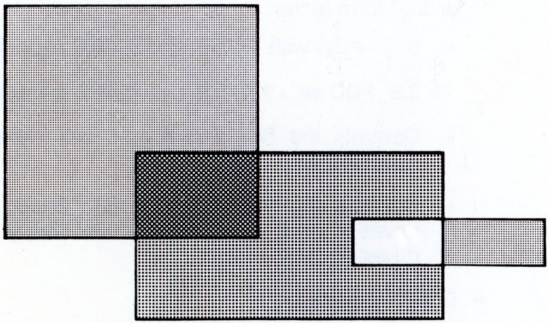
LCS-6812F
FLOPPY DISK ADAPTER



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LCS-6812F

Floppy Disk Adapter

Introduction

The LCS-6812F is an intelligent floppy disk adapter for the IBM PC/XT/AT or compatibles. It is specially designed for systems which already have a floppy or floppy/hard disk controller to control the third or/and fourth floppy disk drives. LCS-6812F can also be used to control the first two floppy disk drives in your system.

- Host Interface: IBM PC/XT/AT or compatibles.
- Controls up to two floppy disk drives with 5.25" or 3.5" form factor.
  - 5.25" FDD with 1.2MB and 360KB capacity.
  - 3.5" FDD with 1.44MB and 720KB capacity.
  - Controls the first two floppy disk drives in your stystem.
  - Controls the third and/or fourth floppy disk drives if your system had two floppy disk drives already.
- DOS Compatibility:
  - Version 2.0 or higher when only 5.25" disk drives with 360KB capacity are used.

- Version 3.0 or higher when only 5.25" disk drives with 360KB or 1.2MB capacity are used.
- Version 3.2 or higher when 360KB, 1.2MB or 720KB floppy disk drives are used.
- Version 3.3 or higher when 360KB, 1.2MB, 720KB or 1.44MB floppy disk drives are used.

Configuration - Jumper Settings

Refer to Fig.1 for location of jumpers on the LCS-6812F when configuring your system.

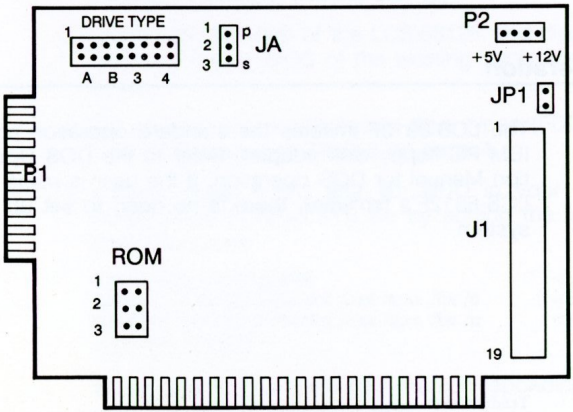


Fig.1 LCS-6812F Jumper Layout

Jumper Settings

JA:
Address Selection

(1,2) Closed to select Primary I/O Address (3F0H-3F7H)

(2,3) Closed to select Secondary I/O Address (370H-377H) (factory setting)

JP1:
System Ground Selection

JP1: Open to select ground disconnection between LCS-6812F and the system case. (Factory setting)

JP1: Closed to select ground connection between LCS-6812F and the system case.

P1:
34-pins connector for connection of internal floppy disk drives.

P2:
Power connector for outside connection of floppy disk drives.

J1:
37-pins D-type connector for floppy disk drives outside the system case.

If the user wants to install floppy disk drives outside system case, contact your dealer for compatible type of drives that can be connected.

ROM:
Embedded Firmware Address Selection.

Refer to Table 1 below for address selection.

Table 1

1	2	3	Address Selection
Closed	Open	Open	CA000H-CBFFFH
Open	Closed	Open	CC000H-CDFFFH (factory setting)
Open	Open	Closed	CE000H-CFFFFH

A, B, 3, 4 Drive Type Selection
Refer to Table 2 below to select your desired drive type.

Table 2

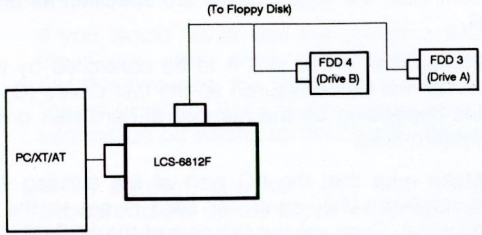
Drive A		Drive B		Drive 3		Drive 4		Drive Type
1	2	3	4	5	6	7	8	
x	x	x	x	x	x	x	x	360KB
Closed	x	Closed	x	Closed	x	Closed	x	1.2MB
Open	Closed	Open	Closed	Open	Closed	Open	Closed	720KB
Open	Open	Open	Open	Open	Open	Open	Open	1.44MB

Note:
The 3rd and 4th floppy disk drives installed with LCS-6812F are referred to Drives 3 and 4 respectively. Drive specifier of the 3rd and 4th floppy disk drives will depend on if there are hard disk drives in your system. Hard disk drives, be it partitioned or not, will be assigned to C, D, E, F,..., etc, first, then the 3rd and 4th floppy disk drives, follow the last drive specifier alphabetically.

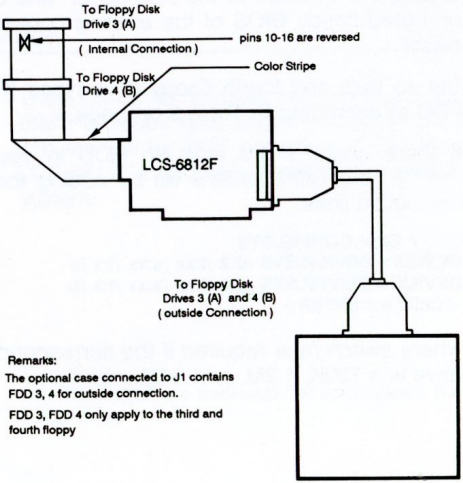
Block Diagram and Cable Connection

Refer to the following illustrations to install the LCS-6812F:

Block Diagram



Cable Connection



Remarks:

- The optional case connected to J1 contains FDD 3, 4 for outside connection.
- FDD 3, FDD 4 only apply to the third and fourth floppy

Using the LCS-6812F as the second floppy disk adapter

1. If your system already has a floppy or floppy/hard disk controller, the floppy drives are specified as drives A & B.

2. Floppy disk drives 3 & 4 to be controlled by the LCS-6812F will be configured as the last drives (C, D, E, F, etc depending on the number of hard disk drives your system has).

3. Make sure that the I/O port of the existing floppy or floppy/hard disk controller card is set to the primary address. Then set the I/O port of the LCS-6812F to the secondary address (factory setting).

4. Enable the firmware of the LCS-6812F and disable the on-board floppy BIOS of the existing controller card if exists.

5. Set up third and fourth floppy drive types (FDD 3 and FDD 4) according to Table 2 on page 4.

6. If there exists a 3rd and 4th HDD in your system, modify your CONFIG.SYS file by adding the following instruction lines:

```
COPY CON:CONFIG.SYS                                    <ENTER>
DEVICE=DRIVER.SYS /d:2 /t:xx /s:xx /f:x /c             <ENTER>
DEVICE=DRIVER.SYS /d:3 /t:xx /s:xx /f:x /c             <ENTER>
<Ctrl-Z> <ENTER>
```

where switch **/c** is required if the corresponding floppy drive is a 720K, 1.2M, or 1.44M.

Refer to the Table 3 for t, s, and f parameters.

Table 3

t	s	f	Drive Type
40	9	0	360K
80	15	1	1.2M
80	9	2	720K
80	18	7	1.44M

5. Turn the system on. The screen display will be as follows:

```
Drive A is a xxxxB floppy disk drive
Drive B is a xxxxB floppy disk drive
Drive 3 is a xxxxB floppy disk drive
Drive 4 is a xxxxB floppy disk drive
```

Where xxxx can be 360K, 1.2M, 720k or 1.44M.

Immediately afterwards the system will boot (from drive C if you have a hard disk) and be ready for operation.

Remarks

In PC AT system, uses the CMOS RAM Setup to set up Drive A and B to 360K, 1.2M, 720K or 1.44M.

If there are hard disk drives in your system, they will be configured as drives C, D, E, etc, then the third and fourth floppy drives accordingly.

Due to the limitation of DOS 4.0, remove any hard disk drive in your system for the third and fourth floppy disk drives to work.

To format your floppy disks, use the command line below:

Format d:/s /n:xx /t:xx <ENTER>

where **d** is the drive specifier,
and switch **/s** is used to tell DOS to make a copy of the operating system to the diskette you are fomatting.

Refer to Table 4 for n and t parameters.

Table 4

n	t	Drive Type
9	40	360K
15	80	1.2M
9	80	720K
18	80	1.44M

For more information about CONFIG.SYS and FORMAT, refer to the DOS Operation Guide.

Using the LCS-6812F as the sole floppy disk adapter

If the LCS-6812F is the only floppy disk drive controller in your system, it can control only two drives. Set the I/O port to the primary address and configure your drives as A or B or both.

If you would rather use the system's BIOS to set up the floppy disk drives instead of using the LCS-6812F's firmware, the **ROM** jumpers must all be set to "open" (disable). Refer to the system user's manual for information on setting up floppy disk drives.

In XT system, you can only use the LCS-6812F's firmware to set up the floppy disk drive types because the XT's system BIOS cannot support disk drive types other than 360KB.

Operation

The LCS-6812F imitates the standard operation of an IBM PC floppy disk adapter. Refer to the DOS Operation Manual for DOS operation. If the user is using the LCS-6812F's firmware, there is no need to set up the system.

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