Quick Reference Guide
For
Disk Drive Products

October 1995
REV D

SECTION ONE IDE DRIVES

CFS425A
CFA540A
CFS540A
CFS541A
CP30544
CFA810A
CFS850A
CFA850A
CFA1080A
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CFA1275A
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SECTION TWO SCSI DRIVES

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CFN250S

Part two SCSI 3.5" HALF-HEIGHT
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CFP4207W

Part three SCSI 3.5" 1/3 HEIGHT
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CFA340S/CFA170S (CP30340/30170)
CP30540
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CFP2107W

SECTION ONE

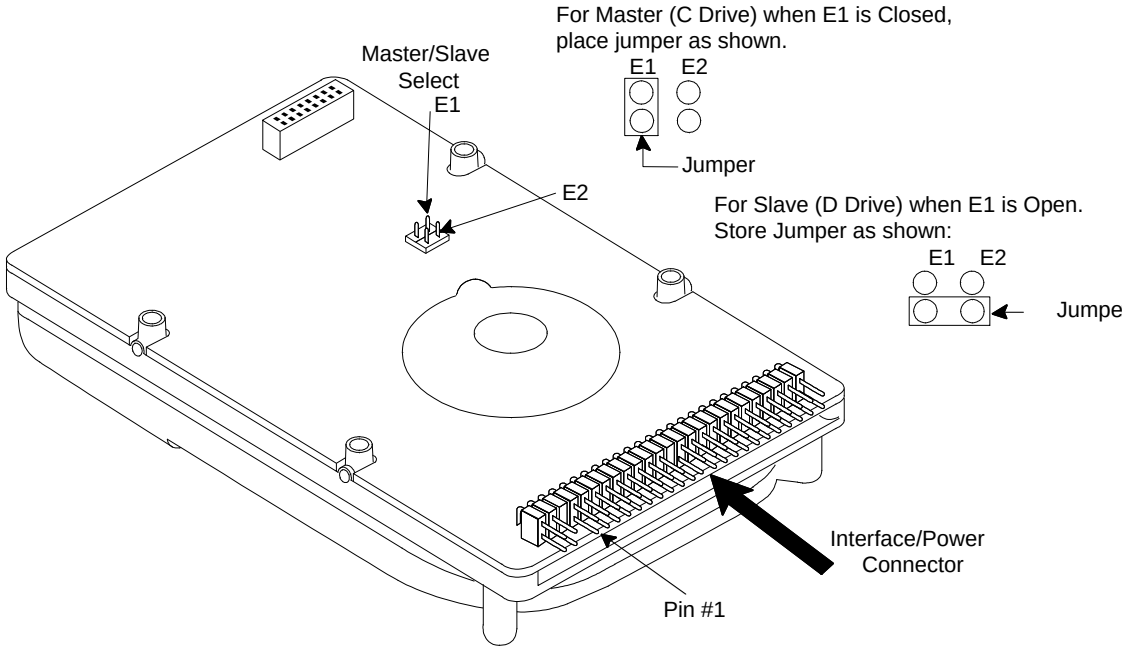
IDE DRIVES

PART ONE IDE 2.5”

CP2034

Customer Options

The CP2034 is designed to operate as a master (Drive C) or as a Slave (Drive D). This feature is dependent on two settings; Jumper E1 and the firmware setting of a feature bit. E1 closed and the feature bit is set, the drive will be the Master. E1 open the drive will be the Slave. As a single drive, E1 should be closed.



CMOS Drive Parameters	
Cylinders	411
Heads	4
Sectors	38
Precomp	0
Landing Zone	411

Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion
Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

PANCHO Series

CP-2034 Specification Summary

High Performance, 2.5-inch Disk Drives.
32 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for notebook computers
- 19 msec average seek time
- Uses only 1.3 watts of power
- Rugged: 100 G's of shock
- Ultra light: weighs only 7 ounces
- Requires a single 5 volt power supply
- PC/AT®- compatible interface

	MODEL CP-2034
Embedded Controller/Interface	PC/AT
Capacity (Formatted)	32 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil
Number of Disks	1
Data Surfaces	2
Data Heads	2
Servo	Embedded
Tracks per Surface	823
Track Density	2100 TPI
Track Capacity (Formatted)	19,456 bytes
Bytes per Block	512
Blocks per Drive	62,548
Sectors per Track	38

PERFORMANCE

Seek Times*	
Track to Track	5 msec
Average	19 msec**
Maximum	40 msec
Average Latency	8.7 msec
Rotation Speed (± .1%)	3486 RPM
Controller Overhead	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec
Data Transfer Rate To/from Buffer	4.5 MB/sec
Start Time – Power Up (0-Ready)	
Typical	10 sec
Maximum	20 sec
Stop Time – Power Down	
Typical	3 sec
Maximum	5 sec
Start/stop Cycles	40,000 min
Interleave	1:1
Buffer Size	32 K

* At nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	2,7 RLL code
Flux Density – ID (flux reversals per inch)	28,146

POWER REQUIREMENTS

(typical)

	+5 VDC ± 5%	POWER
R/W Mode	550 ma	2.8 W
Seek Mode	550 ma	2.8 W
Idle Mode	250 ma	1.3 W
Standby Mode	80 ma	.40 W
Sleep Mode	30 ma	.30 W
Spin-up Mode	1.11 amp	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	0.75" (19.0 mm)
	Length	4.00" (101.6 mm)
	Width	2.75" (69.8 mm)
	Weight	7.0 oz (.19 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, ½ octave per minute
Non-operating Shock	100 G's
Non-operating Vibration	
5-31 Hz	.010" (double amplitude)
32-500 Hz	5 G's (peak)
Operating Shock	10 G's (without non-recoverable errors)
Operating Vibration	
5-9 Hz	.010" (double amplitude)
10-500 Hz	.50 G's (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 1.5 MHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	34 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

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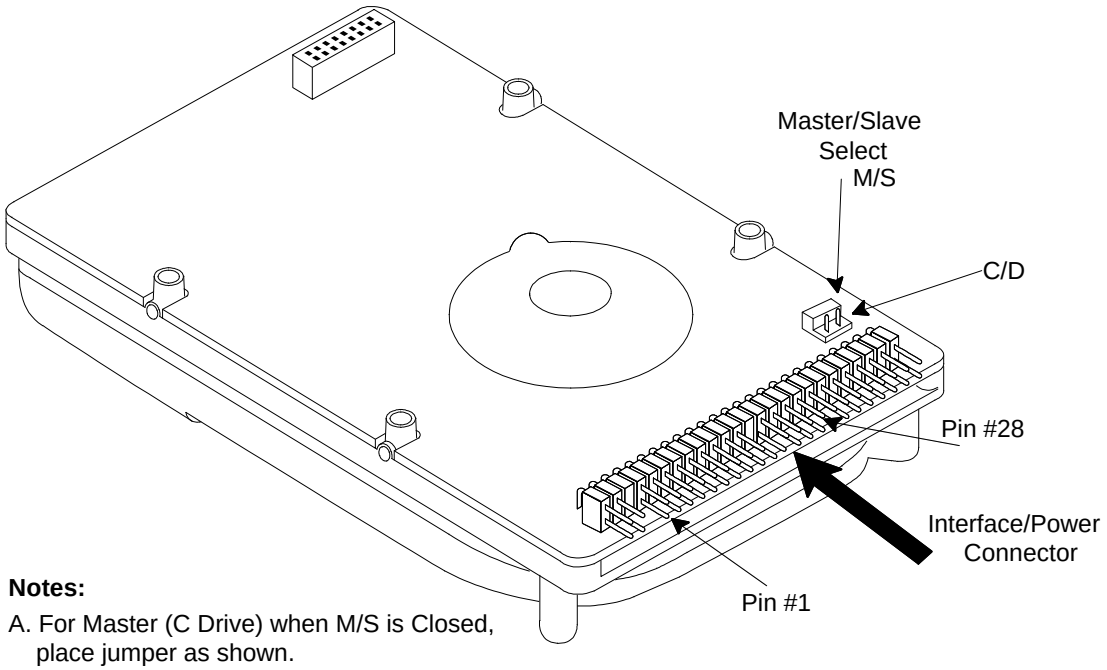
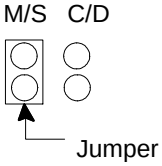
CP2044/CP2044PK
Customer Options

The CP2124 drive is designed to operate either as a Master drive (C Drive) or a Slave Drive (D Drive). This feature is dependent on two drive settings; the status of hardware Jumper M/S and the firmware setting of a feature bit. When (M/S) is closed, and the feature bit is set, the drive will assume the role of a Master Drive. When (M/S) is open, and the feature bit reset, the drive will act as the Slave. In single drive configurations M/S must remain in the closed position.

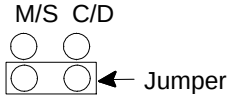


Notes:

A. For Master (C Drive) when M/S is Closed, place jumper as shown.



B. If Master/Slave feature is selected at Pin 28 of the interface/power connector, jumper M/S should be left open as ashown:



CMOS Drive Parameters	
Cylinders	980
Heads	5
Sectors	17
Precomp	0
Landing Zone	980

Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion
Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

PANCHO Series

CP-2040 Specification Summary

High Performance, 2.5-inch Disk Drives.
42 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for notebook computers
- Sub-15 msec average seek time
- Uses only 1.5 watts of power
- Rugged: 100 Gs of shock
- Ultra light: weighs only 7 ounces
- Requires a single 5 volt power supply
- PC/AT® or SCSI interface

	MODEL CP-2044PK	MODEL CP-2040
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	42.6 MB	42.6 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Tracks per Surface	548	548
Track Density	1700 TPI	1700 TPI
Track Capacity (Formatted)	19,456 bytes	19,456 bytes
Bytes per Block	512	512
Blocks per Drive	83,904	83,904
Sectors per Track	38	38

PERFORMANCE

Seek Times (typical)*		
Track to Track	2 msec	2 msec
Average	sub-15 msec**	sub-15 msec**
Maximum	sub-25 msec	sub-25 msec
Average Latency	8.7 msec	8.7 msec
Rotation Speed (± .1%)	3486 RPM	3486 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec	1.5 MB/sec
Data Transfer Rate To/from Buffer	4.5 MB/sec	4.5 MB/sec
Start Time – Power Up (0-Ready)		
Typical	6 sec	6 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	2 sec	2 sec
Maximum	5 sec	5 sec
Start/stop Cycles	60,000 min	60,000 min
Interleave	1:1	1:1
Buffer Size	32 K	32 K

* At nominal DC input voltages/nominal temperature.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	2,7 RLL code
Flux Density – ID (flux reversals per inch)	24,526

POWER REQUIREMENTS
(typical)

	+5 VDC ± 5%	POWER
R/W Mode	500 ma	2.5 W
Seek Mode	500 ma	2.5 W
Idle Mode	300 ma	1.5 W
Standby Mode	70 ma	.35 W
Sleep Mode	50 ma	.25 W
Spin-up Mode	1.0 amp	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	0.75" (19.0 mm)
	Length	4.00" (101.6 mm)
	Width	2.75" (69.8 mm)
	Weight	7.0 oz (.19 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	100 Gs (without non-recoverable errors)
Non-operating Vibration	
5-32 Hz	.100" (double amplitude)
33-500 Hz	5 Gs (peak)
Operating Shock	10 Gs (without non-recoverable errors)
Operating Vibration	
5-9 Hz	.100" (double amplitude)
10-500 Hz	.50 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 1.5 MHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	34 dBA max. at 1 meter in idle mode.

NOTE: Specifications subject to change.

CONNER

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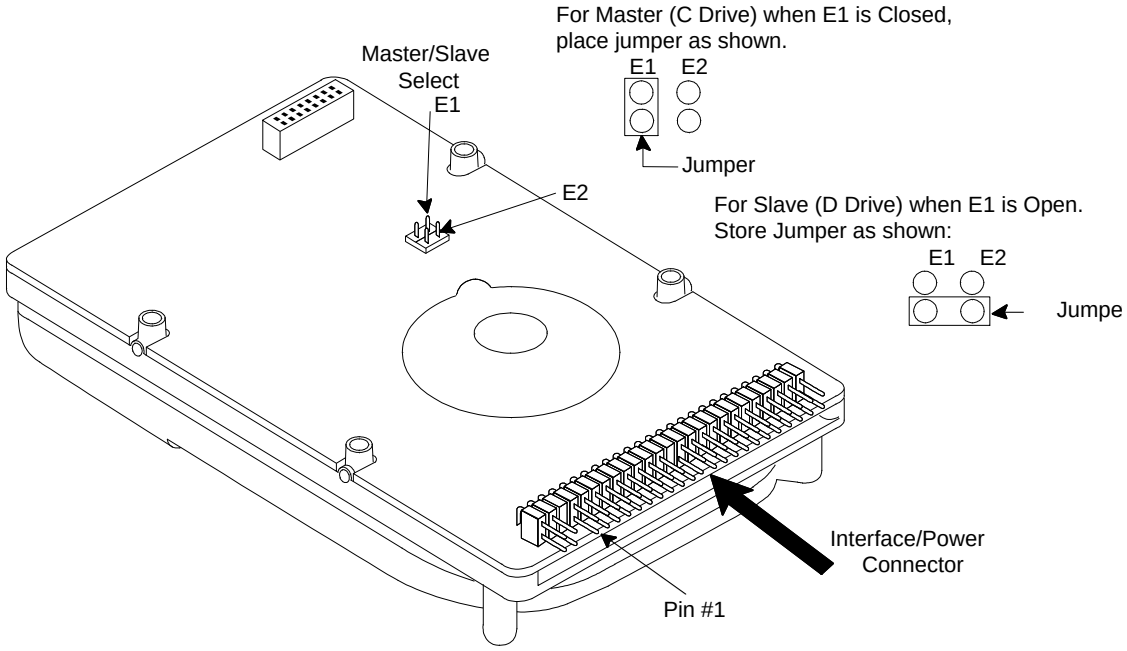
CP2064

Customer Options

The CP2064 is designed to operate as a master (Drive C) or as a Slave (Drive D). This feature is dependent on two settings; Jumper E1 and the firmware setting of a feature bit. E1 closed and the feature bit is set, the drive will be the Master. E1 open the drive will be the Slave. As a single drive, E1 should be closed.



CMOS Drive Parameters	
Cylinders	823
Heads	4
Sectors	38
Precomp	0
Landing Zone	823

Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion
Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

PANCHO Series

CP-2064 Specification Summary

High Performance, 2.5-inch Disk Drives.
64 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for notebook computers
- 16 msec average seek time
- Uses only 1.3 watts of power
- Rugged: 100 Gs of shock
- Ultra light: weighs only 7 ounces
- Requires a single 5 volt power supply
- PC/AT®- compatible interface

	MODEL CP-2064
Embedded Controller/Interface	PC/AT
Capacity (Formatted)	64 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil
Number of Disks	2
Data Surfaces	4
Data Heads	4
Servo	Embedded
Tracks per Surface	823
Track Density	2100 TPI
Track Capacity (Formatted)	19,456 bytes
Bytes per Block	512
Blocks per Drive	125,096
Sectors per Track	38

PERFORMANCE

Seek Times (typical)*	
Track to Track	2 msec
Average	16 msec**
Maximum	30 msec
Average Latency	8.7 msec
Rotation Speed (± .1%)	3486 RPM
Controller Overhead	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec
Data Transfer Rate To/from Buffer	4.5 MB/sec
Start Time – Power Up (0-Ready)	
Typical	6 sec
Maximum	20 sec
Stop Time – Power Down	
Typical	2 sec
Maximum	5 sec
Start/stop Cycles	60,000 min
Interleave	1:1
Buffer Size	32 K

* At nominal DC input voltages/nominal temperature.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	2,7 RLL code
Flux Density – ID (flux reversals per inch)	26,148

POWER REQUIREMENTS

(typical)

	+5 VDC ± 5%	POWER
R/W Mode	400 ma	2.0 W
Seek Mode	400 ma	2.0 W
Idle Mode	260 ma	1.3 W
Standby Mode	70 ma	.35 W
Sleep Mode	50 ma	.25 W
Spin-up Mode	1.11 amp	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	0.75" (19.0 mm)
	Length	4.00" (101.6 mm)
	Width	2.75" (69.8 mm)
	Weight	7.0 oz (.19 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	100 Gs (without non-recoverable errors)
Non-operating Vibration	
5-32 Hz	.100" (double amplitude)
33-500 Hz	5 Gs (peak)
Operating Shock	10 Gs (without non-recoverable errors)
Operating Vibration	
5-9 Hz	.100" (double amplitude)
10-500 Hz	.50 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 1.5 MHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	34 dBA max. at 1 meter in idle mode.

NOTE: Specifications subject to change.

CONNER

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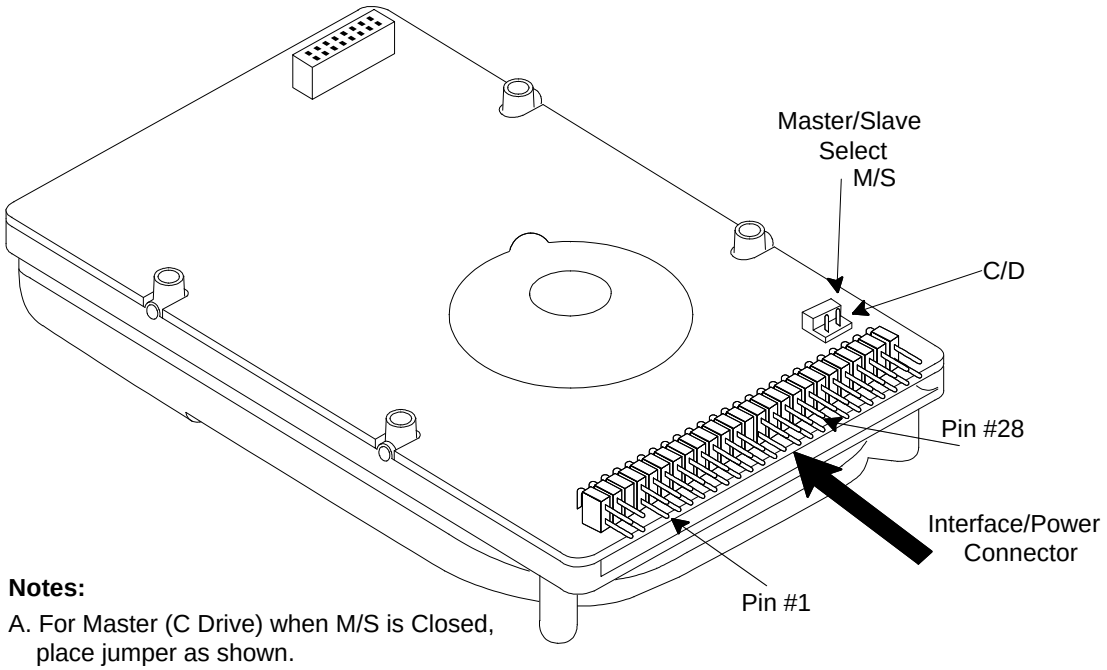
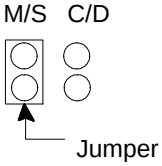
CP2084
Customer Options

The CP2084 drive is designed to operate either as a Master drive (C Drive) or a Slave Drive (D Drive). This feature is dependent on two drive settings; the status of hardware Jumper M/S and the firmware setting of a feature bit. When (M/S) is closed, and the feature bit is set, the drive will assume the role of a Master Drive. When (M/S) is open, and the feature bit reset, the drive will act as the Slave. In single drive configurations M/S must remain in the closed position.

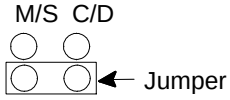


Notes:

A. For Master (C Drive) when M/S is Closed, place jumper as shown.



B. If Master/Slave feature is selected at Pin 28 of the interface/power connector, jumper M/S should be left open as ashown:



CMOS Drive Parameters	
Cylinders	548
Heads	8
Sectors	38
Precomp	0
Landing Zone	548

Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion
Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

PANCHO Series

CP-2084 Specification Summary

High Capacity, 2.5-inch Disk Drives.
85 Mbytes Formatted Capacity.

KEY FEATURES

- Ideal for full-featured notebook computers
- 16 msec average seek time
- Uses only 1.0 watt of power
- Rugged: 100 Gs of shock
- Ultra light: weighs only 7 ounces
- Requires a single 5 volt power supply
- PC/AT®- compatible interface

	MODEL CP-2084
Embedded Controller/Interface	PC/AT
Capacity (Formatted)	85 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil
Number of Disks	2
Data Surfaces	4
Data Heads	4
Servo	Embedded
Tracks per Surface	1096
Track Density	2350 TPI
Track Capacity (Formatted)	19,456 bytes
Bytes per Block	512
Blocks per Drive	166,592
Sectors per Track	38

PERFORMANCE

Seek Times (typical)*	
Track to Track	3 msec
Average	16 msec**
Maximum	35 msec
Average Latency	8.6 msec
Rotation Speed (± .1%)	3486 RPM
Controller Overhead	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec
Data Transfer Rate To/from Buffer	6.5 MB/sec
Start Time – Power Up (0-Ready)	
Typical	7 sec
Maximum	20 sec
Stop Time – Power Down	
Typical	2 sec
Maximum	5 sec
Start/stop Cycles	60,000 min
Interleave	1:1
Buffer Size	32 K

* At nominal DC input voltages/nominal temperature.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density – ID	43,800 BPI
Flux Density – ID (flux reversals per inch)	32,900

POWER REQUIREMENTS
(typical)

	+5 VDC ± 5%	POWER
R/W Mode	350 ma	1.75 W
Seek Mode	350 ma	1.75 W
Idle Mode	200 ma	1.00 W
Standby Mode	70 ma	.35 W
Sleep Mode	50 ma	.25 W
Spin-up Mode	.95 amp	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	0.75" (19.0 mm)
	Length	4.00" (101.6 mm)
	Width	2.75" (69.8 mm)
	Weight	7.0 oz (.19 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	100 Gs (without non-recoverable errors)
Non-operating Vibration	
5-32 Hz	.100" (double amplitude)
33-500 Hz	5 Gs (peak)
Operating Shock	10 Gs (without non-recoverable errors)
Operating Vibration	
5-9 Hz	.100" (double amplitude)
10-500 Hz	.50 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (0 – 700 KHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	34 dBA max. at 1 meter in idle mode.

NOTE: Specifications subject to change.

CONNER

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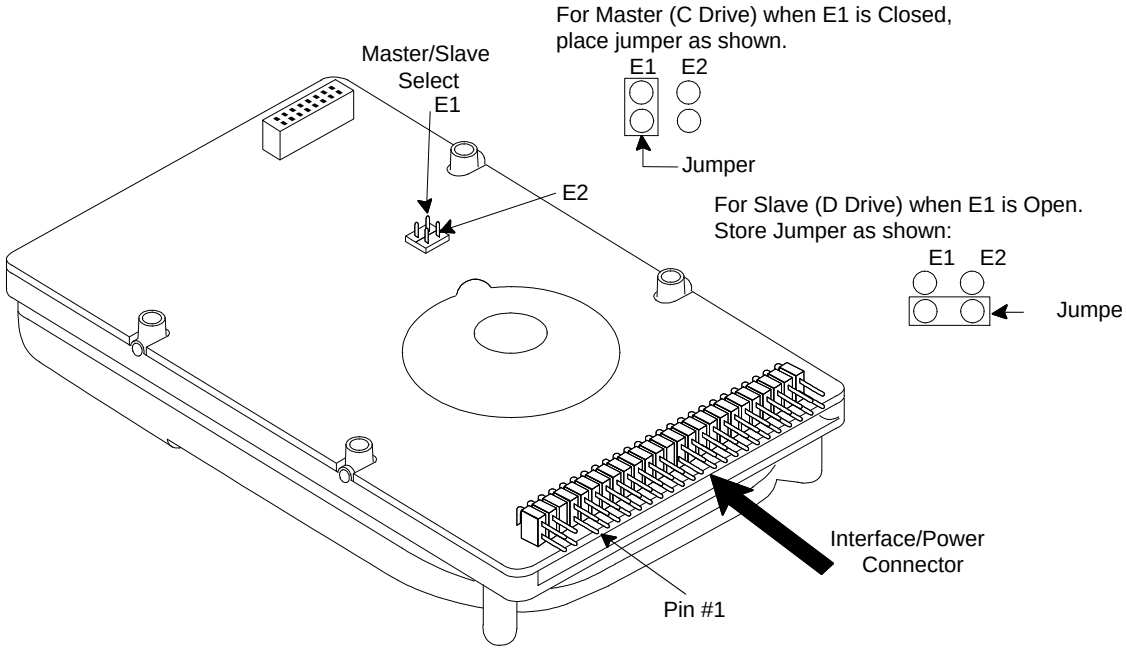
CP2088

Customer Options

The CP2088 is designed to operate as a master (Drive C) or as a Slave (Drive D). This feature is dependent on two settings; Jumper E1 and the firmware setting of a feature bit. E1 closed and the feature bit is set, the drive will be the Master. E1 open the drive will be the Slave. As a single drive, E1 should be closed.



CMOS Drive Parameters	
Cylinders	548
Heads	8
Sectors	38
Precomp	0
Landing Zone	548

Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion
Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

HONSHU Series

CP-2088 Specification Summary

High Capacity, 2.5-inch Disk Drives.
85 Mbytes Formatted Capacity.

KEY FEATURES

- Ideal for full-featured notebook computers
- 19 msec average seek time
- Uses only 1.5 watts of power
- Rugged: 100 Gs of shock
- Ultra light: weighs only 7 ounces
- Requires a single 5 volt power supply
- PC/AT® interface

	MODEL CP-2088
Embedded Controller/Interface	PC/AT
Capacity (Formatted)	85 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil
Number of Disks	2
Data Surfaces	4
Data Heads	4
Servo	Embedded
Tracks per Surface	1097
Track Density	2300 TPI
Track Capacity (Formatted)	19,456 bytes
Bytes per Block	512
Blocks per Drive	166,744
Sectors per Track	38

PERFORMANCE

Seek Times (typical)*	
Track to Track	5 msec
Average	19 msec**
Maximum	40 msec
Average Latency	8.6 msec
Rotation Speed (± .1%)	3486 RPM
Controller Overhead	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec
Data Transfer Rate To/from Buffer	4.5 MB/sec
Start Time – Power Up (0-Ready)	
Typical	10 sec
Maximum	20 sec
Stop Time – Power Down	
Typical	3 sec
Maximum	5 sec
Start/stop Cycles	40,000 min
Interleave	1:1
Buffer Size	32 K

* Typical nominal DC input voltages/nominal temperature.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code (MIG)
Recording Density – ID	43,800 BPI
Flux Density – ID (flux reversals per inch)	32,900

POWER REQUIREMENTS

(PC/AT interface typical)

	+5 VDC ± 5%	POWER
R/W Mode	450 ma	2.25 W
Seek Mode	450 ma	2.25 W
Idle Mode	300 ma	1.50 W
Standby Mode	120 ma	0.60 W
Sleep Mode	70 ma	0.35 W
Spin-up Mode	1.11 amp	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	0.75" (19.0 mm)
	Length	4.00" (101.6 mm)
	Width	2.75" (69.8 mm)
	Weight	7.0 oz (.19 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 100,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	100 Gs (without non-recoverable errors)
Non-operating Vibration	
5-31 Hz	.010" (double amplitude)
32-500 Hz	5 Gs (peak)
Operating Shock	10 Gs (without non-recoverable errors)
Operating Vibration	
5-10 Hz	.10" (double amplitude)
11-500 Hz	.50 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 700 KHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	34 dBA max. at 1 meter in idle mode.

NOTE: Specifications subject to change.

CONNER

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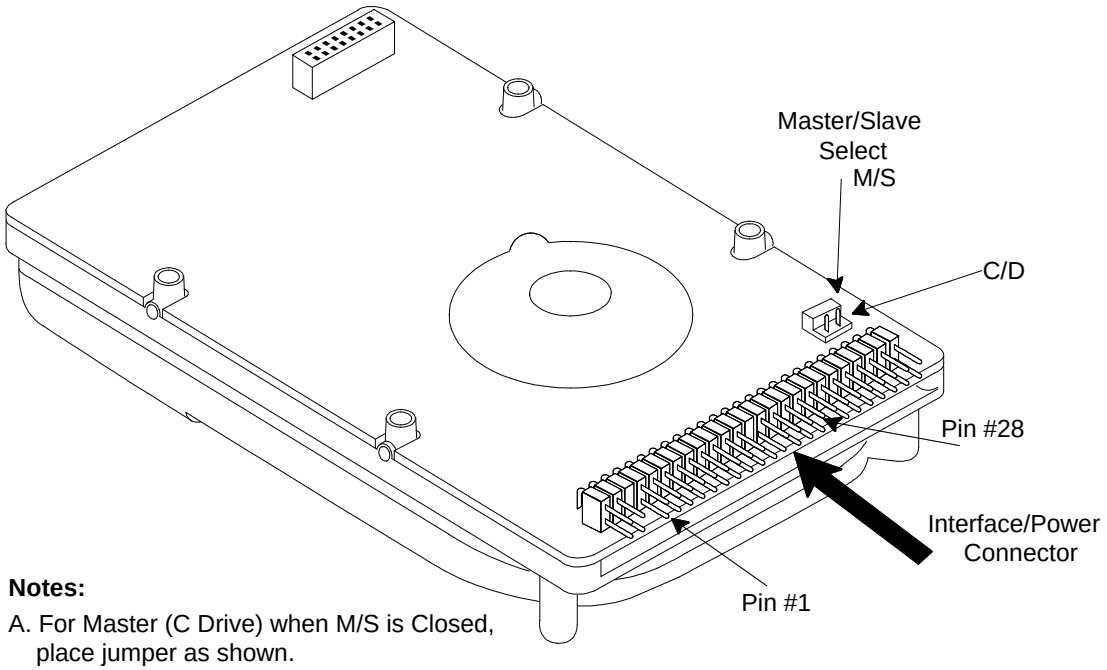
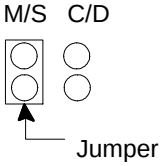
CP2124
Customer Options

The CP2124 drive is designed to operate either as a Master drive (C Drive) or a Slave Drive (D Drive). This feature is dependent on two drive settings; the status of hardware Jumper M/S and the firmware setting of a feature bit. When (M/S) is closed, and the feature bit is set, the drive will assume the role of a Master Drive. When (M/S) is open, and the feature bit reset, the drive will act as the Slave. In single drive configurations M/S must remain in the closed position.

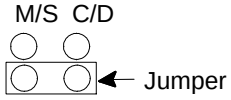


Notes:

A. For Master (C Drive) when M/S is Closed, place jumper as shown.



B. If Master/Slave feature is selected at Pin 28 of the interface/power connector, jumper M/S should be left open as ashown:



CMOS Drive Parameters	
Cylinders	762
Heads	8
Sectors	39
Precomp	0
Landing Zone	762

Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion
Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

PANCHO Series

CP-2124 Specification Summary

High Capacity, 2.5-inch Disk Drives.
120 Mbytes Formatted Capacity.

KEY FEATURES

- Ideal for high-end notebook computers
- 16 msec average seek time
- Uses only 1.2 watt of power
- Rugged: 100 Gs of shock
- Ultra light: weighs only 7 ounces
- Requires a single 5 volt power supply
- Patented 2.5-inch form factor
- PC/AT® interface

	MODEL CP-2124
Embedded Controller/Interface	PC/AT
Capacity (Formatted)	121.6 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil
Number of Disks	2
Data Surfaces	4
Data Heads	4
Servo	Embedded
Tracks per Surface	1120
Track Density	2450 TPI
Track Capacity (Formatted)	27,136 bytes
Bytes per Block	512
Blocks per Drive	237,440
Sectors per Track	53

PERFORMANCE

Seek Times*	
Track to Track	3 msec
Average	16 msec**
Maximum	30 msec
Average Latency	7.99 msec
Rotation Speed (± .1%)	3743 RPM
Controller Overhead	1 msec
Data Transfer Rate To/from Media	2.25 MB/sec
Data Transfer Rate To/from Buffer	8.0 MB/sec
Start Time – Power Up (0-Ready)	
Typical	7 sec
Maximum	20 sec
Stop Time – Power Down	
Typical	2 sec
Maximum	5 sec
Start/stop Cycles	60,000 min
Interleave	1:1
Buffer Size	32 K

* Pysical seek times at nominal DC input voltages/nominal temperature.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density – ID	59,500 BPI
Flux Density – ID (flux reversals per inch)	44,700

POWER REQUIREMENTS
(typical)

	+5 VDC ± 5%	POWER
R/W Mode	450 ma	2.25 W
Seek Mode	450 ma	2.25 W
Idle Mode	250 ma	1.25 W
Standby Mode	70 ma	.35 W
Sleep Mode	20 ma	.10 W
Spin-up Mode	1.11 amp	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	0.75" (19.0 mm)
	Length	4.00" (101.6 mm)
	Width	2.75" (69.8 mm)
	Weight	7.0 oz (.19 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	100 Gs (without non-recoverable errors)
Non-operating Vibration	
5-32 Hz	.100" (double amplitude)
33-500 Hz	5 Gs (peak)
Operating Shock	10 Gs (without non-recoverable errors)
Operating Vibration	
5-9 Hz	.100" (double amplitude)
10-500 Hz	.50 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (0-700 Khz).

ACOUSTIC NOISE

Acoustic Sound Pressure	34 dBA max at 1 meter.

NOTE: Specifications subject to change.

CONNER

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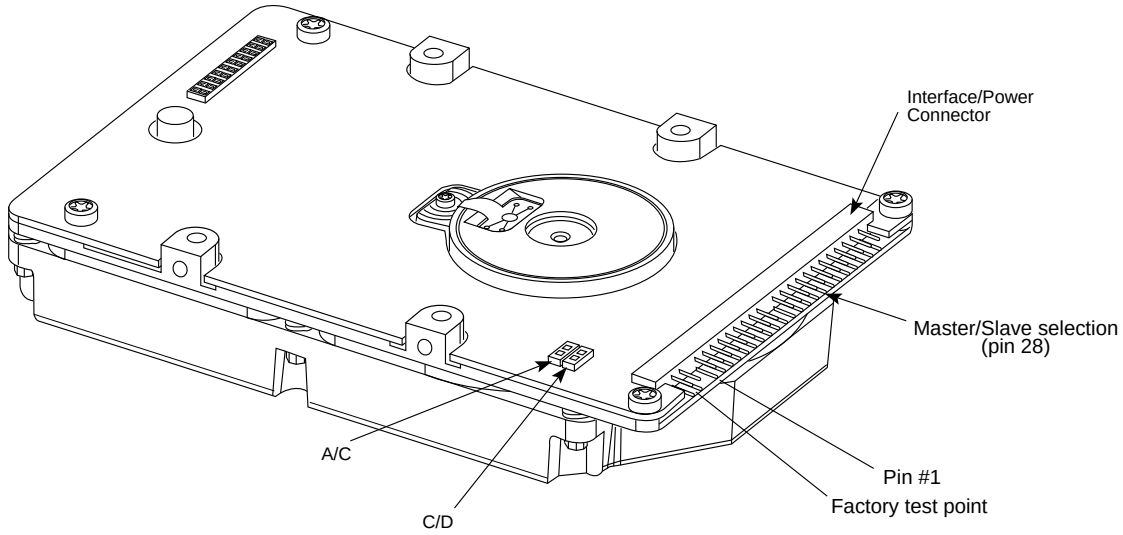
00511-014 6/92

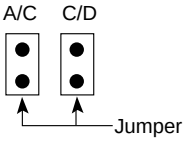
CFN170A
Customer Options

The CFN170A drive is designed to operate either as a Master drive (C Drive) or a Slave Drive (D Drive). Commands from the host are written in parallel to both drives. When the C/D jumper on the drive is closed, the drive will assume the role of a master. When C/D is open, the drive will act as a slave. In Single-drive configurations, C/D must remain in the closed (master) position.

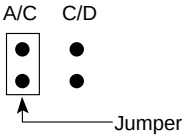


Notes:

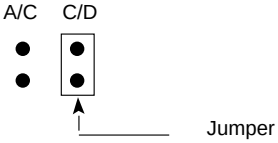
1. CAM Master/Standalone



2. CAM Slave



3. ISA Master



4. ISA Slave

CMOS Drive Parameters	
Cylinders	326
Heads	16
Sectors	63
Precomp	0
Landing Zone	326

Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion
Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

CFN 170 SPECIFICATION SUMMARY

170 MB

	MODEL CFN 170A	MODEL CFN 170S
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	168.2 MB	168.2 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Tracks per Surface	1339	1339
Track Density	2611 TPI	2611 TPI
Track Capacity (Formatted)	24,064 – 40,448 bytes	24,064 – 40,448 bytes
Bytes per Block	512	512
Blocks per Drive	329,084	329,084
Sectors per Track (Physical)	47 – 72	47 – 72
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	2.6 msec	2.6 msec
Average (Read/Write)	12 msec**	12 msec**
Maximum	20 msec	20 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (±.1%)	4500 RPM	4500 RPM
Controller Overhead	500 µsec	500 µmsec
Data Transfer Rate		
To/from Media	18 – 28 Mb/sec	18 – 28 Mb/sec
Data Transfer Rate		
To/from Buffer	8.0 MB/sec	6.0 MB/sec
Start Time - Power Up (0 – 4500 RPM)		
Typical	5 sec	5 sec
Maximum	20 sec	20 sec
Stop Time - Power Down		
Typical	4 sec	4 sec
Maximum	5 sec	5 sec
Start/Stop Cycles	50,000 min	50,000 min
Interleave	1:1	1:1
Buffer Size	32 KB	32 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	58,230 BPI	
Flux Density - ID (flux reversals per inch)	43,684 FCI	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

POWER REQUIREMENTS – (TYPICAL)

	+5 VDC ± 5%	POWER
R/W Mode	275 ma	1.4 W
Seek Mode	210 ma	1.1 W
Idle Mode	200 ma	1.0 W
Standby Mode	40 ma	0.20 W
Sleep Mode	40 ma	0.20 W
Spin-up Mode	1.0 amp	

PHYSICAL CHARACTERISTICS

Physical Dimensions (±.01 except height)	**Height**	0.770" (19.5 mm)(maximum)
	Length	4.00" (101.6 mm)
	Width	2.75" (69.8 mm)
	Weight	6.0 oz (.17 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	5% to 90% non-condensing
Non-operating	5% to 90% non-condensing
Maximum Wet Bulb	28.9°C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 15,000 feet

RELIABILITY AND MAINTENANCE

MTBF	150,000 hours
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse (without non-recoverable errors)
Operating Shock	10 Gs @ 11 msec/20 Gs @ 2 msec
Non-operating Shock	200 Gs @ 11 msec/300 Gs @ 2 msec
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-400 Hz	1.0 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	34 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

CONNER
The Storage Answer

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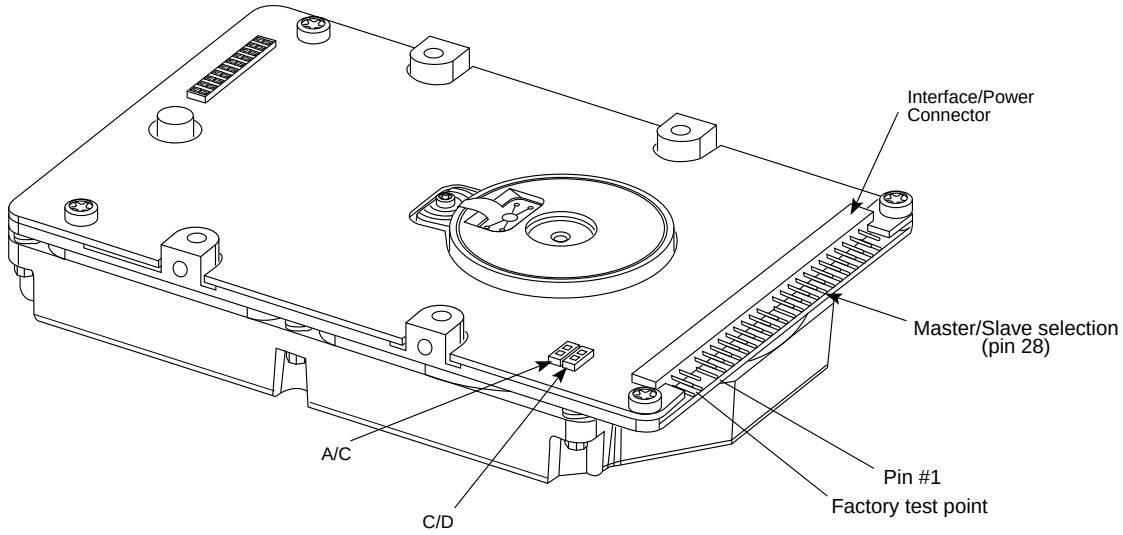
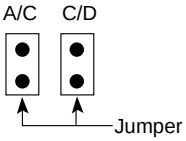
CFN250A
Customer Options

The CFN250A drive is designed to operate either as a Master drive (C Drive) or a Slave Drive (D Drive). Commands from the host are written in parallel to both drives. When the C/D jumper on the drive is closed, the drive will assume the role of a master. When C/D is open, the drive will act as a slave. In Single-drive configurations, C/D must remain in the closed (master) position.

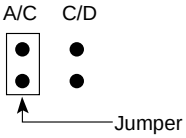


Notes:

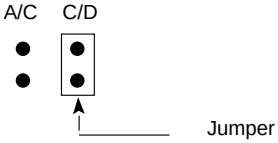
1. CAM Master/Standalone



2. CAM Slave



3. ISA Master



4. ISA Slave

CMOS Drive Parameters	
Cylinders	489
Heads	16
Sectors	63
Precomp	0
Landing Zone	489

Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

CFN 250 SPECIFICATION SUMMARY

250 MB

	MODEL CFN 250A	MODEL CFN 250S
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	252.7 MB	252.7 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	3	3
Data Surfaces	6	6
Data Heads	6	6
Servo	Embedded	Embedded
Tracks per Surface	1339	1339
Track Density	2611 TPI	2611 TPI
Track Capacity (Formatted)	24,064 – 40,448 bytes	24,064 – 40,448 bytes
Bytes per Block	512	512
Blocks per Drive	493,626	493,626
Sectors per Track (Physical)	47–72	47–72
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	2.6 msec	2.6 msec
Average (Read/Write)	12 msec**	12 msec**
Maximum	20 msec	20 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Controller Overhead	500 µsec	500 µsec
Data Transfer Rate		
To/from Media	18 – 28 Mb/sec	18 – 28 Mb/sec
Data Transfer Rate		
To/from Buffer	8.0 MB/sec	6.0 MB/sec
Start Time - Power Up (0-4500 RPM)		
Typical	5 sec	5 sec
Maximum	20 sec	20 sec
Stop Time - Power Down		
Typical	4 sec	4 sec
Maximum	5 sec	5 sec
Start/Stop Cycles	50,000 min	50,000 min
Interleave	1:1	1:1
Buffer Size	32 KB	32 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	58,230 BPI	
Flux Density - ID (flux reversals per inch)	43,684 FCI	

* Physical seek times at nominal DC input voltages.

** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

POWER REQUIREMENTS – (TYPICAL)

	+5 VDC ± 5%	POWER
R/W Mode	275 ma	1.4 W
Seek Mode	210 ma	1.1 W
Idle Mode	200 ma	1.0 W
Standby Mode	40 ma	0.20 W
Sleep Mode	40 ma	0.20 W
Spin-up Mode	1.0 amp	

PHYSICAL CHARACTERISTICS

Physical Dimensions (±.01 except height)	**Height**	0.770" (19.5 mm)(maximum)
	Length	4.00" (101.6 mm)
	Width	2.75" (69.8 mm)
	Weight	7.0 oz (.20 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	5% to 90% non-condensing
Non-operating	5% to 90% non-condensing
Maximum Wet Bulb	28.9°C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 15,000 feet

RELIABILITY AND MAINTENANCE

MTBF	150,000 hours
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse (without non-recoverable errors)
Operating Shock	10 Gs @ 11 msec/20 Gs @ 2 msec
Non-operating Shock	200 Gs @ 11 msec/300 Gs @ 2 msec
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-400 Hz	1.0 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	34 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

CONNER

The Storage Answer

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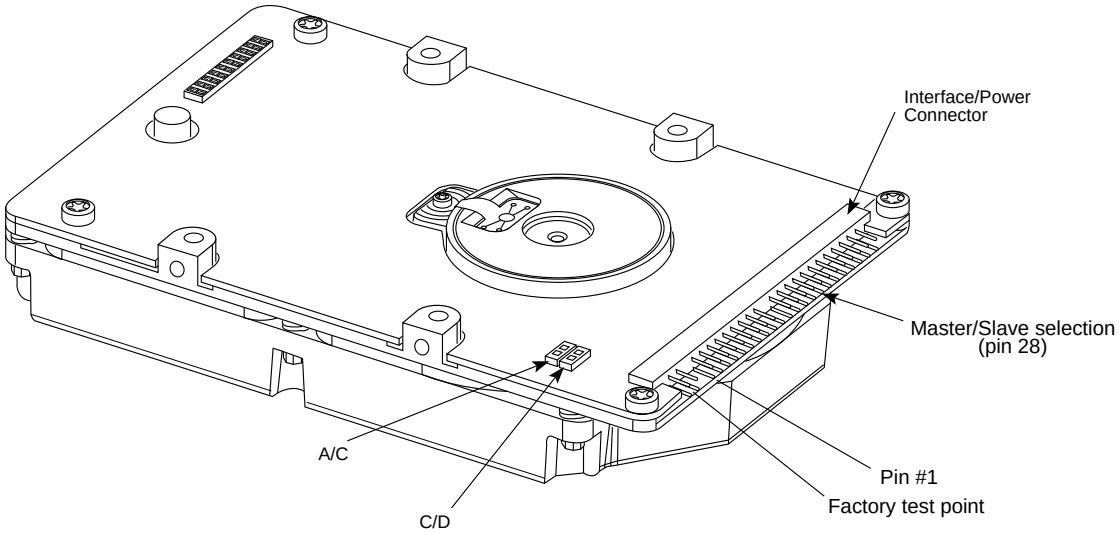
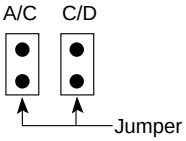
CFN340A
Customer Options

The CFN340A drive is designed to operate either as a Master drive (C Drive) or a Slave Drive (D Drive). Commands from the host are written in parallel to both drives. When the C/D jumper on the drive is closed, the drive will assume the role of a master. When C/D is open, the drive will act as a slave. In Single-drive configurations, C/D must remain in the closed (master) position.

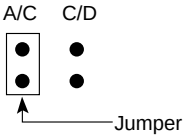


Notes:

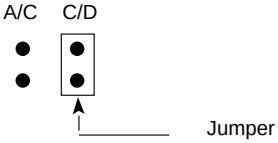
1. CAM Master/Standalone



2. CAM Slave



3. ISA Master



4. ISA Slave

CMOS Drive Parameters	
Cylinders	667
Heads	16
Sectors	63
Precomp	0
Landing Zone	667

Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

CFN 340 SPECIFICATION SUMMARY

340 MB

	MODEL CFN 340A	MODEL CFN 340S
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	344.5 MB	344.5 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	3	3
Data Surfaces	6	6
Data Heads	6	6
Servo	Embedded	Embedded
Tracks per Surface	1598	1598
Track Density	3004 TPI	3004 TPI
Track Capacity (Formatted)	27,136 – 45,568 bytes	27,136 – 45,568 bytes
Bytes per Block	512	512
Blocks per Drive	672,924	672,924
Sectors per Track (Physical)	53 – 89	53 – 89
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	3 msec	3 msec
Average (Read/Write)	13 msec**	13 msec**
Maximum	24 msec	24 msec
Average Latency	7.5 msec	7,5 msec
Rotation Speed (± .1%)	4000 RPM	4000 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate		
To/from Media	19 – 32 Mb/sec	19 – 32 Mb/sec
Data Transfer Rate		
To/from Buffer	8.0 MB/sec	6.0 MB/sec
Start Time - Power Up (0-4000 RPM)		
Typical	5 sec	5 sec
Maximum	20 sec	20 sec
Stop Time - Power Down		
Typical	4 sec	4 sec
Maximum	5 sec	5 sec
Start/Stop Cycles	50,000 min	50,000 min
Interleave	1:1	1:1
Buffer Size	32 KB	32 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	65,564 BPI	
Flux Density - ID (flux reversals per inch)	49,173 FCI	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

POWER REQUIREMENTS – (TYPICAL)

	+5 VDC ± 5%	POWER
R/W Mode	275 ma	1.4 W
Seek Mode	210 ma	1.1 W
Idle Mode	200 ma	0.90 W
Standby Mode	40 ma	0.20 W
Sleep Mode	40 ma	0.20 W
Spin-up Mode	1.0 amp	

PHYSICAL CHARACTERISTICS

Physical Dimensions (±.01 except height)	**Height**	0.770" (19.5 mm)(maximum)
	Length	4.00" (101.6 mm)
	Width	2.75" (69.8 mm)
	Weight	7.0 oz (.20 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	5% to 90% non-condensing
Non-operating	5% to 90% non-condensing
Maximum Wet Bulb	28.9°C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 15,000 feet

RELIABILITY AND MAINTENANCE

MTBF	150,000 hours
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse (without non-recoverable errors)
Operating Shock	10 Gs @ 11 msec/20 Gs @ 2 msec
Non-operating Shock	200 Gs @ 11 msec/300 Gs @ 2 msec
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-400 Hz	1.0 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	34 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

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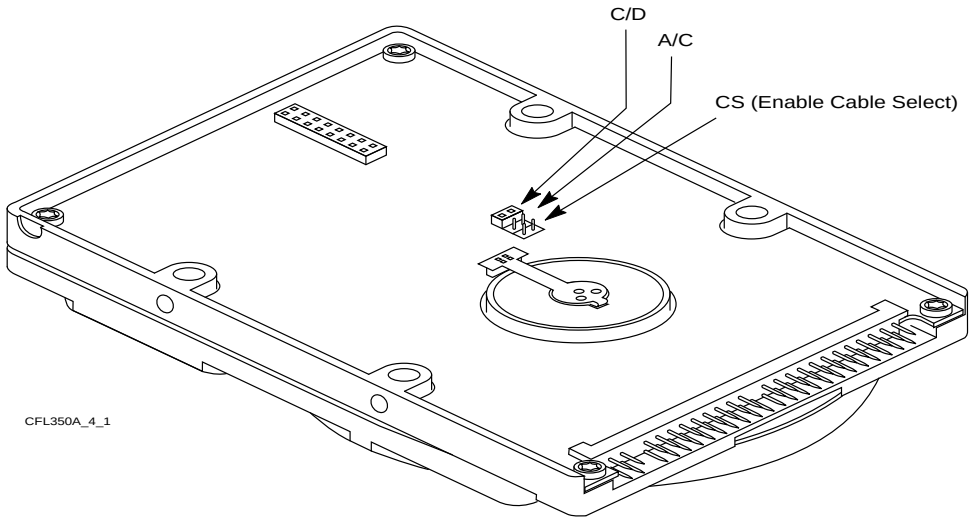
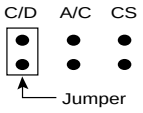
CFL350A
Customer Options

The CFL350A drive is designed to operate either as a Master drive (C Drive) or a Slave Drive (D Drive). Commands from the host are written in parallel to both drives. When the C/D jumper on the drive is closed, the drive will assume the role of a master. When C/D is open, the drive will act as a slave. In Single-drive configurations, C/D must remain in the closed (master) position.

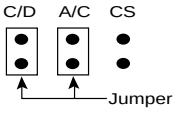


Notes:

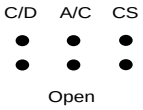
1a. CAM Master/Standalone



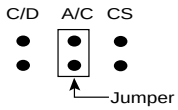
2a. ISA Master/Standalone



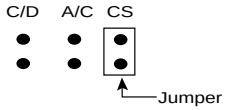
1b. CAM Slave



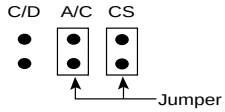
2b. ISA Slave



1c. CAM Cable Select Master or Slave



2c. ISA Cable Select Master or Slave



CMOS Drive Parameters	
Cylinders	905
Heads	12
Sectors	63
Precomp	0
Landing Zone	905

Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

CONNER FILEPRO NOTEBOOK FAMILY (KIWI SERIES)
SPECIFICATION SUMMARY

MODEL	CFL350A	CFL420A
Embedded Controller/Interface	Enhanced IDE	Enhanced IDE
Capacity (Formatted)	350 MB	422 MB
PHYSICAL CONFIGURATION		
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Zones per Surface	8	8
Track Density	4110 TPI	4200 TPI
Total Cylinders	2225	2393
Bytes per Sector	512	512
Sectors per Zone (Physical)	54-96	60-107
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	3 msec	3 msec
Average (Read/Write)	12 msec**	12 msec**
Maximum	20 msec	20 msec
Average Latency	8.00 msec	8.33 msec
Rotation Speed (± .1%)	3750 RPM	3600 RPM
Data Transfer Rate		
To/from media	19-32 Mb/sec	19-33 Mb/sec
To/from buffer	11.2 MB/sec	11.1 MB/sec
Start Time - Power Up		
Typical	3 sec	3 sec
Maximum	20 sec***	20 sec***
Stop Time - Power Down		
Typical	3 sec	3 sec
Maximum	5 sec	5 sec
Interleave	1:1	1:1
Buffer Size	32 KB	64 KB
READ/WRITE		
Recording Method	1,7 RLL	1,7 RLL
Recording Density	70.6 K BPI	80 K BPI
Flux Density	53 K FCI	60 K FCI
PHYSICAL DIMENSIONS		
Height	0.50" (12.7 mm)	0.50" (12.7 mm)
Length	4.00" (101.6 mm)	4.00" (101.6 mm)
Width	2.75" (69.8 mm)	2.75" (69.8 mm)
Weight	5.0 oz (.142 kg)	5.0 oz (.142 kg)
POWER REQUIREMENTS – (TYPICAL)		
+5 VDC ±5% Read/Write Mode	300 mA	300 mA
Seek Mode	200 mA	200 mA
Idle Mode	170 mA	170 mA
Standby Mode	30 mA	30 mA
Spin-up Mode	1.0 amp	1.0 amp
Power Read/Write Mode	1.5 W	1.5 W
Seek Mode	1.0 W	1.0 W
Idle Mode	0.85 W	0.85 W
Standby Mode	0.15 W	0.15 W
Spin-up Mode	n/a	n/a
Fax Information Service File Number	5059	5060

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	5% to 90% non-condensing
Non-operating	5% to 90% non-condensing
Maximum Wet Bulb	28.9° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 15,000 feet
RELIABILITY AND MAINTENANCE	
MTBF	300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{14} bits
SHOCK AND VIBRATION	
Shock	1/2 sine pulse (without non-recoverable errors)
Operating Shock	20 Gs @ 2 msec
Non-operating Shock	300 Gs @ 2 msec
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-400 Hz	1.0 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1 octave per minute
5-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE	
Acoustic Sound Power	4.2 Bels max in idle mode
WARRANTY	3 years

NOTE: Specifications subject to change.

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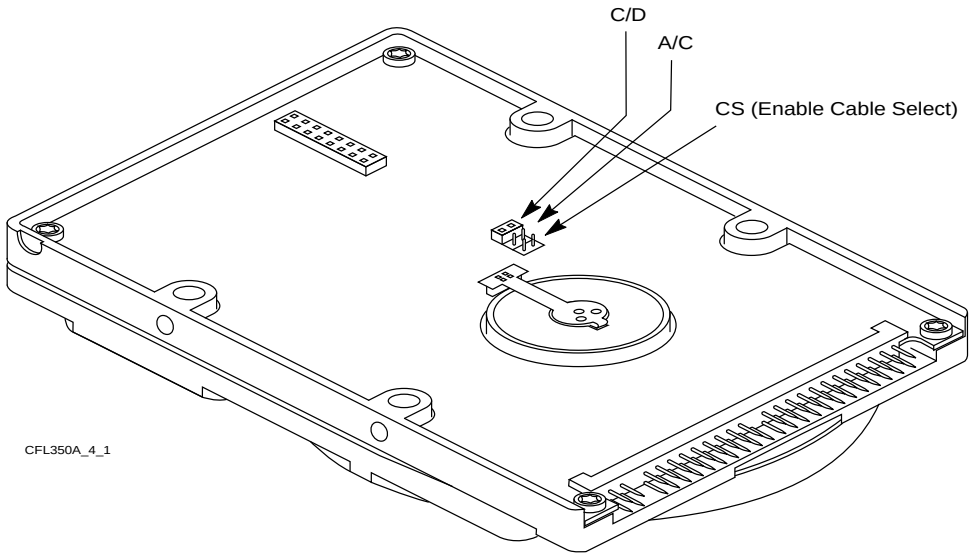
Taipei 886/2-718-9193 • Tokyo 81/3-3485-8901
Latin America – Miami (305) 789-6685

DS-511-KIWI 4/95

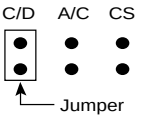
CFL420A
Customer Options

The CFL420A drive is designed to operate either as a Master drive (C Drive) or a Slave Drive (D Drive). Commands from the host are written in parallel to both drives. When the C/D jumper on the drive is closed, the drive will assume the role of a master. When C/D is open, the drive will act as a slave. In Single-drive configurations, C/D must remain in the closed (master) position.

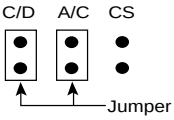


Notes:

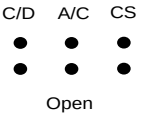
1a. CAM Master/Standalone



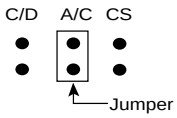
2a. ISA Master/Standalone



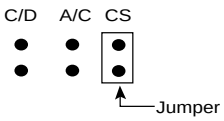
1b. CAM Slave



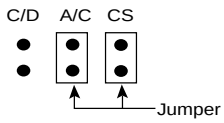
2b. ISA Slave



1c. CAM Cable Select Master or Slave



2c. ISA Cable Select Master or Slave



CMOS Drive Parameters	
Cylinders	818
Heads	16
Sectors	63
Precomp	0
Landing Zone	818

Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion
Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

CONNER FILEPRO NOTEBOOK FAMILY (KIWI SERIES)
SPECIFICATION SUMMARY

MODEL	CFL350A	CFL420A
Embedded Controller/Interface	Enhanced IDE	Enhanced IDE
Capacity (Formatted)	350 MB	422 MB
PHYSICAL CONFIGURATION		
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Zones per Surface	8	8
Track Density	4110 TPI	4200 TPI
Total Cylinders	2225	2393
Bytes per Sector	512	512
Sectors per Zone (Physical)	54-96	60-107
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	3 msec	3 msec
Average (Read/Write)	12 msec**	12 msec**
Maximum	20 msec	20 msec
Average Latency	8.00 msec	8.33 msec
Rotation Speed (± .1%)	3750 RPM	3600 RPM
Data Transfer Rate		
To/from media	19-32 Mb/sec	19-33 Mb/sec
To/from buffer	11.2 MB/sec	11.1 MB/sec
Start Time - Power Up		
Typical	3 sec	3 sec
Maximum	20 sec***	20 sec***
Stop Time - Power Down		
Typical	3 sec	3 sec
Maximum	5 sec	5 sec
Interleave	1:1	1:1
Buffer Size	32 KB	64 KB
READ/WRITE		
Recording Method	1,7 RLL	1,7 RLL
Recording Density	70.6 K BPI	80 K BPI
Flux Density	53 K FCI	60 K FCI
PHYSICAL DIMENSIONS		
Height	0.50" (12.7 mm)	0.50" (12.7 mm)
Length	4.00" (101.6 mm)	4.00" (101.6 mm)
Width	2.75" (69.8 mm)	2.75" (69.8 mm)
Weight	5.0 oz (.142 kg)	5.0 oz (.142 kg)
POWER REQUIREMENTS – (TYPICAL)		
+5 VDC ±5% Read/Write Mode	300 mA	300 mA
Seek Mode	200 mA	200 mA
Idle Mode	170 mA	170 mA
Standby Mode	30 mA	30 mA
Spin-up Mode	1.0 amp	1.0 amp
Power Read/Write Mode	1.5 W	1.5 W
Seek Mode	1.0 W	1.0 W
Idle Mode	0.85 W	0.85 W
Standby Mode	0.15 W	0.15 W
Spin-up Mode	n/a	n/a
Fax Information Service File Number	5059	5060

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	5% to 90% non-condensing
Non-operating	5% to 90% non-condensing
Maximum Wet Bulb	28.9° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 15,000 feet
RELIABILITY AND MAINTENANCE	
MTBF	300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{14} bits
SHOCK AND VIBRATION	
Shock	1/2 sine pulse (without non-recoverable errors)
Operating Shock	20 Gs @ 2 msec
Non-operating Shock	300 Gs @ 2 msec
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-400 Hz	1.0 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1 octave per minute
5-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE	
Acoustic Sound Power	4.2 Bels max in idle mode
WARRANTY	3 years

NOTE: Specifications subject to change.

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DS-511-KIWI 4/95

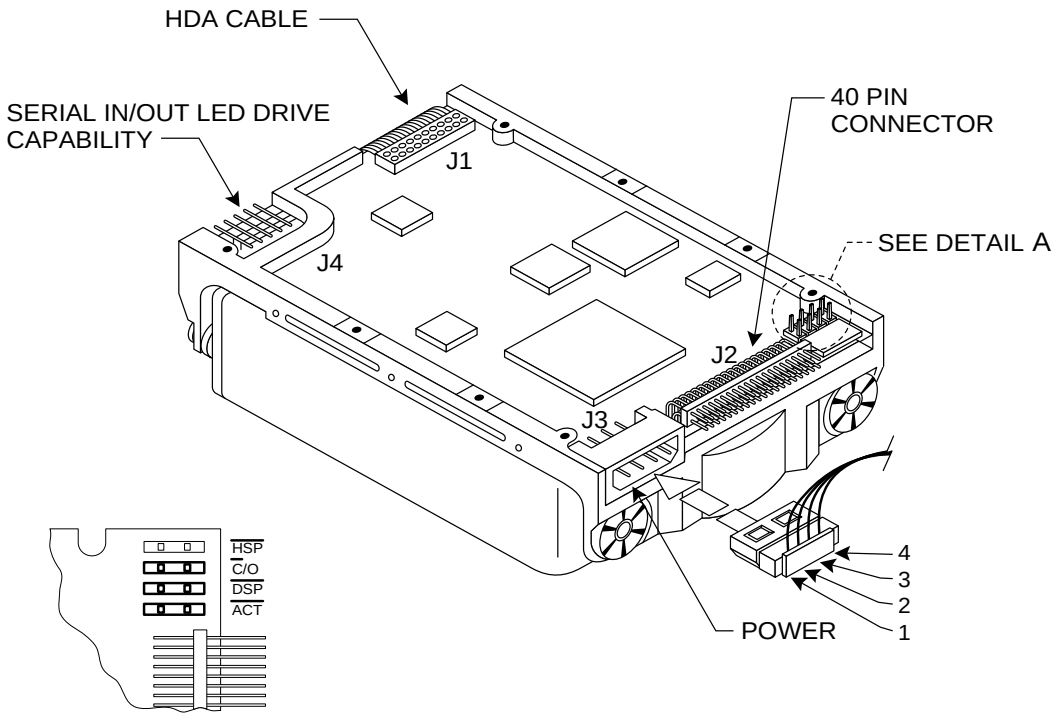
IDE DRIVES

PART TWO IDE 3.5”
Half-Height

CP3104
Customer Options

The jumper options available are:

Single Drive = ACT and C/D are Jumpered
Master Drive = C/D and DSP are Jumpered
Slave Drive = No Jumpers Installed
-HSP, is not used.



DETAIL A

	J3
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	776
Heads	8
Sectors	33
Precomp	0
Landing Zone	776

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion
Bottom: 6-32 UNC-2B .25 Max. Insertion

CP-3100 SERIES SPECIFICATION SUMMARY

	MODEL CP-3104	MODEL CP-3100
Embedded Controller	PC/AT	SCSI
Capacity (Formatted)	104.9 MB	104.9 MB
PHYSICAL CONFIGURATION		
Actuator Type	Voice coil	Voice coil
Number of Disks	4	4
Data Surfaces	8	8
Data Heads	8	8
Servo	Embedded	Embedded
Tracks per Surface	776	776
Track Density	1150 TPI	1150 TPI
Track Capacity (Formatted)	16,896 bytes	16,896 bytes
Bytes per Block	512	512
Blocks per Drive	204,864	204,864
Sectors per Track	34 physical 33 accessible	34 physical 33 accessible
PERFORMANCE		
Seek Times*		
Track to Track	8 msec	8 msec
Average	25 msec**	25 msec**
Maximum	45 msec	45 msec
Average Latency	8.4 msec	8.4 msec
Rotation Speed (±.1%)	3575 RPM	3575 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate To/From Media	1.25 MB/sec	1.25 MB/sec
Data Transfer Rate To/From Buffer	3.75/4.75 MB/sec	1.66 MB/sec
Start Time – Power Up (0-3575 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	10,000 min	10,000 min
Interleave	1-to-1	1-to-1
Buffer size	32 K	16 K

* At nominal D.C. input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these orderedpairs.

READ/WRITE		
Interface	PC/AT	SCSI
Recording Method	2,7 RLL code	2,7 RLL code
Recording Density – ID	23,441 BPI	23,441 BPI
Flux Density – ID (flux reversals per inch)	15,627	15,627

MODEL CP-3104 POWER REQUIREMENTS
(PC/AT interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	350 ma	300 ma	5.7 W
Seek Mode	260 ma	180 ma	4.0 W
Idle Mode	175 ma	160 ma	2.9 W
Spin-up Mode	180 ma	180 ma max	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.625" (41.3 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	2.0 lbs. (.9 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	-40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	-200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	30,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	50 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	10 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.25 G's peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface.

ACOUSTIC NOISE

40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

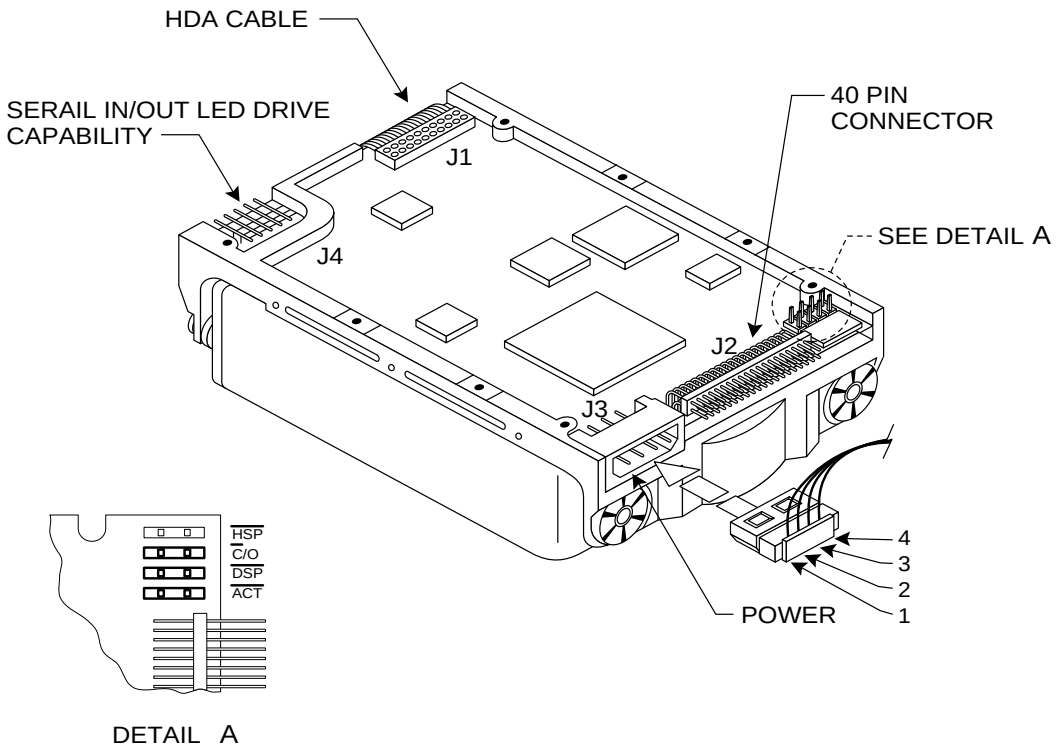
3081 Zanker Road, San Jose, CA 95134, Telephone (408) 433-3340, FAX (408) 433-3303, Boston (508) 660-1088, Dallas (214) 680-2913, Los Angeles (714) 455-2777, Europe 49/89-811-2097
Singapore 65/2845366, Tokyo 81/3-597-8321, Taipei 886/2775-4352

CP-2004 11/89

CP3184
Customer Options

The jumper options available are:

Single Drive = ACT and C/D are Jumpered
Master Drive = C/D and DSP are Jumpered
Slave Drive = No Jumpers Installed
-HSP, is not used.



DETAIL A

	J3
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	832
Heads	6
Sectors	33
Precomp	0
Landing Zone	832

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion
Bottom: 6-32 UNC-2B .25 Max. Insertion

CP-3180 Series Specification Summary

	MODEL CP-3184	MODEL CP-3180
Embedded Controller	PC/AT	SCSI
Capacity (Formatted)	84.3 MB	84.3 MB
PHYSICAL CONFIGURATION		
Actuator Type	Voice coil	Voice coil
Number of Disks	3	3
Data Surfaces	6	6
Data Heads	6	6
Servo	Embedded	Embedded
Tracks per Surface	832	832
Track Density	1150 TPI	1150 TPI
Track Capacity (Formatted)	16,896 bytes	16,896 bytes
Bytes per Block	512	512
Blocks per Drive	164,736	164,736
Sectors per Track	33	33
PERFORMANCE		
Seek Times*		
Track to Track	8 msec	8 msec
Average	25 msec**	25 msec**
Maximum	45 msec	45 msec
Average Latency	8.4 msec	8.4 msec
Rotation Speed (± .1%)	3575 RPM	3575 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate To/From Media	1.25 MB/sec	1.25 MB/sec
Data Transfer Rate To/From Buffer	3.75/4.75 MB/sec	1.66 MB/sec
Start Time – Power Up (0-3575 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	10,000 min	10,000 min
Interleave	1:1	1:1
Buffer size	32 K	16 K

* At nominal D.C. input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE		
Interface	PC/AT	SCSI
Recording Method	2,7 RLL code	2,7 RLL code
Recording Density – ID	24,437 BPI	24,437 BPI
Flux Density – ID (flux reversals per inch)	16,291	16,291

MODEL CP-3184 POWER REQUIREMENTS
(PC/AT interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	350 ma	300 ma	5.7 W
Seek Mode	260 ma	180 ma	4.0 W
Idle Mode	175 ma	160 ma	2.9 W
Spin-up Mode	180 ma	180 ma max	n/a

PHYSICAL CHARACTERISTICS		
Physical Dimensions	Height	1.625" (41.3 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.8 lbs. (.8 kg)

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	-40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	-200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE	
MTBF	In excess of 50,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION	
Shock	½ sine pulse
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	50 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	10 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.25 G's peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Noise	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

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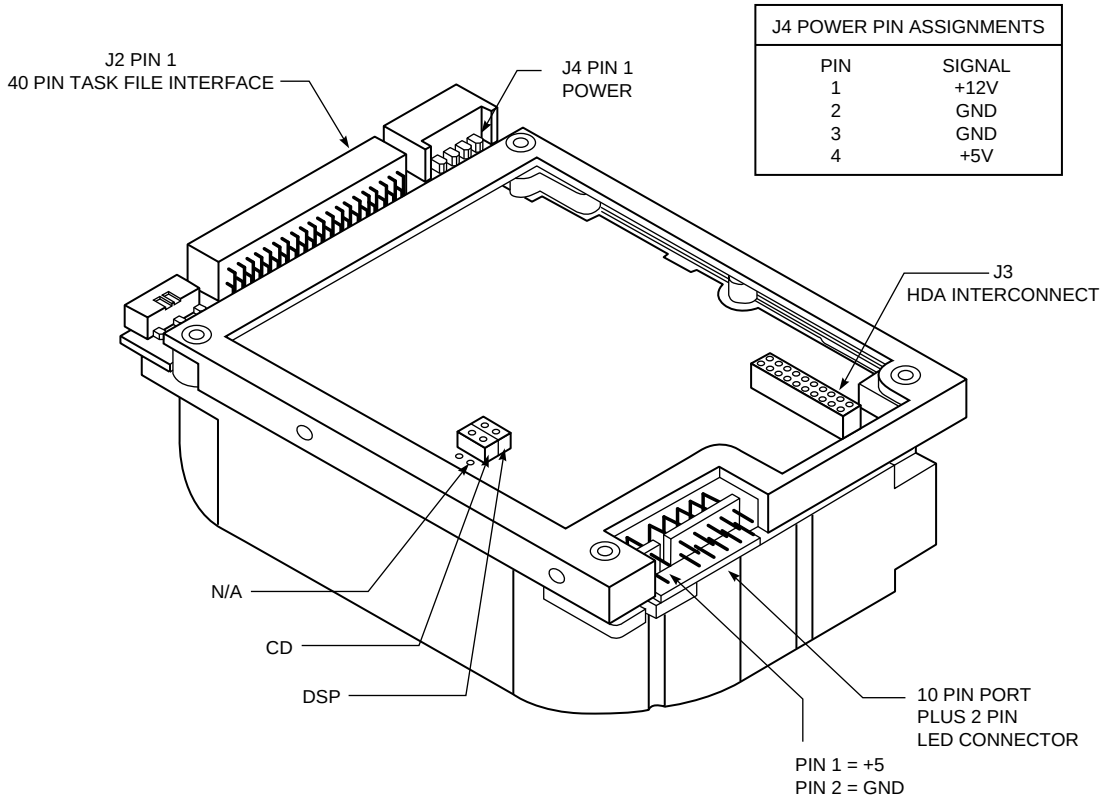
CP-2010 03/90

CP3204F
Costomer Options

The CP3204F has two jumper options, DSP and C/D The jumper configuration is as follows.

Single Drive=Jumper C/D only
Master Drive=Jumper C/D and DSP jumpered
Slave Drive=No Jumpers installed.



J4 POWER PIN ASSIGNMENTS	
PIN	SIGNAL
1	+12V
2	GND
3	GND
4	+5V

CMOS Drive Parameters	
Cylinders	683
Heads	16
Sectors	38
Precomp	0
Landing Zone	683

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .25 Max. Insertion

CP-3200F Specification Summary

High Performance, 3.5-inch Disk Drives.
212 Mbytes Formatted Capacity.

KEY FEATURES

- Designed primarily for high-end desktop computers
- Sub-16 msec average seek time
- Low 4.2 watts typical power dissipation
- Half-height form factor
- PC/AT® or SCSI interface

	MODEL CP-3204F	MODEL CP-3200F
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	212.6 MB	212.6 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	4	4
Data Surfaces	8	8
Data Heads	8	8
Servo	Embedded	Embedded
Tracks per Surface	1366	1366
Track Density	1700 TPI	1700 TPI
Track Capacity (Formatted)	19,456 bytes	19,456 bytes
Bytes per Block	512	512
Blocks per Drive	415,264	415,264
Sectors per Track	38	38
PERFORMANCE		
Seek Times*		
Track to Track	5 msec	5 msec
Average	sub-16 msec**	sub-16 msec**
Maximum	35 msec	35 msec
Average Latency	8.61 msec	8.61 msec
Rotation Speed (± .1%)	3485 RPM	3485 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec	1.5 MB/sec
Data Transfer Rate To/from Buffer	4.5 MB/sec	5.0 MB/sec
Start Time – Power Up (0-3485 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	10,000 min	10,000 min
Interleave	1:1	1:1
Buffer size	64 K	64 K

* At nominal D.C. input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density – ID	31,800 BPI
Flux Density – ID (flux reversals per inch)	23,850

POWER REQUIREMENTS
(PC/AT interface typical)

	+12 VDC ± 5%	POWER
R/W Mode	400 ma	6.0 W
Seek Mode	400 ma	6.3 W
Idle Mode	250 ma	4.2 W
Spin-up Mode	2.0 amp max	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.625" (41.3 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	2.0 lbs. (.9 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	50 Gs
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 Gs (peak)
Operating Shock	5 Gs (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (0 – 700 KHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

World Headquarters: 3081 Zanker Road, San Jose, CA 95134, Telephone (408) 456-4500, FAX (408) 456-4501 **Sales Offices: U.S.** - Atlanta (404) 261-3628, Austin (512) 346-5706, Boston (617) 449-9550, Dallas (214) 680-2913, Irvine (714) 753-5823, Los Angeles (818) 597-8895, Minneapolis (612) 449-5186, San Jose (408) 456-4500 **Europe** - Aosta 39/125-800111, London 44/71 409-0090, Munich 49/89-996-5570, Paris 33/1-47-47-41-08 **Asia** - Seoul 82/2-551-0511, Singapore 65/296-1992, Taipei 886/2-718-9193, Tokyo 81/3-3485-8901 **Latin America** - (305) 442-8835

00511-030 4/92

CP3304
Customer Options

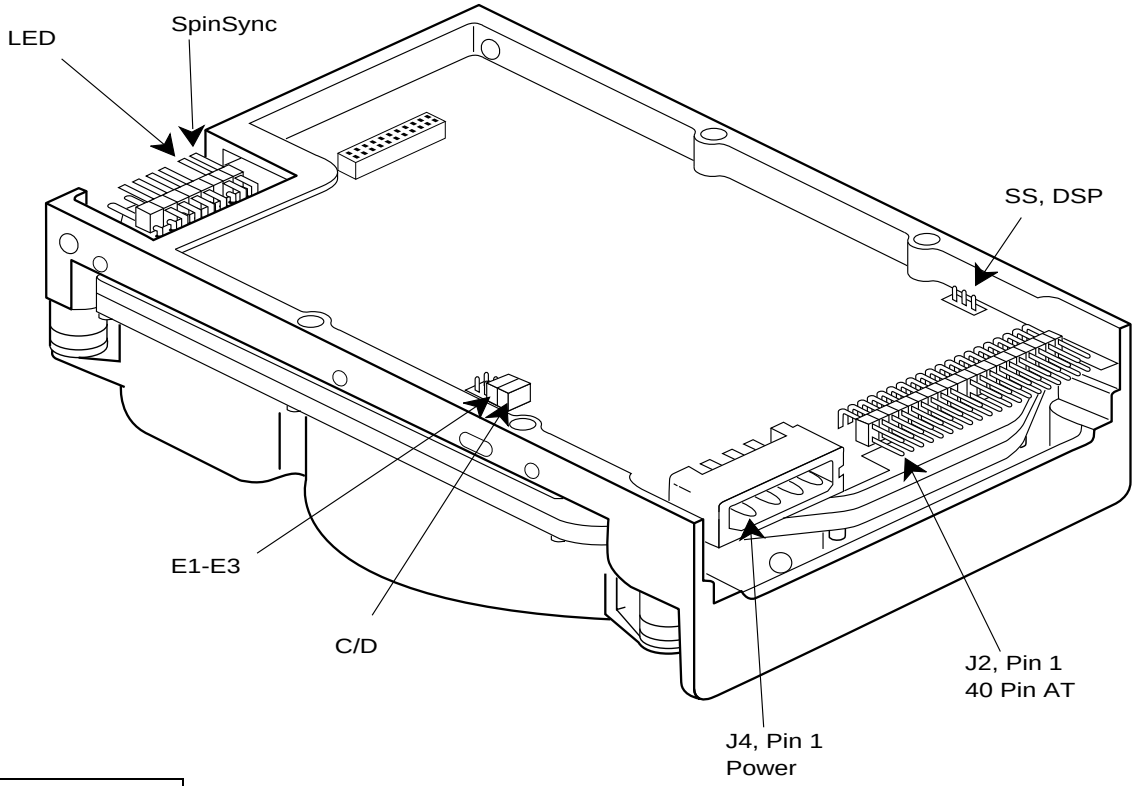
C/D

The C/D jumper is used to determine whether the drive is a master (drive C) or slave (drive D). The drive is configured as a master (drive C) when jumpered and as a slave drive (D drive) when not jumpered.

DSP & SS This pair of jumpers determines the signals on pin 39 of the interface connector.

Jumper DSP	Jumper SS	Action
X		- spindle synchronization signal disabled on pin 39. - activity LED signal available on pin 39. - Must be in place for CAM /ATA drives.
	X	- spindle synchronization signal enabled on pin 39. - activity LED signal disabled from pin 39.
		- pin 39 floating.

Jumper	
E1	Disable Spin Up until command received
E2	Not used
E3	Not used



J4	
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	659
Heads	16
Sectors	63
Precomp	0
Landing Zone	659

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .25 Max. Insertion

SUMMIT SERIES

IDE Drive Specification Sumary

High Performance, High Capacity 3.5-inch Disk Drives

KEY FEATURES

Ideal for Networked desktop PCs, workstation and file servers
Fast 12 msec average seek time
4500 RPM rotation speed,6.7 msec average latency
256KB segmented cache buffer
2.5 Mbytes/sec sustained transfer rate
High reliability: uses only 6.7 watts of power
PC/AT interface

	Model CP3304
Embeded controller/interface	PC/AT
Capacity (Formatted)	340.03

PHYSICAL CONFIGURATION

Actuator type	Rotary voice coil
Number of Disks	4
Data Surfaces	8
Data Heads	8
Servo	Embeded
Track per Surface	1807
Track Density	2150 TPI
Track Capacity	
(Formatted)	23.552
Bytes per Block	512
Blocks per Drive	664,976
Sectors per Tracks	46

PERFORMANCE

Seek Times	
Track to Track	3.0ms
Average(random)	12.0ms^2
Maximum	30.0ms
Average latency	7.8ms
Rotation Speed(+-.1%)	3828 RPM
Controller overhead	<500us
Data Transfer Rate	
To/from Media	2.0 Mb/sec
Data Transfer Rate	
To/from Buffer	8.0 Mb/sec
Start Time-Power Up(0-4498 RPM)	
Typical	10 sec
Maximum	20 sec
Stop Time Power Down	
Typical	10 sec
Maximum	20 sec
Start/Stop Cycles	10,000 min
Interleave	1:1
Buffer Size	256KB

READ/WRITE

Recording Method	2,7 RLL code
Recording Density-ID	41,665 BPI
Flux Density	27,777
(flux reversal per inch)	

POWER REQUIREMENTS

(PC/AT interface)

R/W mode	4.9W
Seek Mode	6.8W
Idle Mode	4.4W

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.625 +-0.020
	Length	5.750 +-0.030
	Width	4.000 max
	Weight	2.2 lbs

ENVIRONMENTAL CHARACTERISTICS

Temparature	
Operating	5° to 55° c
Non-operating	-40° to 60° c
Thermal Gradient	20 c per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26 c per hour
Altitude (relative tosea level)	
Operating	-200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	150,000 hours (POH)1
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^13 bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse,11 msecond duration
Operating Shock	5 G's (without non-recoverable errors)
Non Operating Shock	50 G's
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27Hz	0.010 inch displacement (double amplitude)
28-500 Hz	0.5 G's (without non-recoverable error)
Non-operating Vibration	
5-62Hz	0.020 inch double amplitude
63-500Hz	4 G's peak

ACOUSTIC NOISE

Acoustice Sound Pressure(idle)	40 dBA max, at 1 meter

Note: Specifications subject to change

CP3364
Customer Options

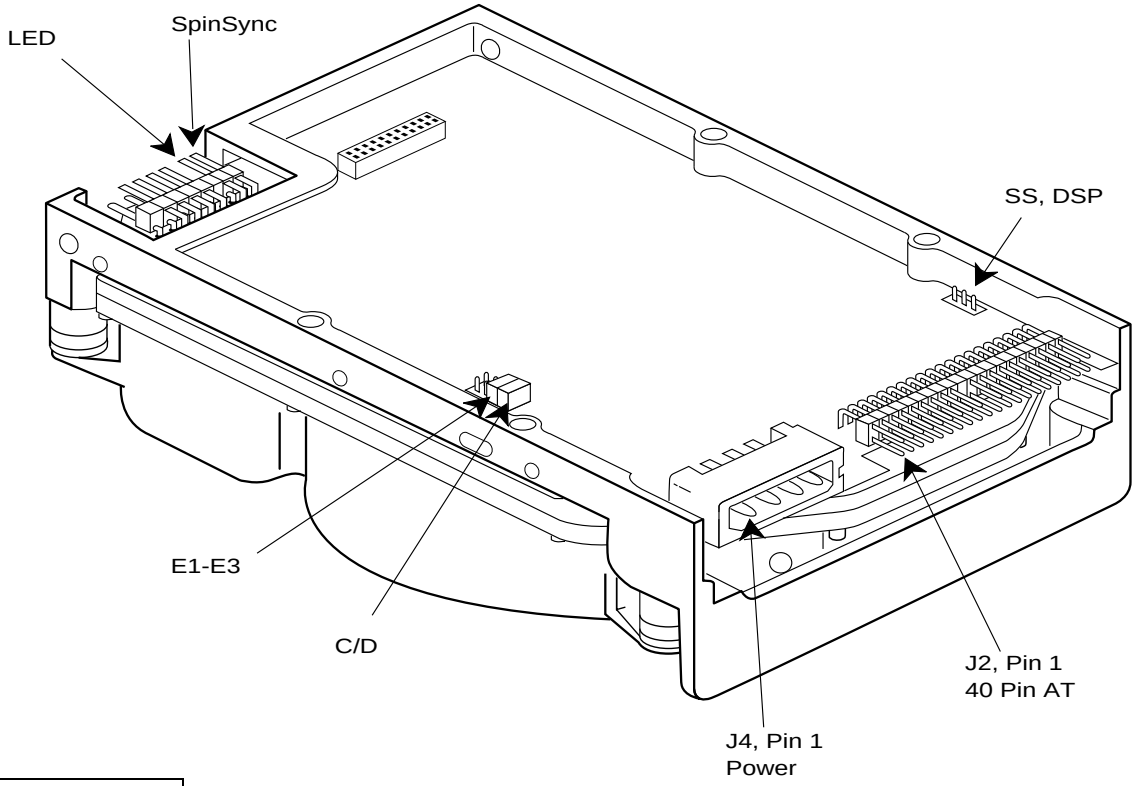
C/D

The C/D jumper is used to determine whether the drive is a master (drive C) or slave (drive D). The drive is configured as a master (drive C) when jumpered and as a slave drive (D drive) when not jumpered.

DSP & SS This pair of jumpers determines the signals on pin 39 of the interface connector.

Jumper DSP	Jumper SS	Action
X		- spindle synchronization signal disabled on pin 39. - activity LED signal available on pin 39. - Must be in place for CAM /ATA drives.
	X	- spindle synchronization signal enabled on pin 39. - activity LED signal disabled from pin 39.
		- pin 39 floating.

Jumper	
E1	Disable Spin Up until command received
E2	Not used
E3	Not used



J4	
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	702
Heads	16
Sectors	63
Precomp	0
Landing Zone	702

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .25 Max. Insertion

SUMMIT Series

IDE Drive Specification Summary

High Performance, High Capacity 3.5-inch Disk Drives.

KEY FEATURES

- Ideal for networked desktop PCs, workstations and file servers
- Fast 12 msec average seek time
- 4500 RPM rotation speed, 6.7 msec average latency
- 256 K segmented cache buffer
- 2.5 Mbytes/sec sustained transfer rate
- High reliability: uses only 6.7 watts of power
- PC/AT*-interface

	MODEL CP-3364	MODEL CP-3544
Embedded Controller/Interface	PC/AT	PC/AT
Capacity (Formatted)	362.8 MB	544.3 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	4	6
Data Surfaces	8	12
Data Heads*	8	12
Servo	Embedded	Embedded
Tracks per Surface*	1808	1808
Track Density	2150 TPI	2150 TPI
Track Capacity (Formatted)	25,088 bytes	25,088 bytes
Bytes per Block	512	512
Blocks per Drive	708,736	1,063,104
Sectors per Track*	49	49
PERFORMANCE		
Seek Times**		
Track to Track	3 msec	3 msec
Average (random)	12 msec	12 msec
Maximum	30 msec	30 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Controller Overhead	<500 µsec	<500 µsec
Data Transfer Rate To/from Media	2.5 MB/sec	2.5 MB/sec
Data Transfer Rate To/from Buffer	8.0 MB/sec	8.0 MB/sec
Start Time – Power Up (0-4500 RPM)		
Typical	10 sec	10 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	10 sec	10 sec
Maximum	20 sec	20 sec
Start/stop Cycles	10,000 min	10,000 min
Interleave	1:1	1:1
Buffer Size	256 K	256 K

* Default translate parameters:
Cylinders 1023 or 1053
Data Heads 16
Sectors per Track 63

** At nominal DC input voltages.

READ/WRITE

Recording Method	2,7 RLL code
Recording Density – ID	44,325 BPI
Flux Density – ID (flux reversals per inch)	29,550

POWER REQUIREMENTS

(PC/AT interface typical)

	POWER
R/W Mode	7.5 W
Seek Mode	10.0 W
Idle Mode	6.7 W

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.625" (41.3 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	2.2 lbs. (1.00 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	50 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 Gs (peak)

ACOUSTIC NOISE

Acoustic Sound Pressure (idle)	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

World Headquarters: 3081 Zanker Road, San Jose, CA 95134, Telephone (408) 456-4500, FAX (408) 456-4501 **Sales Offices: U.S.** – Atlanta (404) 414-1169, Austin (512) 346-5706, Boston (617) 449-9550, Dallas (214) 680-2913, Irvine (714) 753-5823, Los Angeles (818) 597-8895, Minneapolis (612) 449-5186, San Jose (408) 456-4500, Tampa (813) 538-0825, Washington D.C. (410) 266-6668 **Europe** – Aosta 39/125-800111, London 44/71 409-0090, Munich 49/89-996-5570, Paris 33/1-47-47-41-08 **Asia** – Seoul 82/2-551-0511, Singapore 65/296-1992, Taipei 886/2-718-9193, Tokyo 81/3-3485-8901 **Latin America** – Miami (305) 442-8835

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CP3504
Customer Options

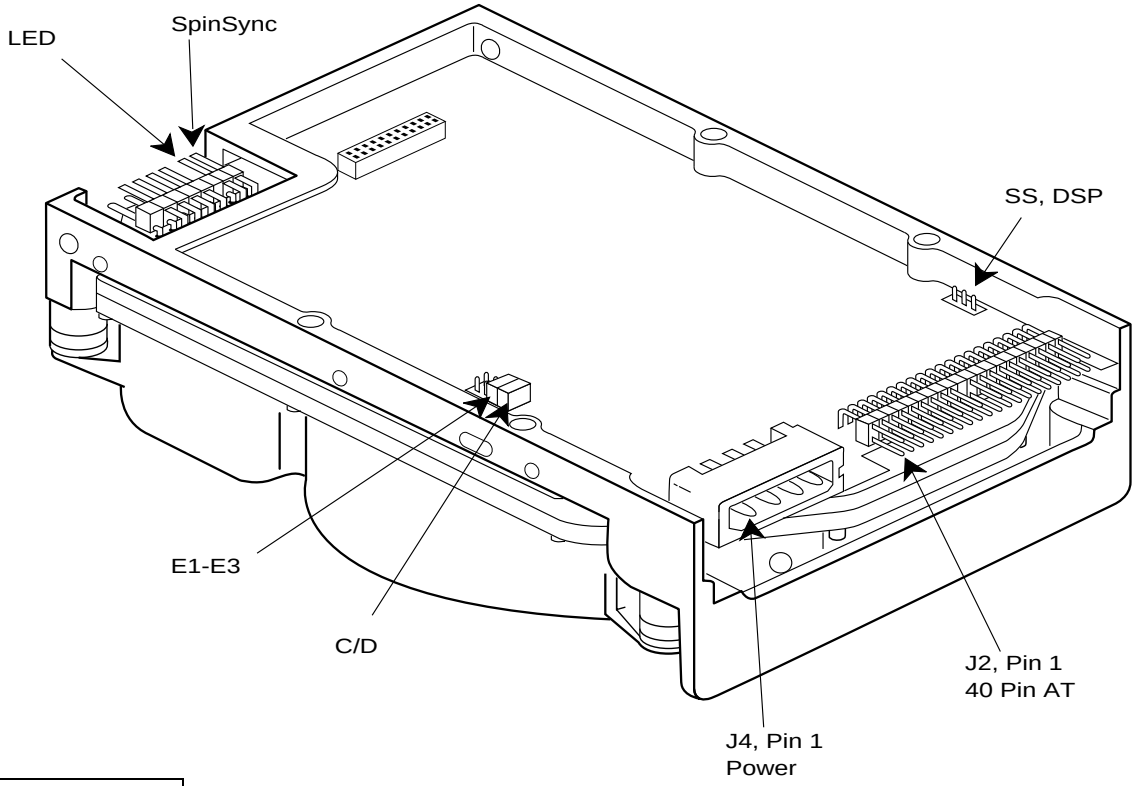
C/D

The C/D jumper is used to determine whether the drive is a master (drive C) or slave (drive D). The drive is configured as a master (drive C) when jumpered and as a slave drive (D drive) when not jumpered.

DSP & SS This pair of jumpers determines the signals on pin 39 of the interface connector.

Jumper DSP	Jumper SS	Action
X		- spindle synchronization signal disabled on pin 39. - activity LED signal available on pin 39. - Must be in place for CAM /ATA drives.
	X	- spindle synchronization signal enabled on pin 39. - activity LED signal disabled from pin 39.
		- pin 39 floating.

Jumper	
E1	Disable Spin Up until command received
E2	Not used
E3	Not used



J4	
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	987
Heads	16
Sectors	63
Precomp	0
Landing Zone	987

Mounting Holes

Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .25 Max. Insertion

SUMMIT SERIES

IDE Drive Specification Sumary

High Performance, High Capacity 3.5-inch Disk Drives

KEY FEATURES

Ideal for Networked desktop PCs, workstation and file servers
Fast 12 msec average seek time
4500 RPM rotation speed,6.7 msec average latency
256KB segmented cache buffer
2.5 Mbytes/sec sustained transfer rate
High reliability: uses only 6.7 watts of power
PC/AT interface

	Model CP3504
Embeded controller/interface	PC/AT
Capacity (Formatted)	510.4

PHYSICAL CONFIGURATION

Actuator type	Rotary voice coil
Number of Disks	6
Data Surfaces	12
Data Heads	12
Servo	Embeded
Track per Surface	1807
Track Density	2150 TPI
Track Capacity	
(Formatted)	23.552
Bytes per Block	512
Blocks per Drive	996,912
Sectors per Tracks	46

PERFORMANCE

Seek Times	
Track to Track	3.0ms
Average(random)	12.0ms^2
Maximum	30.0ms
Average latency	7.8ms
Rotation Speed(+-.1%)	3828 RPM
Controller overhead	<500us
Data Transfer Rate	
To/from Media	2.0 Mb/sec
Data Transfer Rate	
To/from Buffer	8.0 Mb/sec
Start Time-Power Up(0-4498 RPM)	
Typical	10 sec
Maximum	20 sec
Stop Time Power Down	
Typical	10 sec
Maximum	20 sec
Start/Stop Cycles	10,000 min
Interleave	1:1
Buffer Size	256KB

READ/WRITE

Recording Method	2,7 RLL code
Recording Density-ID	41,665 BPI
Flux Density	27,777
(flux reversal per inch)	

POWER REQUIREMENTS

(PC/AT interface)

R/W mode	4.9W
Seek Mode	6.8W
Idle Mode	4.4W

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.625 +-0.020
	Length	5.750 +-0.030
	Width	4.000 max
	Weight	2.2 lbs

ENVIRONMENTAL CHARACTERISTICS

Temparature	
Operating	5° to 55° c
Non-operating	-40° to 60° c
Thermal Gradient	20 c per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26 c per hour
Altitude (relative tosea level)	
Operating	-200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	150,000 hours (POH)1
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^13 bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse,11 msecond duration
Operating Shock	5 G's (without non-recoverable errors)
Non Operating Shock	50 G's
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27Hz	0.010 inch displacement (double amplitude)
28-500 Hz	0.5 G's (without non-recoverable error)
Non-operating Vibration	
5-62Hz	0.020 inch double amplitude
63-500Hz	4 G's peak

ACOUSTIC NOISE

Acoustice Sound Pressure(idle)	40 dBA max, at 1 meter

Note: Specifications subject to change

CP3544
Customer Options

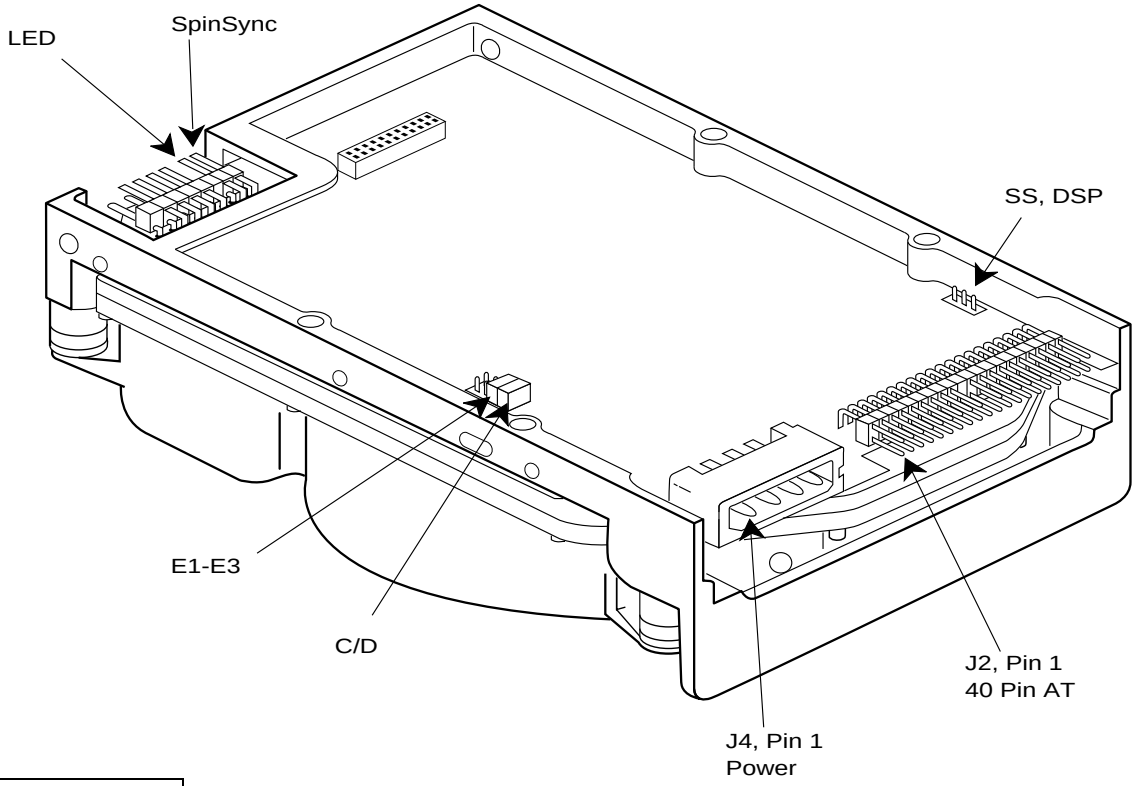
C/D

The C/D jumper is used to determine whether the drive is a master (drive C) or slave (drive D). The drive is configured as a master (drive C) when jumpered and as a slave drive (D drive) when not jumpered.

DSP & SS This pair of jumpers determines the signals on pin 39 of the interface connector.

Jumper DSP	Jumper SS	Action
X		- spindle synchronization signal disabled on pin 39. - activity LED signal available on pin 39. - Must be in place for CAM /ATA drives.
	X	- spindle synchronization signal enabled on pin 39. - activity LED signal disabled from pin 39.
		- pin 39 floating.

Jumper	
E1	Disable Spin Up until command received
E2	Not used
E3	Not used



J4	
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	1023
Heads	16
Sectors	63
Precomp	0
Landing Zone	1023

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .25 Max. Insertion

SUMMIT Series

IDE Drive Specification Summary

High Performance, High Capacity 3.5-inch Disk Drives.

KEY FEATURES

- Ideal for networked desktop PCs, workstations and file servers
- Fast 12 msec average seek time
- 4500 RPM rotation speed, 6.7 msec average latency
- 256 K segmented cache buffer
- 2.5 Mbytes/sec sustained transfer rate
- High reliability: uses only 6.7 watts of power
- PC/AT*-interface

	MODEL CP-3364	MODEL CP-3544
Embedded Controller/Interface	PC/AT	PC/AT
Capacity (Formatted)	362.8 MB	544.3 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	4	6
Data Surfaces	8	12
Data Heads*	8	12
Servo	Embedded	Embedded
Tracks per Surface*	1808	1808
Track Density	2150 TPI	2150 TPI
Track Capacity (Formatted)	25,088 bytes	25,088 bytes
Bytes per Block	512	512
Blocks per Drive	708,736	1,063,104
Sectors per Track*	49	49
PERFORMANCE		
Seek Times**		
Track to Track	3 msec	3 msec
Average (random)	12 msec	12 msec
Maximum	30 msec	30 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Controller Overhead	<500 µsec	<500 µsec
Data Transfer Rate To/from Media	2.5 MB/sec	2.5 MB/sec
Data Transfer Rate To/from Buffer	8.0 MB/sec	8.0 MB/sec
Start Time – Power Up (0-4500 RPM)		
Typical	10 sec	10 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	10 sec	10 sec
Maximum	20 sec	20 sec
Start/stop Cycles	10,000 min	10,000 min
Interleave	1:1	1:1
Buffer Size	256 K	256 K

* Default translate parameters:
Cylinders 1023 or 1053
Data Heads 16
Sectors per Track 63

** At nominal DC input voltages.

READ/WRITE

Recording Method	2,7 RLL code
Recording Density – ID	44,325 BPI
Flux Density – ID (flux reversals per inch)	29,550

POWER REQUIREMENTS

(PC/AT interface typical)

	POWER
R/W Mode	7.5 W
Seek Mode	10.0 W
Idle Mode	6.7 W

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.625" (41.3 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	2.2 lbs. (1.00 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	50 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 Gs (peak)

ACOUSTIC NOISE

Acoustic Sound Pressure (idle)	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

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IDE DRIVES

PART THREE IDE 3.5” 1/3 HEIGHT

CP3000

Customer Options

There are four jumper options available for configuration: *HSP, C/D, DSP, and ACT.

The following table shows what the jumper settings should be for various system configurations.

Single Drive = ACT and C/D Jumpered
Master Drive = C/D and DSP Jumpered
Slave Drive = No Jumpers installed

* Note: HSP is not used.

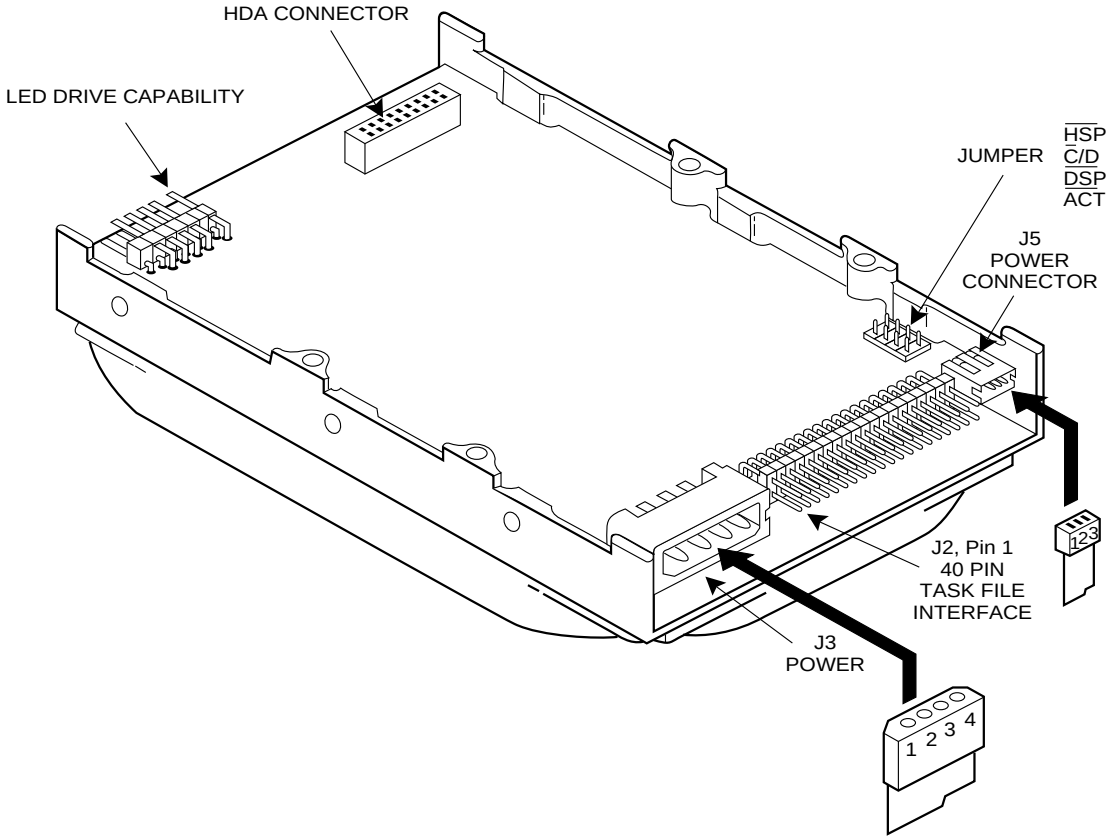

Figure 2. Connectors and Jumpers

	J3
1	+12 V
2	Ground
3	Ground
4	+5V

	J5
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	980
Heads	5
Sectors	17
Precomp	0
Landing Zone	980

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .25 Max. Insertion

CP-3000 Specification Summary

Low-Profile, 3.5-inch Disk Drives.
42 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for laptop and desktop computers
- 28 msec average seek time
- Low 2 watt typical power dissipation
- Weighs only 1.1 pounds
- Patented one-inch high design
- PC/AT®-compatible interface

	MODEL CP-3000
Embedded Controller/Interface	PC/AT
Capacity (Formatted)	42.65 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice coil
Number of Disks	1
Data Surfaces	2
Data Heads	2
Servo	Embedded
Tracks per Surface	1045
Track Density	1400 TPI
Track Capacity (Formatted)	20,480 bytes
Bytes per Block	512
Blocks per Drive	83,760
Sectors per Track	40

PERFORMANCE

Seek Times*	
Track to Track	11 msec
Average	28 msec**
Maximum	50 msec
Average Latency	8.4 msec
Rotation Speed (± .1%)	3557 RPM
Controller Overhead	1 msec
Data Transfer Rate To/From Media	1.5 MB/sec
Data Transfer Rate To/From Buffer	4.0 MB/sec
Start Time – Power Up (0-3557 RPM)	
Typical	5 sec
Maximum	10 sec
Stop Time – Power Down	
Typical	5 sec
Maximum	10 sec
Start/stop Cycles	20,000 min
Interleave	1:1
Buffer size	8 K

* At nominal D.C. input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	2,7 RLL code
Recording Density – ID	30,871 BPI
Flux Density – ID (flux reversals per inch)	20,581

POWER REQUIREMENTS

(PC/AT interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	230 ma	275 ma	4.2 W
Seek Mode	140 ma	180 ma	2.8 W
Idle Mode	120 ma	120 ma	2.0 W
Standby Mode	1 ma	90 ma	0.5 W
Sleep Mode	1 ma	77 ma	0.4 W
Spin-up Mode	700 ma	180 ma max	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.1 lbs. (.50 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	5 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 G's peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (0 – 700 Khz).

ACOUSTIC NOISE

Acoustic Noise	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

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CP3024

Customer Options

There are four jumper options available for configuration: *HSP, C/D, DSP, and ACT.

The following table shows what the jumper settings should be for various system configurations.

Single Drive = ACT and C/D Jumpered
Master Drive = C/D and DSP Jumpered
Slave Drive = No Jumpers installed

* Note: HSP is not used.

DOS Drive Type= 2

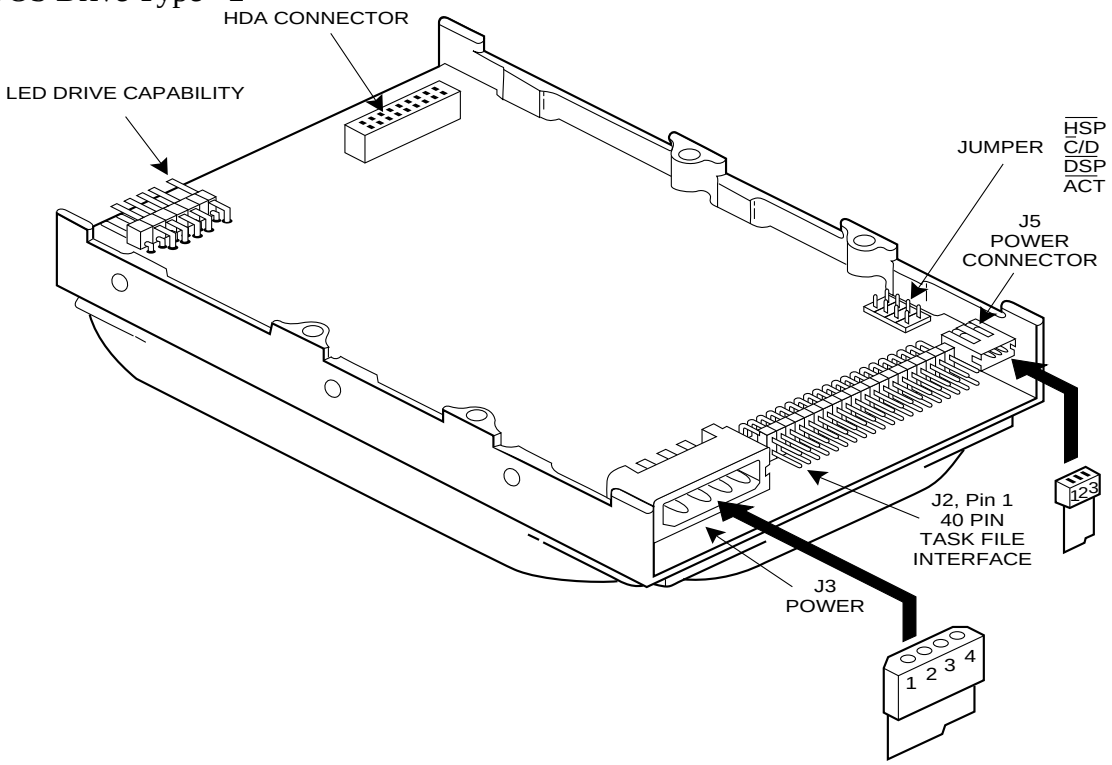

Figure 2. Connectors and Jumpers

	J3
1	+12 V
2	Ground
3	Ground
4	+5V

	J5
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	615
Heads	4
Sectors	17
Precomp	0
Landing Zone	615

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .25 Max. Insertion

CP-3020 Series Specification Summary

	MODEL CP-3024	MODEL CP-3020
Embedded Controller	PC/AT	SCSI
Capacity (Formatted)	21.5 MB	21.0 MB
PHYSICAL CONFIGURATION		
Actuator Type	Voice coil	Voice coil
Number of Disks	1	1
Data Surfaces	2	2
Data Heads	2	2
Servo	Embedded	Embedded
Tracks per Surface	636	622
Track Density	1150 TPI	1150 TPI
Track Capacity (Formatted)	16,896 bytes	16,896 bytes
Bytes per Block	512	512
Blocks per Drive	41,976	41,052
Sectors per Track	33	33
PERFORMANCE		
Seek Times*		
Track to Track	8 msec	8 msec
Average	27 msec**	27 msec**
Maximum	50 msec	50 msec
Average Latency	8.4 msec	8.4 msec
Rotation Speed (± .1%)	3575 RPM	3575 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate To/From Media	1.25 MB/sec	1.25 MB/sec
Data Transfer Rate To/From Buffer	4.0 MB/sec	4.0 MB/sec
Start Time – Power Up (0-3575 RPM)		
Typical	5 sec	5 sec
Maximum	10 sec	10 sec
Stop Time – Power Down		
Typical	5 sec	5 sec
Maximum	10 sec	10 sec
Start/stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1

* At nominal D.C. input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE		
Interface	PC/AT	SCSI
Recording Method	2,7 RLL code	2,7 RLL code
Recording Density – ID	21,379 BPI	21,379 BPI
Flux Density – ID (flux reversals per inch)	14,396	14,396

MODEL CP-3024 POWER REQUIREMENTS
(PC/AT interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	230 ma	275 ma	4.2 W
Seek Mode	140 ma	180 ma	2.8 W
Idle Mode	120 ma	120 ma	2.0 W
Standby Mode	1 ma	90 ma	0.5 W
Sleep Mode	1 ma	77 ma	0.4 W
Spin-up Mode	700 ma	180 ma max	n/a

PHYSICAL CHARACTERISTICS		
Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.1 lbs. (.50 kg)

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5°C to 55°C
Non-operating	-40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26°C
Altitude (relative to sea level)	
Operating	-200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE	
MTBF	In excess of 50,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION	
Shock	½ sine pulse
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	5 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.5 G's peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Noise	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

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CP-2002 03/90

CP3044

Customer Options

There are four jumper options available for configuration: *HSP, C/D, DSP, and ACT.

The following table shows what the jumper settings should be for various system configurations.

Single Drive = ACT and C/D Jumpered
Master Drive = C/D and DSP Jumpered
Slave Drive = No Jumpers installed

* Note: HSP is not used.

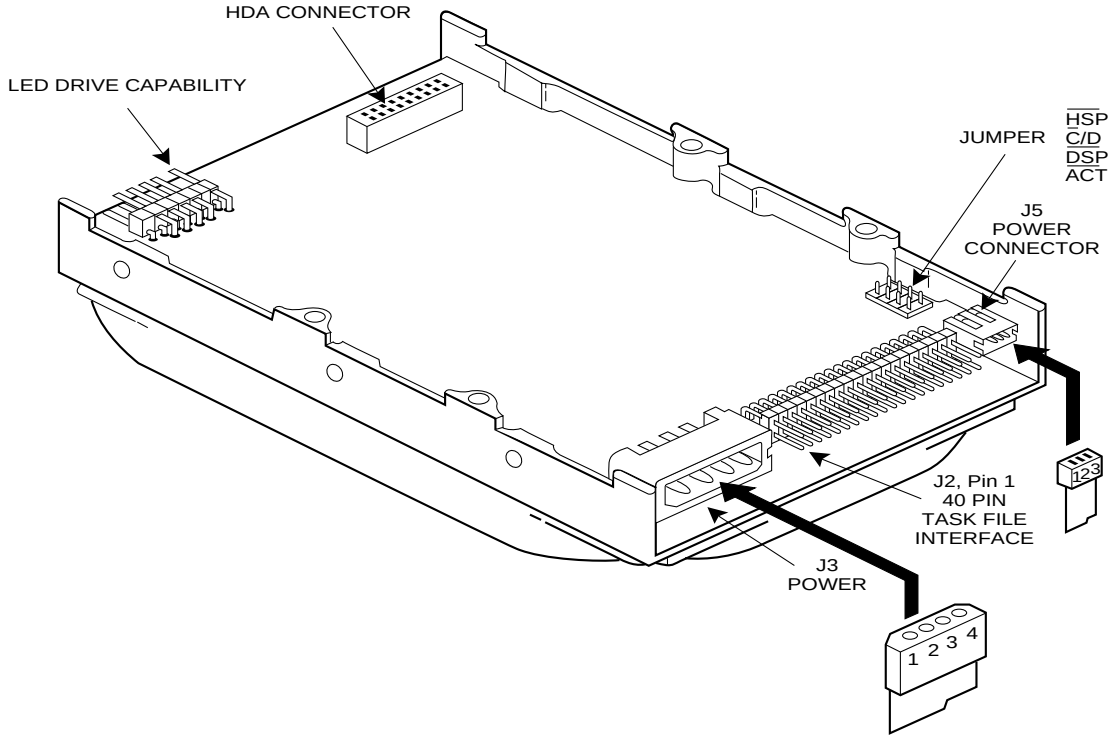

Figure 2. Connectors and Jumpers

	J3
1	+12 V
2	Ground
3	Ground
4	+5V

	J5
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	980
Heads	5
Sectors	17
Precomp	0
Landing Zone	980

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .25 Max. Insertion

CP-3040 Specification Summary

Low-Profile, 3.5-inch Disk Drives.
40 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for laptop and desktop computers
- 25 msec average seek time
- Low 2 watt typical power dissipation
- Weighs only 1.1 pounds
- Patented one-inch high design
- PC/AT® or SCSI interface

	MODEL CP-3044	MODEL CP-3040
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	42 MB	42 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	1	1
Data Surfaces	2	2
Data Heads	2	2
Servo	Embedded	Embedded
Tracks per Surface	1047	1026
Track Density	1400 TPI	1400 TPI
Track Capacity (Formatted)	20,480 bytes	20,480 bytes
Bytes per Block	512	512
Blocks per Drive	83,760	82,080
Sectors per Track	40	40
PERFORMANCE		
Seek Times*		
Track to Track	8 msec	8 msec
Average	25 msec**	25 msec**
Maximum	50 msec	50 msec
Average Latency	8.4 msec	8.4 msec
Rotation Speed (± .1%)	3557 RPM	3557 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate To/From Media	1.5 MB/sec	1.5 MB/sec
Data Transfer Rate To/From Buffer	4.0 MB/sec	4.0 MB/sec
Start Time – Power Up (0-3557 RPM)		
Typical	5 sec	5 sec
Maximum	10 sec	10 sec
Stop Time – Power Down		
Typical	5 sec	5 sec
Maximum	10 sec	10 sec
Start/stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1
Buffer size	8 K	8 K

* At nominal D.C. input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	2,7 RLL code
Recording Density – ID	30,871 BPI
Flux Density – ID (flux reversals per inch)	20,581

POWER REQUIREMENTS

(PC/AT interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	230 ma	275 ma	4.2 W
Seek Mode	140 ma	180 ma	2.8 W
Idle Mode	120 ma	120 ma	2.0 W
Standby Mode	1 ma	90 ma	0.5 W
Sleep Mode	1 ma	77 ma	0.4 W
Spin-up Mode	700 ma	180 ma max	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.1 lbs. (.50 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	5 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 G's peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (0 – 700 Khz).

ACOUSTIC NOISE

Acoustic Noise	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

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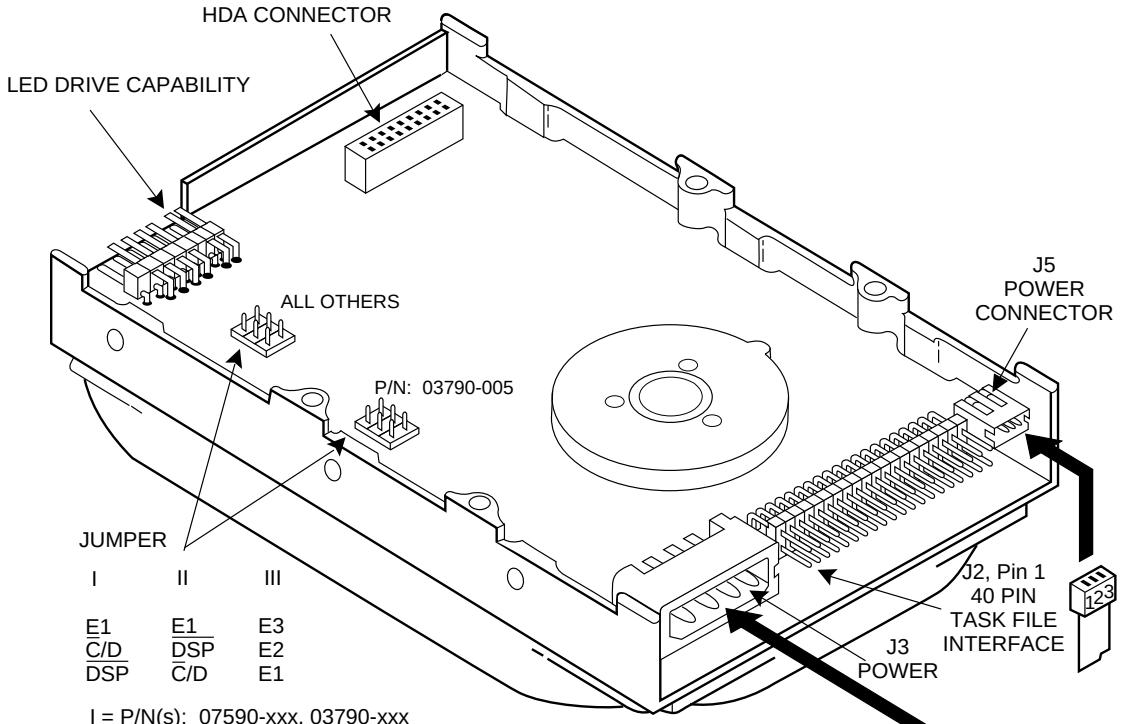
CP30064
Customer Options

The drive has one set of jumpers labeled C/D, DSP, E1.

Single Drive = C/D Jumpered
Master = C/D and DSP Jumpered
Slave = No Jumpers Installed
E1 = Not used.



J3	
1	+12V
2	Ground
3	Ground
4	+5V

J5	
1	+5V
2	+12V
3	Ground

CMOS Drive Parameters	
Cylinders	762
Heads	4
Sectors	39
Precomp	0
Landing Zone	762

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .20 Max. Insertion

HOPI Series

CP-30060 Specification Summary

Low-Profile, 3.5-inch Disk Drives.
60 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for laptop and desktop computers
- Sub-19 msec average seek time
- Uses only 2.8 watts of power
- Patented one-inch high design
- PC/AT/EISA®, MCA® or SCSI interface

	MODEL CP-30064	MODEL CP-30069	MODEL CP-30060
Embedded Controller/ Interface	PC/AT/EISA	MCA	SCSI
Capacity (Formatted)	60 MB	60 MB	60 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil	Rotary voice-coil	Rotary voice-coil
Number of Disks	1	1	1
Data Surfaces	2	2	2
Data Heads	2	2	2
Servo	Embedded	Embedded	Embedded
Tracks per Surface	1524	1524	1524
Track Density	1850 TPI	1850 TPI	1850 TPI
Track Capacity (Formatted)	19,968 bytes	19,968 bytes	19,968 bytes
Bytes per Block	512	512	512
Blocks per Drive	118,716	118,716	118,716
Sectors per Track	39	39	39

PERFORMANCE

Seek Times*			
Track to Track	8 msec	8 msec	8 msec
Average	sub-19 msec**	sub-19 msec**	sub-19msec**
Maximum	35 msec	35 msec	35 msec
Average Latency	8.8 msec	8.8 msec	8.8 msec
Rotation Speed (± .1%)	3399 RPM	3399 RPM	3399 RPM
Controller Overhead	1 msec	1 msec	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec	1.5 MB/sec	1.5 MB/sec
Data Transfer Rate To/from Buffer	4.0 MB/sec	4.0 MB/sec	4.0 MB/sec
Start Time – Power Up (0-3399 RPM)			
Typical	15 sec	15 sec	15 sec
Maximum	20 sec	20 sec	20 sec
Stop Time – Power Down			
Typical	15 sec	15 sec	15 sec
Maximum	20 sec	20 sec	20 sec
Start/stop Cycles	40,000 min	40,000 min	40,000 min
Interleave	1:1	1:1	1:1
Buffer Size	64 K	64 K	64 K

* At nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density – ID	33,184 BPI
Flux Density – ID (flux reversals per inch)	24,888

POWER REQUIREMENTS

(PC/AT/EISA interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	200 ma	280 ma	3.8 W
Seek Mode	260 ma	150 ma	3.9 W
Idle Mode	175 ma	150 ma	2.8 W
Spin-up Mode	1100 ma	380 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs. (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	5 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 G's (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 1.5 MHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

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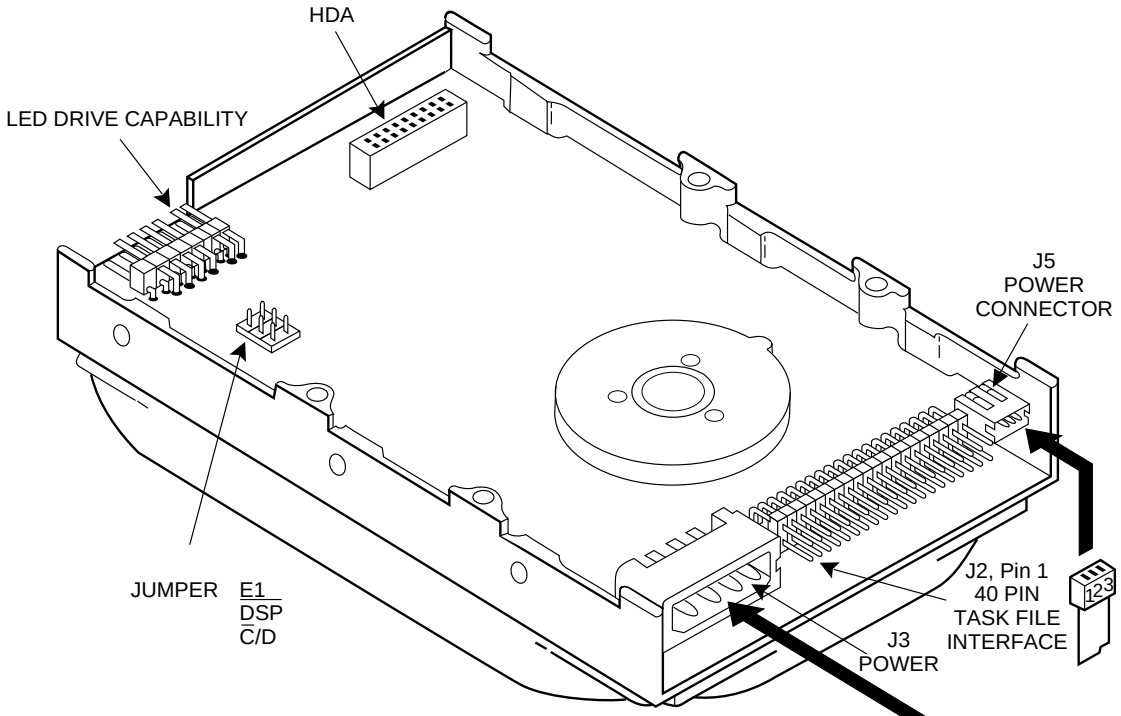
CP-4009 8/91

CP30064H
Customer Options

The drive has one set of jumpers labeled C/D, DSP, E1.

Single Drive = C/D Jumpered
Master = C/D and DSP Jumpered
Slave = No Jumpers Installed
E1 = Not used.



J3	
1	+12V
2	Ground
3	Ground
4	+5V

J5	
1	+5V
2	+12V
3	Ground

CMOS Drive Parameters	
Cylinders	762
Heads	4
Sectors	39
Precomp	0
Landing Zone	762

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .20 Max. Insertion

CP-30064H Specification Summary

Low-profile, 3.5-inch Disk Drives.
60 Mbytes Formatted Capacity.

KEY FEATURES

- Ideal for mid-range desktop computers
- Sub-19 msec average seek time
- 32 K buffer
- Uses only 2.8 watts of power
- Weighs just 1.3 pounds
- Patented one-inch high design
- PC/AT/EISA® interface

	MODEL CP-30064H
Embedded Controller/Interface	PC/AT/EISA
Capacity (Formatted)	60 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil
Number of Disks	1
Data Surfaces	2
Data Heads	2
Servo	Embedded
Tracks per Surface	1524
Track Density	1850 TPI
Track Capacity (Formatted)	19,968 bytes
Bytes per Block	512
Blocks per Drive	118,716
Sectors per Track	39

PERFORMANCE

Seek Times*	
Track to Track	8 msec
Average	sub-19 msec**
Maximum	35 msec
Average Latency	8.8 msec
Rotation Speed (± .1%)	3399 RPM
Controller Overhead	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec
Data Transfer Rate To/from Buffer	4.0 MB/sec
Start Time – Power Up (0-Ready)	
Typical	15 sec
Maximum	20 sec
Stop Time – Power Down	
Typical	15 sec
Maximum	20 sec
Start/stop Cycles	20,000 min
Interleave	1:1
Buffer Size	32 K

* At nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density	33,184 BPI
Flux Density – ID (flux reversals per inch)	24,888

POWER REQUIREMENTS

(typical)

	+12 VDC	+5 VDC ± 5%	POWER
R/W Mode	200 ma	280 ma	3.8 W
Seek Mode	260 ma	150 ma	3.9 W
Idle Mode	175 ma	150 ma	2.8 W
Spin-up Mode	1100 ma	380 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs. (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, ½ octave per minute
Non-operating Shock	75 Gs
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 Gs (peak)
Operating Shock	5 Gs (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface. (DC – 1.5 MHz)

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

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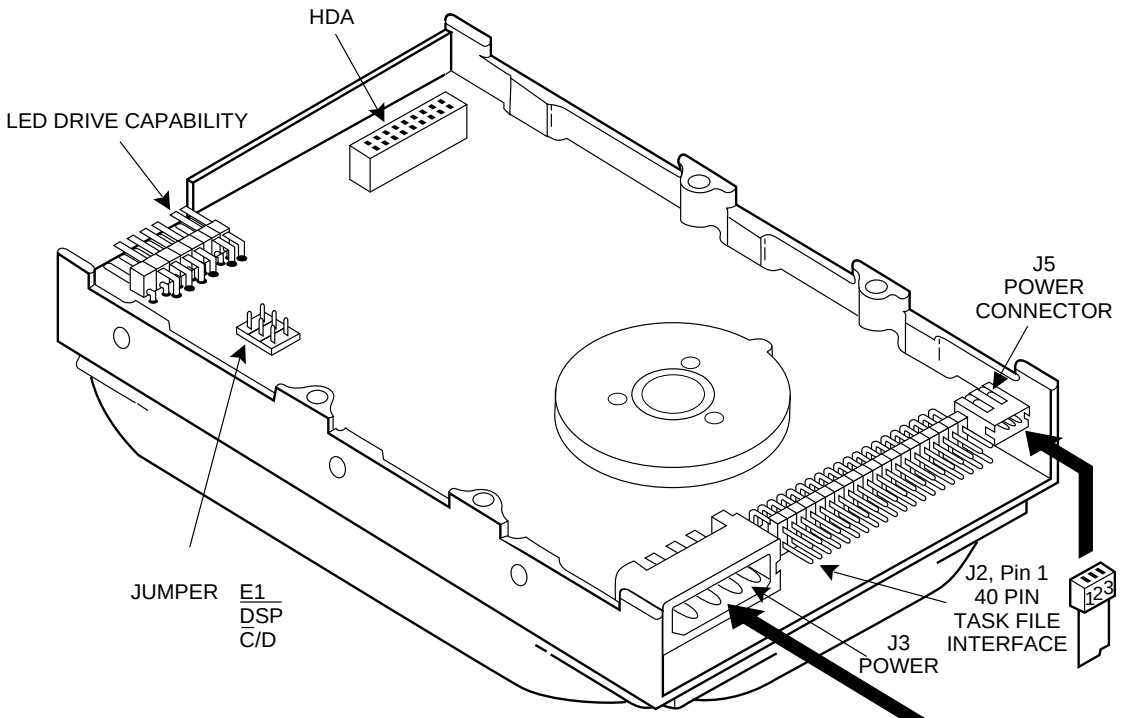
CP-4017 10/91

CP30084
Customer Options

The drive has one set of jumpers labeled C/D, DSP, E1.

Single Drive = C/D Jumpered
Master = C/D and DSP Jumpered
Slave = No Jumpers Installed
E1 = Not used.



J3	
1	+12V
2	Ground
3	Ground
4	+5V

J5	
1	+5V
2	+12V
3	Ground

CMOS Drive Parameters	
Cylinders	526
Heads	8
Sectors	39
Precomp	0
Landing Zone	526

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .20 Max. Insertion

HOPI Series

CP-30080 Specification Summary

Low-Profile, 3.5-inch Disk Drives.
84 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for desktop and high-end laptop computers
- Sub-19 msec average seek time
- Uses only 2.8 watts of power
- Patented one-inch high design
- PC/AT/EISA® or SCSI interface

	MODEL CP-30084	MODEL CP-30080
Embedded Controller/Interface	PC/AT/EISA	SCSI
Capacity (Formatted)	84.1 MB	84.1 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Tracks per Surface	1058	1058
Track Density	1400 TPI	1400 TPI
Track Capacity (Formatted)	19,968 bytes	19,968 bytes
Bytes per Block	512	512
Blocks per Drive	164,268	164,268
Sectors per Track	39	39
PERFORMANCE		
Seek Times*		
Track to Track	8 msec	8 msec
Average	sub-19 msec**	sub-19 msec**
Maximum	35 msec	35 msec
Average Latency	8.8 msec	8.8 msec
Rotation Speed (± .1%)	3400 RPM	3400 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec	1.5 MB/sec
Data Transfer Rate To/from Buffer	4.0 MB/sec	4.0 MB/sec
Start Time – Power Up (0-3400 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/stop Cycles	40,000 min	40,000 min
Interleave	1:1	1:1
Buffer Size	64 K	64 K

* At nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density – ID	33,184 BPI
Flux Density – ID (flux reversals per inch)	24,888

POWER REQUIREMENTS

(PC/AT/EISA interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	200 ma	280 ma	3.8 W
Seek Mode	260 ma	150 ma	3.9 W
Idle Mode	175 ma	150 ma	2.8 W
Spin-up Mode	1100 ma	380 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs. (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	5 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 G's (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 1.5 MHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max. at 1 meter.

NOTE: Specifications subject to change

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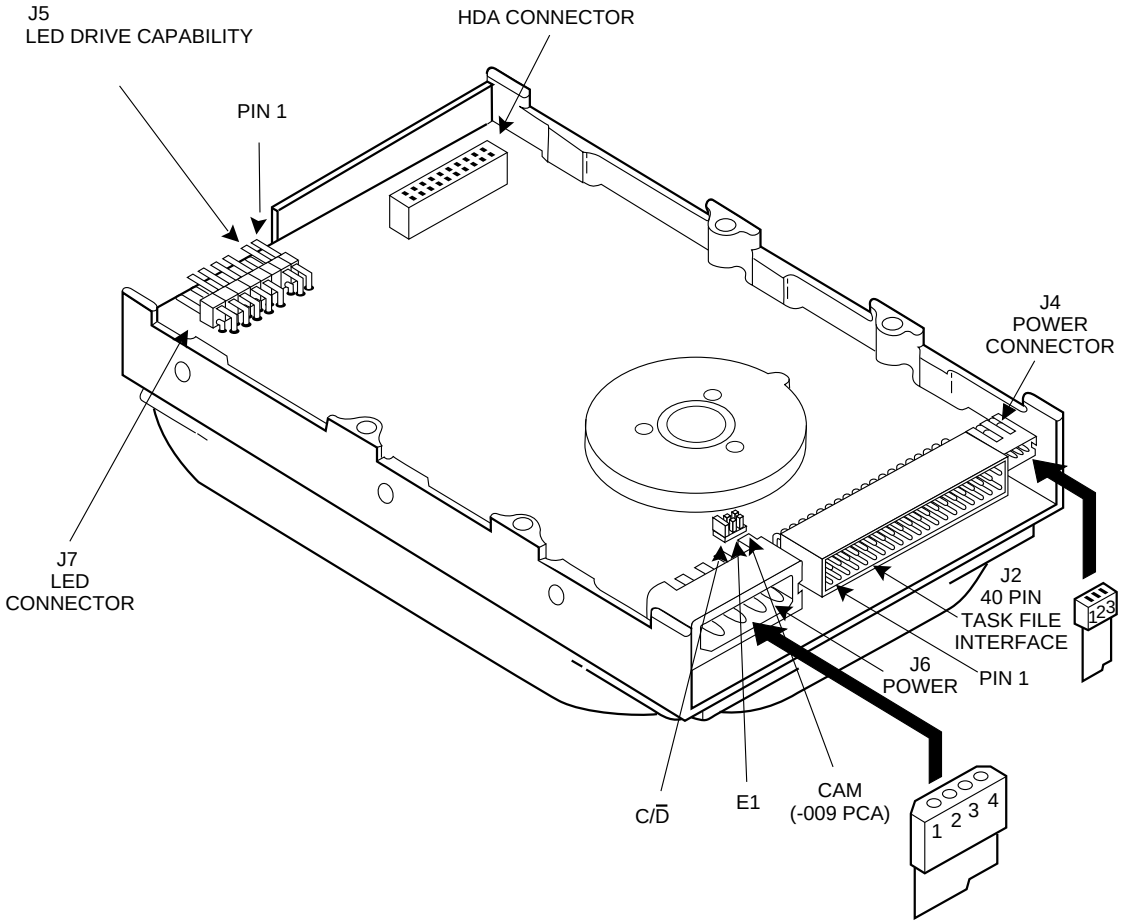
CP-4010 8/91

CP30084E
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or slave (drive D). The drive is configured as a master (drive C) when jumpered and as a slave drive (D drive) when not jumpered.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

	J4
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	903
Heads	4
Sectors	46
Precomp	0
Landing Zone	903

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .20 Max. Insertion

CP-30080E SPECIFICATION SUMMARY

85MB

	MODEL CP-30084E	MODEL CP-30080E
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	85 MB	85 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	1	1
Data Surfaces	2	2
Data Heads	2	2
Servo	Embedded	Embedded
Tracks per Surface	1806	1806
Track Density	2150 TPI	2150 TPI
Track Capacity (Formatted)	23,552 bytes	23,552 bytes
Bytes per Block	512	512
Blocks per Drive	166,152	166,152
Sectors per Track	46	46
PERFORMANCE		
Seek Times*		
Track to Track	3 msec	3 msec
Average	17 msec**	17 msec**
Maximum	30 msec	30 msec
Average Latency	7.8 msec	7.8 msec
Rotation Speed (± .1%)	3833 RPM	3833 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate		
To/from Media	2.0 Mb/sec	2.0 Mb/sec
Data Transfer Rate		
To/from Buffer	6.0 MB/sec	5.0 MB/sec
Start Time - Power Up		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1
Buffer Size	32 K	32 K
[redacted]		
Recording Method	1,7 RLL code	
Recording Density – ID	42,173 BPI	
Flux Density – ID (flux reversals per inch)	31,630	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	140 ma	390 ma	3.75 W
Seek Mode	230 ma	200 ma	3.75 W
Idle Mode	120 ma	200 ma	2.50 W
Sleep Mode	10 ma	130 ma	.75 W
Standby Mode	10 ma	130 ma	.75 W
Spin-up Mode (for first 7 seconds)	1100 ma	420 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29°C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet
[redacted]	
MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read
[redacted]	
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-10 Hz	0.10" (double amplitude)
10-100 Hz	0.5 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-28 Hz	0.10" (double amplitude)
10-400 Hz	4 Gs (peak) (without non-recoverable errors)

[redacted]

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 700 KHz, 700 KHz to 1.5 MHz = 1 gauss max)

[redacted]

Acoustic Sound Pressure 42 dBA max at 1 meter

NOTE: Specifications subject to change.

CONNER®
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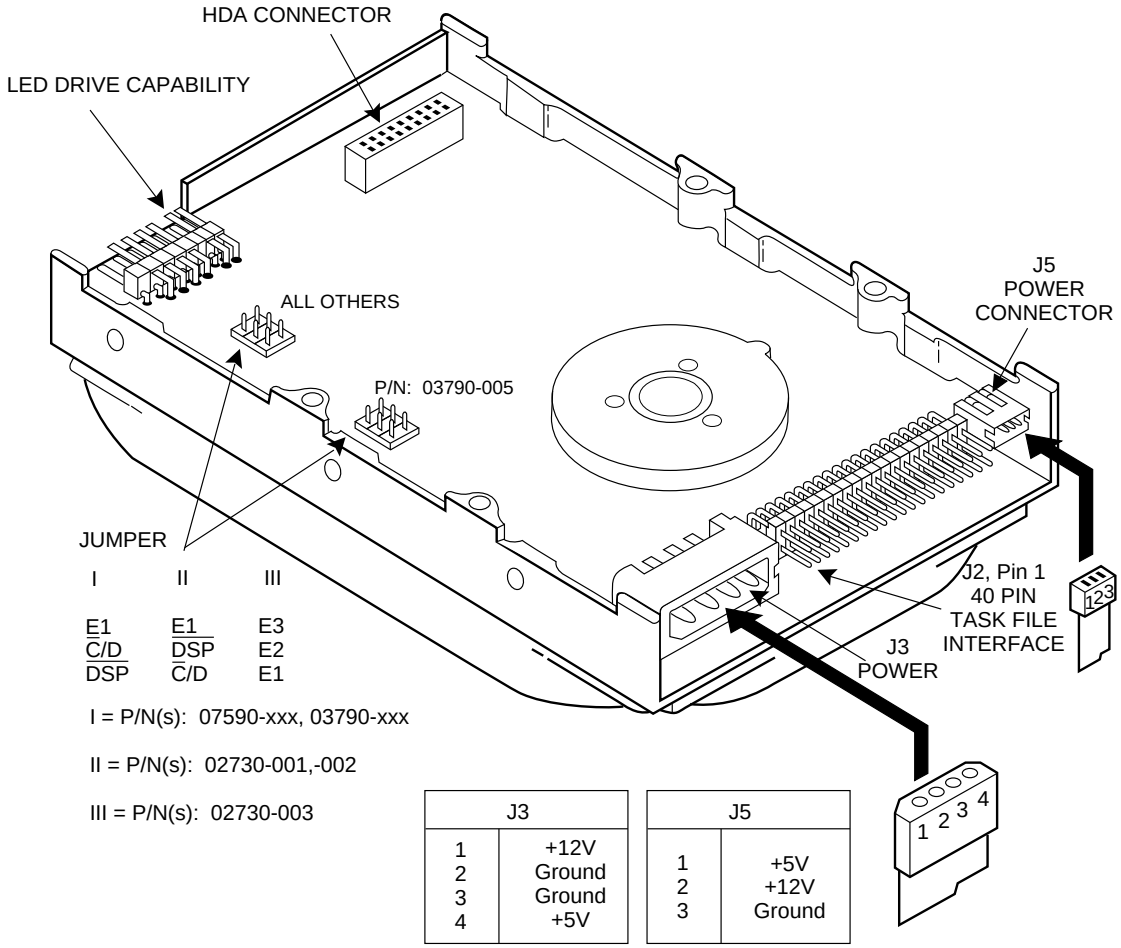
DS-511-026 7/93

CP30104
Customer Options

The drive has one set of jumpers labeled C/D, DSP, E1.

Single Drive = C/D Jumpered
Master = C/D and DSP Jumpered
Slave = No Jumpers Installed
E1 = Not used.



J3	
1	+12V
2	Ground
3	Ground
4	+5V

J5	
1	+5V
2	+12V
3	Ground

CMOS Drive Parameters	
Cylinders	762
Heads	8
Sectors	39
Precomp	0
Landing Zone	762

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .20 Max. Insertion

HOPI Series

CP-30100 Specification Summary

Low-Profile, 3.5-inch Disk Drives.
120 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for desktop and high-end laptop computers
- Sub-19 msec average seek time
- Uses only 2.8 watts of power
- Patented one-inch high design
- PC/AT/EISA®, MCA® or SCSI interface

	MODEL CP-30104	MODEL CP-30109	MODEL CP-30100
Embedded Controller/ Interface	PC/AT/EISA	MCA	SCSI
Capacity (Formatted)	120 MB	120 MB	120 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2	2
Data Surfaces	4	4	4
Data Heads	4	4	4
Servo	Embedded	Embedded	Embedded
Tracks per Surface	1524	1524	1524
Track Density	1850 TPI	1850 TPI	1850 TPI
Track Capacity (Formatted)	19,968 bytes	19,968 bytes	19,968 bytes
Bytes per Block	512	512	512
Blocks per Drive	237,432	237,432	237,432
Sectors per Track	39	39	39

PERFORMANCE

Seek Times*			
Track to Track	8 msec	8 msec	8 msec
Average	sub-19 msec**	sub-19 msec**	sub-19 msec**
Maximum	35 msec	35 msec	35 msec
Average Latency	8.8 msec	8.8 msec	8.8 msec
Rotation Speed (± .1%)	3399 RPM	3399 RPM	3399 RPM
Controller Overhead	1 msec	1 msec	1 msec
Data Transfer Rate To/From Media	1.5 MB/sec	1.5 MB/sec	1.5 MB/sec
Data Transfer Rate To/From Buffer	4.0 MB/sec	4.0 MB/sec	4.0 MB/sec
Start Time – Power Up (0-3399 RPM)			
Typical	15 sec	15 sec	15 sec
Maximum	20 sec	20 sec	20 sec
Stop Time – Power Down			
Typical	15 sec	15 sec	15 sec
Maximum	20 sec	20 sec	20 sec
Start/stop Cycles	40,000 min	40,000 min	40,000 min
Interleave	1:1	1:1	1:1
Buffer size	64 K	64 K	64 K

* At nominal D.C. input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density – ID	33,184 BPI
Flux Density – ID (flux reversals per inch)	24,888

POWER REQUIREMENTS

(PC/AT/EISA interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	200ma	280ma	3.8 W
Seek Mode	260ma	150ma	3.9 W
Idle Mode	175ma	150ma	2.8 W
Spin-up Mode	1100ma	380ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs. (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	5 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.025" (double amplitude)
28-500 Hz	.50 G's peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Noise	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

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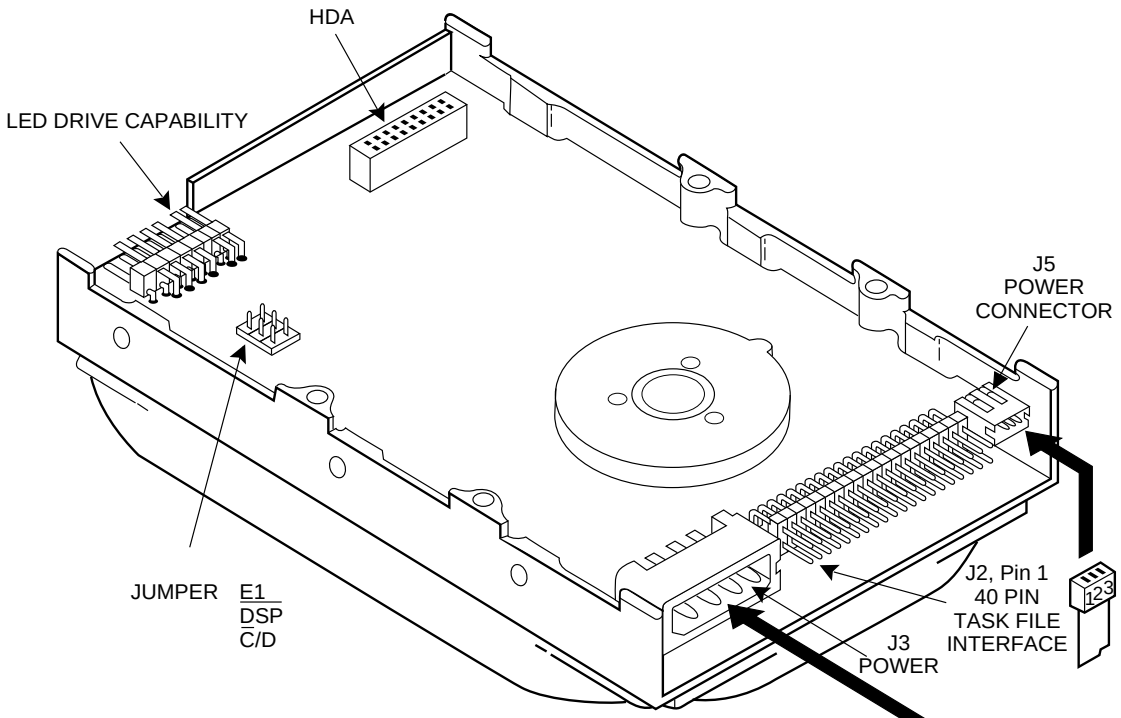
CP30104H
Customer Options

The drive has one set of jumpers labeled C/D, DSP, E1.

Single Drive = C/D Jumpered
Master = C/D and DSP Jumpered
Slave = No Jumpers Installed
E1 = Not used.



J3	
1	+12V
2	Ground
3	Ground
4	+5V

J5	
1	+5V
2	+12V
3	Ground

CMOS Drive Parameters	
Cylinders	762
Heads	8
Sectors	39
Precomp	0
Landing Zone	762

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .20 Max. Insertion

CP-30104H Specification Summary

Low-profile, 3.5-inch Disk Drives.
120 Mbytes Formatted Capacity.

KEY FEATURES

- Ideal for mid-range desktop computers
- Sub-19 msec average seek time
- 32 K buffer
- Uses only 2.8 watts of power
- Weighs just 1.3 pounds
- One-inch high design
- PC/AT/EISA® interface

	MODEL CP-30104H
Embedded Controller/Interface	PC/AT/EISA
Capacity (Formatted)	120 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil
Number of Disks	2
Data Surfaces	4
Data Heads	4
Servo	Embedded
Tracks per Surface	1522
Track Density	1850 TPI
Track Capacity (Formatted)	19,968 bytes
Bytes per Block	512
Blocks per Drive	237,432
Sectors per Track	39

PERFORMANCE

Seek Times*	
Track to Track	8 msec
Average	sub-19 msec**
Maximum	35 msec
Average Latency	8.8 msec
Rotation Speed (± .1%)	3399 RPM
Controller Overhead	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec
Data Transfer Rate To/from Buffer	4.0 MB/sec
Start Time – Power Up (0-Ready)	
Typical	15 sec
Maximum	20 sec
Stop Time – Power Down	
Typical	15 sec
Maximum	20 sec
Start/stop Cycles	20,000 min
Interleave	1:1
Buffer Size	32 K

* At nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density	33,184 BPI
Flux Density – ID (flux reversals per inch)	24,888

POWER REQUIREMENTS

(typical)

	+12 VDC	+5 VDC ± 5%	POWER
R/W Mode	200 ma	280 ma	3.8 W
Seek Mode	260 ma	150 ma	3.9 W
Idle Mode	175 ma	150 ma	2.8 W
Spin-up Mode	1100 ma	380 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs. (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, ½ octave per minute
Non-operating Shock	75 Gs
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 Gs (peak)
Operating Shock	5 Gs (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface. (DC – 1.5 MHz)

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

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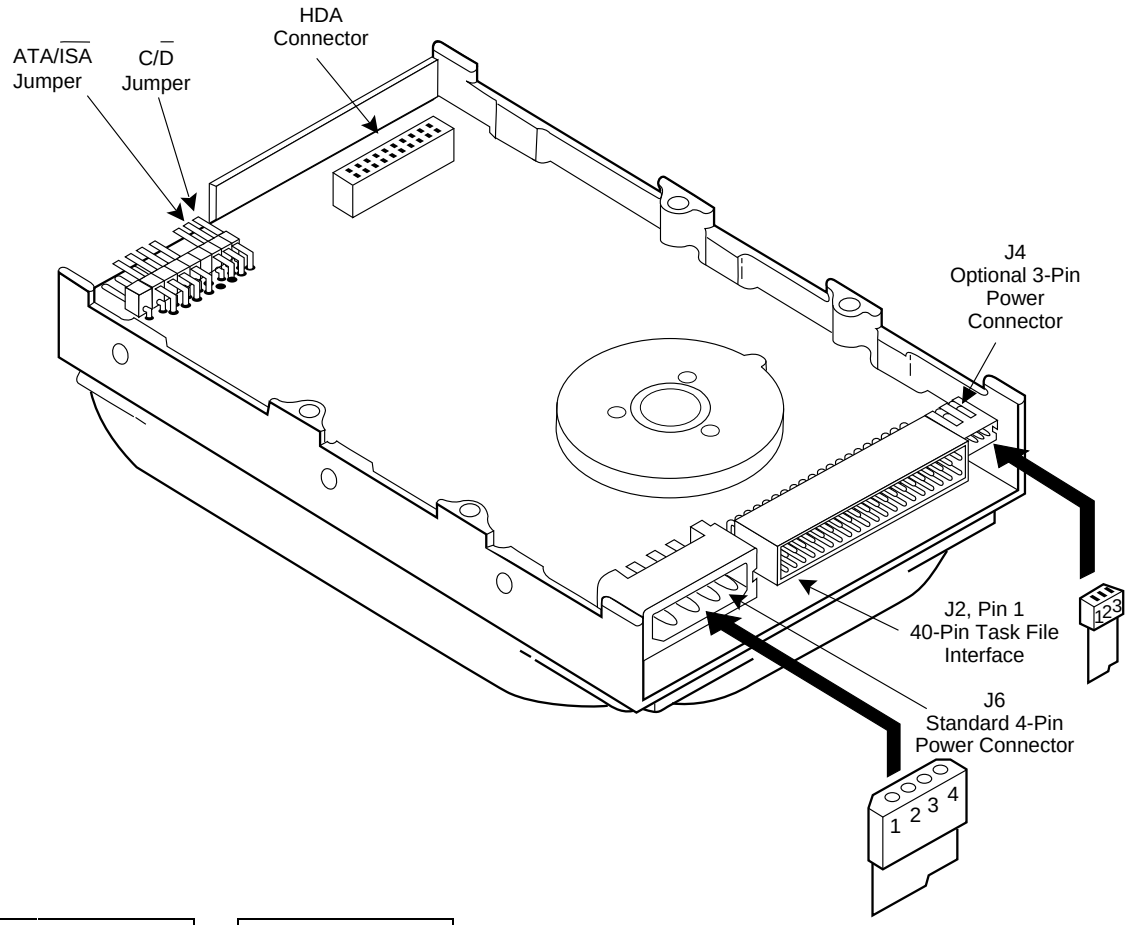
CP30124
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The ATA/ISA jumper is used when when daisy-chaining two drives. If another manufacturers drive is being connected to the conner drive, you may need to install this jumper.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

	J4
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	895
Heads	5
Sectors	55
Precomp	0
Landing Zone	895

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion
Bottom: 6-32 UNC-2B .37 Max. Insertion

125 MB

	MODEL CP-30124
Embedded Controller/Interface	PC/AT
Capacity (Formatted)	126 MB
Actuator Type	Rotary voice-coil
Number of Disks	1
Data Surfaces	2
Data Heads	2
Servo	Embedded
Tracks per Surface	1985
Track Density	2450 TPI
Track Capacity (Formatted)	31,744 bytes
Bytes per Block	512
Blocks per Drive	246,140
Sectors per Track	62
Number of Cylinders	895
Number of Heads	5
Number of Sectors	55
Seek Times (Typical)*	
Track to Track	3 msec
Average (Read/Write)	14 msec**
Maximum	26 msec
Average Latency	6.6 msec
Rotation Speed (± .1%)	4542 RPM
Controller Overhead	<500 µsec
Data Transfer Rate	
To/from Media	3.0 Mb/sec
Data Transfer Rate	
To/from Buffer	6.0 MB/sec
Start Time - Power Up (0-Ready)	
Typical	15 sec
Maximum	20 sec
Stop Time - Power Down	
Typical	15 sec
Maximum	20 sec
Start/Stop Cycles	20,000 min
Interleave	1:1
Buffer Size	32 K
Recording Method	1,7 RLL code
Recording Density	52,270 BPI
Flux Density - ID (flux reversals per inch)	39,202

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	150 ma	330 ma	3.5 W
Seek Mode	275 ma	160 ma	4.1 W
Idle Mode	160 ma	170 ma	2.77 W
Sleep Mode	1 ma	60 ma	.31 W
Standby Mode	1 ma	65 ma	.34 W
Spin-up Mode (for first 7 seconds)	1200 ma	460 ma	n/a

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.2 lbs (.54 kg)

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26°C
Altitude (relative to sea level)	
Operating	–200 to 15,000 feet
Non-operating (max)	40,000 feet
MTBF	In excess of 250,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	50 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27 Hz	0.10" (double amplitude)
28-300 Hz	0.5 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	0.10" (double amplitude)
63-500 Hz	5 Gs (peak) (without non-recoverable errors)

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

Acoustic Sound Pressure	40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

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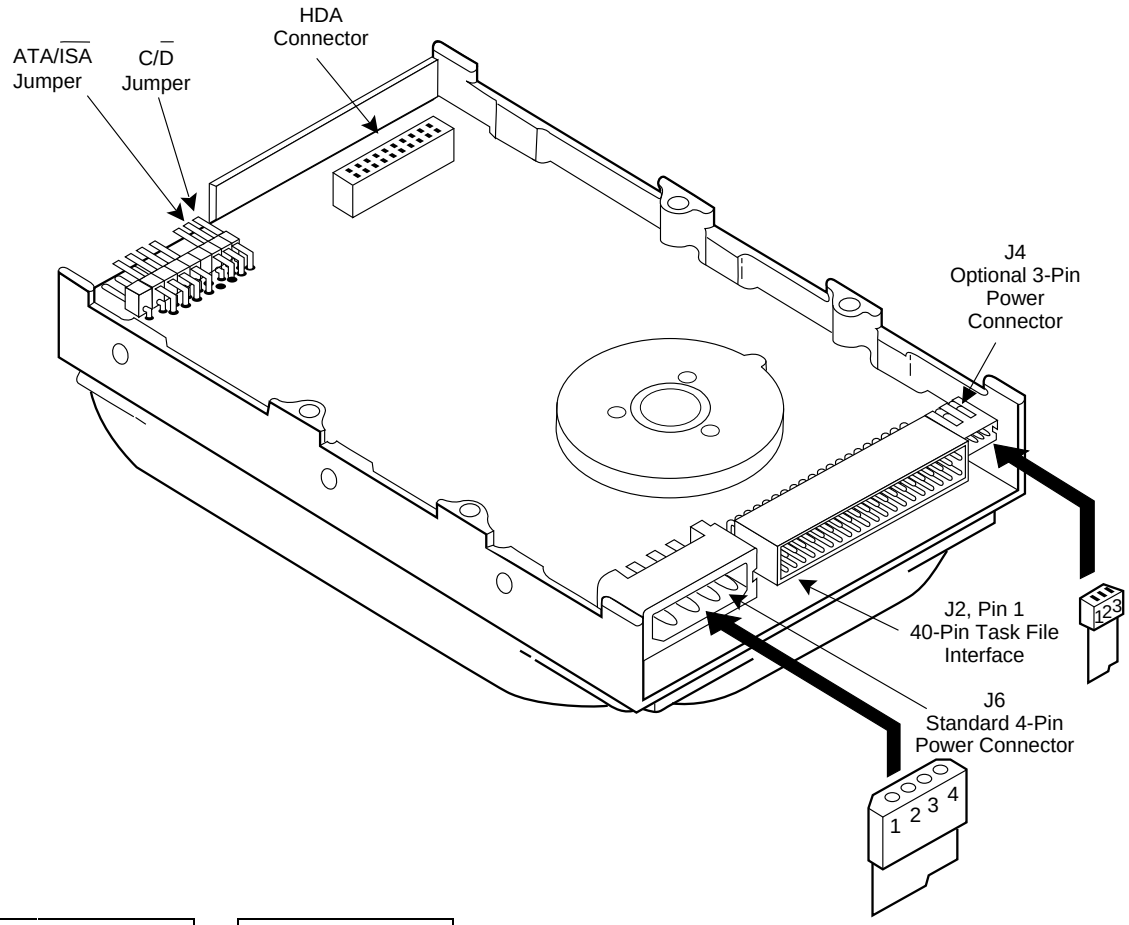
CFA170A (CP30174)
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The ATA/ISA jumper is used when when daisy-chaining two drives. This jumper may have to be removed when this drive is used together with older (Pre-ATA) drives.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

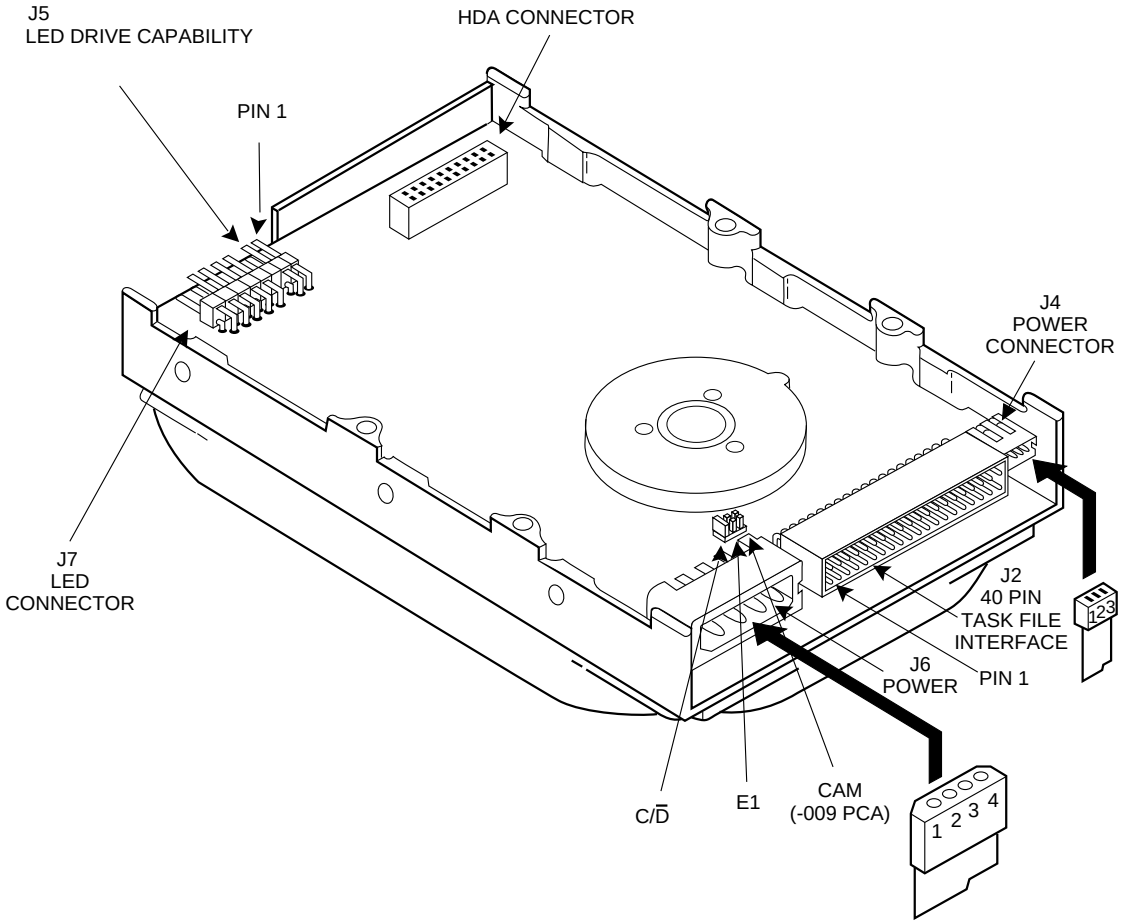
	J4
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	332
Heads	16
Sectors	63
Precomp	0
Landing Zone	332

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

CP30174E
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or slave (drive D). The drive is configured as a master (drive C) when jumpered and as a slave drive (D drive) when not jumpered.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

	J4
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	903
Heads	8
Sectors	46
Precomp	0
Landing Zone	903

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .20 Max. Insertion

CP-30170E SPECIFICATION SUMMARY — 170 MB

	MODEL CP-30174E	MODEL CP-30170E
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	170 MB	170 MB
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Tracks per Surface	1806	1806
Track Density	2150 TPI	2150 TPI
Track Capacity (Formatted)	23,552 bytes	23,552 bytes
Bytes per Block	512	512
Blocks per Drive	332,304	332,304
Sectors per Track	46	46
Seek Times*		
Track to Track	3 msec	3 msec
Average	17 msec**	17 msec**
Maximum	30 msec	30 msec
Average Latency	7.8 msec	7.8 msec
Rotation Speed (± .1%)	3833 RPM	3833 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate		
To/from Media	2.0 Mb/sec	2.0 Mb/sec
Data Transfer Rate		
To/from Buffer	6.0 MB/sec	5.0 MB/sec
Start Time - Power Up		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1
Buffer Size	32 K	32 K
Recording Method	1,7 RLL code	
Recording Density – ID	42,173 BPI	
Flux Density – ID (flux reversals per inch)	31,630	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	140 ma	390 ma	3.75 W
Seek Mode	230 ma	200 ma	3.75 W
Idle Mode	120 ma	200 ma	2.50 W
Sleep Mode	10 ma	130 ma	.75 W
Standby Mode	10 ma	130 ma	.75 W
Spin-up Mode (for first 7 seconds)	1100 ma	420 ma	n/a

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs (.59 kg)

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet
MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-10 Hz	0.10" (double amplitude)
10-100 Hz	0.5 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-28 Hz	0.10" (double amplitude)
10-400 Hz	4 Gs (peak) (without non-recoverable errors)

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 700 KHz, 700 KHz to 1.5 MHz = 1 gauss max)

Acoustic Sound Pressure 42 dBA max at 1 meter

NOTE: Specifications subject to change.

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CP30204

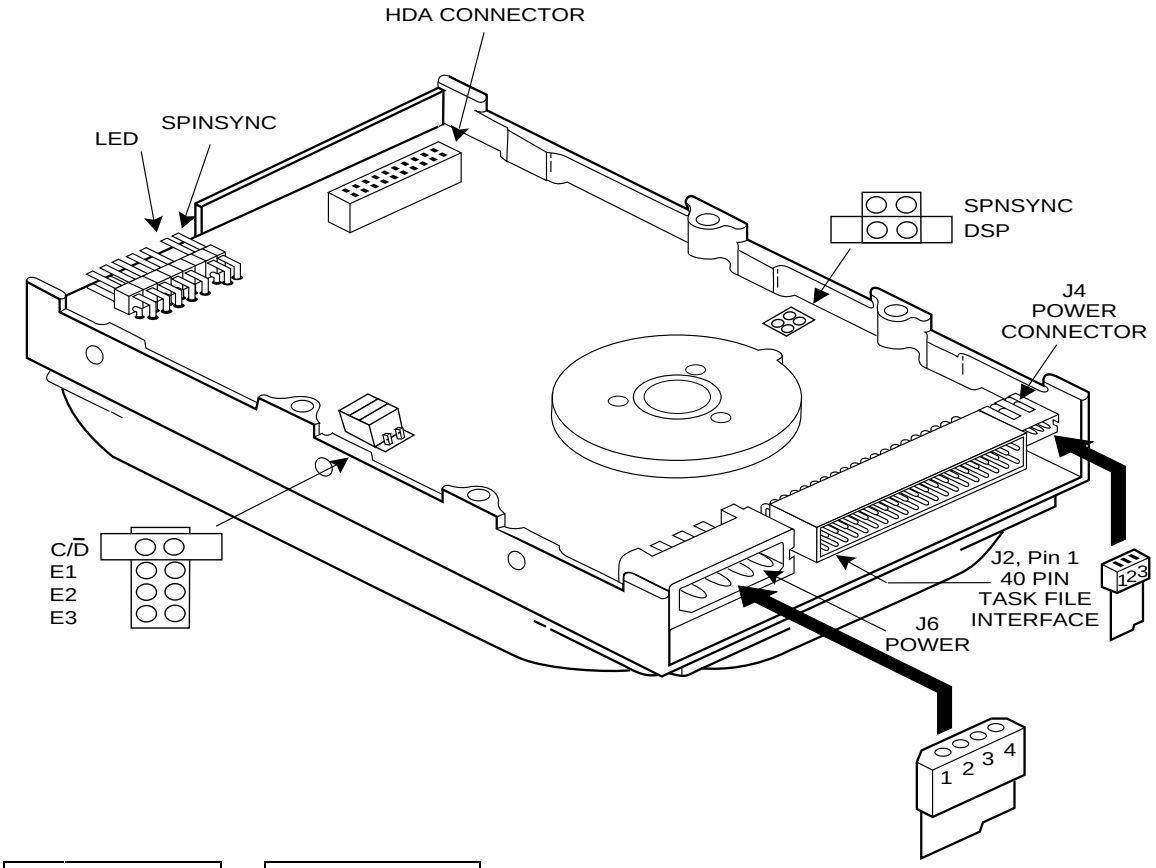
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or slave (drive D). The drive is configured as a master (drive C) when jumpered and as a slave drive (D drive) when not jumpered.

DSP & SS: This pair of jumpers determines the signals on pin 39 of the interface connector.

Jumper DSP	Jumper SS	Action
X		- spindle synchronization signal disabled on pin 39. - activity LED signal available on pin 39. - Must be in place for CAM /ATA drives.
	X	- spindle synchronization signal enabled on pin 39. - activity LED signal disabled from pin 39.
		- pin 39 floating.

Jumper	
E1	Disable Spin Up until command received
E2	Not used
E3	Not used



J6	
1	+12 V
2	Ground
3	Ground
4	+5V

J4	
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	683
Heads	16
Sectors	38
Precomp	0
Landing Zone	683

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion
Bottom: 6-32 UNC-2B .37 Max. Insertion

COUGAR Series

CP-30200 Specification Summary

High Performance, Low-profile 3.5-inch Disk Drives.
212 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for business workstations
- Fast 12 msec average seek time
- 4500 RPM rotation speed
- 256 K segmented cache buffer
- One-inch high design
- PC/AT® or SCSI-2 interface

	MODEL CP-30204	MODEL CP-30200
Embedded Controller/Interface	PC/AT	SCSI-2
Capacity (Formatted)	212.6 MB	212.6 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Tracks per Surface	2124	2124
Track Density	2496 TPI	2496 TPI
Track Capacity (Formatted)	25,088 bytes	25,088 bytes
Bytes per Block	512	512
Blocks per Drive	416,304	416,304
Sectors per Track	49	49

PERFORMANCE

Seek Times*		
Track to Track	3 msec	3 msec
Average	12 msec**	12 msec**
Maximum	30 msec	30 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Controller Overhead	<500 µsec	<500 µsec
Data Transfer Rate To/from Media	2.5 MB/sec	2.5 MB/sec
Data Transfer Rate To/from Buffer	8.0 MB/sec	5.0 MB/sec
Start Time – Power Up (0-4542 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1
Buffer Size	256 K	256 K

* Physical seek times at nominal DC input voltages
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs. 12 msec seek times is typical average.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density – ID	45,610 BPI
Flux Density – ID (flux reversals per inch)	34,407

POWER REQUIREMENTS

(PC/AT interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	400 ma	400 ma	7.0 W
Seek Mode	420 ma	320 ma	6.6 W
Idle Mode	300 ma	320 ma	5.2 W
Spin-up Mode (for first 7 seconds)	1500 ma	5.5 amp	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs. (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (0 – 700 KHz).

ACOUSTIC NOISE

Acoustic Sound Pressure (idle)	40 dBA max at 1 meter.

NOTE: Specifications subject to change.

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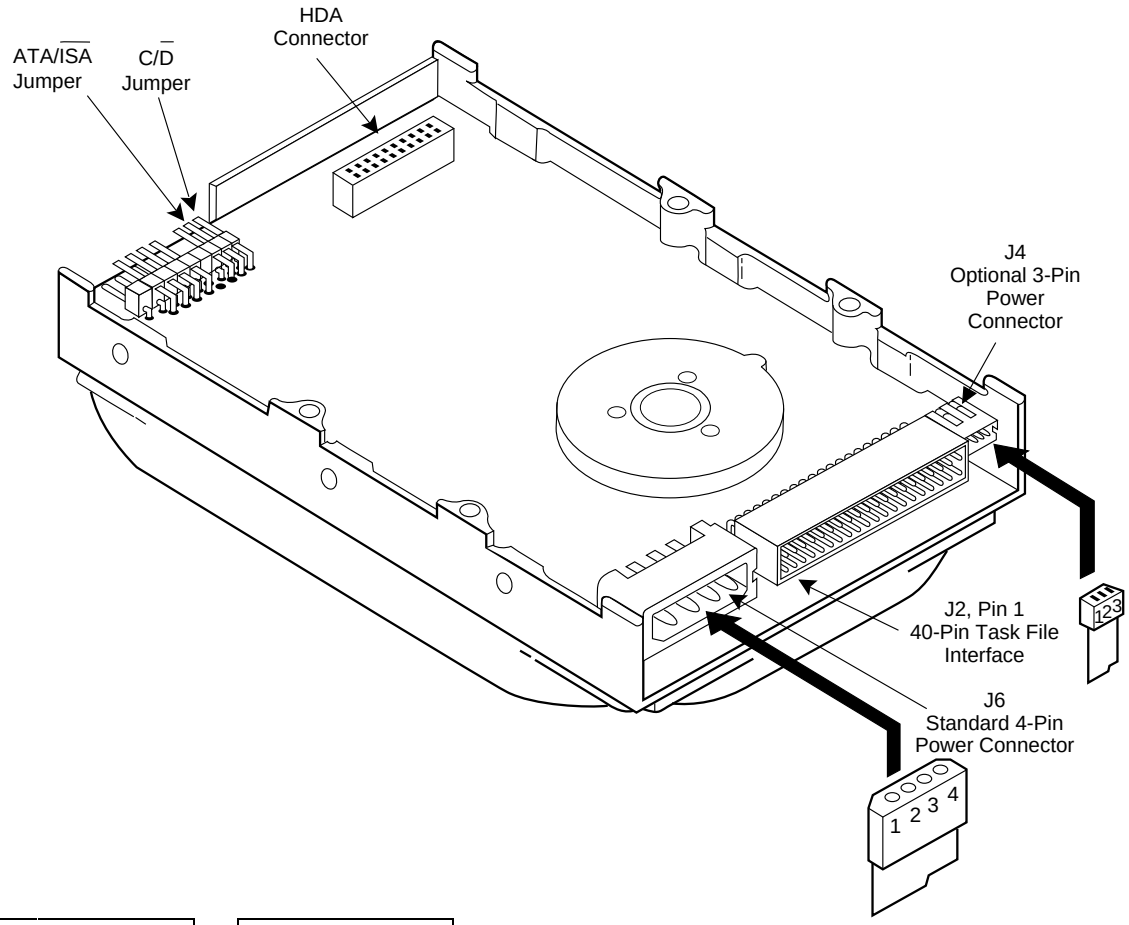
CFS210A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The ATA/ISA jumper is used when when daisy-chaining two drives. This jumper may have to be removed when this drive is used together with older (Pre-ATA) drives.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

	J4
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	685
Heads	16
Sectors	38
Precomp	0
Landing Zone	685

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

CFS 210A SPECIFICATION SUMMARY

210 MB

	MODEL CFS 210A
Embedded Controller/Interface	PC/AT
Capacity (Formatted)	213.4 MB
PHYSICAL CONFIGURATION	
Actuator Type	Rotary voice-coil
Number of Disks	1
Data Surfaces	2
Data Heads	2
Servo	Embedded
Zones per Surface	8
Track Density	2774 TPI
Tracks per Surface	2388
Bytes per Block	512
Sectors per Track (Physical)	64 – 101
PERFORMANCE	
Seek Times (Typical)*	
Track to Track	3 msec
Average (Read/Write)	14 msec**
Maximum	25 msec
Average Latency	8.3 msec
Rotation Speed (± .1%)	3600 RPM
Controller Overhead	<1.0 msec
Data Transfer Rate	
To/from Media	20 – 32 Mb/sec
Data Transfer Rate	
To/from Buffer	7.5 MB/sec
Start Time - Power Up (0-3600 RPM)	
Typical	6 sec
Maximum	10 sec***
Stop Time - Power Down	
Typical	15 sec
Maximum	20 sec
Start/Stop Cycles	20,000 min
Interleave	1:1
Buffer Size	32 KB
READ/WRITE	
Recording Method	1,7 RLL code
Recording Density	58,566 BPI
Flux Density - ID (flux reversals per inch)	43,924 FCI

* Physical seek times at nominal DC input voltages.

** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	190 ma	500 ma	4.8 W
Seek Mode (100%)	300 ma	420 ma	5.7 W
Seek Mode (30%)	170 ma	390 ma	4.0 W
Idle Mode	190 ma	300 ma	3.8 W
Sleep Mode	70 ma	190 ma	1.8 W
Standby Mode	70 ma	200 ma	1.9 W
Spin-up Mode (for first 7 seconds)	1200 ma	500 ma	

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.0 lbs (.45 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	28.9°C
Altitude (relative to sea level)	
Operating	–200 to 15,000 feet
Non-operating (max)	–200 to 40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	250,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27 Hz	0.10" (double amplitude)
28-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	0.10" (double amplitude)
63-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	35 dBA max at 1 meter in idle mode.
Acoustic Sound Power	4.3 Bels max in idle mode.

NOTE: Specifications subject to change.

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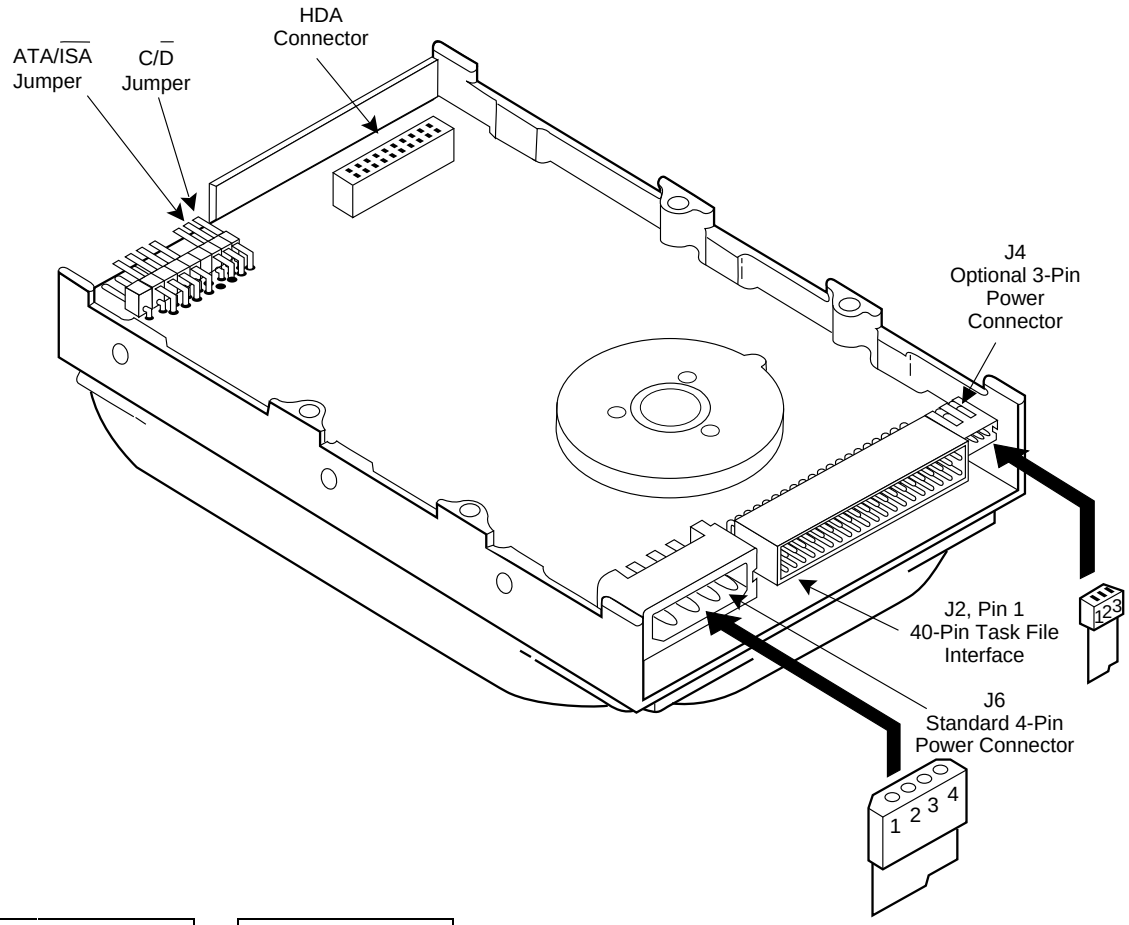
DS-511-045 5/94

CP30254
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The ATA/ISA jumper is used when daisy-chaining two drives. This jumper may have to be removed when this drive is used together with older (Pre-ATA) drives.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

	J4
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	895
Heads	10
Sectors	55
Precomp	0
Landing Zone	895

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion
Bottom: 6-32 UNC-2B .37 Max. Insertion

CP-30254 SPECIFICATION SUMMARY

250 MB

	MODEL CP-30254
Embedded Controller/Interface	PC/AT
Capacity (Formatted)	252 MB
PHYSICAL CONFIGURATION	
Actuator Type	Rotary voice-coil
Number of Disks	2
Data Surfaces	4
Data Heads	4
Servo	Embedded
Tracks per Surface	1985
Track Density	2450 TPI
Track Capacity (Formatted)	31,744 bytes
Bytes per Block	512
Blocks per Drive	492,280
Sectors per Track	62
SETUP PARAMETERS	
Number of Cylinders	895
Number of Heads	10
Number of Sectors	55
PERFORMANCE	
Seek Times (Typical)*	
Track to Track	3 msec
Average (Read/Write)	14 msec**
Maximum	26 msec
Average Latency	6.6 msec
Rotation Speed (± .1%)	4542 RPM
Controller Overhead	<500 µsec
Data Transfer Rate	
To/from Media	3.0 Mb/sec
Data Transfer Rate	
To/from Buffer	6.0 MB/sec
Start Time - Power Up (0-Ready)	
Typical	15 sec
Maximum	20 sec
Stop Time - Power Down	
Typical	15 sec
Maximum	20 sec
Start/Stop Cycles	20,000 min
Interleave	1:1
Buffer Size	64 K
READ/WRITE	
Recording Method	1,7 RLL code
Recording Density	52,270 BPI
Flux Density - ID (flux reversals per inch)	39,202

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	150 ma	330 ma	3.5 W
Seek Mode	275 ma	160 ma	4.1 W
Idle Mode	160 ma	170 ma	2.77 W
Sleep Mode	1 ma	60 ma	.31 W
Standby Mode	1 ma	65 ma	.34 W
Spin-up Mode (for first 7 seconds)	1200 ma	460 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.2 lbs (.54 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26°C
Altitude (relative to sea level)	
Operating	–200 to 15,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 250,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	50 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27 Hz	0.10" (double amplitude)
28-300 Hz	0.5 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	0.10" (double amplitude)
63-500 Hz	5 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

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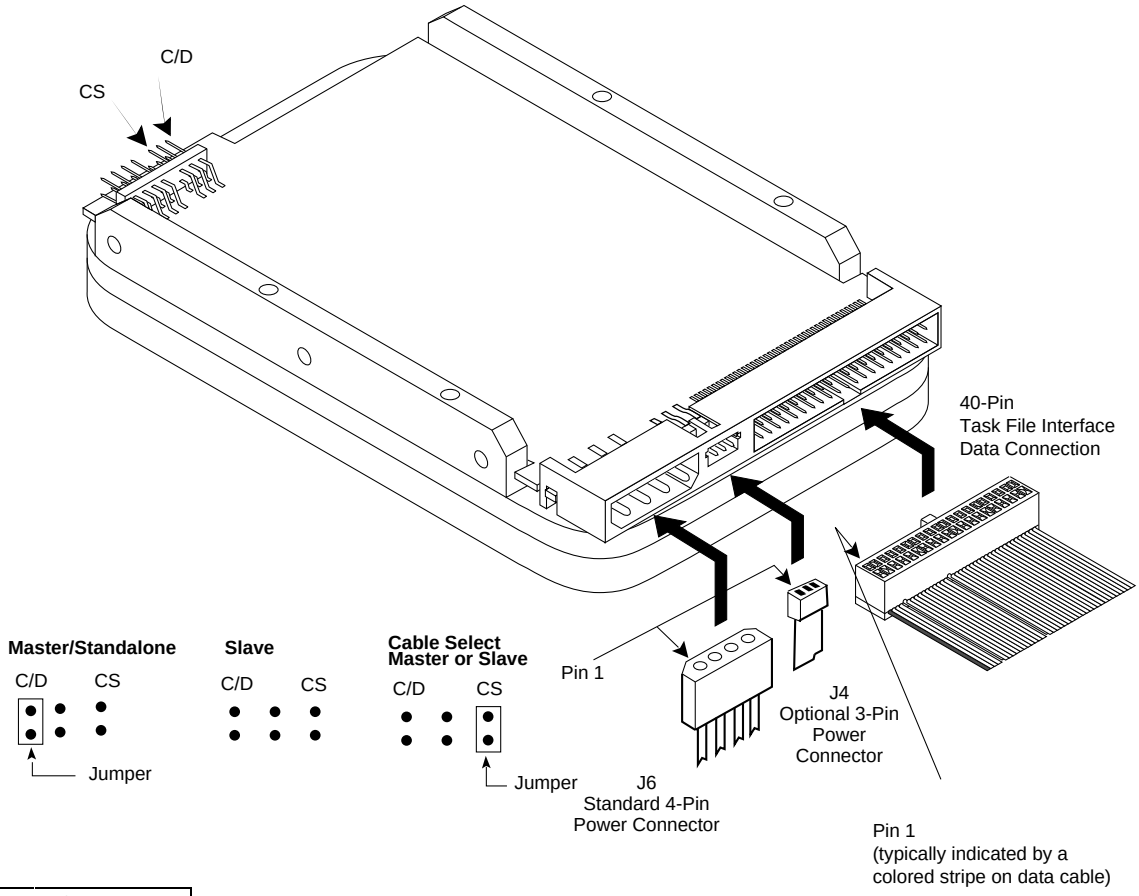
DS-511-036 7/93

CFS270A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	600
Heads	14
Sectors	63
Precomp	0
Landing Zone	600

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

CFS270 SPECIFICATION SUMMARY

270 MB

	MODEL CFS270A
Embedded Controller Interface	PC/AT (ATA/CAM, ISA)
Capacity (Formatted)	270 MB
PHYSICAL CONFIGURATION	
Actuator Type	Rotary voice-coil
Number of Disks	1
Data Surfaces	2
Data Heads	2
Servo	Embedded
Zones per Surface	8
Track Density	2988 TPI
Total Cylinders	2595
Bytes per Sector	512
Sectors per Zone (physical)	72-117
PERFORMANCE	
Seek Times (Typical)	
One Track	3 msec
Average (Read/Write)	<15 msec**
Maximum	24 msec
Average Latency	8.8 msec
Rotation Speed	3400 RPM
Controller Overhead	<1.0 msec
Data Transfer Rate	13 MB/sec
Start Time - Power Up (0-3400 RPM)	
Typical	6 sec
Maximum	10 sec
Stop Time - Power Down	
Typical	15 sec
Maximum	20 sec***
Interleave	1:1
Buffer Size	32 KB
READ/WRITE	
Recording Method	1,7 RLL code
Recording Density	68K BPI
Flux Density - ID	51K FCI
(flux changes per inch)	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS

	12 VDC ±5%	5 VDC ±5%	Power
R/W Mode	190 ma	500 ma	4.9W
Seek Mode	380 ma	420 ma	5.7W
Idle Mode	190 ma	340 ma	3.8W
Sleep Mode	30 ma	190 ma	<1.0W
Standby Mode	30 ma	200 ma	<1.0W
Spin-up Mode (for first 7 seconds)	1200 ma	500 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.1 lbs (.50 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29°C
Altitude	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	250,000 power on hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration - 5-27 Hz	0.10" (double amplitude)
OperatingVibration - 28-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration - 5-62 Hz	0.10" (double amplitude)
Non-operating Vibration - 63-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC - 1.5 MHz).

ACOUSTIC NOISE

Audible Noise	
(dBA @ 1 m, any direction, idle)	34

NOTE: Specifications subject to change.

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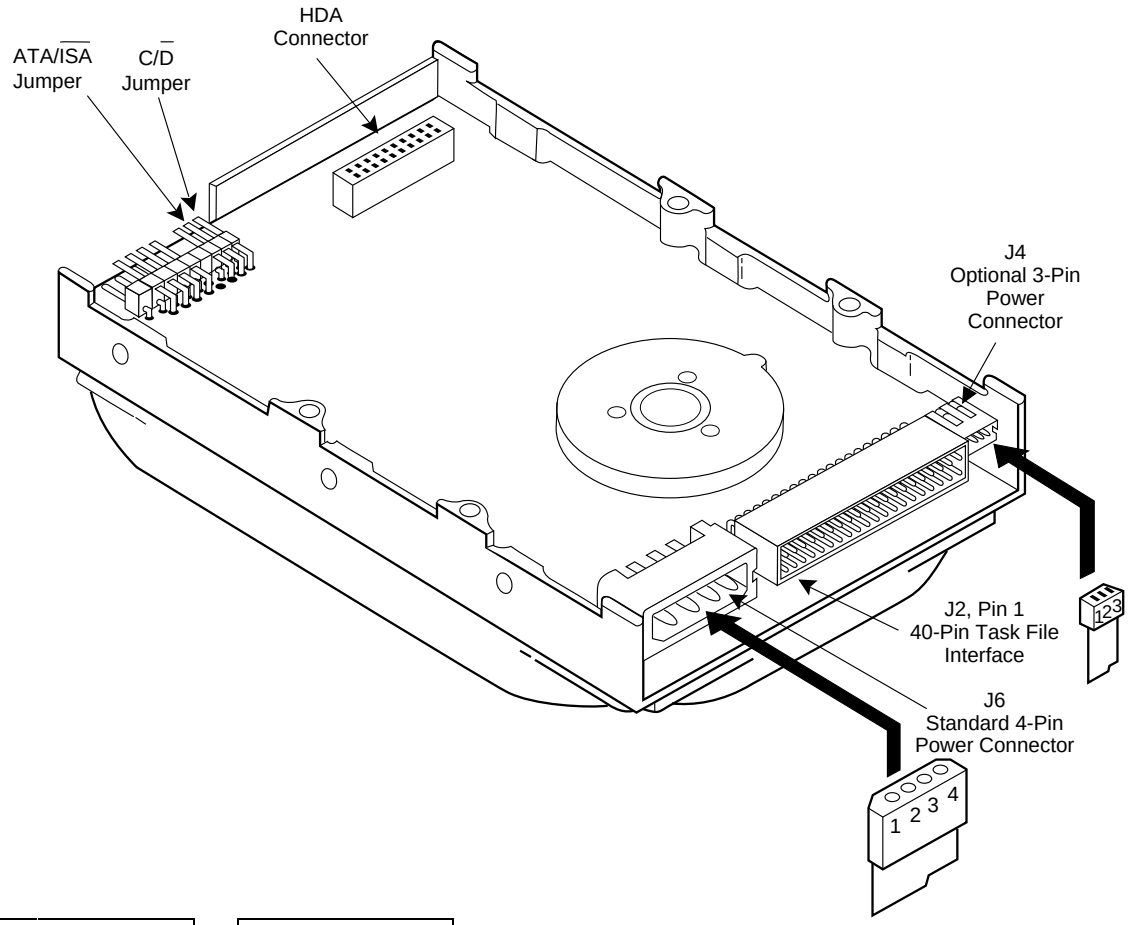
DS-511-070 9/94

CFA340A (CP30344)
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The ATA/ISA jumper is used when when daisy-chaining two drives. This jumper may have to be removed when this drive is used together with older (Pre-ATA) drives.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

	J4
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	665
Heads	16
Sectors	63
Precomp	0
Landing Zone	665

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

CFA 340 SPECIFICATION SUMMARY

340 MB

	MODEL CFA 340A	MODEL CFA 340S
Embedded Controller/Interface	PC/AT	SCSI-2
Capacity (Formatted)	343 MB	343 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Zones per Surface	8	8
Track Density	2553 TPI	2553 TPI
Tracks per Surface	2111	2111
Bytes per Block	512	512
Sectors per Track (Physical)	67 – 91	67 – 91
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	3 msec	3 msec
Average (Read/Write)	13 msec**	13 msec**
Maximum	25 msec	25 msec
Average Latency	7.5 msec	7.5 msec
Rotation Speed (± .1%)	4011 RPM	4011 RPM
Controller Overhead	<1.0 msec	<1.0 msec
Data Transfer Rate		
To/from Media	23 – 33 Mb/sec	23 – 33 Mb/sec
Data Transfer Rate		
To/from Buffer	7.5 MB/sec	5.0 MB/sec Async 10.0 MB/sec Sync
Start Time - Power Up (0-4011 RPM)		
Typical	6 sec	6 sec
Maximum	10 sec***	10 sec***
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1
Buffer Size	64 KB	64 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	56,833 BPI	
Flux Density - ID (flux reversals per inch)	42,662 FCI	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	190 ma	500 ma	4.8 W
Seek Mode	300 ma	420 ma	5.7 W
Idle Mode	190 ma	300 ma	3.8 W
Sleep Mode	30 ma	190 ma	1.3 W
Standby Mode	30 ma	200 ma	1.3 W
Spin-up Mode (for first 7 seconds)	1200 ma	500 ma	

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.2 lbs (.54 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	28.9°C
Altitude (relative to sea level)	
Operating	–200 to 15,000 feet
Non-operating (max)	–200 to 15,000 feet

RELIABILITY AND MAINTENANCE

MTBF	300,000 hours
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27 Hz	0.10" (double amplitude)
28-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	0.10" (double amplitude)
63-400 Hz	0.5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

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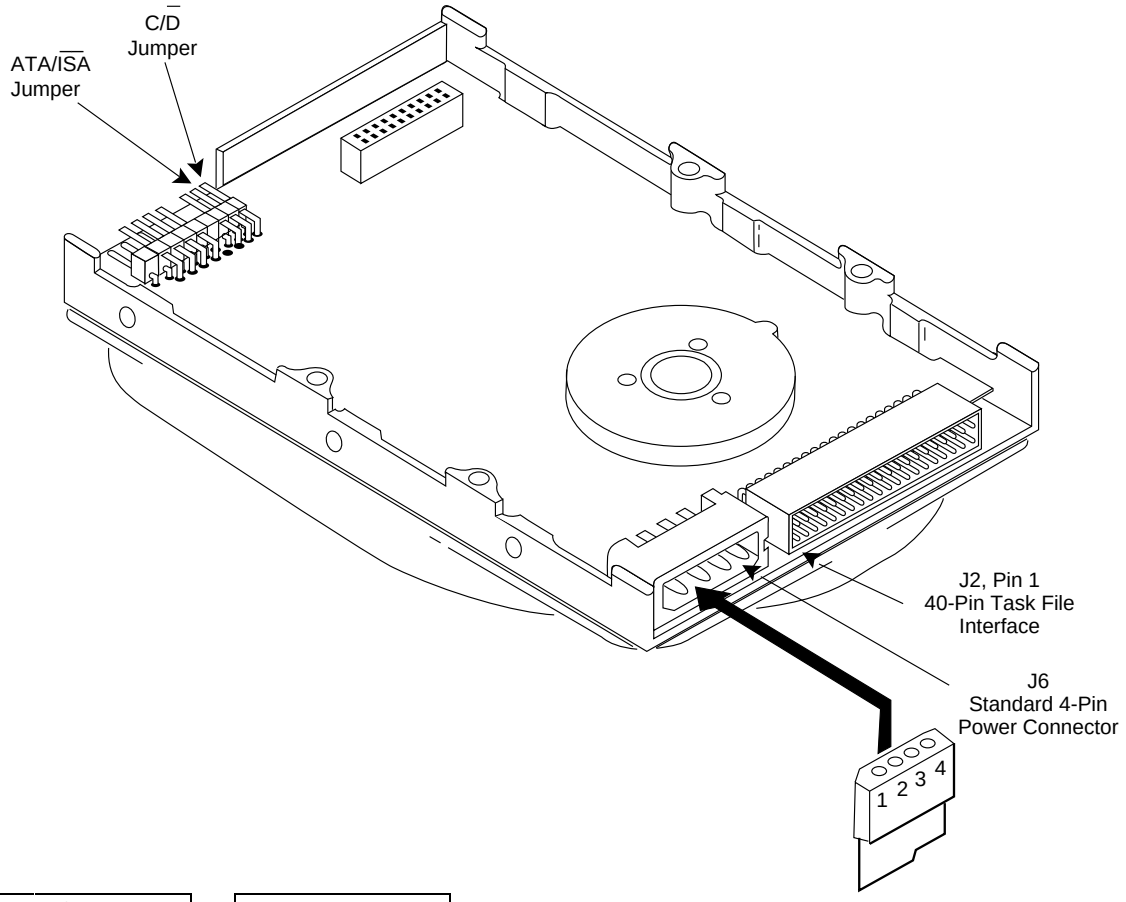
DS-511-034 10/93

CFS420A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The ATA/ISA jumper is used when daisy-chaining two drives. This jumper may have to be removed when this drive is used together with older (Pre-ATA) drives. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

	J4
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	826
Heads	16
Sectors	63
Precomp	0
Landing Zone	826

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

CFS 420A SPECIFICATION SUMMARY

420 MB

	MODEL CFS 420A
Embedded Controller/Interface	PC/AT
Capacity (Formatted)	426.8 MB
PHYSICAL CONFIGURATION	
Actuator Type	Rotary voice-coil
Number of Disks	2
Data Surfaces	4
Data Heads	4
Servo	Embedded
Zones per Surface	8
Track Density	2774 TPI
Tracks per Surface	2388
Bytes per Block	512
Sectors per Track (Physical)	68 - 107
PERFORMANCE	
Seek Times (Typical)*	
Track to Track	3 msec
Average (Read/Write)	14 msec**
Maximum	25 msec
Average Latency	8.3 msec
Rotation Speed (± .1%)	3600 RPM
Controller Overhead	<1.0 msec
Data Transfer Rate	
To/from Media	20 – 32 Mb/sec
Data Transfer Rate	
To/from Buffer	7.5 MB/sec
Start Time - Power Up (0-3600 RPM)	
Typical	6 sec
Maximum	10 sec***
Stop Time - Power Down	
Typical	15 sec
Maximum	20 sec
Start/Stop Cycles	20,000 min
Interleave	1:1
Buffer Size	32 KB
READ/WRITE	
Recording Method	1,7 RLL code
Recording Density	58,566 BPI
Flux Density - ID (flux reversals per inch)	43,924 FCI

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	190 ma	500 ma	4.8W
Seek Mode	300 ma	420 ma	5.7 W
Idle Mode	190 ma	300 ma	3.8 W
Sleep Mode	30 ma	190 ma	1.3 W
Standby Mode	30 ma	200 ma	1.4 W
Spin-up Mode (for first 7 seconds)	1200 ma	500 ma	

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.2 lbs (.54 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	28.9°C
Altitude (relative to sea level)	
Operating	–200 to 15,000 feet
Non-operating (max)	–200 to 15,000 feet

RELIABILITY AND MAINTENANCE

MTBF	250,000 hours
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27 Hz	0.10" (double amplitude)
28-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	0.10" (double amplitude)
63-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

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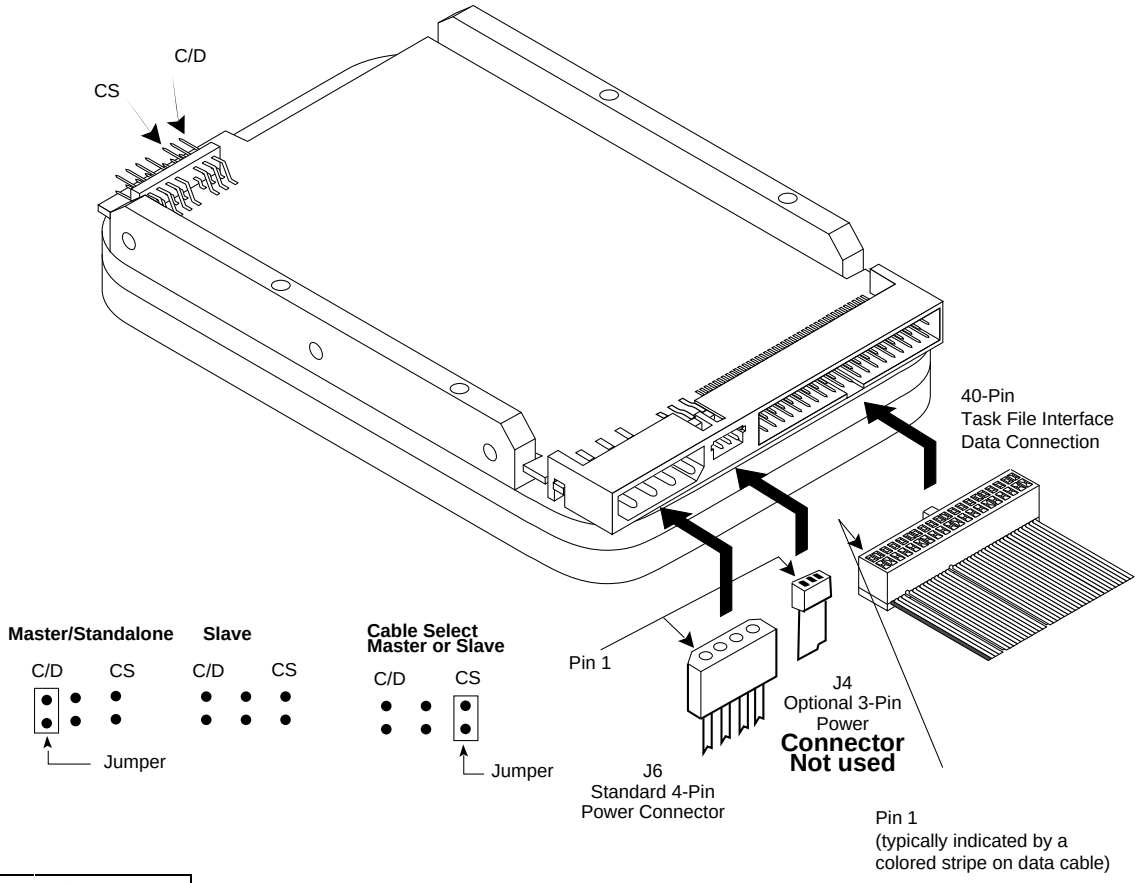
DS-511-037 10/93

CFS425A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	839
Heads	16
Sectors	62
Precomp	0
Landing Zone	839

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

CONNER FILEPRO FAMILY (CABO SERIES)
SPECIFICATION SUMMARY

MODEL	CFS425A	CFS541A	CFS635A	CFS850A	CFS1081A	CFS1275A	CFS1621A
Embedded Controller/ Interface	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE
Capacity (Formatted)	425 MB	540 MB	635 MB	850 MB	1080 MB	1275 MB	1620 MB
PHYSICAL CONFIGURATION							
Actuator Type	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil
Number of Disks	1	1	2	2	2	3	3
Data Surfaces	2	2	3	4	4	6	6
Data Heads	2	2	3	4	4	6	6
Servo	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density	3845 TPI	4100 TPI	3849 TPI	3849 TPI	4100 TPI	3849 TPI	4100 TPI
Total Cylinders	3687	3924	3640	3640	3924	3640	3924
Bytes per Sector	512	512	512	512	512	512	512
Sectors per Zone (Physical)	78-144	90-170	78-144	77-143	90-170	77-143	90-170
PERFORMANCE							
Seek Times (Typical)*							
Track to Track	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec
Average (Read/Write)	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec
Rotation Speed (± .1%)	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM
Controller Overhead	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec
Data Transfer Rate	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec
Start Time - Power Up							
Typical	6.0 sec	6.0 sec	8.5 sec	8.5 sec	6.0 sec	8.5 sec	6.0 sec
Maximum	10 sec***	10 sec***	20 sec***	20 sec***	10 sec***	20 sec***	10 sec***
Stop Time - Power Down							
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec
Interleave	1:1	1:1	1:1	1:1	1:1	1:1	1:1
Buffer Size	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
READ/WRITE							
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	77 K BPI	93 K BPI	77 K BPI	77 K BPI	93 K BPI	77 K BPI	94 K BPI
Flux Density - ID (flux reversals per inch)	58 K FCI	70 K FCI	58 K FCI	58 K FCI	70 K FCI	58 K FCI	70 K FCI
PHYSICAL DIMENSIONS							
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.1 lbs (.50 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.3 lbs (.59 kgs)	1.3 lbs (.59 kgs)
POWER REQUIREMENTS – (TYPICAL)							
+5 VDC ±5%							
Read/Write Mode	400 mA	400 mA	400 mA	400 mA	430 mA	400 mA	430 mA
Seek Mode	200 mA	200 mA	240 mA	240 mA	430 mA	240 mA	430 mA
Idle Mode	200 mA	200 mA	210 mA	210 mA	370 mA	210 mA	370 mA
Spin-up Mode	400 mA	400 mA	300 mA	300 mA	500 mA	300 mA	500 mA
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
+12 VDC ±5%							
Read/Write Mode	150 mA	150 mA	150 mA	150 mA	170 mA	150 mA	170 mA
Seek Mode	240 mA	200 mA	150 mA	150 mA	270 mA	150 mA	270 mA
Idle Mode	125 mA	125 mA	125 mA	125 mA	170 mA	125 mA	170 mA
Spin-up Mode	1000 mA	850 mA	1100 mA	1100 mA	1200 mA	1100 mA	1200 mA
Power							
Read/Write Mode	4.0 W	3.8 W	4.0 W	4.0 W	4.2 W	4.0 W	4.2 W
Seek Mode	4.5 W	3.9 W	3.5 W	3.5 W	5.6 W	3.5 W	5.6 W
Idle Mode	3.0 W	2.5 W	3.5 W	3.5 W	3.9 W	3.5 W	3.9 W
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
Fax Information Service File Number	5223	5229	5230	5226	5231	5228	5232

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 40,000 feet

RELIABILITY AND MAINTENANCE	
MTBF	Up to 300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{14} bits

SHOCK AND VIBRATION	
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-10 Hz	.10" (double amplitude)
10-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-32 Hz	.10" (double amplitude)
32-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE	CFS425, CFS541
Audible Noise	34 dBA at 1 meter, any direction, idle
	CFS635, CFS850, CFS1081, CFS1275, CFS1621
Audible Noise	38 dBA at 1 meter, any direction, idle
WARRANTY	3 years

NOTE: Specifications subject to change.

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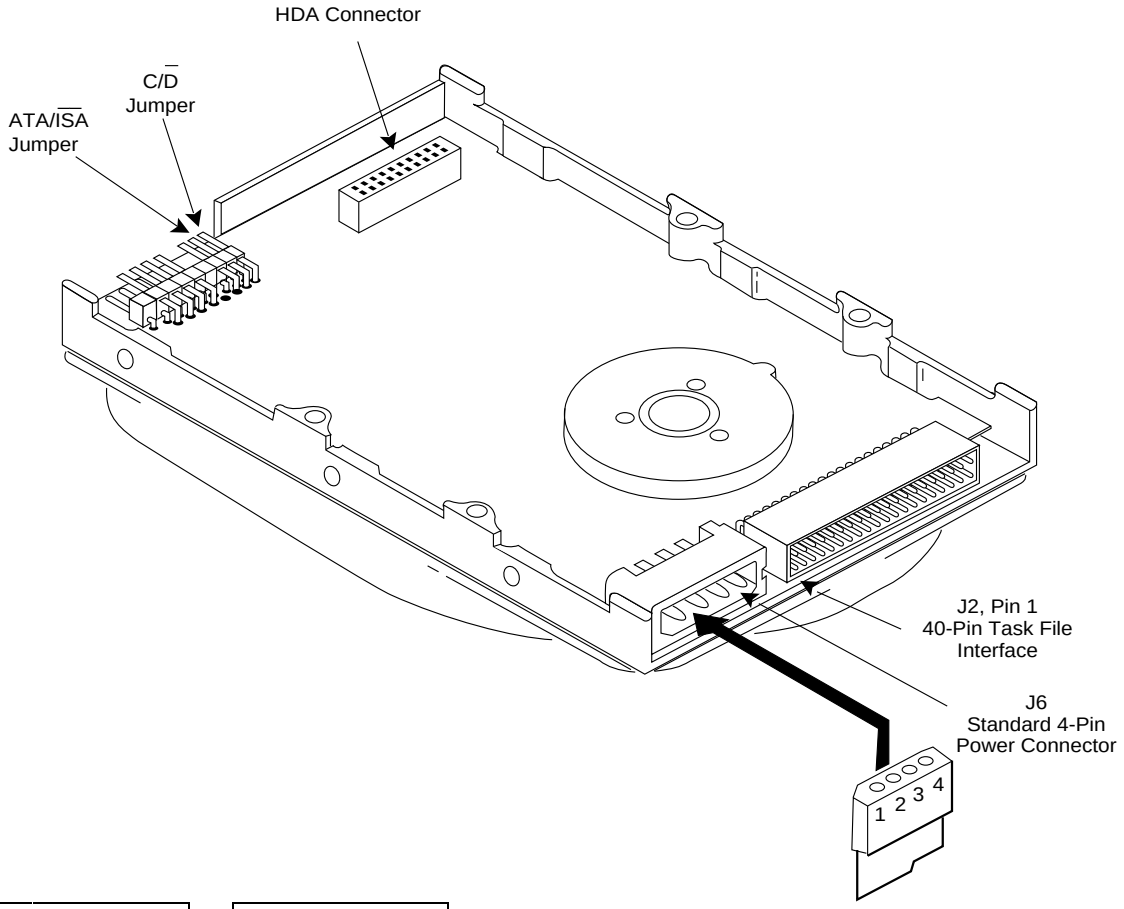
DS-511-CABO2 8/95

CFA540A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The ATA/ISA jumper is used when daisy-chaining two drives. This jumper may have to be removed when this drive is used together with older (Pre-ATA) drives. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

	J4
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	1048*
Heads	16
Sectors	63
Precomp	0
Landing Zone	1048

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders should be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CFA 540 SPECIFICATION SUMMARY

540 MB

	MODEL CFA 540A	MODEL CFA 540S
Embedded Controller/Interface	PC/AT	FAST SCSI-2
Capacity (Formatted)	541 MB	541 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Zones per Surface	8	8
Track Density	3253 TPI	3253 TPI
Tracks per Surface	2805	2805
Bytes per Block	512	512
Sectors per Track	72 – 114	72 – 114
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	3 msec	3 msec
Average	12 msec**	12 msec**
Maximum	26 msec	26 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Controller Overhead	<1.0 msec	<1.0 msec
Data Transfer Rate		
To/from Media	27 – 46 Mb/sec	27 – 46 Mb/sec
Data Transfer Rate	11.1 MB/sec	5.0 MB/sec Async 10.0 MB/sec Sync
Start Time - Power Up (0-4500 RPM)		
Typical	7 sec	7 sec
Maximum	10 sec***	10 sec***
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	40,000 min	40,000 min
Interleave	1:1	1:1
Buffer Size	256 KB	256 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	62,500 BPI	
Flux Density - ID (flux reversals per inch)	46,850 FCI	

* Physical seek times at nominal DC input voltages.

** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	150 ma	500 ma	4.3 W
Seek Mode (100%)	370 ma	480 ma	6.8 W
Seek Mode (30%)	170 ma	500 ma	4.6 W
Idle Mode	190 ma	340 ma	4.0 W
Sleep Mode (540A only)	0 ma	350 ma	1.75 W
Standby Mode	0 ma	40 ma	0.2 W
Spin-up Mode (for first 7 seconds)	1200 ma	500 ma	

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.2 lbs (.54 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 15,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27 Hz	0.10" (double amplitude)
28-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	0.10" (double amplitude)
63-400 Hz	4 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	37 dBA max at 1 meter in idle mode.
Acoustic Sound Power	43 Bels max in idle mode.

NOTE: Specifications subject to change.

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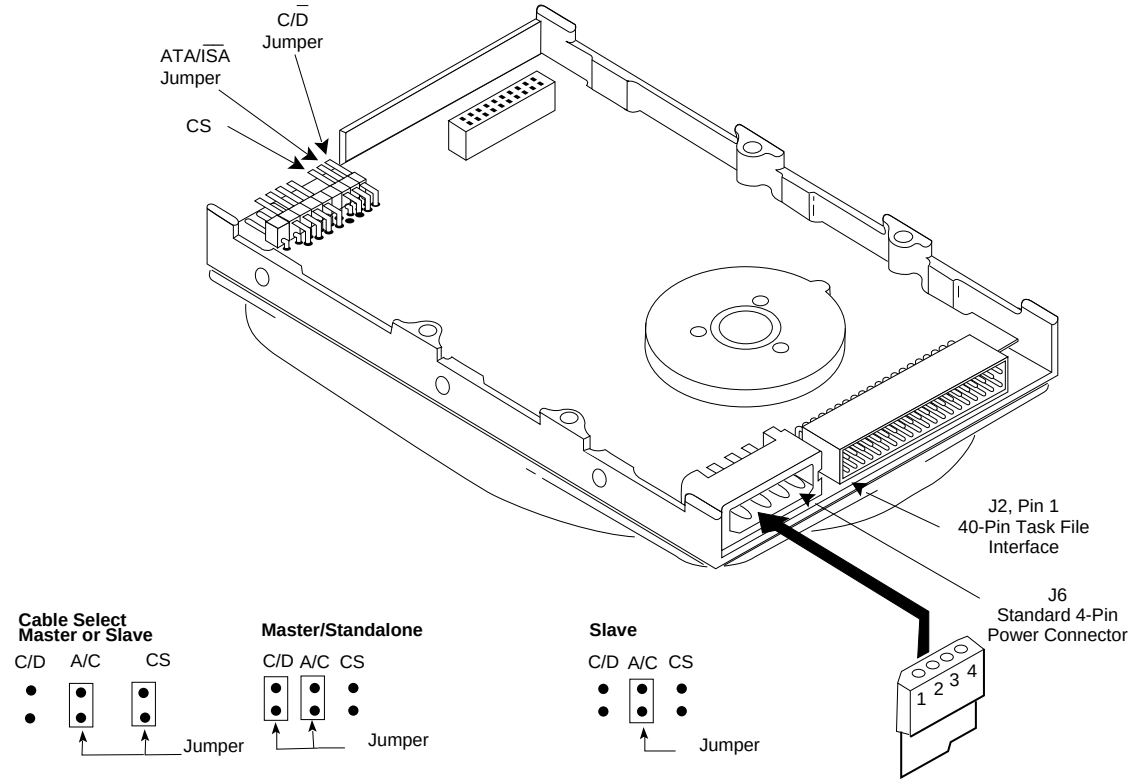
DS-511-047 6/94

CFS540A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The ATA/ISA jumper is used when daisy-chaining two drives. This jumper may have to be removed when this drive is used together with older (Pre-ATA) drives. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	1050*
Heads	16
Sectors	63
Precomp	0
Landing Zone	1050

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders should be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CFS540A SPECIFICATION SUMMARY

540 MB

	MODEL CFS540A
Embedded Controller/Interface	PC/AT (ATA/CAM, ISA)
Capacity (Formatted)	541 MB
PHYSICAL CONFIGURATION	
Actuator Type	Rotary voice-coil
Number of Disks	2
Data Surfaces	4
Data Heads	4
Servo	Embedded
Zones per Surface	8
Track Density	2990 TPI
Total Cylinders	2574
Bytes per Sector	512
Sectors per Zone (Physical)	80 – 120
PERFORMANCE	
Seek Times (Typical)*	
Track to Track	3 msec
Average (Read/Write)	<15 msec**
Maximum	24 msec
Average Latency	8.3 msec
Rotation Speed (± .1%)	3600 RPM
Controller Overhead	<1.0 msec
Data Transfer Rate	13 MB/sec
Start Time - Power Up (0-3600 RPM)	
Typical	8.5 sec
Maximum	20 sec***
Stop Time - Power Down	
Typical	8.5 sec
Maximum	20 sec
Interleave	1:1
Buffer Size	64 KB
READ/WRITE	
Recording Method	1,7 RLL
Recording Density	70 K BPI
Flux Density - ID (flux reversals per inch)	52 K FCI

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	170 mA	430 mA	4.2 W
Seek Mode	270 mA	430 mA	5.6 W
Idle Mode	170 mA	370 mA	3.9 W
Sleep Mode	0 mA	190 mA	<1.0 W
Standby Mode	0 mA	190 mA	<1.0 W
Spin-up Mode (for first 7 seconds)	1200 mA	500 mA	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.25 lbs (.57 kgs)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	250,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-22 Hz	0.02" (double amplitude)
22-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-22 Hz	0.20" (double amplitude)
22-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	38 dBA max at 1 meter in idle mode.
Acoustic Sound Power	42 Bels max in idle mode.

NOTE: Specifications subject to change.

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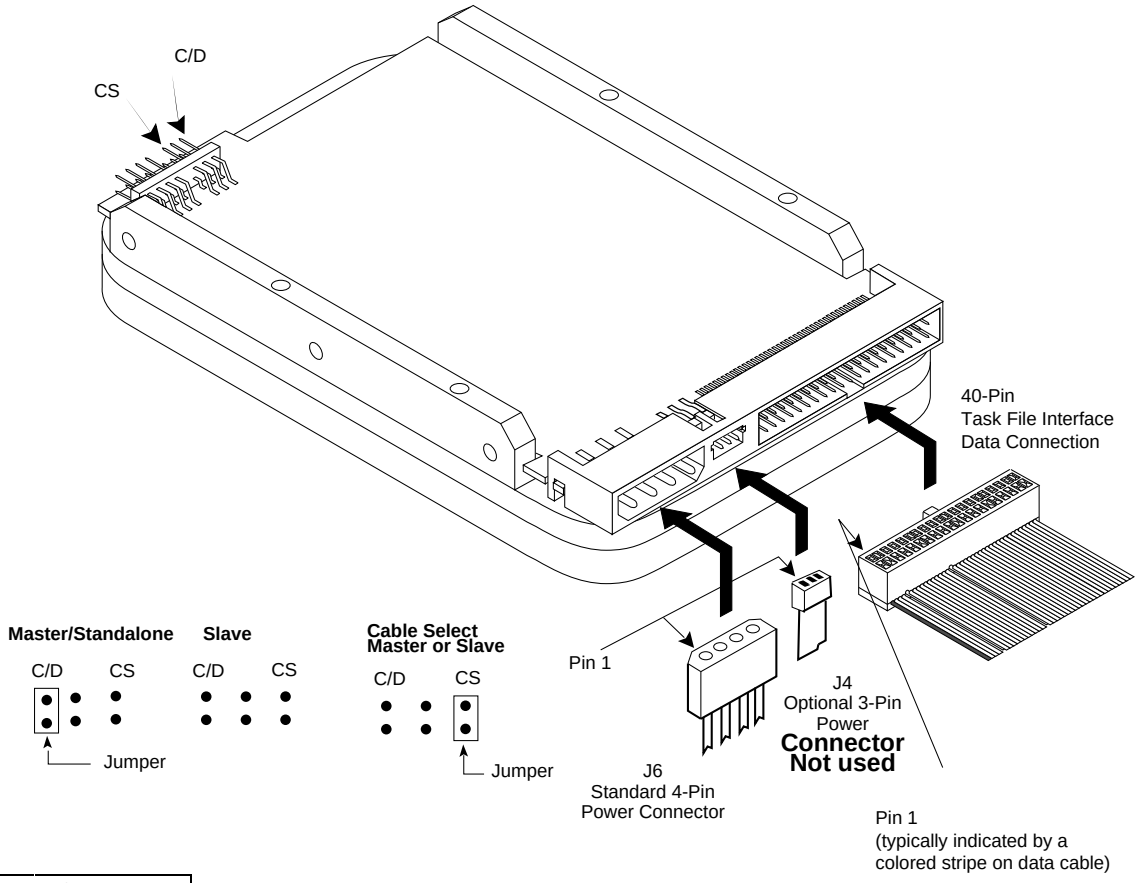
DS-511-075 9/94

CFS541A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	1048*
Heads	16
Sectors	63
Precomp	0
Landing Zone	1048*

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders may have to be entered into CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporitng extended cylinders of LBA.

CONNER FILEPRO FAMILY (CABO SERIES)
SPECIFICATION SUMMARY

MODEL	CFS425A	CFS541A	CFS635A	CFS850A	CFS1081A	CFS1275A	CFS1621A
Embedded Controller/ Interface	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE
Capacity (Formatted)	425 MB	540 MB	635 MB	850 MB	1080 MB	1275 MB	1620 MB
PHYSICAL CONFIGURATION							
Actuator Type	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil
Number of Disks	1	1	2	2	2	3	3
Data Surfaces	2	2	3	4	4	6	6
Data Heads	2	2	3	4	4	6	6
Servo	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density	3845 TPI	4100 TPI	3849 TPI	3849 TPI	4100 TPI	3849 TPI	4100 TPI
Total Cylinders	3687	3924	3640	3640	3924	3640	3924
Bytes per Sector	512	512	512	512	512	512	512
Sectors per Zone (Physical)	78-144	90-170	78-144	77-143	90-170	77-143	90-170
PERFORMANCE							
Seek Times (Typical)*							
Track to Track	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec
Average (Read/Write)	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec
Rotation Speed (± .1%)	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM
Controller Overhead	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec
Data Transfer Rate	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec
Start Time - Power Up							
Typical	6.0 sec	6.0 sec	8.5 sec	8.5 sec	6.0 sec	8.5 sec	6.0 sec
Maximum	10 sec***	10 sec***	20 sec***	20 sec***	10 sec***	20 sec***	10 sec***
Stop Time - Power Down							
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec
Interleave	1:1	1:1	1:1	1:1	1:1	1:1	1:1
Buffer Size	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
READ/WRITE							
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	77 K BPI	93 K BPI	77 K BPI	77 K BPI	93 K BPI	77 K BPI	94 K BPI
Flux Density - ID (flux reversals per inch)	58 K FCI	70 K FCI	58 K FCI	58 K FCI	70 K FCI	58 K FCI	70 K FCI
PHYSICAL DIMENSIONS							
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.1 lbs (.50 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.3 lbs (.59 kgs)	1.3 lbs (.59 kgs)
POWER REQUIREMENTS – (TYPICAL)							
+5 VDC ±5%							
Read/Write Mode	400 mA	400 mA	400 mA	400 mA	430 mA	400 mA	430 mA
Seek Mode	200 mA	200 mA	240 mA	240 mA	430 mA	240 mA	430 mA
Idle Mode	200 mA	200 mA	210 mA	210 mA	370 mA	210 mA	370 mA
Spin-up Mode	400 mA	400 mA	300 mA	300 mA	500 mA	300 mA	500 mA
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
+12 VDC ±5%							
Read/Write Mode	150 mA	150 mA	150 mA	150 mA	170 mA	150 mA	170 mA
Seek Mode	240 mA	200 mA	150 mA	150 mA	270 mA	150 mA	270 mA
Idle Mode	125 mA	125 mA	125 mA	125 mA	170 mA	125 mA	170 mA
Spin-up Mode	1000 mA	850 mA	1100 mA	1100 mA	1200 mA	1100 mA	1200 mA
Power							
Read/Write Mode	4.0 W	3.8 W	4.0 W	4.0 W	4.2 W	4.0 W	4.2 W
Seek Mode	4.5 W	3.9 W	3.5 W	3.5 W	5.6 W	3.5 W	5.6 W
Idle Mode	3.0 W	2.5 W	3.5 W	3.5 W	3.9 W	3.5 W	3.9 W
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
Fax Information Service File Number	5223	5229	5230	5226	5231	5228	5232

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 40,000 feet

RELIABILITY AND MAINTENANCE	
MTBF	Up to 300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{14} bits

SHOCK AND VIBRATION	
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-10 Hz	.10" (double amplitude)
10-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-32 Hz	.10" (double amplitude)
32-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE	CFS425, CFS541
Audible Noise	34 dBA at 1 meter, any direction, idle
	CFS635, CFS850, CFS1081, CFS1275, CFS1621
Audible Noise	38 dBA at 1 meter, any direction, idle
WARRANTY	3 years

NOTE: Specifications subject to change.

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DS-511-CABO2 8/95

CP30544
Customer Options

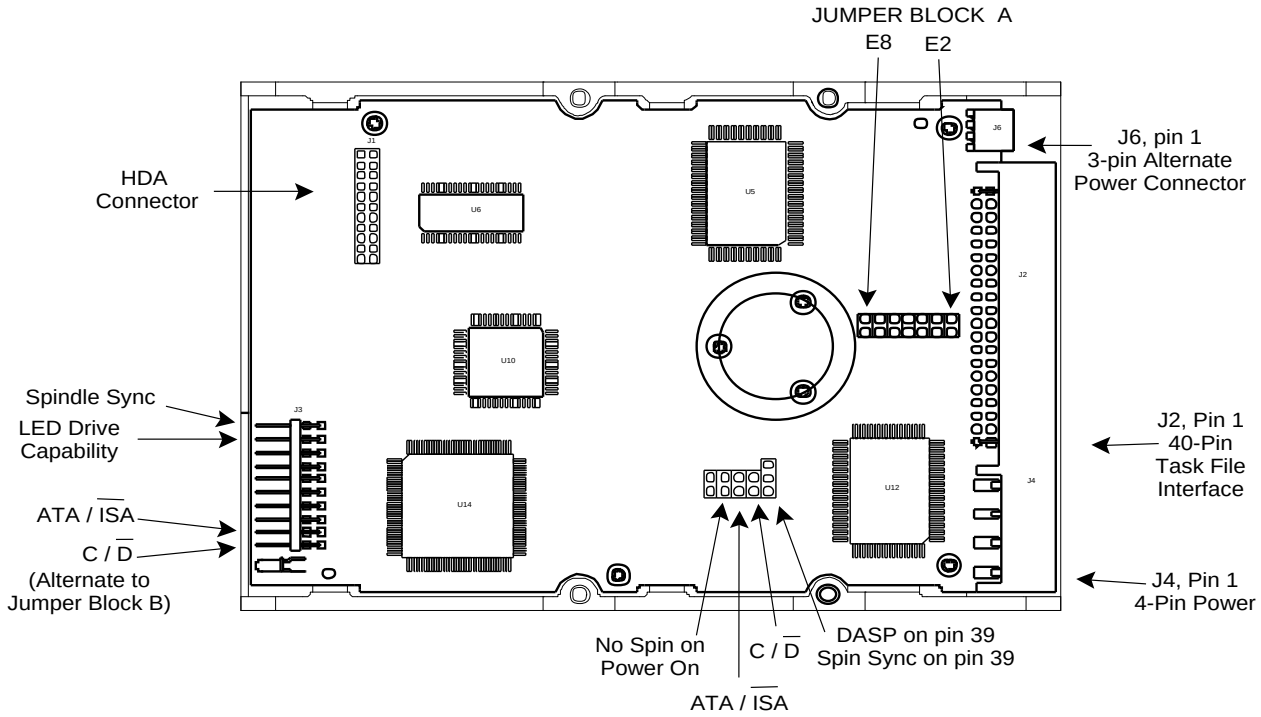
C/D

Up to two drives may be daisy chained together utilizing the 40 pin Task File connector. The maximum cable length is 18 inches. In order to install more than one drive, it is necessary to set a jumper option. The C/D jumper is used to determine whether the drive is master (drive C) or slave (drive D). The drive is configured as a master (drive C) when jumpered and as a slave drive (D drive) when not jumpered.

DSP & SS This pair of jumpers determines the signals on pin 39 of the interface connector.

Jumper		
DSP	**SS**	**Action**
X		-Spindle synchronization signal disable on pin 39 -Activity LED signal available on pin 39.
	X	-Spindle synchronization signal enable on pin 39 -Activity LED signal disabled from pin 39.
		-Pin 39 floating.

Jumper		Function	
		ATA/CAM	**Non-CAM**
Block A	E2	OUT	IN
Block A	E3	OUT	IN
Block A	E4	OUT	IN
Block A	E5	IN	OUT
Block A	E6	IN	OUT
Block A	E7	IN	OUT
Block A	E8	IN	OUT
Block B	ATA/ISA	IN	OUT



CMOS Drive Parameters	
Cylinders	1023
Heads	16
Sectors	63
Precomp	0
Landing Zone	1023

J4	
1	+12 V
2	Ground
3	Ground
4	+5V

J6	
1	+5 V
2	+12 V
3	Ground

CP-30540 SPECIFICATION SUMMARY — 545 MB

	MODEL CP-30544	MODEL CP-30540
Embedded Controller/Interface	PC/AT	FAST SCSI-2
Capacity (Formatted)	545.9 MB	545.9 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	3	3
Data Surfaces	6	6
Data Heads	6	6
Servo	Embedded	Embedded
Zones per Surface	6	6
Track Density	2628 TPI	2628 TPI
Total Cylinders	2243	2243
Bytes per Sector	512-520/1024-1040	512-520/1024-1040
Sectors per Zone (Physical)	60 - 90	60 - 90
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	2 msec	2 msec
Average (Read/Write)	10 msec**	10 msec**
Maximum	17 msec	17 msec
Average Latency	5.55 msec	5.55 msec
Rotation Speed (± .1%)	5400 RPM	5400 RPM
Controller Overhead		<400 µsec
Data Transfer Rate		
To/from Media	28.4 - 43.1 Mb/sec	28.4 - 43.1 Mb/sec
Data Transfer Rate		
To/from Buffer	6.0 MB/sec	10.0 MB/sec
Start Time - Power Up (0-5400 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec***	20 sec***
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	10,000 min	10,000 min
Interleave	1:1	1:1
Buffer Size	256 KB	256 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	54,224 BPI	
Flux Density - ID (flux reversals per inch)	40,961	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 10%	+5 VDC ± 5%	POWER
R/W Mode	325 ma	675 ma	6.5 W
Seek Mode	550 ma	675 ma	9.0 W
Idle Mode	300 ma	450 ma	5.2 W
Spin-up Mode (for first 7 seconds)	1.7 amp	750 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29°C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 250,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-32 Hz	.010" (double amplitude)
33-400 Hz	0.5 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-400 Hz	4 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 1.5 MHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

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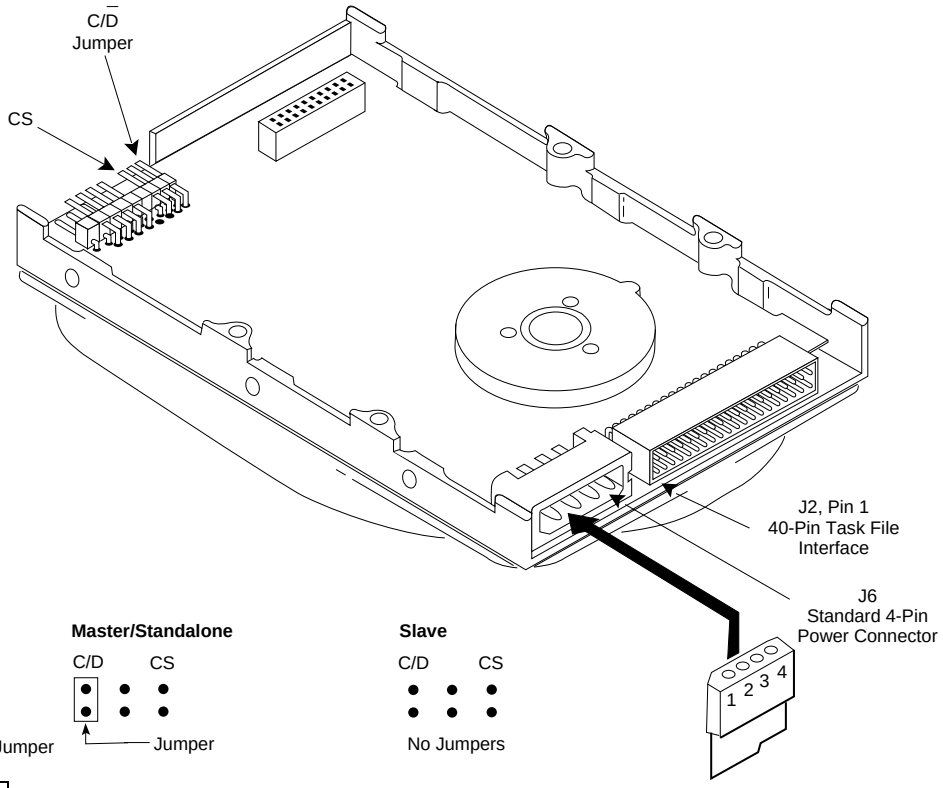
DS-511-038 7/93

CFS635A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	1238*
Heads	16
Sectors	63
Precomp	0
Landing Zone	1238

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders should be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CONNER FILEPRO FAMILY (CABO SERIES)
SPECIFICATION SUMMARY

MODEL	CFS425A	CFS541A	CFS635A	CFS850A	CFS1081A	CFS1275A	CFS1621A
Embedded Controller/ Interface	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE
Capacity (Formatted)	425 MB	540 MB	635 MB	850 MB	1080 MB	1275 MB	1620 MB
PHYSICAL CONFIGURATION							
Actuator Type	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil
Number of Disks	1	1	2	2	2	3	3
Data Surfaces	2	2	3	4	4	6	6
Data Heads	2	2	3	4	4	6	6
Servo	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density	3845 TPI	4100 TPI	3849 TPI	3849 TPI	4100 TPI	3849 TPI	4100 TPI
Total Cylinders	3687	3924	3640	3640	3924	3640	3924
Bytes per Sector	512	512	512	512	512	512	512
Sectors per Zone (Physical)	78-144	90-170	78-144	77-143	90-170	77-143	90-170
PERFORMANCE							
Seek Times (Typical)*							
Track to Track	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec
Average (Read/Write)	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec
Rotation Speed (± .1%)	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM
Controller Overhead	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec
Data Transfer Rate	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec
Start Time - Power Up							
Typical	6.0 sec	6.0 sec	8.5 sec	8.5 sec	6.0 sec	8.5 sec	6.0 sec
Maximum	10 sec***	10 sec***	20 sec***	20 sec***	10 sec***	20 sec***	10 sec***
Stop Time - Power Down							
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec
Interleave	1:1	1:1	1:1	1:1	1:1	1:1	1:1
Buffer Size	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
READ/WRITE							
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	77 K BPI	93 K BPI	77 K BPI	77 K BPI	93 K BPI	77 K BPI	94 K BPI
Flux Density - ID (flux reversals per inch)	58 K FCI	70 K FCI	58 K FCI	58 K FCI	70 K FCI	58 K FCI	70 K FCI
PHYSICAL DIMENSIONS							
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.1 lbs (.50 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.3 lbs (.59 kgs)	1.3 lbs (.59 kgs)
POWER REQUIREMENTS – (TYPICAL)							
+5 VDC ±5%							
Read/Write Mode	400 mA	400 mA	400 mA	400 mA	430 mA	400 mA	430 mA
Seek Mode	200 mA	200 mA	240 mA	240 mA	430 mA	240 mA	430 mA
Idle Mode	200 mA	200 mA	210 mA	210 mA	370 mA	210 mA	370 mA
Spin-up Mode	400 mA	400 mA	300 mA	300 mA	500 mA	300 mA	500 mA
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
+12 VDC ±5%							
Read/Write Mode	150 mA	150 mA	150 mA	150 mA	170 mA	150 mA	170 mA
Seek Mode	240 mA	200 mA	150 mA	150 mA	270 mA	150 mA	270 mA
Idle Mode	125 mA	125 mA	125 mA	125 mA	170 mA	125 mA	170 mA
Spin-up Mode	1000 mA	850 mA	1100 mA	1100 mA	1200 mA	1100 mA	1200 mA
Power							
Read/Write Mode	4.0 W	3.8 W	4.0 W	4.0 W	4.2 W	4.0 W	4.2 W
Seek Mode	4.5 W	3.9 W	3.5 W	3.5 W	5.6 W	3.5 W	5.6 W
Idle Mode	3.0 W	2.5 W	3.5 W	3.5 W	3.9 W	3.5 W	3.9 W
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
Fax Information Service File Number	5223	5229	5230	5226	5231	5228	5232

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 40,000 feet

RELIABILITY AND MAINTENANCE	
MTBF	Up to 300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{14} bits

SHOCK AND VIBRATION	
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-10 Hz	.10" (double amplitude)
10-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-32 Hz	.10" (double amplitude)
32-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE	CFS425, CFS541
Audible Noise	34 dBA at 1 meter, any direction, idle
	CFS635, CFS850, CFS1081, CFS1275, CFS1621
Audible Noise	38 dBA at 1 meter, any direction, idle
WARRANTY	3 years

NOTE: Specifications subject to change.

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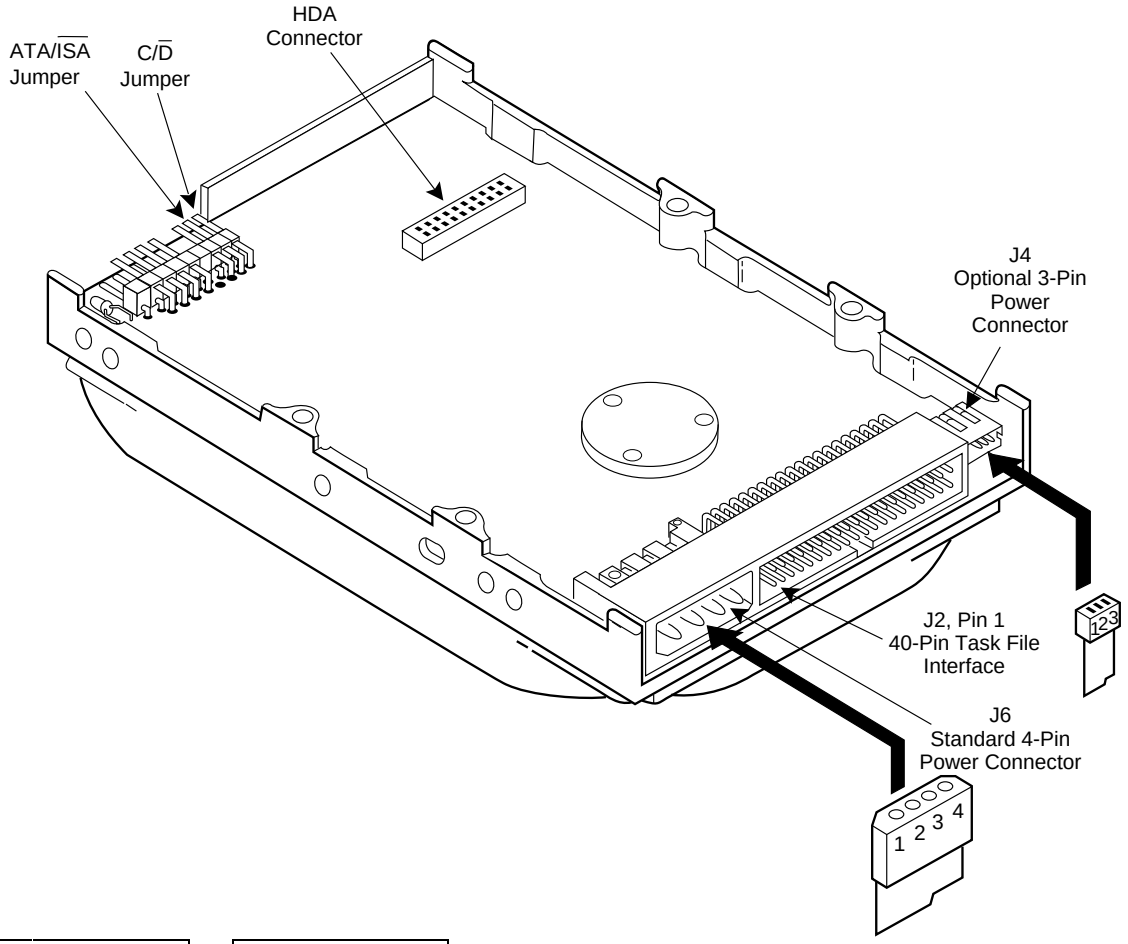
Taipei 886/2-718-9193 • Tokyo 81/3-3485-8901
Latin America – Miami (305) 789-6685

DS-511-CABO2 8/95

CFA810A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The ATA/ISA jumper is used when when daisy-chaining two drives. This jumper may have to be removed when this drive is used together with older (Pre-ATA) drives.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

	J4
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	1572*
Heads	16
Sectors	63
Precomp	0
Landing Zone	1572

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders should be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CFA 810 SPECIFICATION SUMMARY

810 MB

	MODEL CFA 810A	MODEL CFA 810S
Embedded Controller/Interface	PC/AT	FAST SCSI-2
Capacity (Formatted)	810 MB	810 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	3	3
Data Surfaces	6	6
Data Heads	6	6
Servo	Embedded	Embedded
Zones per Surface	8	8
Track Density	3200 TPI	3200 TPI
Tracks per Surface	2794	2794
Bytes per Sector	512	512
Sectors per Track	72 – 114	72 – 114
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	2.5 msec	2.5 msec
Average	12 msec**	12 msec**
Maximum	20 msec	20 msec
Average Latency	6.67 msec	6.67 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Controller Overhead	<1.0 msec	<1.0 msec
Data Transfer Rate		
To/from Media	27 – 46 Mb/sec	27 – 46 Mb/sec
Data Transfer Rate	10.0 MB/sec	5.0 MB/sec Async 10.0 MB/sec Sync
Start Time - Power Up (0-4500 RPM)		
Typical	7 sec	7 sec
Maximum	12 sec***	12 sec***
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1
Buffer Size	256 KB	256 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	65,000 BPI	
Flux Density - ID (flux reversals per inch)	48,340 FCI	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 10%	+5 VDC ± 5%	POWER
R/W Mode	210 ma	710 ma	6.0 W
Seek Mode	550 ma	690 ma	10.1 W
Idle Mode	180 ma	460 ma	4.5 W
Spin-up Mode (for first 1.5 seconds)	1.6 amp	720 ma	

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 15,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	300,000 hours
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-32 Hz	0.10" (double amplitude)
32-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-28 Hz	.1" (double amplitude)
28-400 Hz	4 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	37 dBA max at 1 meter in idle mode.
Acoustic Sound Power	43 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

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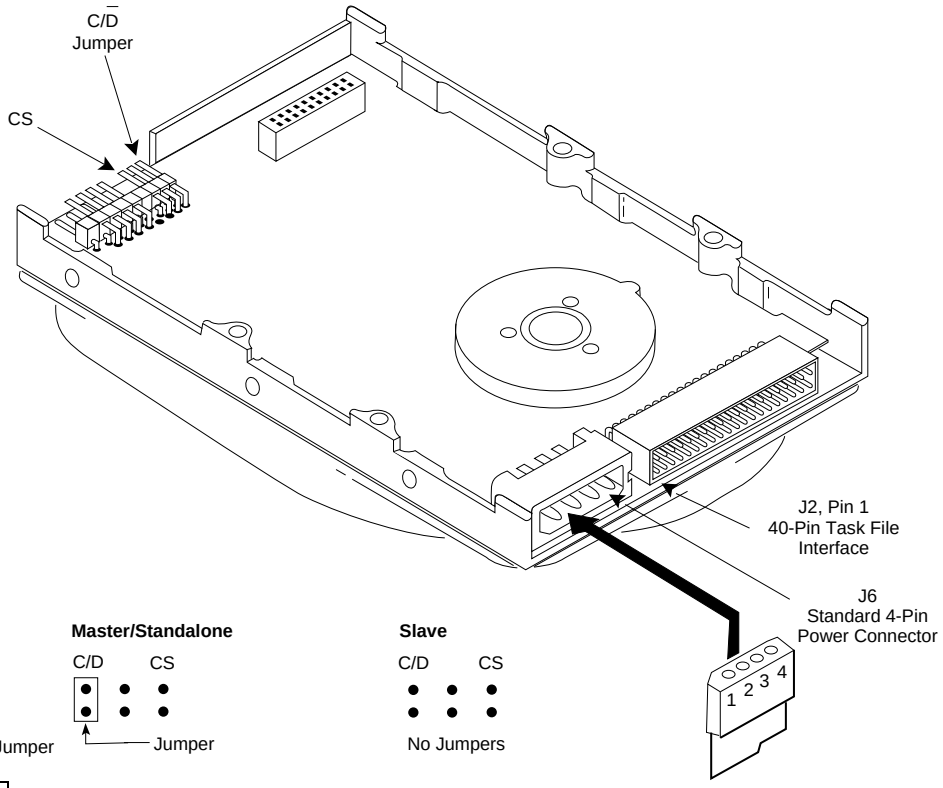
DS-511-052 2/94

CFS850A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	1651*
Heads	16
Sectors	63
Precomp	0
Landing Zone	1652

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders should be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CONNER FILEPRO FAMILY (CABO SERIES)
SPECIFICATION SUMMARY

MODEL	CFS425A	CFS541A	CFS635A	CFS850A	CFS1081A	CFS1275A	CFS1621A
Embedded Controller/ Interface	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE
Capacity (Formatted)	425 MB	540 MB	635 MB	850 MB	1080 MB	1275 MB	1620 MB
PHYSICAL CONFIGURATION							
Actuator Type	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil
Number of Disks	1	1	2	2	2	3	3
Data Surfaces	2	2	3	4	4	6	6
Data Heads	2	2	3	4	4	6	6
Servo	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density	3845 TPI	4100 TPI	3849 TPI	3849 TPI	4100 TPI	3849 TPI	4100 TPI
Total Cylinders	3687	3924	3640	3640	3924	3640	3924
Bytes per Sector	512	512	512	512	512	512	512
Sectors per Zone (Physical)	78-144	90-170	78-144	77-143	90-170	77-143	90-170
PERFORMANCE							
Seek Times (Typical)*							
Track to Track	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec
Average (Read/Write)	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec
Rotation Speed (± .1%)	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM
Controller Overhead	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec
Data Transfer Rate	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec
Start Time - Power Up							
Typical	6.0 sec	6.0 sec	8.5 sec	8.5 sec	6.0 sec	8.5 sec	6.0 sec
Maximum	10 sec***	10 sec***	20 sec***	20 sec***	10 sec***	20 sec***	10 sec***
Stop Time - Power Down							
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec
Interleave	1:1	1:1	1:1	1:1	1:1	1:1	1:1
Buffer Size	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
READ/WRITE							
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	77 K BPI	93 K BPI	77 K BPI	77 K BPI	93 K BPI	77 K BPI	94 K BPI
Flux Density - ID (flux reversals per inch)	58 K FCI	70 K FCI	58 K FCI	58 K FCI	70 K FCI	58 K FCI	70 K FCI
PHYSICAL DIMENSIONS							
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.1 lbs (.50 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.3 lbs (.59 kgs)	1.3 lbs (.59 kgs)
POWER REQUIREMENTS – (TYPICAL)							
+5 VDC ±5%							
Read/Write Mode	400 mA	400 mA	400 mA	400 mA	430 mA	400 mA	430 mA
Seek Mode	200 mA	200 mA	240 mA	240 mA	430 mA	240 mA	430 mA
Idle Mode	200 mA	200 mA	210 mA	210 mA	370 mA	210 mA	370 mA
Spin-up Mode	400 mA	400 mA	300 mA	300 mA	500 mA	300 mA	500 mA
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
+12 VDC ±5%							
Read/Write Mode	150 mA	150 mA	150 mA	150 mA	170 mA	150 mA	170 mA
Seek Mode	240 mA	200 mA	150 mA	150 mA	270 mA	150 mA	270 mA
Idle Mode	125 mA	125 mA	125 mA	125 mA	170 mA	125 mA	170 mA
Spin-up Mode	1000 mA	850 mA	1100 mA	1100 mA	1200 mA	1100 mA	1200 mA
Power							
Read/Write Mode	4.0 W	3.8 W	4.0 W	4.0 W	4.2 W	4.0 W	4.2 W
Seek Mode	4.5 W	3.9 W	3.5 W	3.5 W	5.6 W	3.5 W	5.6 W
Idle Mode	3.0 W	2.5 W	3.5 W	3.5 W	3.9 W	3.5 W	3.9 W
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
Fax Information Service File Number	5223	5229	5230	5226	5231	5228	5232

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 40,000 feet

RELIABILITY AND MAINTENANCE	
MTBF	Up to 300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{14} bits

SHOCK AND VIBRATION	
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-10 Hz	.10" (double amplitude)
10-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-32 Hz	.10" (double amplitude)
32-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE	CFS425, CFS541
Audible Noise	34 dBA at 1 meter, any direction, idle
	CFS635, CFS850, CFS1081, CFS1275, CFS1621
Audible Noise	38 dBA at 1 meter, any direction, idle
WARRANTY	3 years

NOTE: Specifications subject to change.

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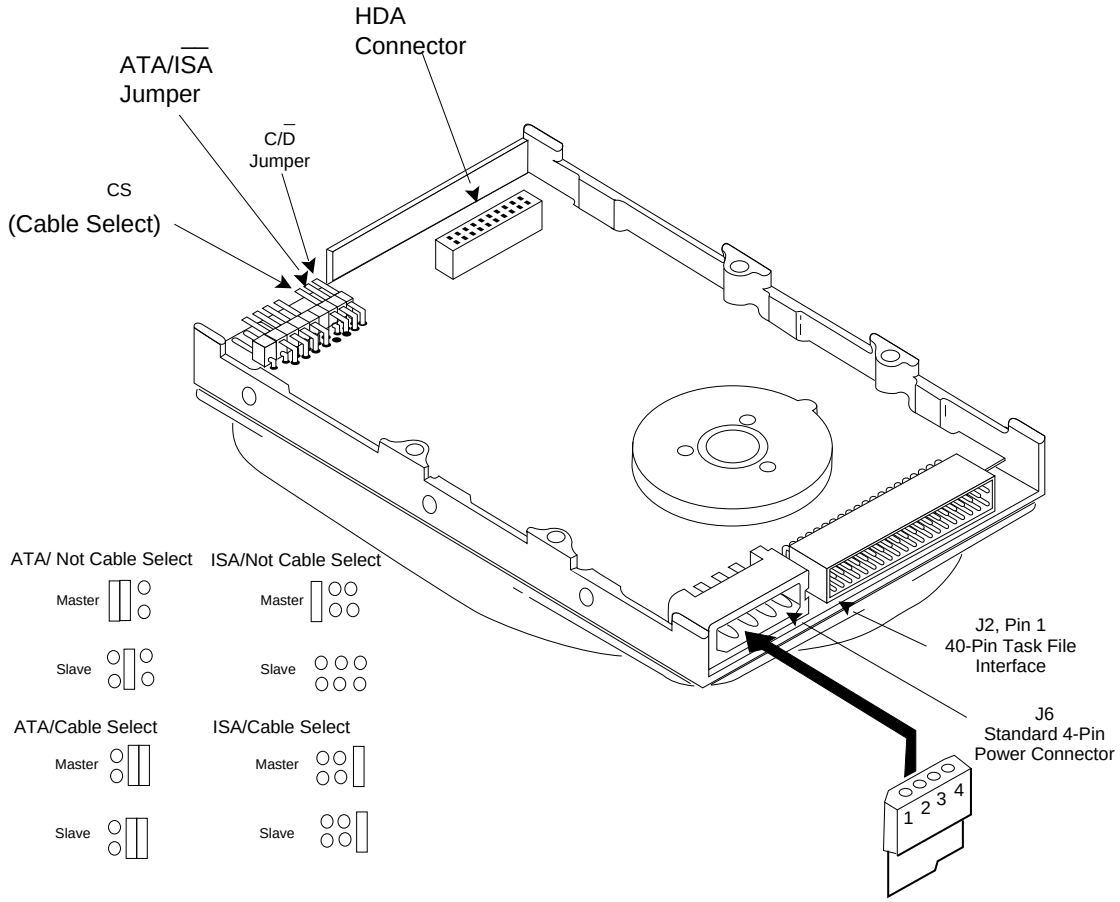
DS-511-CABO2 8/95

CFA850A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The ATA/ISA jumper is used when daisy-chaining two drives. This jumper may have to be removed when this drive is used together with older (Pre-ATA) drives. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

	J4
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	1652*
Heads	16
Sectors	63
Precomp	0
Landing Zone	1652

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders may have to be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CONNER FILEPRO ADVANTAGE FAMILY (STEAMBOAT SERIES)
SPECIFICATION SUMMARY

MODEL	CFA850A	CFA1275A
Embedded Controller/Interface	Enhanced IDE	Enhanced IDE
Capacity (Formatted)	852 MB	1278 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	3
Data Surfaces	4	6
Data Heads	4	6
Servo	Embedded	Embedded
Zones per Surface	8	8
Track Density	3833 TPI	3833 TPI
Tracks per Surface	3659	3659
Bytes per Sector	512	512
Sectors per Zone (Physical)	80-144	80-144
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	3 msec	3 msec
Average (Read/Write)	< 12 msec**	< 12 msec**
Maximum	26 msec	26 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Data Transfer Rate		
To/from media	31.3-55.3 Mb/sec	31.3-55.3 Mb/sec
To/from buffer	10 MB/sec	10 MB/sec
Start Time - Power Up		
Typical	8.5 sec	8.5 sec
Maximum	20 sec***	20 sec***
Stop Time - Power Down		
Typical	8.5 sec	8.5 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	40,000 min	40,000 min
Interleave	1:1	1:1
Buffer Size	256 KB	256 KB
READ/WRITE		
Recording Method	1,7 RLL	1,7 RLL
Recording Density	77.3 K BPI	77.3 K BPI
Flux Density	58 K FCI	58 K FCI
PHYSICAL DIMENSIONS		
Height	1.00" (25.4 mm)	1.00" (25.4 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.25 lbs (.57 kg)	1.3 lbs (.59 kg)
POWER REQUIREMENTS – (TYPICAL)		
+5 VDC ±5% Read/Write Mode	430 mA	430 mA
Seek Mode	430 mA	430 mA
Idle Mode	370 mA	370 mA
Spin-up Mode	500 mA	500 mA
Sleep Mode	< 1 W	< 1 W
+12 VDC ±10% Read/Write Mode	170 mA	170 mA
Seek Mode	270 mA	290 mA
Idle Mode	170 mA	170 mA
Spin-up Mode	1200 mA	1200 mA
Sleep	< 1 W	< 1 W
Power Read/Write Mode	4.2 W	4.2 W
Seek Mode	5.6 W	5.6 W
Idle Mode	3.9 W	3.9 W
Sleep Mode	< 1.0 W	< 1.0 W
Fax Information Service File Number	5225	5227

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet
RELIABILITY AND MAINTENANCE	
MTBF	300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{14} bits
SHOCK AND VIBRATION	
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-22 Hz	0.02" (double amplitude)
23-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1 octave per minute
5-22 Hz	0.20" (double amplitude)
23-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Power: 4.3 Bels max in idle mode

WARRANTY: 3 years

NOTE: Specifications subject to change.

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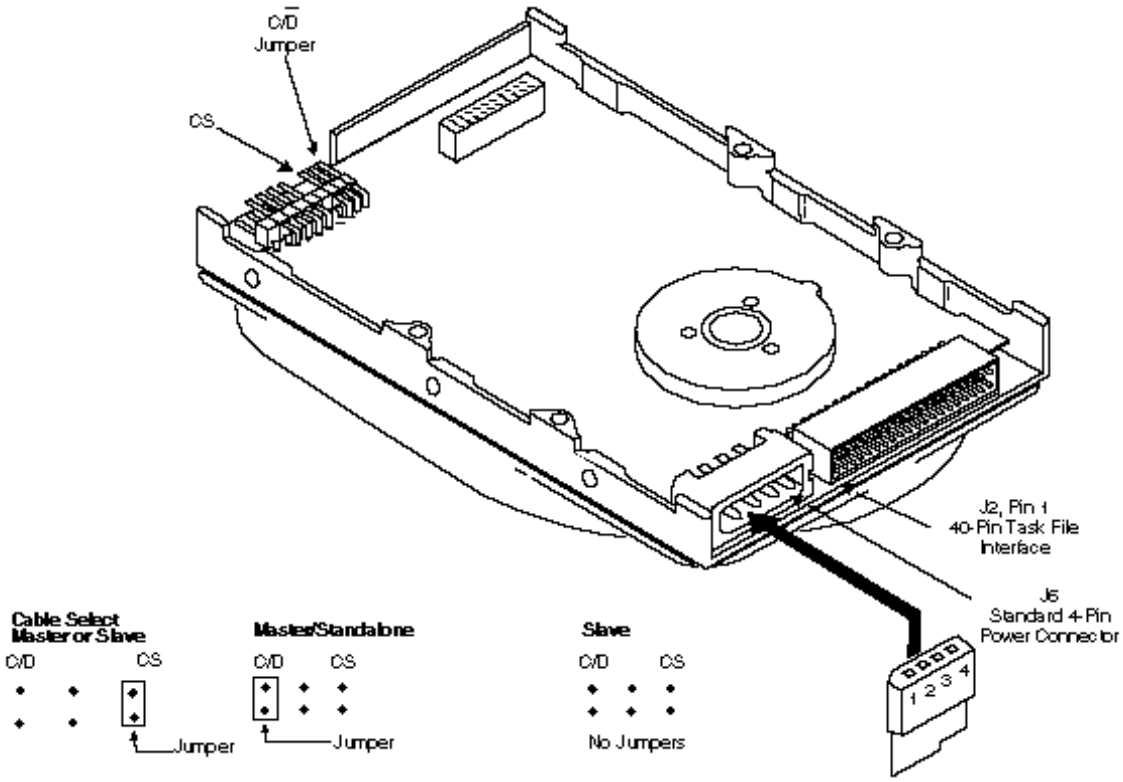
DS-511-STEAM 4/95

CFS1060A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



J6	
1	+12 V
2	Ground
3	Ground
4	+5V

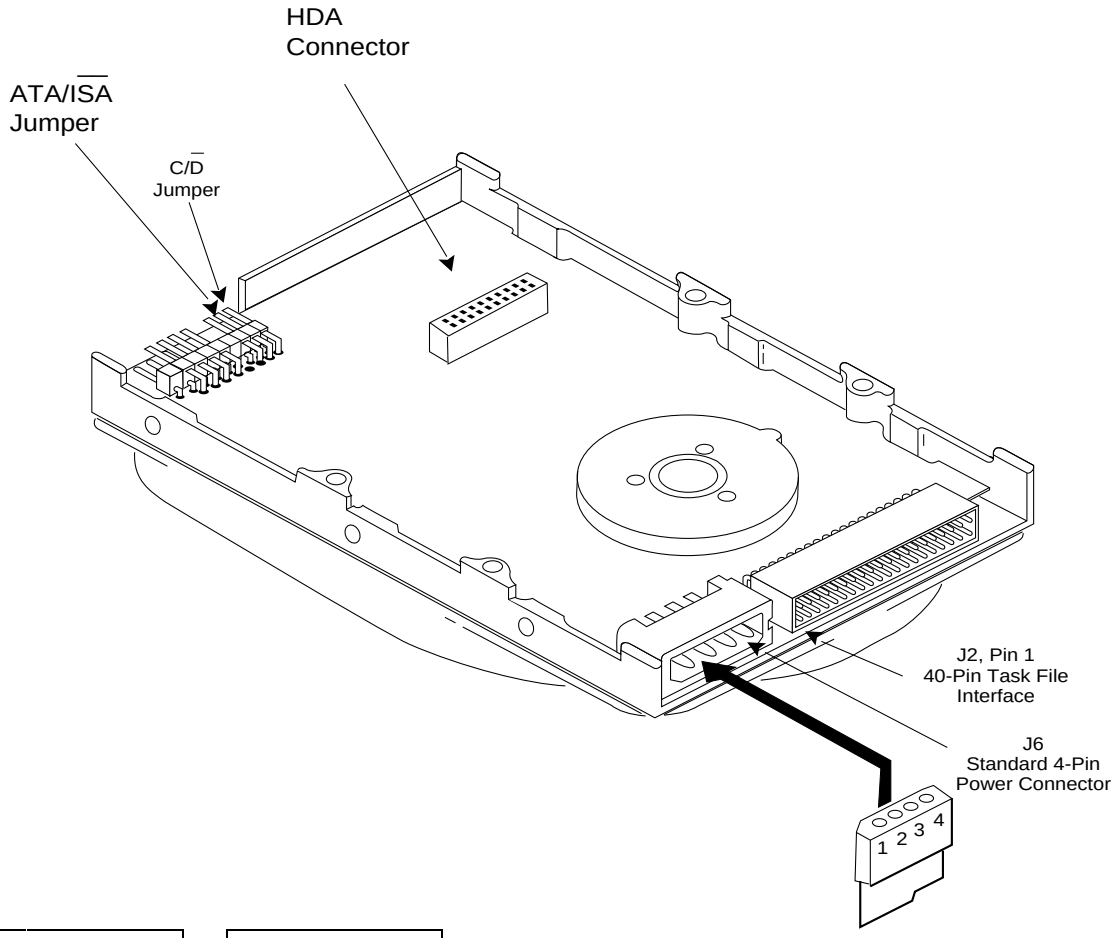
CMOS Drive Parameters	
Cylinders	2064*
Heads	16
Sectors	63
Precomp	0
Landing Zone	2064

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders may have to be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CFA1080A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The ATA/ISA jumper is used when daisy-chaining two drives. This jumper may have to be removed when this drive is used together with older (Pre-ATA) drives. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

	J4
1	+5 V
2	+12 V
3	Ground

CMOS Drive Parameters	
Cylinders	2097*
Heads	16
Sectors	63
Precomp	0
Landing Zone	2097

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders should be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CFA 1080 SPECIFICATION SUMMARY

1080 MB

	MODEL CFA 1080A	MODEL CFA 1080S
Embedded Controller/Interface	PC/AT	FAST SCSI-2
Capacity (Formatted)	1080 MB	1080 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	4	4
Data Surfaces	8	8
Data Heads	8	8
Servo	Embedded	Embedded
Zones per Surface	8	8
Track Density	3200 TPI	3200 TPI
Tracks per Surface	2794	2794
Bytes per Sector	512	512
Sectors per Track	72 – 114	72 – 114
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	2.5 msec	2.5 msec
Average	12 msec**	12 msec**
Maximum	20 msec	20 msec
Average Latency	6.67 msec	6.67 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Controller Overhead	<1.0 msec	<1.0 msec
Data Transfer Rate		
To/from Media	27 – 46 Mb/sec	27 – 46 Mb/sec
Data Transfer Rate	10.0 MB/sec	5.0 MB/sec Async 10.0 MB/sec Sync
Start Time - Power Up (0-4500 RPM)		
Typical	7 sec	7 sec
Maximum	12 sec***	12 sec***
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1
Buffer Size	256 KB	256 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	65,000 BPI	
Flux Density - ID (flux reversals per inch)	48,340 FCI	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 10%	+5 VDC ± 5%	POWER
R/W Mode	210 ma	710 ma	6.0 W
Seek Mode	550 ma	690 ma	10.1 W
Idle Mode	180 ma	460 ma	4.5 W
Spin-up Mode (for first 1.5 seconds)	1.6 amp	720 ma	

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 15,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	300,000 hours
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-32 Hz	0.10" (double amplitude)
32-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-28 Hz	.1" (double amplitude)
28-400 Hz	4 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	37 dBA max at 1 meter in idle mode.
Acoustic Sound Power	43 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

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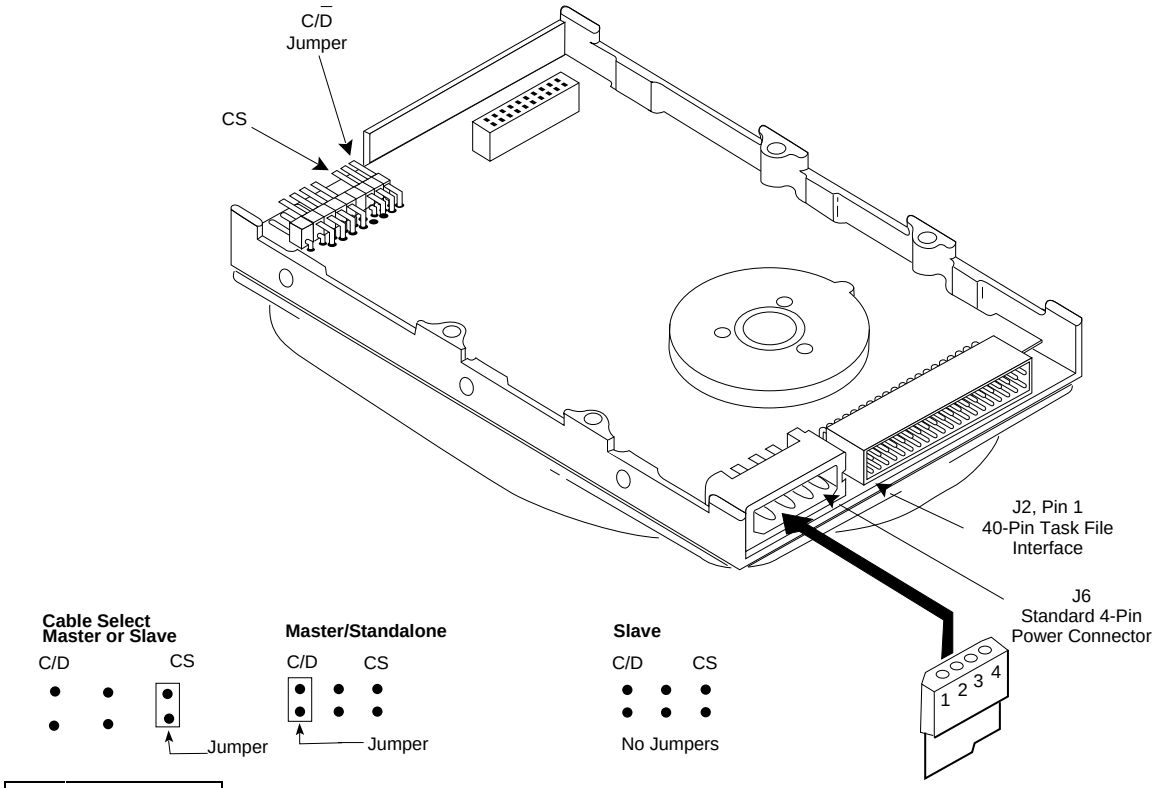
DS-511-039 2/94

CFS1081A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	2097*
Heads	16
Sectors	63
Precomp	0
Landing Zone	2097

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders should be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CONNER FILEPRO FAMILY (CABO SERIES)
SPECIFICATION SUMMARY

MODEL	CFS425A	CFS541A	CFS635A	CFS850A	CFS1081A	CFS1275A	CFS1621A
Embedded Controller/ Interface	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE
Capacity (Formatted)	425 MB	540 MB	635 MB	850 MB	1080 MB	1275 MB	1620 MB
PHYSICAL CONFIGURATION							
Actuator Type	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil
Number of Disks	1	1	2	2	2	3	3
Data Surfaces	2	2	3	4	4	6	6
Data Heads	2	2	3	4	4	6	6
Servo	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density	3845 TPI	4100 TPI	3849 TPI	3849 TPI	4100 TPI	3849 TPI	4100 TPI
Total Cylinders	3687	3924	3640	3640	3924	3640	3924
Bytes per Sector	512	512	512	512	512	512	512
Sectors per Zone (Physical)	78-144	90-170	78-144	77-143	90-170	77-143	90-170
PERFORMANCE							
Seek Times (Typical)*							
Track to Track	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec
Average (Read/Write)	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec
Rotation Speed (± .1%)	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM
Controller Overhead	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec
Data Transfer Rate	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec
Start Time - Power Up							
Typical	6.0 sec	6.0 sec	8.5 sec	8.5 sec	6.0 sec	8.5 sec	6.0 sec
Maximum	10 sec***	10 sec***	20 sec***	20 sec***	10 sec***	20 sec***	10 sec***
Stop Time - Power Down							
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec
Interleave	1:1	1:1	1:1	1:1	1:1	1:1	1:1
Buffer Size	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
READ/WRITE							
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	77 K BPI	93 K BPI	77 K BPI	77 K BPI	93 K BPI	77 K BPI	94 K BPI
Flux Density - ID (flux reversals per inch)	58 K FCI	70 K FCI	58 K FCI	58 K FCI	70 K FCI	58 K FCI	70 K FCI
PHYSICAL DIMENSIONS							
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.1 lbs (.50 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.3 lbs (.59 kgs)	1.3 lbs (.59 kgs)
POWER REQUIREMENTS – (TYPICAL)							
+5 VDC ±5%							
Read/Write Mode	400 mA	400 mA	400 mA	400 mA	430 mA	400 mA	430 mA
Seek Mode	200 mA	200 mA	240 mA	240 mA	430 mA	240 mA	430 mA
Idle Mode	200 mA	200 mA	210 mA	210 mA	370 mA	210 mA	370 mA
Spin-up Mode	400 mA	400 mA	300 mA	300 mA	500 mA	300 mA	500 mA
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
+12 VDC ±5%							
Read/Write Mode	150 mA	150 mA	150 mA	150 mA	170 mA	150 mA	170 mA
Seek Mode	240 mA	200 mA	150 mA	150 mA	270 mA	150 mA	270 mA
Idle Mode	125 mA	125 mA	125 mA	125 mA	170 mA	125 mA	170 mA
Spin-up Mode	1000 mA	850 mA	1100 mA	1100 mA	1200 mA	1100 mA	1200 mA
Power							
Read/Write Mode	4.0 W	3.8 W	4.0 W	4.0 W	4.2 W	4.0 W	4.2 W
Seek Mode	4.5 W	3.9 W	3.5 W	3.5 W	5.6 W	3.5 W	5.6 W
Idle Mode	3.0 W	2.5 W	3.5 W	3.5 W	3.9 W	3.5 W	3.9 W
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
Fax Information Service File Number	5223	5229	5230	5226	5231	5228	5232

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 40,000 feet

RELIABILITY AND MAINTENANCE	
MTBF	Up to 300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{14} bits

SHOCK AND VIBRATION	
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-10 Hz	.10" (double amplitude)
10-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-32 Hz	.10" (double amplitude)
32-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE	CFS425, CFS541
Audible Noise	34 dBA at 1 meter, any direction, idle
	CFS635, CFS850, CFS1081, CFS1275, CFS1621
Audible Noise	38 dBA at 1 meter, any direction, idle
WARRANTY	3 years

NOTE: Specifications subject to change.

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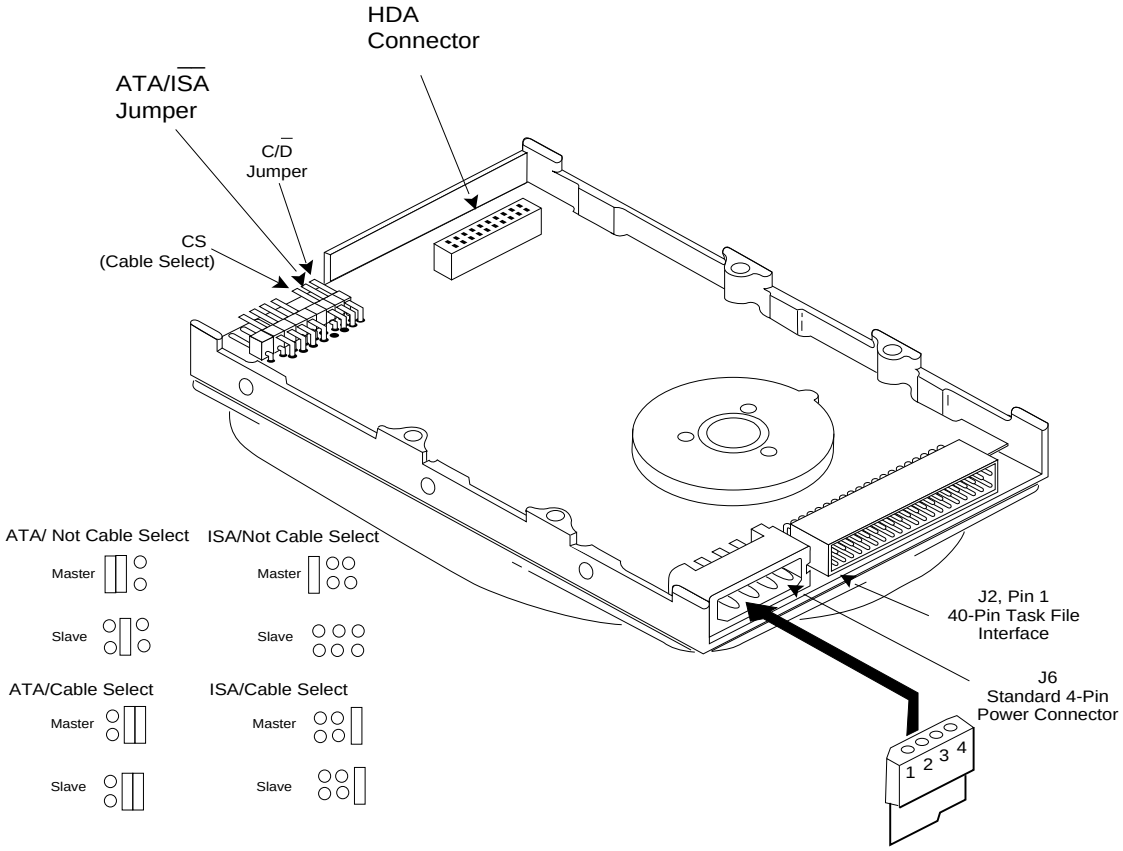
DS-511-CABO2 8/95

CFA1275A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The ATA/ISA jumper is used when daisy-chaining two drives. This jumper may have to be removed when this drive is used together with older (Pre-ATA) drives. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	2479*
Heads	16
Sectors	63
Precomp	0
Landing Zone	2479

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders may have to be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CONNER FILEPRO ADVANTAGE FAMILY (STEAMBOAT SERIES)
SPECIFICATION SUMMARY

MODEL	CFA850A	CFA1275A
Embedded Controller/Interface	Enhanced IDE	Enhanced IDE
Capacity (Formatted)	852 MB	1278 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	3
Data Surfaces	4	6
Data Heads	4	6
Servo	Embedded	Embedded
Zones per Surface	8	8
Track Density	3833 TPI	3833 TPI
Tracks per Surface	3659	3659
Bytes per Sector	512	512
Sectors per Zone (Physical)	80-144	80-144
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	3 msec	3 msec
Average (Read/Write)	< 12 msec**	< 12 msec**
Maximum	26 msec	26 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Data Transfer Rate		
To/from media	31.3-55.3 Mb/sec	31.3-55.3 Mb/sec
To/from buffer	10 MB/sec	10 MB/sec
Start Time - Power Up		
Typical	8.5 sec	8.5 sec
Maximum	20 sec***	20 sec***
Stop Time - Power Down		
Typical	8.5 sec	8.5 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	40,000 min	40,000 min
Interleave	1:1	1:1
Buffer Size	256 KB	256 KB
READ/WRITE		
Recording Method	1,7 RLL	1,7 RLL
Recording Density	77.3 K BPI	77.3 K BPI
Flux Density	58 K FCI	58 K FCI
PHYSICAL DIMENSIONS		
Height	1.00" (25.4 mm)	1.00" (25.4 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.25 lbs (.57 kg)	1.3 lbs (.59 kg)
POWER REQUIREMENTS – (TYPICAL)		
+5 VDC ±5% Read/Write Mode	430 mA	430 mA
Seek Mode	430 mA	430 mA
Idle Mode	370 mA	370 mA
Spin-up Mode	500 mA	500 mA
Sleep Mode	< 1 W	< 1 W
+12 VDC ±10% Read/Write Mode	170 mA	170 mA
Seek Mode	270 mA	290 mA
Idle Mode	170 mA	170 mA
Spin-up Mode	1200 mA	1200 mA
Sleep	< 1 W	< 1 W
Power Read/Write Mode	4.2 W	4.2 W
Seek Mode	5.6 W	5.6 W
Idle Mode	3.9 W	3.9 W
Sleep Mode	< 1.0 W	< 1.0 W
Fax Information Service File Number	5225	5227

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet
RELIABILITY AND MAINTENANCE	
MTBF	300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{14} bits
SHOCK AND VIBRATION	
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-22 Hz	0.02" (double amplitude)
23-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1 octave per minute
5-22 Hz	0.20" (double amplitude)
23-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Power: 4.3 Bels max in idle mode

WARRANTY: 3 years

NOTE: Specifications subject to change.

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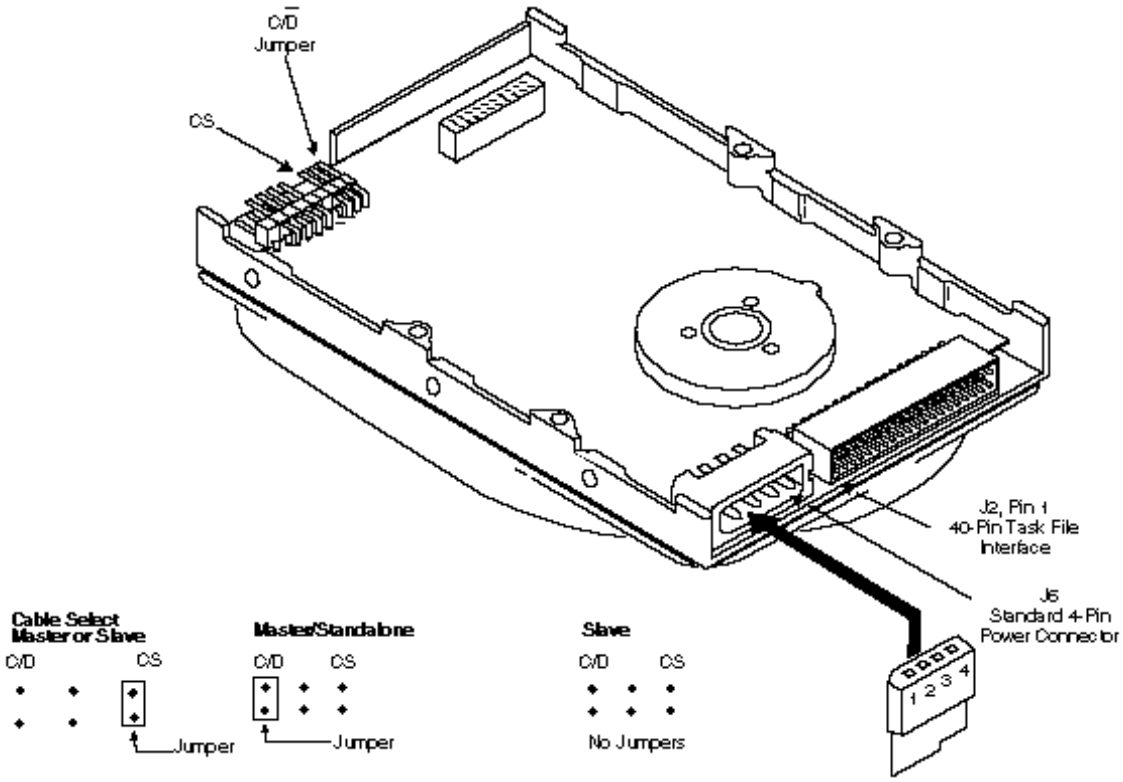
DS-511-STEAM 4/95

CFS1275A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



J6	
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	2477*
Heads	16
Sectors	63
Precomp	0
Landing Zone	2477

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders may have to be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CONNER FILEPRO FAMILY (CABO SERIES)
SPECIFICATION SUMMARY

MODEL	CFS425A	CFS541A	CFS635A	CFS850A	CFS1081A	CFS1275A	CFS1621A
Embedded Controller/ Interface	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE
Capacity (Formatted)	425 MB	540 MB	635 MB	850 MB	1080 MB	1275 MB	1620 MB
PHYSICAL CONFIGURATION							
Actuator Type	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil
Number of Disks	1	1	2	2	2	3	3
Data Surfaces	2	2	3	4	4	6	6
Data Heads	2	2	3	4	4	6	6
Servo	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density	3845 TPI	4100 TPI	3849 TPI	3849 TPI	4100 TPI	3849 TPI	4100 TPI
Total Cylinders	3687	3924	3640	3640	3924	3640	3924
Bytes per Sector	512	512	512	512	512	512	512
Sectors per Zone (Physical)	78-144	90-170	78-144	77-143	90-170	77-143	90-170
PERFORMANCE							
Seek Times (Typical)*							
Track to Track	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec
Average (Read/Write)	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec
Rotation Speed (± .1%)	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM
Controller Overhead	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec
Data Transfer Rate	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec
Start Time - Power Up							
Typical	6.0 sec	6.0 sec	8.5 sec	8.5 sec	6.0 sec	8.5 sec	6.0 sec
Maximum	10 sec***	10 sec***	20 sec***	20 sec***	10 sec***	20 sec***	10 sec***
Stop Time - Power Down							
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec
Interleave	1:1	1:1	1:1	1:1	1:1	1:1	1:1
Buffer Size	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
READ/WRITE							
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	77 K BPI	93 K BPI	77 K BPI	77 K BPI	93 K BPI	77 K BPI	94 K BPI
Flux Density - ID (flux reversals per inch)	58 K FCI	70 K FCI	58 K FCI	58 K FCI	70 K FCI	58 K FCI	70 K FCI
PHYSICAL DIMENSIONS							
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.1 lbs (.50 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.3 lbs (.59 kgs)	1.3 lbs (.59 kgs)
POWER REQUIREMENTS – (TYPICAL)							
+5 VDC ±5%							
Read/Write Mode	400 mA	400 mA	400 mA	400 mA	430 mA	400 mA	430 mA
Seek Mode	200 mA	200 mA	240 mA	240 mA	430 mA	240 mA	430 mA
Idle Mode	200 mA	200 mA	210 mA	210 mA	370 mA	210 mA	370 mA
Spin-up Mode	400 mA	400 mA	300 mA	300 mA	500 mA	300 mA	500 mA
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
+12 VDC ±5%							
Read/Write Mode	150 mA	150 mA	150 mA	150 mA	170 mA	150 mA	170 mA
Seek Mode	240 mA	200 mA	150 mA	150 mA	270 mA	150 mA	270 mA
Idle Mode	125 mA	125 mA	125 mA	125 mA	170 mA	125 mA	170 mA
Spin-up Mode	1000 mA	850 mA	1100 mA	1100 mA	1200 mA	1100 mA	1200 mA
Power							
Read/Write Mode	4.0 W	3.8 W	4.0 W	4.0 W	4.2 W	4.0 W	4.2 W
Seek Mode	4.5 W	3.9 W	3.5 W	3.5 W	5.6 W	3.5 W	5.6 W
Idle Mode	3.0 W	2.5 W	3.5 W	3.5 W	3.9 W	3.5 W	3.9 W
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
Fax Information Service File Number	5223	5229	5230	5226	5231	5228	5232

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 40,000 feet

RELIABILITY AND MAINTENANCE	
MTBF	Up to 300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{14} bits

SHOCK AND VIBRATION	
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-10 Hz	.10" (double amplitude)
10-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-32 Hz	.10" (double amplitude)
32-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE	CFS425, CFS541
Audible Noise	34 dBA at 1 meter, any direction, idle
	CFS635, CFS850, CFS1081, CFS1275, CFS1621
Audible Noise	38 dBA at 1 meter, any direction, idle
WARRANTY	3 years

NOTE: Specifications subject to change.

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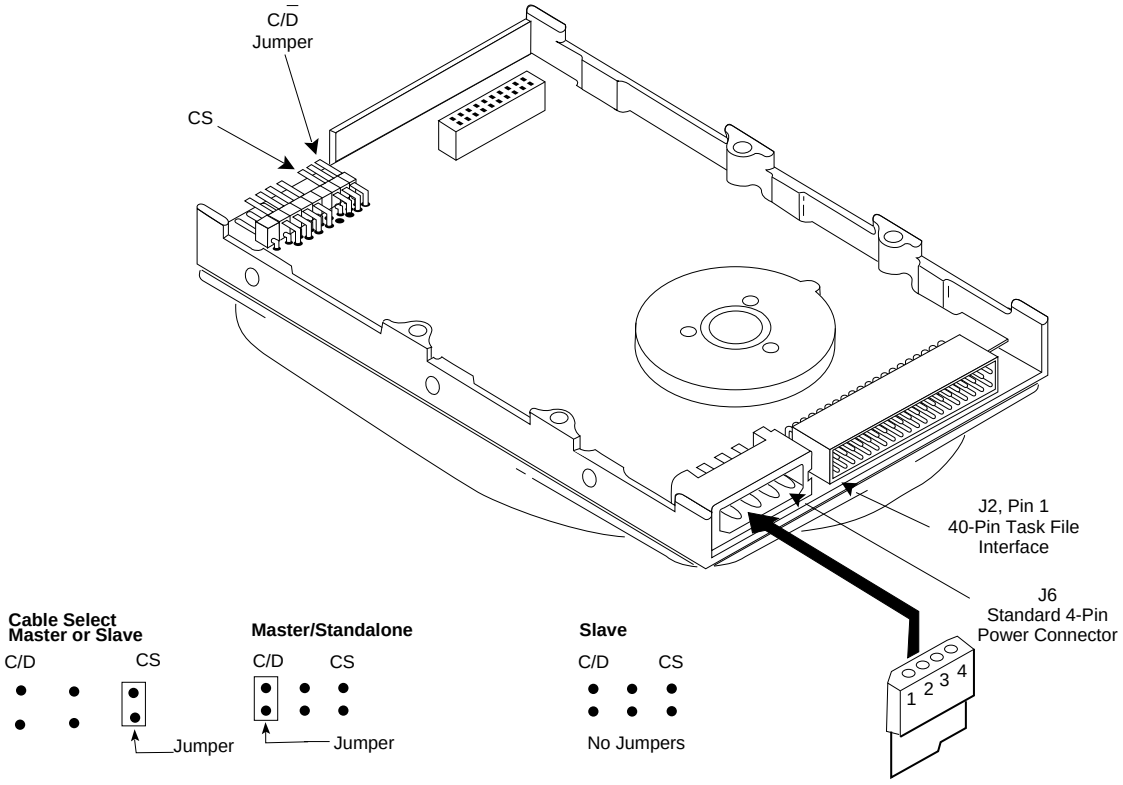
DS-511-CABO2 8/95

CFS1621A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

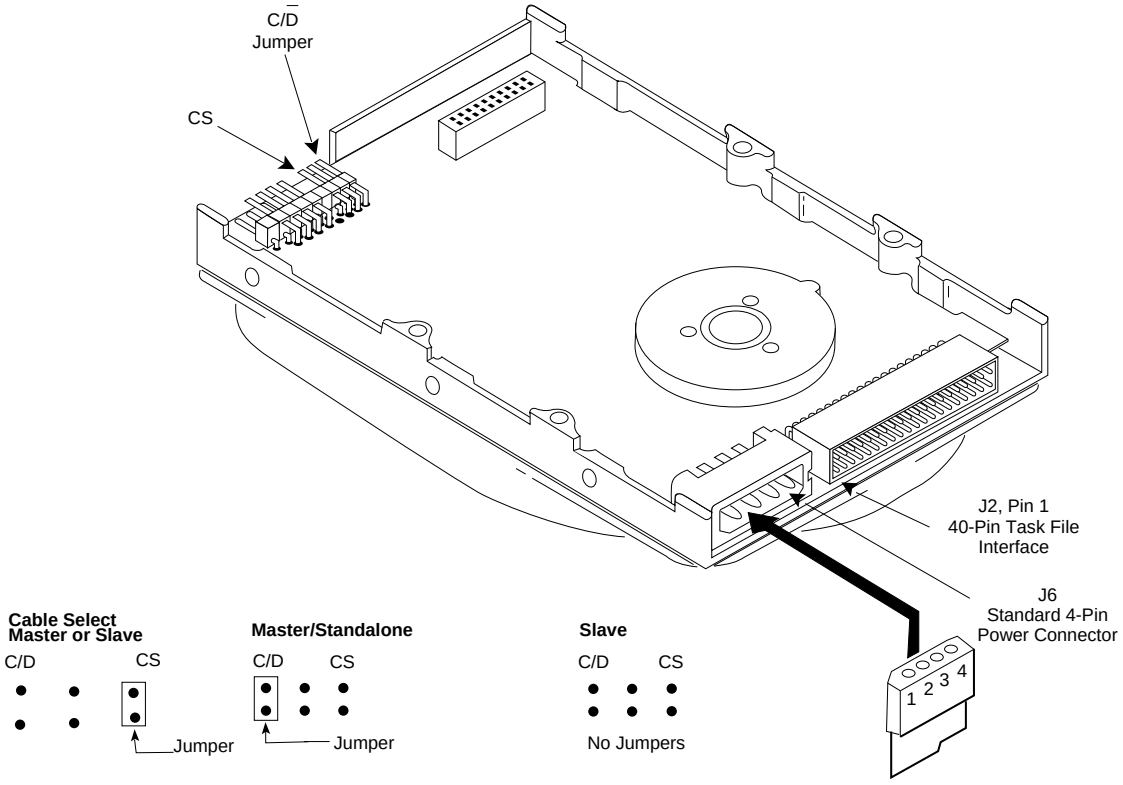
CMOS Drive Parameters	
Cylinders	3146*
Heads	16
Sectors	63
Precomp	0
Landing Zone	3146

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders may have to be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CFS1621A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

CMOS Drive Parameters	
Cylinders	3146*
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Landing Zone	3146

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insertion

* 1024 Cylinders may have to be entered into the CMOS parameters unless the drive is being used with a device driver, BIOS, or OS capable of supporting extended cylinders or LBA.

CONNER FILEPRO FAMILY (CABO SERIES)
SPECIFICATION SUMMARY

MODEL	CFS425A	CFS541A	CFS635A	CFS850A	CFS1081A	CFS1275A	CFS1621A
Embedded Controller/ Interface	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE	Enhanced IDE
Capacity (Formatted)	425 MB	540 MB	635 MB	850 MB	1080 MB	1275 MB	1620 MB
PHYSICAL CONFIGURATION							
Actuator Type	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil	Rotary voice coil
Number of Disks	1	1	2	2	2	3	3
Data Surfaces	2	2	3	4	4	6	6
Data Heads	2	2	3	4	4	6	6
Servo	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density	3845 TPI	4100 TPI	3849 TPI	3849 TPI	4100 TPI	3849 TPI	4100 TPI
Total Cylinders	3687	3924	3640	3640	3924	3640	3924
Bytes per Sector	512	512	512	512	512	512	512
Sectors per Zone (Physical)	78-144	90-170	78-144	77-143	90-170	77-143	90-170
PERFORMANCE							
Seek Times (Typical)*							
Track to Track	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec	3 msec
Average (Read/Write)	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**	14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec	8.3 msec
Rotation Speed (± .1%)	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM	3600 RPM
Controller Overhead	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec	<1.0 msec
Data Transfer Rate	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec	Up to 16.6 MB/sec
Start Time - Power Up							
Typical	6.0 sec	6.0 sec	8.5 sec	8.5 sec	6.0 sec	8.5 sec	6.0 sec
Maximum	10 sec***	10 sec***	20 sec***	20 sec***	10 sec***	20 sec***	10 sec***
Stop Time - Power Down							
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec	20 sec
Interleave	1:1	1:1	1:1	1:1	1:1	1:1	1:1
Buffer Size	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
READ/WRITE							
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	77 K BPI	93 K BPI	77 K BPI	77 K BPI	93 K BPI	77 K BPI	94 K BPI
Flux Density - ID (flux reversals per inch)	58 K FCI	70 K FCI	58 K FCI	58 K FCI	70 K FCI	58 K FCI	70 K FCI
PHYSICAL DIMENSIONS							
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.1 lbs (.50 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.25 lbs (.57 kgs)	1.3 lbs (.59 kgs)	1.3 lbs (.59 kgs)
POWER REQUIREMENTS – (TYPICAL)							
+5 VDC ±5%							
Read/Write Mode	400 mA	400 mA	400 mA	400 mA	430 mA	400 mA	430 mA
Seek Mode	200 mA	200 mA	240 mA	240 mA	430 mA	240 mA	430 mA
Idle Mode	200 mA	200 mA	210 mA	210 mA	370 mA	210 mA	370 mA
Spin-up Mode	400 mA	400 mA	300 mA	300 mA	500 mA	300 mA	500 mA
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
+12 VDC ±5%							
Read/Write Mode	150 mA	150 mA	150 mA	150 mA	170 mA	150 mA	170 mA
Seek Mode	240 mA	200 mA	150 mA	150 mA	270 mA	150 mA	270 mA
Idle Mode	125 mA	125 mA	125 mA	125 mA	170 mA	125 mA	170 mA
Spin-up Mode	1000 mA	850 mA	1100 mA	1100 mA	1200 mA	1100 mA	1200 mA
Power							
Read/Write Mode	4.0 W	3.8 W	4.0 W	4.0 W	4.2 W	4.0 W	4.2 W
Seek Mode	4.5 W	3.9 W	3.5 W	3.5 W	5.6 W	3.5 W	5.6 W
Idle Mode	3.0 W	2.5 W	3.5 W	3.5 W	3.9 W	3.5 W	3.9 W
Sleep Mode	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W	<1.0 W
Fax Information Service File Number	5223	5229	5230	5226	5231	5228	5232

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 40,000 feet

RELIABILITY AND MAINTENANCE	
MTBF	Up to 300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	< 1 non-recoverable error in 10^{14} bits

SHOCK AND VIBRATION	
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-10 Hz	.10" (double amplitude)
10-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-32 Hz	.10" (double amplitude)
32-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE	CFS425, CFS541
Audible Noise	34 dBA at 1 meter, any direction, idle
	CFS635, CFS850, CFS1081, CFS1275, CFS1621
Audible Noise	38 dBA at 1 meter, any direction, idle
WARRANTY	3 years

NOTE: Specifications subject to change.

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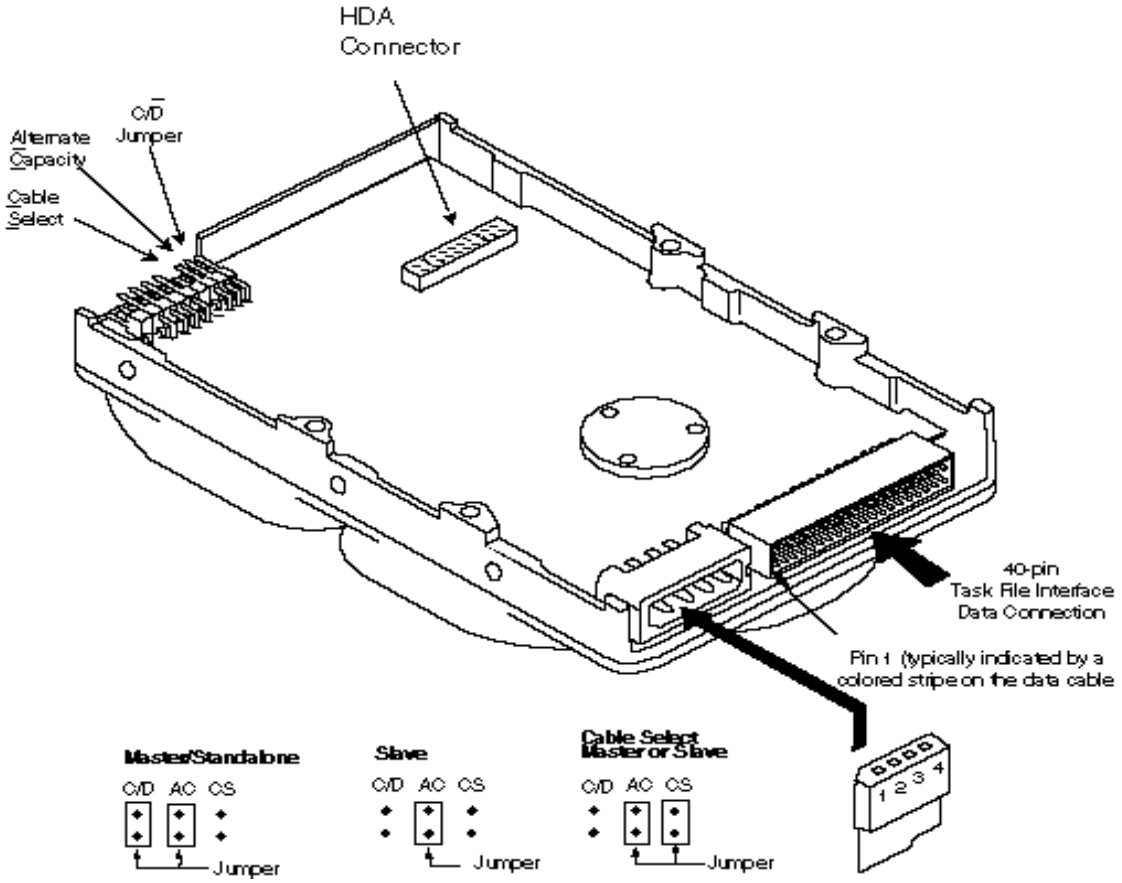
Taipei 886/2-718-9193 • Tokyo 81/3-3485-8901
Latin America – Miami (305) 789-6685

DS-511-CABO2 8/95

CFA2161A
Customer Options

The C/D jumper is used to determine whether the drive is a master (drive C) or a slave (drive D). The drive is configured as a master, when jumpered, and a slave when not jumpered. The cable select (CS) jumper is used in systems implementing cable select, in which master or slave is determined by the connector attached to the task file interface.



	J6
1	+12 V
2	Ground
3	Ground
4	+5V

Drive:	No of ylinders:	No. of Heads	No. of Sectors	Capacity MBytes
CFA2161A[1]	4095	16	63	2110
CFA2161A[2]	4160	16	63	2140
CFA2161A[3]	4197	16	63	2160

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion
Bottom: 6-32 UNC-2B .22 Max. Insetion

1. Default configuration. Some Bios are not able to handle cylinders counts greater than 4095.
2. Removing the AC jumper permits the maximum capacity that can be handled by DOS (Win 95) in a single partition.
3. The native capacity of the drive in Cylinder-Head-Sector format. A Software Utility is required to enable this configuration. DOS and most versions of UNIX must be set up as two logical partitions.

SECTION TWO

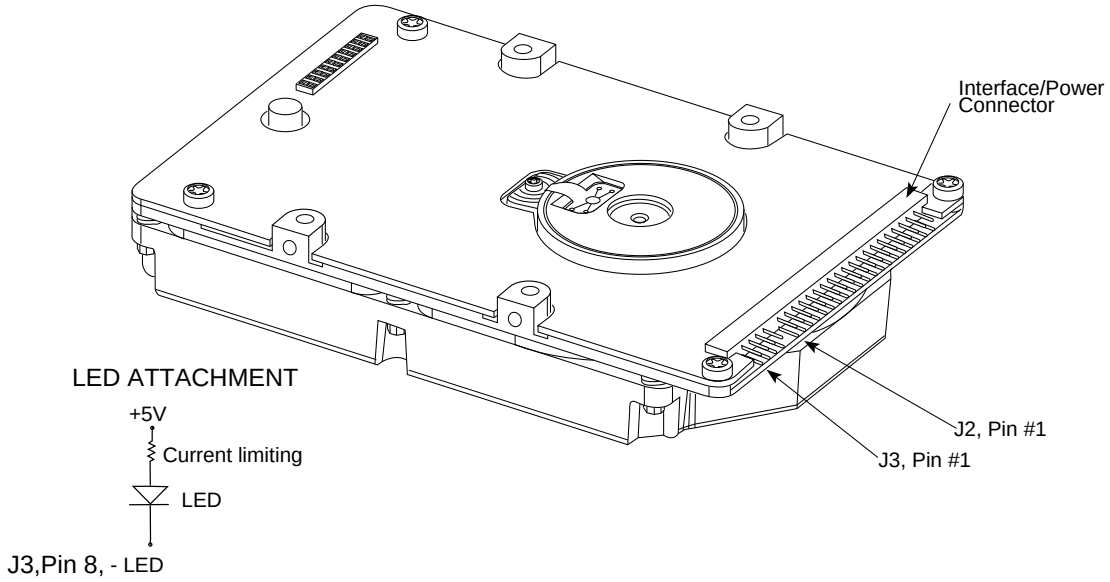
SCSI DRIVES

PART ONE SCSI 2.5”

CFN170S
Customer Options

The following table defines the settings:

J3, Pin	5	6	7
SCSI ID	**E1**	**E2**	**E3**
0	high	high	high
1	low	high	high
2	high	low	high
3	low	low	high
4	high	high	low
5	low	high	low
6	high	low	low
7	low	low	low



Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

CFN 170 SPECIFICATION SUMMARY

170 MB

	MODEL CFN 170A	MODEL CFN 170S
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	168.2 MB	168.2 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Tracks per Surface	1339	1339
Track Density	2611 TPI	2611 TPI
Track Capacity (Formatted)	24,064 – 40,448 bytes	24,064 – 40,448 bytes
Bytes per Block	512	512
Blocks per Drive	329,084	329,084
Sectors per Track (Physical)	47 – 72	47 – 72
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	2.6 msec	2.6 msec
Average (Read/Write)	12 msec**	12 msec**
Maximum	20 msec	20 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (±.1%)	4500 RPM	4500 RPM
Controller Overhead	500 µsec	500 µmsec
Data Transfer Rate		
To/from Media	18 – 28 Mb/sec	18 – 28 Mb/sec
Data Transfer Rate		
To/from Buffer	8.0 MB/sec	6.0 MB/sec
Start Time - Power Up (0 – 4500 RPM)		
Typical	5 sec	5 sec
Maximum	20 sec	20 sec
Stop Time - Power Down		
Typical	4 sec	4 sec
Maximum	5 sec	5 sec
Start/Stop Cycles	50,000 min	50,000 min
Interleave	1:1	1:1
Buffer Size	32 KB	32 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	58,230 BPI	
Flux Density - ID (flux reversals per inch)	43,684 FCI	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

POWER REQUIREMENTS – (TYPICAL)

	+5 VDC ± 5%	POWER
R/W Mode	275 ma	1.4 W
Seek Mode	210 ma	1.1 W
Idle Mode	200 ma	1.0 W
Standby Mode	40 ma	0.20 W
Sleep Mode	40 ma	0.20 W
Spin-up Mode	1.0 amp	

PHYSICAL CHARACTERISTICS

Physical Dimensions (±.01 except height)	**Height**	0.770" (19.5 mm)(maximum)
	Length	4.00" (101.6 mm)
	Width	2.75" (69.8 mm)
	Weight	6.0 oz (.17 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	5% to 90% non-condensing
Non-operating	5% to 90% non-condensing
Maximum Wet Bulb	28.9°C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 15,000 feet

RELIABILITY AND MAINTENANCE

MTBF	150,000 hours
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse (without non-recoverable errors)
Operating Shock	10 Gs @ 11 msec/20 Gs @ 2 msec
Non-operating Shock	200 Gs @ 11 msec/300 Gs @ 2 msec
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-400 Hz	1.0 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	34 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

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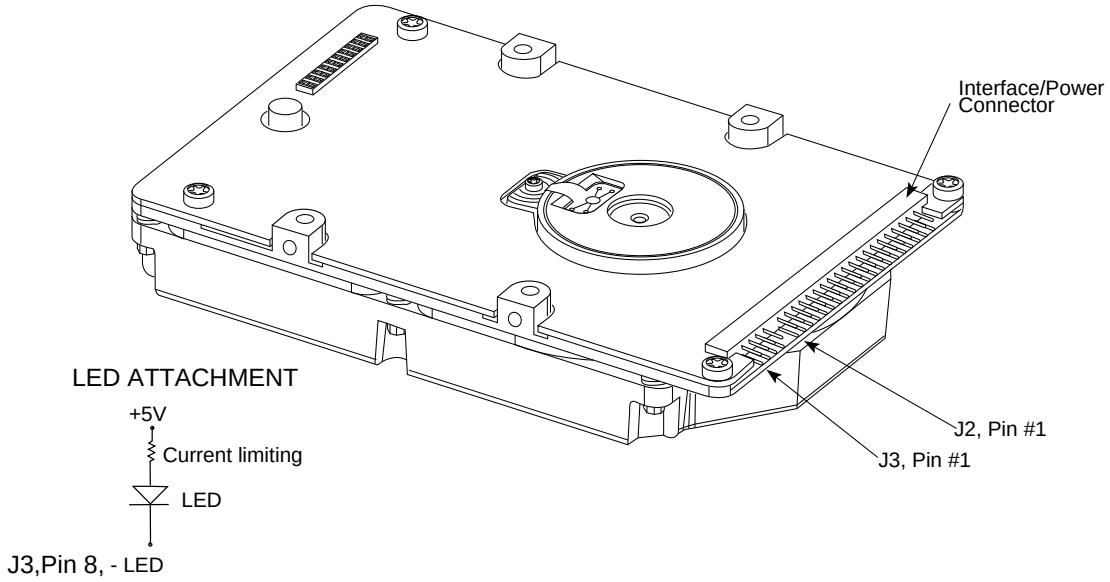
CFN250S
Customer Options

The following table defines the settings:

J3, Pin	5	6	7
SCSI ID	**E1**	**E2**	**E3**
0	high	high	high
1	low	high	high
2	high	low	high
3	low	low	high
4	high	high	low
5	low	high	low
6	high	low	low
7	low	low	low



Mounting Holes
Side: 3mmx0.5mm THD4x) 4mm Max. Insertion Bottom: 3mmx0.5 THD (4x) 4mm Max. Insertion

CFN 250 SPECIFICATION SUMMARY

250 MB

	MODEL CFN 250A	MODEL CFN 250S
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	252.7 MB	252.7 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	3	3
Data Surfaces	6	6
Data Heads	6	6
Servo	Embedded	Embedded
Tracks per Surface	1339	1339
Track Density	2611 TPI	2611 TPI
Track Capacity (Formatted)	24,064 – 40,448 bytes	24,064 – 40,448 bytes
Bytes per Block	512	512
Blocks per Drive	493,626	493,626
Sectors per Track (Physical)	47–72	47–72
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	2.6 msec	2.6 msec
Average (Read/Write)	12 msec**	12 msec**
Maximum	20 msec	20 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Controller Overhead	500 µsec	500 µsec
Data Transfer Rate		
To/from Media	18 – 28 Mb/sec	18 – 28 Mb/sec
Data Transfer Rate		
To/from Buffer	8.0 MB/sec	6.0 MB/sec
Start Time - Power Up (0-4500 RPM)		
Typical	5 sec	5 sec
Maximum	20 sec	20 sec
Stop Time - Power Down		
Typical	4 sec	4 sec
Maximum	5 sec	5 sec
Start/Stop Cycles	50,000 min	50,000 min
Interleave	1:1	1:1
Buffer Size	32 KB	32 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	58,230 BPI	
Flux Density - ID (flux reversals per inch)	43,684 FCI	

* Physical seek times at nominal DC input voltages.

** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

POWER REQUIREMENTS – (TYPICAL)

	+5 VDC ± 5%	POWER
R/W Mode	275 ma	1.4 W
Seek Mode	210 ma	1.1 W
Idle Mode	200 ma	1.0 W
Standby Mode	40 ma	0.20 W
Sleep Mode	40 ma	0.20 W
Spin-up Mode	1.0 amp	

PHYSICAL CHARACTERISTICS

Physical Dimensions (±.01 except height)	**Height**	0.770" (19.5 mm)(maximum)
	Length	4.00" (101.6 mm)
	Width	2.75" (69.8 mm)
	Weight	7.0 oz (.20 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	5% to 90% non-condensing
Non-operating	5% to 90% non-condensing
Maximum Wet Bulb	28.9°C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	–200 to 15,000 feet

RELIABILITY AND MAINTENANCE

MTBF	150,000 hours
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse (without non-recoverable errors)
Operating Shock	10 Gs @ 11 msec/20 Gs @ 2 msec
Non-operating Shock	200 Gs @ 11 msec/300 Gs @ 2 msec
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-400 Hz	1.0 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-400 Hz	5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	34 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

CONNER

The Storage Answer

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DS-511-015 10/93

SCSI DRIVES

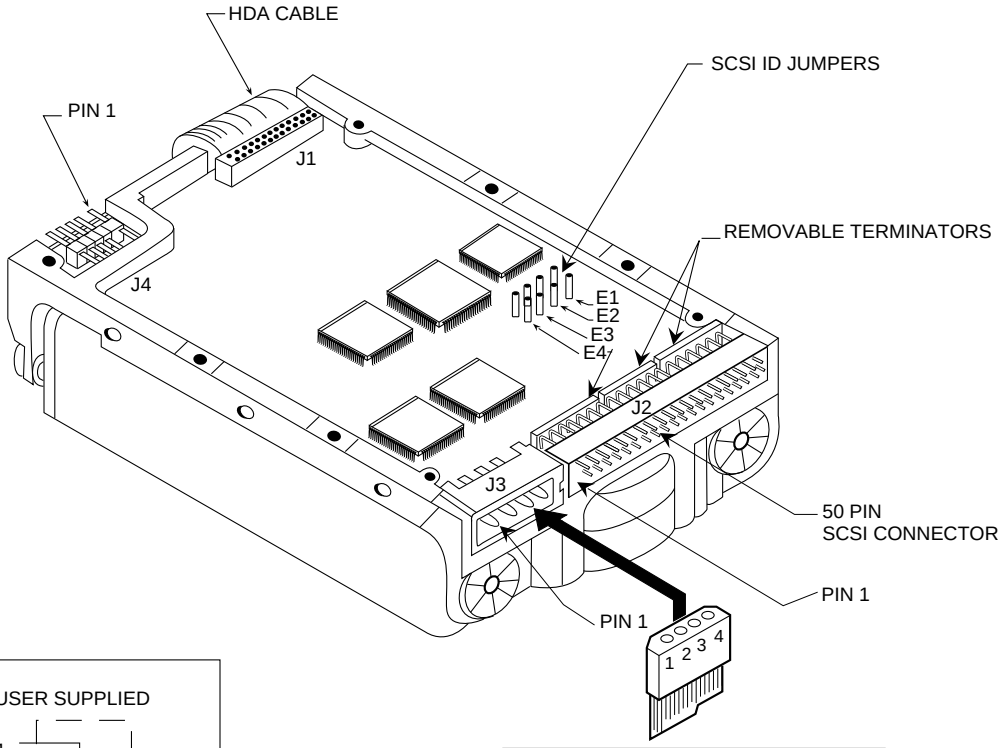
PART TWO SCSI 3.5” Half-Height

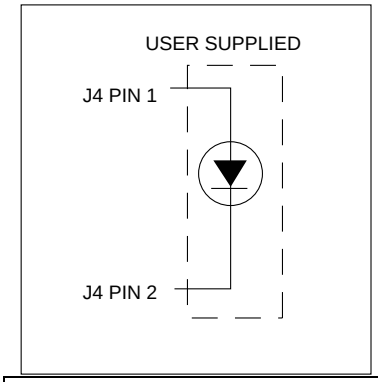
CP340
Customer Options

There are four jumpers available for configuration; three of the jumpers, E2, E3, and E4 are used to select the drive's SCSI ID, while E1 (installed) disables parity. The following table defines the settings for these jumpers.

E2	E3	E4	Device
OUT	OUT	OUT	0
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

J4 FACTORY TEST PORT	
SIGNAL	PIN NO.
+ 5V	1
LED/SYNC	2
UNUSED	3-14





J3 POWER PIN ASSIGNMENTS	
SIGNAL	PIN NO.
+ 12V	1
GND	2
GND	3
+5V	4

Mounting Holes

Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .25 Max. Insertion

CP-340 SERIES SPECIFICATION SUMMARY

	MODEL CP-344	MODEL CP-340
Embedded Controller	PC/AT	SCSI
Capacity (Formatted)	42.9 MB	42.0 MB

PHYSICAL CONFIGURATION

Actuator Type	Voice coil	Voice coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Tracks per Surface	805	788
Track Density	1000 TPI	1000 TPI
Track Capacity (Formatted)	13,312 bytes	13,312 bytes
Bytes per Block	512	512
Blocks per Drive	83,720	81,952
Sectors per Track	27 physical 26 accessible	27 physical 26 accessible

PERFORMANCE

Seek Times*		
Track to Track	10 msec	10 msec
Average	29 msec**	29 msec**
Maximum	50 msec	50 msec
Average Latency	8.33 msec	8.33 msec
Rotation Speed (±.1%)	3600 RPM	3600 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate To/From Media	1.0 MB/sec	1.0 MB/sec
Data Transfer Rate To/From Buffer	4.0 MB/sec	1.0 MB/sec
Start Time – Power Up (0-3600 RPM)		
Typical	7 sec	7 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	7 sec	7 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	10,000 min	10,000 min
Interleave	1-to-1	1-to-1
Buffer Size	8 K	1 K

* At nominal D.C. input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these orderedpairs.

READ/WRITE

	PC/AT	SCSI
Interface		
Recording Method	2,7 RLL code	2,7 RLL code
Recording Density – ID (bits per inch)	21,379	21,379
Flux Density – ID (flux reversals per inch)	14,253	14,253

MODEL CP-344 POWER REQUIREMENTS
(PC/AT interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	250 ma	250 ma	4.25 W
Seek Mode	240 ma	150 ma	3.6 W
Idle Mode	150 ma	140 ma	2.5 W
Standby Mode	1 ma	97 ma	0.5 W
Sleep Mode	1 ma	77 ma	0.4 W
Spin-up Mode	1 amp max	140 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.50" (38.1 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.5 lbs. (.67 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	-40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	-200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	20,000 hours (POH)
MTTR	5 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	5 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.15 G's peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface.

ACOUSTIC NOISE

40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

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Singapore 65/2845366, Tokyo 81/3-597-8321, Taipei 886/2775-4352

CP-2001 11/89

CP3100

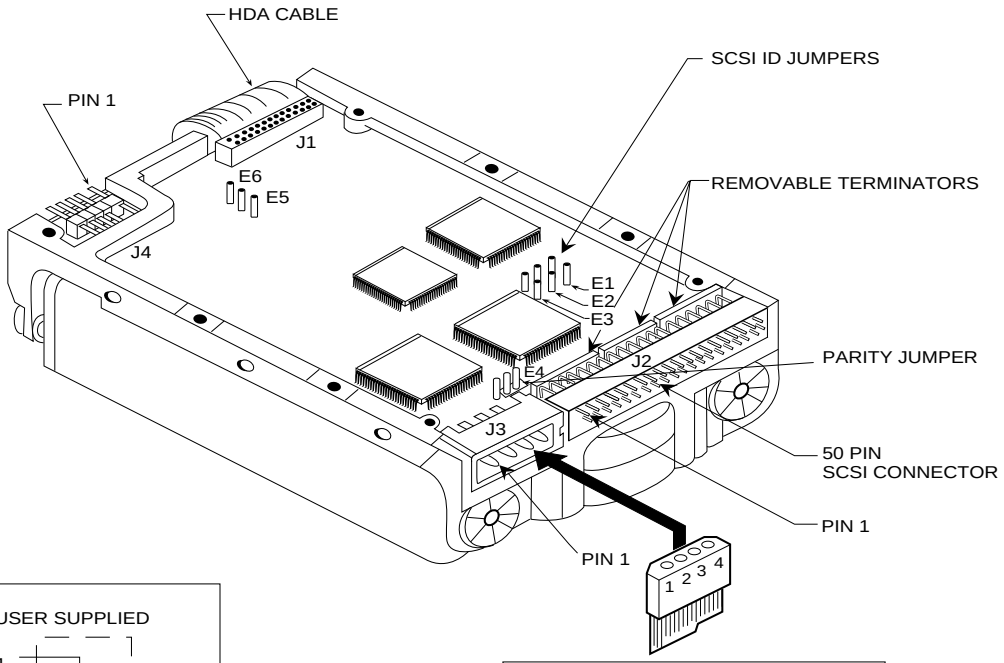
Customer Options

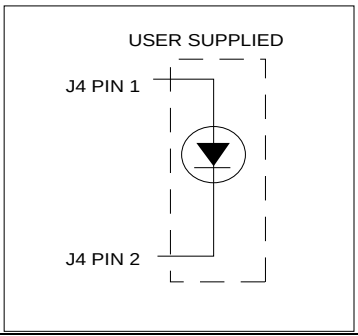
There are six jumpers available for connfiguration. Three of these jumpers, E1, E2, and E3 are used to select the drive's SCSI ID, while E4 (installed) disables parity. Jumpers E5 and E6 are used to enable either the spindle synchronization signal, or LED, respectively.
The following table defines the settings for jumpers E1, E2, and E3

E1	E2	E3	SCSI ID
OUT	OUT	OUT	0
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

J4 FACTORY TEST PORT

SIGNAL	PIN NO.
+ 5V	1
LED/SYNC	2
UNUSED	3-14





J3 POWER PIN ASSIGNMENTS

SIGNAL	PIN NO.
+ 12V	1
GND	2
GND	3
+5V	4

Mounting Holes

Side: 6-32 UNC-2B .12 Max. Insertion
Bottom: 6-32 UNC-2B .25 Max. Insertion

CP-3100 SERIES SPECIFICATION SUMMARY

	MODEL CP-3104	MODEL CP-3100
Embedded Controller	PC/AT	SCSI
Capacity (Formatted)	104.9 MB	104.9 MB
PHYSICAL CONFIGURATION		
Actuator Type	Voice coil	Voice coil
Number of Disks	4	4
Data Surfaces	8	8
Data Heads	8	8
Servo	Embedded	Embedded
Tracks per Surface	776	776
Track Density	1150 TPI	1150 TPI
Track Capacity (Formatted)	16,896 bytes	16,896 bytes
Bytes per Block	512	512
Blocks per Drive	204,864	204,864
Sectors per Track	34 physical 33 accessible	34 physical 33 accessible
PERFORMANCE		
Seek Times*		
Track to Track	8 msec	8 msec
Average	25 msec**	25 msec**
Maximum	45 msec	45 msec
Average Latency	8.4 msec	8.4 msec
Rotation Speed (±.1%)	3575 RPM	3575 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate To/From Media	1.25 MB/sec	1.25 MB/sec
Data Transfer Rate To/From Buffer	3.75/4.75 MB/sec	1.66 MB/sec
Start Time – Power Up (0-3575 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	10,000 min	10,000 min
Interleave	1-to-1	1-to-1
Buffer size	32 K	16 K

* At nominal D.C. input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these orderedpairs.

READ/WRITE		
Interface	PC/AT	SCSI
Recording Method	2,7 RLL code	2,7 RLL code
Recording Density – ID	23,441 BPI	23,441 BPI
Flux Density – ID (flux reversals per inch)	15,627	15,627

MODEL CP-3104 POWER REQUIREMENTS
(PC/AT interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	350 ma	300 ma	5.7 W
Seek Mode	260 ma	180 ma	4.0 W
Idle Mode	175 ma	160 ma	2.9 W
Spin-up Mode	180 ma	180 ma max	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.625" (41.3 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	2.0 lbs. (.9 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	-40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	-200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	30,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	50 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	10 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.25 G's peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface.

ACOUSTIC NOISE

40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

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CP-2004 11/89

CP3200F

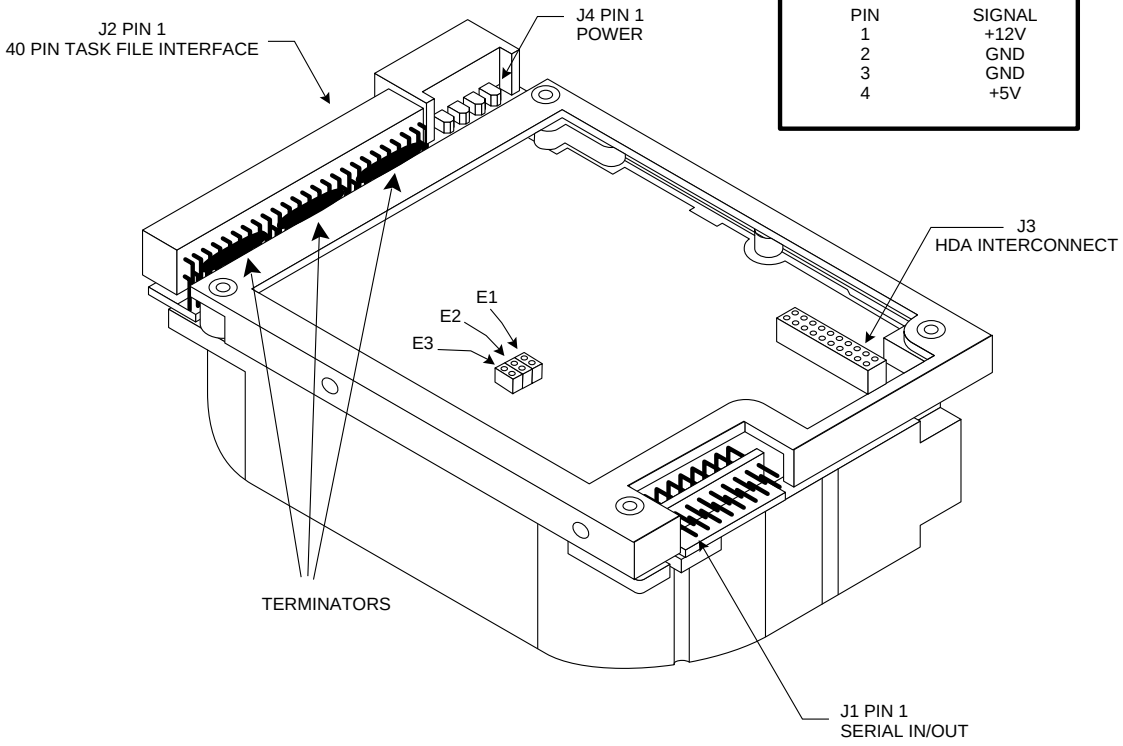
Customer Options

There are three jumpers availabel for configuration; E1,E2, and E3 are used to select the drive SCSI ID. The following table defines the settings. Note: SCSI parity is always enabled

The following table defines the settings for jumpers E1, E2, and E3:

Jumper Options			
E1	**E2**	**E3**	**SCSI ID**
OUT	OUT	OUT	O
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

J4 POWER PIN ASSIGNMENTS	
PIN	SIGNAL
1	+12V
2	GND
3	GND
4	+5V



Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25Max. Insertion

CP-3200F Specification Summary

High Performance, 3.5-inch Disk Drives.
212 Mbytes Formatted Capacity.

KEY FEATURES

- Designed primarily for high-end desktop computers
- Sub-16 msec average seek time
- Low 4.2 watts typical power dissipation
- Half-height form factor
- PC/AT® or SCSI interface

	MODEL CP-3204F	MODEL CP-3200F
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	212.6 MB	212.6 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	4	4
Data Surfaces	8	8
Data Heads	8	8
Servo	Embedded	Embedded
Tracks per Surface	1366	1366
Track Density	1700 TPI	1700 TPI
Track Capacity (Formatted)	19,456 bytes	19,456 bytes
Bytes per Block	512	512
Blocks per Drive	415,264	415,264
Sectors per Track	38	38
PERFORMANCE		
Seek Times*		
Track to Track	5 msec	5 msec
Average	sub-16 msec**	sub-16 msec**
Maximum	35 msec	35 msec
Average Latency	8.61 msec	8.61 msec
Rotation Speed (± .1%)	3485 RPM	3485 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec	1.5 MB/sec
Data Transfer Rate To/from Buffer	4.5 MB/sec	5.0 MB/sec
Start Time – Power Up (0-3485 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	10,000 min	10,000 min
Interleave	1:1	1:1
Buffer size	64 K	64 K

* At nominal D.C. input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density – ID	31,800 BPI
Flux Density – ID (flux reversals per inch)	23,850

POWER REQUIREMENTS
(PC/AT interface typical)

	+12 VDC ± 5%	POWER
R/W Mode	400 ma	6.0 W
Seek Mode	400 ma	6.3 W
Idle Mode	250 ma	4.2 W
Spin-up Mode	2.0 amp max	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.625" (41.3 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	2.0 lbs. (.9 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	50 Gs
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 Gs (peak)
Operating Shock	5 Gs (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (0 – 700 KHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

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00511-030 4/92

CP3360 & CP3540

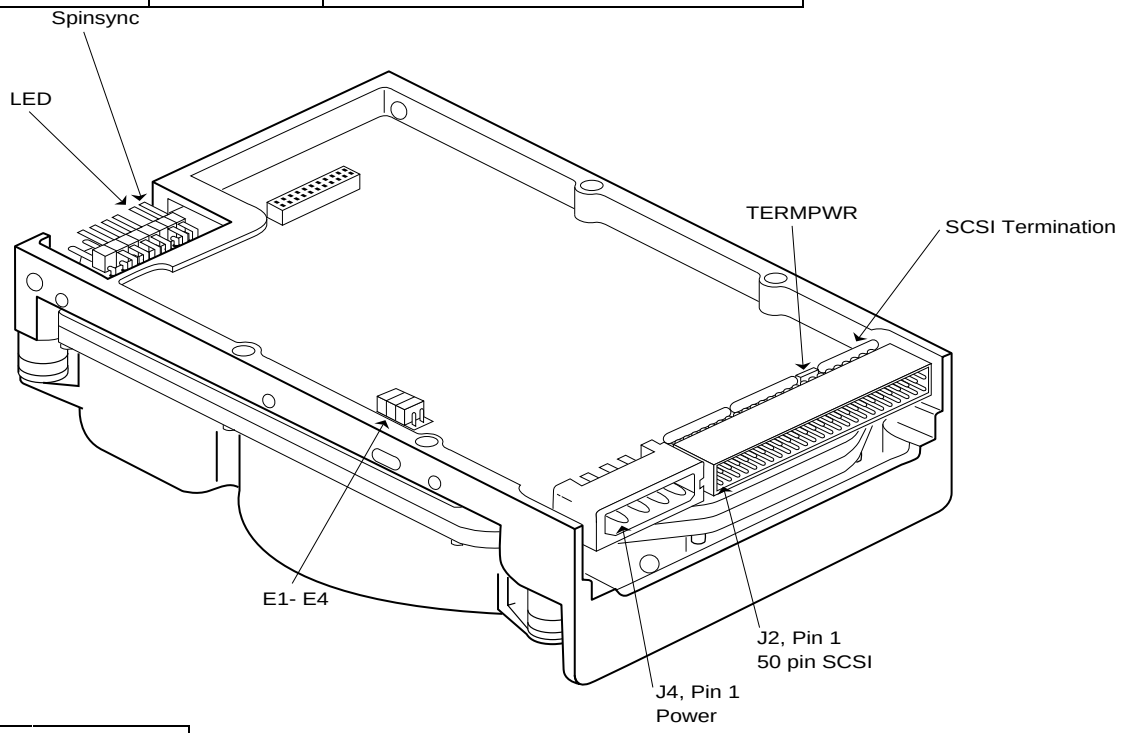
Customer Options

There are three jumpers available for configuration of SCSI ID: E1, E2, and E3. The following table defines the settings:

ID	Jumper
0	None
1	E1
2	E2
3	E1 & E2
4	E3
5	E1 & E3
6	E2 & E3

Delay Spin A jumper in the E4 location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by setting the DSPN bit in MODE SELECT page 0.

E4	DSPN	Result
In	0	Spin Disabled
In	1	Spin Disabled
Out	0	Spin up on Power On
Out	1	Spin Disabled



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion Bottom: 6-32 UNC-2B .25 Max. Insertion

SUMMIT Series

SCSI Drive Specification Summary

High Performance, High Capacity 3.5-inch Disk Drives.

KEY FEATURES

- Ideal for high-end desktop PCs, workstations and file servers
- Fast 12 msec average seek time
- 4500 RPM rotation speed, 6.7 msec average latency
- 256 K segmented cache buffer
- 2.5 Mbytes/sec sustained transfer rate
- High reliability: uses only 6.7 watts of power
- SCSI-2 interface

	MODEL CP-3360	MODEL CP-3540
Embedded Controller/Interface	SCSI-2	SCSI-2
Capacity (Formatted)	362.5 MB	543.7 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	4	6
Data Surfaces	8	12
Data Heads	8	12
Servo	Embedded	Embedded
Tracks per Surface	1806	1806
Track Density	2150 TPI	2150 TPI
Track Capacity (Formatted)	25,088 bytes	25,088 bytes
Bytes per Block	512	512
Blocks per Drive	707,952	1,061,928
Sectors per Track	49 user, 1 spare	49 user, 1 spare

PERFORMANCE

Seek Times*		
Track to Track	3 msec	3 msec
Average (random)	12 msec	12 msec
Maximum	30 msec	30 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Controller Overhead	<500 µsec	<500 µsec
Data Transfer Rate To/from Media	2.5 MB/sec	2.5 MB/sec
Data Transfer Rate To/from Buffer	5.0 MB/sec	5.0 MB/sec
Start Time – Power Up (0-4500 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/stop Cycles	10,000 min	10,000 min
Interleave	1:1	1:1
Buffer Size	256 K	256 K

* At nominal DC input voltages.

READ/WRITE

Recording Method	2,7 RLL code
Recording Density – ID	44,325 BPI
Flux Density – ID (flux reversals per inch)	29,550

POWER REQUIREMENTS

(typical)

	POWER
R/W Mode	7.5 W
Seek Mode	10.0 W
Idle Mode	6.7 W

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.625" (41.3 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	2.2 lbs. (1.00 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	50 Gs
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 Gs (peak)
Operating Shock	5 Gs (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 Gs (peak) (without non-recoverable errors)

ACOUSTIC NOISE

Acoustic Sound Pressure (idle)	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

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00511-041 4/92

CFP4207S
Customer options

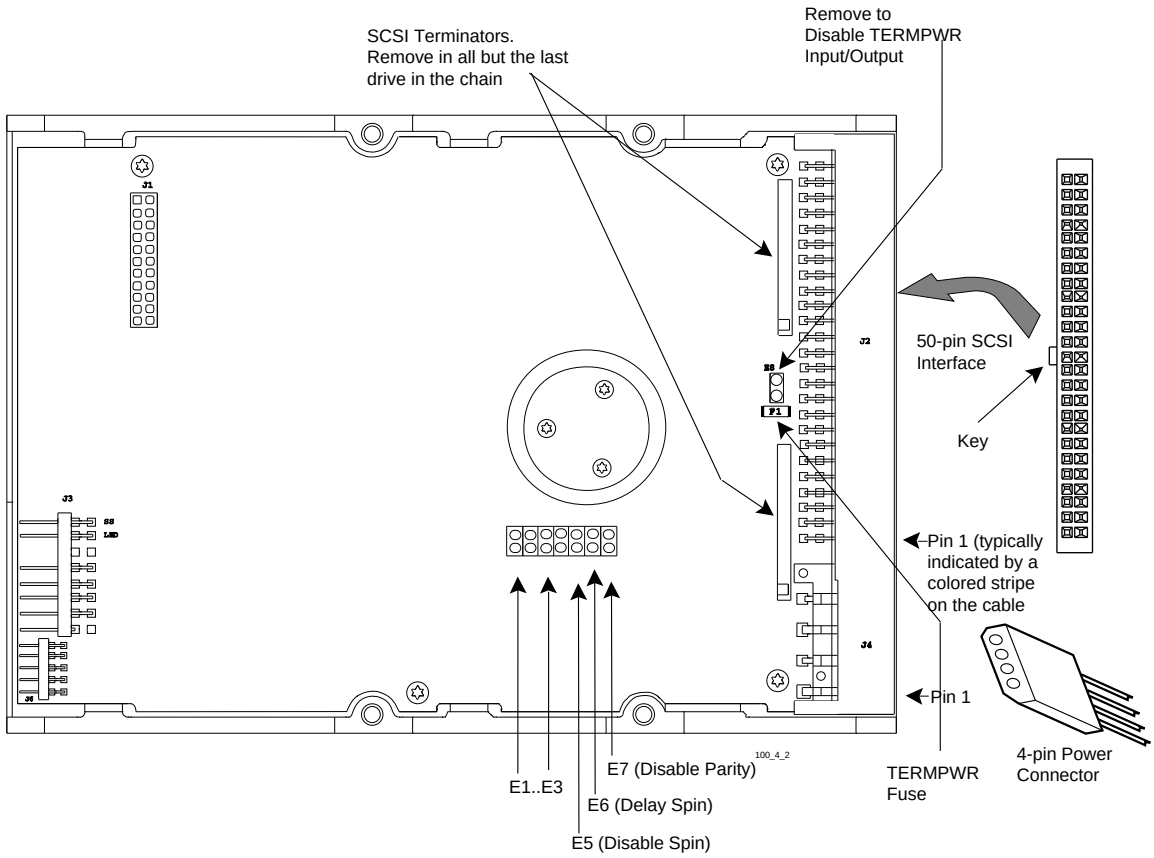
SCSI Bus Address

There are three jumpers available for configuration of SCSI ID: E1, E2, and E3. The following table defines the settings:

SCSI Bus Addresses*			
E1/OE1	**E2/OE2**	**E3/OE3**	**SCSI ID**
OUT	OUT	OUT	O
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

*****Use either but not both : E1 to E3 or 0E1 to 0E3. The 0E header is not installed on drive configurations with a LED on the PCBA.

Disable Spin: A jumper in the E5 location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 00H.



E4: Reserved

	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25Max. Insertion

CONNER FILEPRO PERFORMANCE FAMILY (CAYMAN/ANTIGUA SERIES)
SPECIFICATION SUMMARY

MODEL	CFP1080S CFP1080E	CFP2105S CFP2105W CFP2105E	CFP2107S CFP2107W CFP2107E	CFP4207S CFP4207W CFP4207E
Embedded Controller/Interface	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2
Capacity (Formatted)	1080 MB	2147 MB	2147 MB	4294 MB
PHYSICAL CONFIGURATION				
Number of Disks	3	5	5	10
Data Surfaces	6	10	10	20
Data Heads	6	10	10	20
Servo	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	15	15	15
Track Density	3849 TPI	4030 TPI	4090 TPI	4090 TPI
Total Cylinders	3658	3948	4016	4016
Bytes per Sector	256/512	512	512	512
Sectors per Zone (Physical)	66-120	67-139	69-124	69-124
PERFORMANCE				
Seek Times (Typical)*				
Track to Track	3 msec	2 msec	2 msec	2 msec
Average (Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**
Maximum	26 msec	18 msec	18 msec	18 msec
Average Latency	5.56 msec	5.55 msec	4.17 msec	4.17 msec
Rotation Speed (±.1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM
Data Transfer Rate				
To/from media	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec
To/from buffer	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec
Start Time - Power Up				
Typical	8.5 sec	15 sec	15 sec	15 sec
Maximum	20 sec***	20 sec***	20 sec***	20 sec***
Stop Time - Power Down				
Typical	15 sec	12 sec	10 sec	10 sec
Maximum	20 sec	15 sec	15 sec	15 sec
Buffer Size	256/512 KB	512 KB	512 KB	512 KB
READ/WRITE				
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	64 K BPI	74 K BPI	78 K BPI	78 K BPI
PHYSICAL DIMENSIONS				
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.62" (41.2 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)
POWER REQUIREMENTS – (TYPICAL)				
+5 VDC ±5% Idle Mode	275 mA	420 mA	450 mA	680 mA
+5 VDC ±5% Spin-up Mode	500 mA	700 mA	750 mA	880 mA
+12 VDC ±5% Idle Mode	200 mA	300 mA	550 mA	780 mA
+12 VDC ±5% Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp
Power Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W
Power Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W
Power Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W
MODELS/CONNECTORS/INTERFACES				
CFP1080S/2105S/2107S/4207S	= 50-pin single-ended FAST SCSI-2			
CFP2105W/2107W/4207W	= 68-pin single-ended FAST/FAST-WIDE SCSI-2			
CFP1080E/2105E/2107E/4207E	= 80-pin connector attachment (FAST-WIDE SCSI-2)			
CFP2107WD/4207WD	= 68-pin differential (FAST/FAST-WIDE SCSI-2)			
Fax Information Service File Number	5512	5513	5516	5406

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet
RELIABILITY AND MAINTENANCE	
MTBF	Up to 1,000,000 hours
Preventive Maintenance	None
Component Design Life	7 years
Data Reliability	< 1 non-recoverable error in 10^{24} bits
SHOCK AND VIBRATION	**CFP1080, CFP2105, CFP2107**
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-32 Hz	0.01" (double amplitude)
33-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-28 Hz	0.10" (double amplitude)
29-400 Hz	4 Gs peak (without non-recoverable errors)
	CFP4207
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	50 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-32 Hz	0.01" (double amplitude)
33-375Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-28 Hz	0.10" (double amplitude)
29-375Hz	4 Gs peak (without non-recoverable errors)
ACOUSTIC NOISE	**CFP1080, CFP2105**
Acoustic Sound Power	< 4.3 Bels max in idle mode
	CFP2107, CFP4207
	< 4.6 Bels max in idle mode
WARRANTY	5 years

NOTE: Specifications subject to change

CONNER®
The Storage Answer

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DS-511-CAY 8/95

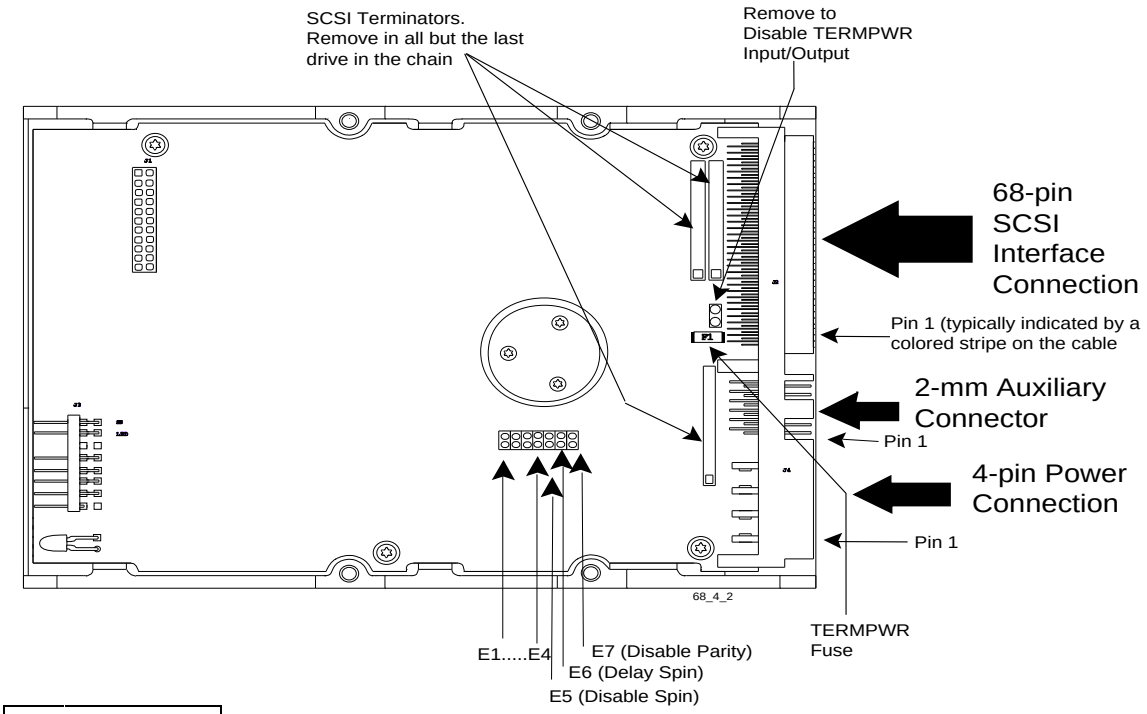
CFP4207W
Customer options

SCSI Bus Address

There are four jumpers available for configuration of SCSI ID: E1, E2, and E3, and E4. The following table defines the settings:

SCSI Bus Addresses*				
E1/Pin 1	**E2/Pin 3**	**E3/Pin 5**	**E4/pin 7**	**SCSI ID**
OUT/OPEN	OUT/OPEN	OUT/OPEN	OUT/OPEN	O
IN/GROUND	OUT/OPEN	OUT/OPEN	OUT/OPEN	1
OUT/OPEN	IN/GROUND	OUT/OPEN	OUT/OPEN	2
IN/GROUND	IN/GROUND	OUT/OPEN	OUT/OPEN	3
OUT/OPEN	OUT/OPEN	IN/GROUND	OUT/OPEN	4
IN/GROUND	OUT/OPEN	IN/GROUND	OUT/OPEN	5
OUT/OPEN	IN/GROUND	IN/GROUND	OUT/OPEN	6
IN/GROUND	IN/GROUND	IN/GROUND	OUT/OPEN	7
OUT/OPEN	OUT/OPEN	OUT/OPEN	IN/GROUND	8
IN/GROUND	OUT/OPEN	OUT/OPEN	IN/GROUND	9
OUT/OPEN	IN/GROUND	OUT/OPEN	IN/GROUND	10
IN/GROUND	IN/GROUND	OUT/OPEN	IN/GROUND	11
OUT/OPEN	OUT/OPEN	IN/GROUND	IN/GROUND	12
IN/GROUND	OUT/OPEN	IN/GROUND	IN/GROUND	13
OUT/OPEN	IN/GROUND	IN/GROUND	IN/GROUND	14
IN/GROUND	IN/GROUND	IN/GROUND	IN/GROUND	15

Disable Spin: A jumper in the E5 location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 00H.



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25Max. Insertion

CONNER FILEPRO PERFORMANCE FAMILY (CAYMAN/ANTIGUA SERIES)
SPECIFICATION SUMMARY

MODEL	CFP1080S CFP1080E	CFP2105S CFP2105W CFP2105E	CFP2107S CFP2107W CFP2107E	CFP4207S CFP4207W CFP4207E
Embedded Controller/Interface	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2
Capacity (Formatted)	1080 MB	2147 MB	2147 MB	4294 MB
PHYSICAL CONFIGURATION				
Number of Disks	3	5	5	10
Data Surfaces	6	10	10	20
Data Heads	6	10	10	20
Servo	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	15	15	15
Track Density	3849 TPI	4030 TPI	4090 TPI	4090 TPI
Total Cylinders	3658	3948	4016	4016
Bytes per Sector	256/512	512	512	512
Sectors per Zone (Physical)	66-120	67-139	69-124	69-124
PERFORMANCE				
Seek Times (Typical)*				
Track to Track	3 msec	2 msec	2 msec	2 msec
Average (Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**
Maximum	26 msec	18 msec	18 msec	18 msec
Average Latency	5.56 msec	5.55 msec	4.17 msec	4.17 msec
Rotation Speed (±.1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM
Data Transfer Rate				
To/from media	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec
To/from buffer	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec
Start Time - Power Up				
Typical	8.5 sec	15 sec	15 sec	15 sec
Maximum	20 sec***	20 sec***	20 sec***	20 sec***
Stop Time - Power Down				
Typical	15 sec	12 sec	10 sec	10 sec
Maximum	20 sec	15 sec	15 sec	15 sec
Buffer Size	256/512 KB	512 KB	512 KB	512 KB
READ/WRITE				
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	64 K BPI	74 K BPI	78 K BPI	78 K BPI
PHYSICAL DIMENSIONS				
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.62" (41.2 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)
POWER REQUIREMENTS – (TYPICAL)				
+5 VDC ±5% Idle Mode	275 mA	420 mA	450 mA	680 mA
+5 VDC ±5% Spin-up Mode	500 mA	700 mA	750 mA	880 mA
+12 VDC ±5% Idle Mode	200 mA	300 mA	550 mA	780 mA
+12 VDC ±5% Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp
Power Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W
Power Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W
Power Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W
MODELS/CONNECTORS/INTERFACES				
CFP1080S/2105S/2107S/4207S	= 50-pin single-ended FAST SCSI-2			
CFP2105W/2107W/4207W	= 68-pin single-ended FAST/FAST-WIDE SCSI-2			
CFP1080E/2105E/2107E/4207E	= 80-pin connector attachment (FAST-WIDE SCSI-2)			
CFP2107WD/4207WD	= 68-pin differential (FAST/FAST-WIDE SCSI-2)			
Fax Information Service File Number	5512	5513	5516	5406

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet
RELIABILITY AND MAINTENANCE	
MTBF	Up to 1,000,000 hours
Preventive Maintenance	None
Component Design Life	7 years
Data Reliability	< 1 non-recoverable error in 10^{24} bits
SHOCK AND VIBRATION	**CFP1080, CFP2105, CFP2107**
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-32 Hz	0.01" (double amplitude)
33-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-28 Hz	0.10" (double amplitude)
29-400 Hz	4 Gs peak (without non-recoverable errors)
	CFP4207
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	50 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-32 Hz	0.01" (double amplitude)
33-375Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-28 Hz	0.10" (double amplitude)
29-375Hz	4 Gs peak (without non-recoverable errors)
ACOUSTIC NOISE	**CFP1080, CFP2105**
Acoustic Sound Power	< 4.3 Bels max in idle mode
	CFP2107, CFP4207
	< 4.6 Bels max in idle mode
WARRANTY	5 years

NOTE: Specifications subject to change

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DS-511-CAY 8/95

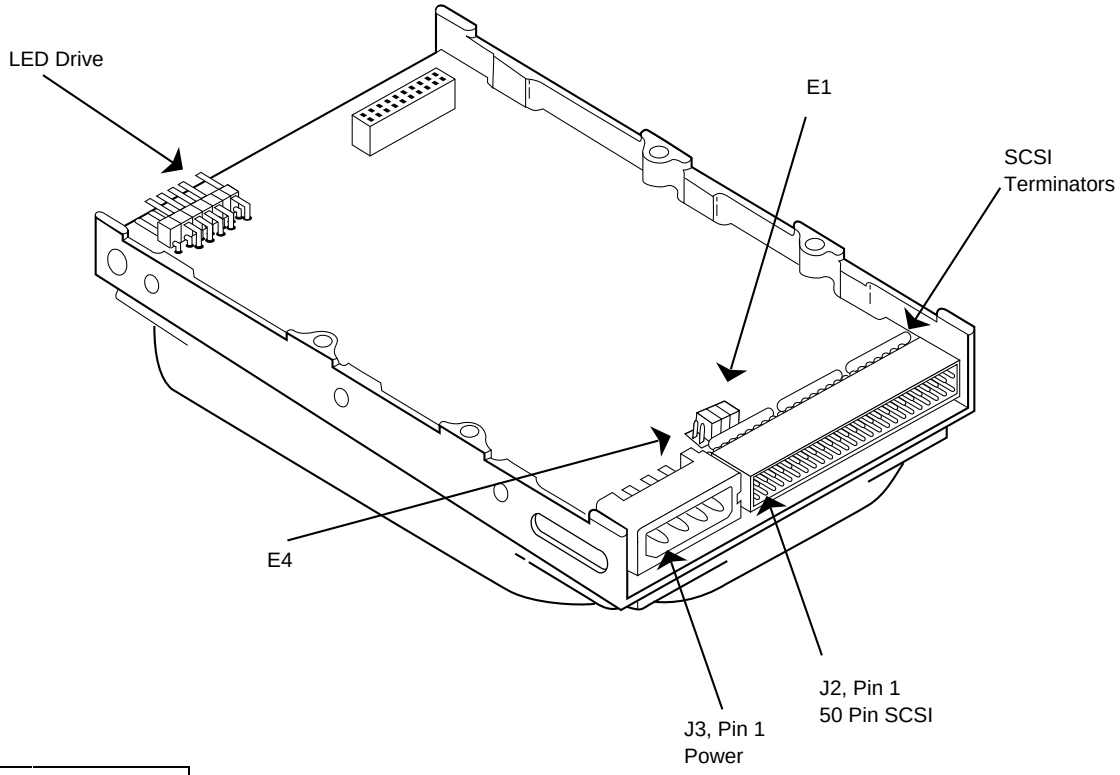
SCSI DRIVES

PART THREE SCSI 3.5” 1/3-Height

CP3040
Customer Options

There are four jumpers available for configuration. Three of these jumpers, E1, E2, and E3 are used to select the drive's SCSI ID, installing E4 disables parity.The following table defines the settings for jumpers E1, E2, and E3:

E1	E2	E3	SCSI ID
OUT	OUT	OUT	0
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion
Bottom: 6-32 UNC-2B .37 Max. Insertion

CP-3040 Specification Summary

Low-Profile, 3.5-inch Disk Drives.
40 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for laptop and desktop computers
- 25 msec average seek time
- Low 2 watt typical power dissipation
- Weighs only 1.1 pounds
- Patented one-inch high design
- PC/AT® or SCSI interface

	MODEL CP-3044	MODEL CP-3040
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	42 MB	42 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	1	1
Data Surfaces	2	2
Data Heads	2	2
Servo	Embedded	Embedded
Tracks per Surface	1047	1026
Track Density	1400 TPI	1400 TPI
Track Capacity (Formatted)	20,480 bytes	20,480 bytes
Bytes per Block	512	512
Blocks per Drive	83,760	82,080
Sectors per Track	40	40
PERFORMANCE		
Seek Times*		
Track to Track	8 msec	8 msec
Average	25 msec**	25 msec**
Maximum	50 msec	50 msec
Average Latency	8.4 msec	8.4 msec
Rotation Speed (± .1%)	3557 RPM	3557 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate To/From Media	1.5 MB/sec	1.5 MB/sec
Data Transfer Rate To/From Buffer	4.0 MB/sec	4.0 MB/sec
Start Time – Power Up (0-3557 RPM)		
Typical	5 sec	5 sec
Maximum	10 sec	10 sec
Stop Time – Power Down		
Typical	5 sec	5 sec
Maximum	10 sec	10 sec
Start/stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1
Buffer size	8 K	8 K

* At nominal D.C. input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	2,7 RLL code
Recording Density – ID	30,871 BPI
Flux Density – ID (flux reversals per inch)	20,581

POWER REQUIREMENTS

(PC/AT interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	230 ma	275 ma	4.2 W
Seek Mode	140 ma	180 ma	2.8 W
Idle Mode	120 ma	120 ma	2.0 W
Standby Mode	1 ma	90 ma	0.5 W
Sleep Mode	1 ma	77 ma	0.4 W
Spin-up Mode	700 ma	180 ma max	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.1 lbs. (.50 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	5 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 G's peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (0 – 700 Khz).

ACOUSTIC NOISE

Acoustic Noise	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

CONNER

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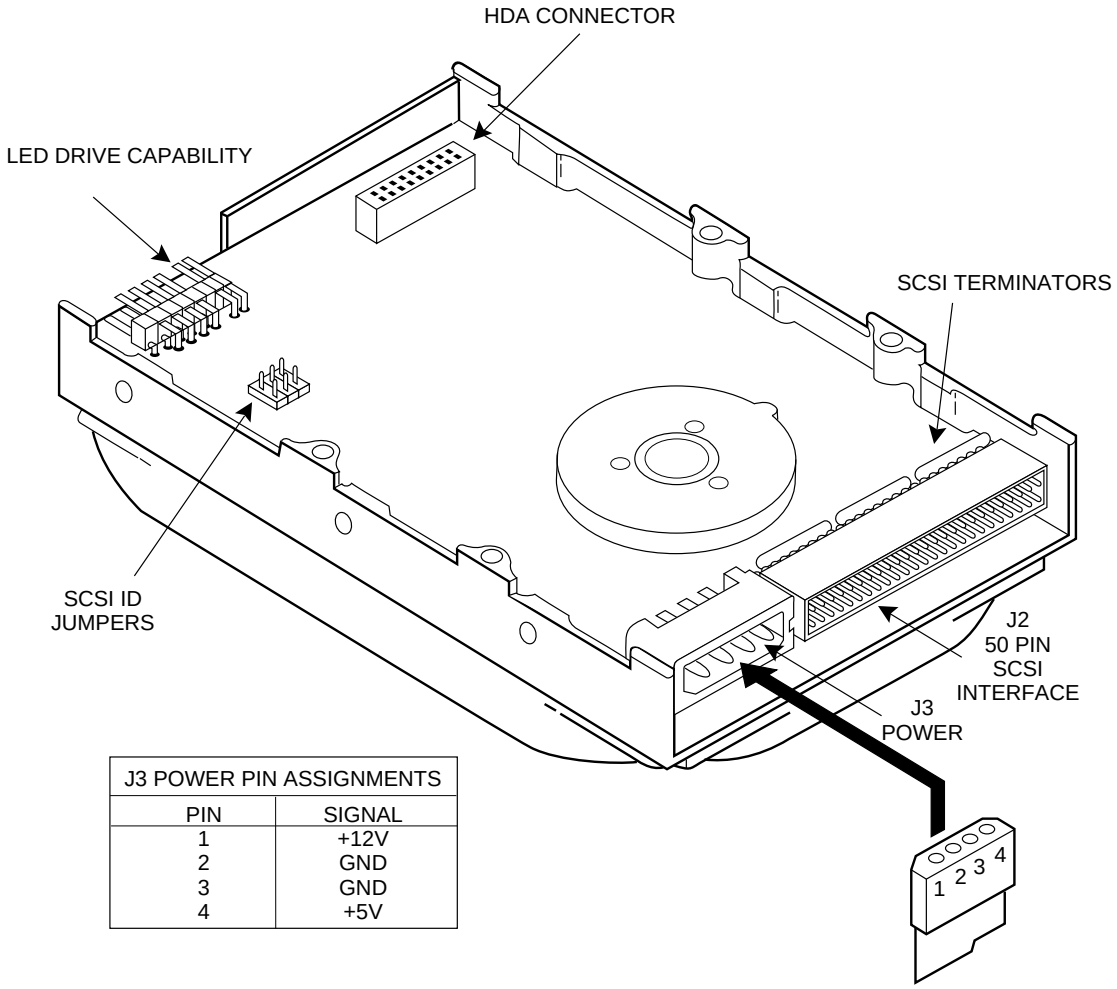
CP-4007 8/91

CP30060 SCSI

There are three jumpers available for configuration: E1, E2, and E3. These jumpers are used to select the drive's SCSI ID. The following table defines the settings:

SCSI ID	Jumper
0	None
1	E1
2	E2
3	E1 & E2
4	E3
5	E1 & E3
6	E2 & E3



J3 POWER PIN ASSIGNMENTS	
PIN	SIGNAL
1	+12V
2	GND
3	GND
4	+5V

Note: Parity is always Enabled

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion Bottom: 6-32 UNC-2B .25 Max. Insertion

HOPI Series

CP-30060 Specification Summary

Low-Profile, 3.5-inch Disk Drives.
60 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for laptop and desktop computers
- Sub-19 msec average seek time
- Uses only 2.8 watts of power
- Patented one-inch high design
- PC/AT/EISA®, MCA® or SCSI interface

	MODEL CP-30064	MODEL CP-30069	MODEL CP-30060
Embedded Controller/ Interface	PC/AT/EISA	MCA	SCSI
Capacity (Formatted)	60 MB	60 MB	60 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil	Rotary voice-coil	Rotary voice-coil
Number of Disks	1	1	1
Data Surfaces	2	2	2
Data Heads	2	2	2
Servo	Embedded	Embedded	Embedded
Tracks per Surface	1524	1524	1524
Track Density	1850 TPI	1850 TPI	1850 TPI
Track Capacity (Formatted)	19,968 bytes	19,968 bytes	19,968 bytes
Bytes per Block	512	512	512
Blocks per Drive	118,716	118,716	118,716
Sectors per Track	39	39	39

PERFORMANCE

Seek Times*			
Track to Track	8 msec	8 msec	8 msec
Average	sub-19 msec**	sub-19 msec**	sub-19msec**
Maximum	35 msec	35 msec	35 msec
Average Latency	8.8 msec	8.8 msec	8.8 msec
Rotation Speed (± .1%)	3399 RPM	3399 RPM	3399 RPM
Controller Overhead	1 msec	1 msec	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec	1.5 MB/sec	1.5 MB/sec
Data Transfer Rate To/from Buffer	4.0 MB/sec	4.0 MB/sec	4.0 MB/sec
Start Time – Power Up (0-3399 RPM)			
Typical	15 sec	15 sec	15 sec
Maximum	20 sec	20 sec	20 sec
Stop Time – Power Down			
Typical	15 sec	15 sec	15 sec
Maximum	20 sec	20 sec	20 sec
Start/stop Cycles	40,000 min	40,000 min	40,000 min
Interleave	1:1	1:1	1:1
Buffer Size	64 K	64 K	64 K

* At nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density – ID	33,184 BPI
Flux Density – ID (flux reversals per inch)	24,888

POWER REQUIREMENTS

(PC/AT/EISA interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	200 ma	280 ma	3.8 W
Seek Mode	260 ma	150 ma	3.9 W
Idle Mode	175 ma	150 ma	2.8 W
Spin-up Mode	1100 ma	380 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs. (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	5 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 G's (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 1.5 MHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

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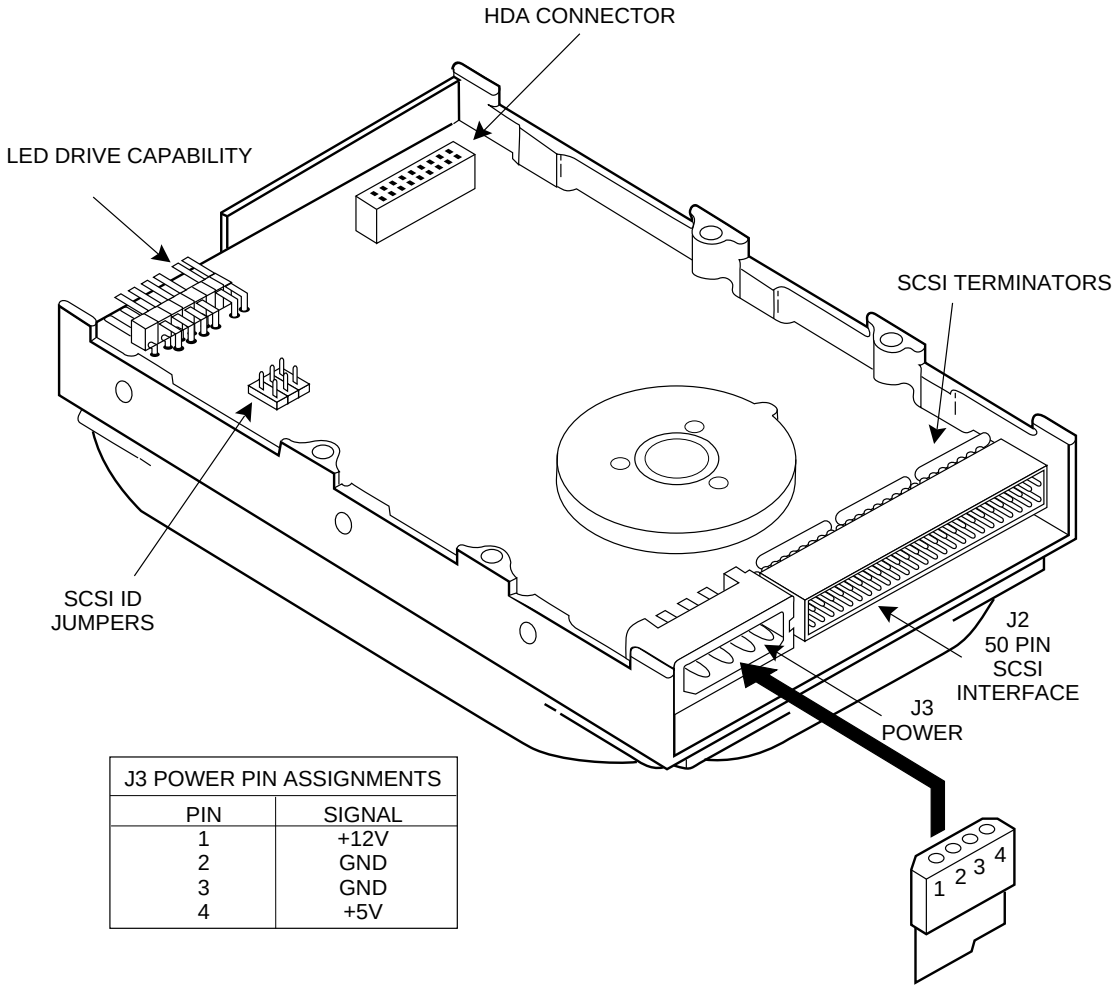
CP-4009 8/91

CP30080 SCSI

There are three jumpers available for configuration: E1, E2, and E3. These jumpers are used to select the drive's SCSI ID. The following table defines the settings:

SCSI ID	Jumper
0	None
1	E1
2	E2
3	E1 & E2
4	E3
5	E1 & E3
6	E2 & E3



J3 POWER PIN ASSIGNMENTS	
PIN	SIGNAL
1	+12V
2	GND
3	GND
4	+5V

Note: Parity is always Enabled

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion Bottom: 6-32 UNC-2B .25 Max. Insertion

HOPI Series

CP-30080 Specification Summary

Low-Profile, 3.5-inch Disk Drives.
84 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for desktop and high-end laptop computers
- Sub-19 msec average seek time
- Uses only 2.8 watts of power
- Patented one-inch high design
- PC/AT/EISA® or SCSI interface

	MODEL CP-30084	MODEL CP-30080
Embedded Controller/Interface	PC/AT/EISA	SCSI
Capacity (Formatted)	84.1 MB	84.1 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Tracks per Surface	1058	1058
Track Density	1400 TPI	1400 TPI
Track Capacity (Formatted)	19,968 bytes	19,968 bytes
Bytes per Block	512	512
Blocks per Drive	164,268	164,268
Sectors per Track	39	39
PERFORMANCE		
Seek Times*		
Track to Track	8 msec	8 msec
Average	sub-19 msec**	sub-19 msec**
Maximum	35 msec	35 msec
Average Latency	8.8 msec	8.8 msec
Rotation Speed (± .1%)	3400 RPM	3400 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate To/from Media	1.5 MB/sec	1.5 MB/sec
Data Transfer Rate To/from Buffer	4.0 MB/sec	4.0 MB/sec
Start Time – Power Up (0-3400 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/stop Cycles	40,000 min	40,000 min
Interleave	1:1	1:1
Buffer Size	64 K	64 K

* At nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density – ID	33,184 BPI
Flux Density – ID (flux reversals per inch)	24,888

POWER REQUIREMENTS

(PC/AT/EISA interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	200 ma	280 ma	3.8 W
Seek Mode	260 ma	150 ma	3.9 W
Idle Mode	175 ma	150 ma	2.8 W
Spin-up Mode	1100 ma	380 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs. (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	5 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 G's (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 1.5 MHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max. at 1 meter.

NOTE: Specifications subject to change

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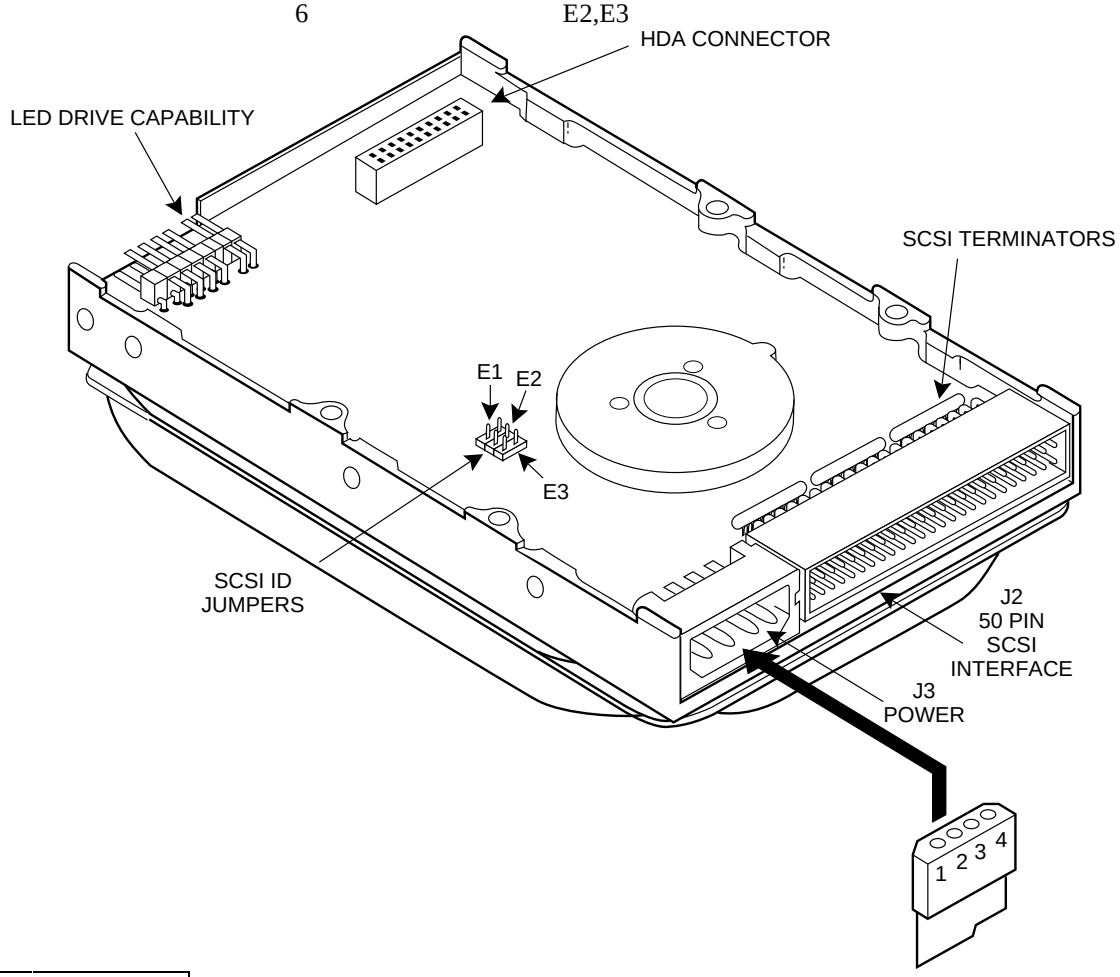
CP-4010 8/91

CP30080E

Customer options

E1, E2 and E3 are used to select the SCSI ID. The drive is shipped as ID 7, with all three jumpers installed. The following table describes the SCSI ID:

SCSI ID	Jumpers installed
0	None
1	E1
2	E2
3	E1,E2
4	E3
5	E1, E3
6	E2,E3



	J3
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion Bottom: 6-32 UNC-2B .25 Max. Insertion

CP-30080E SPECIFICATION SUMMARY

85MB

	MODEL CP-30084E	MODEL CP-30080E
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	85 MB	85 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	1	1
Data Surfaces	2	2
Data Heads	2	2
Servo	Embedded	Embedded
Tracks per Surface	1806	1806
Track Density	2150 TPI	2150 TPI
Track Capacity (Formatted)	23,552 bytes	23,552 bytes
Bytes per Block	512	512
Blocks per Drive	166,152	166,152
Sectors per Track	46	46
PERFORMANCE		
Seek Times*		
Track to Track	3 msec	3 msec
Average	17 msec**	17 msec**
Maximum	30 msec	30 msec
Average Latency	7.8 msec	7.8 msec
Rotation Speed (± .1%)	3833 RPM	3833 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate		
To/from Media	2.0 Mb/sec	2.0 Mb/sec
Data Transfer Rate		
To/from Buffer	6.0 MB/sec	5.0 MB/sec
Start Time - Power Up		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1
Buffer Size	32 K	32 K
[redacted]		
Recording Method	1,7 RLL code	
Recording Density – ID	42,173 BPI	
Flux Density – ID (flux reversals per inch)	31,630	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	140 ma	390 ma	3.75 W
Seek Mode	230 ma	200 ma	3.75 W
Idle Mode	120 ma	200 ma	2.50 W
Sleep Mode	10 ma	130 ma	.75 W
Standby Mode	10 ma	130 ma	.75 W
Spin-up Mode (for first 7 seconds)	1100 ma	420 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29°C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet
[redacted]	
MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read
[redacted]	
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-10 Hz	0.10" (double amplitude)
10-100 Hz	0.5 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-28 Hz	0.10" (double amplitude)
10-400 Hz	4 Gs (peak) (without non-recoverable errors)

[redacted]

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 700 KHz, 700 KHz to 1.5 MHz = 1 gauss max)

[redacted]

Acoustic Sound Pressure 42 dBA max at 1 meter

NOTE: Specifications subject to change.

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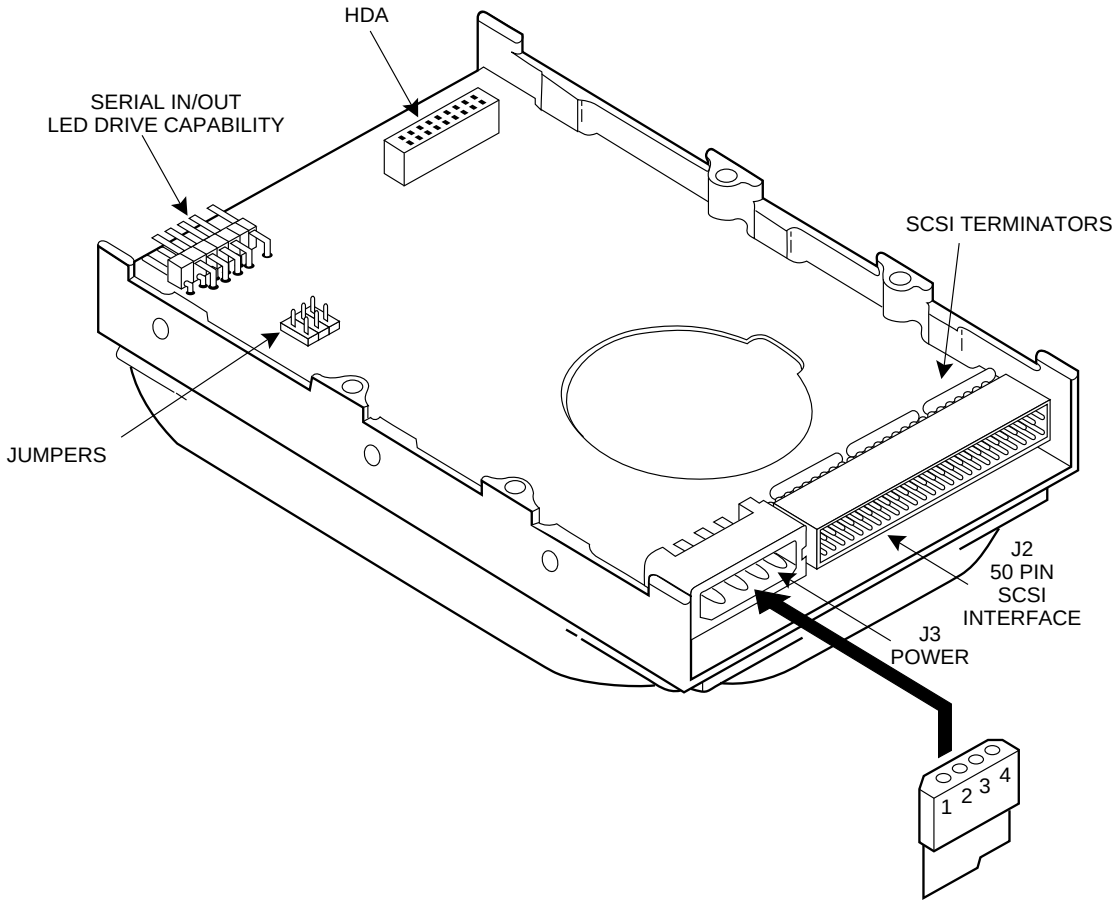
DS-511-026 7/93

CP30100 SCSI

There are three jumpers available for configuration: E1, E2, and E3. These jumpers are used to select the drive's SCSI ID. The following table defines the settings:

SCSI ID	Jumper
0	None
1	E1
2	E2
3	E1 & E2
4	E3
5	E1 & E3
6	E2 & E3



Note: Parity is always Enabled

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25 Max. Insertion

HOPI Series

CP-30100 Specification Summary

Low-Profile, 3.5-inch Disk Drives.
120 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for desktop and high-end laptop computers
- Sub-19 msec average seek time
- Uses only 2.8 watts of power
- Patented one-inch high design
- PC/AT/EISA®, MCA® or SCSI interface

	MODEL CP-30104	MODEL CP-30109	MODEL CP-30100
Embedded Controller/ Interface	PC/AT/EISA	MCA	SCSI
Capacity (Formatted)	120 MB	120 MB	120 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2	2
Data Surfaces	4	4	4
Data Heads	4	4	4
Servo	Embedded	Embedded	Embedded
Tracks per Surface	1524	1524	1524
Track Density	1850 TPI	1850 TPI	1850 TPI
Track Capacity (Formatted)	19,968 bytes	19,968 bytes	19,968 bytes
Bytes per Block	512	512	512
Blocks per Drive	237,432	237,432	237,432
Sectors per Track	39	39	39

PERFORMANCE

Seek Times*			
Track to Track	8 msec	8 msec	8 msec
Average	sub-19 msec**	sub-19 msec**	sub-19 msec**
Maximum	35 msec	35 msec	35 msec
Average Latency	8.8 msec	8.8 msec	8.8 msec
Rotation Speed (± .1%)	3399 RPM	3399 RPM	3399 RPM
Controller Overhead	1 msec	1 msec	1 msec
Data Transfer Rate To/From Media	1.5 MB/sec	1.5 MB/sec	1.5 MB/sec
Data Transfer Rate To/From Buffer	4.0 MB/sec	4.0 MB/sec	4.0 MB/sec
Start Time – Power Up (0-3399 RPM)			
Typical	15 sec	15 sec	15 sec
Maximum	20 sec	20 sec	20 sec
Stop Time – Power Down			
Typical	15 sec	15 sec	15 sec
Maximum	20 sec	20 sec	20 sec
Start/stop Cycles	40,000 min	40,000 min	40,000 min
Interleave	1:1	1:1	1:1
Buffer size	64 K	64 K	64 K

* At nominal D.C. input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density – ID	33,184 BPI
Flux Density – ID (flux reversals per inch)	24,888

POWER REQUIREMENTS

(PC/AT/EISA interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	200ma	280ma	3.8 W
Seek Mode	260ma	150ma	3.9 W
Idle Mode	175ma	150ma	2.8 W
Spin-up Mode	1100ma	380ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs. (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max.)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{12} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 G's
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 G's (peak)
Operating Shock	5 G's (without non-recoverable errors)
Operating Vibration	
5-27 Hz	.025" (double amplitude)
28-500 Hz	.50 G's peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Noise	40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

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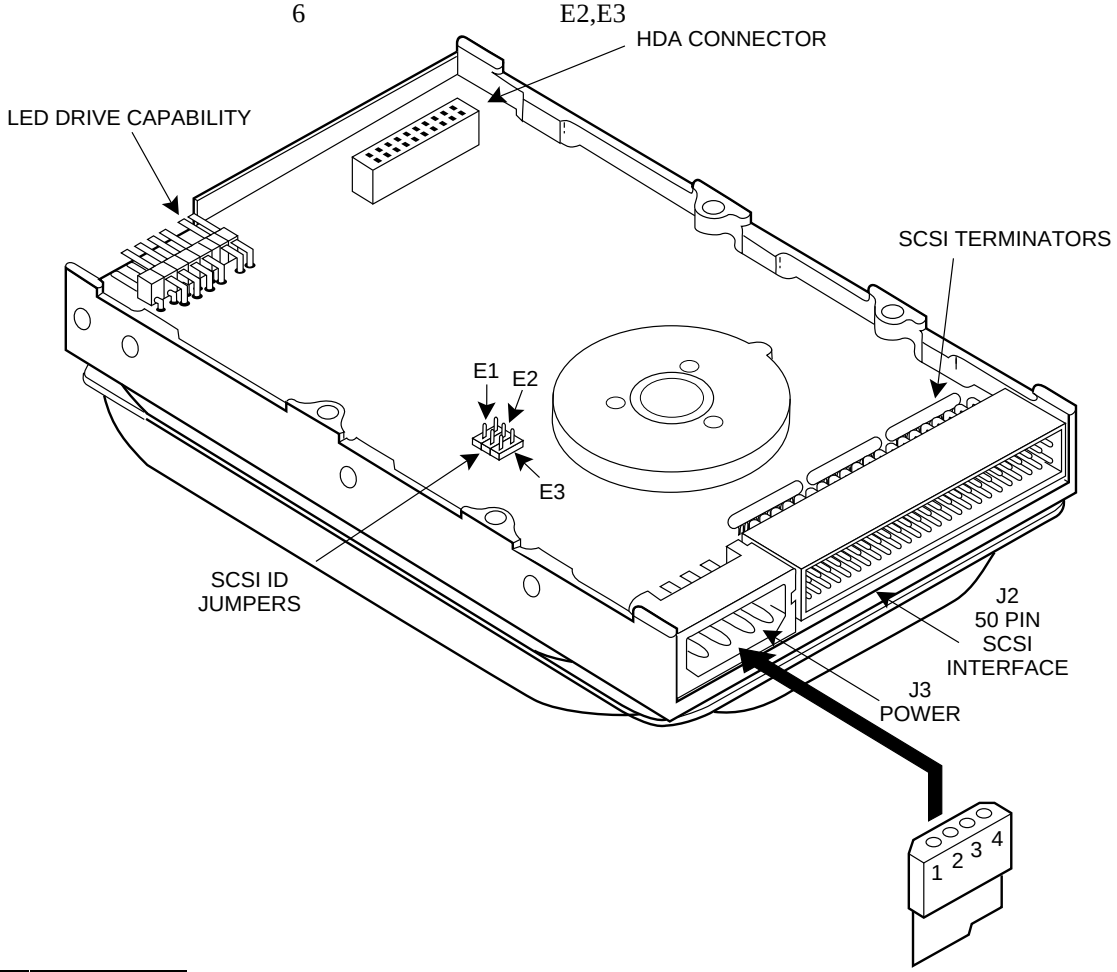
CP-4011 8/91

CP30170E

Customer options

E1, E2 and E3 are used to select the SCSI ID. The drive is shipped as ID 7, with all three jumpers installed. The following table describes the SCSI ID:

SCSI ID	Jumpers installed
0	None
1	E1
2	E2
3	E1,E2
4	E3
5	E1, E3
6	E2,E3



	J3
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .12 Max. Insertion Bottom: 6-32 UNC-2B .25 Max. Insertion

CP-30170E SPECIFICATION SUMMARY — 170 MB

	MODEL CP-30174E	MODEL CP-30170E
Embedded Controller/Interface	PC/AT	SCSI
Capacity (Formatted)	170 MB	170 MB
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Tracks per Surface	1806	1806
Track Density	2150 TPI	2150 TPI
Track Capacity (Formatted)	23,552 bytes	23,552 bytes
Bytes per Block	512	512
Blocks per Drive	332,304	332,304
Sectors per Track	46	46
Seek Times*		
Track to Track	3 msec	3 msec
Average	17 msec**	17 msec**
Maximum	30 msec	30 msec
Average Latency	7.8 msec	7.8 msec
Rotation Speed (± .1%)	3833 RPM	3833 RPM
Controller Overhead	1 msec	1 msec
Data Transfer Rate		
To/from Media	2.0 Mb/sec	2.0 Mb/sec
Data Transfer Rate		
To/from Buffer	6.0 MB/sec	5.0 MB/sec
Start Time - Power Up		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1
Buffer Size	32 K	32 K
Recording Method	1,7 RLL code	
Recording Density – ID	42,173 BPI	
Flux Density – ID (flux reversals per inch)	31,630	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	140 ma	390 ma	3.75 W
Seek Mode	230 ma	200 ma	3.75 W
Idle Mode	120 ma	200 ma	2.50 W
Sleep Mode	10 ma	130 ma	.75 W
Standby Mode	10 ma	130 ma	.75 W
Spin-up Mode (for first 7 seconds)	1100 ma	420 ma	n/a

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs (.59 kg)

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet
MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-10 Hz	0.10" (double amplitude)
10-100 Hz	0.5 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-28 Hz	0.10" (double amplitude)
10-400 Hz	4 Gs (peak) (without non-recoverable errors)

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 700 KHz, 700 KHz to 1.5 MHz = 1 gauss max)

Acoustic Sound Pressure 42 dBA max at 1 meter

NOTE: Specifications subject to change.

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DS-511-027 7/93

CP30200
SCSI Bus Address

There are three jumpers availabel for configuration; E1,E2, and E3 are used to select the drive SCSI ID. The following table defines the settings. Note: SCSI parity is always enabled.

The following table defines the settings for jumpers E1, E2, and E3:

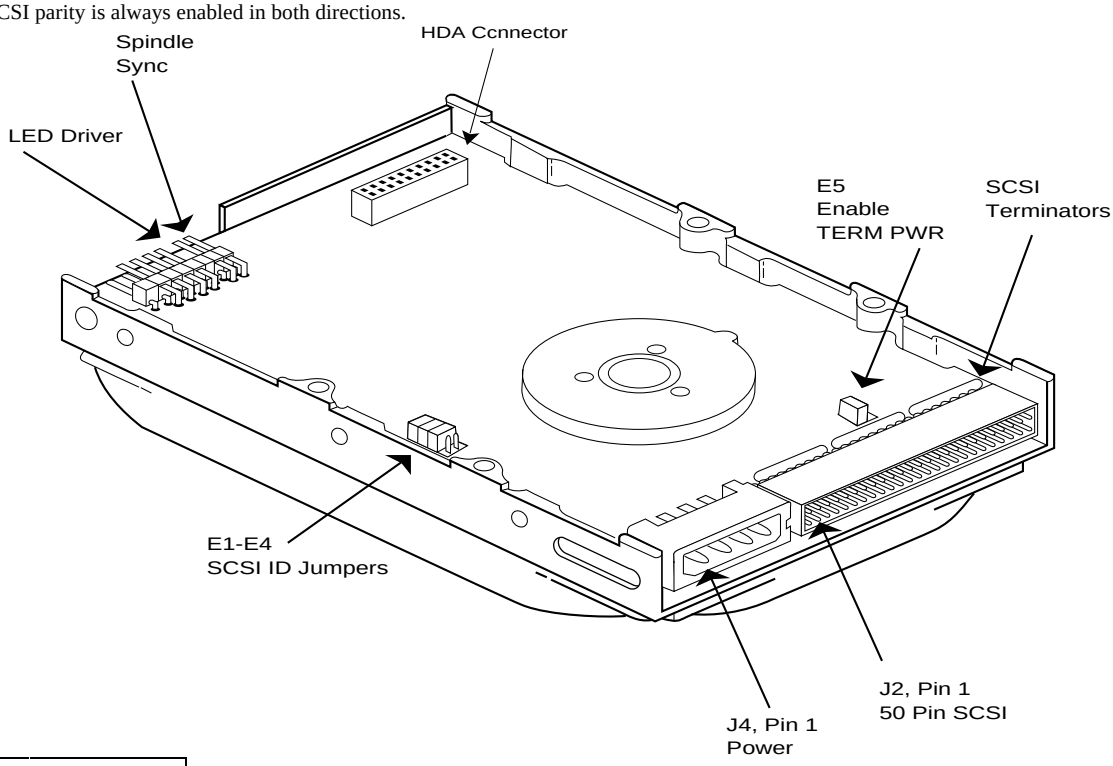
Jumper Options			
E1	**E2**	**E3**	**SCSI ID**
OUT	OUT	OUT	O
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

Delay Spin: A jumper in the E4 location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 0.

E4	DSPN	Result
IN	0	Spin Disabled
IN	1	Spin Disabled
OUT	0	Spin up onpower on
OUT	1	Spin Disabled

SCSI PARITY

SCSI parity is always enabled in both directions.



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25Max. Insertion

COUGAR Series

CP-30200 Specification Summary

High Performance, Low-profile 3.5-inch Disk Drives.
212 Mbytes Formatted Capacity.

KEY FEATURES

- Designed for business workstations
- Fast 12 msec average seek time
- 4500 RPM rotation speed
- 256 K segmented cache buffer
- One-inch high design
- PC/AT® or SCSI-2 interface

	MODEL CP-30204	MODEL CP-30200
Embedded Controller/Interface	PC/AT	SCSI-2
Capacity (Formatted)	212.6 MB	212.6 MB

PHYSICAL CONFIGURATION

Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Tracks per Surface	2124	2124
Track Density	2496 TPI	2496 TPI
Track Capacity (Formatted)	25,088 bytes	25,088 bytes
Bytes per Block	512	512
Blocks per Drive	416,304	416,304
Sectors per Track	49	49

PERFORMANCE

Seek Times*		
Track to Track	3 msec	3 msec
Average	12 msec**	12 msec**
Maximum	30 msec	30 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Controller Overhead	<500 µsec	<500 µsec
Data Transfer Rate To/from Media	2.5 MB/sec	2.5 MB/sec
Data Transfer Rate To/from Buffer	8.0 MB/sec	5.0 MB/sec
Start Time – Power Up (0-4542 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Stop Time – Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1
Buffer Size	256 K	256 K

* Physical seek times at nominal DC input voltages
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs. 12 msec seek times is typical average.

READ/WRITE

Recording Method	1,7 RLL code
Recording Density – ID	45,610 BPI
Flux Density – ID (flux reversals per inch)	34,407

POWER REQUIREMENTS

(PC/AT interface typical)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	400 ma	400 ma	7.0 W
Seek Mode	420 ma	320 ma	6.6 W
Idle Mode	300 ma	320 ma	5.2 W
Spin-up Mode (for first 7 seconds)	1500 ma	5.5 amp	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	Height	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs. (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	26° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 150,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{13} bits read

SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27 Hz	.010" (double amplitude)
28-500 Hz	.50 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (0 – 700 KHz).

ACOUSTIC NOISE

Acoustic Sound Pressure (idle)	40 dBA max at 1 meter.

NOTE: Specifications subject to change.

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DS-511-031 11/92

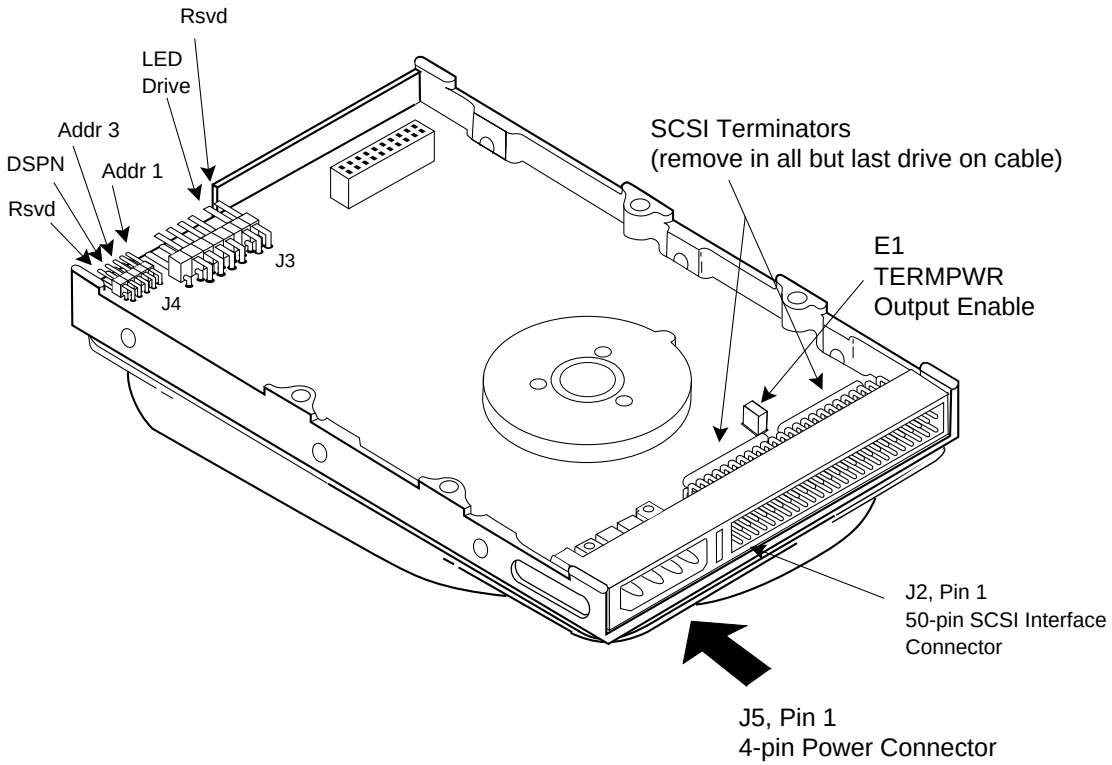
CFA340S/CFA170S (CP30340/30170)
Customer options

SCSI Bus Address

There are three jumpers available for configuration of SCSI ID: ADDR1, ADDR 2, and ADDR 3. The following table defines the settings:

SCSI Bus Addresses			
ADDR 1	**ADDR 2**	**ADDR 3**	**SCSI ID**
OUT	OUT	OUT	O
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

Disable Spin: A jumper in the DSPN location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 0.



	J5
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25Max. Insertion

CFA 340 SPECIFICATION SUMMARY

340 MB

	MODEL CFA 340A	MODEL CFA 340S
Embedded Controller/Interface	PC/AT	SCSI-2
Capacity (Formatted)	343 MB	343 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Zones per Surface	8	8
Track Density	2553 TPI	2553 TPI
Tracks per Surface	2111	2111
Bytes per Block	512	512
Sectors per Track (Physical)	67 – 91	67 – 91
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	3 msec	3 msec
Average (Read/Write)	13 msec**	13 msec**
Maximum	25 msec	25 msec
Average Latency	7.5 msec	7.5 msec
Rotation Speed (± .1%)	4011 RPM	4011 RPM
Controller Overhead	<1.0 msec	<1.0 msec
Data Transfer Rate		
To/from Media	23 – 33 Mb/sec	23 – 33 Mb/sec
Data Transfer Rate		
To/from Buffer	7.5 MB/sec	5.0 MB/sec Async 10.0 MB/sec Sync
Start Time - Power Up (0-4011 RPM)		
Typical	6 sec	6 sec
Maximum	10 sec***	10 sec***
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	20,000 min	20,000 min
Interleave	1:1	1:1
Buffer Size	64 KB	64 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	56,833 BPI	
Flux Density - ID (flux reversals per inch)	42,662 FCI	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	190 ma	500 ma	4.8 W
Seek Mode	300 ma	420 ma	5.7 W
Idle Mode	190 ma	300 ma	3.8 W
Sleep Mode	30 ma	190 ma	1.3 W
Standby Mode	30 ma	200 ma	1.3 W
Spin-up Mode (for first 7 seconds)	1200 ma	500 ma	

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.2 lbs (.54 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	28.9°C
Altitude (relative to sea level)	
Operating	–200 to 15,000 feet
Non-operating (max)	–200 to 15,000 feet

RELIABILITY AND MAINTENANCE

MTBF	300,000 hours
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27 Hz	0.10" (double amplitude)
28-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	0.10" (double amplitude)
63-400 Hz	0.5 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

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CP30540
Customer options

SCSI Bus Address

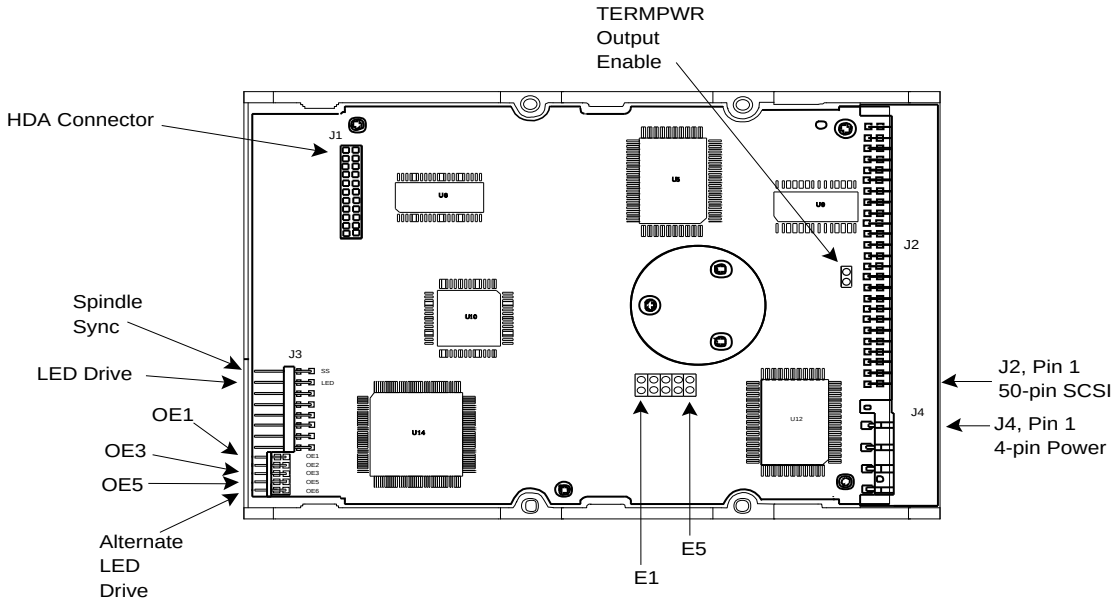
There are three jumpers available for configuration of SCSI ID: E1, E2, and E3. The following table defines the settings:

SCSI Bus Addresses*			
E1/0E1	**E2/0E2**	**E3/0E3**	**SCSI ID**
OUT	OUT	OUT	O
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

*****Use either but not both : E1 to E3 or 0E1 to 0E3. The 0E header is not installed on drive configurations with a LED on the PCBA.

Disable Spin: A jumper in the E4 location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 0.

E4	Disable Spin on Power on	
E5	Terminators on	0E5



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion
Bottom: 6-32 UNC-2B .25Max. Insertion

CP-30540 SPECIFICATION SUMMARY — 545 MB

	MODEL CP-30544	MODEL CP-30540
Embedded Controller/Interface	PC/AT	FAST SCSI-2
Capacity (Formatted)	545.9 MB	545.9 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	3	3
Data Surfaces	6	6
Data Heads	6	6
Servo	Embedded	Embedded
Zones per Surface	6	6
Track Density	2628 TPI	2628 TPI
Total Cylinders	2243	2243
Bytes per Sector	512-520/1024-1040	512-520/1024-1040
Sectors per Zone (Physical)	60 - 90	60 - 90
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	2 msec	2 msec
Average (Read/Write)	10 msec**	10 msec**
Maximum	17 msec	17 msec
Average Latency	5.55 msec	5.55 msec
Rotation Speed (± .1%)	5400 RPM	5400 RPM
Controller Overhead		<400 µsec
Data Transfer Rate		
To/from Media	28.4 - 43.1 Mb/sec	28.4 - 43.1 Mb/sec
Data Transfer Rate		
To/from Buffer	6.0 MB/sec	10.0 MB/sec
Start Time - Power Up (0-5400 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec***	20 sec***
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	10,000 min	10,000 min
Interleave	1:1	1:1
Buffer Size	256 KB	256 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	54,224 BPI	
Flux Density - ID (flux reversals per inch)	40,961	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 10%	+5 VDC ± 5%	POWER
R/W Mode	325 ma	675 ma	6.5 W
Seek Mode	550 ma	675 ma	9.0 W
Idle Mode	300 ma	450 ma	5.2 W
Spin-up Mode (for first 7 seconds)	1.7 amp	750 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29°C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 250,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-32 Hz	.010" (double amplitude)
33-400 Hz	0.5 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-400 Hz	4 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 1.5 MHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

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CFA540S
Customer options

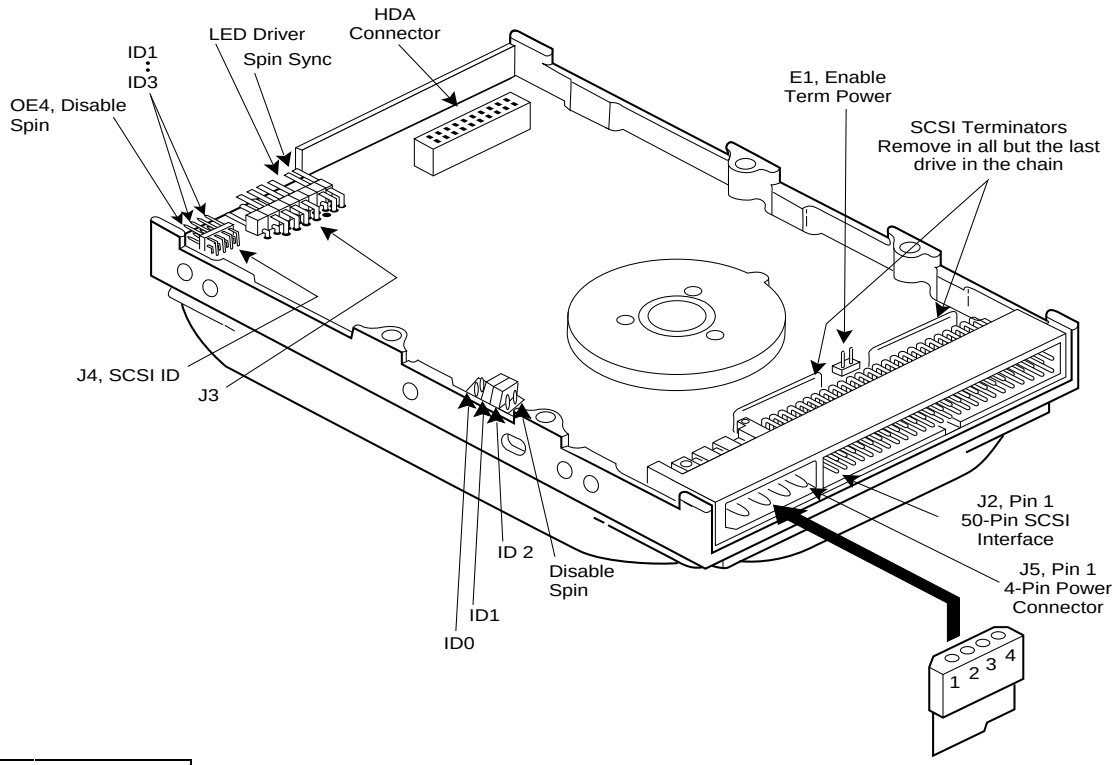
SCSI Bus Address

There are three jumpers available for configuration of SCSI ID: ID1, ID2, and ID3. The following
table defines the settings:

SCSI Bus Addresses*			
ID1	**ID2**	**ID3**	**SCSI ID**
OUT	OUT	OUT	O
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

Disable spin: A jumper in the 0E4 location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 0.

0E4	Disable Spin on Power on
E1	Term Power In/Out enable



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion Bottom: 6-32 UNC-2B .22Max. Insertion

CFA 540 SPECIFICATION SUMMARY

540 MB

	MODEL CFA 540A	MODEL CFA 540S
Embedded Controller/Interface	PC/AT	FAST SCSI-2
Capacity (Formatted)	541 MB	541 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	2	2
Data Surfaces	4	4
Data Heads	4	4
Servo	Embedded	Embedded
Zones per Surface	8	8
Track Density	3253 TPI	3253 TPI
Tracks per Surface	2805	2805
Bytes per Block	512	512
Sectors per Track	72 – 114	72 – 114
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	3 msec	3 msec
Average	12 msec**	12 msec**
Maximum	26 msec	26 msec
Average Latency	6.7 msec	6.7 msec
Rotation Speed (± .1%)	4500 RPM	4500 RPM
Controller Overhead	<1.0 msec	<1.0 msec
Data Transfer Rate		
To/from Media	27 – 46 Mb/sec	27 – 46 Mb/sec
Data Transfer Rate	11.1 MB/sec	5.0 MB/sec Async 10.0 MB/sec Sync
Start Time - Power Up (0-4500 RPM)		
Typical	7 sec	7 sec
Maximum	10 sec***	10 sec***
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	40,000 min	40,000 min
Interleave	1:1	1:1
Buffer Size	256 KB	256 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	62,500 BPI	
Flux Density - ID (flux reversals per inch)	46,850 FCI	

* Physical seek times at nominal DC input voltages.

** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	150 ma	500 ma	4.3 W
Seek Mode (100%)	370 ma	480 ma	6.8 W
Seek Mode (30%)	170 ma	500 ma	4.6 W
Idle Mode	190 ma	340 ma	4.0 W
Sleep Mode (540A only)	0 ma	350 ma	1.75 W
Standby Mode	0 ma	40 ma	0.2 W
Spin-up Mode (for first 7 seconds)	1200 ma	500 ma	

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.2 lbs (.54 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	8% to 80% non-condensing
Non-operating	8% to 80% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 15,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	300,000 hours
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-27 Hz	0.10" (double amplitude)
28-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	0.10" (double amplitude)
63-400 Hz	4 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	37 dBA max at 1 meter in idle mode.
Acoustic Sound Power	43 Bels max in idle mode.

NOTE: Specifications subject to change.

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DS-511-047 6/94

CFP1080s
Customer options

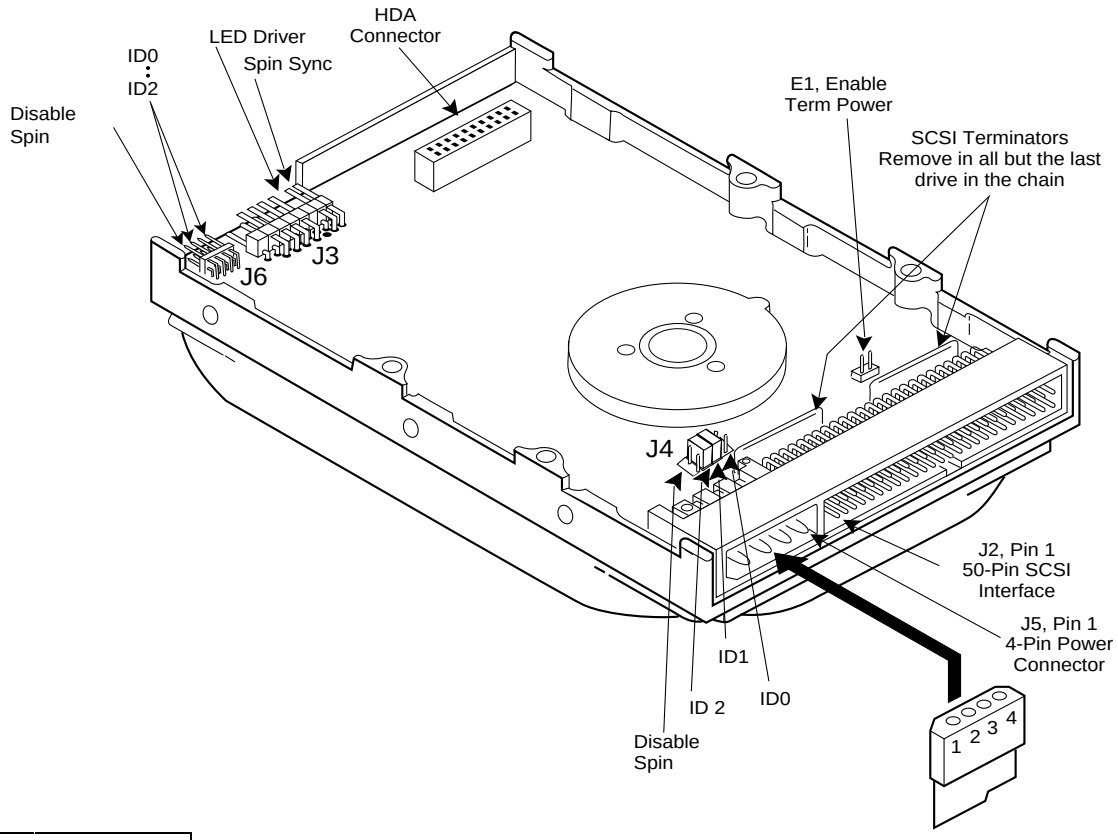
SCSI Bus Address

There are three jumpers available for configuration of SCSI ID: ID0, ID1, and ID2. The following table defines the settings:

SCSI Bus Addresses*			
ID0	**ID1**	**ID2**	**SCSI ID**
OUT	OUT	OUT	O
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

*****Use either but not both : J6 or J4.

Disable Spin: A jumper on Disable Spin, disables spin up on power-on and the host adapter must send a Start Unit Command prior to operating the drive. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 0.



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .16 Max. Insertion Bottom: 6-32 UNC-2B .22Max. Insertion

CONNER FILEPRO PERFORMANCE FAMILY (CAYMAN/ANTIGUA SERIES)
SPECIFICATION SUMMARY

MODEL	CFP1080S CFP1080E	CFP2105S CFP2105W CFP2105E	CFP2107S CFP2107W CFP2107E	CFP4207S CFP4207W CFP4207E
Embedded Controller/Interface	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2
Capacity (Formatted)	1080 MB	2147 MB	2147 MB	4294 MB
PHYSICAL CONFIGURATION				
Number of Disks	3	5	5	10
Data Surfaces	6	10	10	20
Data Heads	6	10	10	20
Servo	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	15	15	15
Track Density	3849 TPI	4030 TPI	4090 TPI	4090 TPI
Total Cylinders	3658	3948	4016	4016
Bytes per Sector	256/512	512	512	512
Sectors per Zone (Physical)	66-120	67-139	69-124	69-124
PERFORMANCE				
Seek Times (Typical)*				
Track to Track	3 msec	2 msec	2 msec	2 msec
Average (Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**
Maximum	26 msec	18 msec	18 msec	18 msec
Average Latency	5.56 msec	5.55 msec	4.17 msec	4.17 msec
Rotation Speed (±.1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM
Data Transfer Rate				
To/from media	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec
To/from buffer	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec
Start Time - Power Up				
Typical	8.5 sec	15 sec	15 sec	15 sec
Maximum	20 sec***	20 sec***	20 sec***	20 sec***
Stop Time - Power Down				
Typical	15 sec	12 sec	10 sec	10 sec
Maximum	20 sec	15 sec	15 sec	15 sec
Buffer Size	256/512 KB	512 KB	512 KB	512 KB
READ/WRITE				
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	64 K BPI	74 K BPI	78 K BPI	78 K BPI
PHYSICAL DIMENSIONS				
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.62" (41.2 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)
POWER REQUIREMENTS – (TYPICAL)				
+5 VDC ±5% Idle Mode	275 mA	420 mA	450 mA	680 mA
+5 VDC ±5% Spin-up Mode	500 mA	700 mA	750 mA	880 mA
+12 VDC ±5% Idle Mode	200 mA	300 mA	550 mA	780 mA
+12 VDC ±5% Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp
Power Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W
Power Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W
Power Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W
MODELS/CONNECTORS/INTERFACES				
CFP1080S/2105S/2107S/4207S	= 50-pin single-ended FAST SCSI-2			
CFP2105W/2107W/4207W	= 68-pin single-ended FAST/FAST-WIDE SCSI-2			
CFP1080E/2105E/2107E/4207E	= 80-pin connector attachment (FAST-WIDE SCSI-2)			
CFP2107WD/4207WD	= 68-pin differential (FAST/FAST-WIDE SCSI-2)			
Fax Information Service File Number	5512	5513	5516	5406

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet
RELIABILITY AND MAINTENANCE	
MTBF	Up to 1,000,000 hours
Preventive Maintenance	None
Component Design Life	7 years
Data Reliability	< 1 non-recoverable error in 10^{24} bits
SHOCK AND VIBRATION	**CFP1080, CFP2105, CFP2107**
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-32 Hz	0.01" (double amplitude)
33-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-28 Hz	0.10" (double amplitude)
29-400 Hz	4 Gs peak (without non-recoverable errors)
	CFP4207
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	50 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-32 Hz	0.01" (double amplitude)
33-375Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-28 Hz	0.10" (double amplitude)
29-375Hz	4 Gs peak (without non-recoverable errors)
ACOUSTIC NOISE	**CFP1080, CFP2105**
Acoustic Sound Power	< 4.3 Bels max in idle mode
	CFP2107, CFP4207
	< 4.6 Bels max in idle mode
WARRANTY	5 years

NOTE: Specifications subject to change

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DS-511-CAY 8/95

CFP1060S
Customer options

SCSI Bus Address

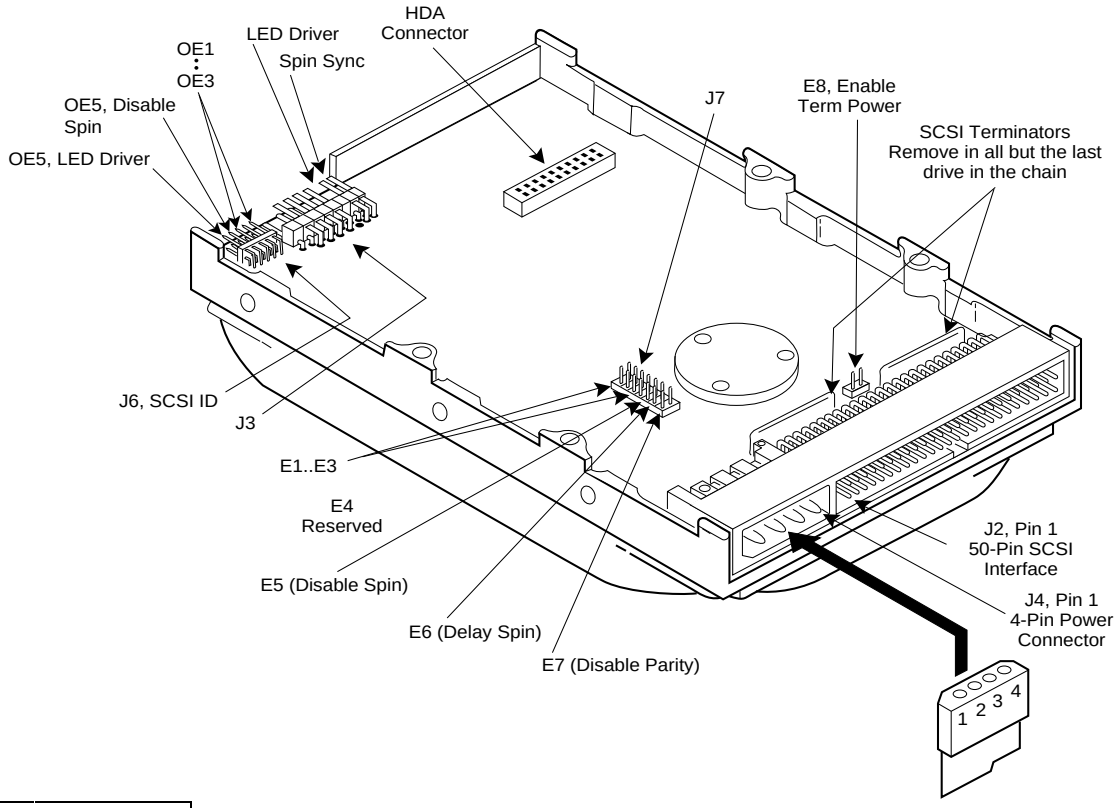
There are three jumpers available for configuration of SCSI ID: E1, E2, and E3. The following table defines the settings:

SCSI Bus Addresses*			
E1/OE1	**E2/OE2**	**E3/OE3**	**SCSI ID**
OUT	OUT	OUT	O
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

*****Use either but not both : E1 to E3 or 0E1 to 0E3. The 0E header is not installed on drive configurations with a LED on the PCBA.

Disable Spin: A jumper in the E5 or 0E5 location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 0.

E4	Reserved
E5/OE5	Disable Spin on Power-on
E6	Spin delay by SCSI ID
E7	Disable SCSI Bus Parity



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25Max. Insertion

CFP 1060 SPECIFICATION SUMMARY

1060 MB

	MODEL CFP 1060S CFP 1060D CFP 1060W CFP 1060E
Embedded Controller/Interface	FAST SCSI-2, FAST-WIDE SCSI
Capacity (Formatted)	1062.44 MB
PHYSICAL CONFIGURATION	
Actuator Type	Rotary voice-coil
Number of Disks	4
Data Surfaces	8
Data Heads	8
Servo	Embedded
Zones per Surface	9
Track Density	3147 TPI
Tracks per Surface	2757
Bytes per Sector	512 – 520/1024
Sectors per Track (Physical)	64 – 112
PERFORMANCE	
Seek Times (Typical)*	
Track to Track	2 msec
Average (Read/Write)	9.0/9.5 msec**
Maximum	16 msec
Average Latency	5.55 msec
Rotation Speed (± .1%)	5400 RPM
Controller Overhead	20 µsec
Data Transfer Rate	
To/from Media	31 – 55 Mb/sec
Data Transfer Rate	
To/from Buffer	10 or 20 MB/sec
Start Time - Power Up (0-5400 RPM)	
Typical	12 sec
Maximum	20 sec***
Stop Time - Power Down	
Typical	7 sec
Maximum	10 sec
Start/Stop Cycles	20,000 min
Interleave	1:1
Buffer Size	512 KB
READ/WRITE	
Recording Method	1,7 RLL code
Recording Density	65,131 BPI
Flux Density - ID (flux reversals per inch)	48,848 FCI

MODELS/CONNECTORS/INTERFACES

CFP 1060S = 50-pin single-ended FAST SCSI-2
CFP 1060D = 50-pin differential FAST SCSI-2
CFP 1060W = 68-pin single-ended FAST/FAST-WIDE SCSI
CFP 1060E = 80-pin single connector attachment (SCSI)

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	325 ma	775 ma	7.8 W
Seek Mode	870 ma	775 ma	14.3 W
Idle Mode	300 ma	600 ma	6.6 W
Spin-up Mode (for first 1.5 seconds)	1.70 amp	775 ma	

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29°C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	500,000 hours
Preventive Maintenance	None
Component Design Life	7 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-32 Hz	0.10" (double amplitude)
32-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-28 Hz	0.10" (double amplitude)
28-400 Hz	4 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	37 dBA max at 1 meter in idle mode.
Acoustic Sound Power	4.3 Bels max in idle mode.

NOTE: Specifications subject to change.

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DS-511-048 5/94

CFP1060W
Customer options

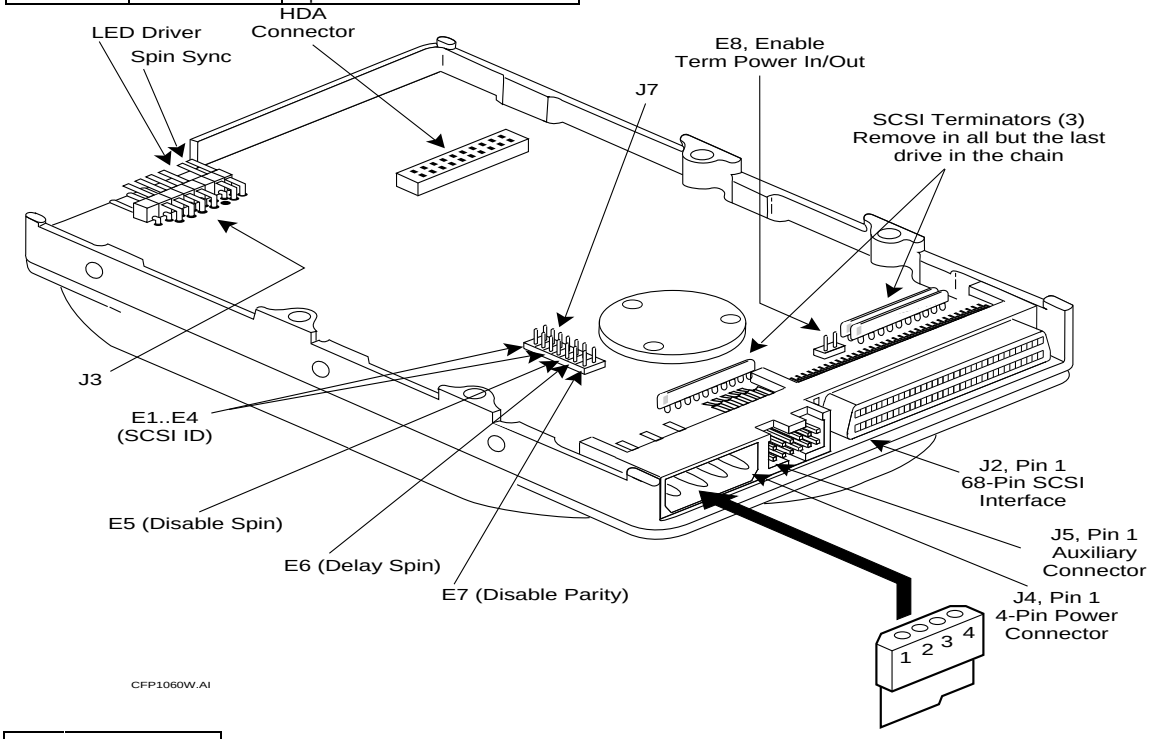
SCSI Bus Address

There are four jumpers available for configuration of SCSI ID: E1, E2, E3, and E4 or alternatively pins 1,3,5, and 7 or J5. The following table defines the the relationship between the jumpers or the pins on J5 and the SCSI ID:

SCSI ID	E1/Pin 1	E2/Pin 3	E3/Pin 5	E4/Pin 7
0	Outopen	Out/open	Out/open	Out/open
1	In/Ground	Out/open	Out/open	Out/open
2	Out/open	In/Ground	Out/open	Out/open
3	In/Ground	In/Ground	Out/open	Out/open
4	Out/open	Out/open	In/Ground	Out/open
5	In/Ground	Out/open	In/Ground	Out/open
6	Out/open	In/Ground	In/Ground	Out/open
7	In/Ground	In/Ground	In/Ground	Out/open
8	Out/open	Out/open	Out/open	In/Ground
9	In/Ground	Out/open	Out/open	In/Ground
10	Out/open	In/Ground	Out/open	In/Ground
11	In/Ground	In/Ground	Out/open	In/Ground
12	Out/open	Out/open	In/Ground	In/Ground
13	In/Ground	Out/open	In/Ground	In/Ground
14	Out/open	In/Ground	In/Ground	In/Ground
15	In/Ground	In/Ground	In/Ground	In/Ground

Disable Spin: A jumper in the E5 location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 00H.

E5	DSPN	Result
In	0	Spin Disabled
In	1	Spin Disabled
Out	0	Spin up on Power On
Out	1	Spin Disabled



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25Max. Insertion

CFP 1060 SPECIFICATION SUMMARY

1060 MB

	MODEL CFP 1060S CFP 1060D CFP 1060W CFP 1060E
Embedded Controller/Interface	FAST SCSI-2, FAST-WIDE SCSI
Capacity (Formatted)	1062.44 MB
PHYSICAL CONFIGURATION	
Actuator Type	Rotary voice-coil
Number of Disks	4
Data Surfaces	8
Data Heads	8
Servo	Embedded
Zones per Surface	9
Track Density	3147 TPI
Tracks per Surface	2757
Bytes per Sector	512 – 520/1024
Sectors per Track (Physical)	64 – 112
PERFORMANCE	
Seek Times (Typical)*	
Track to Track	2 msec
Average (Read/Write)	9.0/9.5 msec**
Maximum	16 msec
Average Latency	5.55 msec
Rotation Speed (± .1%)	5400 RPM
Controller Overhead	20 µsec
Data Transfer Rate	
To/from Media	31 – 55 Mb/sec
Data Transfer Rate	
To/from Buffer	10 or 20 MB/sec
Start Time - Power Up (0-5400 RPM)	
Typical	12 sec
Maximum	20 sec***
Stop Time - Power Down	
Typical	7 sec
Maximum	10 sec
Start/Stop Cycles	20,000 min
Interleave	1:1
Buffer Size	512 KB
READ/WRITE	
Recording Method	1,7 RLL code
Recording Density	65,131 BPI
Flux Density - ID (flux reversals per inch)	48,848 FCI

MODELS/CONNECTORS/INTERFACES

CFP 1060S = 50-pin single-ended FAST SCSI-2
CFP 1060D = 50-pin differential FAST SCSI-2
CFP 1060W = 68-pin single-ended FAST/FAST-WIDE SCSI
CFP 1060E = 80-pin single connector attachment (SCSI)

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 5%	+5 VDC ± 5%	POWER
R/W Mode	325 ma	775 ma	7.8 W
Seek Mode	870 ma	775 ma	14.3 W
Idle Mode	300 ma	600 ma	6.6 W
Spin-up Mode (for first 1.5 seconds)	1.70 amp	775 ma	

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.00" (25.4 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	1.3 lbs (.59 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29°C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	500,000 hours
Preventive Maintenance	None
Component Design Life	7 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-32 Hz	0.10" (double amplitude)
32-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	
5-28 Hz	0.10" (double amplitude)
28-400 Hz	4 Gs peak (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss DC, 7 milligauss (to 700 KHz), 3 milligauss (700 KHz – 1.5 MHz) as measured at the disk surface.

ACOUSTIC NOISE

Acoustic Sound Pressure	37 dBA max at 1 meter in idle mode.
Acoustic Sound Power	4.3 Bels max in idle mode.

NOTE: Specifications subject to change.

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DS-511-048 5/94

CP31370 Baja SCSI
Customer options

SCSI Bus Address

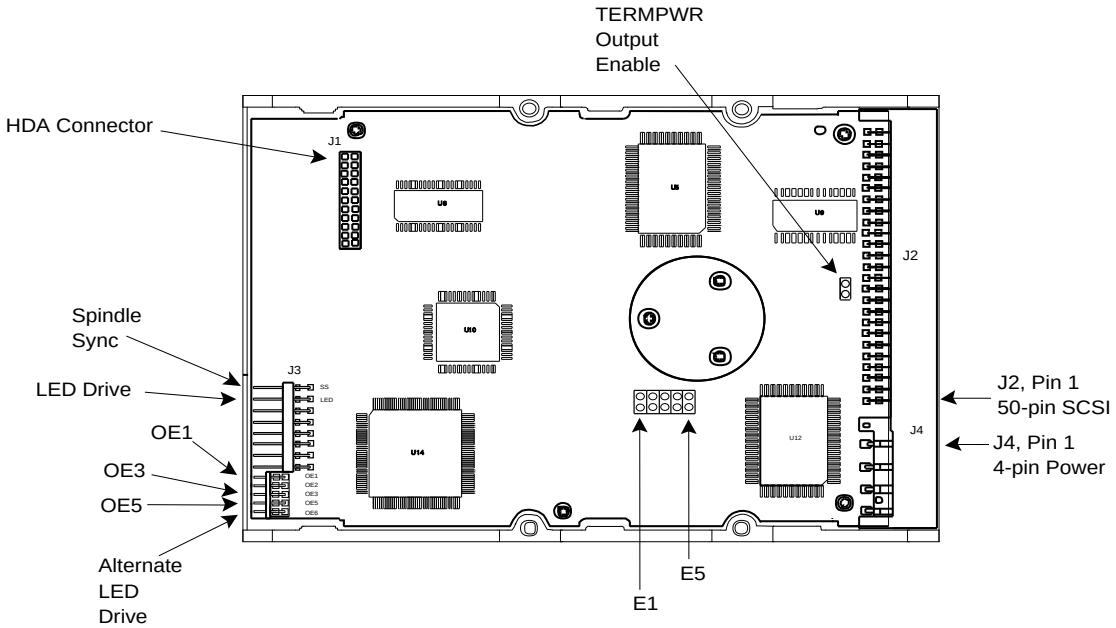
There are three jumpers available for configuration of SCSI ID: E1, E2, and E3. The following table defines the settings:

SCSI Bus Addresses*			
E1/0E1	**E2/0E2**	**E3/0E3**	**SCSI ID**
OUT	OUT	OUT	O
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

*****Use either but not both : E1 to E3 or 0E1 to 0E3. The 0E header is not installed on drive configurations with a LED on the PCBA.

Disable Spin: A jumper in the E4 location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 0.

E4	Disable Spin on Power on	
E5	Terminators on	0E5



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25Max. Insertion

CP-31370 SPECIFICATION SUMMARY

1.37 GB

	MODEL CP-31374	MODEL CP-31370
Embedded Controller/Interface	PC/AT	FAST SCSI-2
Capacity (Formatted)	1,371.8 MB	1,371.8 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-coil
Number of Disks	7	7
Data Surfaces	14	14
Data Heads	14	14
Servo	Embedded	Embedded
Zones per Surface	8	8
Track Density	2694 TPI	2694 TPI
Total Cylinders	2386	2386
Bytes per Sector	512-520/1024-1040	512-520/1024-1040
Sectors per Zone (Physical)	53 - 96	53 - 96
PERFORMANCE		
Seek Times (Typical)*		
Track to Track	2.1 msec	2.1 msec
Average (Read/Write)	10 msec**	10 msec**
Maximum	17 msec	17 msec
Average Latency	5.55 msec	5.55 msec
Rotation Speed (± .1%)	5400 RPM	5400 RPM
Controller Overhead		<400 µsec
Data Transfer Rate		
To/from Media	25.1 - 45.8 Mb/sec	25.1 - 45.8 Mb/sec
Data Transfer Rate		
To/from Buffer	6.0 MB/sec	10.0 MB/sec
Start Time - Power Up (0-5400 RPM)		
Typical	15 sec	15 sec
Maximum	20 sec***	20 sec***
Stop Time - Power Down		
Typical	15 sec	15 sec
Maximum	20 sec	20 sec
Start/Stop Cycles	10,000 min	10,000 min
Interleave	1:1	1:1
Buffer Size	256 KB	256 KB
READ/WRITE		
Recording Method	1,7 RLL code	
Recording Density	54,478 BPI	
Flux Density - ID (flux reversals per inch)	40,961	

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

POWER REQUIREMENTS – (TYPICAL)

	+12 VDC ± 10%	+5 VDC ± 5%	POWER
R/W Mode	450 ma	700 ma	9.0 W
Seek Mode	900 ma	675 ma	14.2 W
Idle Mode	475 ma	450 ma	8.0 W
Spin-up Mode (for first 4 seconds)	3.25 amp	750 ma	n/a

PHYSICAL CHARACTERISTICS

Physical Dimensions	**Height**	1.625" (41.3 mm)
	Length	5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Weight	2.3 lbs (1.04 kg)

ENVIRONMENTAL CHARACTERISTICS

Temperature	
Operating	5°C to 55°C
Non-operating	–40°C to 60°C
Thermal Gradient	20°C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29°C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet

RELIABILITY AND MAINTENANCE

MTBF	In excess of 250,000 hours (POH)
MTTR	10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 10^{14} bits read

SHOCK AND VIBRATION

Shock	1/2 sine pulse
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	Swept sine, 1 octave per minute
Operating Vibration	
5-32 Hz	.010" (double amplitude)
33-400 Hz	0.5 Gs (peak) (without non-recoverable errors)
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-400 Hz	4 Gs (peak) (without non-recoverable errors)

MAGNETIC FIELD

The externally induced magnetic flux density may not exceed 6 gauss as measured at the disk surface (DC – 0-700 KHz).

ACOUSTIC NOISE

Acoustic Sound Pressure	40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

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DS-511-042 7/93

CFP2105S
Customer options

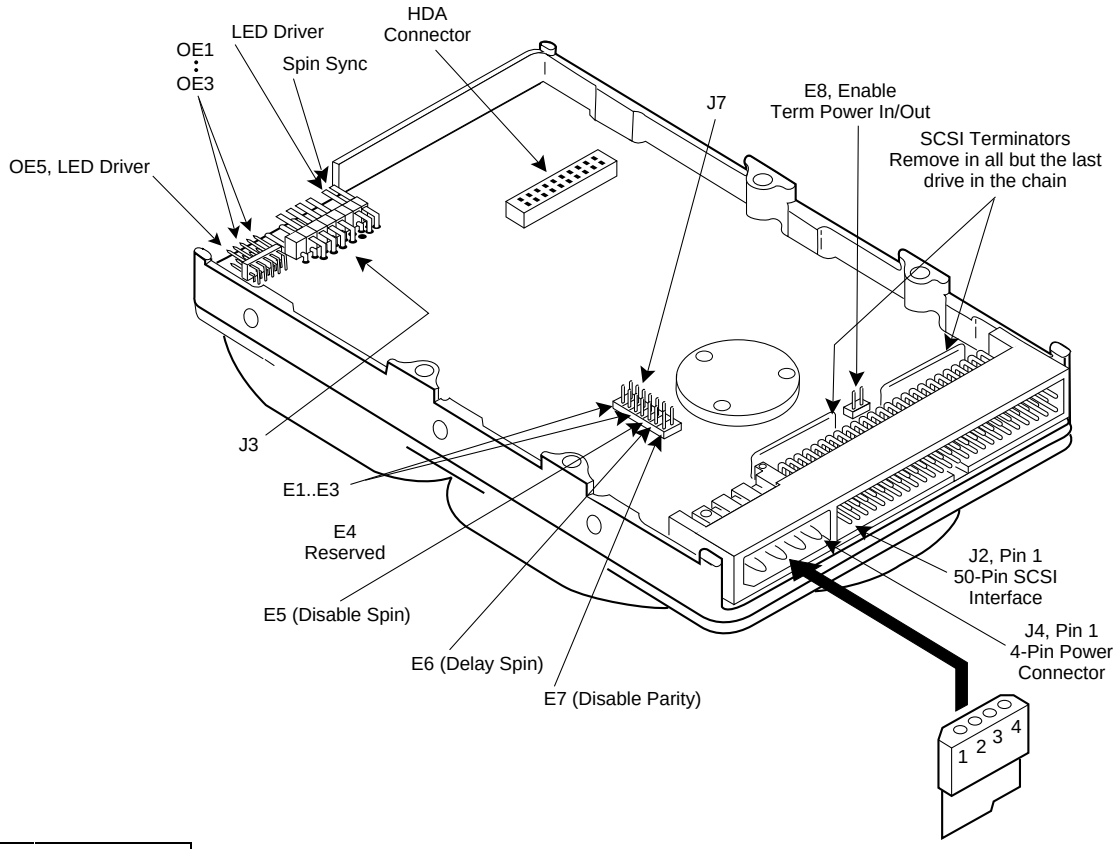
SCSI Bus Address

There are three jumpers available for configuration of SCSI ID: E1, E2, and E3. The following table defines the settings:

SCSI Bus Addresses*			
E1/OE1	**E2/OE2**	**E3/OE3**	**SCSI ID**
OUT	OUT	OUT	O
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

*****Use either but not both : E1 to E3 or 0E1 to 0E3. The 0E header is not installed on drive configurations with a LED on the PCBA.

Disable Spin: A jumper in the E5 location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 00H.



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25Max. Insertion

CONNER FILEPRO PERFORMANCE FAMILY (CAYMAN/ANTIGUA SERIES)
SPECIFICATION SUMMARY

MODEL	CFP1080S CFP1080E	CFP2105S CFP2105W CFP2105E	CFP2107S CFP2107W CFP2107E	CFP4207S CFP4207W CFP4207E
Embedded Controller/Interface	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2
Capacity (Formatted)	1080 MB	2147 MB	2147 MB	4294 MB
PHYSICAL CONFIGURATION				
Number of Disks	3	5	5	10
Data Surfaces	6	10	10	20
Data Heads	6	10	10	20
Servo	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	15	15	15
Track Density	3849 TPI	4030 TPI	4090 TPI	4090 TPI
Total Cylinders	3658	3948	4016	4016
Bytes per Sector	256/512	512	512	512
Sectors per Zone (Physical)	66-120	67-139	69-124	69-124
PERFORMANCE				
Seek Times (Typical)*				
Track to Track	3 msec	2 msec	2 msec	2 msec
Average (Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**
Maximum	26 msec	18 msec	18 msec	18 msec
Average Latency	5.56 msec	5.55 msec	4.17 msec	4.17 msec
Rotation Speed (±.1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM
Data Transfer Rate				
To/from media	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec
To/from buffer	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec
Start Time - Power Up				
Typical	8.5 sec	15 sec	15 sec	15 sec
Maximum	20 sec***	20 sec***	20 sec***	20 sec***
Stop Time - Power Down				
Typical	15 sec	12 sec	10 sec	10 sec
Maximum	20 sec	15 sec	15 sec	15 sec
Buffer Size	256/512 KB	512 KB	512 KB	512 KB
READ/WRITE				
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	64 K BPI	74 K BPI	78 K BPI	78 K BPI
PHYSICAL DIMENSIONS				
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.62" (41.2 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)
POWER REQUIREMENTS – (TYPICAL)				
+5 VDC ±5% Idle Mode	275 mA	420 mA	450 mA	680 mA
+5 VDC ±5% Spin-up Mode	500 mA	700 mA	750 mA	880 mA
+12 VDC ±5% Idle Mode	200 mA	300 mA	550 mA	780 mA
+12 VDC ±5% Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp
Power Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W
Power Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W
Power Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W
MODELS/CONNECTORS/INTERFACES				
CFP1080S/2105S/2107S/4207S	= 50-pin single-ended FAST SCSI-2			
CFP2105W/2107W/4207W	= 68-pin single-ended FAST/FAST-WIDE SCSI-2			
CFP1080E/2105E/2107E/4207E	= 80-pin connector attachment (FAST-WIDE SCSI-2)			
CFP2107WD/4207WD	= 68-pin differential (FAST/FAST-WIDE SCSI-2)			
Fax Information Service File Number	5512	5513	5516	5406

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet
RELIABILITY AND MAINTENANCE	
MTBF	Up to 1,000,000 hours
Preventive Maintenance	None
Component Design Life	7 years
Data Reliability	< 1 non-recoverable error in 10^{24} bits
SHOCK AND VIBRATION	**CFP1080, CFP2105, CFP2107**
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-32 Hz	0.01" (double amplitude)
33-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-28 Hz	0.10" (double amplitude)
29-400 Hz	4 Gs peak (without non-recoverable errors)
	CFP4207
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	50 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-32 Hz	0.01" (double amplitude)
33-375Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-28 Hz	0.10" (double amplitude)
29-375Hz	4 Gs peak (without non-recoverable errors)
ACOUSTIC NOISE	**CFP1080, CFP2105**
Acoustic Sound Power	< 4.3 Bels max in idle mode
	CFP2107, CFP4207
	< 4.6 Bels max in idle mode
WARRANTY	5 years

NOTE: Specifications subject to change

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DS-511-CAY 8/95

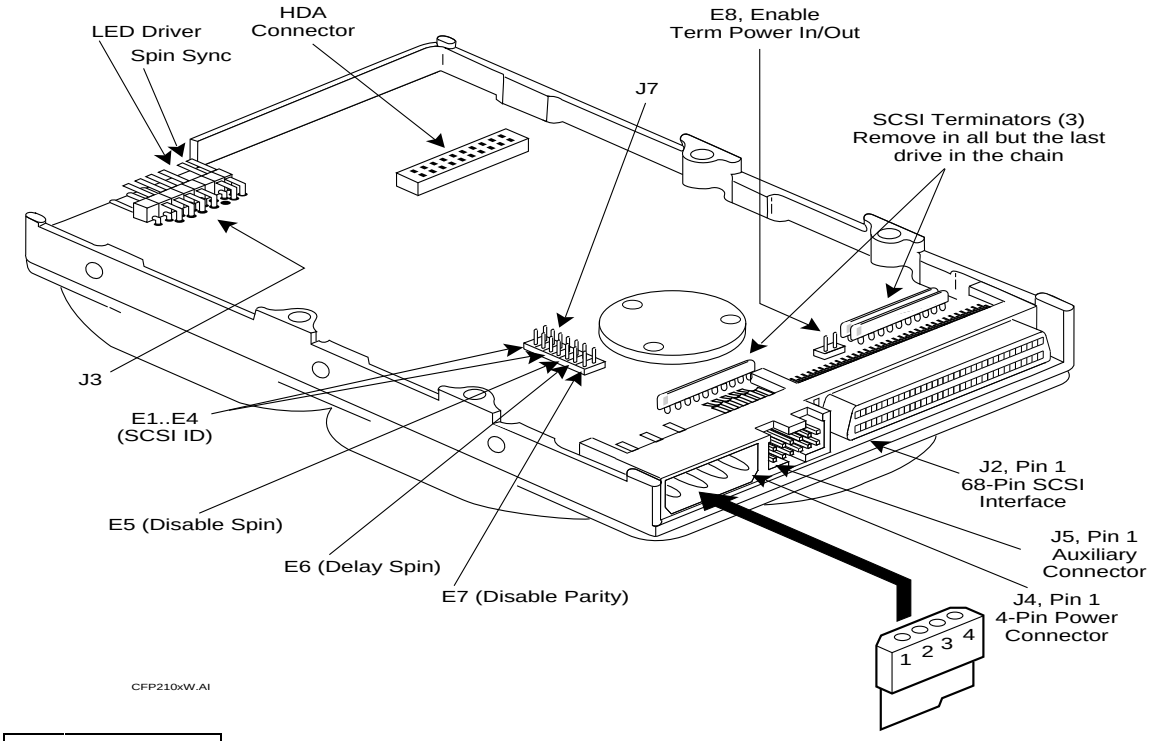
CFP2105W
Customer options

SCSI Bus Address

There are four jumpers available for configuration of SCSI ID: E1, E2, and E3, and E4. The following table defines the settings:

SCSI Bus Addresses*				
E1/Pin 1	**E2/Pin 3**	**E3/Pin 5**	**E4/pin 7**	**SCSI ID**
OUT/OPEN	OUT/OPEN	OUT/OPEN	OUT/OPEN	O
IN/GROUND	OUT/OPEN	OUT/OPEN	OUT/OPEN	1
OUT/OPEN	IN/GROUND	OUT/OPEN	OUT/OPEN	2
IN/GROUND	IN/GROUND	OUT/OPEN	OUT/OPEN	3
OUT/OPEN	OUT/OPEN	IN/GROUND	OUT/OPEN	4
IN/GROUND	OUT/OPEN	IN/GROUND	OUT/OPEN	5
OUT/OPEN	IN/GROUND	IN/GROUND	OUT/OPEN	6
IN/GROUND	IN/GROUND	IN/GROUND	OUT/OPEN	7
OUT/OPEN	OUT/OPEN	OUT/OPEN	IN/GROUND	8
IN/GROUND	OUT/OPEN	OUT/OPEN	IN/GROUND	9
OUT/OPEN	IN/GROUND	OUT/OPEN	IN/GROUND	10
IN/GROUND	IN/GROUND	OUT/OPEN	IN/GROUND	11
OUT/OPEN	OUT/OPEN	IN/GROUND	IN/GROUND	12
IN/GROUND	OUT/OPEN	IN/GROUND	IN/GROUND	13
OUT/OPEN	IN/GROUND	IN/GROUND	IN/GROUND	14
IN/GROUND	IN/GROUND	IN/GROUND	IN/GROUND	15

Disable Spin: A jumper in the E5 location disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 00H.



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25Max. Insertion

CONNER FILEPRO PERFORMANCE FAMILY (CAYMAN/ANTIGUA SERIES)
SPECIFICATION SUMMARY

MODEL	CFP1080S CFP1080E	CFP2105S CFP2105W CFP2105E	CFP2107S CFP2107W CFP2107E	CFP4207S CFP4207W CFP4207E
Embedded Controller/Interface	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2
Capacity (Formatted)	1080 MB	2147 MB	2147 MB	4294 MB
PHYSICAL CONFIGURATION				
Number of Disks	3	5	5	10
Data Surfaces	6	10	10	20
Data Heads	6	10	10	20
Servo	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	15	15	15
Track Density	3849 TPI	4030 TPI	4090 TPI	4090 TPI
Total Cylinders	3658	3948	4016	4016
Bytes per Sector	256/512	512	512	512
Sectors per Zone (Physical)	66-120	67-139	69-124	69-124
PERFORMANCE				
Seek Times (Typical)*				
Track to Track	3 msec	2 msec	2 msec	2 msec
Average (Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**
Maximum	26 msec	18 msec	18 msec	18 msec
Average Latency	5.56 msec	5.55 msec	4.17 msec	4.17 msec
Rotation Speed (±.1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM
Data Transfer Rate				
To/from media	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec
To/from buffer	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec
Start Time - Power Up				
Typical	8.5 sec	15 sec	15 sec	15 sec
Maximum	20 sec***	20 sec***	20 sec***	20 sec***
Stop Time - Power Down				
Typical	15 sec	12 sec	10 sec	10 sec
Maximum	20 sec	15 sec	15 sec	15 sec
Buffer Size	256/512 KB	512 KB	512 KB	512 KB
READ/WRITE				
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	64 K BPI	74 K BPI	78 K BPI	78 K BPI
PHYSICAL DIMENSIONS				
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.62" (41.2 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)
POWER REQUIREMENTS – (TYPICAL)				
+5 VDC ±5% Idle Mode	275 mA	420 mA	450 mA	680 mA
+5 VDC ±5% Spin-up Mode	500 mA	700 mA	750 mA	880 mA
+12 VDC ±5% Idle Mode	200 mA	300 mA	550 mA	780 mA
+12 VDC ±5% Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp
Power Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W
Power Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W
Power Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W
MODELS/CONNECTORS/INTERFACES				
CFP1080S/2105S/2107S/4207S	= 50-pin single-ended FAST SCSI-2			
CFP2105W/2107W/4207W	= 68-pin single-ended FAST/FAST-WIDE SCSI-2			
CFP1080E/2105E/2107E/4207E	= 80-pin connector attachment (FAST-WIDE SCSI-2)			
CFP2107WD/4207WD	= 68-pin differential (FAST/FAST-WIDE SCSI-2)			
Fax Information Service File Number	5512	5513	5516	5406

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet
RELIABILITY AND MAINTENANCE	
MTBF	Up to 1,000,000 hours
Preventive Maintenance	None
Component Design Life	7 years
Data Reliability	< 1 non-recoverable error in 10^{24} bits
SHOCK AND VIBRATION	**CFP1080, CFP2105, CFP2107**
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-32 Hz	0.01" (double amplitude)
33-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-28 Hz	0.10" (double amplitude)
29-400 Hz	4 Gs peak (without non-recoverable errors)
	CFP4207
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	50 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-32 Hz	0.01" (double amplitude)
33-375Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-28 Hz	0.10" (double amplitude)
29-375Hz	4 Gs peak (without non-recoverable errors)
ACOUSTIC NOISE	**CFP1080, CFP2105**
Acoustic Sound Power	< 4.3 Bels max in idle mode
	CFP2107, CFP4207
	< 4.6 Bels max in idle mode
WARRANTY	5 years

NOTE: Specifications subject to change

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DS-511-CAY 8/95

CFP2107S
Customer options

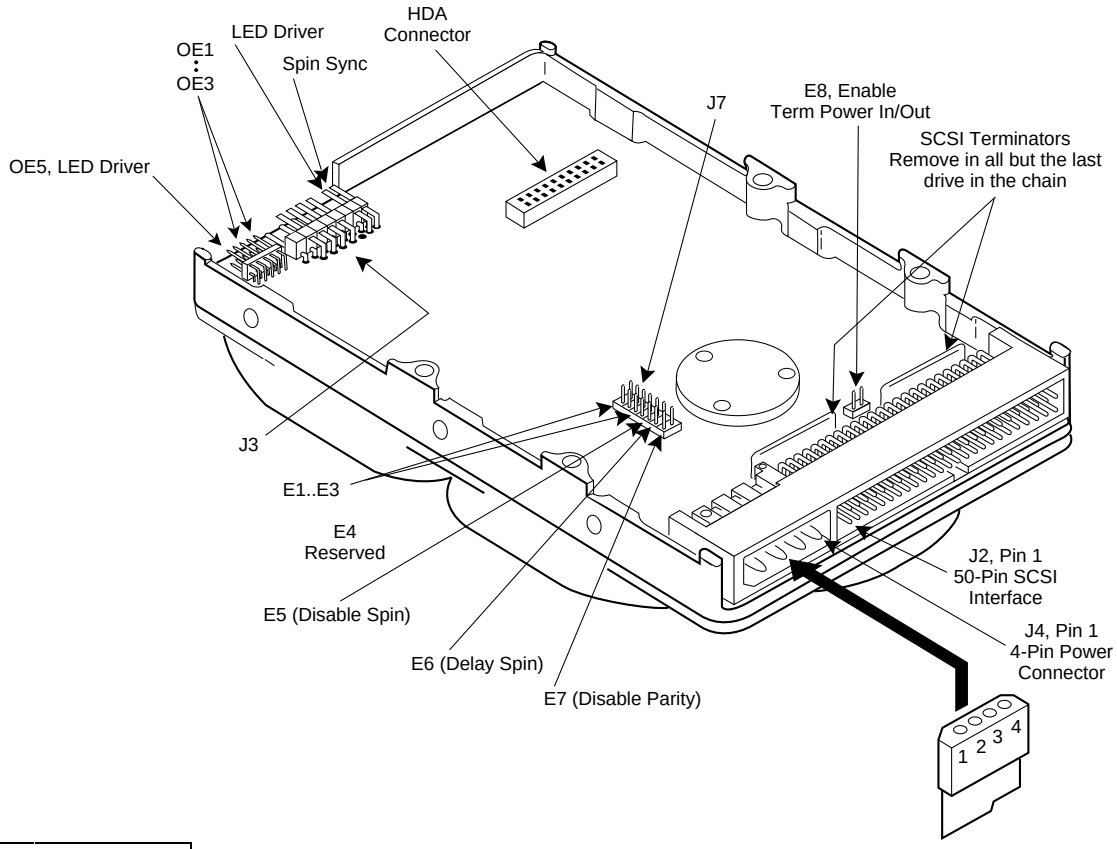
SCSI Bus Address

There are three jumpers available for configuration of SCSI ID: E1, E2, and E3. The following table defines the settings:

SCSI Bus Addresses*			
E1/OE1	**E2/OE2**	**E3/OE3**	**SCSI ID**
OUT	OUT	OUT	O
IN	OUT	OUT	1
OUT	IN	OUT	2
IN	IN	OUT	3
OUT	OUT	IN	4
IN	OUT	IN	5
OUT	IN	IN	6
IN	IN	IN	7

*****Use either but not both : E1 to E3 or 0E1 to 0E3. The 0E header is not installed on drive configurations with a LED on the PCBA.

Disable Spin: A jumper in the E5 location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 00H.



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25Max. Insertion

CONNER FILEPRO PERFORMANCE FAMILY (CAYMAN/ANTIGUA SERIES)
SPECIFICATION SUMMARY

MODEL	CFP1080S CFP1080E	CFP2105S CFP2105W CFP2105E	CFP2107S CFP2107W CFP2107E	CFP4207S CFP4207W CFP4207E
Embedded Controller/Interface	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2
Capacity (Formatted)	1080 MB	2147 MB	2147 MB	4294 MB
PHYSICAL CONFIGURATION				
Number of Disks	3	5	5	10
Data Surfaces	6	10	10	20
Data Heads	6	10	10	20
Servo	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	15	15	15
Track Density	3849 TPI	4030 TPI	4090 TPI	4090 TPI
Total Cylinders	3658	3948	4016	4016
Bytes per Sector	256/512	512	512	512
Sectors per Zone (Physical)	66-120	67-139	69-124	69-124
PERFORMANCE				
Seek Times (Typical)*				
Track to Track	3 msec	2 msec	2 msec	2 msec
Average (Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**
Maximum	26 msec	18 msec	18 msec	18 msec
Average Latency	5.56 msec	5.55 msec	4.17 msec	4.17 msec
Rotation Speed (±.1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM
Data Transfer Rate				
To/from media	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec
To/from buffer	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec
Start Time - Power Up				
Typical	8.5 sec	15 sec	15 sec	15 sec
Maximum	20 sec***	20 sec***	20 sec***	20 sec***
Stop Time - Power Down				
Typical	15 sec	12 sec	10 sec	10 sec
Maximum	20 sec	15 sec	15 sec	15 sec
Buffer Size	256/512 KB	512 KB	512 KB	512 KB
READ/WRITE				
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	64 K BPI	74 K BPI	78 K BPI	78 K BPI
PHYSICAL DIMENSIONS				
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.62" (41.2 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)
POWER REQUIREMENTS – (TYPICAL)				
+5 VDC ±5% Idle Mode	275 mA	420 mA	450 mA	680 mA
+5 VDC ±5% Spin-up Mode	500 mA	700 mA	750 mA	880 mA
+12 VDC ±5% Idle Mode	200 mA	300 mA	550 mA	780 mA
+12 VDC ±5% Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp
Power Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W
Power Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W
Power Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W
MODELS/CONNECTORS/INTERFACES				
CFP1080S/2105S/2107S/4207S	= 50-pin single-ended FAST SCSI-2			
CFP2105W/2107W/4207W	= 68-pin single-ended FAST/FAST-WIDE SCSI-2			
CFP1080E/2105E/2107E/4207E	= 80-pin connector attachment (FAST-WIDE SCSI-2)			
CFP2107WD/4207WD	= 68-pin differential (FAST/FAST-WIDE SCSI-2)			
Fax Information Service File Number	5512	5513	5516	5406

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
Operating	–200 to 10,000 feet
Non-operating (max)	40,000 feet
RELIABILITY AND MAINTENANCE	
MTBF	Up to 1,000,000 hours
Preventive Maintenance	None
Component Design Life	7 years
Data Reliability	< 1 non-recoverable error in 10^{24} bits
SHOCK AND VIBRATION	**CFP1080, CFP2105, CFP2107**
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	75 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-32 Hz	0.01" (double amplitude)
33-400 Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-28 Hz	0.10" (double amplitude)
29-400 Hz	4 Gs peak (without non-recoverable errors)
	CFP4207
Shock	1/2 sine pulse, 11 msec duration
Operating Shock	5 Gs (without non-recoverable errors)
Non-operating Shock	50 Gs (without non-recoverable errors)
Vibration	
Operating Vibration	Swept sine, 1 octave per minute
5-32 Hz	0.01" (double amplitude)
33-375Hz	0.5 Gs peak (without non-recoverable errors)
Non-operating Vibration	Swept sine, 1/2 octave per minute
5-28 Hz	0.10" (double amplitude)
29-375Hz	4 Gs peak (without non-recoverable errors)
ACOUSTIC NOISE	**CFP1080, CFP2105**
Acoustic Sound Power	< 4.3 Bels max in idle mode
	CFP2107, CFP4207
	< 4.6 Bels max in idle mode
WARRANTY	5 years

NOTE: Specifications subject to change

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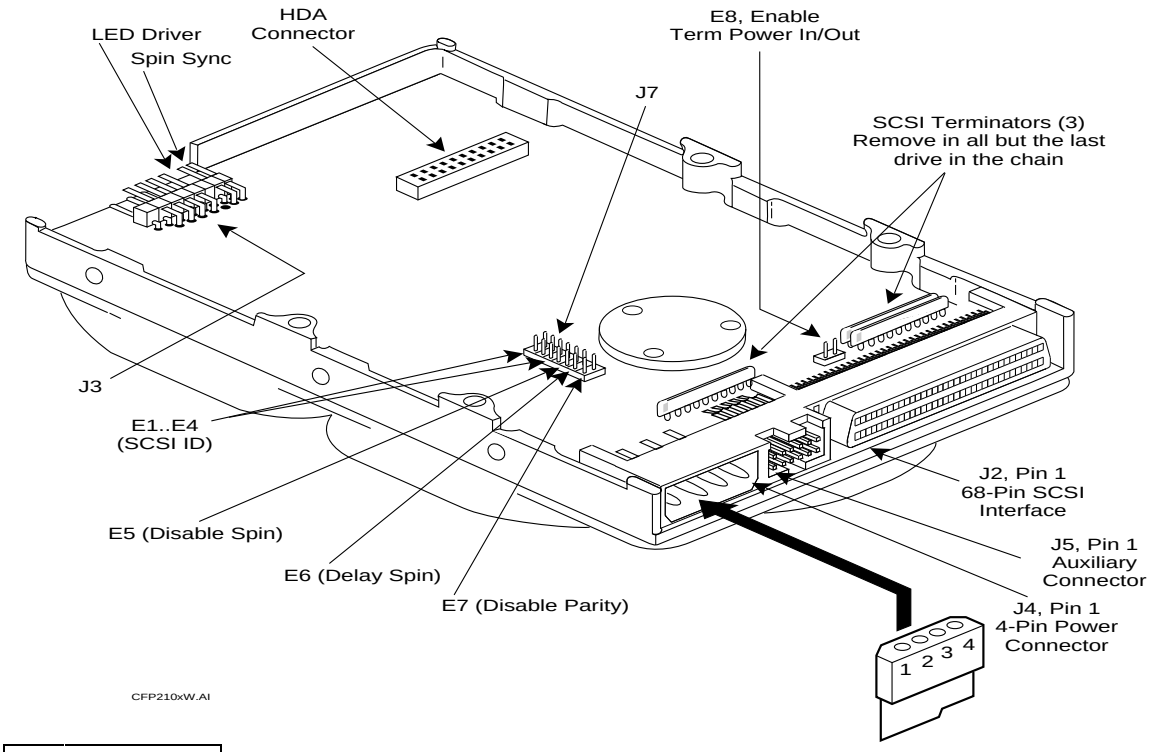
CFP2107W
Customer options

SCSI Bus Address

There are four jumpers available for configuration of SCSI ID: E1, E2, and E3, and E4. The following table defines the settings:

SCSI Bus Addresses*				
E1/Pin 1	**E2/Pin 3**	**E3/Pin 5**	**E4/pin 7**	**SCSI ID**
OUT/OPEN	OUT/OPEN	OUT/OPEN	OUT/OPEN	O
IN/GROUND	OUT/OPEN	OUT/OPEN	OUT/OPEN	1
OUT/OPEN	IN/GROUND	OUT/OPEN	OUT/OPEN	2
IN/GROUND	IN/GROUND	OUT/OPEN	OUT/OPEN	3
OUT/OPEN	OUT/OPEN	IN/GROUND	OUT/OPEN	4
IN/GROUND	OUT/OPEN	IN/GROUND	OUT/OPEN	5
OUT/OPEN	IN/GROUND	IN/GROUND	OUT/OPEN	6
IN/GROUND	IN/GROUND	IN/GROUND	OUT/OPEN	7
OUT/OPEN	OUT/OPEN	OUT/OPEN	IN/GROUND	8
IN/GROUND	OUT/OPEN	OUT/OPEN	IN/GROUND	9
OUT/OPEN	IN/GROUND	OUT/OPEN	IN/GROUND	10
IN/GROUND	IN/GROUND	OUT/OPEN	IN/GROUND	11
OUT/OPEN	OUT/OPEN	IN/GROUND	IN/GROUND	12
IN/GROUND	OUT/OPEN	IN/GROUND	IN/GROUND	13
OUT/OPEN	IN/GROUND	IN/GROUND	IN/GROUND	14
IN/GROUND	IN/GROUND	IN/GROUND	IN/GROUND	15

Disable Spin: A jumper in the E5 location, disables spin up on power-on. Disabling spin up on application of power can also be enabled by settting the DSPN bit in MODE SELECT page 00H.



	J4
1	+12 V
2	Ground
3	Ground
4	+5V

Mounting Holes
Side: 6-32 UNC-2B .15 Max. Insertion Bottom: 6-32 UNC-2B .25Max. Insertion

CONNER FILEPRO PERFORMANCE FAMILY (CAYMAN/ANTIGUA SERIES)
SPECIFICATION SUMMARY

MODEL	CFP1080S CFP1080E	CFP2105S CFP2105W CFP2105E	CFP2107S CFP2107W CFP2107E	CFP4207S CFP4207W CFP4207E
Embedded Controller/Interface	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2	FAST SCSI-2 FAST-WIDE SCSI-2
Capacity (Formatted)	1080 MB	2147 MB	2147 MB	4294 MB
PHYSICAL CONFIGURATION				
Number of Disks	3	5	5	10
Data Surfaces	6	10	10	20
Data Heads	6	10	10	20
Servo	Embedded	Embedded	Embedded	Embedded
Zones per Surface	8	15	15	15
Track Density	3849 TPI	4030 TPI	4090 TPI	4090 TPI
Total Cylinders	3658	3948	4016	4016
Bytes per Sector	256/512	512	512	512
Sectors per Zone (Physical)	66-120	67-139	69-124	69-124
PERFORMANCE				
Seek Times (Typical)*				
Track to Track	3 msec	2 msec	2 msec	2 msec
Average (Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**
Maximum	26 msec	18 msec	18 msec	18 msec
Average Latency	5.56 msec	5.55 msec	4.17 msec	4.17 msec
Rotation Speed (±.1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM
Data Transfer Rate				
To/from media	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec
To/from buffer	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec
Start Time - Power Up				
Typical	8.5 sec	15 sec	15 sec	15 sec
Maximum	20 sec***	20 sec***	20 sec***	20 sec***
Stop Time - Power Down				
Typical	15 sec	12 sec	10 sec	10 sec
Maximum	20 sec	15 sec	15 sec	15 sec
Buffer Size	256/512 KB	512 KB	512 KB	512 KB
READ/WRITE				
Recording Method	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL
Recording Density	64 K BPI	74 K BPI	78 K BPI	78 K BPI
PHYSICAL DIMENSIONS				
Height	1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.62" (41.2 mm)
Length	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)
Width	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)	4.00" (101.6 mm)
Weight	1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)
POWER REQUIREMENTS – (TYPICAL)				
+5 VDC ±5% Idle Mode	275 mA	420 mA	450 mA	680 mA
+5 VDC ±5% Spin-up Mode	500 mA	700 mA	750 mA	880 mA
+12 VDC ±5% Idle Mode	200 mA	300 mA	550 mA	780 mA
+12 VDC ±5% Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp
Power Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W
Power Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W
Power Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W
MODELS/CONNECTORS/INTERFACES				
CFP1080S/2105S/2107S/4207S	= 50-pin single-ended FAST SCSI-2			
CFP2105W/2107W/4207W	= 68-pin single-ended FAST/FAST-WIDE SCSI-2			
CFP1080E/2105E/2107E/4207E	= 80-pin connector attachment (FAST-WIDE SCSI-2)			
CFP2107WD/4207WD	= 68-pin differential (FAST/FAST-WIDE SCSI-2)			
Fax Information Service File Number	5512	5513	5516	5406

* Physical seek times at nominal DC input voltages.
** Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
*** If spin recovery is invoked, the maximum start time could be 40 seconds.

ENVIRONMENTAL CHARACTERISTICS	
Temperature	
Operating	5° C to 55° C
Non-operating	–40° C to 60° C
Thermal Gradient	20° C per hour maximum
Humidity	
Operating	5% to 95% non-condensing
Non-operating	5% to 95% non-condensing
Maximum Wet Bulb	29° C
Altitude (relative to sea level)	
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MTBF	Up to 1,000,000 hours
Preventive Maintenance	None
Component Design Life	7 years
Data Reliability	< 1 non-recoverable error in 10^{24} bits
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	CFP4207
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WARRANTY	5 years

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