

Hard Drive: QUANTUM: PRODRIVE 40 AT 42MB 3.5"/HH IDE / AT



```

P R O D R I V E  4 0  A T  Q U A N T U M
NO MORE PRODUCED

                                     Native| Translation
                                     -----+-----+-----
Form                3.5"/HH          Cylinders      | 965|      |
Capacity form/uniform  42/      MB    Heads          |  5|      |
Seek time / track    19.0/ 6.0 ms     Sector/track   | 17|      |
Controller           IDE / AT         Precompensation 65535
Cache/Buffer         64 KB            Landing Zone
Data transfer rate   1.250 MB/S int   Bytes/Sector   512
                    4.000 MB/S ext

Recording method     RLL
                                     operating | non-operating
                                     -----+-----
Supply voltage       5/12 V           Temperature *C  4 50 | -40 65
Power: sleep         W                 Humidity      %  8 85 |  5 95
  standby            W                 Altitude     km -0.060 3.000| -0.060 12.000
  idle               8.0 W             Shock         g   10 | 60
  seek               W                 Rotation     RPM 3662
  read/write         W                 Acoustic     dBA 45
  spin-up            W                 ECC          Bit
                                     MTBF         h 50000
                                     Warranty Month 24
Lift/Lock/Park      YES               Certificates
    
```

Layout

QUANTUM PRODRIVE 40/80AT TECHNICAL REFERENCE MANUAL REV. A 10/90

```

+-----+
|                * *      |XX
|                * *      |XX
|                SS DS    |XX 40-pin
|                |         |XX J2
|XX              |         |XX AT-Bus
    
```

XX	XX
XX	.X
XX	XX
XX	XX
XX	XX
XX HDA Connector	XX
	XX
	XX
	XX Power
	XX J1
+-----+	

Jumpers

QUANTUM PRODRIVE 40/80AT TECHNICAL REFERENCE MANUAL 10/90 REV. A

Jumper Setting

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AT Jumpers

A master/slave relationship must be established between drives on the AT bus. If only one drive is installed on the AT bus, it must be configured as the Master drive. If two drives are installed, one must be configured as the Master and the other as the Slave. The order in which drives are connected on the cable has no significance.

Install jumpers only on the jumper pins called out in the following table. If the jumper location name is not listed for your configuration do not short the pins.

The ProDrive 40/80 has two version that require different jumpers settings. These version are denoted as EPROM < 7.0 and EPROM 7.0. To differentiate between these two versions, look at the printed circuit board on the bottom of the drive and note that there is a chip with either a white label or a large white letters denoting the version of the chip as either A6.XXX or AT7.XXX. If the version number is greater than or equal to 7.0 then refer to the column labeled EPROM 7.0. If the version is less than 7.0 then refer to EPROM < 7.0.

+-----+					
	PD 40/80	PD 40/80	PD LPS	PD 120/170 Other Master	
	EPROM<7.0	EPROM 7.0	52/105	210	
	MASTER	MASTER	MASTER	MASTER	

PD 40/80	M:DS,SS	M:DS,DM	M:DS,SS	M: ??	
SLAVE	S:None	S:NONE	S:NONE	S:NONE	
PD LPS	M:DS,SS		M:DS	M: ?	
52/105	S:DM		S:NONE	S:NONE	
SLAVE					
PD 120/	M:DS,SS		M:DS	M: ?	
170/210	S:SS		S:NONE	S:SP	
SLAVE					
Other	M:DS	M:SS		M:DS or DS,SP	???
SLAVE	S:??	S:??		S:??	???
NO SLAVE		Master: DS			???

M = MASTER
S = SLAVE
PD = PRODRIVE

ProDrive 40/80AT

Connector Type G&W Elco 00 8283 0211 00000
Mating Connector G&W Elco 60 8283 3028 15000
Contact Part No. G&W Elco 60 8283 0523 99808

Drive Select: DS jumper pins (Firmware Version T6.8 or less)

Two drives can be daisy-chained on the AT-Bus interface. When two drives are attached one must be configured as the MASTER, and the other as the SLAVE, using the Drive Select (DS) jumper. With a jumper installed on the DS jumper pins, the drive is configured as the MASTER alone (Drive 0) or with a competitor's drive as a slave; with no jumper on the DS pins, the drive is configured as the SLAVE (Drive 1). The order of the connection of drives in the daisy chain is not significant.

The ProDrive 40/80AT drives are sent from the factory with the DS jumper installed (Drive 0).

Drive Select: DS jumper pins (Firmware Version T7. or greater)

Two drives can be daisy-chained on the AT-Bus interface. When two drives are attached one must be configured as the MASTER, and the other as the SLAVE, using the Drive Select (DS) jumper. With a jumper installed on the DS jumper pins, the drive is configured as the MASTER alone (Drive 0); with no jumper on the DS pins, the drive is

configured as the SLAVE (Drive 1). The order of the connection of drives in the daisy chain is not significant.

The ProDrive 40/80AT drives are sent from the factory with the DS jumper installed (Drive 0).

Self-Seek Test: SS jumper pins (Firmware Version of T6.8 or less)

The self-seek (SS) jumper has two meanings, depending on the setting of the drive select (DS) jumper:

- If a drive is configured as a MASTER (DS installed), the SS jumper informs the drive of the presence of a ProDrive SLAVE drive. If a SLAVE drive is present, a jumper should be installed on the SS jumper pins on the master; if no SLAVE is present, the SS jumper should not be installed on the master drive.

- The second function of the SS jumper is used to select the self seek test. The Self seek test continuously exercises the actuator of the drive. When the jumper is installed on the SS jumper pins, the drive performs random seek pattern, verifying track IDs after every seek. The pattern will repeat as long as power is applied to the drive until the jumper is removed, or until an error has occurred. When the SS jumper is not installed, the drive is simply configured as the SLAVE in a dual drive environment; no self seek tests will be performed.

Self-Seek Test: SS jumper pins (Firmware Version of T7.0 or greater)

The self-seek (SS) jumper has two meanings, depending on the setting of the drive select (DS) jumper:

- If a drive is configured as a MASTER (DS installed), the SS jumper informs the drive of the presence of a ProDrive 40/80AT SLAVE drive. If a SLAVE drive is present, a jumper should be installed on the SS jumper pins on the master; if no SLAVE is present, the SS jumper should not be installed on the master drive.

- The SS pins can be used in conjunction with a competitor's drive. A jumper on the SS pins suggests the presence of a competitor's slave drive.

Jumper Setting Options (Firmware Version T6.8 or less)

```
-----+-----+
| Jumper | Meaning |
| DS | SS | |
+-----+-----+
| 1 | 0 | MASTER Drive alone or with a competitor's drive as slave |
+-----+-----+
| 1 | 1 | MASTER Drive with a ProDrive SLAVE present |
+-----+-----+
| 0 | 0 | SLAVE Drive in dual drive configuration |
+-----+-----+
| 0 | 1 | Self-Seek Test selected |
+-----+-----+
```

0 = no jumper installed
1 = jumper installed on jumper pins

Jumper Setting Options (Firmware Version T7.0 or greater)

```
-----+-----+
| Jumper | Meaning |
| DS | SS | |
+-----+-----+
| 1 | 0 | MASTER Drive alone (no other drive on the bus |
+-----+-----+
| 1 | 1 | MASTER Drive with a ProDrive 40/80AT SLAVE present |
+-----+-----+
| 0 | 0 | SLAVE Drive in dual drive configuration |
+-----+-----+
| 0 | 1 | MASTER with a competitor's drive as slave |
+-----+-----+
```

0 = no jumper installed
1 = jumper installed on jumper pins