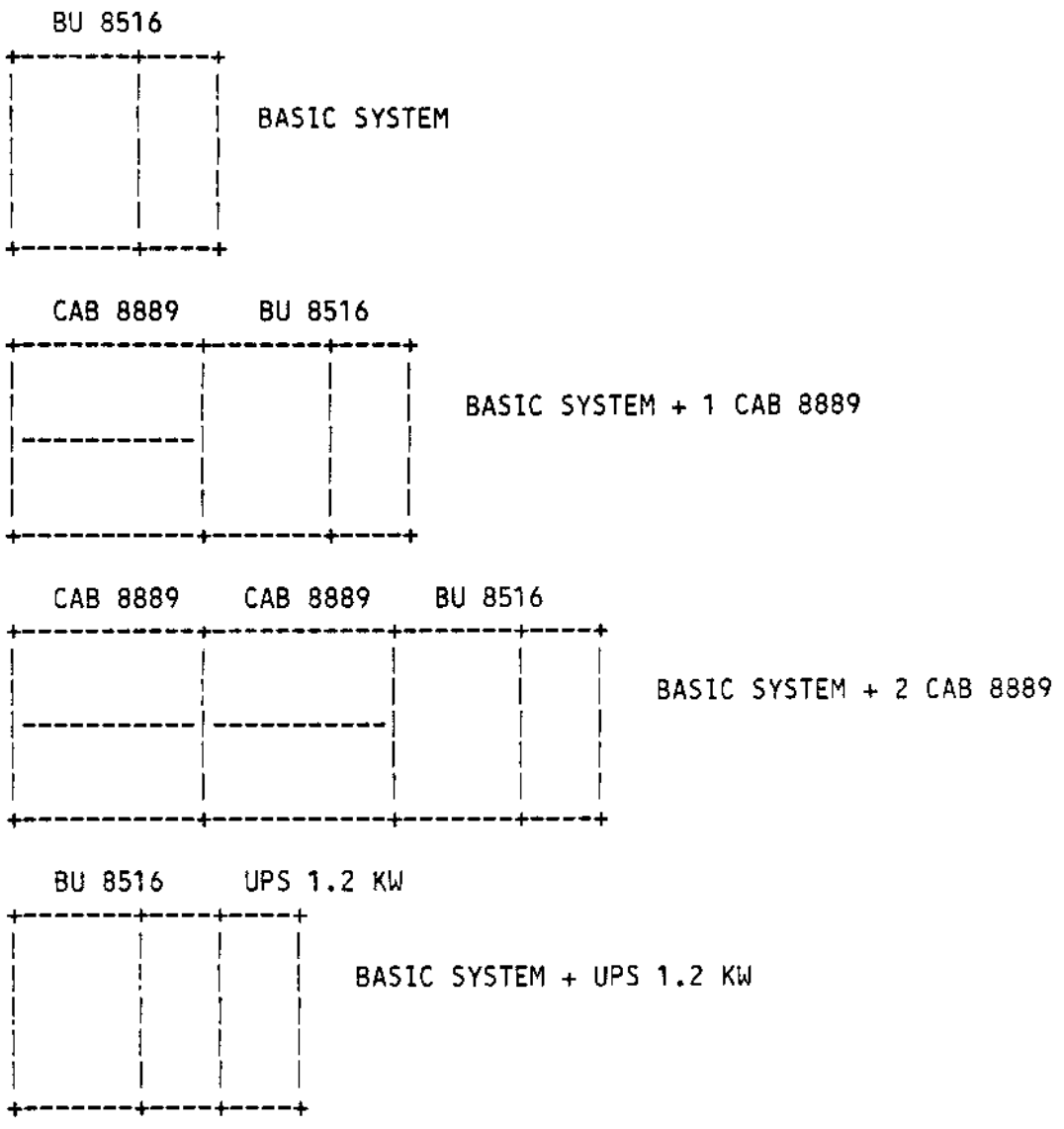
LSX 3035/3045: CABINET CAB 8889 FOR TAPE UNIT AND HARD DISK

The front view of the add-on cabinet CAB 8889 is as follows:





LSX 3035/3045: BU 8516 + CAB 8889 CONFIGURATION



NOTE 1 – The 1.2 KW UPS can be used with both minicomputers and is always placed on the right side of the basic module.

LSX 3035/3045: CONFIGURATION EXAMPLES OF MAGNETIC DEVICES

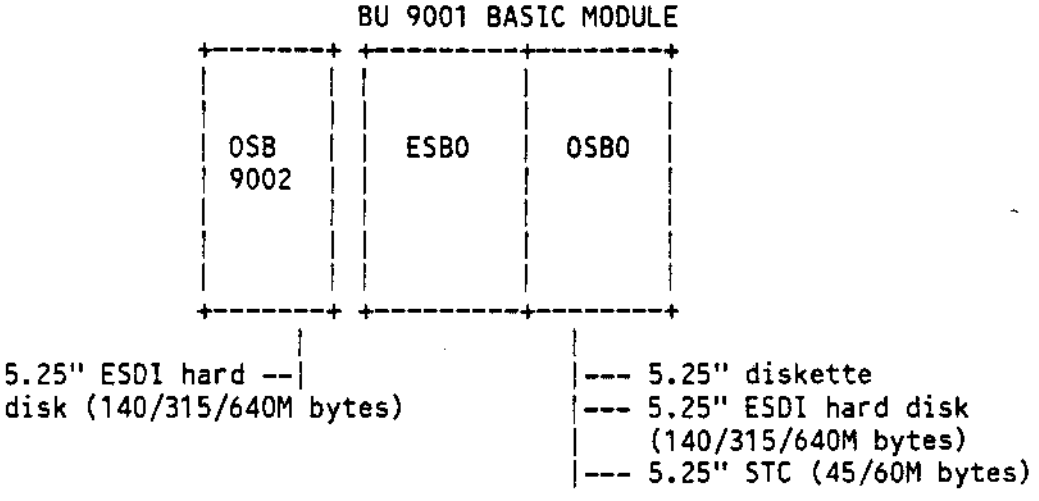
MAGNETIC DEVICE CONFIGURATIONS	BU 8516 (with FP4)	First CAB 8889	Second CAB 8889	Items ordered
STU (QIC 36) 1 - 4 HDU	STU 1 - 4 HDU			STU 8850 KIT 8851 4 HDU .... 2 CBL 8522 2 KIT 8851 SET 8800
STU (SCSI) 1 - 4 HDU	STU 1 - 4 HDU			STU 8518 CBL 8890 KIT 8851 4 HDU .... 2 CBL 8522 2 KIT 8851 SET 8800
STU (QIC 36) 6 HDU	STU 2 HDU	 4 HDU		STU 8850 KIT 8851 2 HDU .... 1 CBL 8525 2 KIT 8851 CAB 8889 CBL 8525 SET 8523 4 HDU ...
STU (SCSI) 6 HDU	FP4D STU 2 HDU	 4 HDU		HDC 8519 STU 8518 CBL 8890 KIT 8851 2 HDU .... 1 CBL 8522 2 KIT 8851 CAB 8889 CBL 8525 SET 8523 4 HDU ....

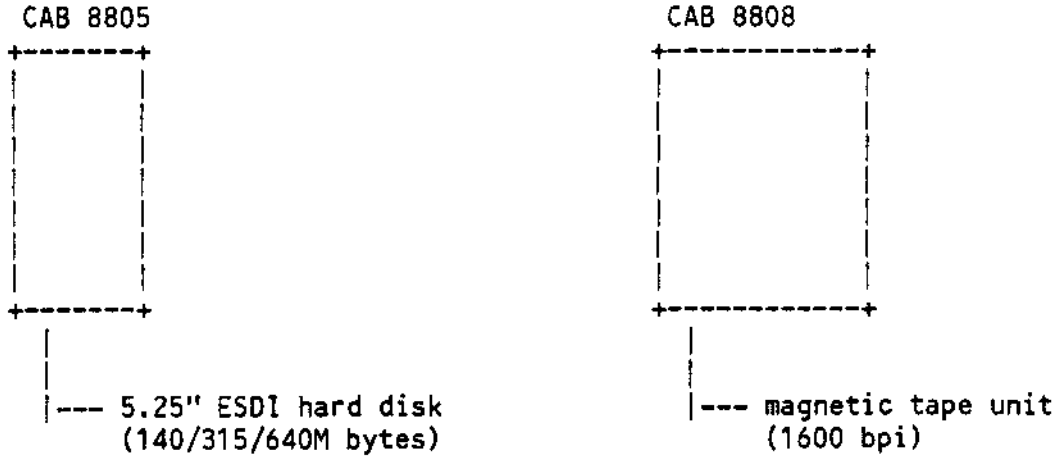
MAGNETIC DEVICE CONFIGURATIONS	BU 8516 (with FP4)	First CAB 8889	Second CAB 8889	Items ordered
STU (QIC 36) 4 HDU MTU	STU			STU 8850 KIT 8851
		4 HDU		CAB 8889 2 CBL 8892 SET 8523 4 HDU ....
		MTU		MTU 8893 (CAV 216)
STU (SCSI) 2 HDU MTU	STU			STU 8518 CBL 8890 KIT 8851
	2 HDU			2 HDU .... CBL 8522 2 KIT 8851 SET 8800
		MTU		CAB 8889 CBL 8525 MTU 8893 (CAV 216)
6 HDU MTU	FP4D 2 HDU			HDC 8519 2 HDU .... CBL 8522 2 KIT 8851
		4 HDU		CAB 8889 CBL 8525 SET 8523 4 HDU ... CBL 8892
		MTU		MTU 8893 (CAV 216)

MAGNETIC DEVICE CONFIGURATIONS	BU 8516 (with FP4)	First CAB 8889	Second CAB 8889	Items ordered
8 HDU MTU	2 FP4D 4 HDU			2 HDC 8519 4 HDU .... 2 CBL 8522 2 KIT 8851 SET 8806
		4 HDU		CAB 8889 CBL 8525 SET 8523 4 HDU ...
		MTU		MTU 8893 (CAV 216)
12 HDU 2 MTU	2 FP4D 4 HDU			2 HDC 8519 4 HDU .... 2 CBL 8522 2 KIT 8851
		4 HDU		CAB 8889 CBL 8525 SET 8523 4 HDU ...
		MTU		CBL 8892 MTU 8893 (CAV 217)
			4 HDU	CAB 8889 CBL 8525 SET 8523 4 HDU ...
			MTU	CBL 8892 MTU 8893 (CAV 216)

6. MASS STORAGE DEVICES FOR LSX 3070/3080

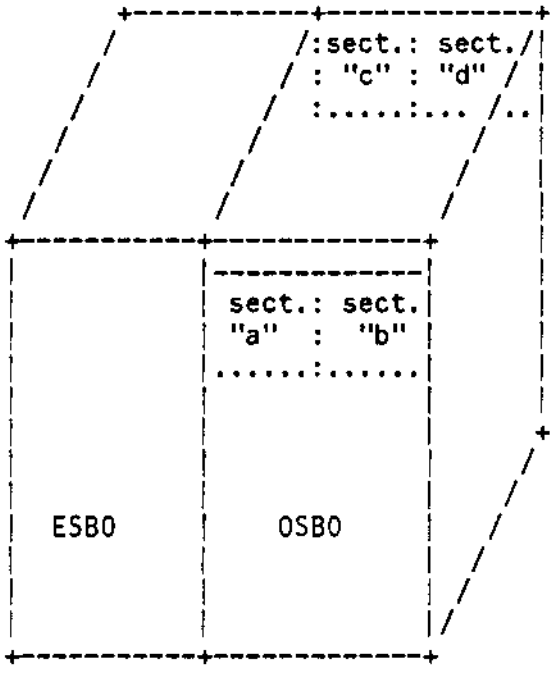
CONFIGURATION OF MASS STORAGE





LSX 3070/3080: CONFIGURATION OF BU 9001 BASIC MODULE

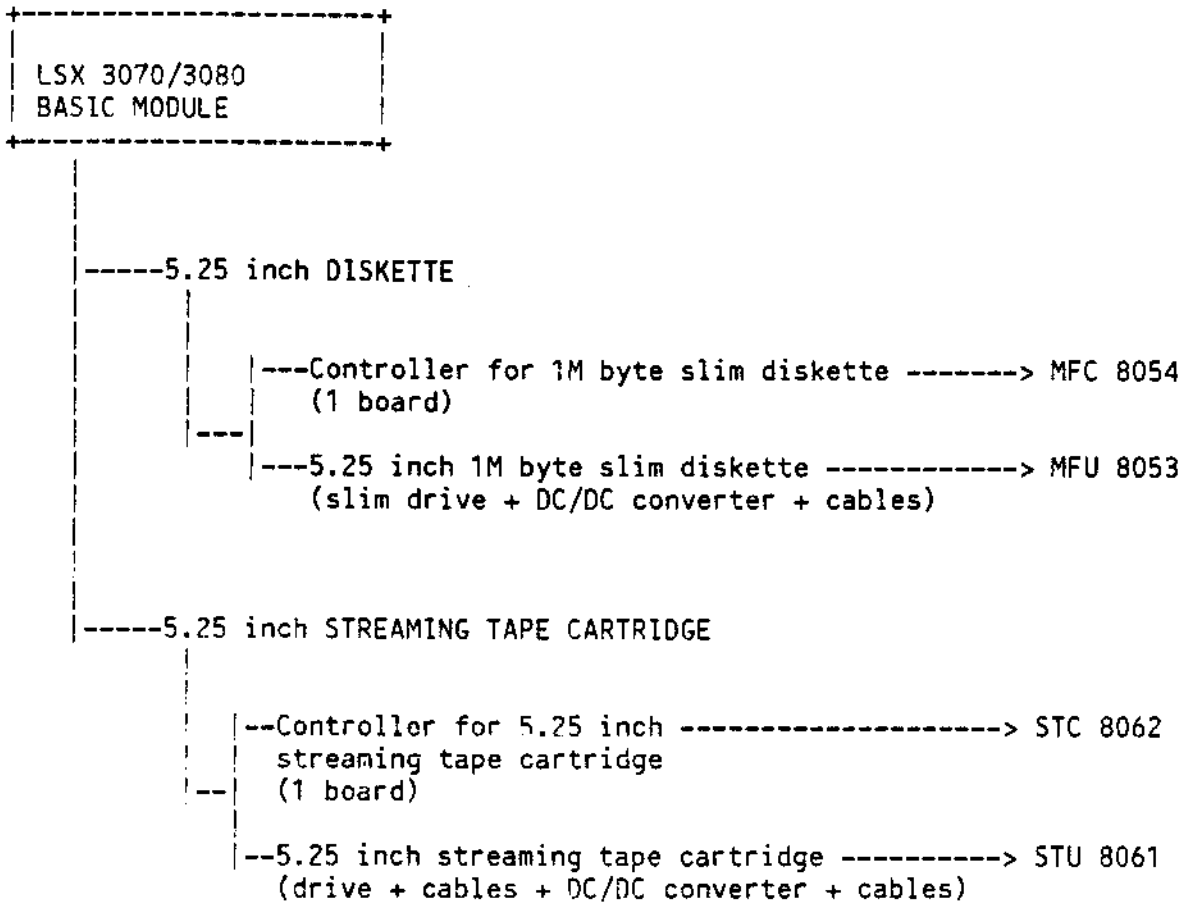
A diagram of the front view of the LSX 3070/3080 basic module is given below showing its structure into sections.



The two front sections "a" and "b" house removable devices and the two back sections "c" and "d", fixed disk devices. The following table indicates the configurations for the LSX 3070/3080 basic module and possible upgradings.

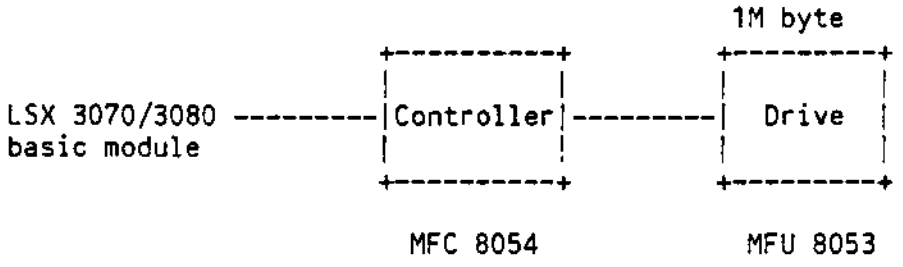
CONF.	SECT."a"	SECT."b"	SECT."c"	SECT."d"	UPGRADING
A1	1 diskette	--	1 hard disk	--	A3-A4-A6
A2	--	1 stc	1 hard disk	--	A3-A5-A6
A3	1 diskette	1 stc	1 hard disk	--	A6
A4	1 diskette	--	1 hard disk	1 hard disk	A6
A5	--	1 stc	1 hard disk	1 hard disk	A6
A6	1 diskette	1 stc	1 hard disk	1 hard disk	

LSX 3070/3080: BASIC MODULE WITH DISKETTE/STC

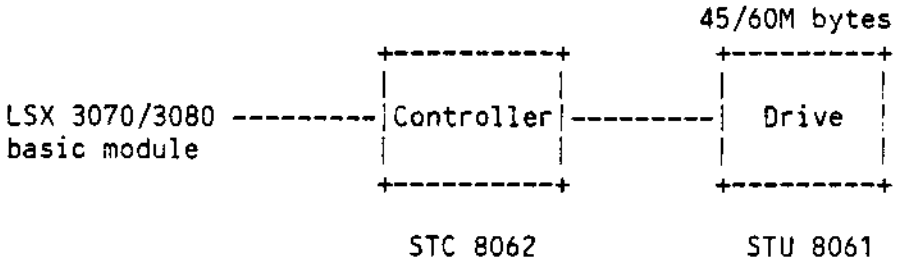


LSX 3070/3080: DIAGRAMS ON BASIC MODULE WITH DISKETTE/STC

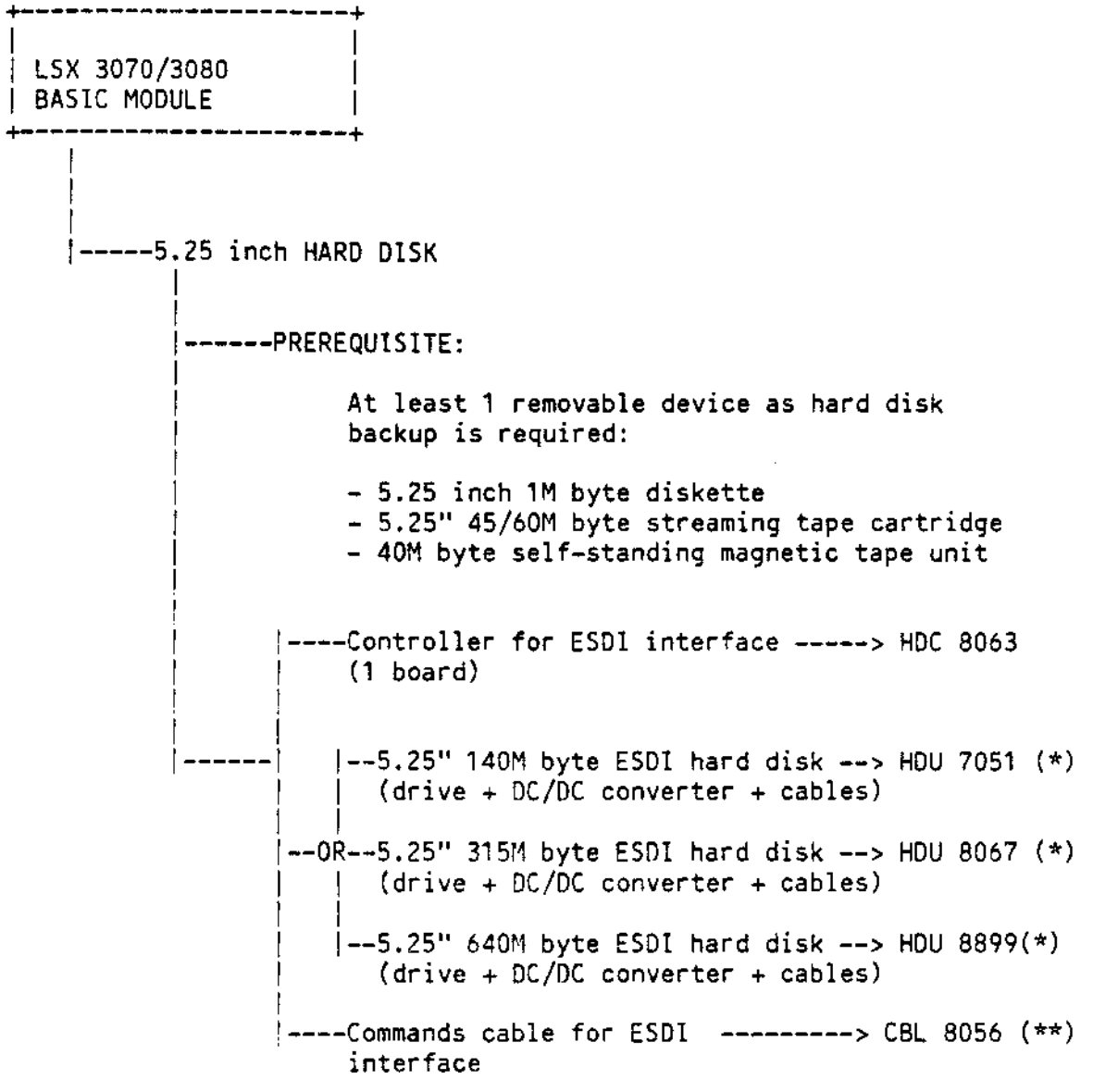
*** 5.25 inch 1M byte DISKETTE ***



*** 5.25 inch 45/60M byte STREAMING TAPE CARTRIDGE ***



LSX 3070/3080: BASIC MODULE WITH HARD DISK

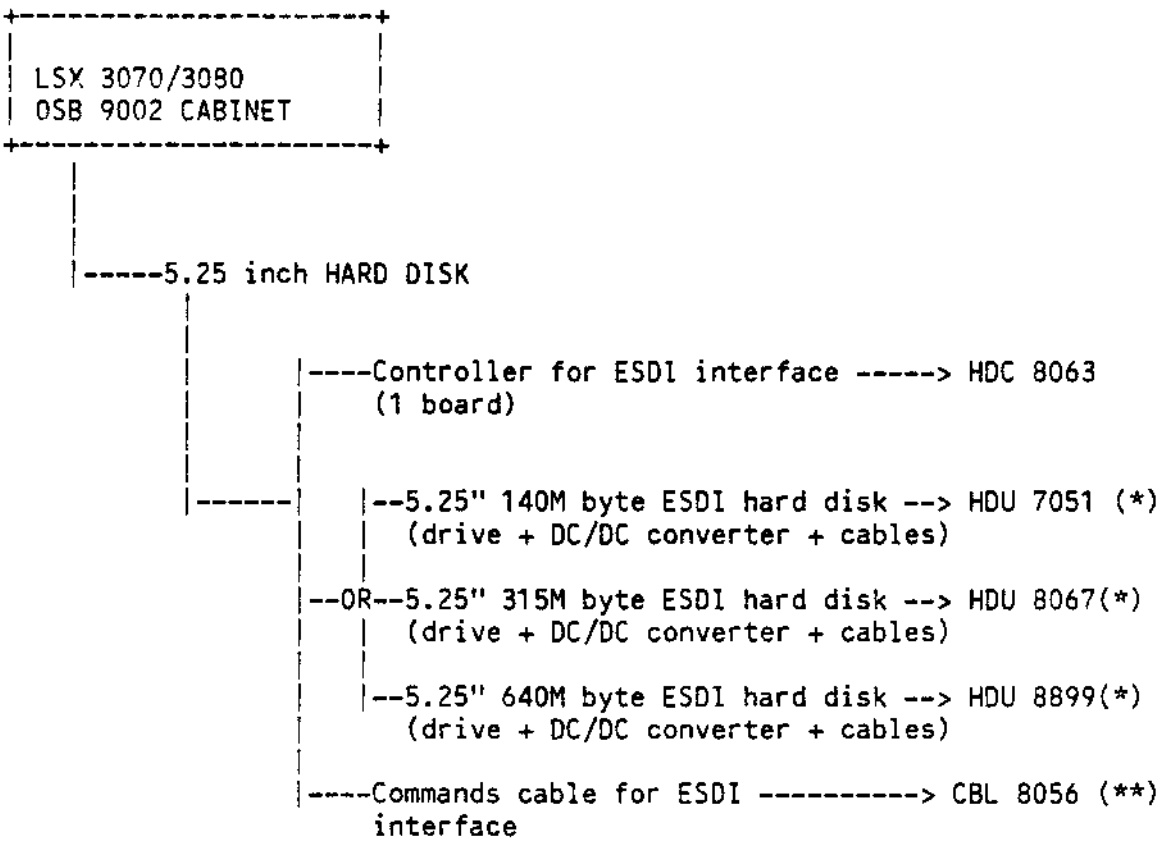


(*) Order the same HDU .... item for the second drive; for instance, a configuration with two 315M byte hard disks requires:

- 1 HDC 8063
- 2 HDU 8067
- 2 CBL 8056 (CAV 190)

(**) Commands cable to connect the first/second drive in the basic module. A cable is required for every hard disk installed. Clearly indicate its variable feature CAV 190.

LSX 3070/3080: OSB 9002 CABINET WITH HARD DISK



NOTE 1 - The removable storage devices are installed in the OSBO cabinet of the basic module.

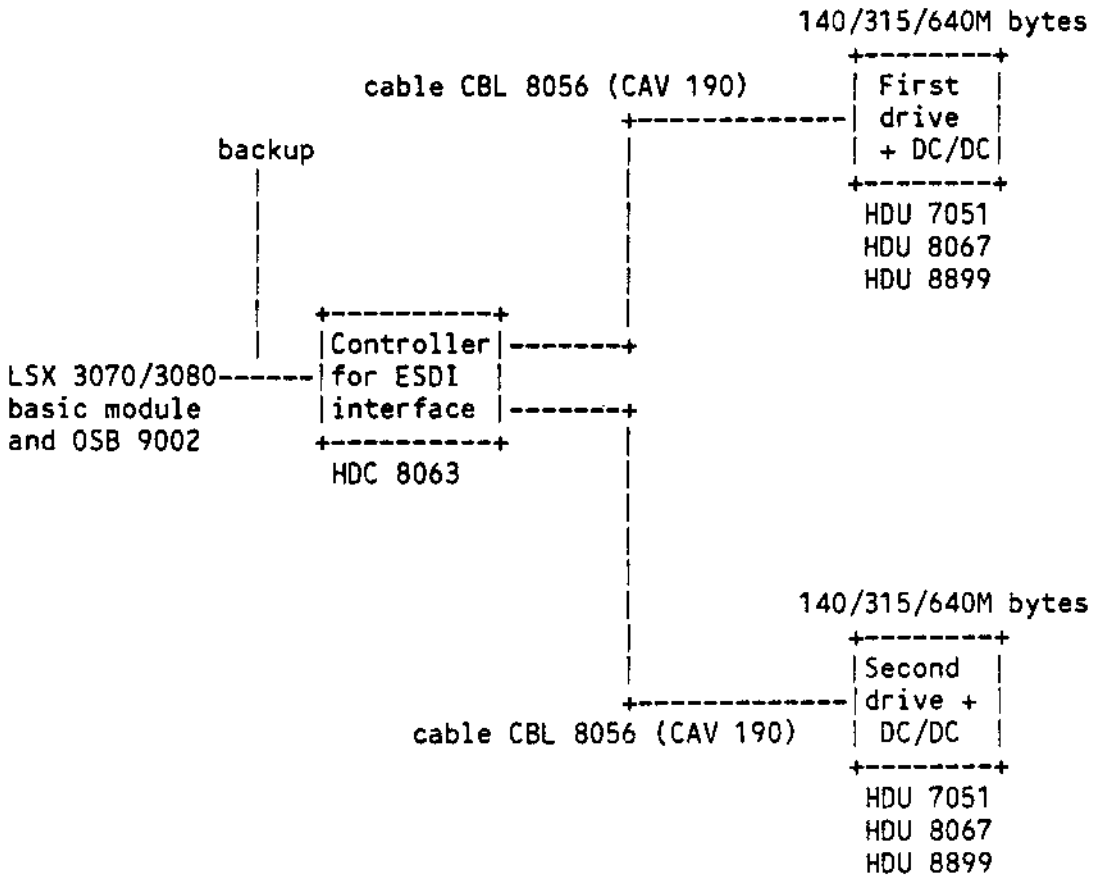
(*) **Order the same HDU .... item for the second drive; for instance, a configuration with two 315M byte hard disks requires:**

- 1 HDC 8063
- 2 HDU 8067
- 2 CBL 8056 (CAV 190)

(**) **Commands cable to connect the first/second drive in the basic module. A cable is required for every hard disk installed. Clearly indicate its variable feature: CAV 190.**

LSX 3070/3080: DIAGRAMS ON BASIC MODULE AND OSB 9002 WITH HARD DISK

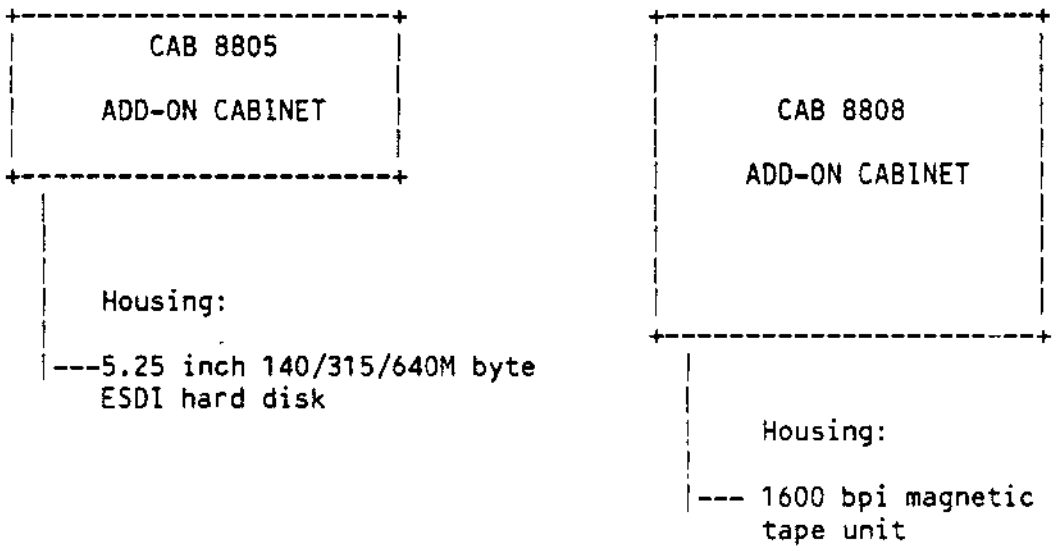
*** ONE OR TWO 140/315/640M byte ESDI HARD DISKS ***



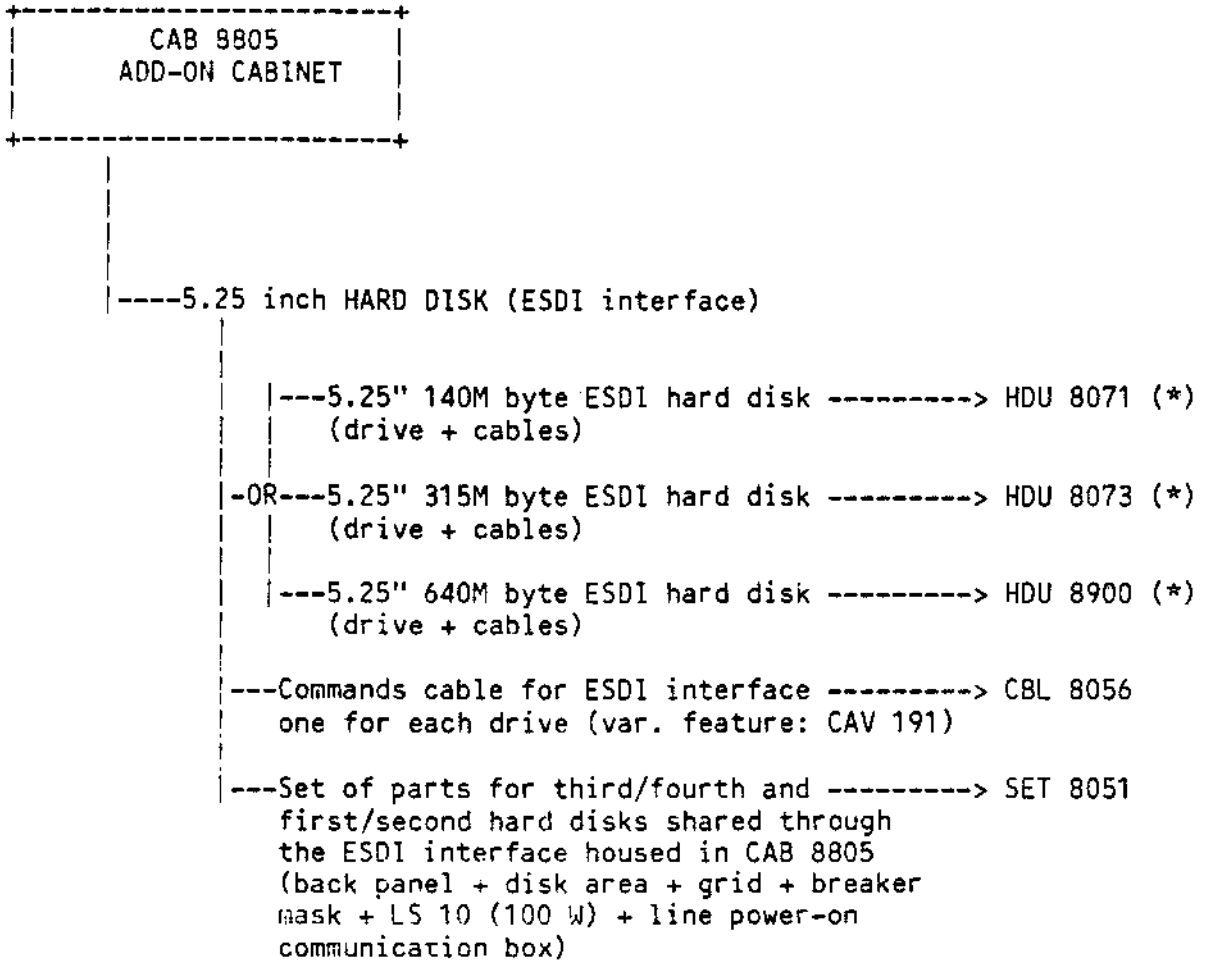
ADD-ON CABINETS FOR LSX 3070/3080

The LSX 3070/3080 minicomputers can be configured with two add-on cabinets installed at the side and connected to the basic module. The add-on cabinets are:

- **CAB 8805,** housing one or two 5.25 inch hard disks
- **CAB 8808,** housing one 1600 bpi magnetic tape unit



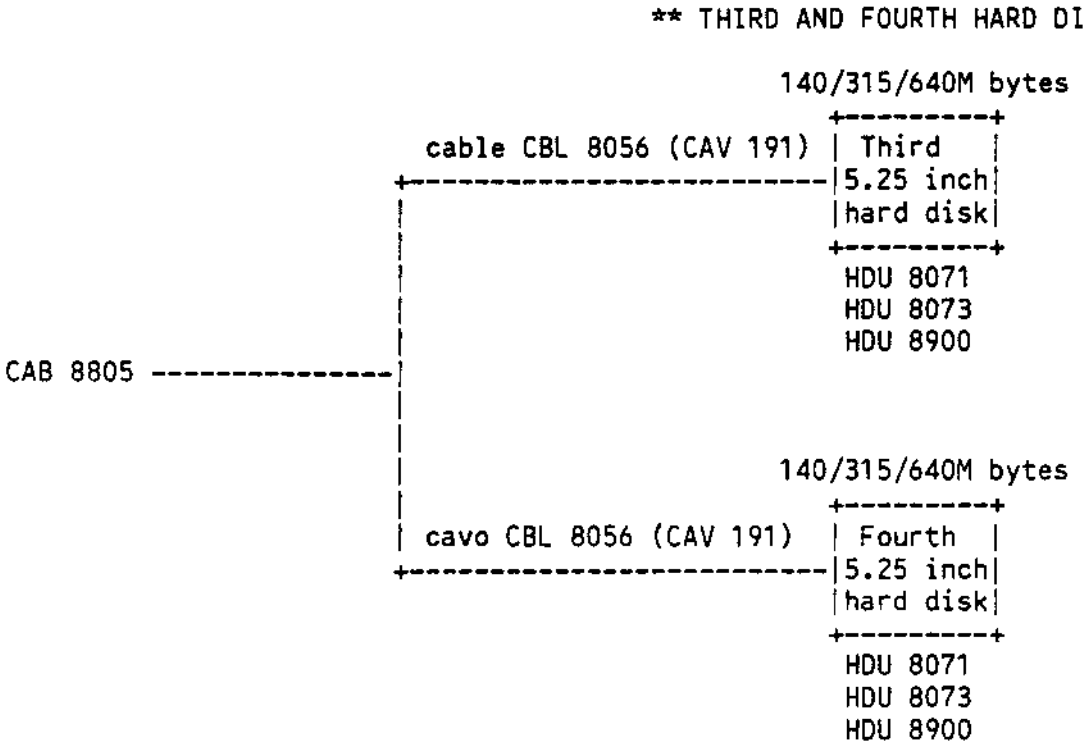
LSX 3070/3080: ADD-ON CABINET CAB 8805 WITH HARD DISK



(*) The first hard disk drive (housed in CAB 8805) requires SET 8051.

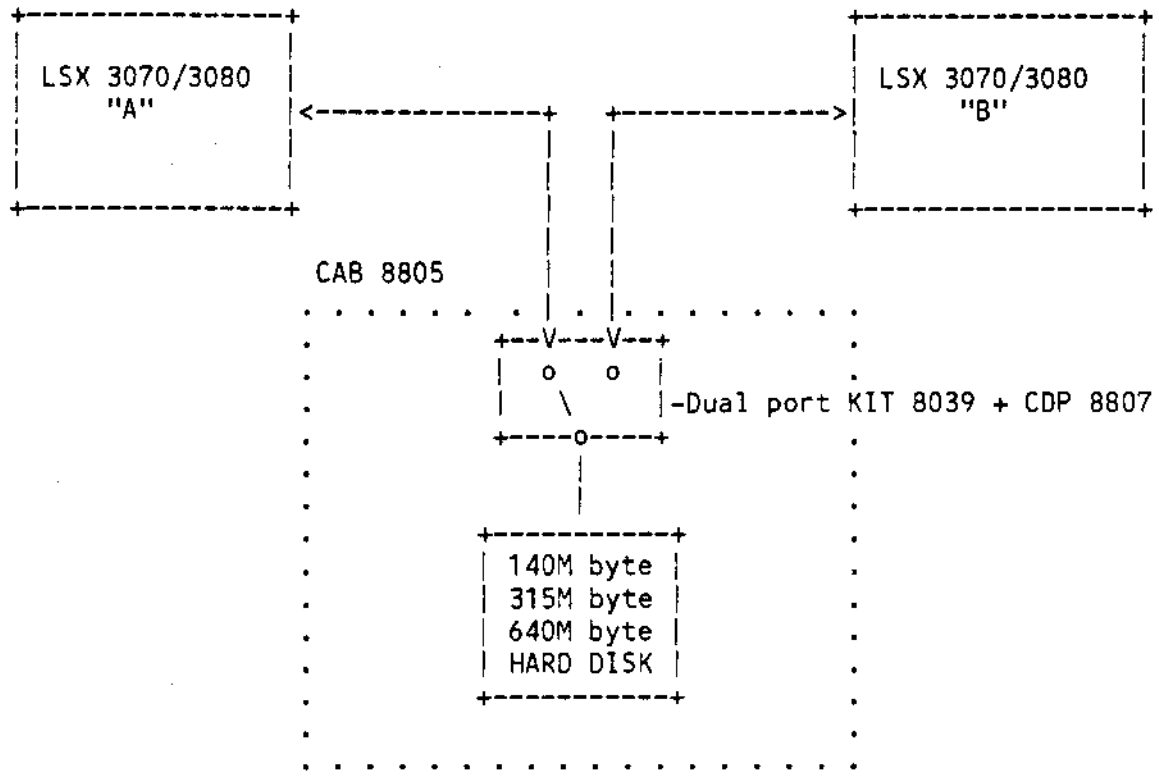
LSX 3070/3080: DIAGRAM ON THE ADD-ON CABINET CAB 8805

*** CAB 8805 WITH 140/315/640M byte ESDI HARD DISK ***



SHARING OF HARD DISK BETWEEN TWO LSX 3070/3080 MINICOMPUTERS

It is possible to share 5.25 inch 140/315/640M byte hard disks between two LSX 3070/3080 minicomputers ("A" and "B") by using the options KIT 8039 and CDP 8807 housed in the add-on cabinet CAB 8805.



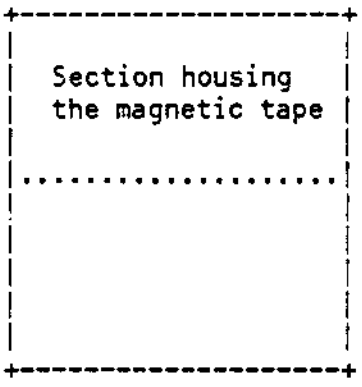
(*) The CDP 8807 item is provided with the CAV variant indicating the set of cables used depending on the number of hard disks shared (1 or 2). The variants are:

- CAV 194: set of cables for sharing 1 hard disk in CAB 8805.
- CAV 195: set of cables for sharing 2 hard disks in CAB 8805.

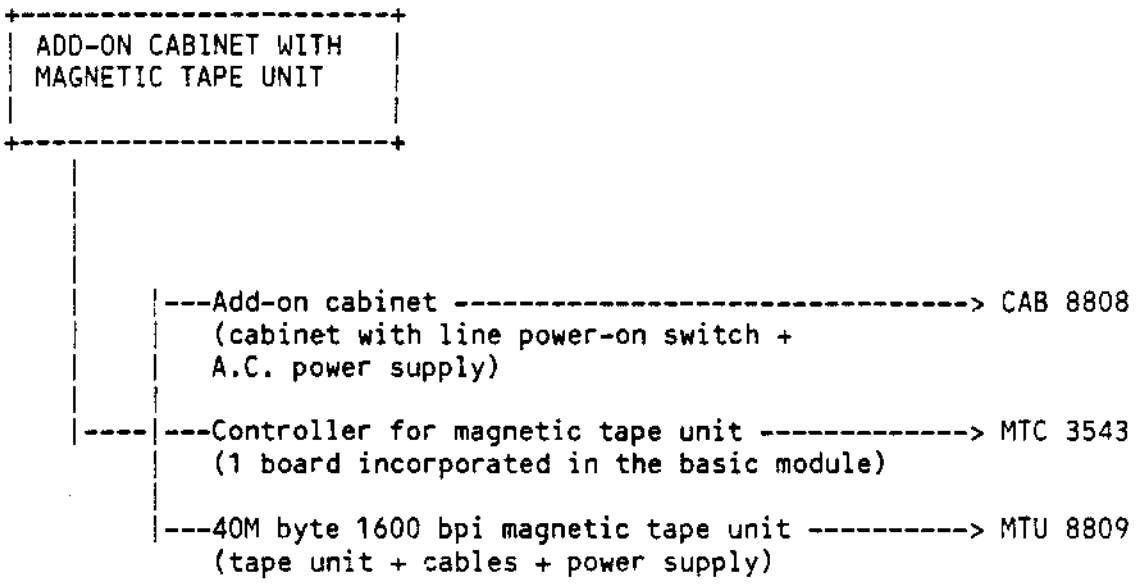
NOTE 1 - Every shared hard disk requires the installation of 1 KIT 8039 and 1 CDP 8807.

LSX 3070/3080: ADD-ON CABINET CAB 8808

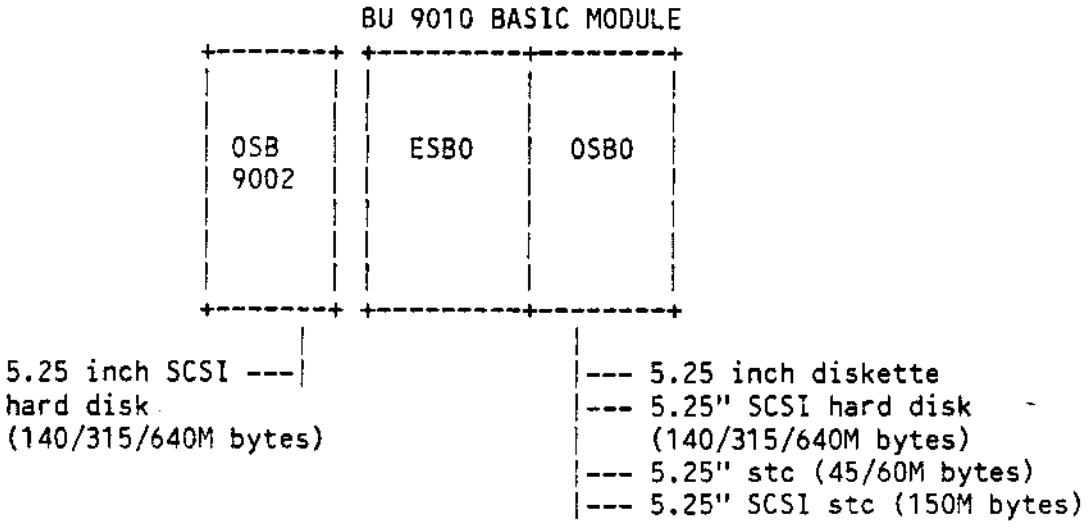
The front side of the add-on cabinet CAB 8808 is structured as follows:

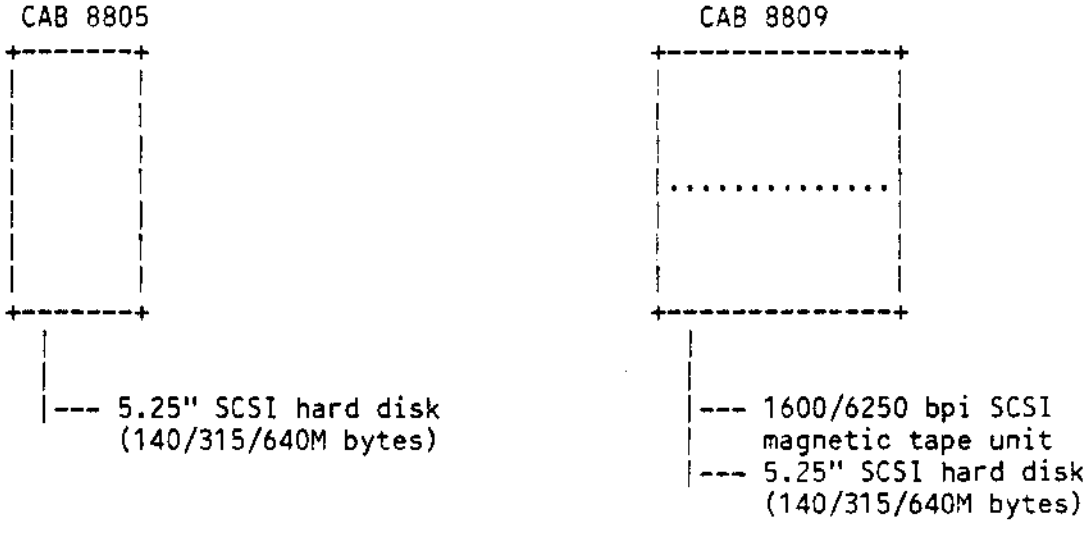


CAB 8808 CONFIGURATION



MASS STORAGE DEVICE CONFIGURATIONS





LSX 3070/3080: FILE PROCESSOR

The File Processor is the controller of the storage devices handling both removable devices (diskette, streaming tape and magnetic tape) and fixed devices.

The File Processor uses two different operating modes:

- **MODE 1 (FP4 basic comprised in BU 9010)**

  . connects a 5.25 inch diskette using the SA 450 interface

  . connects one 5.25 inch 45/60M byte streaming tape using the QIC 36 interface

  . connects up to seven 5.25 inch storage devices using the SCSI interface; the devices connected in this way can be hard disks, streaming tape, or magnetic tape.

The FP4 SCSI interface operating in "MODE 1" can connect:

- up to 6 hard disks (without SCSI removable units)
- up to 4 hard disks (with SCSI removable units).

- **MODE 2 (HDC 8519 - named FP4D)**

  . connects up to six 5.25 inch hard disks using the SCSI interface.

The File Processor controller, whether operating in **MODE 1** or **MODE 2**, occupies 1 slot in the board rack, and is mounted:

- operating in MODE 1:

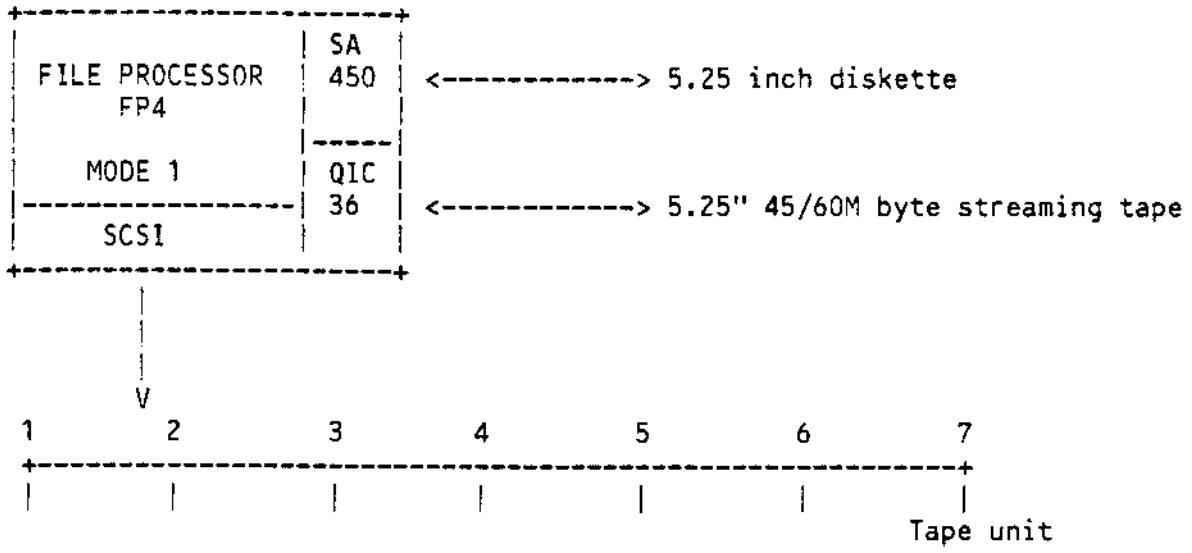
  . in the BU 9010, if the storage devices are installed in the OSBO cabinet or any other add-on cabinet;

- operating in MODE 2:

  . in the BU 9010, if the storage devices are installed in the OSBO cabinet or any other add-on cabinet;

  . in the OSB 9002 cabinet, if the storage devices are installed in the OSB 9002 cabinet or any other add-on cabinet.

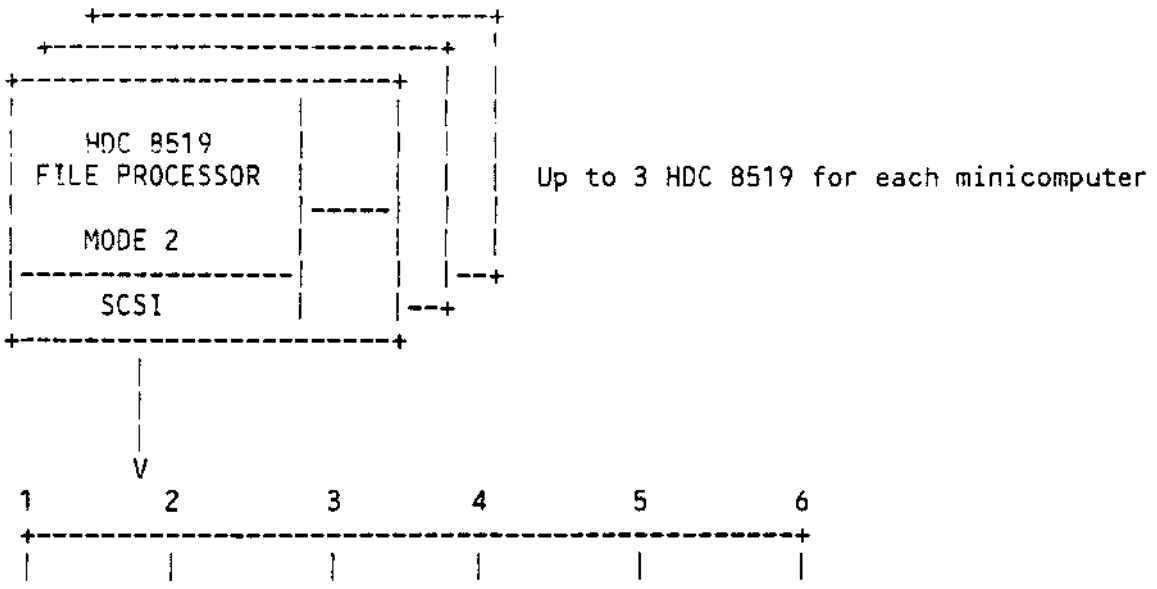
LSX 3070/3080: FILE PROCESSOR CONFIGURATION



THE 1 TO 6 OUTPUT ARE USED TO CONNECT

up to 6 SCSI hard disks, if there are no SCSI removable devices
or up to 4 SCSI hard disks + 1 SCSI 150M byte streaming tape
or up to 4 SCSI hard disks + 1 SCSI 1600/6250 bpi streaming tape

NOTE 1 - The 45/60M byte and tthe 150M byte streaming tapes cannot be both present on the same minicomputer.



Possibility to connect from 1 to 6 SCSI hard disks including the mirroring and/or static sharing features.

LSX 3070/3080: BASIC COMPONENTS FOR MASS STORAGE CONFIGURATION

The following list identifies all the **basic components** related to the storage devices housed in the various minicomputer cabinets.

1. FP4/HDC 8519 (FP4D) controller

2. 2 removable storage devices in the basic module

   - 2 removable storage devices with SA 450/QIC 36 interface (45/60M byte STU)

   - 2 removable storage devices with SCSI interface (150M byte STU)

3. 2 +2 hard disks with SCSI interface in basic module (2 in the "basic Cabinet" + 2 in the "add-on Cabinet")

4. MTU in CAB 8889, with the following variants:

   - CAV 216: cable for the first MTU

   - CAV 217: cable for the first MTU + output for external SCSI devices or the second MTU

5. Drawer in CAB 8889 housing 4 hard disks

6. BU 9010 exit for external devices

7. Distribution box with 4 exits.

The single **Component** can be connected to another component, the File processor controller, or the distribution box.

LSX 3070/3080: STORAGE DEVICE CABLES

Cable	Length (mm)	Description
Cables that connect the various components on the SCSI channel		
CBL 8890	1300	Cable that connects SCSI removable devices to controller and distribution box inside BU 9010.
CBL 8522	1800	Cable that connects SCSI hard disks to controller and distribution box inside BU 9010. (2 CBL 8522 are required to connect 4 HDUs)
CBL 8891	900 + 2000	Group of cables to connect external SCSI devices to the minicomputer
CBL 8525	2300	Cable to connect the distribution box to CAB 8889, the drawer containing 4 HDUs, or MTU
CBL 8892	1350	Cable to connect: - 1 drawer containing 4 HDUs to MTU or to a second drawer containing HDU - the controller to MTU inside CAB 8889 (with CAV 217 variant)
Internal cables (comprised in the hardware modules, or indicated as variable feature CAV ...)		
	1850	Cable contained in the drawer housing 4 HDUs. Il connects the hard disks inside the drawer.
CAV 216	870	Cable connecting the MTU inside CAB 8889
CAV 217	1740	Cable connecting the MTU inside CAB 8889 with external exit

NOTE 1 - The total length of the cables contained on the SCSI channel cannot be over 6 meters with 50 cm of tolerance.

LSX 3070/3080: CONFIGURATION EXAMPLES (WITH FP4)

	Magnetic devices	Cables required
	FP4 connections without exits to external SCSI devices (Note: at least one removable device has a SCSI interface)	
1	2 removable devices in BU 9010 + 1 MTU in CAB 8889	CBL 8890 + CBL 8525 + CAV 216 = 4.47 m
2	2 removable devices in BU 9010 + 4 HDUs in BU 9010	CBL 8890 + 2 CBL 8522 = 4,9 m
3	1 MTU in the first CAB 8889 + 1 MTU in the second CAB 8889	2 CBL 8892 + CAV 216 + CAV 217 = 5.31 m
4	4 HDU + 1 MTU in CAB 8889	2 CBL 8892 + HDU cable + CAV 216 = 5.42 m
5	2 removable devices in BU 9010 + 4 HDU in CAB 8889	CBL 8890 + CBL 8825 + HDU cable = 5.45 m
6	2 removable devices in BU 9010 + 2 HDU in BU 9010 + 1 MTU in CAB 8889	CBL 8890 + CBL 8522 + CBL 8525 + CAV 216 = 6.27 m
	FP4 connections without exits to extermal SCSI devices (Note: the removable devices must not have the SCSI interface)	
1	2 removable devices + 2 HDUs in BU 9010	CBL 8522 = 1.8 m
2	2 removable devices + 4 HDUs in BU 9010	2 CBL 8522 = 3.6 m
3	2 removable devices + 2 HDUs in BU 9010 +4 HDUs in CAB 8889	CBL 8522 + CBL 8525 + HDU cable = 5.95 m

LSX 3070/3080: CONFIGURATION EXAMPLES (WITH FP4)

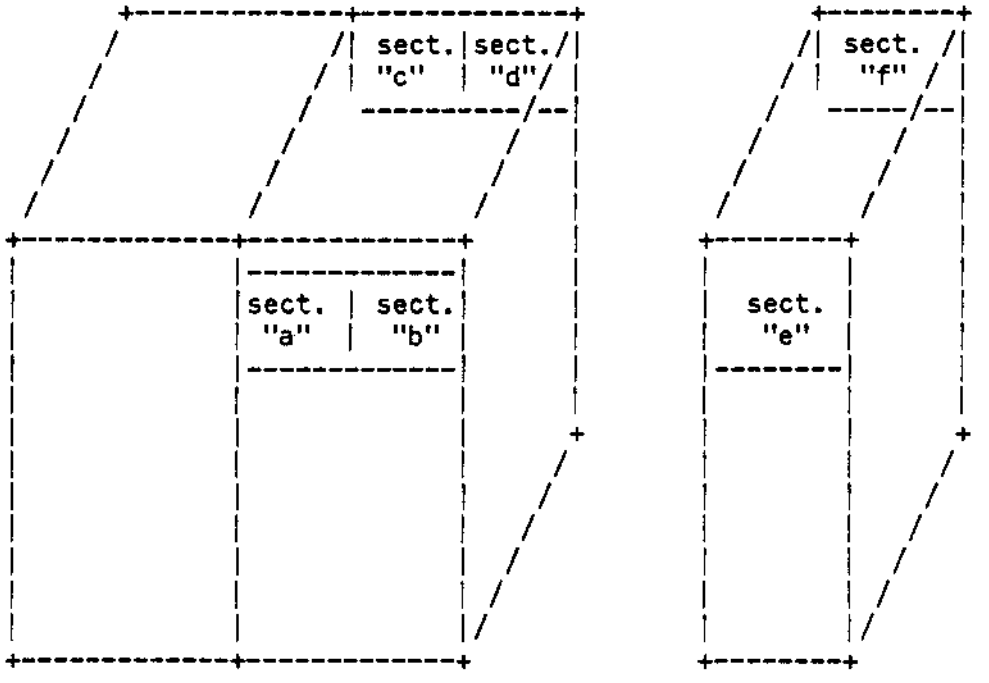
	Magnetic devices	Cables required
	FP4 connections with exit for SCSI external devices (Note: at least one removable device has a SCSI interface)	
1	2 removable devices + exit for SCSI external devices	CBL 8890 + CBL 8891 = 4.2 m
2	2 removable devices + 2 HDUs in BU 9010 + exit for SCSI external devices	CBL 8890 + CBL 8522 + CBL 8891 = 6 m
3	MTU + exit for SCSI external devices	CBL 8892 + CBL 8891 + CAV 217 = 5.99 m

LSX 3070/3080: CONFIGURATION EXAMPLES (WITH FP4D)

	Magnetic devices	Cables required
	HDC 8519 (FP4/D) connections without shared disks (Note: the removable devices are connected to FP4)	
1	2 HDU in BU 9010	CBL 8522 = 1.8 m
2	2 HDUs in BU 9010 + 4 HDUs in CAB 8889	CBL 8522 + CBL 8525 + HDU cable = 5.95 m
3	4 HDUs in BU 9010	2 CBL 8522 = 3.6 m

LSX 3070/3080: BASIC MODULE CONFIGURATION

The basic module of the LSX 3070/3080 minicomputers consists of a basic cabinet and an add-on cabinet (CAB 8805) as follows:

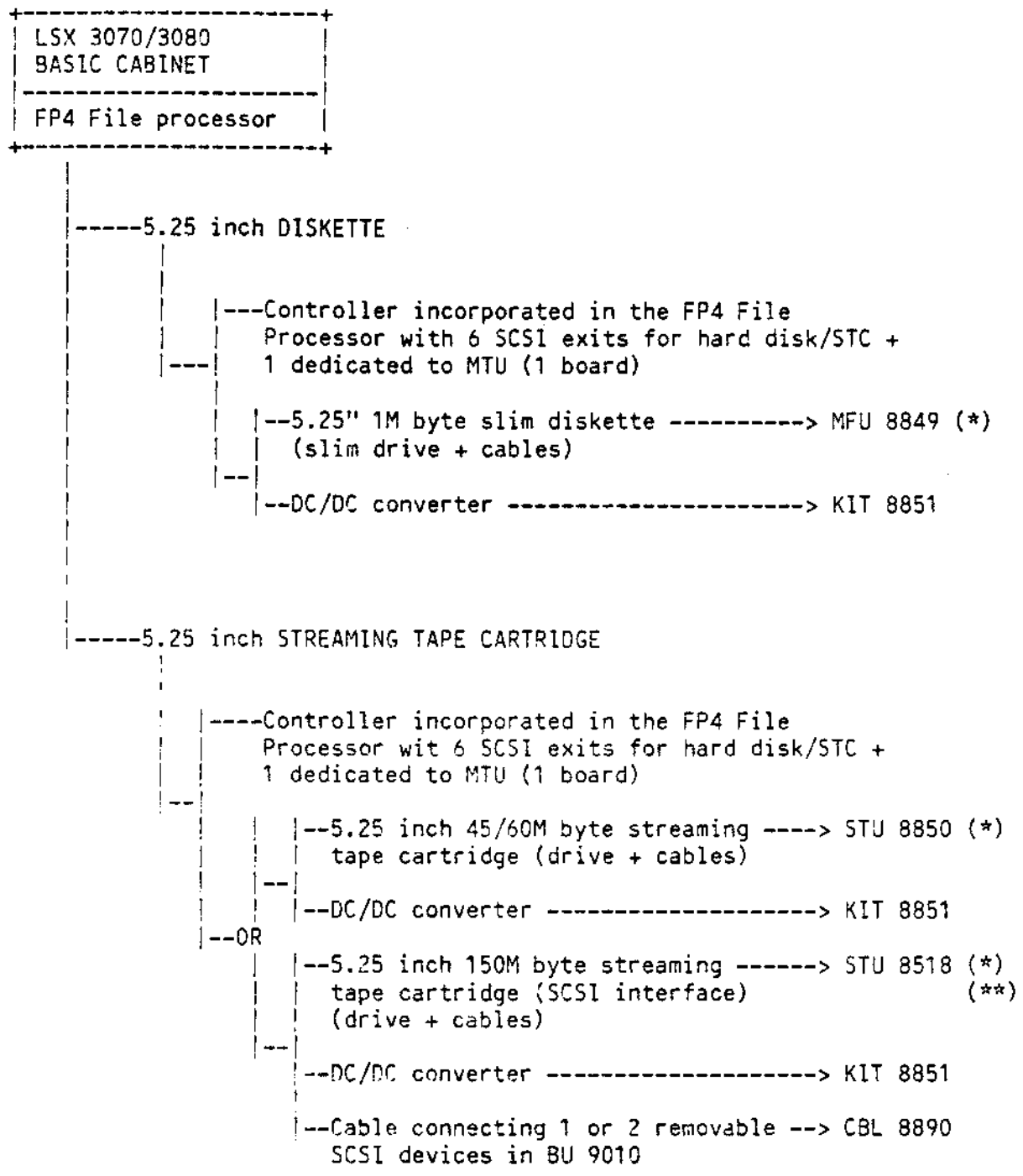


The two front sections "a" and "b" can house removable storage devices, whereas the back sections "c" and "d" can house fixed disk units. The following table shows the configurations for the BU 9010 basic module and the possible upgradings.

CONF.	SECT. "a"	SECT. "b"	SECT. "c"	SECT. "d"	UPGRADING
A1	1 diskette	--	1 hard disk	--	A3-A4-A6
A2	--	1 stc	1 hard disk	--	A3-A5-A6
A3	1 diskette	1 stc	1 hard disk	--	A6
A4	1 diskette	--	1 hard disk	1 hard disk	A6
A5	--	1 stc	1 hard disk	1 hard disk	A6
A6	1 diskette	1 stc	1 hard disk	1 hard disk	

Sections "e" and "f" of the add-on cabinet (CAB 8805) house 1 or 2 hard disks as third/fourth devices.

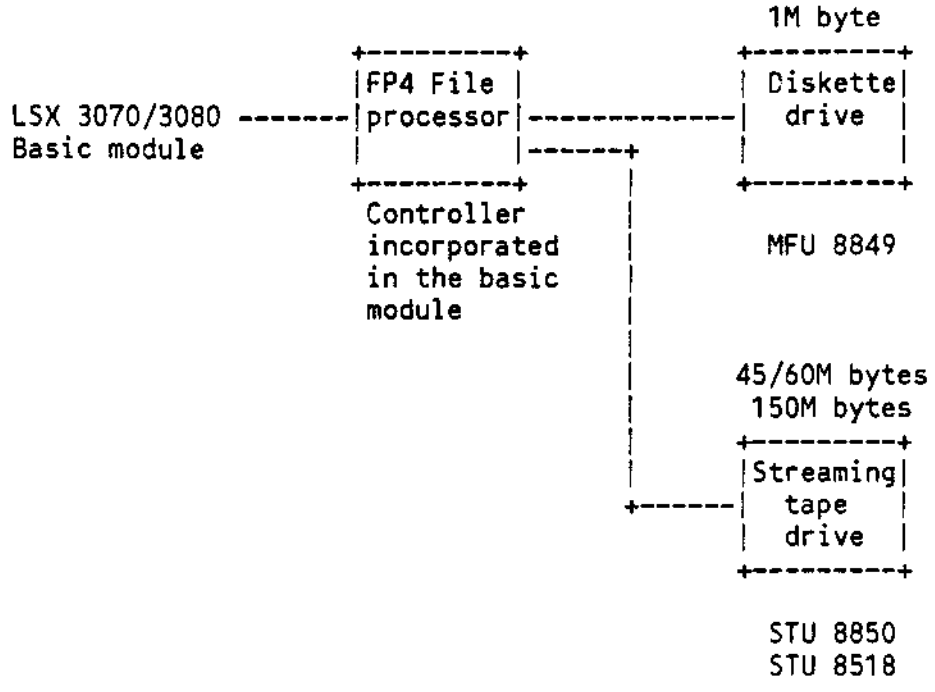
LSX 3070/3080: BASIC CABINET WITH DISKETTE/STC



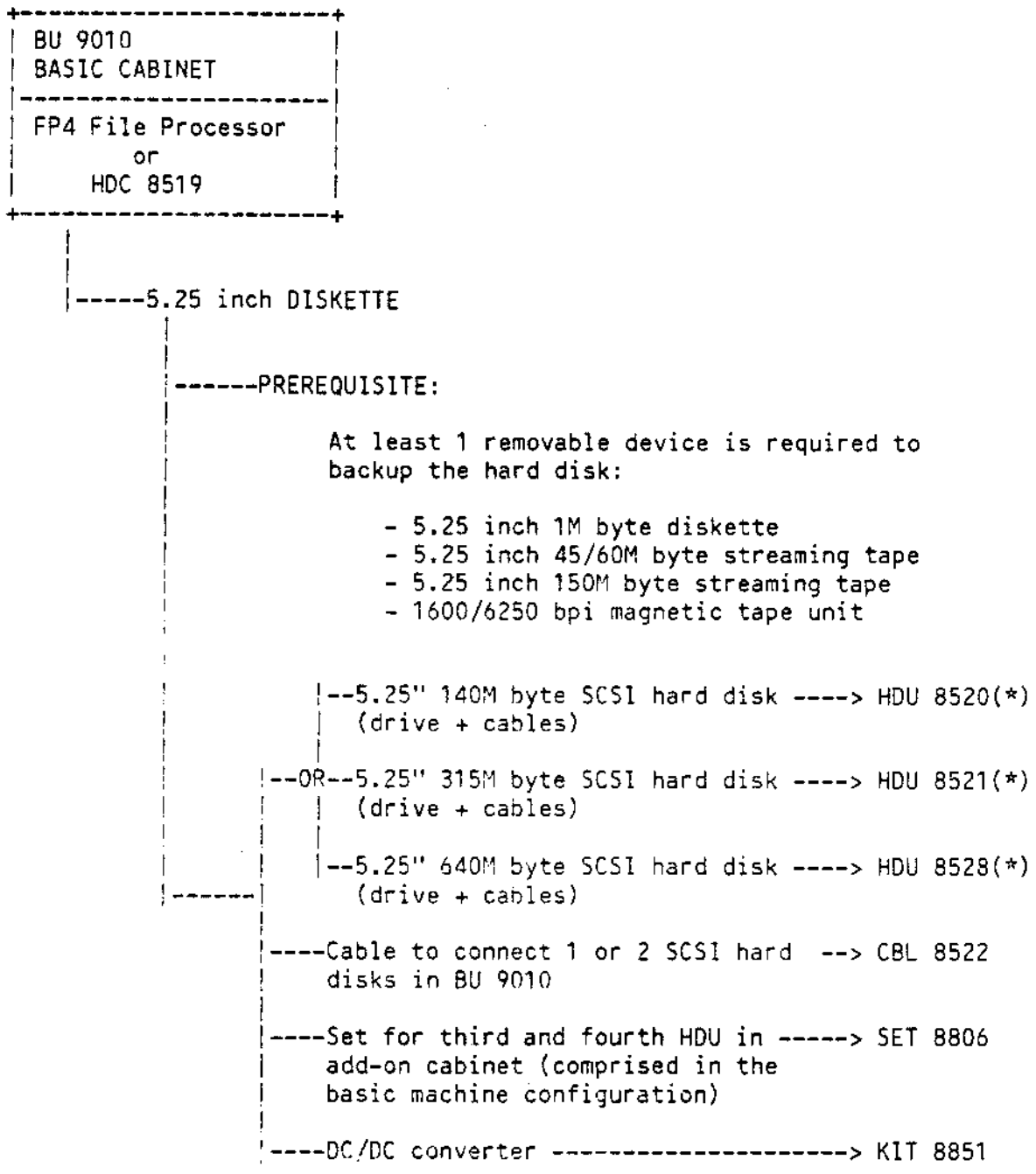
(*) Each minicomputer requires 1 KIT 8851 to power-on 1 or 2 removable magnetic storage devices.

(**) The STU 8518 streaming tape requires cable CBL 8890 for controller connections (the controller is incorporated in FP4).

LSX 3070/3080: DIAGRAM ILLUSTRATING BASIC CABINET WITH DISKETTE/STC



LSX 3070/3080: BASIC CABINET BU 9010 OR OSB 9002 WITH HARD DISK

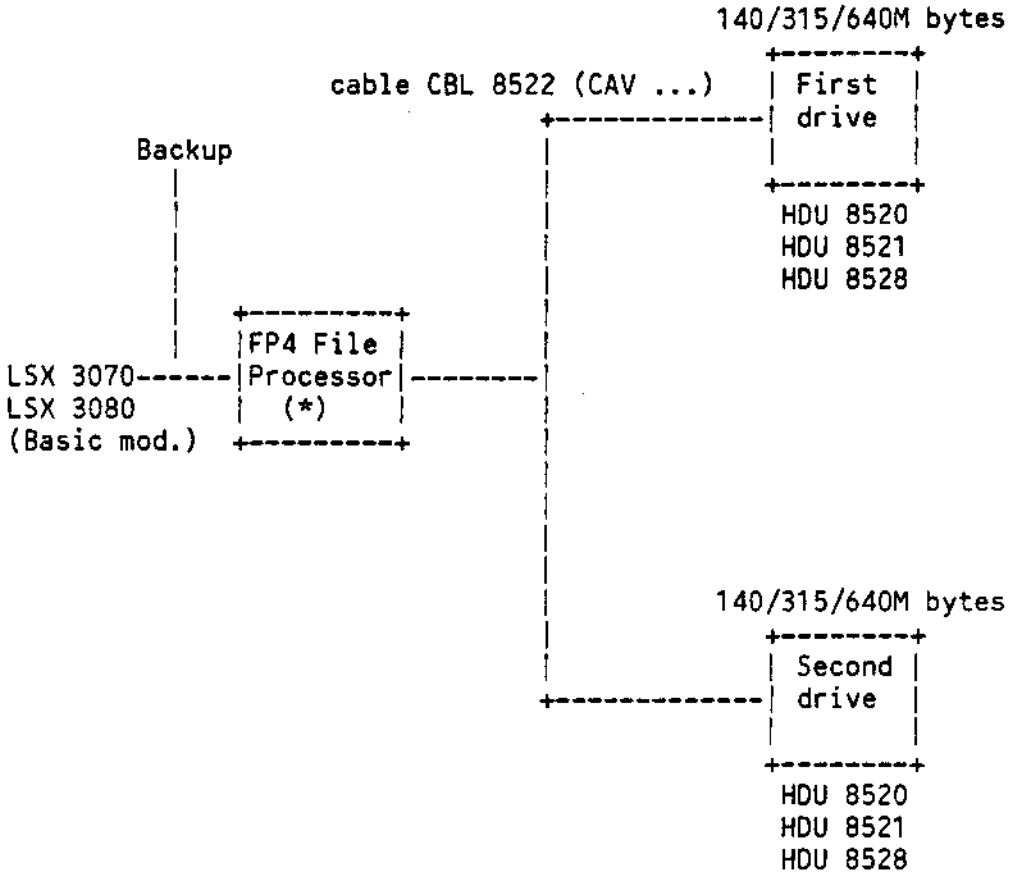


(*) **Order the same code for quantities greater than 1.**

NOTE 1 - For the first two hard disks housed in the basic cabinet, BU 9010 or OSB 9002, order one KIT 8851 for each disk.

LSX 3070/3080: DIAGRAM ILLUSTRATING BU 9010 or OSB 9002 WITH HDU

*** FIRST AND SECOND HARD DISKS (140/315/640M bytes ***

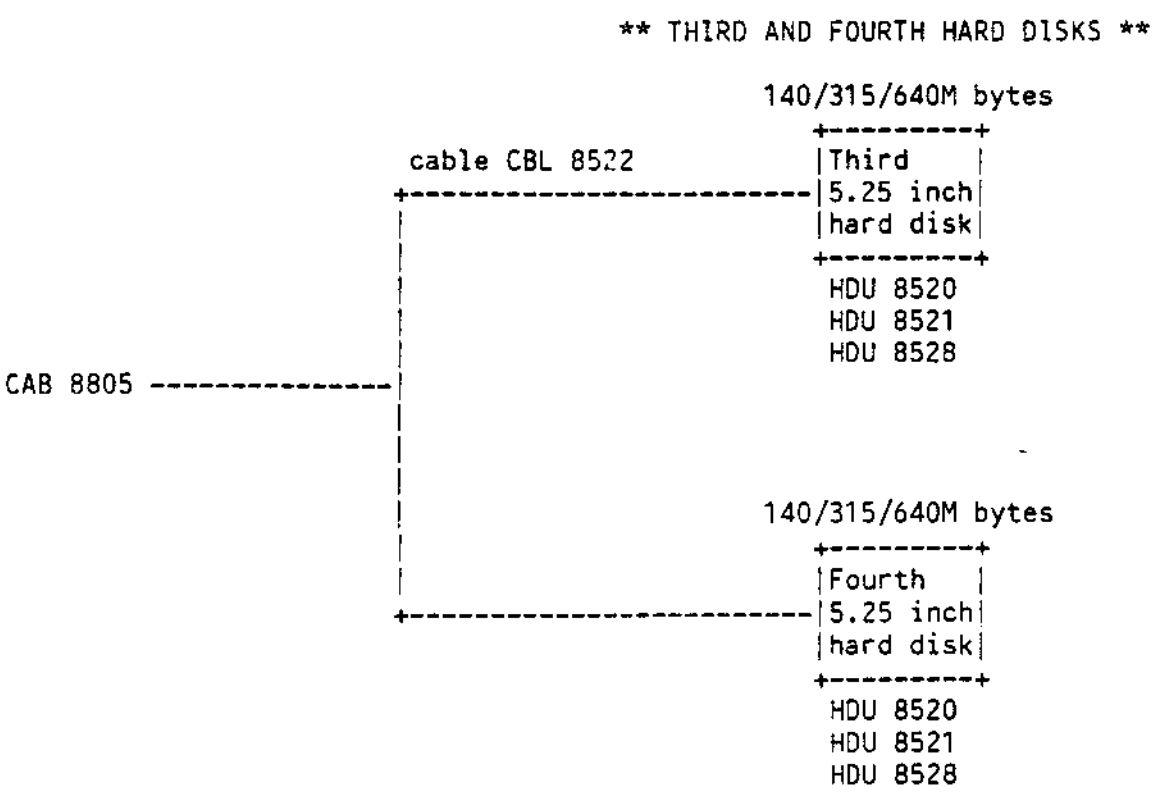


(*) Both the FP4 File Processor (incorporated in the basic module) and the HDC 8519 File Processor (FP4D) can be used.

NOTE 1 - A mixture of different hard disk capacities can be used.

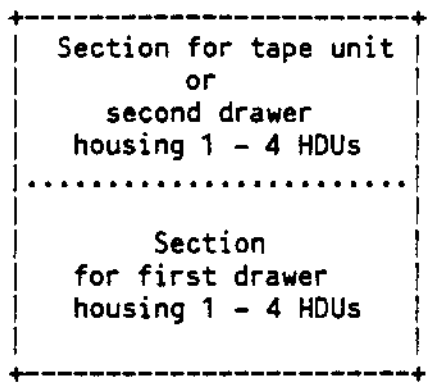
LSX 3070/3080: DIAGRAM ILLUSTRATING THE ADD-ON CABINET CAB 8805

*** CAB 8805 WITH 140/315/640M bytes ESDI HARD DISKS ***

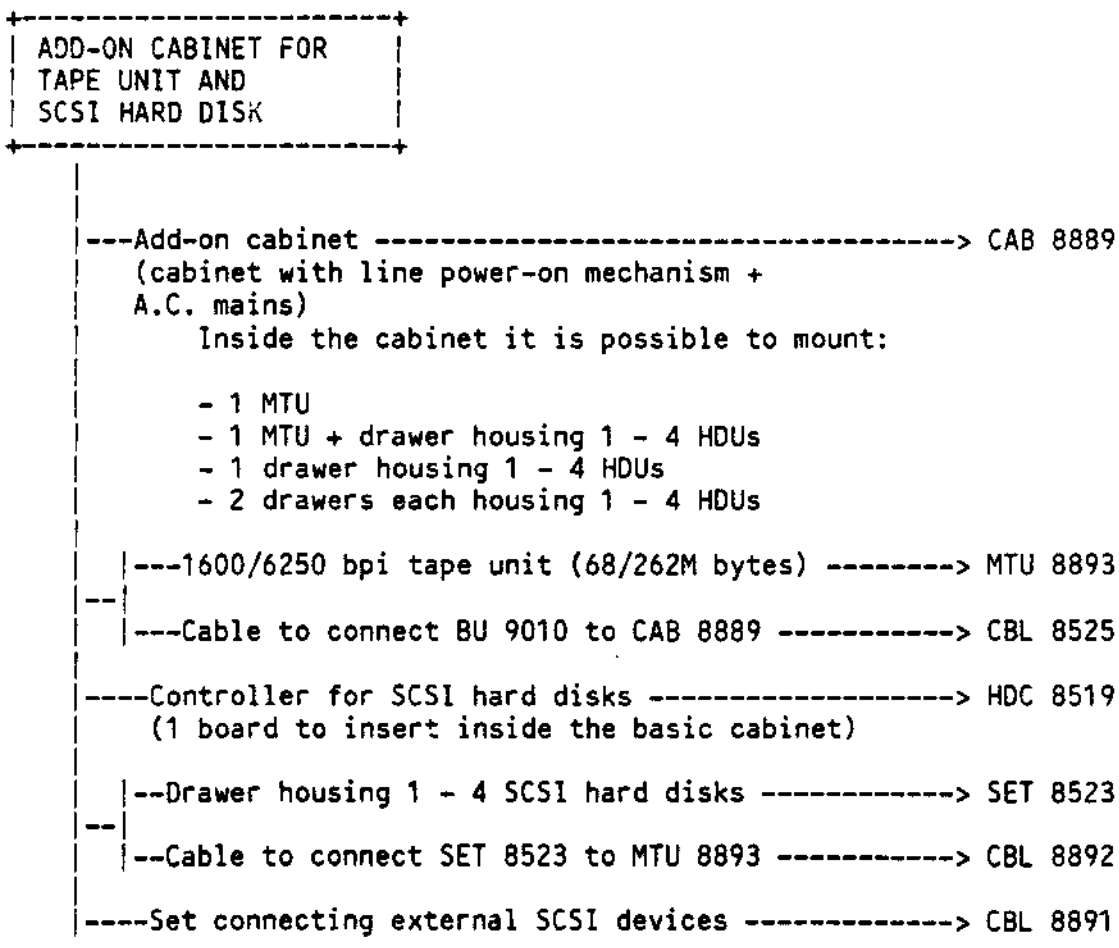


LSX 3070/3080: CABINET CAB 8889 FOR TAPE UNIT AND HARD DISK

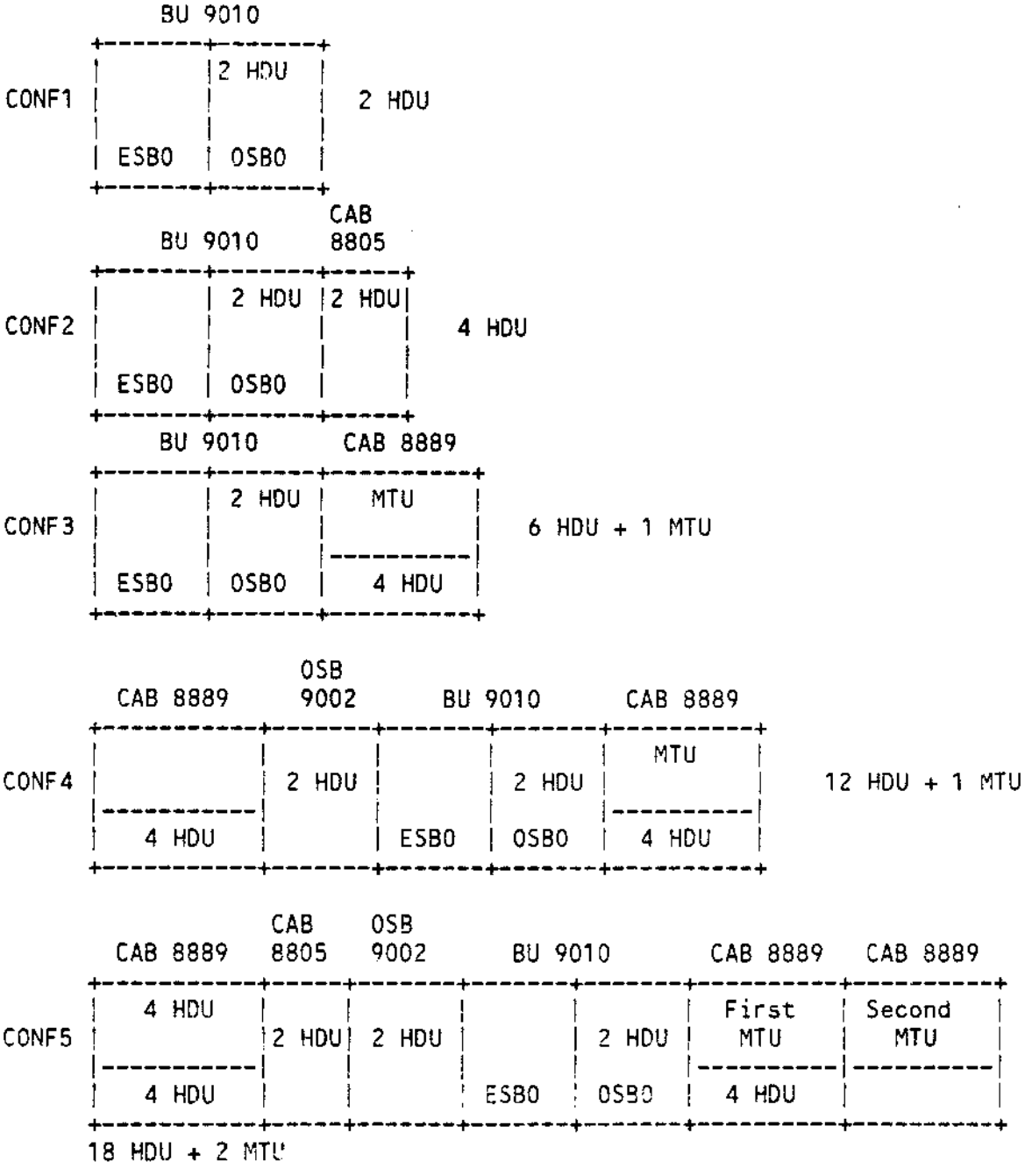
The front view of the add-on cabinet CAB 8889 is as follows:



CAB 8889 CONFIGURATION



LSX 3070/3080 WITH FILE PROCESSOR: REFERENCE CONFIGURATIONS



CONFIGURATION EXAMPLES OF MAGNETIC DEVICES

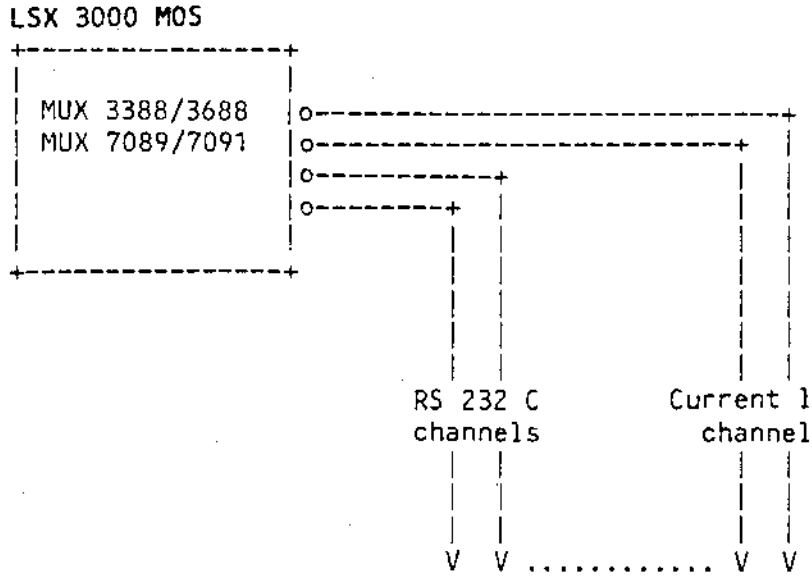
MAGNETIC DEVICE CONFIGURAT.	CAB 8889	CAB 8805	OSB 9002	BU 9010	CAB 8805	CAB 8889	CAB 8889	Items ordered
STU (QIC 36) 2 HDU				STU 2 HDU				STU 8850 KIT 8851 2 HDU .... CBL 8522 2 KIT 8851
STU (SCSI) 4 HDU				STU 2 HDU				STU 8518 CBL 8890 KIT 8851 2 HDU .... CBL 8522 2 KIT 8851 CAB 8805 SET 8806 2 HDU .... CBL 8522
STU (QIC 36) 6 HDU				STU 2 HDU				STU 8850 KIT 8851 2 HDU .... CBL 8522 2 KIT 8851 CAB 8889 CBL 8525 SET 8823 4 HDU ....
STU (SCSI) 6 HDU				FP4/D STU 2 HDU				HDC 8519 CBL 8890 STU 8518 KIT 8851 2 HDU .... CBL 8522 2 KIT 8851 CAB 8889 CBL 8525 SET 8823 4 HDU ....

MAGNETIC DEVICE CONFIGURAT.	CAB 8889	CAB 8805	OSB 9002	BU 9010	CAB 8805	CAB 8889	CAB 8889	Items ordered
4 HDU MTU						MTU 4 HDU		CAB 8889 2 CBL 8892 SET 8523 4 HDU .... MTU 8893 (CAV 216)
6 HDU MTU				FP4/D 2 HDU				HDC 8519 CBL 8522 2 KIT 8851 2 HDU .... CAB 8889 CBL 8525 SET 8523 4 HDU .... CBL 8892 MTU 8893 (CAV 216)
						4 HDU		
						MTU		
12 HDU MTU				FP4/D 2 HDU				HDC 8519 CBL 8522 2 KIT 8851 2 HDU .... CAB 8889 CBL 8525 SET 8523 4 HDU .... CBL 8892 MTU 8893 (CAV 216)
						4 HDU		
						MTU		
			FP4/D 2 HDU					HDC 8519 CBL 8522 2 KIT 8851 2 HDU .... CAB 8889 CBL 8525 SET 8523 4 HDU
	4 HDU							

MAGNETIC DEVICE CONFIGURAT.	CAB 8889	CAB 8805	OSB 9002	BU 9010	CAB 8805	CAB 8889	CAB 8889	Items ordered
18 HDU 2 MTU				FP4/D 2 HDU				HDC 8519 CBL 8522 2 KIT 8851 2 HDU ....
						4 HDU		CAB 8889 CBL 8525 SET 8523 4 HDU ....
						MTU		CBL 8892 MTU 8893 (CAV 217)
							MTU	CBL 8892 MTU 8893 (CAV 216)
			FP4/D FP4/D 2 HDU					2 HDC 8519 CBL 8522 2 KIT 8851 2 HDU ....
		2 HDU						CBL 8522 2 HDU 8851 SET 8806
	4 HDU							CAB 8889 CBL 8525 SET 8523 4 HDU ....
	4 HDU							CAB 8889 CBL 8525 SET 8523 4 HDU ....

7. LSX 3000 MOS WORKSTATIONS

WORKSTATIONS ATTACHED TO A 4-CONNECTION MUX

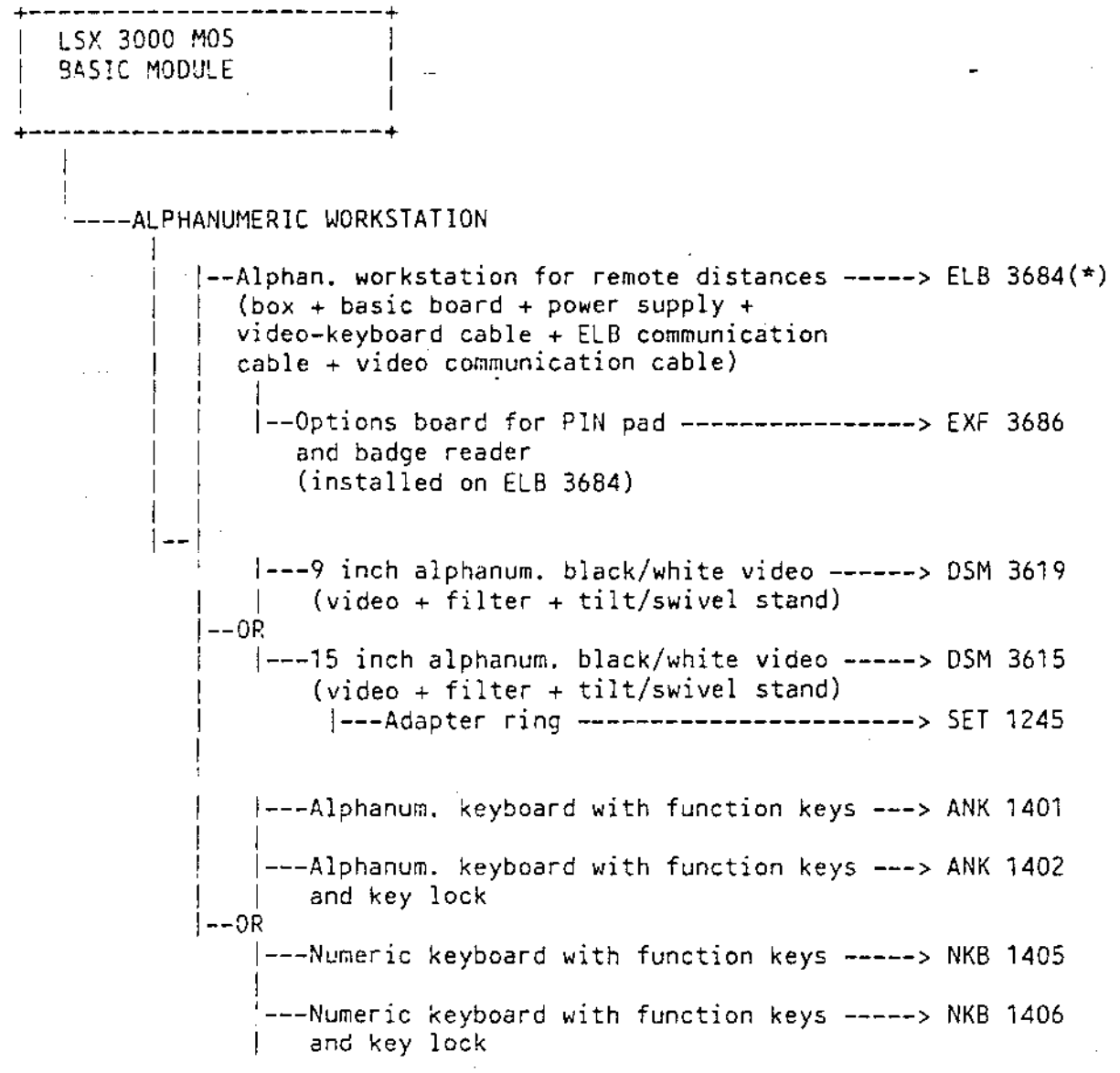


CONNECTING THE FOLLOWING:

* ELB 3684
  alphanumeric workstation
* Olivetti Personal Computer
* WS 685/M
* Printers

NOTE 1 - On pages 7-7, 7-8 and 7-9 there are diagrams showing how the various workstations, ELB 3684, PC and WS 685/M, are connected to LSX 3000 MOS minicomputers. Data such as denomination, composition, may be found on the next pages for ELB 3684 and in the Table of Modules for PCs and WS 685/M.

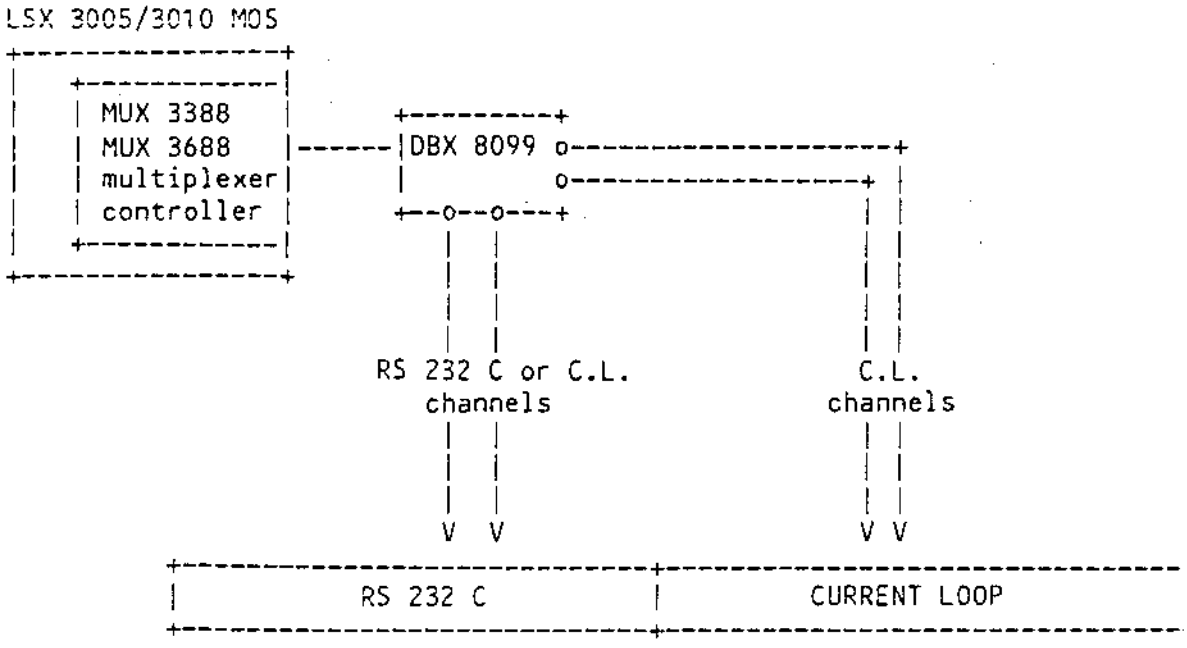
ELB 3684 WORKSTATION

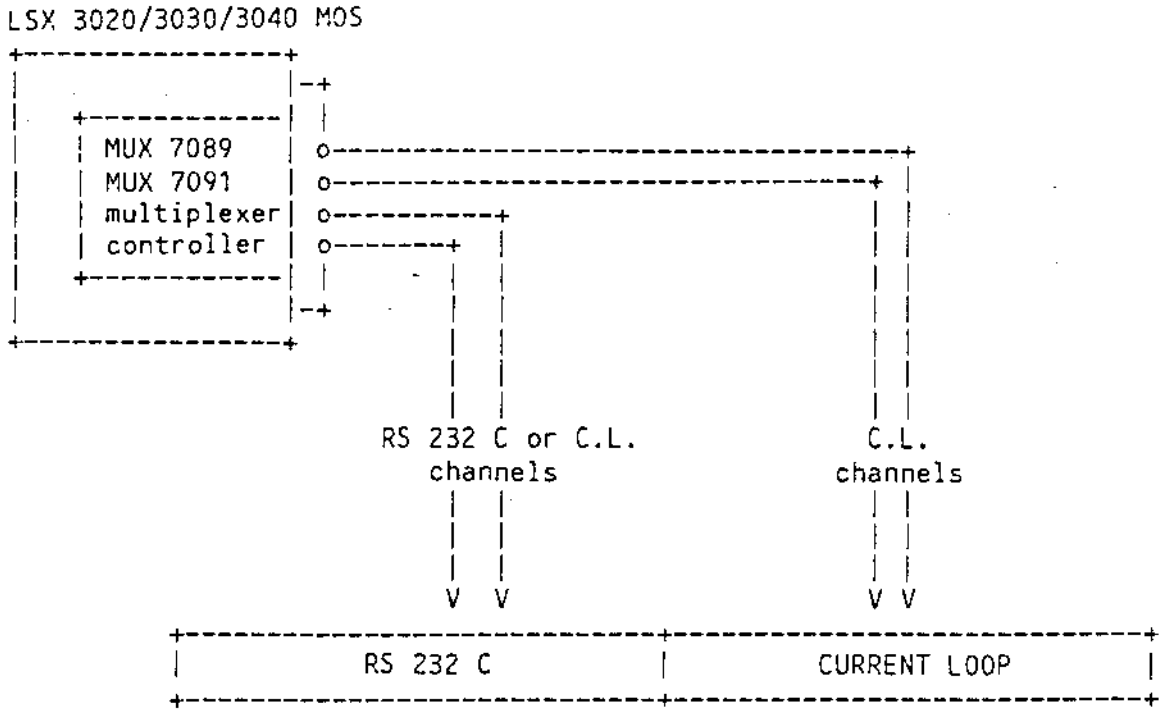


(*) **Indicate for each ELB 3684 one of the following characteristics which defines the cable required for the video/keyboard:**

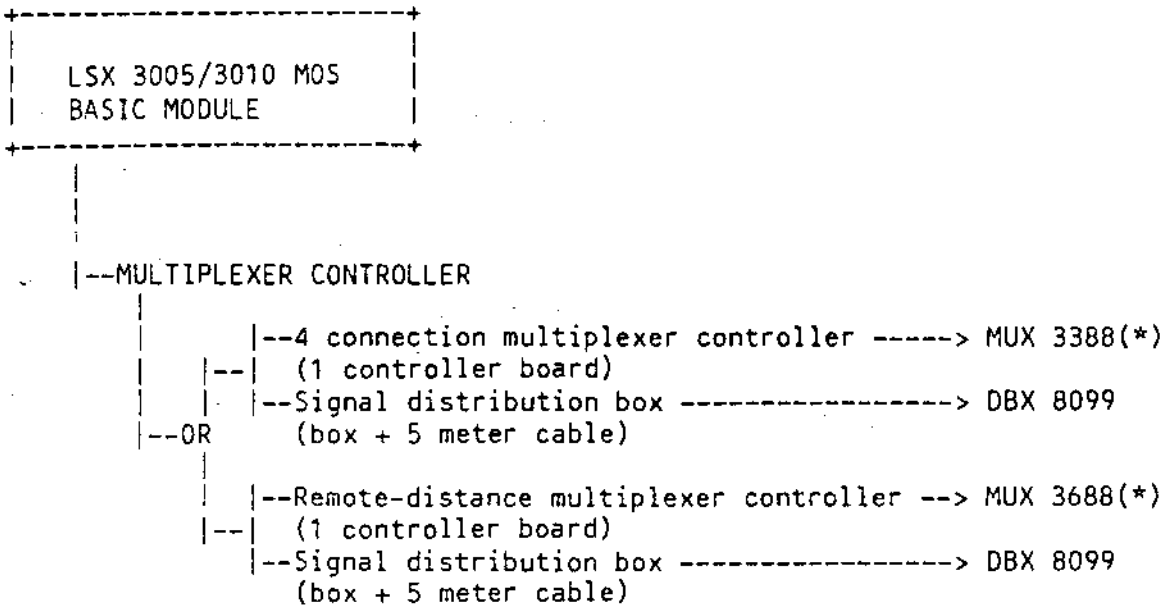
- CVT 001: Video cable 1.10 m - keyboard cable 2 m
- CVT 002: Video cable 6 m - keyboard cable 6.5 m
- CVT 003: Video cable 3.5 m - keyboard cable 3.5 m.

MULTIPLEXER CONTROLLERS FOR LSX 3005/3010 MOS

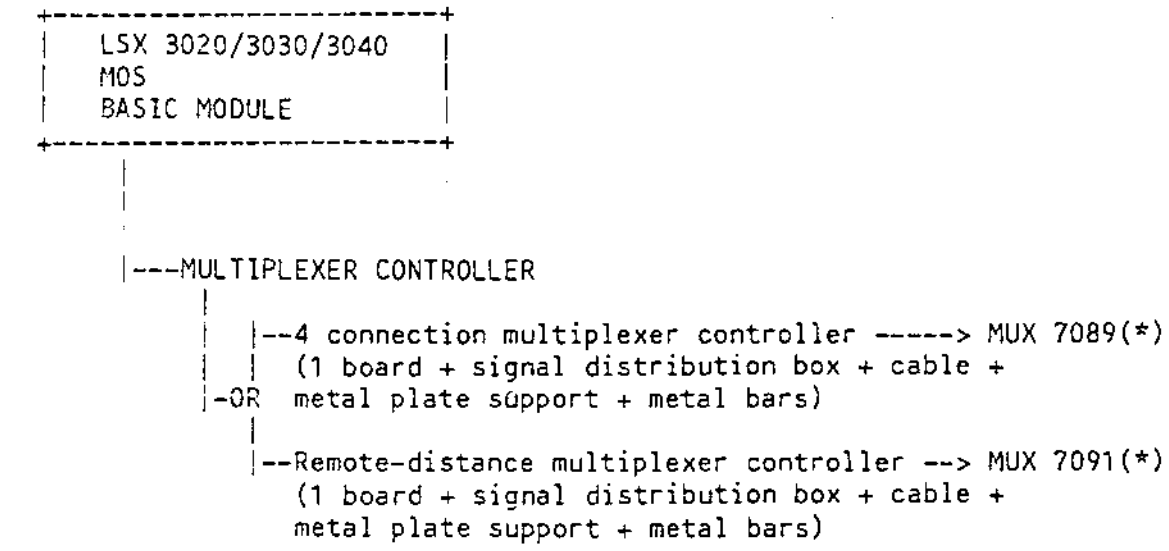



LSX 3020/3030/3040 MOS
MUX 7089
MUX 7091
multiplexer
controller
RS 232 C or C.L.
channels
C.L.
channels
RS 232 C
CURRENT LOOP

LSX 3005/3010 MOS: MUX 3388 AND MUX 3688 CONTROLLERS



LSX 3020/3030/3040: MUX 7089 AND MUX 7091 CONTROLLERS



(*) With the signal distribution box of the MUX 3388/7089 controller it is possible to connect 4 RS 232 C type workstations/peripherals as follows:

- 4 in current loop
or - 2 in current loop + 2 in RS 232 C
or - 3 in current loop + 1 in RS 232 C

With the signal distribution box of the MUX 3688/7091 controller it is possible to connect 4 workstations as follows:

- 2 in current loop + 2 in RS 232 C for remote distances

NOTE 1 - The ELB 3684 workstation can connect:

- an alphanumeric video
- a multifunctional keyboard (ANK 1401, ANK 1402, NKB 1405, NKB 1406)
- 2 peripherals with RS 232 C serial interface
- optionally: 2 peripherals with TTL serial interface, using the EXF 3686 options board.

NOTE 2 - For current loop connections distancing between 10 meters and 1000 meters, the TBX 9020 is required together with the current loop cable (4 wire AWG 24).

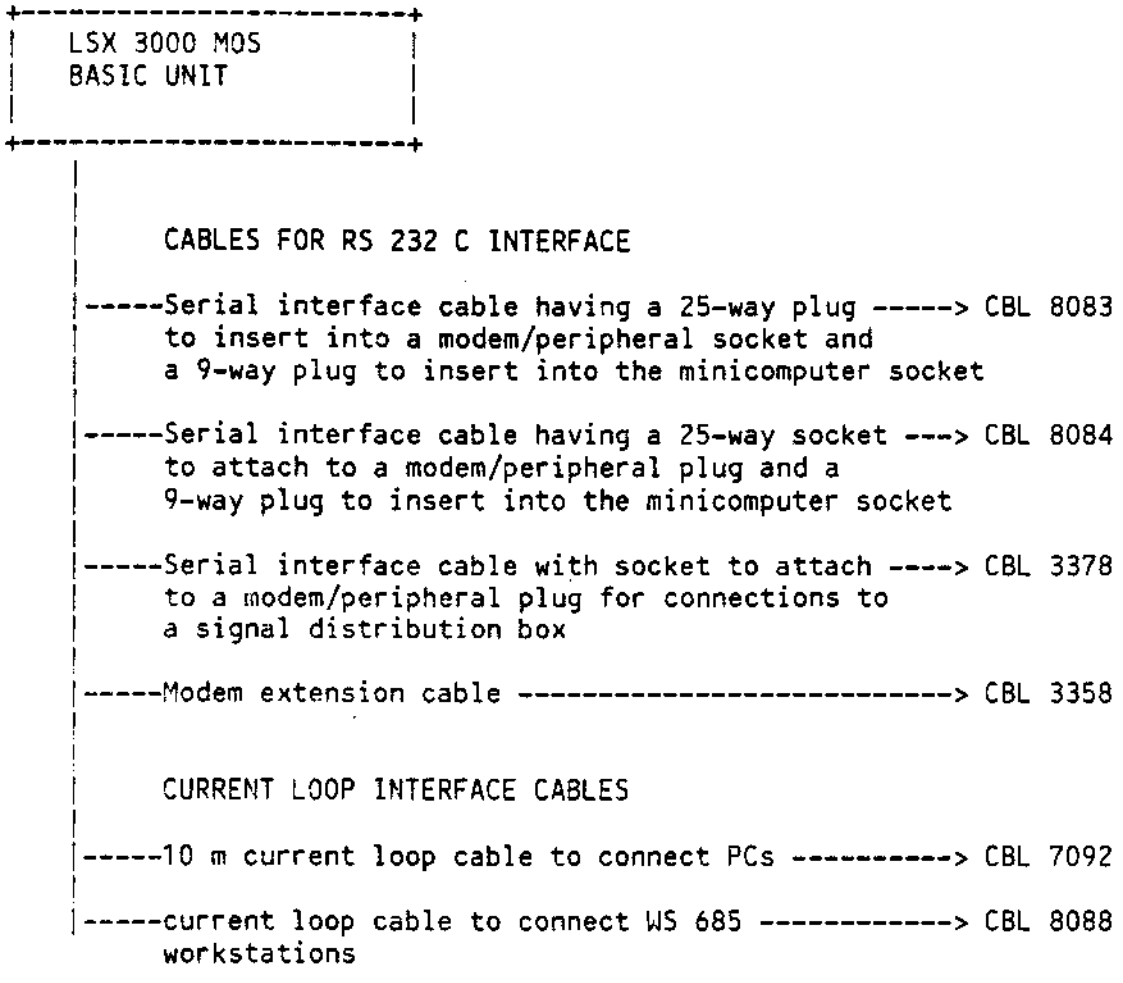
NOTE 3 - The RS 232 C ports in the signal distribution box are used for:

a) connecting remote workstations (via modem)

b) connecting printers in local or remote mode

c) connecting Olivetti personal computers and WS 685/M workstations, in local or remote mode.

LSX 3000 MOS: CABLES FOR MULTIPLEXER CONTROLLER



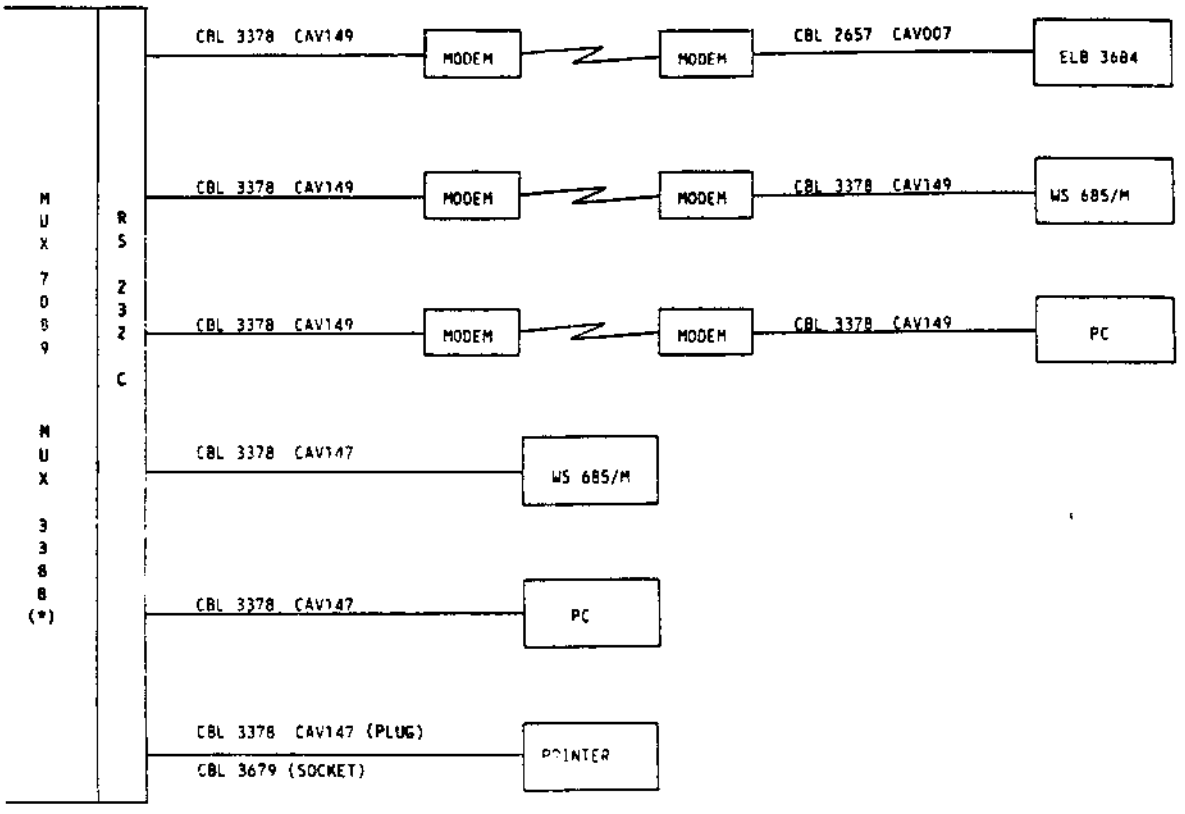


Fig. 7-1 RS 232 C Cables for MUX 7089/3388

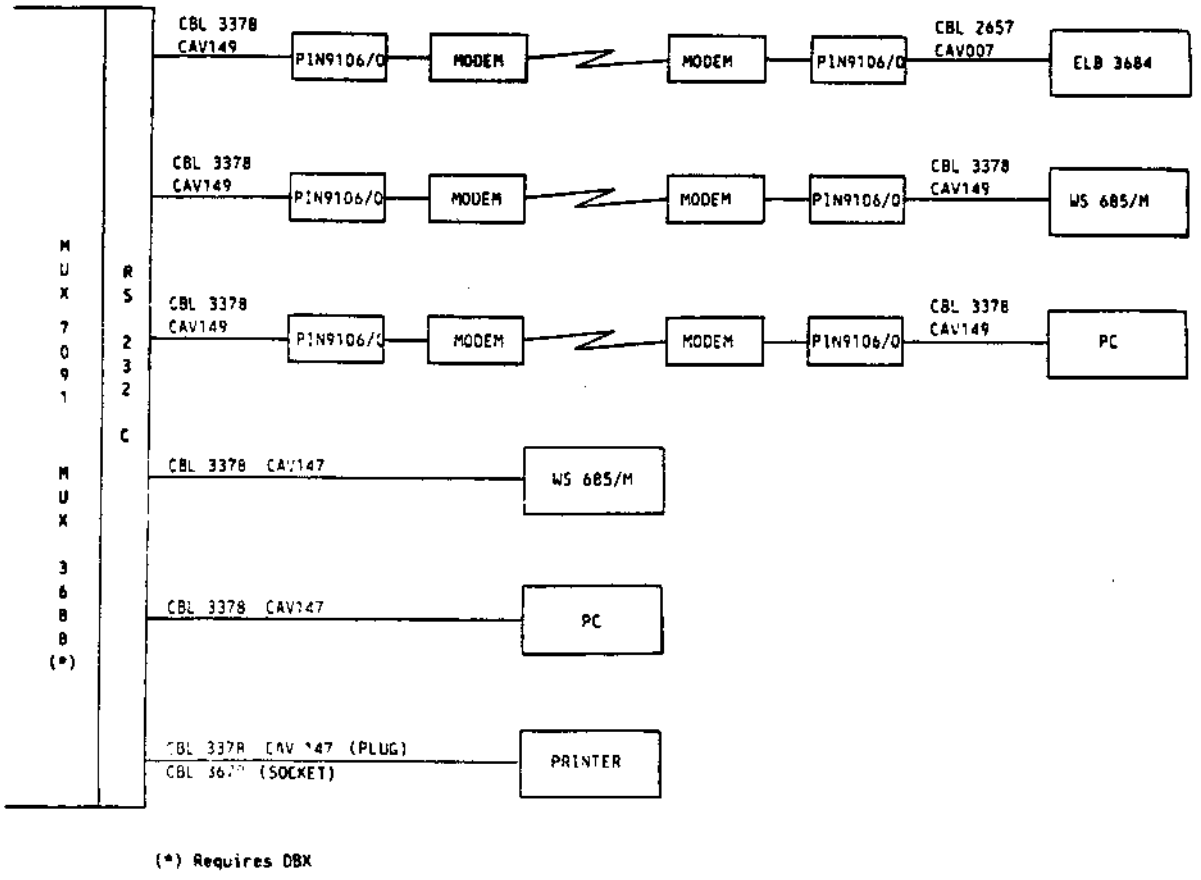


Fig. 7-2 RS 232 C Cables for MUX 7091/3688

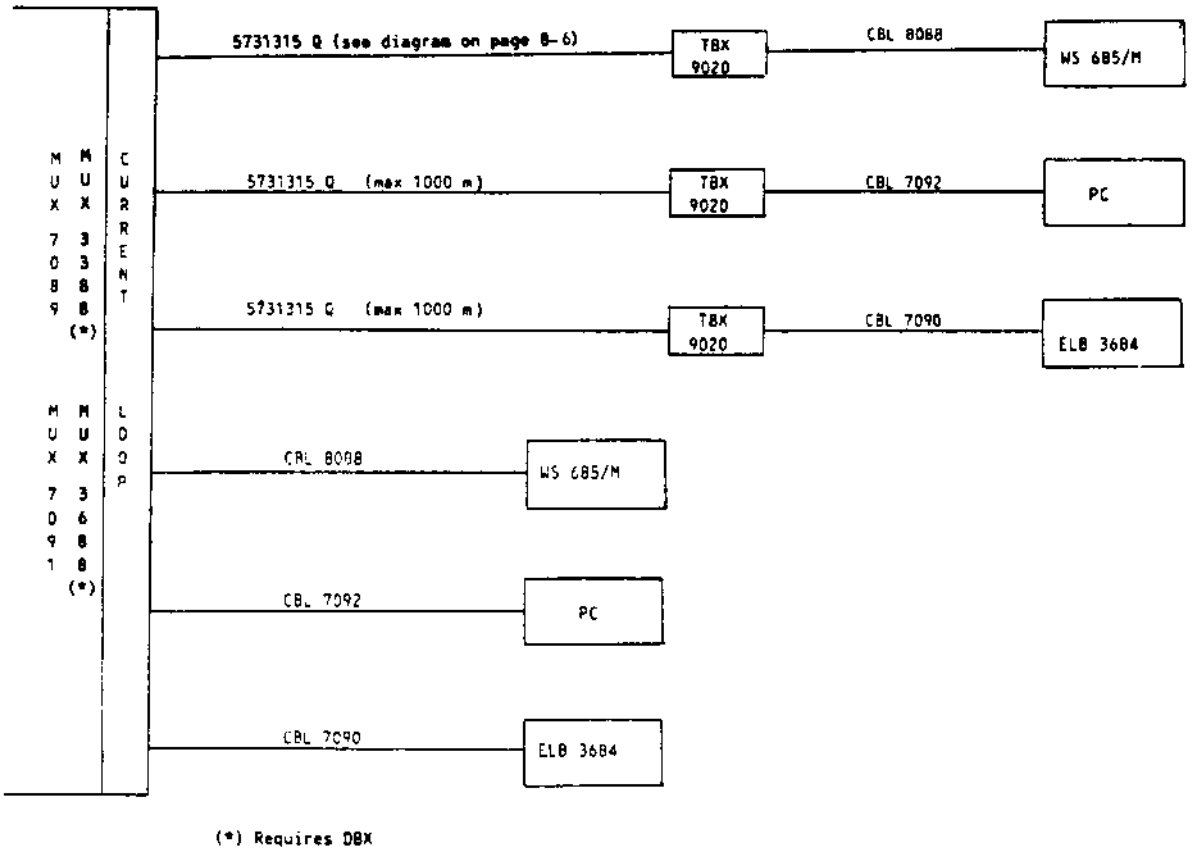
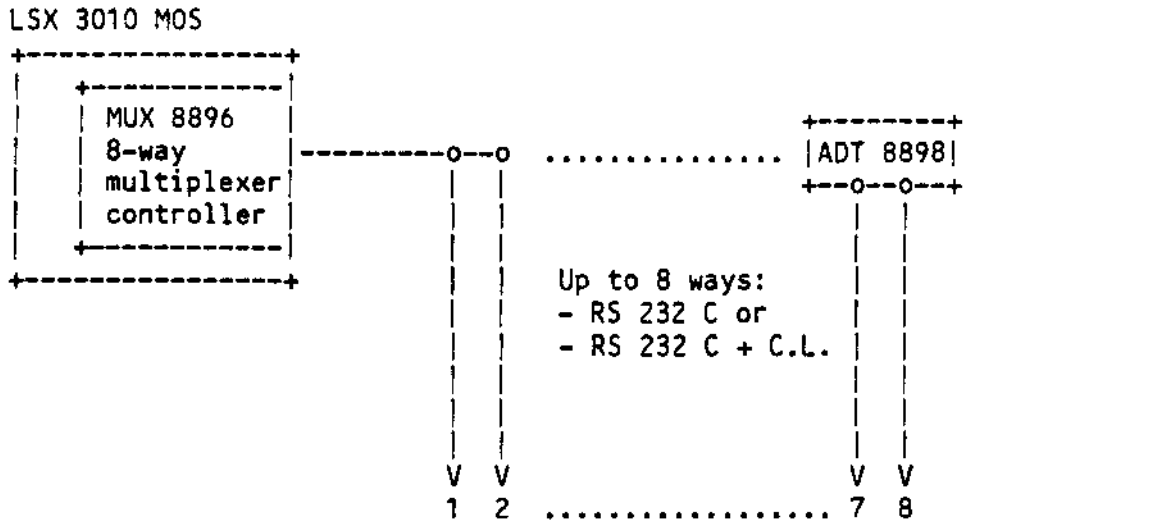


Fig. 7-3 Current Loop Cables for MUX 3388/3688/7089/7091

LSX 3010 MOS: CONFIGURATION WITH 8-WAY MUX



Connecting:

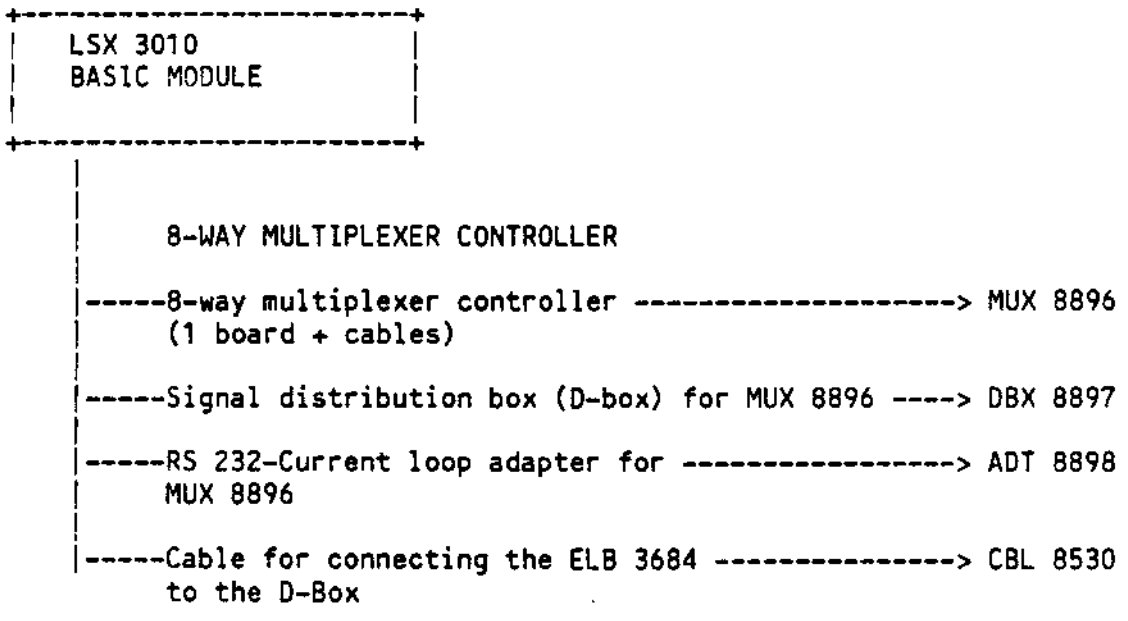
* WS 685/M
  (with or without modem)
* Olivetti Personal
  Computers
  (with or without modem)
* Printers

Connecting:

* WS 685/M
* Olivetti Personal
  Computers
* Printers

NOTE 1 - ADT 8898 converts the MUX 8896 connections from RS 232 C to Current Loop connections. Up to 4 connections can be converted from RS 232 C to Current Loop.

LSX 3010 MOS: MUX 8896 CONTROLLER



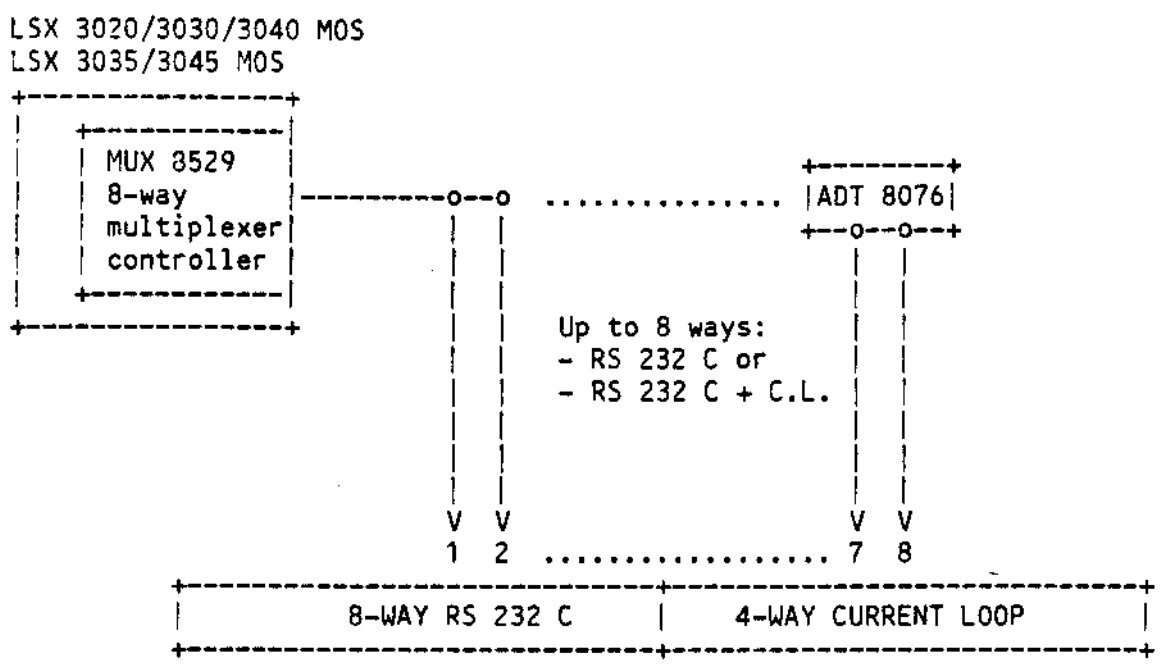
NOTE 1 - The MUX 8896 controller uses 2 board slots: one slot is actually used by the controller itself, whereas the second one is used by the expansion (for the total of 8 connections).

NOTE 2 - Up to 4 connections can be converted from RS 232C to Current Loop using the ADT 8898 adapter, which replaces the expansion board contained in MUX 8896.

NOTE 3 - The DBX 8897 has 4 connections, therefore 2 DBX 8897 are required for each MUX 8896: one for the controller and the other for the expansion, or the ADT 8898 adapter.

NOTE 4 - The CBL 8530 connects the ELB 3684 to the DBX 8897. Other types of workstations are connected by using the cables used for MUX 8074 connections (see page 8-3).

LSX 3020/3030/3040/3035/3045 MOS: CONFIGURATION WITH 8-WAY MUX



Connecting:

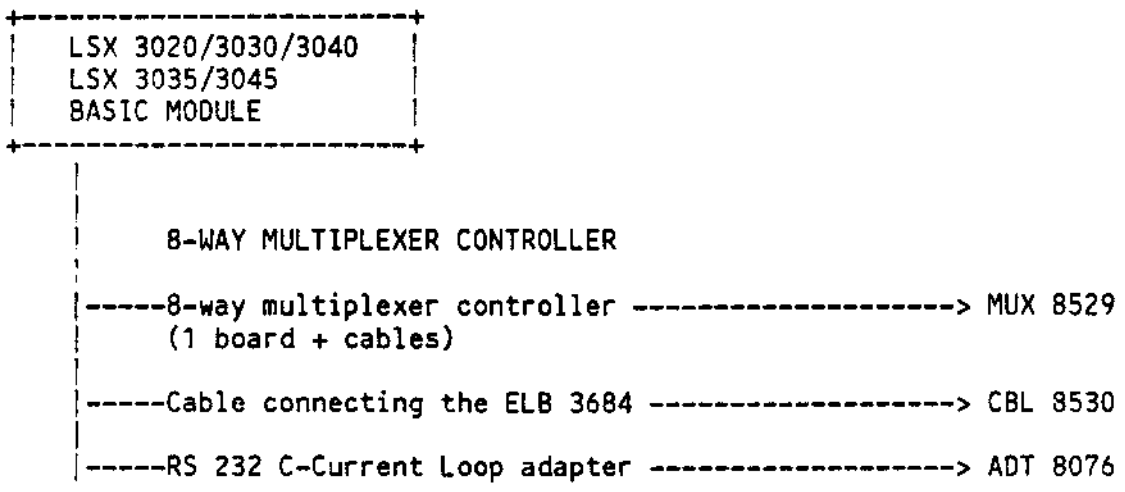
* WS 685/M
  (with or without modem)
* Olivetti Personal
  computers
  (with or without modem)
* Printers

Connecting:

* WS 685/M
* Olivetti Personal
  computers
* Printers

NOTE 1 - The ADT 8076 converts the MUX 8529 connections from RS 232C to Current Loop.
All the connections can be converted in groups of 4.

LSX 3020/3030/3040/3035/3045 MOS: MUX 8529 CONTROLLER



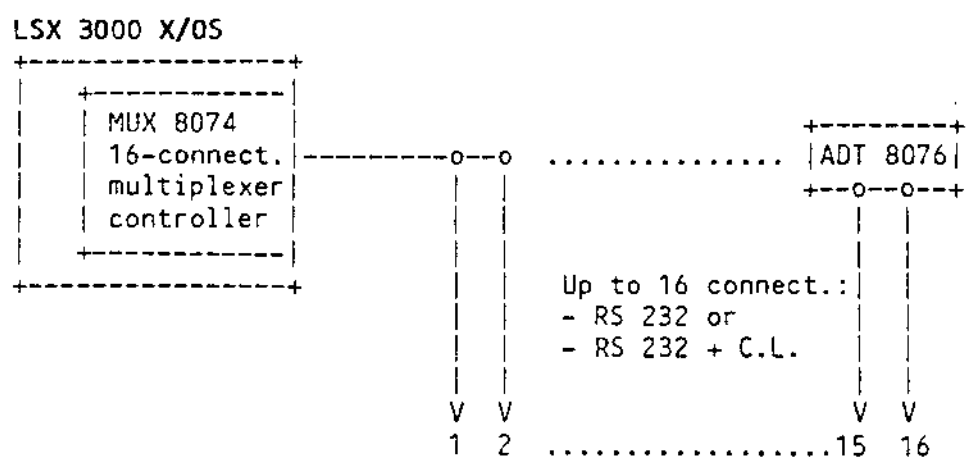
NOTE 1 - The MUX 8529 controller uses 1 board slot.

NOTE 2 - All the 8 connections, in groups of 4, can be converted into Current Loop connections by using the ADT 8076 adapter.

NOTE 3 - The CBL 8530 connects the ELB 3684 to the MUX 8529. Other types of workstations can be connected by using the cables that are used in MUX 8074 connections (see page 8-3).

8. LSX 3000 X/OS WORKSTATIONS

WORKSTATIONS ATTACHED TO A 16-CONNECTION MUX

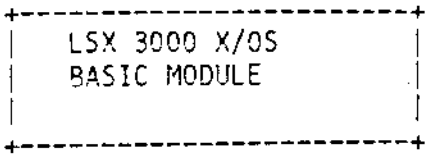


16 connection RS 232 C	4 connection Current Loop
Attaching:	Attaching:
* WS 685 (with or without modem)	* WS 685
* Olivetti Personal computer (with or without modem)	* Olivetti Personal computer
* Printers	* Printers

NOTE 1 - Page 8-3 illustrates how workstations (WS 685, PC) are attached to LSX 3000 X/OS minicomputer. Data such as denomination, composition, etc., may be found in the WS 685, PC Table of Modules.

NOTE 2 - ADT 8076 converts all RS 232 C MUX 8074 connections into C.L.'s. Connections are converted into groups of 4 for each ADT 8076. All 16 connections can be converted by using 4 ADT 8076.

LSX 3000 X/OS: MUX 8074 MULTIPLEXER CONTROLLER



MULTIPLEXER CONTROLLER

- 16 connection multiplexer controller (1 board + cables) ----------> MUX 8074
- Adapter for 16 connection MUX converting RS 232 C into Current Loop connections (structure + adapter board) --------> ADT 8076

CABLES FOR RS 232 C INTERFACE

- Serial interface cable having a 25 conn. plug attached to a modem/peripheral socket and a 9 conn. plug attached to the minicomputer socket ---> CBL 8083
- Serial interface cable having a 25 connection socket attached to a modem/peripheral plug and a 9 conn. plug attached to the minicomputer socket ---> CBL 8084
- Serial interface cable with socket attached to peripheral plug for connecting of modem/peripheral to the signal distribution box -----> CBL 3378

CABLES FOR CURRENT LOOP INTERFACE

- Current loop cable 10 meters long connecting PCs. ----> CBL 7092
- Current loop cable connecting WS 685 ----------> CBL 8088

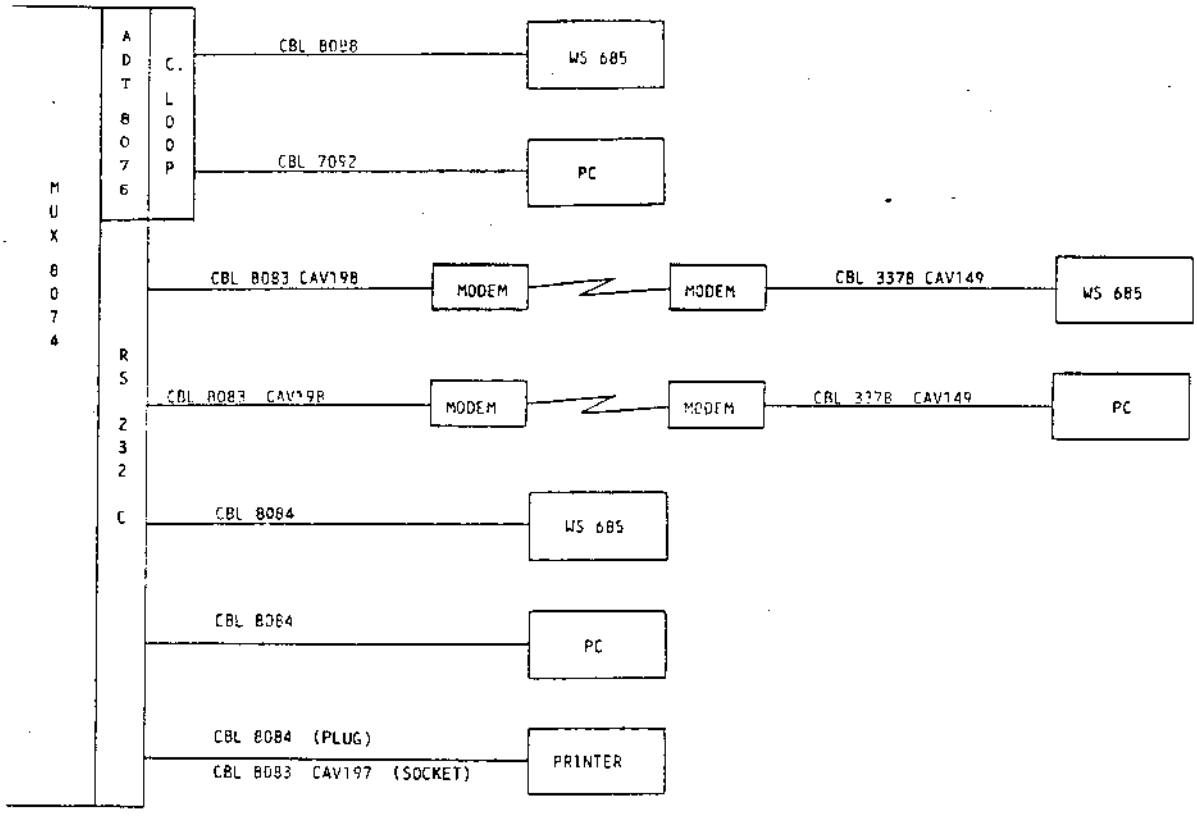
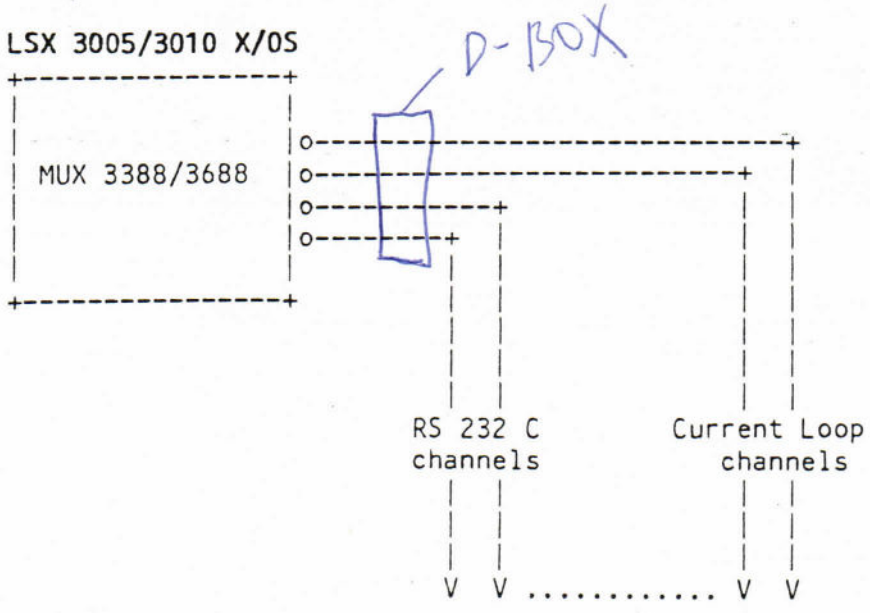


Fig. 8-1 RS 232/Current Loop Cables for MUX 8074

LSX 3005/3010 X/OS: WORKSTATIONS ATTACHED TO A 4-CONNECTION MUX

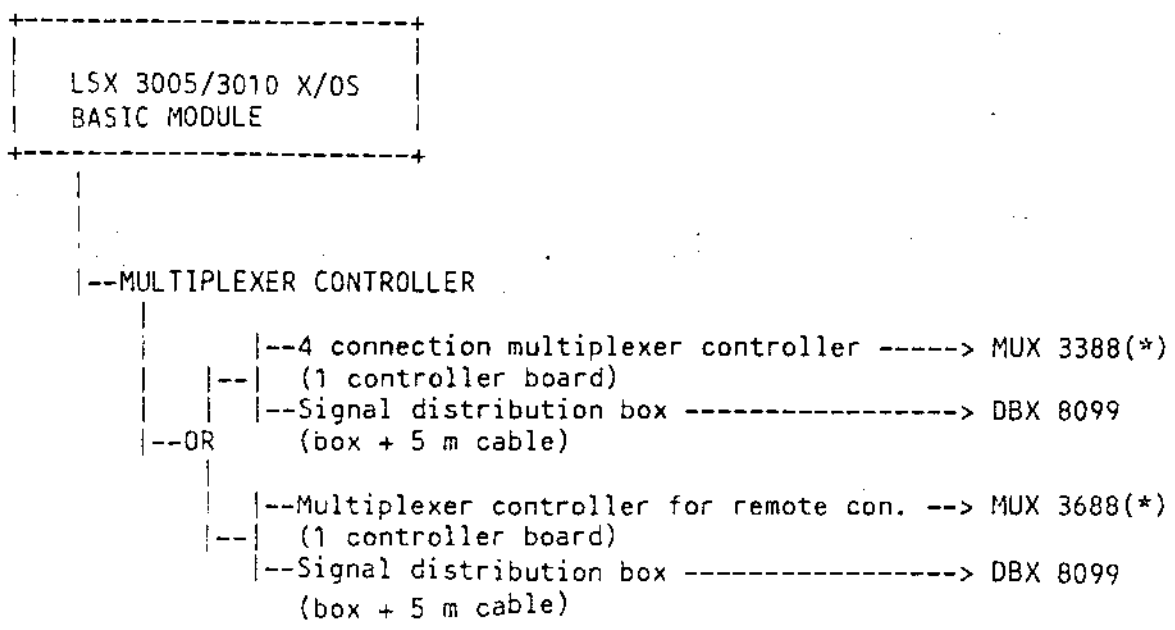


ATTACHING:

* Olivetti Personal Computer
* WS 685
* Printers

NOTE 1 - Page 8-8, 8-9 and 8-10 illustrate how workstations (WS 685, PC) are attached to LSX 3000 X/OS minicomputer. Data such as denomination, composition, etc., may be found in the WS 685 and PC Table of Modules.

LSX 3005/3010 X/OS: MUX 3388 AND MUX 3688 CONTROLLERS



(*) 4 RS 232 C workstations/peripherals can be attached to the signal distribution box of MUX 3388 as follows:

- 4 in current loop
or - 2 in current loop + 2 in RS 232 C
or - 3 in current loop + 1 in RS 232 C

4 workstations can be attached to the signal distribution box of MUX 3688 as follows:

- 2 in current loop + 2 in RS 232 C for remote connections

NOTE 1 - All current loop connections that are more than 10 meters long require a TBX 9020 and a current loop cable (code 5731315 Q). The distance covered differs according to transmission speed (Bauds), as indicated in the diagram on page 8-6.

NOTE 2 - The following can be attached to the RS 232 C connections of the signal distribution box:

a) remote workstations (via modem)

b) printers in local or remote mode

c) Olivetti Personal Computers, WS 685[redacted] workstations, in local or remote mode.

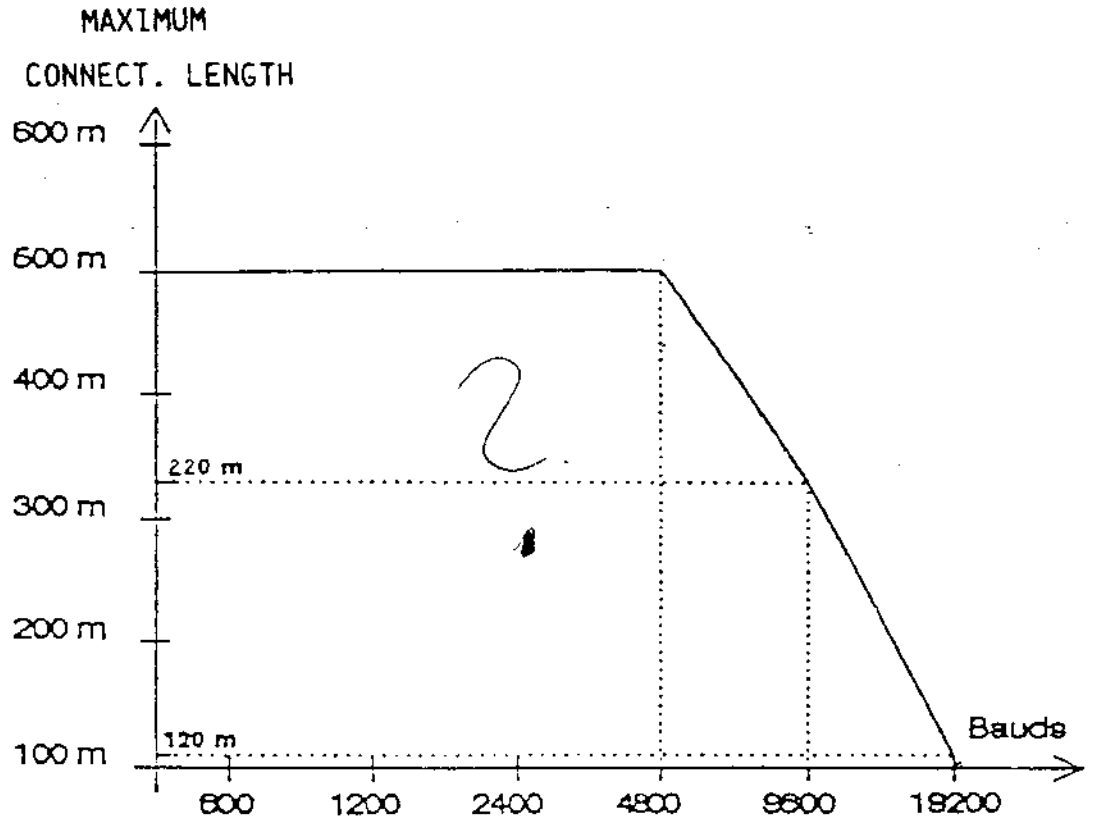
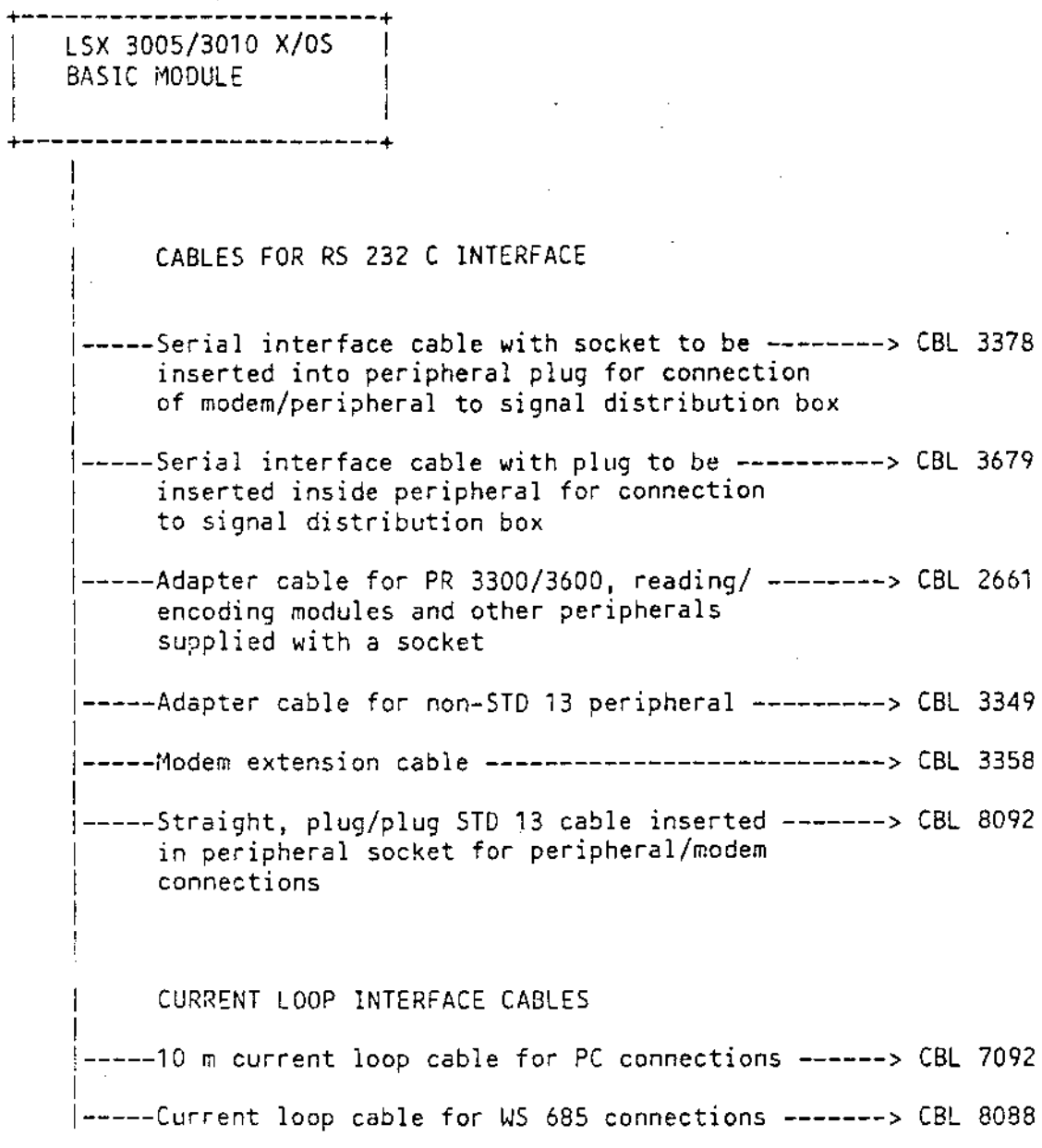


Fig. 8-2 Baud/Distance Comparison Chart

LSX 3005/3010 X/OS: CABLES FOR 4-CONNECTION MULTIPLEXER CONTROLLER



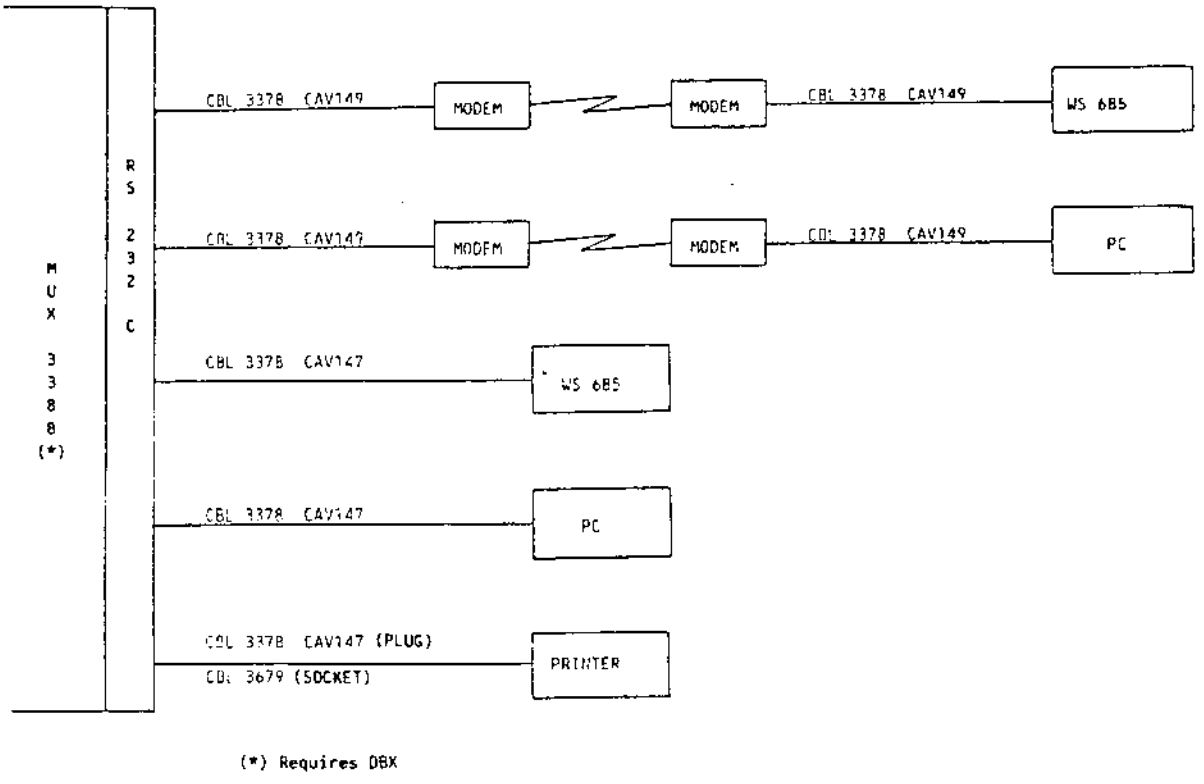


Fig. 8-3 RS 232 C Cables for MUX 3388

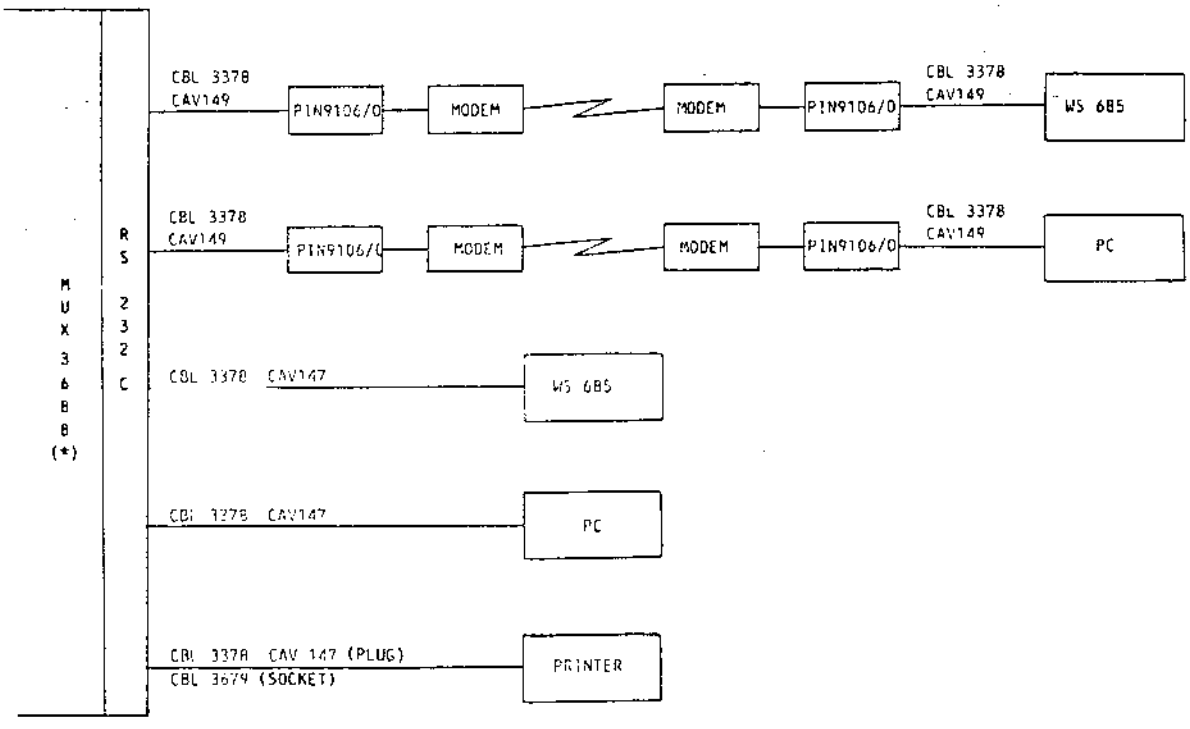


Fig. 8-4 RS 232 C Cables for MUX 3688

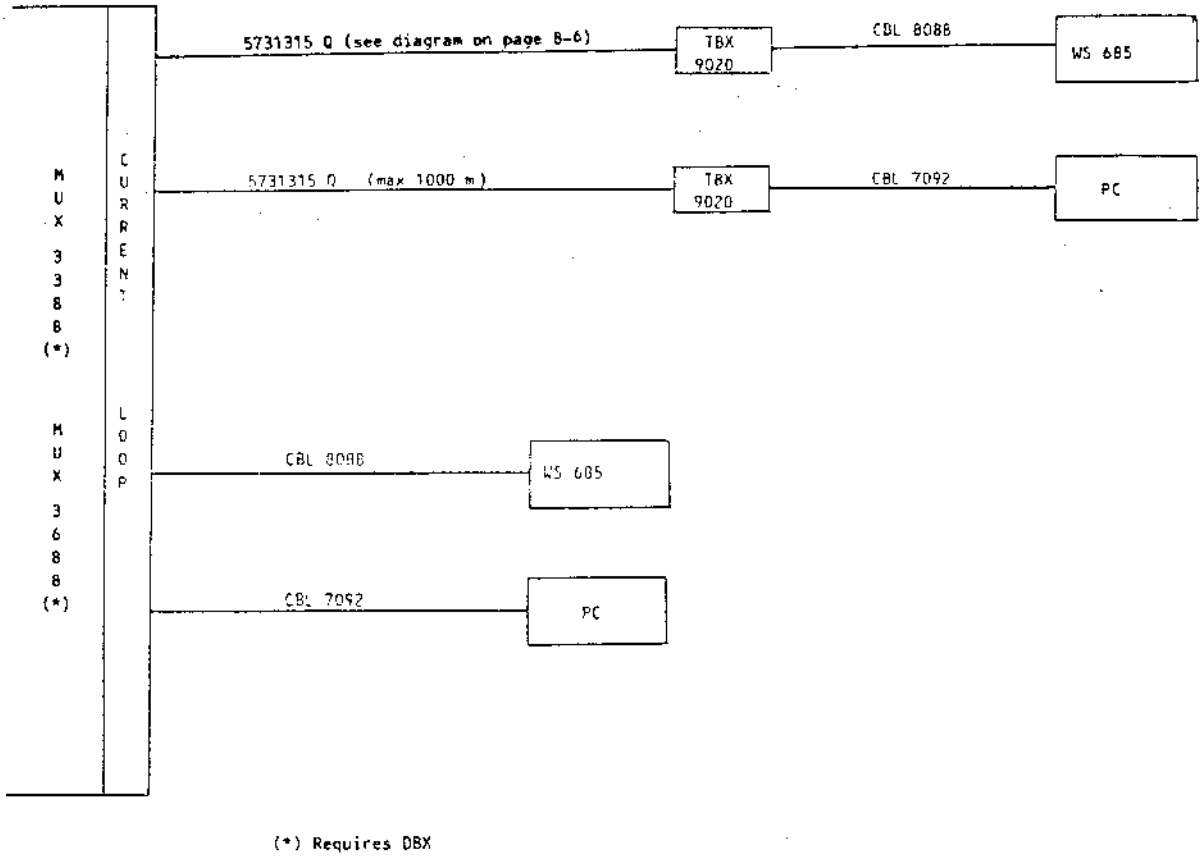
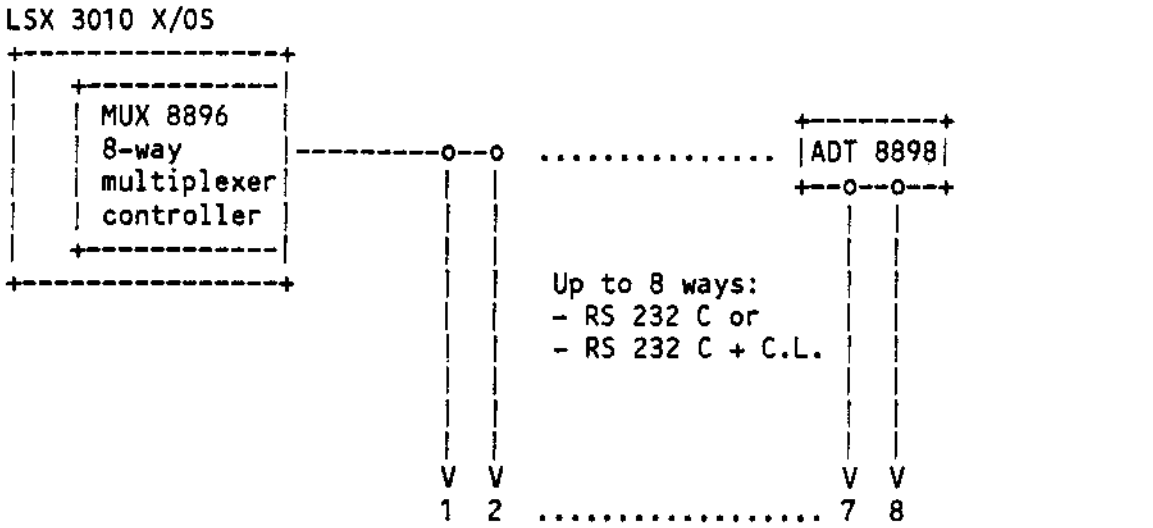


Fig. 8-5 Current Loop Cable for MUX 3388/3688

LSX 3010 X/OS: CONFIGURATION WITH 8-WAY MUX



Connecting:

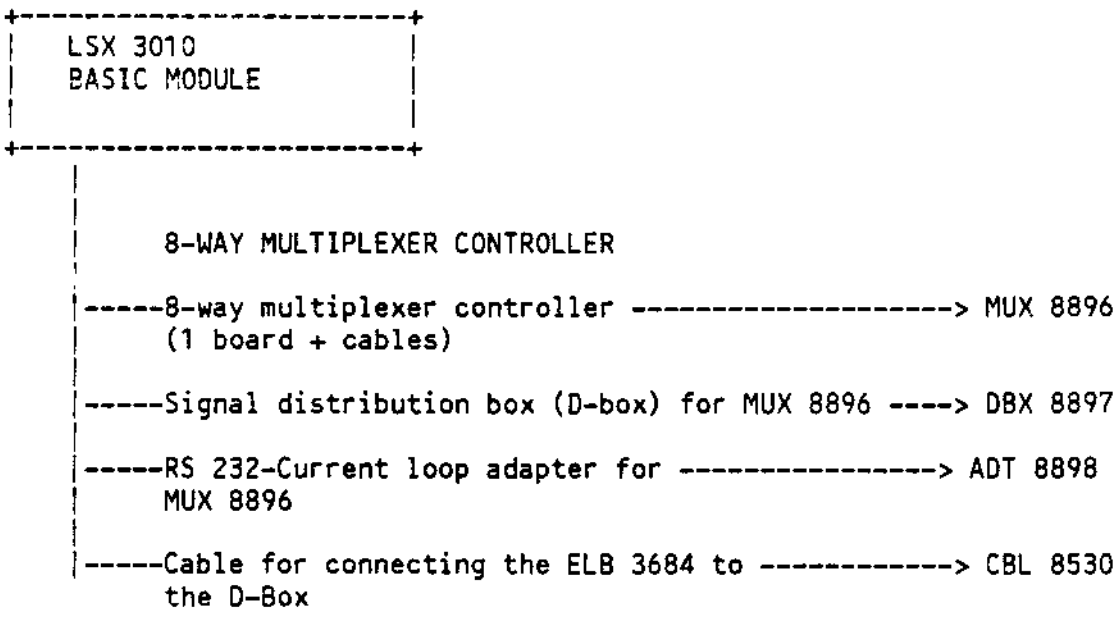
* WS 685
  (with or without modem)
* Olivetti Personal
  Computers
  (with or without modem)
* Printers

Connecting:

* WS 685
* Olivetti Personal
  Computers
* Printers

NOTE 1 - ADT 8898 converts the MUX 8896 connections from RS 232 C to Current Loop connections. Up to 4 connections can be converted from RS 232 C to Current Loop.

LSX 3010 X/OS: MUX 8896 CONTROLLER



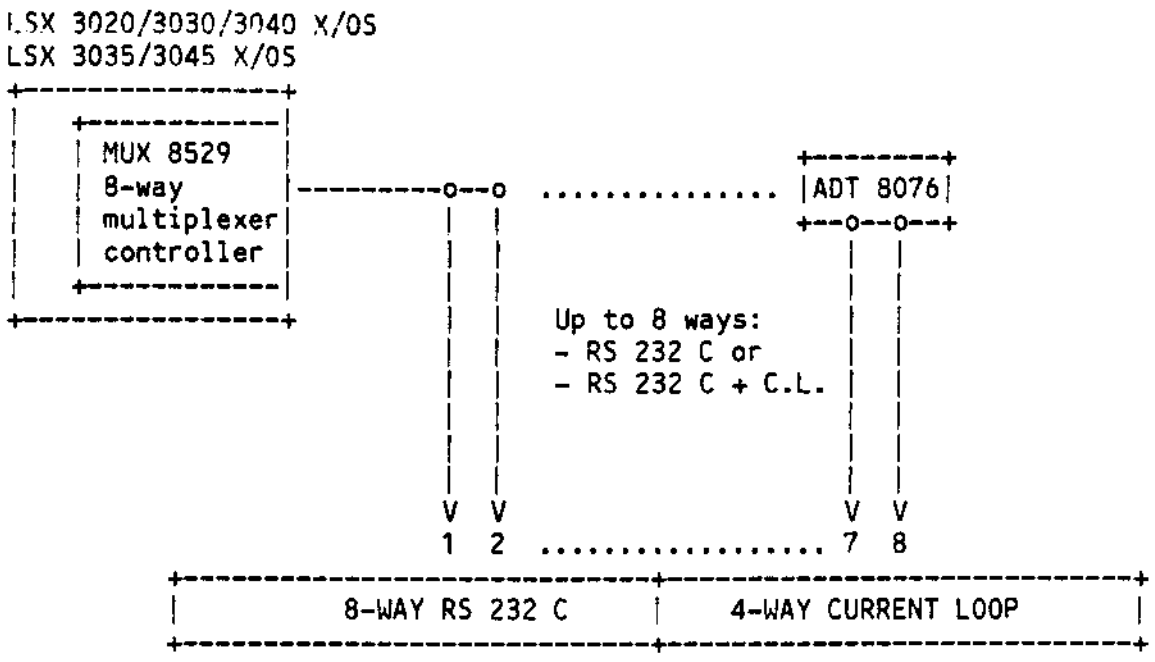
NOTE 1 - The MUX 8896 controller uses 2 board slots: one slot is actually used by the controller itself, whereas the second one is used by the expansion (for the total of 8 connections).

NOTE 2 - Up to 4 connections can be converted from RS 232C to Current Loop using the ADT 8898 adapter, which replaces the expansion board contained in MUX 8896.

NOTE 3 - The DBX 8897 has 4 connections, therefore 2 DBX 8897 are required for each MUX 8896: one for the controller and the other for the expansion, or the ADT 8898 adapter.

NOTE 4 - The CBL 8530 connects the ELB 3684 to the DBX 8897. Other types of workstations are connected by using the cables used for MUX 8074 connections (see page 8-3).

LSX 3020/3030/3040/3035/3045 X/OS: CONFIGURATION WITH 8-WAY MUX



Connecting:

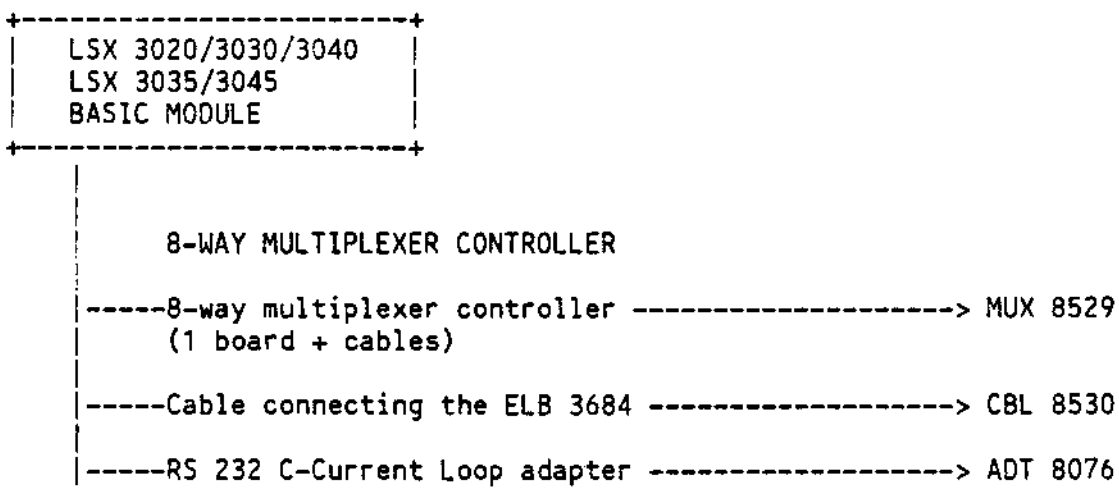
* WS 685
  (with or without modem)
* Olivetti Personal computers
  (with or without modem)
* Printers

Connecting:

* WS 685
* Olivetti Personal computers
* Printers

NOTE 1 - The ADT 8076 converts the MUX 8529 connections from RS 232C to Current Loop.
All the connections can be converted in groups of 4.

LSX 3020/3030/3040/3035/3045 X/OS: MUX 8529 CONTROLLER



NOTE 1 - The MUX 8529 controller uses 1 board slot.

NOTE 2 - All the 8 connections, in groups of 4, can be converted into Current Loop connections by using the ADT 8076 adapter.

NOTE 3 - The CBL 8530 connects the ELB 3684 to the MUX 8529. Other types of workstations can be connected by using the cables that are used in MUX 8074 connections (see page 8-3).

9. PRINTERS

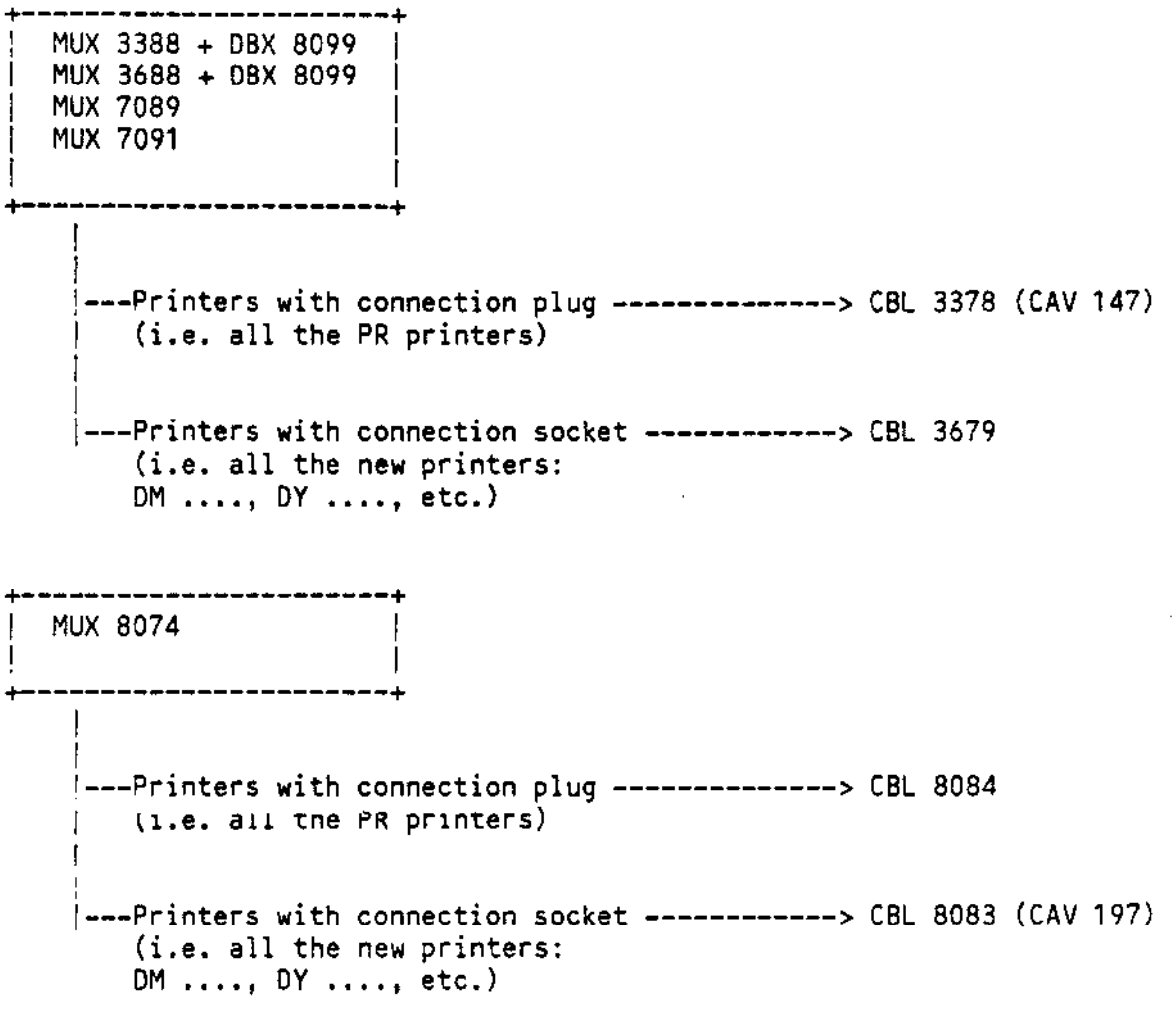
The LSX 3000 X/OS and MOS configurations include printers connected to the workstations or to the minicomputer directly. Some printer models can be connected to the workstations as well as the minicomputer.

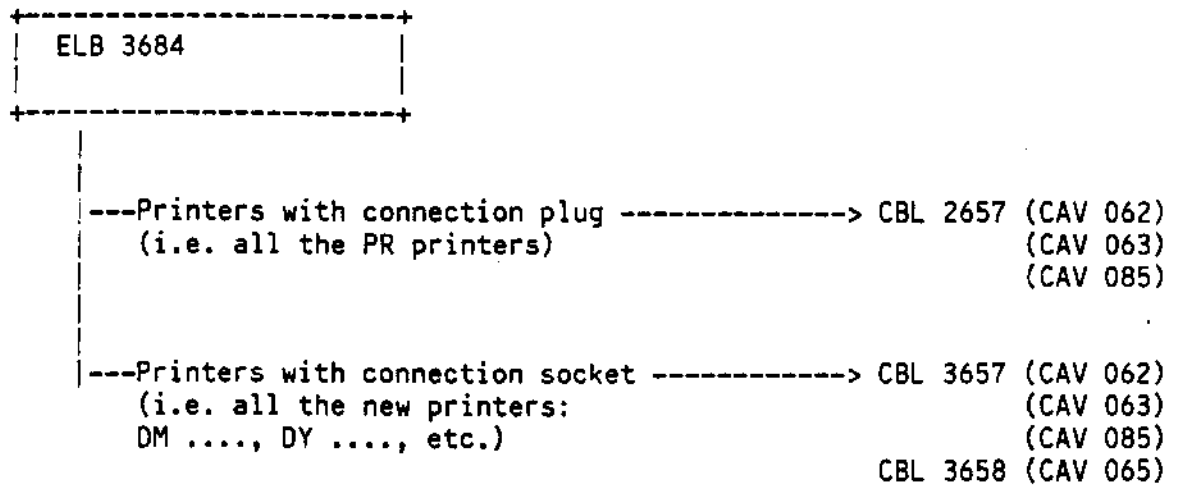
Printers are connected as follows:

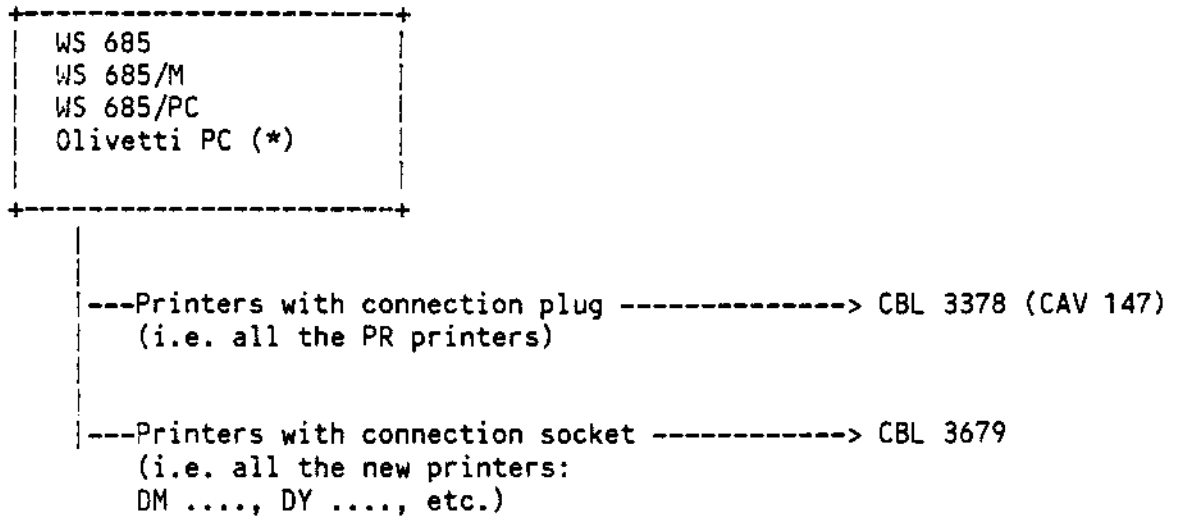
- **In MOS environment:**
  - system printers are connected to the 4-way multiplexer controller MUX 3388/3688/7089/7091
  - workstation printers are connected to the ELB 3684, the WS 685/M workstations, or Olivetti Personal Computers
- **In X/OS environment:**
  - system printers are connected to the 16-way multiplexer controller MUX 8074
  - system printers are connected to the 4-way multiplexer controllers MUX 3388/3688/7089/7091
  - workstation printers are connected to the WS 685 workstations, or Olivetti Personal Computers

CABLES FOR PRINTER CONNECTIONS

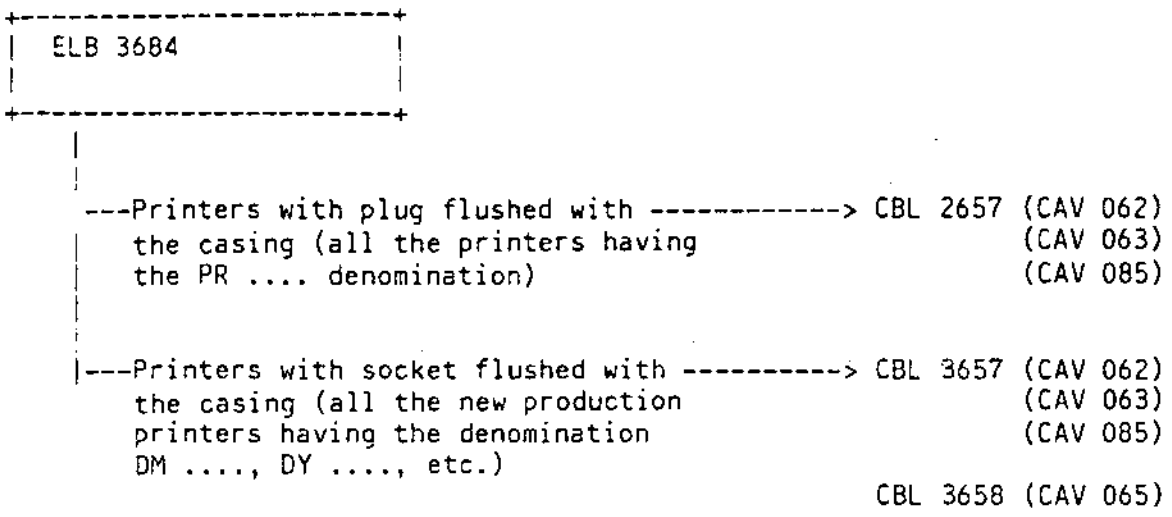
The cables used for printer connections are the following:

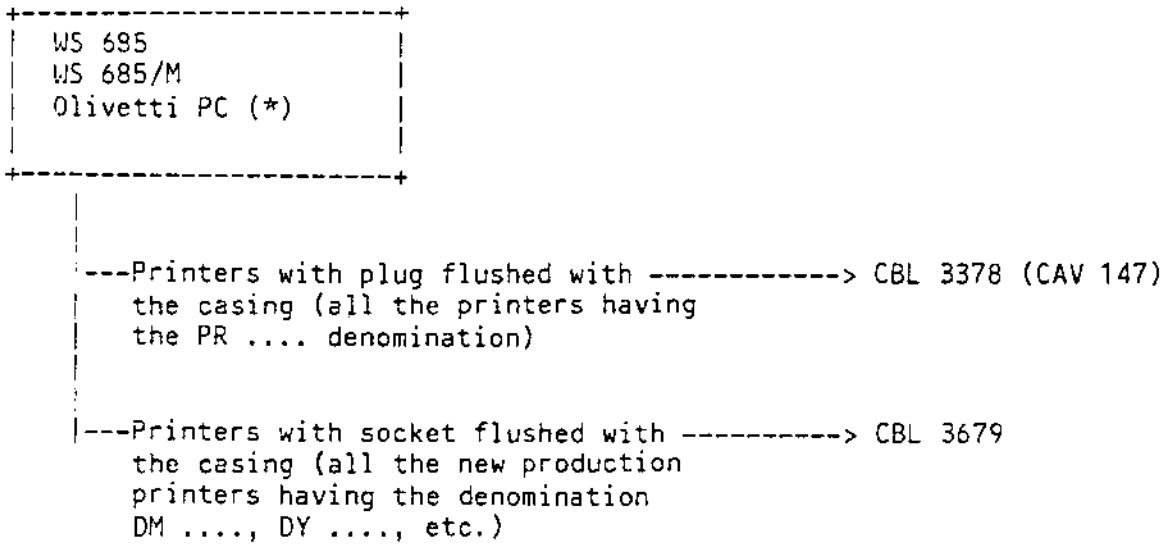






(*) The cables indicated here are used for connecting printers to PCs emulating minicomputer workstations. Connections are performed by using the RS 232 C serial interface. Information on PC printers is obtained from the PC's Table of Modules.



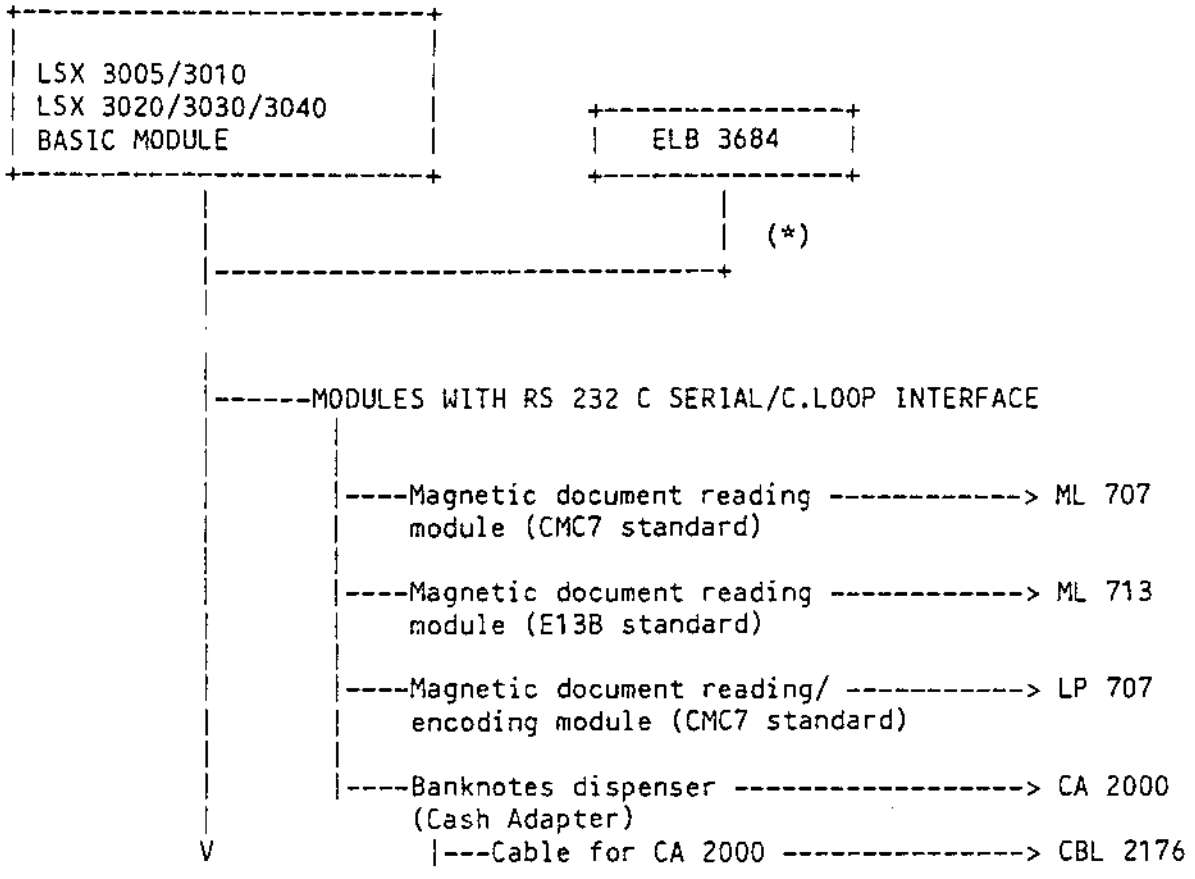


(*) The cables indicated in this context refer to the connection of printers with minicomputer workstations emulated on PCs. The connections are made using the RS 232 C serial interface. For the typical PC printers it is necessary to consult the corresponding PC Table of Modules.

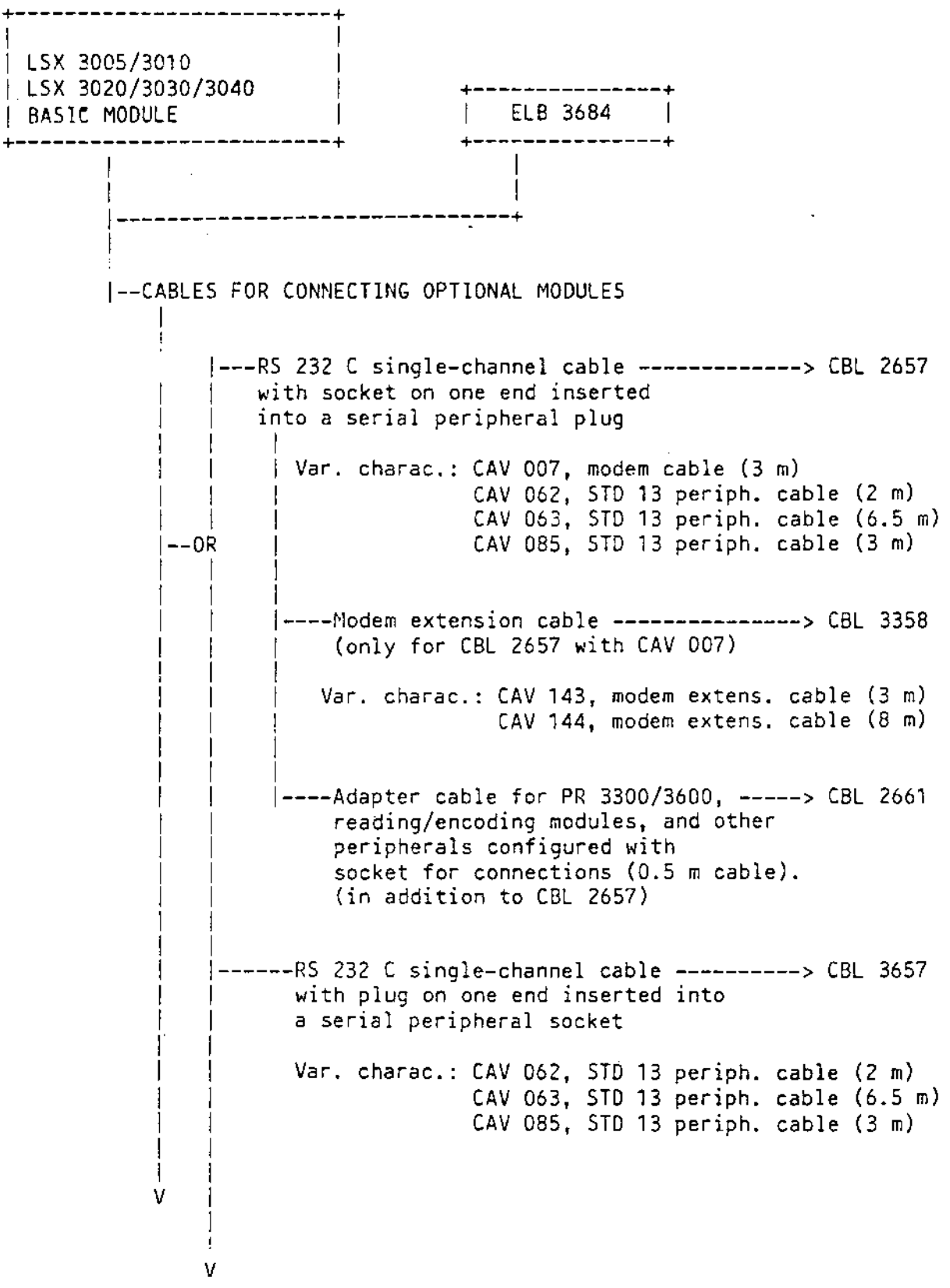
NOTE 1 - For any printer options, consult the Table of Modules corresponding to the printer involved.

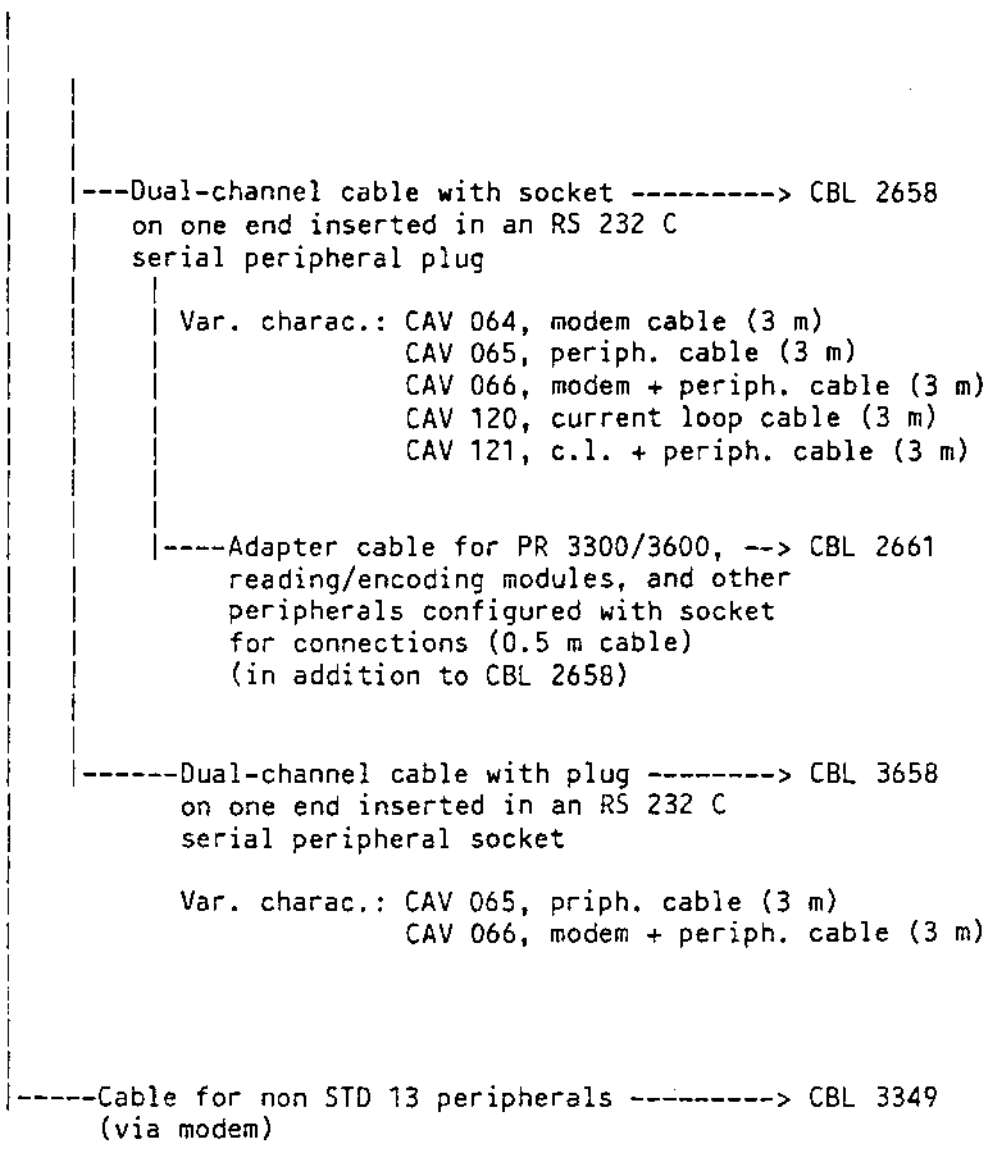
10. OPTIONAL MODULES

OPTIONAL MODULES WITH RS 232 C INTERFACE

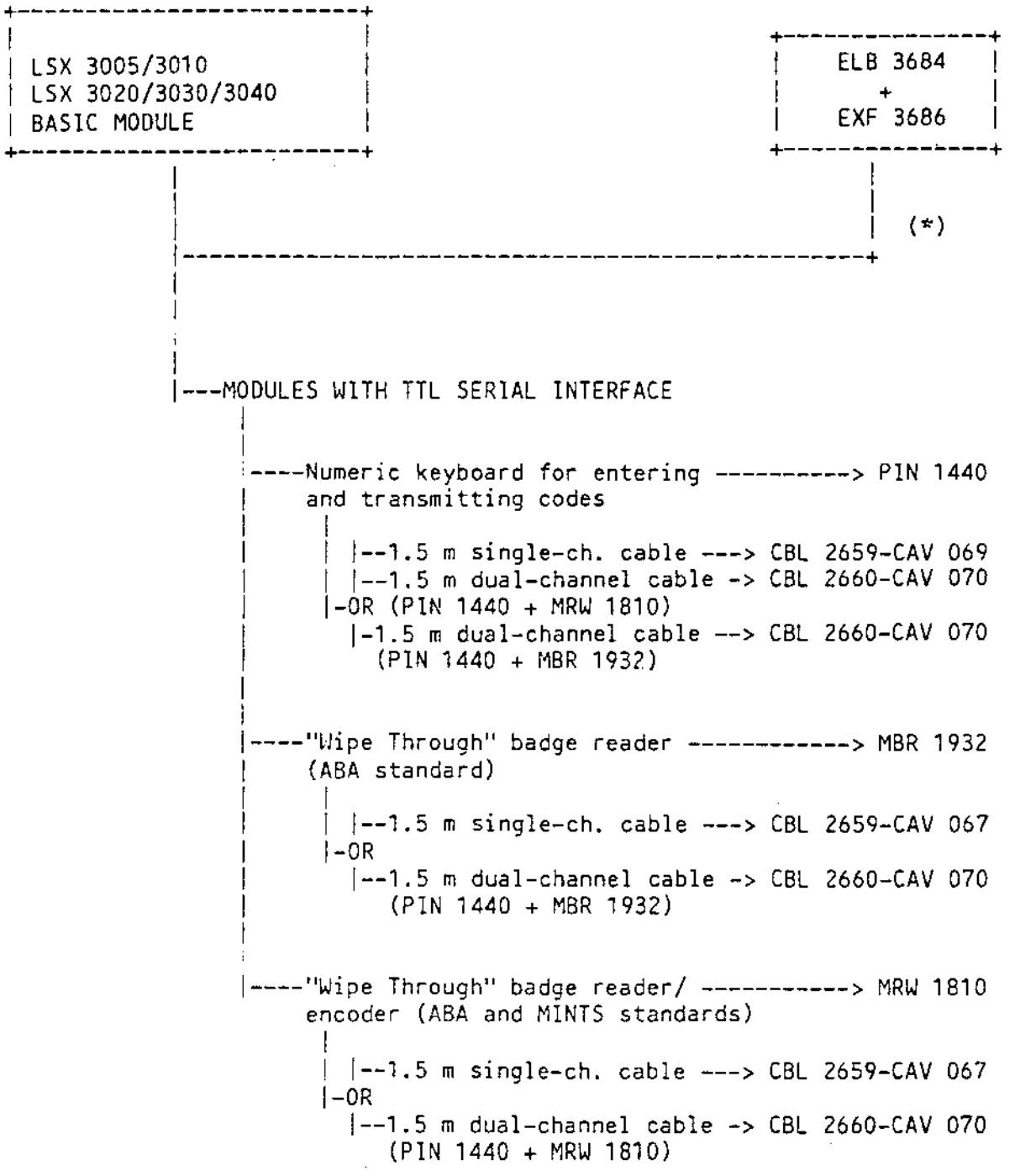


(*) The optional modules with RS 232 C serial interface must be plugged into an alphanumeric workstation ELB 3684.


LSX 3005/3010
LSX 3020/3030/3040
BASIC MODULE
ELB 3684
--CABLES FOR CONNECTING OPTIONAL MODULES
---RS 232 C single-channel cable ----------> CBL 2657
with socket on one end inserted
into a serial peripheral plug
Var. charac.: CAV 007, modem cable (3 m)
CAV 062, STD 13 periph. cable (2 m)
CAV 063, STD 13 periph. cable (6.5 m)
--OR
CAV 085, STD 13 periph. cable (3 m)
----Modem extension cable ----------> CBL 3358
(only for CBL 2657 with CAV 007)
Var. charac.: CAV 143, modem extens. cable (3 m)
CAV 144, modem extens. cable (8 m)
----Adapter cable for PR 3300/3600, -----> CBL 2661
reading/encoding modules, and other
peripherals configured with
socket for connections (0.5 m cable).
(in addition to CBL 2657)
------RS 232 C single-channel cable ----------> CBL 3657
with plug on one end inserted into
a serial peripheral socket
Var. charac.: CAV 062, STD 13 periph. cable (2 m)
CAV 063, STD 13 periph. cable (6.5 m)
CAV 085, STD 13 periph. cable (3 m)


---Dual-channel cable with socket ---------> CBL 2658
on one end inserted in an RS 232 C
serial peripheral plug
Var. charac.: CAV 064, modem cable (3 m)
CAV 065, periph. cable (3 m)
CAV 066, modem + periph. cable (3 m)
CAV 120, current loop cable (3 m)
CAV 121, c.l. + periph. cable (3 m)
----Adapter cable for PR 3300/3600, --> CBL 2661
reading/encoding modules, and other
peripherals configured with socket
for connections (0.5 m cable)
(in addition to CBL 2658)
------Dual-channel cable with plug --------> CBL 3658
on one end inserted in an RS 232 C
serial peripheral socket
Var. charac.: CAV 065, priph. cable (3 m)
CAV 066, modem + periph. cable (3 m)
-----Cable for non STD 13 peripherals ---------> CBL 3349
(via modem)

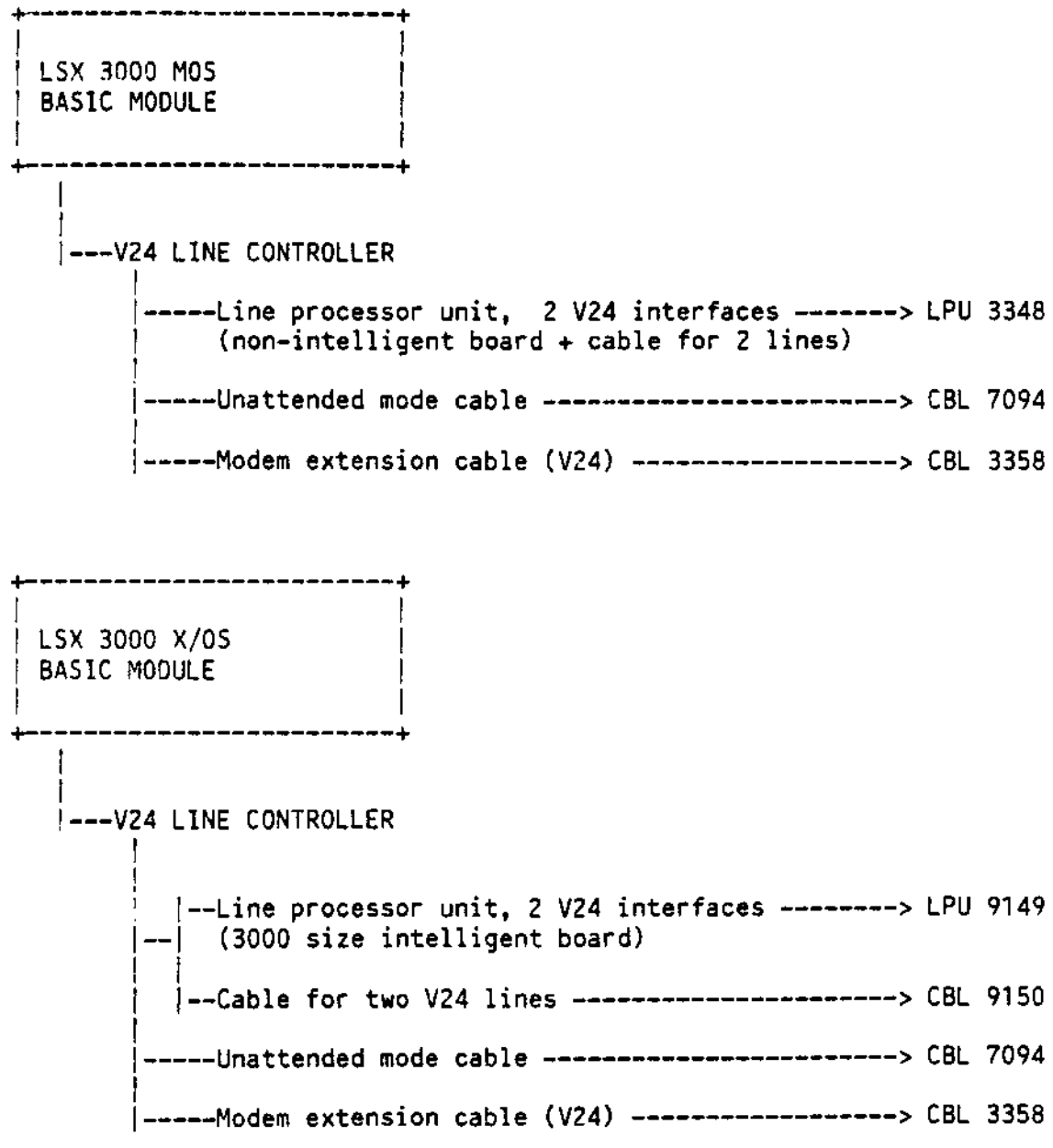
OPTIONAL MODULES WITH TTL INTERFACE



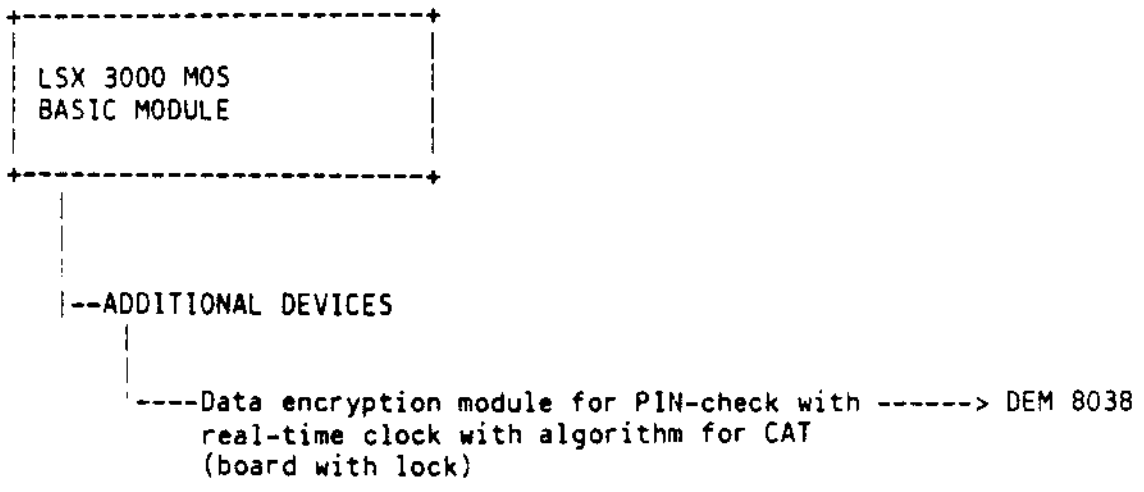
(*) The optional modules with TTL serial interface must be plugged into an ELB 3684 workstation configured with the options board EXF 3686.

11. LINE CONTROLLERS

V24 INTERFACE LINE CONTROLLERS

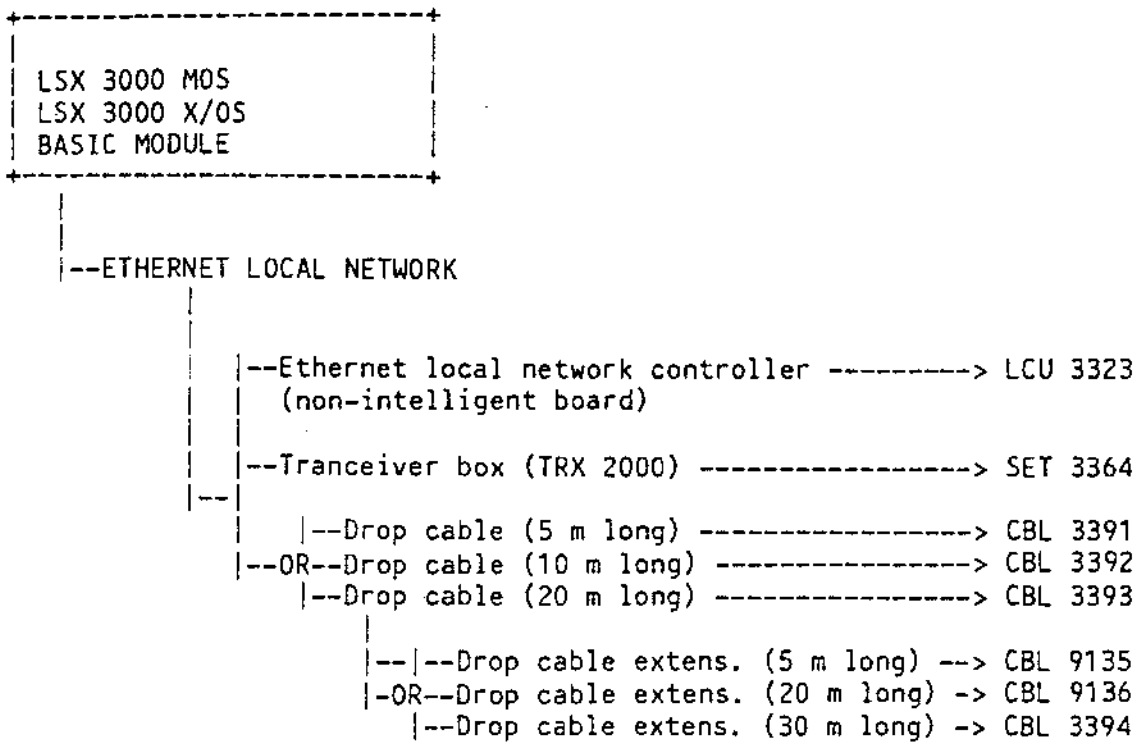


ADDITIONAL DEVICES



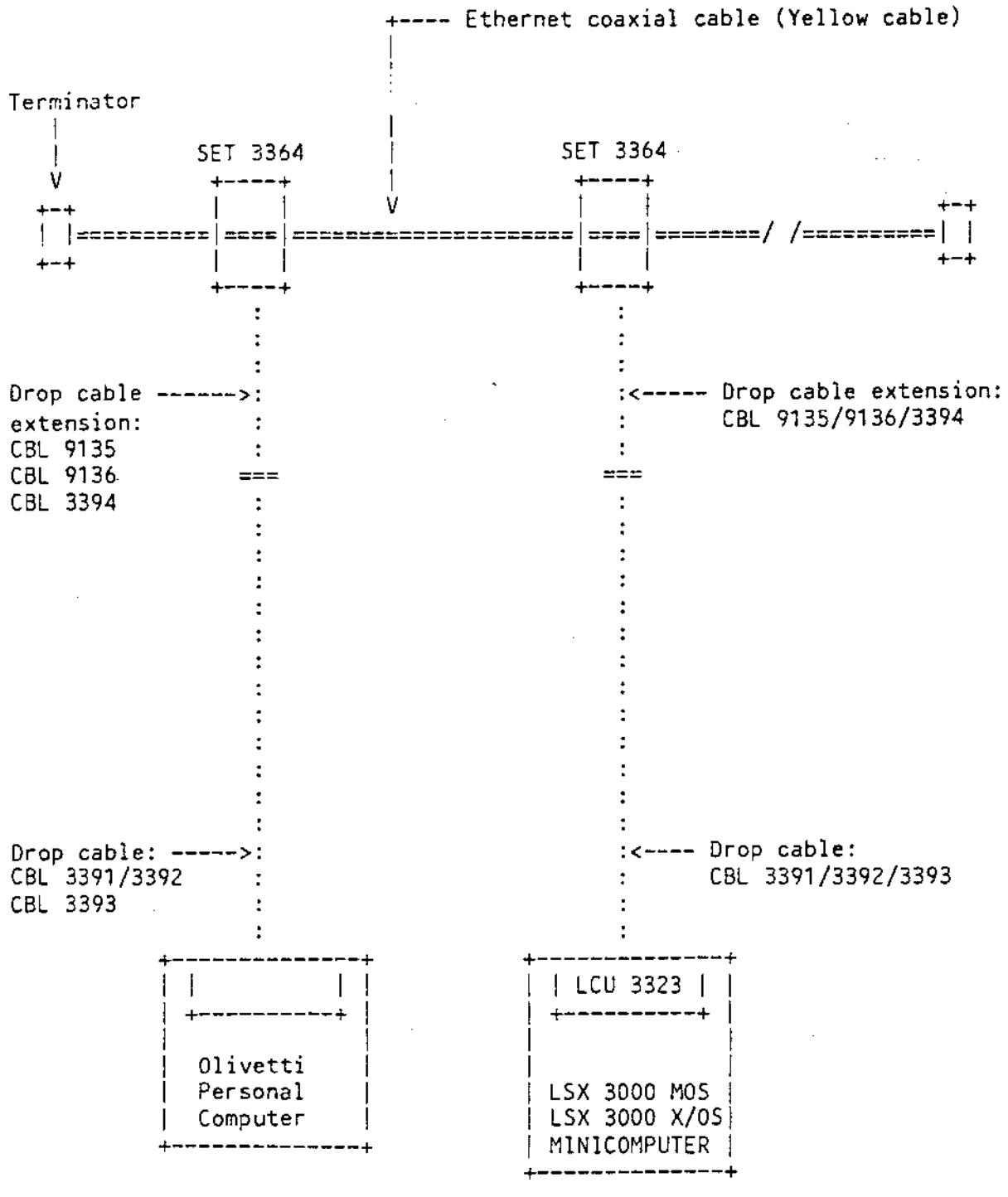
LOCAL NETWORK CONNECTIONS

ETHERNET CONTROLLER FOR LSX 3000 MOS AND X/OS

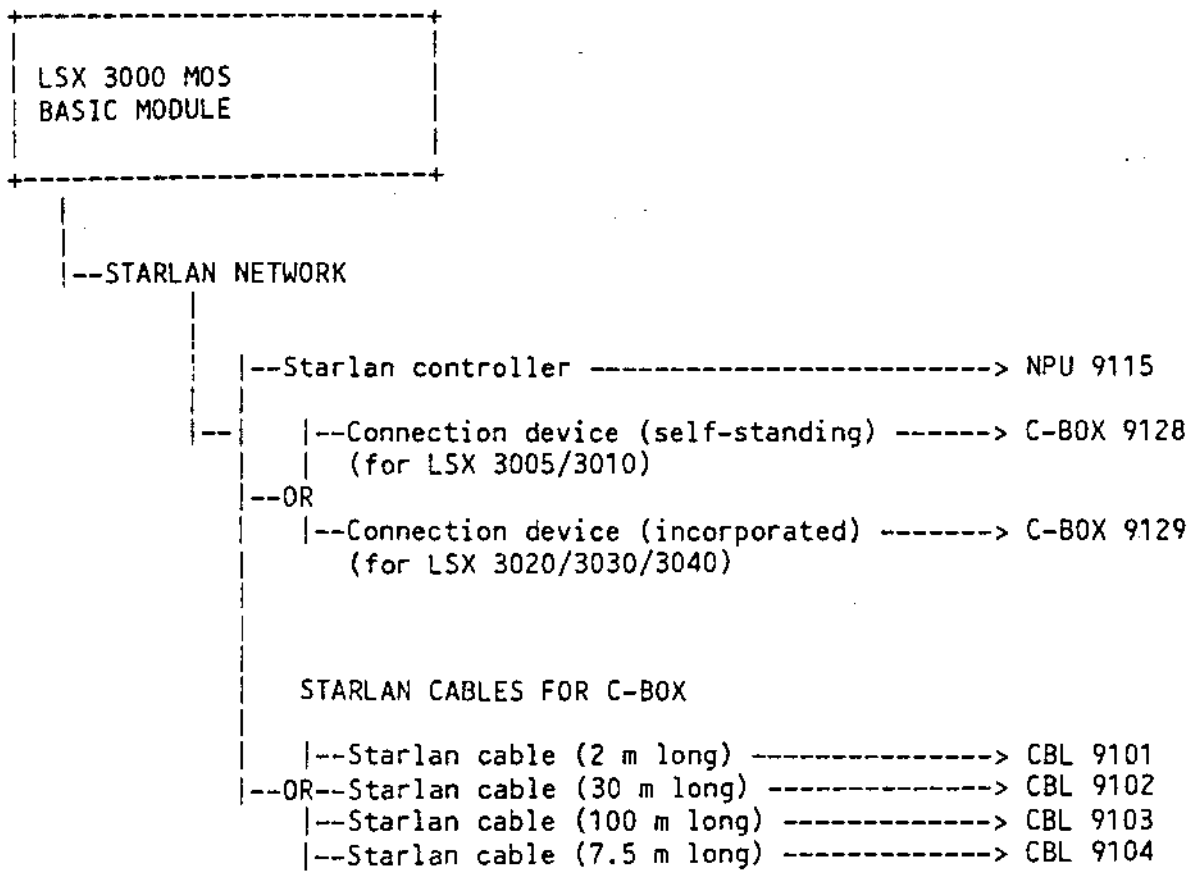


NOTE 1 - The dorsal cables for the Ethernet line and the relevant terminators are supplied by Olivetti ATC department.

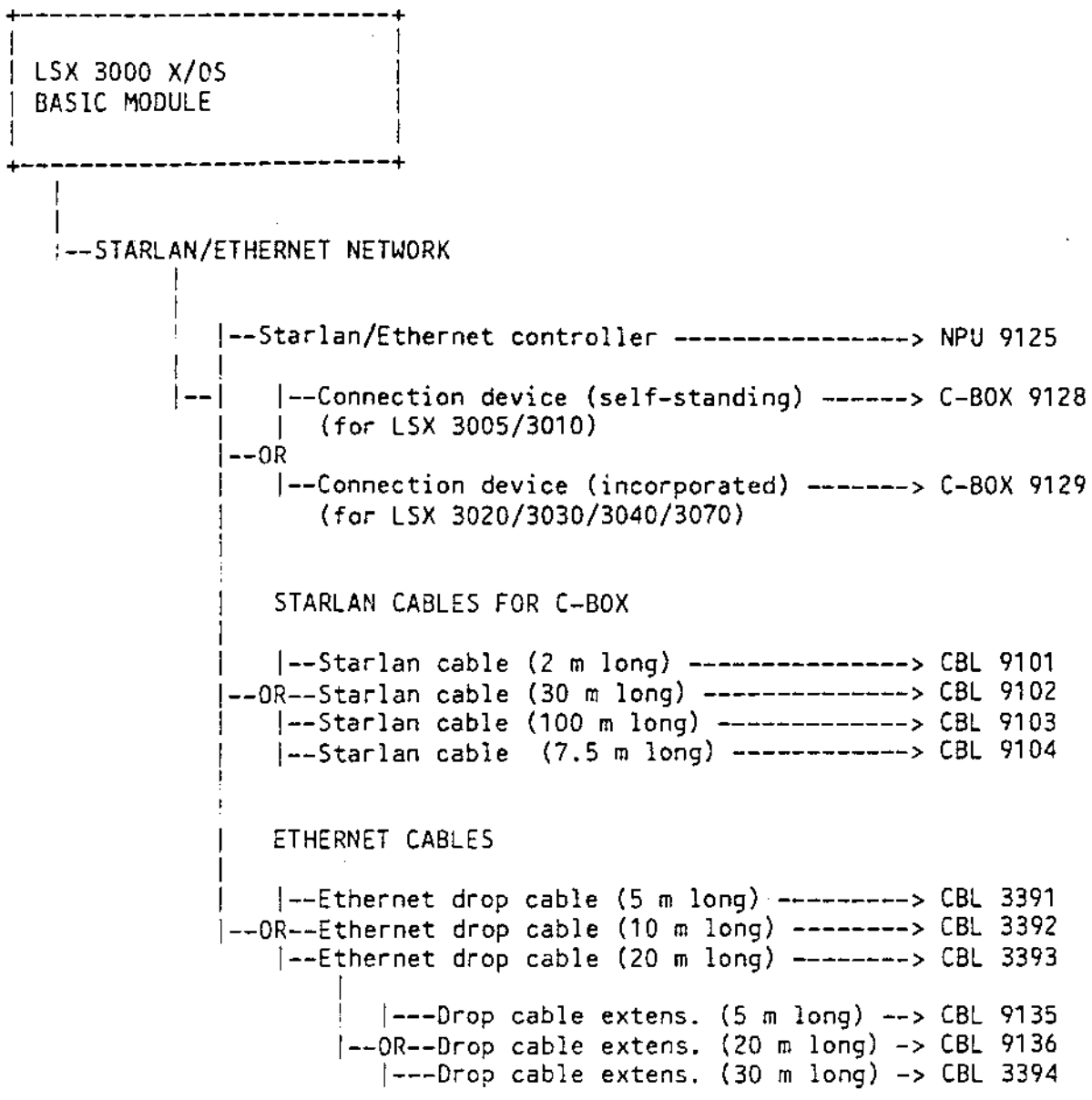
ETHERNET LOCAL NETWORK DIAGRAM FOR LSX 3000 MOS AND X/OS



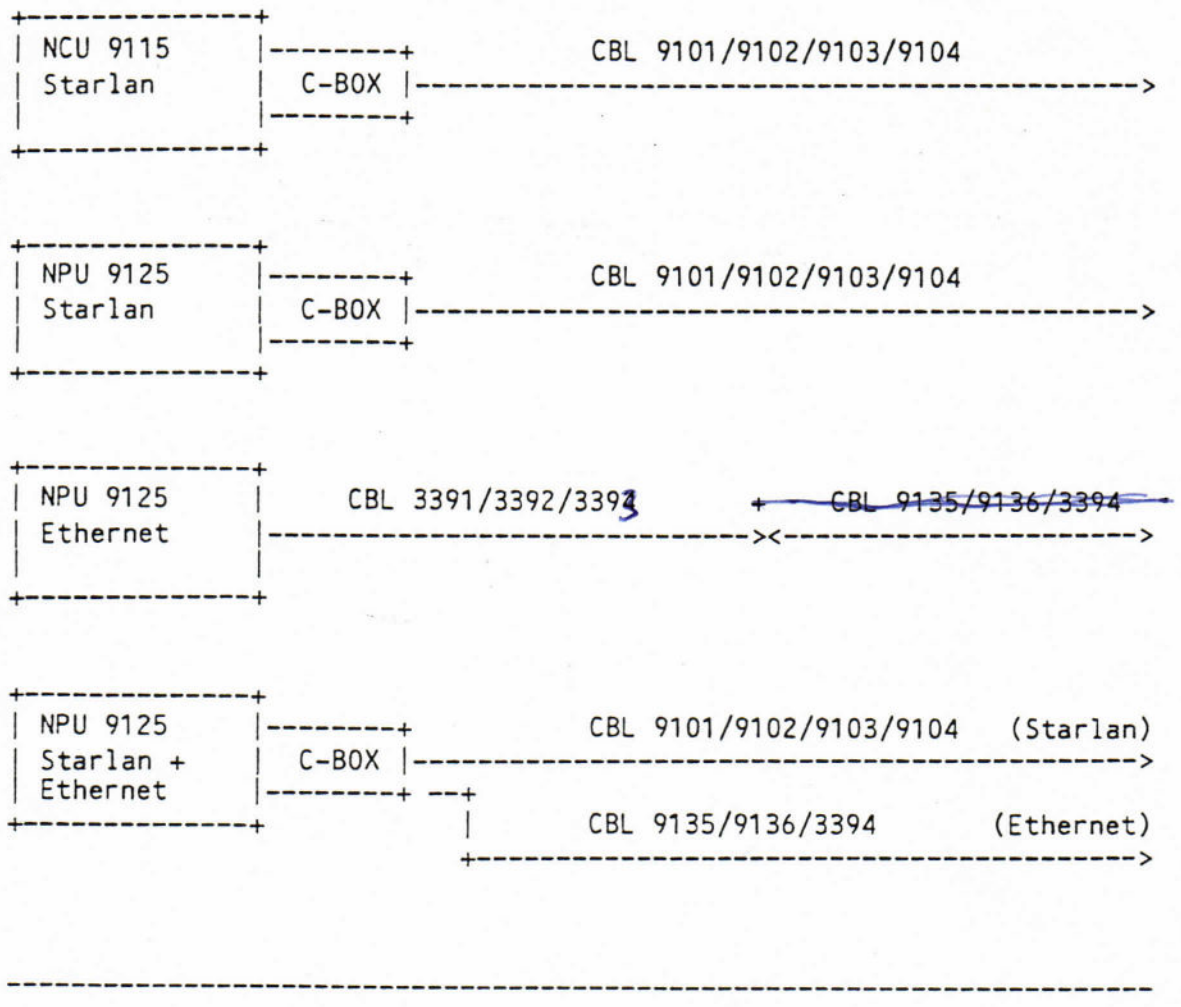
STARLAN CONTROLLER FOR LSX 3000 MOS



STARLAN/ETHERNET CONTROLLER FOR LSX 3000 MOS AND X/OS



STARLAN NETWORK CONNECTION DIAGRAM



12. POWER CONSUMPTIONS

POWER SUPPLY CHARACTERISTICS

The following table indicates the main characteristics of the power supply incorporated in the LSX 3000 basic modules, the CAB 8805 add-on cabinet, and the OSB 9002 cabinet. The table shows:

- the power supplied
- the amperes supplied for the following output voltages: +5 V, +12 V, -12 V, and +35 V.

TYPE OF POWER SUPPLY	POWER SUPPLIED	AMPERES SUPPLIED			
		+5 V	+12 V	-12 V	+35 V
PSU incorporated in LSX 3005/3010 basic module	240 W	32	9	1	
PSU incorporated in: - LSX 3020/3030/3040 and LSX 3035/3045 basic module - OSB0 basic cabinet (LSX 3070/3080) - OSB 9002 cabinet (LSX 3070/3080)	350 W	40	1.4	1.4	6
PSU expansion incorpor. in LSX 3020/3030/3040 basic module	120 W	25			
PSU incorporated in CAB 8805 cabinet, or add-on cabinet of BU 8516	300 W	60			
PSU incorporated in CAB 8805 cabinet to power-on the hard disk	100 W	20			
PSU incorporated in ESB0 basic cabinet for EDGE modules (LSX 3070/3080)	1000 W				

POWER CONSUMPTIONS OF THE HARDWARE COMPONENTS

The following table lists the hardware components of the LSX 3000 minicomputers and their related power consumptions.

COMPONENT	DENOMINATION	NUMB.OF BOARDS	POWER CONSUMPTION (AMPERES)			
			+5 V	+12 V	-12 V	+35 V
MUX 8074 adapter for c. loop	ADT 8076		0.65			
Auxiliary processing unit (LSX 3030/3040)	APU 8022	1	9.5	0.032	0.032	
Controller for backup periph.	BKC 8848	1	2.5			
LSX 3005 b. mod.	BU 8825	1	5	0.06	0.06	
LSX 3010 b. mod.	BU 8826	2	7.5	0.06	0.06	
LSX 3020 b. mod. (11 board single processor)	BU 8009	1	9.5	0.032	0.032	
LSX 3020 b. mod. (16 board single processor)	BU 8010	1	9.5	0.032	0.032	
LSX 3035/3045 basic module	BU 8516	2	9.5	0.032	0.032	
Data encryption module for PIN-Check + RTC with algorithm for CAT	DEM 8038	1	2	0.1		
ST 506 interface controller	HDC 3544	1	3.3			
ESDI dumb interface controller	HDC 7050	2	5.2			
ESDI intelligent interf.controll.	HDC 8063	1	6			

COMPONENT	DENOMINATION	NUMB.OF BOARDS	POWER CONSUMPTION (AMPERES)			
			+5 V	+12 V	-12 V	+35 V
FP4D controller for SCSI hard disk	HDC 8519	1	3.5			
140Mb hard disk ESDI intelligent interface (LSX 3020/3030/ 3040/3070/3080)	HDU 7051					1.02
315Mb hard disk ESDI intelligent interface (LSX 3020/3030/ 3040/3070/3080)	HDU 8067					1.02
140Mb hard disk SCSI interface (LSX 3010)	HDU 8140		2	2.4 4.5(*)		
140Mb hard disk ESDI dumb interface (LSX 3005)	HDU 8810		1.5	2.1 4.5(*)		
315Mb hard disk ESDI dumb interface (LSX 3005)	HDU 8812		1.5			
20Mb hard disk ST 506 interface (LSX 3005)	HDU 8813		0.9	1.19		
40Mb hard disk ST 506 interface (LSX 3005)	HDU 8814		0.9	1.19		
65Mb hard disk ST 506 interface (LSX 3005)	HDU 8815		0.9	1.19		
40Mb hard disk SCSI interface (LSX 3010)	HDU 8840		2	2.4 4.5(*)		

(*) peak value

COMPONENT	DENO-MINATION	NUMB.OF BOARDS	POWER CONSUMPTION (AMPERE) +5 V	+12 V	-12 V	+35 V
80Mb hard disk SCSI interface (LSX 3010)	HDU 8880		2	2.4 4.5(*)		
Ethernet line controller	LCU 3323	1	2.1	0.5		
2 V24 line processor unit	LPU 3348	1	2.74	0.12	0.1	
2 V24 intelligent line controller	LPU 9148	1	6	0.10	0.10	
2 V24 intelligent line controller	LPU 9149	1	2.8	0.07		
2M byte memory (1M byte chips)	MEM 6462	1	3.25 0.7(*)			
4M byte memory (1M byte chips)	MEM 6464	1	3.5 1.2(*)			
6M byte memory (1M byte chips)	MEM 6466	1	3.75 1.6(*)			
8M byte memory (1M byte chips)	MEM 6468	1	4 2(*)			
5.25" diskette controller	MFC 8054	1	2.5			
MTU 8809 tape unit controller	MTC 3543	1	2.85			
Multiplexer controller (LSX 3005/3010)	MUX 3386	1	2.32	0.15	0.05	

(*) Stand-by value: which means the power consumption of the RAM memory boards following the first one when they are not selected. To calculate the power consumption of several memory boards inside the board rack, follow this simple rule: add the consumption of the board with the highest ampere value to the stand-by value of all the other boards.

COMPONENT	DENO-MINATION	NUMB.OF BOARDS	POWER CONSUMPTION (AMPERES)			
			+5 V	+12 V	-12 V	+35 V
Multiplexer controller for remote distances (LSX 3005/3010)	MUX 3688	1	2.32	0.15	0.05	
Multiplexer controller (LSX 3020/3030/3040)	MUX 7089	1	2.5	0.20	0.06	
Multiplexer controller for remote distances (LSX 3020/3030/3040)	MUX 7091	1	2.5	0.20	0.06	
16-way multipl. controller	MUX 8074	1	6.8			
8-way multipl. controller (LSX 3020/3030/3040/3035/3045)	MUX 8529	1	3.2	0.06	0.06	
8-way multipl. controller (LSX 3010)	MUX 8896	2	3.2	0.06	0.06	
5.25" 1M byte slim diskette (LSX 3010)	MFU 8097 MFU 8841			0.40		
5.25" 1M byte slim diskette (LSX 3020/3030/3040/3070/3080)	MFU 8053			0.40		
Starlan Network Control Unit	NCU 9115	1	2		0.03	
Starlan/Ethernet dual Network Processor Unit	NPU 9125	1	3.5	0.5	0.03	
Add-on cabinet	OSB 9002	1	6			

COMPONENT	DENOMINATION	NUMB.OF BOARDS	POWER CONSUMPTION (AMPERE)			
			+5 V	+12 V	-12 V	+35 V
45/60M byte STC controller	STC 8062	1	3.5			
45/60M byte streaming tape cartridge (LSX 3005/3010)	STU 8098		1.7 1.7	0.8 0.8		
45/60M byte streaming tape cartridge	STU 8061		1.7			
2M byte memory (256K bit chips)	TCM 8046		3.6 2(*)			
4M byte memory (256K bit chips)	TCM 8854	1	5.16 2.78(*)			
8M byte memory (256K bit chips)	TCM 8858	1	5.32 2.84(*)			
16M byte memory (256K bit chips)	TCM 8866	1	5.64 3.26(*)			

(*) Stand-by value: that is the power consumption of the RAM memory boards following the first one when they are not selected.
To calculate the power consumption of several memory boards inside the board rack, follow this simple rule: add the consumption of the board with the highest ampere value to the stand-by value of all the other boards.

NOTE 1 - Make sure that the total sum of the power consumptions for the various hardware configuration components (boards inside the board rack + incorporated drives) responds to the target data of the power supply mounted on the basic module (see table on page 12-1).

NOTE 2 - The incorporated mass storage devices are powered by a DC converter connected to the +35 V output voltage of the power supply.

NOTE 3 - The table does not indicate the consumption for LSX 3070/3080 minicomputers (BU 9001), since the power supply provides sufficient power to cover all the possible extensions.
For the BU 9001 there is no need to calculate and check the consumption for the add-on cabinets containing the I/O devices.

EXAMPLES ON HOW TO CALCULATE POWER CONSUMPTIONS

The following tables contain configuration examples and power consumptions of the non-self-powered hardware components for the different output voltages.

The total power consumption for the single output voltage, must not exceed the maximum ampere value allowed for that output voltage (see page 12-1). In addition, the total Watt value must not exceed the maximum Watt value supplied by the PSU. The Watt amount is obtained by adding the Amperes together and multiplying the total by the corresponding output voltage.

CONFIGURATION	COMPONENTS	NUMB.OF BOARDS	POWER CONSUMPTION (AMPERES) +5 V	+12 V	-12 V	+35 V
LSX 3005	BU 8825	1	5	0.06	0.06	
1 5.25" diskette	MTC 3543	1	2.85			
4 WS	MFU 8097			0.40		
	STU 8061		1.7			
	STC 8062	1	3.3			
	HDC 7050	2	5.2			
	HDU 8810		1.5	4.5		
	MUX 3388	1	2.32	0.15	0.05	
	TOTAL	6	21.87	5.11	0.11	

Power consumption in Watts: 109.35 61.32 1.32
(Total Watts: 171.99)

The ampere values for the output voltages of the PSU mounted on the LSX 3005 basic unit are:

240 W power supply: 32 - 9 - 1 Amperes

The total power consumptions of the hardware components in the above configuration is contained within the limits declared by the 240 W power supply. The total number of board slots required respects the limits imposed by the LSX 3005 board rack **(9 board slots).**

CONFIGURATION	COMPONENTS	NUMB.OF BOARDS	POWER CONSUMPTION (AMPERES) +5 V	+12 V	-12 V	+35 V
LSX 3030 with HDU & STC 10 WS	BU 8009	1	9.5	0.032	0.032	
	CDS 8803					
	APU 8022	1	9.5	0.032	0.032	
	TCM 8854	1	3.8			
	TCM 8854	1	3.8			
	STC 8062		3.3			
	STU 8061	1	1.7			1.14
	HDC 8063	1	6			
	CBL 8056					
	HDU 7051					1.02
	HDU 7051					1.02
	MUX 8074	1	6.8			
	LCU 3323	1	2.1	0.5		
	LPU 9149	1	4	0.25	0.25	
	DEM 8038	1	1.7	0.07		
	TOTAL	10	52.2	0.884	0.314	3.18
Power consumption in Watts: (Total Watts: 386.676)			261	10.608	3.768	111.30

350 W power supply:
40 - 1.4 - 1.4 - 5 Amperes

An additional power supply is mounted: PSE 8013.

120 W additional power supply: 25 Amperes

BU 8009 board rack: 11 board slots

The total power consumptions of the hardware components in the above configuration is not contained within the limits declared by the 350 W power supply incorporated in the basic module. Therefore an additional 1[illegible] power supply is included in the basic cabinet.
The BU 8010 can be used in place of BU 8009. In this case, the 300 W PSU incorporated in CAB 8805 (comprised in BU 8010) is used, but the additional 125 W PSU cannot be mounted because it is not compatible with the 300 W PSU.

The number of board slots is comprised within the limits allowed by BU 8009 **(11 board slots).**

CONFIGURATION	MODULES	NUMB.OF BOARDS	POWER CONSUMPTION (AMPERE) +5 V	+12 V	-12 V	+35 V
LSX 3070 with HDU & STC, 48 WS	BU 9001	3				
	IOC 9003	1				
	MEM 9007	2				
	STU 8061					
	STC 8062	1	3.3			
	HDC 8063	1	6			
	CBL 8056					
	HDU 8067					
	CBL 8056					
	HDU 8067					
	MUX 8074	1	6.8			
	MUX 8074	1	6.8			
	MUX 8074	1	6.8			
	NPU 9125	1	2.1	0.5		
	LPU 9149	1	4	0.25	0.25	
		7(*)	35.80	0.75	0.25	
Power consumption in Watts: (Total Watts: 191)			179	9	3	

The modules contained in the basic cabinet are not comprised in the calculation of the power consumption, because the 1000 W power supply unit is already powerful enough to cover the requests.

The total values of the power consumptions for the hardware modules of this configuration fall within the limits of the power supply unit installed in the cabinet containing controllers and I/O peripherals.

350 W power supply unit: **40 A - 1.4 A - 1.4 A - 5 A**

(*) Only the boards contained in the I/O cabinet are calculated.

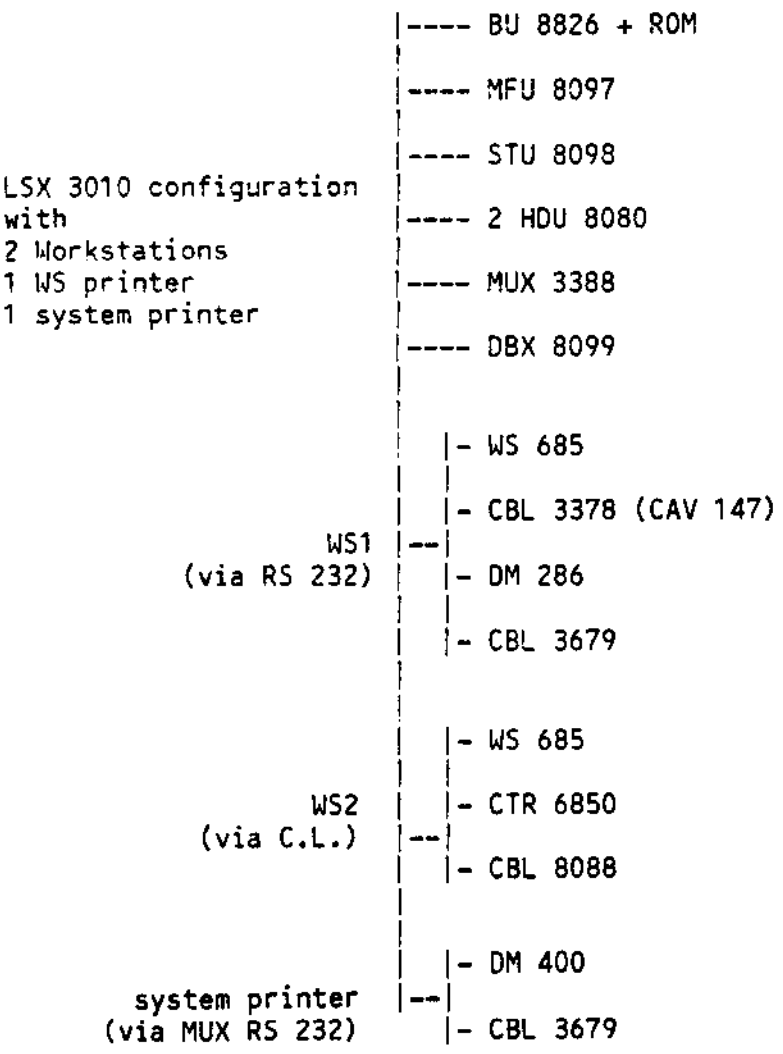
The total number of the board slots used falls within the permissible limits of the I/O cabinet **(11 board slots).**

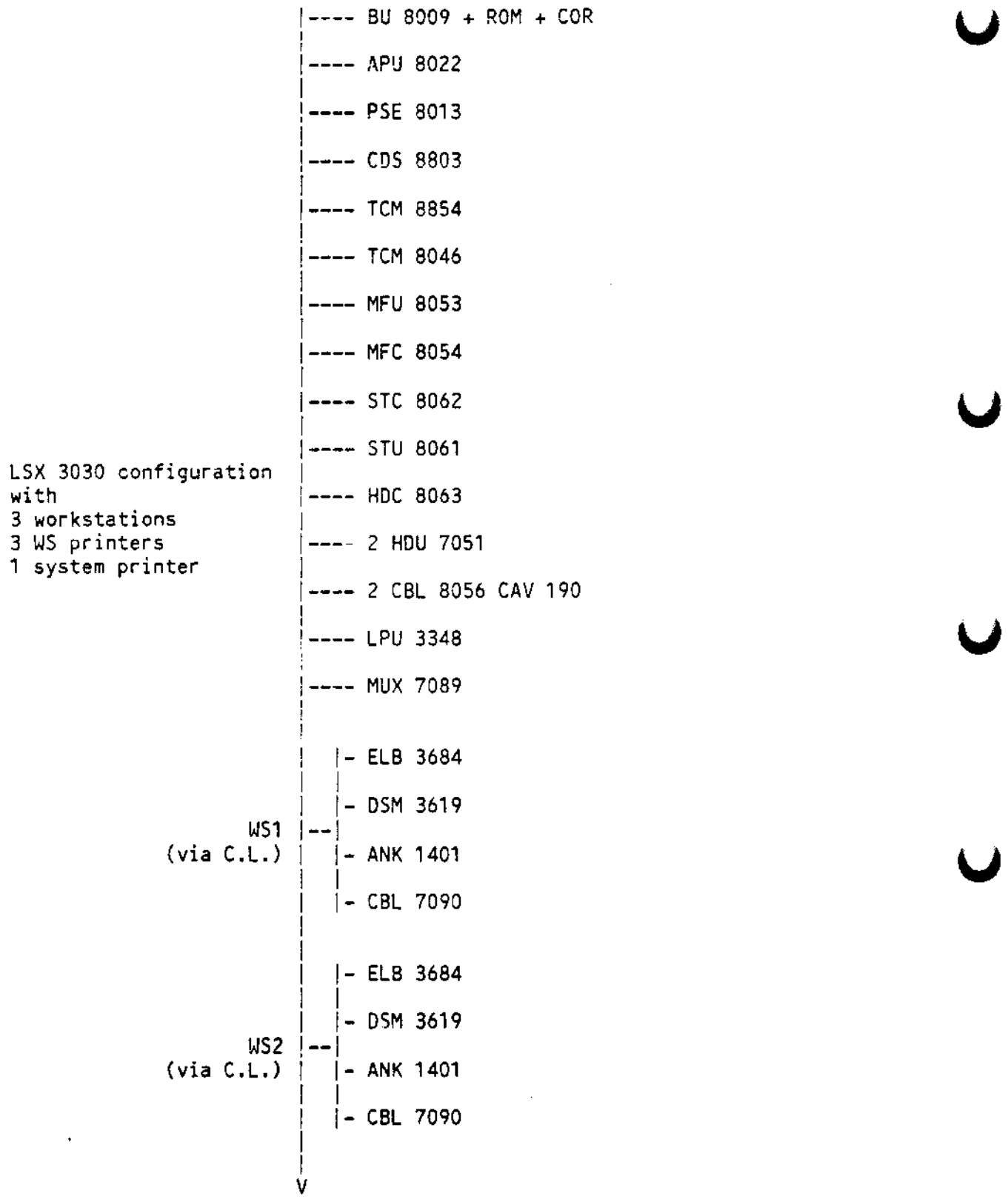
13. CONFIGURATION EXAMPLES

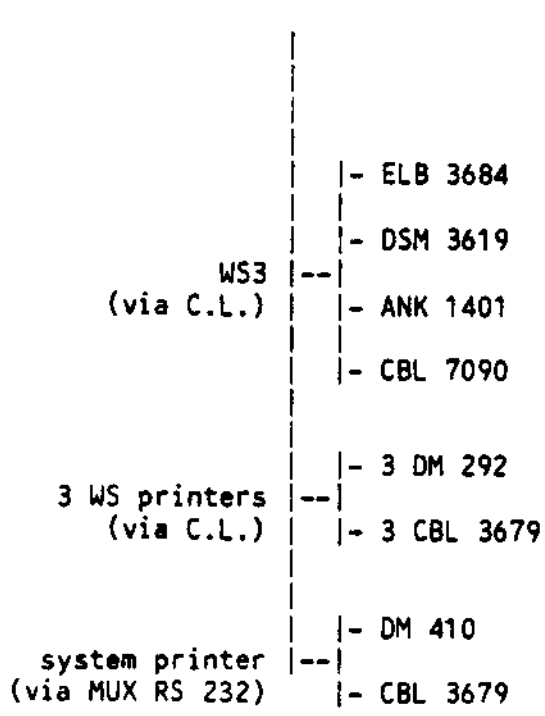
The following pages illustrate a few examples of the LSX 3000 hardware configurations in the two software environments:

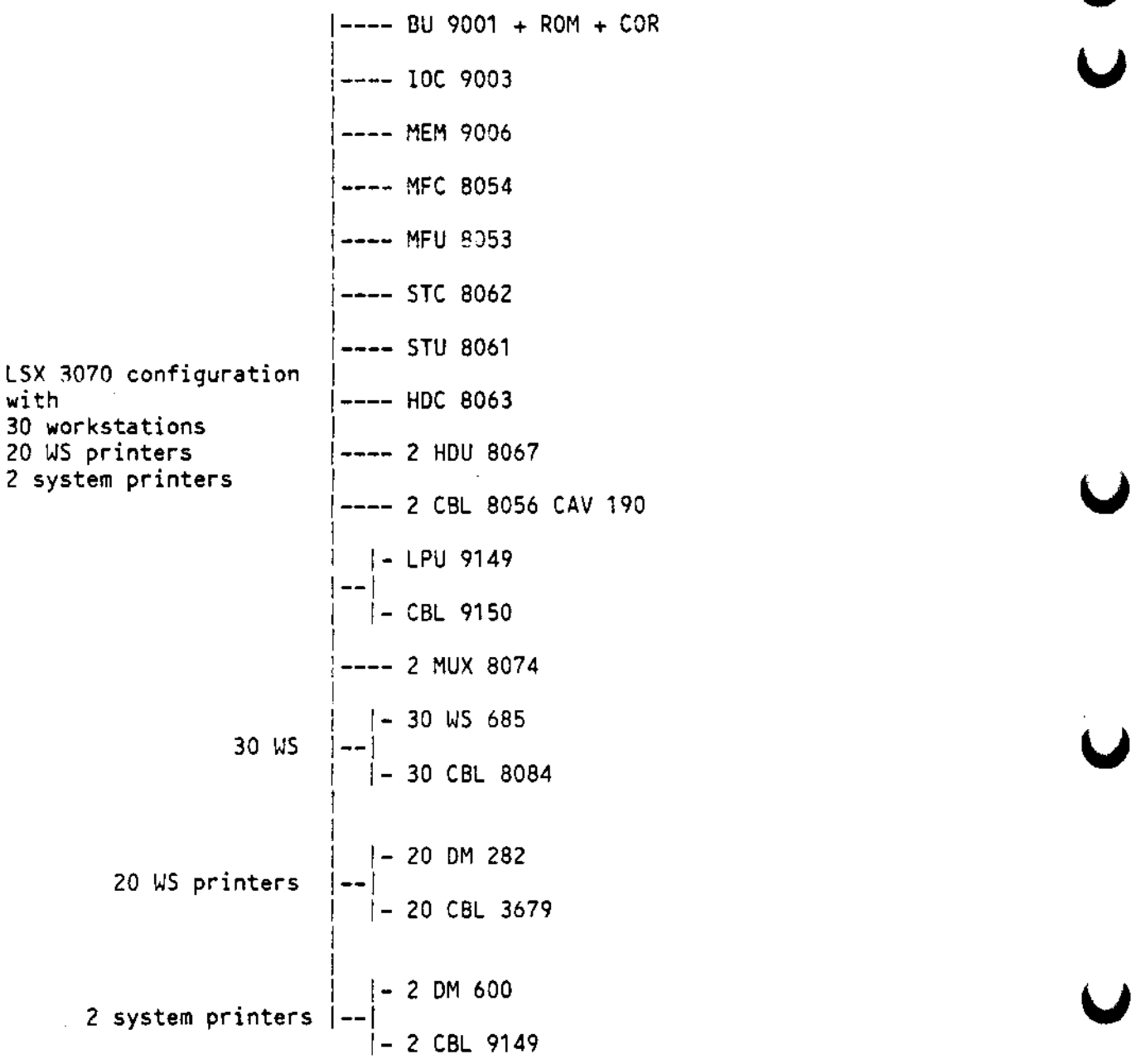
- **X/OS operating system**
- **MOS operating system**

LSX 3010 Configuration




LSX 3030 configuration
with
3 workstations
3 WS printers
1 system printer
BU 8009 + ROM + COR
APU 8022
PSE 8013
CDS 8803
TCM 8854
TCM 8046
MFU 8053
MFC 8054
STC 8062
STU 8061
HDC 8063
2 HDU 7051
2 CBL 8056 CAV 190
LPU 3348
MUX 7089
WS1
(via C.L.)
ELB 3684
DSM 3619
ANK 1401
CBL 7090
WS2
(via C.L.)
ELB 3684
DSM 3619
ANK 1401
CBL 7090


WS3
(via C.L.)
ELB 3684
DSM 3619
ANK 1401
CBL 7090
3 WS printers
(via C.L.)
3 DM 292
3 CBL 3679
system printer
(via MUX RS 232)
DM 410
CBL 3679


LSX 3070 configuration
with
30 workstations
20 WS printers
2 system printers
BU 9001 + ROM + COR
IOC 9003
MEM 9006
MFC 8054
MFU 8053
STC 8062
STU 8061
HDC 8063
2 HDU 8067
2 CBL 8056 CAV 190
LPU 9149
CBL 9150
2 MUX 8074
30 WS
30 WS 685
30 CBL 8084
20 WS printers
20 DM 282
20 CBL 3679
2 system printers
2 DM 600
2 CBL 9149

14. HARDWARE ITEMS LIST

This chapter contains a list of all the LSX 3000 hardware items grouped into logical hardware divisions.

Each item is defined by its **DENOMINATION and RANDOM CODE** and a brief indication of its nature.

HARDWARE ITEMS LIST

HARDWARE GROUP	DENOMI-NATION	RANDOM CODE	DESCRIPTION
BASIC MODULE	APU 8022	53107 P	Upgrading kit transforming: - LSX 3020 to LSX 3030 - LSX 3030 to LSX 3040
	APU 8517	56254 S	Upgrading kit transforming LSX 3035 to LSX 3045
	APU 9009	53527 Y	Upgrading kit transforming LSX 3070 to LSX 3080
	BU 8516	56253 Q	LSX 3035/3045 basic module
	BU 8825	53141 D	LSX 3005 basic module
	BU 8826	53142 F	LSX 3010 basic module
	BU 8009	53104 R	LSX 3020 basic module with 11 board slots, without console
	BU 8010	53105 K	LSX 3020 basic module with 16 board slots, without console
	BU 9001	53134 S	LSX 3070/3080 basic module (without File Processor)
	BU 9010	30871 N	LSX 3070/3080 basic module (with File Processor)

HARDWARE ITEMS LIST

HARDWARE GROUP	DENOMINATION	RANDOM CODE	DESCRIPTION
BASIC MODULE	CDS 8803	52850 Z	Console without line diagnostics
	CDS 8804	52851 J	Console with line diagnostics
	EXB 8881	56252 N	Expansion box for power supply
	IOC 9003	53136 W	Single-chan. I/O controller board connecting OSB 9002 to BAM 90
	IOC 9004	53137 Y	dual-channel I/O controller board connecting OSB 9002 to BAM 90
	KIT 8079	53148 G	Kit to transform BU 8009 to BU 8010 (from 11 to 16 b. slots)
	OSB 9002	53135 U	Cabinet for BU 9001/9010
	PSE 8013	53106 M	Power supply ext. for BU 8009, BU 9001/9010 and OSB 9002
	PSE 8527	56138 Z	Power supply ext. for BU 8516
	UPGR 0.5 KIT	30863 N	Upgrading kit for UPS 0.5 KW
	UPS 0.5 KW	56239 U	Uninterruptable power supply
	UPS 1.2 KW	54153 K	Uninterruptable power supply
RAM MEMORY	MEM 6462	51620 Y	2M byte memory with ECC
	MEM 6464	51621 R	4M byte memory with ECC
	MEM 6466	51622 K	6M byte memory with ECC
	MEM 6468	51623 M	8M byte memory with ECC
	MEM 8884	52925 E	4M byte high-speed memory
	MEM 8888	52926 G	8M byte high-speed memory
	MEM 9005	53138 K	8M byte memory array for MCU in BU 9001/9010 and EMCU 9008

HARDWARE ITEMS LIST			
HARDWARE GROUP	DENOMI-NATION	RANDOM CODE	DESCRIPTION
RAM MEMORY	MEM 9006	53139 M	16M byte memory array for MCU in BU 9001/9010 and EMCU 9008
	MEM 9007	53140 Q	32M byte memory array for MCU in BU 9001/9010 and EMCU 9008
	MEM 9008	53141 H	Add-on memory control unit for 4 MEM boards up to 64M bytes
	TCM 8046	53110 K	2M byte memory with ECC
	TCM 8854	56091 X	4M byte memory with ECC
	TCM 8858	56092 Z	8M byte memory with ECC
	TCM 8866	56094 D	16M byte memory with ECC
MASS STORAGE	BKC 8848	53546 P	Controller for backup devices (MFU 8053, STU 8098, MTU 8847,..)
	CAB 8805	52852 L	Add-on cabinet
	CAB 8808	52855 S	Add-on cab. for mtu (1600 bpi)
	CAB 8889	30794 C	Add-on cabinet for mtu (1600/6250 bpi) and SCSI hard d.
	CBL 8056	53117 Q	Cable for ESDI intell. interface
	CBL 8522	56261 Y	Cable to connect SCSI devices to the BU 8516 basic module
	CBL 8525	56254 E	SCSI cable connecting BU 8516 to CAB 8808
	CBL 8890	30795 E	SCSI cable for BU 8516 remov. dev.

HARDWARE ITEMS LIST			
HARDWARE GROUP	DENOMI-NATION	RANDOM CODE	DESCRIPTION
MASS STORAGE	CBL 8891	30796 G	Set to connect external SCSI interface devices
	CBL 8892	30797 A	SCSI cable to connect set 8523 to MTU 8893
	CDP 8807	52854 Y	Console for dual port
	HDC 3544	47026 R	ST 506 interface controller
	HDC 7050	50384 V	ESDI interface controller
	HDC 8063	53116 N	ESDI intelligent interface controller
	HDC 8519	56256 W	File Processor controller (FP4D) for hard disk (SCSI interface)
	HDU 7051	50394 Z	140M byte hard disk (ESDI interf.) incorporated in basic cabinet
	HDU 8067	53120 X	315M byte hard disk (ESDI interf.) incorporated in basic cabinet
	HDU 8899	30869 K	640M byte hard disk (ESDI interf.) incorporated in basic cabinet
	HDU 8071	53122 J	140M byte hard disk (ESDI interf.) for CAB 8805
	HDU 8073	53124 W	315M byte hard disk (ESDI interf.) for CAB 8805
	HDU 8140	51631 M	140M byte hard disk (SCSI interf.)
	HDU 8520	56259 M	140M byte hard disk (SCSI interf.)
	HDU 8521	56260 F	315M byte hard disk (SCSI interf.)
	HDU 8528	56319 M	640M byte hard disk (SCSI interf.)
	HDU 8810	52859 K	140M byte hard disk (ESDI interf.)
	HDU 8812	52861 W	315M byte hard disk (ESDI interf.)

HARDWARE ITEMS LIST			
HARDWARE GROUP	DENOMI-NATION	RANDOM CODE	DESCRIPTION
MASS STORAGE	HDU 8813	52862 Y	20M byte hard disk (ST 506 interface)
	HDU 8814	52863 S	40M byte hard disk (ST 506 interface)
	HDU 8815	52864 C	65M byte hard disk (ST 506 interface
	HDU 8140	51631 M	140M byte hard disk (SCSI interf.) incorporated in basic cabinet
	HDU 8827	53543 H	315M byte hard disk (SCSI interf.) incorporated in basic cabinet
	HDU 8840	51629 J	40M byte hard disk (SCSI interf.) incorporated in basic cabinet
	HDU 8880	51630 U	80M byte hard disk (SCSI interf.) incorporated in basic cabinet
	HDU 8895	30865 S	640M byte hard disk (SCSI interf.)
	HDU 8900	30870 V	640M byte hard disk (ESDI interf.)
	KIT 8039	53125 Y	Dual port kit for the sharing of ESDI hard disk in CAB 8805
	KIT 8851	56081 T	DC/DC converter for MFU, STU, HDU
	MFC 8054	53113 G	Controller for 1M byte MFU
	MFU 8053	53112 E	5.25 inch 1M byte slim diskette
	MFU 8097	51624 X	5.25 inch 1M byte slim diskette
	MFU 8849	56079 F	5.25 inch 1M byte diskette
	MTC 3543	46874 L	Controller for MTU 8809
	MTU 8809	52856 U	1600 bpi tape unit for CAB 8808

HARDWARE ITEMS LIST			
HARDWARE GROUP	DENOMI-NATION	RANDOM CODE	DESCRIPTION
MASS STORAGE	MTU 8847	53545 M	1600/6250 bpi tape unit (SCSI interface) for CAB 8808
	MTU 8893	30798 U	Magnetic tape unit with 1600/6250 bpi (SCSI interface)
	SET 8523	56262 S	Set to mount up to 4 HDUs
	SET 8806	52853 N	Set of parts for third/fourth hard disk and first/second hard disk (ESDI interf.) incorporated in CAB 8805
	STC 8062	53115 L	Controller for 5.25 inch 45/60M byte streaming tape cartridge
	STU 8098	51626 T	5.25 inch 45/60M byte streaming tape cartridge incorporated in basic cabinet
	STU 8094	30864 Y	5.25 inch 150M byte streaming tape cartridge (SCSI interface)
	STU 8518	56255 U	5.25 inch 150M byte streaming tape cartridge (SCSI interface)
	STU 8850	56080 A	5.25 inch 45/60M byte streaming tape cartridge
	STU 8061	53114 J	45/60M byte streaming tape cartridge
	STU 8518	56255 U	5.25 inch 150M byte streaming tape cartridge (SCSI interface)
	ADT 8076	53127 U	Interface adapter (RS 232 C to current loop) for MUX 8074/8529
	ADT 8898	30868 R	Interface adapter (RS 232 C to current loop) for MUX 8896

HARDWARE ITEMS LIST			
HARDWARE GROUP	DENOMI-NATION	RANDOM CODE	DESCRIPTION
WORKSTATION	ANK 1401	47295 T	Multif. alphan. kybd + funct.keys
	ANK 1402	47296 V	Multif. alphan. kybd + funct.keys + key lock
	DBX 8099	51633 R	Signal distribution box of MUX 3388/3688 controller
	DBX 8897	30867 W	Signal distribution box of MUX 8896 controller
	DSM 3615	47293 P	Self-standing, 15 inch, b/w, alphanumeric display with tilt/ swivel stand and filter
	DSM 3619	47292 M	9 inch, trivalent, b/w, alphanum. display with tilt/swivel stand and filter
	ELB 3684	50690 V	Alphanumeric, monochrome workstation for remote distances
	EXF 3686	47319 K	Options board for PIN pad and badge reader
	MUX 3388	47302 K	4-way multiplexer controller for local line
	MUX 3688	50691 N	Controller for remote distances via statistical multiplexers or error controllers
	MUX 7089	50408 Q	4-way multiplexer controller
	MUX 7091	50693 J	Multiplexer controller for remote distances
	MUX 8074	53127 U	RS 232 C, 16-way multiplexer controller

HARDWARE ITEMS LIST			
HARDWARE GROUP	DENOMI-NATION	RANDOM CODE	DESCRIPTION
WORKSTATION	MUX 8529	56230 F	8-way multiplex. controller for LSX 3020/3030/3040/3035/3045
	MUX 8896	30866 U	8-way multiplex. controller for LSX 3010
	NKB 1405	47297 X	Multif. numeric kybd + funct. keys
	NKB 1406	47298 J	Multif. numeric kybd + funct. keys + key lock
	PIN 1440	45706 T	PIN pad (with 1.5 m cable)
	SET 1245	45714 Y	Adapter ring for 15 inch display
LINE CONTROLLERS	ASD 3384	46657 Y	Automatic power-on device
	CBL 3391	47306 T	Drop cable for Ethernet line (5 m long)
	CBL 3392	47307 V	Drop cable for Ethernet line (10 m long)
	CBL 3393	47308 Q	Drop cable for Ethernet line (20 m long)
	CBL 3394	47317 W	Drop cable extension (30 m long)
	CBL 9101	50940	Starlan cable (2 m long)
	CBL 9102	50941	Starlan cable (30 m long)
	CBL 9103	50942	Starlan cable (100 m long)
	CBL 9104	50972	Starlan cable (7.5 m long)
	CBL 7094	57094 F	Unattended cable
	C-BOX 9128	51734 U	Self-standing, connection box for Starlan/Ethernet (LSX 3005/3010)

HARDWARE ITEMS LIST			
HARDWARE GROUP	DENOMI-NATION	RANDOM CODE	DESCRIPTION
LINE CONTROLLERS	C-BOX 9129	51735 X	Connection box for Starlan/ Ethernet incorporated in basic m. (LSX 3020/3030/3040/3035/3045/ 3070/3080)
	DEM 8038	53109 C	Data encryption/decryption module with PIN check and real time clock
	LCU 3323	47304 X	Ethernet internal line controller (non-intelligent board)
	LPU 3348	46757 Z	Line processor unit, 2 V24 interfaces for L1/LSX 3000 MOS
	LPU 9148	51444 N	Line processor unit, 2 V24 interfaces for LSX 3000 X/OS (8000 size)
	LPU 9149	51736 Y	Line processor unit, 2 V24 interfaces for LSX 3000 X/OS (3000 size)
	NCU 9115	51345 T	Starlan controller (LSX 3000 MOS)
	NPU 9125	51346 V	Starlan/Ethernet controller (LSX 3000 X/OS)
	SET 3364	47305 Z	Ethernet line transceiver box (TRX 2000)
MOS CABLES	CBL 2657	46697 Z	RS 232 C single-channel cable for serial peripherals with socket plugged into peripheral
	CBL 2658	46697 Z	RS 232 C dual-channel cable for serial peripherals with socket plugged into peripheral

HARDWARE ITEMS LIST			
HARDWARE GROUP	DENOMI-NATION	RANDOM CODE	DESCRIPTION
MOS CABLES	CBL 2659	46699 N	TTL single-channel cable
	CBL 2660	46501 R	TTL dual-channel cable
	CBL 2661	46524 C	Adapter cable for PR 3300/3600, reading/encoding modules and other socket-configured peripher.
	CBL 3349	46763 V	Adapter cable for non-STD13 perip.
	CBL 3358	46762 T	Modem extension cable (connected only to modem cables)
	CBL 3378	47025 P	Serial interface cable with socket plugged into modem/peripheral connecting to MUX signal distrib.
	CBL 3679	50668 Y	Serial interface cable with plug inserted in peripheral socket, connecting to MUX signal distrib.
	CBL 3657	50666 B	RS 232 C single-channel cable for serial peripherals with plug inserted into peripheral socket
	CBL 3658	50667 D	RS 232 C dual-channel cable for serial peripherals with plug inserted into peripheral socket
	CBL 3679	50668 Y	Serial interface cable with plug inserted into peripheral socket connecting to MUX signal distrib.
	CBL 7090	50409 J	C.L. cable (10 m long) for ELB 3684 connections
	CBL 7092	51092 P	C.L. cable (10 m long) for PC connections
	CBL 8092	53152 F	Straight STD 13 cable, plug/plug at both ends inserted into peripheral and modem sockets

HARDWARE ITEMS LIST			
HARDWARE GROUP	DENOMI-NATION	RANDOM CODE	DESCRIPTION
X/OS CABLES	CBL 2661	46524 C	Adapter cable for PR 3300/3600, reading/encoding modules and other peripherals configured with a socket
	CBL 3349	46763 V	Adapter cable for non-STD 13 peripherals
	CBL 3358	46762 T	Modem extension cable
	CBL 3378	47025 P	Serial interface cable with socket inserted into modem/peripheral plug connecting to MUX signal distribution box
	CBL 3679	50668 Y	Serial interface cable with plug inserted into peripheral socket, connecting to MUX signal distrib.
	CBL 7092	51092 P	C.L. cable (10 m long) for PC connections
	CBL 8083	53149 A	Serial interface cable with 25-way plug inserted into modem/ peripheral socket at one end, and a 9-way plug inserted at the other end to the minicomputer
	CBL 8084	53150 L	Serial interface cable with 25-way socket inserted into peripheral plug at one end, and a 9-way plug inserted at the the other end to the minicomputer
	CBL 8088	53151 D	10 m current loop cable for WS 685 connections
	CBL 8092	53152 F	Straight STD 13 cable, plug/plug at both ends inserted into peripheral and modem sockets

15. VARIABLE FEATURES

This chapter contains tables defining the variable features of the LSX 3000 minicomputer orderable items.

Items	Variable features	Desciption
		BASIC MODULE ROM
BU 8009 BU 8010 APU 8022	ROM 292	ROM for: Autodiagnostics FDU + FDU 45/60M byte STC MTU ESDI interface (dumb) ESDI interface (OLIDISK) Operator console control with/without line diagnostics Single - multi debugger SCSI interface Total memory dump
BU 8009 BU 8010 APU 8022	ROM 319	ROM for: Autodiagnostics FDU + FDU 45/60M byte STC MTU - SCSI interface ESDI interface (OLIDISK) Operator console control with/without line diagnostics Single -multi debugger SCSI interface Total memory dump UPS

Items	Variable features	Description
BU 8516 APU 8517	ROM 322	Like ROM 319 but without FDU and OLIDISK
BU 9001 APU 9009	ROM 297	ROM for: Autodiagnostics FDU + FDU 45/60M byte STC MTU ESDI interface (dumb) ESDI interface (OLIDISK) Operator console control with/without line diagnostics Single - multi debugger
BU 8825 BU 8826	ROM 298	ROM for: Autodiagnostics FDU + FDU 45/60M byte STC MTU ESDI interface (dumb) ESDI interface (OLIDISK) Operator console control with/without line diagnostics Single - multi debugger SCSI interface Total memory dump

Items	Variable features	Description
		VOLTAGES AND FREQUENCIES
BU 8516 BU 8825 BU 8826 BU 8009 BU 8010 BU 9001 OSB 9002 ELB 3684 CAB 8808 PSE 8013 PSE 8527 KIT 8079 SET 8806 SET 8523 FDU 8069 MTU 8809 MTU 8847 UPS 1.2 KW	TEN 001 TEN 002 TEN 004 TEN 005 TEN 010 TEN 011 TEN 013	100 V - 50 Hz 120 V - 50 Hz 220 V - 50 Hz 240 V - 50 Hz 100 V - 60 Hz 115 V - 60 Hz 220 V - 60 Hz
		NETWORK WIRING
BU 8516 BU 8825 BU 8826 BU 8009 BU 8010 BU 9001 OSB 9002 CAB 8808 SET 8806 ELB 3684 PSE 8527 KIT 8079	COR. 005 COR. 041 COR. 042 COR. 043 COR. 050 COR. 080	2.5 m long - European plug 2.5 m long - Swiss plug 2.5 m long - Great Britain plug 2.5 m long - Australian plug 2.5 m long - North American plug 2.5 m long - South African plug

Items	Variable features	Description
		VOLTAGES & FREQ. (DSM 3615/3619)
DSM 3615	TEN 002	120 V - 50 Hz
DSM 3619	TEN 004	220 V - 50 Hz
	TEN 005	240 V - 50 Hz
	TEN 011	115 V - 60 Hz
	TEN 013	220 V - 60 Hz
	TEN 240	220 V - 50 Hz (for Spain)
		TAS VARIABLE FEATURES
ANK 1401	TAS 128	GERMANY
ANK 1402	TAS 166	PORTUGAL
ELB 3684	TAS 187	SPAIN
	TAS 188	SPAIN (1)
	TAS 411	DENMARK
	TAS 435	FRANCE
	TAS 462	GREECE
	TAS 501	ISRAEL
	TAS 504	ITALY
	TAS 515	JAPAN (1)
	TAS 609	NORWAY
	TAS 684	SWEDEN/FINLAND
	TAS 688	GERMAN SWITZERLAND
	TAS 689	FRENCH SWITZERLAND
	TAS 729	U.K.
	TAS 732	USA ASCII
	TAS 755	JUGOSLAVIA (2)

(1) Without simple semigraphic

(2) With simple semigraphic only for ELB 3684 (without simple semigraphic for the other components)

Items	Variable features	Description
		COMMANDS CABLE FOR HDU TO ESDI INTERFACE
CBL 8056	CAV 190 CAV 191	Cable for 1-2 HDU in basic cabinet Cable for 3-4 HDU in CAB 8093
CBL 8083	CAV 197 CAV 198	Peripheral cable 5 m long Modem cable 5 m long
HDU 8071 HDU 8072 HDU 8073	CAV 192 CAV 193	First/second shared hard disk Third/fourth shared hard disk
CDP 8807	CAV 194 CAV 195	For 1 HDU only For 2 HDUs
		COMMANDS CABLE FOR MFU AND HDU
MFU 8097 MFU 8841	CAV 204 CAV 205	Commands cable for MFU Commands cable for 1 and 2 MFUs
HDU 8840 HDU 8844 HDU 8845 HDU 8827 HDU 8828 HDU 8880	CAV 206 CAV 207	Cable for 1 HDU Cable for 2 HDUs
		CABLE FOR MTU 8893
MTU 8893	CAV 216 CAV 217	Cable for the first MTU Cable for the second MTU

Items	Variable features	Description
		VIDEO - KEYBOARD CABLES
ELB 3684	CVT 001	Video cable 1.10 m long - keyboard cable 2 m long
	CVT 002	Video cable 6 m long - keyboard cable 6.5 m long
	CVT 003	Video cable 3.5 m long - keyboard cable 3.5 m long
		SERIAL INTERFACE CABLES
CBL 2657	CAV 062	Std 13 peripheral single-channel cable, 2 m long
	CAV 063	Std 13 peripheral single-channel cable, 6.5 m long
	CAV 085	Std 13 peripheral single-channel cable, 3 m long
CBL 3657	CAV 062	Std 13 peripheral single-channel cable, 2 m long
	CAV 063	Std 13 peripheral single-channel cable, 6.5 m long
	CAV 085	Std 13 peripheral single-channel cable, 3 m long

Items	Variable features	Description
		TTL SERIAL INTERFACE CABLES
CBL 2659	CAV 067	1.5 m single-channel cable for: - MRW 1810 connecting to ELB 1382 - MRW 1810 or MBR 1932 connecting to ELB 3684
	CAV 068	1.5 m single-channel cable for: - MBR 1932 connecting to ELB 1382 (not used for ELB 3684)
	CAV 069	1.5 m single-channel cable for PIN pad connecting to ELB 1382 or ELB 3684
CBL 2660	CAV 070	1.5 m dual-channel cable for: - MRW 1810 and PIN pad connecting to ELB 1382 - MRW 1810 or MBR 1932 and PIN pad connecting to ELB 3684
	CAV 071	1.5 m dual-channel cable for PIN pad and MBR 1932 connecting to ELB 1382 (not used for ELB 3684)
		SERIAL INTERFACE CABLES
CBL 2658	CAV 065	Peripheral dual-channel cable, 3 m long
CBL 3658	CAV 065	Peripheral dual-channel cable, 3 m long
CBL 3378	CAV 147	Peripheral cable, 3 m long
	CAV 149	Modem cable, 3 m long

Items	Variable features	Description
		LENGTH OF MODEM EXTENSION CABLE
CBL 3358	CAV 143	Modem extension cable, 3 m long
	CAV 144	Modem extension cable, 8 m long
		ANTI-GLARE FILTER FOR MONOCHROME VIDEOS
DSM 3615 DSM 3619	SAR 001	Non-coloured screen
	SAR 002	Amber screen
	SAR 003	Green screen
	SAR 004	Grey screen

NOTE - This table does not indicate the variable features for general-purpose printers and optional modules (PIN pad, Badge reader, etc.); this information is available from the related documentation.

UPDATING STATUS

LEVEL	DATE	PAGES UPDATED	PAGES	CODE
0	02/1988		123	4049910M-00
1	06/1989	Pages to be substituted: Cover, Frontispiece, v - viii, 1-1, 1-2, 2-1, 2-2, 3-1, 3-2, 3-4, 3-5, 4-1 - 4-5, 5-1 - 5-12, 5-14 - 5-22, 6-1 - 6-12, 7-7 - 7-9, 9-1 - 9-3, 11-1, 12-1- 12-8, 13-1, 13-2, 13-4, 14-1 - 14-11, 15-1 - 15-7, Back Cover Pages to be added: Updating Status, ix, x, 3-6 - 3-9, 5-23 - 5-39, 6-13 - 6-30, 7-10 - 7-14, 8-11 - 8-14, 15-8 Pages to be removed: 1-3*, 2-3*, 9-4*, 9-5*, 14-12*	149	4049911N-00
2				
3				
4				
5				
6				
7				
8				

Pages marked * should be removed

NOTICE

Ing. C. Olivetti & C. S.p.A. reserves the right to make improvements in the products described in this manual at any time and without notice.

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