



Board number
FPK0416XB3(X)

Jumpers DS1, DS2, DS3 and DS4

The DS1 to DS4 jumpers determine the *Drive Select* signal the drive should react to.

Only one of the jumpers must be placed.

For PC-AT interfaces only DS1 and DS2 will function, for Shugart interfaces DS1 to DS4 will work.

When using the drive in a system with PC-AT interface, it should be noted that the *Motor Enable* input signal is only taken from pin number 16. There are two options to handle this issues. The first option is to use a ribbon cable with a twist and place the DS2 jumper on all drives. In this case the drive that is connected behind the twist will be drive 0 and the drive that is connected before the twist will be drive 1. The second option is to use a untwisted ribbon cable and shorting the pin number 10 and pin number 16 together, the DS1 or DS2 jumper of the connected drives can then be placed.

When using the drive in a systems with Shugart interface DS1, DS2, DS3 or DS4 can be placed to make it drive 0, drive 1, drive 2 or drive 3 respectively.

The jumper DS2 will be placed in the default setting.

Jumper 1M

The 1M jumper determines the density mode of the drive.

When the 1M jumper is not placed the density mode will depend on the *Density Select* signal.

When the 1M jumper is placed the drive will always be in low density mode.

This jumper is not placed in the default setting.

Jumper 1E

The 1E jumper determines the tracks per inch of the drive.

When the 1E jumper is not placed the drive will operate in 48 TPI mode.

When the 1E jumper is placed the drive will operate in 96 TPI mode.

In the default setting this jumper is set via a solder bridge.

Jumper AX

The AX jumper determines how changes to the *Density Select* should be handled.

When the AX jumper is not placed the *Density Select* can be switched at any time.

When the AX jumper is placed the *Density Select* can only be switched when the *Drive Select* signal is inactive, otherwise the changes to the *Density Select* signal will be ignored.

This jumper is not placed in the default setting.

Jumper BX

The BX jumper controls whether or not the drives rotational speed should depend on the density mode.

When the BX jumper is not placed the rotational speed will always be 360 RPM.

When the BX jumper is placed the rotational speed will be 360 RPM when the drive is in high density mode and 300 RPM when the drive is in low density mode.

For PC-AT interfaces the BX jumper can be placed. This jumper is not placed in the default setting.

Jumpers DC, RDY, DO, NDO and DD

The DC, RDY, DO, NDO and DD jumpers select what signal shall be output on pin number 34.

When DC is placed the *Disk Change* signal, reset by the *Step* signal, will be used.

When RDY is placed the *Ready* signal will be used.

When DO is placed the *Disk Out* signal will be used.

When NDO is placed the *Disk In* signal will be used.

When DD is placed the *Disk Change* signal, reset by the *Drive Select* signal, will be used.

For PC-AT interfaces the DC jumper should be placed, this is also the default setting.

Jumper EX

The EX jumper enabled or disables the internal track counting.

When the EX jumper is not placed the internal track counting is disabled.

When the EX jumper is placed the internal track counting is enabled.

In the default setting this jumper is not placed.

Jumper GX

The GX jumper influences the *Read Data* signal.

When GX is not placed the *Read Data* signal is enabled by the *Drive Select* signal.

When GX is placed the *Read Data* signal is enabled by the *Write Gate*, *Write Protect*, *Drive Select* signals and the head being on a track.

In the default setting this jumper is placed.

Jumpers HL, HS, HM and HL1

The HL, HS, HM and HL1 jumpers determine the source of the internal *Head Load* signal.

When the HL jumper is placed the signal will be derived from the *Drive Select* signal and the *Ready* signal.

When the HS jumper is placed the signal will be derived from the *Drive Select* signal.

When the HM jumper is placed the signal will be derived from the *Motor Enable* signal.

When the HL1 jumper is placed the signal will be derived from the *Head Load* signal (pin number 4).

The jumper HL1 may be placed when the floppy controller generates a valid *Head Load* signal. In the default setting the HM jumper is set via a solder bridge.

Jumper MS

The MS jumper controls under what conditions the drive motor should turn on.

When the MS jumper is not placed the motor will only turn on when the *Motor Enable* signal is active.

When the MS jumper is placed the motor will only turn on when the *Drive Select* signal is active.

For PC-AT interfaces the MS jumper should not be placed, this is also the default setting.

Jumper MX

The MX jumper defines if the drive is in multiplex mode or if it is in regular drive select mode. In multiplex mode the drive is permanently active, as if its *Drive Select* signal was active.

When the MX jumper is not placed the drive will function in regular drive select mode, only being active when its *Drive Select* signal is active.

When the MX jumper is placed the drive will always be active regardless of its *Drive Select* signal.

For PC-AT interfaces the MX jumper should not be placed, this is also the default setting.

Jumpers PH and NH

The PH and NH jumpers determine how the *Density Select* (Pin number 2) input signal should be interpreted.

When the PH jumper is placed a high signal on the *Density Select* pin switches the drive into low density mode and a low signal switches the drive into high density mode.

When the NH jumper is placed the behavior is inverted, a high signal on the *Density Select* pin switches the drive into high density mode and a low signal switches the drive into low density mode.

For PC-AT interfaces the PH jumper should be placed, this is also the default setting.

Jumper RY

The RY jumper connects the output for pin number 34 to the internal driver.

When the RY jumper is not placed pin number 34 will not be driven.

When the RY jumper is placed pin number 34 will be driven.

In the default setting this jumper is set via a solder bridge.

Jumpers UA, DA, LA, and HA

The UA, DA, LA, and HA jumpers determine the behavior of the drives activity LED in the front panel.

When the UA jumper is placed the activity LED will light up with the *Ready* signal.

When the DA jumper is placed the activity LED will light up with the *Drive Select* signal.

When the LA jumper is placed the activity LED will light up when the *In Use* signal was active before the *Drive Select* became active.

When the HA jumper is placed the activity LED will light up with either the *Drive Select* signal or the *Ready* signal.

In the default setting the DA jumper is placed.

Jumper TH

The TH jumper controls whether or not the output on pin number 34 should always be driven or only when the *Drive Select* signal is active.

When TH is not placed the output on pin number 34 should will only be driven when the *Drive Select* signal is active.

When TM is placed the output on pin number 34 will always be driven.

This jumper is not placed in the default setting.

Jumper TM

The TM jumper connects or disconnects the 1500hm termination resistors from the input data lines.

When TM is not placed the termination resistors are isolated from the input data lines.

When TM is placed the input data lines are pulled up to 5V via the termination resistors.

This jumper is placed in the default setting.