# Quick Reference Guide For Disk Drive Products

October 1995 REV D

## **SECTION ONE IDE DRIVES**

Part One IDE 2.5"	CP2034
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CP2044(PK) CP2064 CP2084 CP2088 CP2124 CFN170A CFN250A CFN340A CFL350A CFL420A

Part two IDE 3.5" CP3104 HALF-HEIGHT CP3184

> CP3204F CP3304 CP3364 CP3504 CP3544

Part three IDE 3.5" CP3000 1/3-HEIGHT CP3024

> CP3044 CP30064 CP30064H CP30084 CP30104 CP30104H CP30124

CFA170A (CP30174)

CP30174E CP30204 CFS210A CP30254 CFS270A

CFA340A (CP30344)

CFS420A

CFS425A CFA540A CFS540A CFS541A CP30544 CFA810A CFS850A CFA1080A CFS1081A CFS1081A CFS1275A CFS1275A CFS1621A

## **SECTION TWO SCSI DRIVES**

Part one SCSI 2.5" CFN170S

CFN250S

Part two SCSI 3.5" CP340 HALF-HEIGHT CP3100

CP3200F

CP3360/CP3540 CFP4207S CFP4207W

Part three SCSI 3.5" CP3040 1/3 HEIGHT CP30060

> CP30080 CP30080E CP30100 CP30170E CP30200

CFA340S/CFA170S (CP30340/30170)

CP30540 CFA540S CFP1080S CFP1060S CFP1060W CP31370 CFP2105S CFP2105W CFP2107S CFP2107W

# **SECTION ONE**

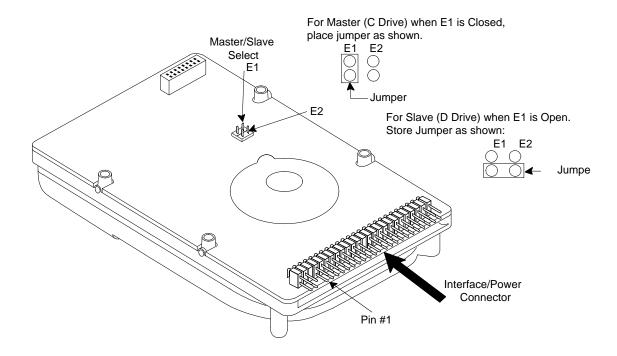
**IDE DRIVES** 

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 P	aram	eters	
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	
Side: 3mmx0.5mm THD4x) 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

32 Mbytes Formatted Capacity.		(typical)			
		R/W Mode	+5 VDC ± 550 ma	5%	POWER 2.8 W
KEY FEATURES		Seek Mode	550 ma		2.8 W 2.8 W
Designed for notebook computers		Idle Mode	250 ma		1.3 W
· · · · · · · · · · · · · · · · · · ·		Standby Mode	80 ma		.40 W
19 msec average seek time		Sleep Mode	30 ma		.30 W
<ul> <li>Uses only 1.3 watts of power</li> </ul>		Spin-up Mode	1.11 amp		n/a
<ul> <li>Rugged: 100 G's of shock</li> </ul>		PHYSICAL CHARAC	TERISTICS	<u> </u>	
<ul> <li>Ultra light: weighs only 7 ounces</li> </ul>		Physical Dimensions	Height	0.75" (19	
<ul> <li>Requires a single 5 volt power supply</li> </ul>			Length Width	4.00" (10	
PC/AT®- compatible interface			Weight	2.75" (69 7.0 oz (.1	
·		ENVIRONMENTAL (	CHARACTE	RISTICS	
	MODEL CP-2034	Temperature Operating		5°C to 5	5°C
Embedded Controller/Interface	PC/AT	Non-operating		-40°C to	60° C
Capacity (Formatted)	PC/A1 32 MB	Thermal Gradient Humidity		20°C per	hour maximum
PHYSICAL CONFIGURATION		Operating		8% to 80	% non-condensing
		Non-operating			% non-condensing
Actuator Type Number of Disks	Rotary voice-coil	Maximum Wet Bull Altitude (relative to se		26°C	
Data Surfaces	1 2	Operating	a level)	-200 to 1	0,000 feet
Data Heads	2	Non-operating (max	x.)	40,000 fe	
pervo	Embedded		•		
Tracks per Surface	823	RELIABILITY AND I	MAINTENAN	ICE	
Track Density	2100 TPI	MTBF		In evcess	of 150,000 hours (POH)
Track Capacity		MTTR		10 minut	
(Formatted)	19,456 bytes	Preventive Maintenan	ce	None	es typicai
Bytes per Block	512	Component Design Li	ife	5 years	
Blocks per Drive Sectors per Track	62,548 38	Data Reliability			ecoverable error in 1013
PERFORMANCE	30	SHOCK AND VIBRA	T1011	bits read	
Seek Times*		SHOCK AND VIBRA	TION		
Track to Track	5 msec	Shock		½ sine pu	lse, 11 msec duration
Average	3 msec 19 msec**	Vibration			e, ½ octave per minute
Maximum	40 msec	Non-operating Shock		100 G's	
Average Latency	8.7 msec	Non-operating Vibrat 5-31 Hz	ion	040741	
Rotation Speed (± .1%)	3486 RPM	32-500 Hz		5 G's (pea	uble amplitude)
Controller Overhead	1 msec	Operating Shock		10 G's	ak)
Data Transfer Rate		Operating Strock			non-recoverable errors)
To/from Media Data Transfer Rate	1.5 MB/sec	Operating Vibration		(""	ion recoverable errors)
To/from Buffer	4.5.3.4D/	5-9 Hz		.010" (do	uble amplitude)
Start Time – Power Up (0-Ready)	4.5 MB/sec	10-500 Hz		.50 G's (p	
Typical	10 sec			(without	non-recoverable errors)
Maximum	20 sec	MAGNETIC FIELD			
Stop Time – Power Down					
Typical	3 sec	The externally induce			
Maximum	5 sec	6 gauss as measured at	the disk surf	ace (DC -	1.5 MHz).
Start/stop Cycles	40,000 min	ACOUSTIC NOISE			
Interleave Buffer Size	1:1	-200110 HO13E			
* At nominal DC input voltages.	32 K	Acoustic Sound Pressu	re	34 dBA m	ax. at 1 meter.
*Average seek time is determined by dividing the total time req all possible ordered pairs of track addresses by the total number	uired to seek between er of these ordered pairs.	NOTE: Specifications	subject to ch	ange.	

READ/WRITE

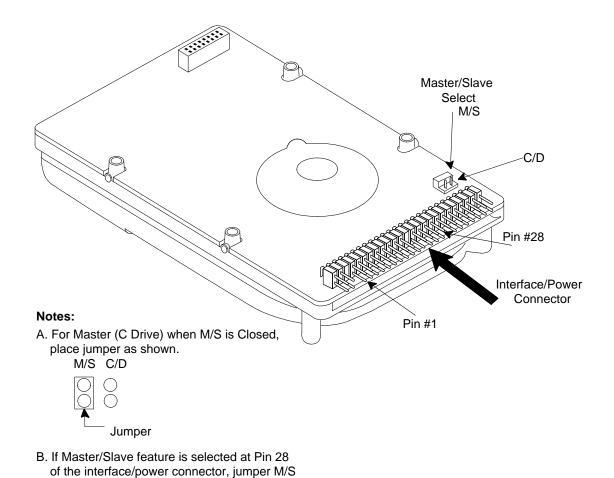
Recording Method Flux Density – ID (flux reversals per inch)

POWER REQUIREMENTS
(typical)

2,7 RLL code 28,146

## 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.



<b>CMOS Drive Par</b>	rameters
Cylinders	980
Heads	5
Sectors	17
Precomp	0
Landing Zone	980

should be left open as ashown:

- Jumper

M/S C/D

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)	110 11110,000	110 1112/000
Typical	6 sec	6 sec
Maximum	20 sec	20 sec
Stop Time - Power Down	20000	
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 ter		

<sup>\*</sup> 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 cod
Flux Density – ID	24,526
(flux reversals per inch)	

### POWER REQUIREMENTS

(typica	

	+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 Length	0.75" (19.0 mm) 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 1013

## SHOCK AND VIBRATION

Shock Vibration	½ sine pulse, 11 msec duration Swept sine, 1 octave per minute
Non-operating Shock	100 Gs
Non-operating Vibration	(without non-recoverable errors)
	4007/1 11 1/1 1/1
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 mod
ricoustic sourie ricosure	5 - abit max. at 1 meter milate mou

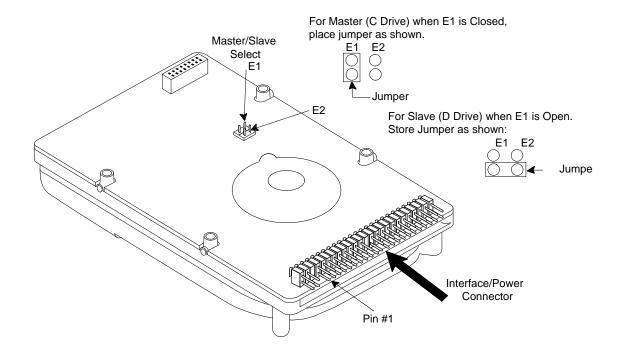
NOTE: Specifications subject to change.

## **CONNER**

## **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.



<b>CMOS Drive Parameters</b>		
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**

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

### READ/WRITE

Recording Method Flux Density – ID (flux reversals per inch)

2,7 RLL code 26,148

#### POWER REQUIREMENTS

	+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

0.75" (19.0 mm) 4.00" (101.6 mm) 2.75" (69.8 mm) Physical Dimensions Height Length Width

7.0 oz (.19 kg) Weight

### **ENVIRONMENTAL CHARACTERISTICS**

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

-200 to 10,000 feet Operating Non-operating (max.) 40,000 feet

#### RELIABILITY AND MAINTENANCE

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

## SHOCK AND VIBRATION

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

## MAGNETIC FIELD

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

## ACOUSTIC NOISE

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

NOTE: Specifications subject to change.

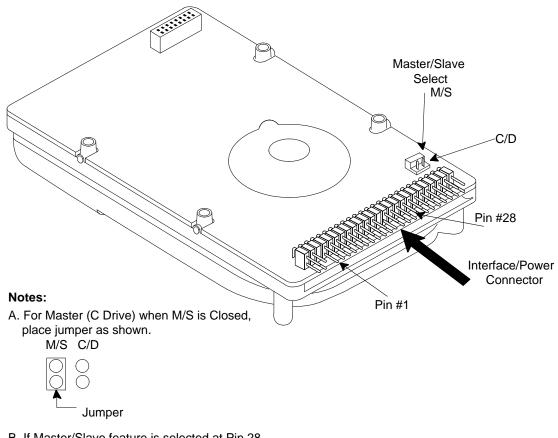
## CONNER

At nominal DC input voltages/nominal temperature.

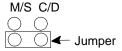
\*Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

# **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.



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

Typical Maximum

Start/stop Cycles Interleave

**Buffer Size** 

- 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 Capacity (Formatted)	PC/AT 85 MB
PHYSICAL CONFIGURATION	65 IVID
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	
Tomical	2

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.

2 sec

1:1 32 K

5 sec 60,000 min

### READ/WRITE

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

## 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 Length	0.75" (19.0 mm) 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 1013
	hisa mand

## SHOCK AND VIBRATION

Shock Vibration	½ sine pulse, 11 msec duration Swept sine, 1 octave per minute
Non-operating Shock	100 Gs
Non-operating Vibration	(without non-recoverable errors)
5-32 Hz	.100" (double amplitude)
33-500 Hz	5 Gs (peak)
Operating Shock	10 Gs
. 0	(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.

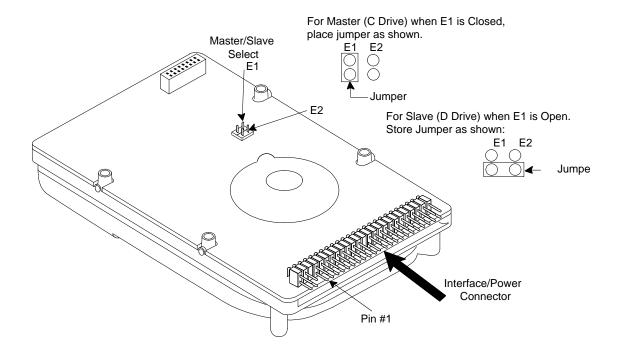
 $NOTE: Specifications \ subject \ to \ change.$ 

## CCHNER

## **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.



<b>CMOS Drive Parameters</b>	
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

	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.

MODEL

### READ/WRITE

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

## 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 Length	0.75" (19.0 mm) 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 1013 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

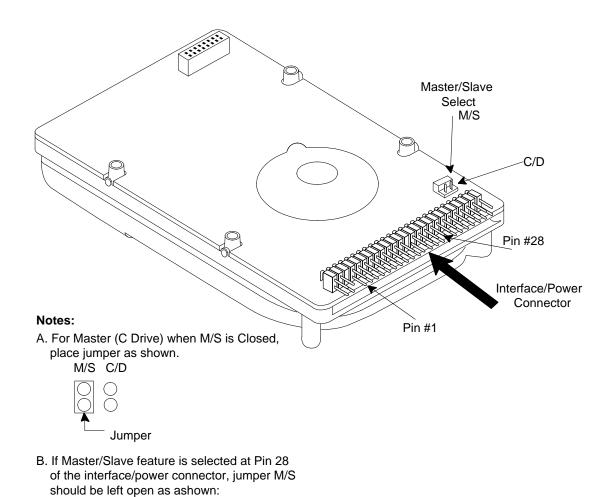
34 dBA max. at 1 meter in idle mode. Acoustic Sound Pressure

NOTE: Specifications subject to change.

## **CONNER**

# **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.



<b>CMOS Drive Para</b>	ameters
Cylinders	762
Heads	8
Sectors	39
Precomp	0

Jumper

762

M/S C/D

Landing Zone

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
<ul> <li>Pysical seek times at nominal DC input voltages/r</li> <li>Average seek time is determined by dividing the tall possible ordered pairs of track addresses by the</li> </ul>	otal time required to seek between

### READ/WRITE

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

## 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**

#### RELIABILITY AND MAINTENANCE

MTBF In excess of 150,000 hours (POH)
MTTR 10 minutes typical
Preventive Maintenance Component Design Life 5 years
Data Reliability 5 years

1 non-recoverable error in 10<sup>13</sup>

## SHOCK AND VIBRATION

(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

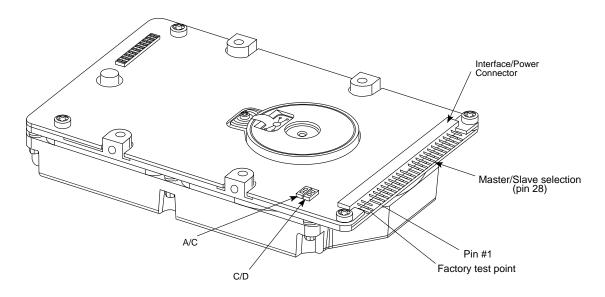
Acoustic Sound Pressure 34 dBA max at 1 meter.

NOTE: Specifications subject to change.

## **CCHNER**

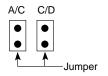
# **CFN170A Customer Options**

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.

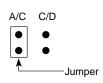


## Notes:

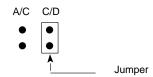
1. CAM Master/Standalone



2. CAM Slave



2	IC A	Master
J.	IOA	iviasiei



4. ISA Slave



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

Mou	nting	g Holes		
<u> </u>	_	^ <b>-</b>	T	_

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

## **CFN 170 Specification Summary**

	MODEL CFN 170A	MODEL CFN 170S	POWER REQUIREMENTS - (T	YPIGAL)	
Embedded Controller/Interface	PC/AT	SCSI		+5 <b>VDC</b> ± 5%	POWER
	168.2 MB	168.2 MB	R/W Mode	275 ma	1.4 W
Capacity (Formatted)	168.2 IVID	100.2 MD	Seek Mode	210 ma	1.1 W
PHYSICAL CONFIGURATION			idle Mode	200 ma	1.0 W
	D-+1	D	Standby Mode	40 ma	0.20 W
Actuator Type	Rotary voice-coil 2	Rotary voice-coil	Sleep Mode	40 ma	0.20 W
Number of Disks	4	2 4	Spin-up Mode	1.0 amp	
Data Surfaces	4	4	PHYSICAL CHARACTERISTIC	s	
Data Heads	Embedded	Embedded			0.7707 (10.5 )/ : )
Servo	1339	1339	Physical Dimensions	Height	0.770" (19.5 mm)(maximum)
Tracks per Surface			(±.01 except height)	Length	4.00" (101.6 mm)
Track Density	2611 TPI	2611 TPI		Width	2.75" (69.8 mm)
Track Capacity (Formatted)		24,064 – 40,448 bytes		Weight	6.0 oz (.17 kg)
Bytes per Block	512	512	ENVIRONMENTAL CHARACTE	RISTICS	
Blocks per Drive	329,084	329,084			
Sectors per Track (Physical)	47 – 72	47 – 72	Temperature		
PERFORMANCE			Operating	5°C to 55°	-
			Non-operating	-40°C to 6	
Seek Times (Typical)*		2.4	Thermal Gradient	20°C per l	nour maximum
Track to Track	2.6 msec	2.6 msec	Humidity		
Average (Read/Write)	12 msec**	12 msec**	Operating	5% to 90% non-condensing	
Maximum	20 msec	20 msec	Non-operating	5% to 90% non-condensing	
Average Latency	6.7 msec	6.7 msec	Maximum Wet Bulb	28.9°C	
Rotation Speed (± .1%)	4500 RPM	4500 RPM	Altitude (relative to sea level)		
Controller Overhead	500 μsec	500 μmsec	Operating	-200 to 10	,
Data Transfer Rate			Non-operating (max)	-200 to 15	,000 feet
To/from Media	18 – 28 Mb/sec	18 – 28 Mb/sec	RELIABILITY AND MAINTENA	MCE	
Data Transfer Rate			RELIABILITY AND MAINTERA	MGE	
To/from Buffer	8.0 MB/sec	6.0 MB/sec	MTBF	150,000 h	
Start Time - Power Up (0 – 4500 RPM)			MTTR	10 minute:	s typical
Typical	5 sec	5 sec	Preventive Maintenance	None	
Maximum	20 sec	20 sec	Component Design Life	5 years	
Stop Time - Power Bown			Data Reliability	<1 non-re	coverable error in 1013 bits read
Typical	4 sec	4 sec	CHOOK AND INDUSTRAL		
Maximum	5 sec	5 sec	SHOCK AND VIBRATION		
Start/Stop Cycles	50,000 min	50,000 min	Shock	1/2 sine pu	ilse (without non-recoverable error
Interleave	1:1	1:1	Operating Shock	10 Gs @ 1	1 msec/20 Gs @ 2 msec
Buffer Size	32 KB	32 KB	Non-operating Shock	200 Gs @	11 msec/300 Gs @ 2 msec
DE 4 D AUDITE			Vibration	Swept sine	, 1 octave per minute
READ/WRITE			Operating Vibration		
Recording Method	1,7 RLL code		5-400 Hz	1.0 Gs pea	k (without non-recoverable errors)
Recording Density	58,230 BPI		Non-operating Vibration		
Flux Density - ID (flux reversals per inch)	43,684 FCI		5-400 Hz	5 Gs peak	(without non-recoverable errors)
(max reversars per men)			MAGNETIC FIELD		

all possible ordered pairs of track addresses by the total number of these ordered pairs.

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.



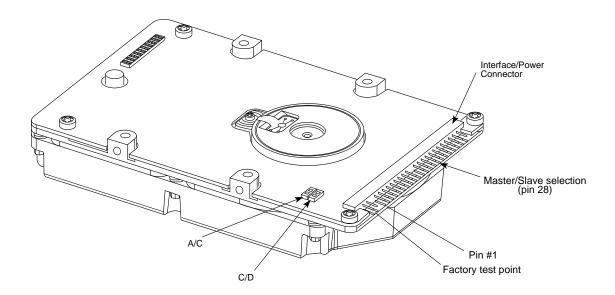
Worldwide Headquarters; 3081 Zanker Road, San Jose, CA 95134, Telephone (408) 456-4500, 1-8004-CONNER

Offices: U.S. - Northeast Region (617) 449-9550 \* Southeast Region (404) 414-1169 \* Central Region (214) 789-2800 \* Northwest Region (408) 456-4500 \* Southwest Region (714) 751-5823

Europe - Assat 39125-80011 \* Singapore 65/296-1992 \* Taipei 836/2-718-9193 \* Tokyo 81/3-3485-8901 Latin America - Mizmir (305) 789-6685

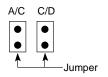
# **CFN250A Customer Options**

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.

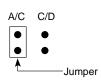


## Notes:

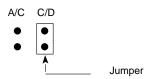
1. CAM Master/Standalone



2. CAM Slave



3	ISΔ	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

	MODEL CFN 250A	MODEL CFN 250S	POWER REQUIREMENTS - (TY	PICAL)	
Embedded Controller/Interface	PC/AT	SCSI		+5 VDC ± 5%	POWER
Capacity (Formatted)	252.7 MB	252.7 MB	R/W Mode	275 ma	1.4 W
Capacity (roimatted)	232.7 NID	232.7 IVID	Seek Mode	210 ma	1.1 W
PHYSICAL CONFIGURATION			idie Mode	200 ma	1.0 W
Actuator Type	Rotary voice-coil	Rotary voice-coil	Standby Mode	40 ma	0.20 W
Notuator Type Number of Disks	3	3	Sleep Mode	40 ma	0.20 W
Data Surfaces	6	6	Spin-up Mode	1.0 amp	
vata surraces Data Heads	6	6	PHYSICAL CHARACTERISTICS		
Servo	Embedded	Embedded	THI OTOME CHANACT ENGING		
servu Tracks per Surface	1339	1339	Physical Dimensions	Height	0.770" (19.5 mm)(maximum)
•	2611 TPI	2611 TPI	(±.01 except height)	Length	4.00" (101.6 mm)
Track Bensity		24,064 – 40,448 bytes		Width	2.75" (69.8 mm)
Track Capacity (Formatted)	512	512		Weight	7.0 oz (.20 kg)
Bytes per Block					
Blocks per Drive	493,626	493,626	ENVIRONMENTAL CHARACTER	usnes	
Sectors per Track (Phylsical)	47–72	47–72	Temperature		
PERFORMANCE			Operating	5°C to 55°	C
			Non-operating	-40°C to €	50°C
Seek Times (Typical)*			Thermal Gradient	20°C per l	nour maximum
Track to Track	2.6 msec	2.6 msec	Humidity	•	
Average (Read/Write)	12 msec**	12 msec**	Operating	5% to 90%	non-condensing
Maximum	20 msec	20 msec	Non-operating	5% to 90%	non-condensing
Average Latency	6.7 msec	6.7 msec	Maximum Wet Bulb	28.9°C	Ü
Rotation Speed (± .1%)	4500 RPM	4500 RPM	Altitude (relative to sea level)		
Controller Overhead	500 μsec	500 μsec	Operating	-200 to 10	.000 feet
Data Transfer Rate			Non-operating (max)	-200 to 15	,
To/from Media	18 – 28 Mb/sec	18 – 28 Mb/sec	, , , , , , , , , , , , , , , , , , , ,		,
Data Transfer Rate			RELIABILITY AND MAINTENAN	ICE	
To/from Buffer	8.0 MB/sec	6.0 MB/sec	MTBF	150,000 h	ours
Start Time - Power Up (0-4500 RPM)			MTTR	10 minutes	
Typical	5 sec	5 sec	Preventive Maintenance	None	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Maximum	20 sec	20 sec	Component Design Life	5 years	
Stop Time - Power Bown			Data Reliability	,	coverable error in 1013 bits read
Typical	4 sec	4 sec	Data Nonaumiy	vi non re	toverable error in 10 bits read
Maximum	5 sec	5 sec	SHOCK AND VIBRATION		
Start/Stop Cycles	50,000 min	50,000 min	Shock	1/2 sine pu	lse (without non-recoverable errors)
Interleave	1:1	1:1	Operating Shock		1 msec/20 Gs @ 2 msec
Buffer Size	32 KB	32 KB	Non-operating Shock		11 msec/20 Gs @ 2 msec
			Wibration	_	11 disec/300 Gs @ 2 disec 1 octave per minute
READ/WRITE				3wept sine	, i octave per inminite
Recording Method	1,7 RLL code		Operating Vibration	1.0 Cc 200	k (without non-recoverable errors)
Recording Density	58,230 BPI		5-400 Hz	1.0 Gs pea	(without hon-recoverable effors)
Flux Density - ID	43,684 FCI		Non-operating Vibration 5-400 Hz	5 Come-l-	(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 NOISE

Acoustic Sound Pressure

34 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.

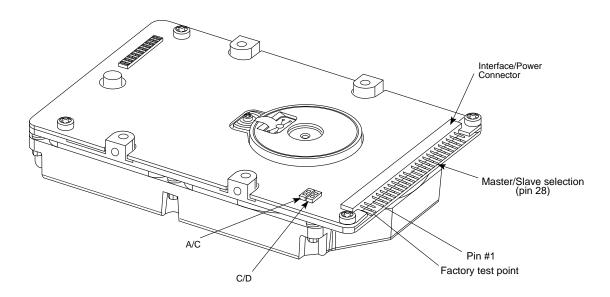


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Example - Acust 34912-580011 1 - London 44628-77272 - Munich 44989-96-5570 - Paris 214/47-45-92-50
Asia - Hong Kong 85/2-560-0229 - Scoul 82/2-551-0511 - Singapore 65/296-1992 - Taipei 886/2-718-9193 - Tokyo 81/3-3485-8901 Latin America - Miami (305) 789-6685

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.

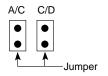
# **CFN340A Customer Options**

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.

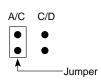


## Notes:

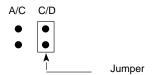
1. CAM Master/Standalone



2. CAM Slave



3. ISA Master



4. ISA Slave



CMOS Drive Para	ımeters
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

MODEL

	MODEL CFN 340A	MODEL CFN 340S	POWER REQUIREMENTS -	-(TYPICAL)	•
F	PC/AT	SCSI		+5 VDC ± 5%	POWER
Embedded Controller/Interface	344.5 MB	344,5 MB	R/W Mode	275 ma	1.4 W
Capacity (Formatted)	344.3 IVID	344.3 MID	Seek Mode	210 ma	1.1 W
PHYSICAL CONFIGURATION			idie Mode	200 ma	0.90 W
Actuator Type	Rotary voice-coil	Rotary voice-coil	Standby Mode	40 ma	0.20 W
Number of Disks	3	3	Sleep Mode	40 ma	0.20 W
Data Surfaces	6	6	Spin-up Mode	1.0 amp	
Data Heads	6	6	PHYSICAL CHARACTERIS	TICS	
Servo	Embedded	Embedded	Physical Dimensions	Height	0.770" (19.5 mm)(maximum)
Tracks per Surface	1598	1598	(±.01 except height)	Length	4.00" (101.6 mm)
Track Density	3004 TPI	3004 TPI	(±.01 except neight)	Width	2.75" (69.8 mm)
Track Capacity (Formatted)		27,136 – 45,568 bytes		Weight	7.0 oz (.20 kg)
Bytes per Block	512	512		weight	7.0 02 (.20 kg)
Blocks per Drive	672,924	672,924	ENVIRONMENTAL CHARAC	CTERISTICS	
Sectors per Track (Physical)	53 – 89	53 – 89	Temperature		
			Operating	5°C to 55°	°C
PERFORMANCE			Non-operating	-40°C to 6	60°C
Seek Times (Typical)*			Thermal Gradient		nour maximum
Track to Track	3 msec	3 msec	Humidity		
Average (Read/Write)	13 msec**	13 msec**	Operating	5% to 90%	non-condensing
Maximum	24 msec	24 msec	Non-operating		non-condensing
Average Latency	7.5 msec	7,5 msec	Maximum Wet Bulb	28.9° C	Ü
Rotation Speed (± .1%)	4000 RPM	4000 RPM	Altitude (relative to sea level)		
Controller Overhead	1 msec	1 msec	Operating	-200 to 10	,000 feet
Data Transfer Rate			Non-operating (max)	-200 to 15	,000 feet
To/from Media	19 - 32 Mb/sec	19 - 32 Mb/sec			
Data Transfer Rate			RELIABILITY AND MAINTE	ENANCE	
To/from Buffer	8.0 MB/sec	6.0 MB/sec	MTBF	150,000 he	ours
Start Time - Power Up (0-4000 RPM)			MTTR	10 minutes	s typical
Typical	5 sec	5 sec	Preventive Maintenance	None	
Maximum	20 sec	20 sec	Component Design Life	5 years	
Stop Time - Power Down			Data Reliability	<1 non-red	coverable error in 1013 bits read
Typical	4 sec	4 sec	*****		
Maximum	5 sec	5 sec	SHOCK AND VIBRATION		
Start/Stop Cycles	50,000 min	50,000 min	Shock	1/2 sine pu	lse (without non-recoverable errors)
Interleave	1:1	1:1	Operating Shock	10 Gs @ 1	1 msec/20 Gs @ 2 msec
Buffer Size	32 KB	32 KB	Non-operating Shock	200 Gs @	11 msec/300 Gs @ 2 msec
READ/WRITE			Vibration	Swept sine,	, 1 octave per minute
NEAD/WAITE			Operating Vibration		
Recording Method	1,7 RLL code		5-400 Hz	1.0 Gs pea	k (without non-recoverable errors)
Recording Density	65,564 BPI		Non-operating Vibration		
Flux Density - ID (flux reversals per inch)	49,173 FCI		5-400 Hz	5 Gs peak	(without non-recoverable errors)
			MAGNETIC FIELD		
* Physical seek times at nominal DC i	nput voltages.		TT . 11 1 1	2.0.1	: DC

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 MOISE

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

NOTE: Specifications subject to change.



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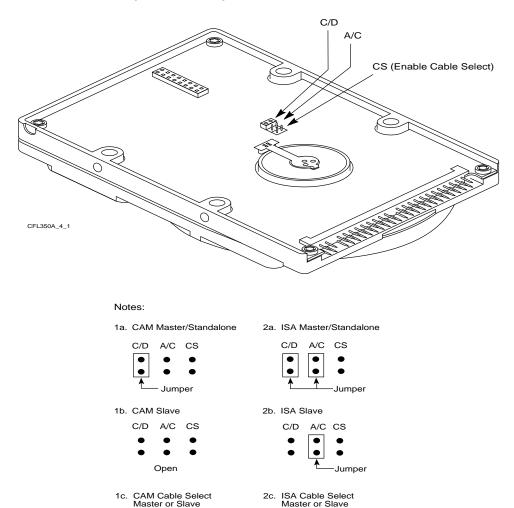
Europe - Aosta 239/125-800/111 \* London 44/628-777227 \* Munich 49/89-996-5570 \* Paris 33/1-47-45-92-500

Asia - Hong Kong 85/2-560-0229 \* Seoul 82/2-551-0511 \* Singapore 65/296-1992 \* Taipet 886/2-718-9193 \* Tokyo 81/3-3485-8901 Latin America - Miami (305) 789-6685

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.

# **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.



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

A/C CS

Jumper

Mounting	Holes	
Cida, 2mm	νΩ Emm	THD

Jumper

•

C/D A/C CS

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

## CONNER FILEPRO NOTEBOOK FAMILY (KIWI SERIES) SPECIFICATION SUMMARY

Embedded Controller/Interface Capacity (Formatted)  PHYSICAL CONFIGURATION  Number of Disks	MODEL		CFL350A	CFL420A
PHYSICAL CONFIGURATION	Emhedded i	Controller/Interface	Enhanced IDE	Enhanced IDE
PHYSICAL CONFIGURATION   Number of Disks   2   2   2   2   2   2   2   2   2				
Mumber of Disks	oupuony (	o.mattou)	0001112	144 1112
Data Surfaces         4         4         4         A         A         A         A         A         B         B         B         B         Tack Density         Embedded         20         B         20         Tack Density         11         20         12	PHYSICAL	CONFIGURATION		
Data Surfaces         4         4         4         A         A         A         A         A         B         B         B         B         Tack Density         Embedded         20         B         20         Tack Density         11         20         12	Number of I	Disks	2	2
Data Heads				
Zones per Surface   Rack Density   4110 TPI   4200 TPI   17012 (Jinders   2225   2393   2512   512			4	4
Track Density	Servo		Embedded	Embedded
Total Cylinders   2225   2393	Zones per S	Gurface	8	8
Syles per Sector   512   512   512   54-96   60-107	Track Dens	ity	4110 TPI	4200 TPI
Sectors per Zone (Physical)   54-96   60-107	Total Cylind	ters	2225	2393
Performance   Seek Times (Typical)*   Track to Track   3 msec   3 msec   20 msec   2	Bytes per S	ector	512	512
Seek Times (Typical)*   Track to Track	Sectors per	Zone (Physical)	54-96	60-107
Track to Tack         3 msec         3 msec           Average (Read/Write)         12 msec**         12 msec**           Maximum         20 msec         20 msec           Average Latency         8.00 msec         8.33 msec           3600 RPM         3600 RPM         3600 RPM           Data Transfer Rate         10.22 Mb/sec         11.1 MB/sec           11.1 MB/sec         11.1 MB/sec         11.1 MB/sec           Start Time - Power Down         3 sec         3 sec         3 sec           Maximum         20 sec***         20 sec***         3 sec           Maximum         5 sec         5 sec           Interleave         1:1         1:1         1:1           Buffer Size         32 KB         64 KB           Recording Method         1,7 RLL         1,7 RLL         1,7 RLL </td <td>PERFORMA</td> <td>ANCE</td> <td></td> <td></td>	PERFORMA	ANCE		
Average (Read/Write)	Seek Times	(Typical)*		
Maximum	Track to	o Track	3 msec	3 msec
Receive	Average	e (Read/Write)	12 msec**	12 msec**
Rotation Speed (£ . 1%)   3750 RPM   3600 RPM	Maximu	ım		
Data Transfer Rate         19-32 Mb/sec         19-33 Mb/sec           To/from buffer         11.2 ME/sec         11.1 MB/sec           Start Time - Power Up         3 sec         3 sec           Typical         3 sec         20 sec***           Stop Time - Power Down         1 sec         3 sec           Maximum         5 sec         5 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         4.00" (101.6 mm)         4.00" (101.6 mm)           Height         4.00" (101.6 mm)         4.00" (101.6 mm)           Weight         5.0 oz (142 kg)         5.0 oz (142 kg)           POWER REQUIREMENTS - (TYPICAL)           +5 VDC ±5%         Read/Write Mode         30 mA         30 mA           Standby Mode         30 mA         30 mA           Seek Mode         1.0 W         1.0 amp <tr< td=""><td>-</td><td>-</td><td></td><td></td></tr<>	-	-		
To/from media	Rotation Sp	need (± .1%)	3750 RPM	3600 RPM
To/from buffer	Data Transf	fer Rate		
Start Time - Power Up   Typical   3 sec   3 sec   20 sec***   20 sec***   20 sec***   20 sec***   20 sec***   3 sec				
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         30 mA         30 mA           Seek Mode         200 mA         200 mA           Idle Mode         1.0 amp         1.0 amp           Power         Read/Write Mode         1.5 W           Seek Mode         1.0 W         1.0 W <tr< td=""><td></td><td></td><td>11.2 MB/sec</td><td>11.1 MB/sec</td></tr<>			11.2 MB/sec	11.1 MB/sec
Stop Time - Power Down   Typical   3 sec   3 sec   5 sec   Interleave   1:1   1:1   1:1   Buffer Size   32 KB   64 KB			Ō	0
Stop Time - Power Down   Typical   3 sec   3 sec   5 sec   1:1				
Typical   3 sec   3 sec   5			20 Sec	20 sec
Maximum			3 coc	3 coc
### Transport of Company Compa				
### READ/WRITE    Recording Method		an		
Recording Method   1,7 RLL   1,7 RLL   Recording Density   70.6 K BPI   80 K BPI   53 K FCI   60 K FCI				
Recording Method   1,7 RLL   1,7 RLL   Recording Density   70.6 K BPI   80 K BPI   53 K FCI   60 K FCI				
Recording Density   To.6 K BPI   S0 K BPI   Flux Density   53 K FCI   60 K FCI	READ/WRI	TE		
### Flux Density	Recording I	Method		
## PHYSICAL DIMENSIONS  Height	-	-		
Height	Flux Densit	у	53 K FCI	60 K FCI
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	PHYSICAL	DIMENSIONS		
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	-			
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         170 mA         170 mA           Idle Mode         170 mA         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	-			
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			` ,	, ,
#5 VDC ±5% Read/Write Mode	Weight		5.0 oz (.142 kg)	5.0 OZ (.142 Kg)
Seek Mode	POWER RE	OUIREMENTS – (TYPICAL)		
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	+5 VDC ±5%	6 Read/Write Mode	300 mA	
Standby Mode   30 mA   30 mA   1.0 amp   1.0 w   1		Seek Mode	200 mA	200 mA
Spin-up Mode   1.0 amp   1.0 amp   1.0 amp		Idle Mode		
Power   Read/Write Mode   1.5 W   1.5 W		Standby Mode		
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		Spin-up Mode	1.0 amp	1.0 amp
$\begin{tabular}{ll} \textit{Idle Mode} & 0.85\mathrm{W} & 0.85\mathrm{W} \\ \textit{Standby Mode} & 0.15\mathrm{W} & 0.15\mathrm{W} \\ \textit{Spin-up Mode} & \mathrm{n/a} & \mathrm{n/a} \\ \end{tabular}$	Power	Read/Write Mode	1.5 W	1.5 W
$ \begin{array}{ccc} \textit{Standby Mode} & 0.15  \mathrm{W} & 0.15  \mathrm{W} \\ \textit{Spin-up Mode} & \mathrm{n/a} & \mathrm{n/a} \end{array} $ Fax Information Service		Seek Mode	1.0 W	1.0 W
Spin-up Mode n/a n/a Fax Information Service		Idle Mode	0.85 W	0.85 W
Fax Information Service		Standby Mode	0.15 W	0.15 W
		Spin-up Mode	n/a	n/a
	Eav Inform	nation Convice		
			5059	5060

## ENVIRONMENTAL CHARACTERISTICS

Temperature

 $5^{\circ}$  C to  $55^{\circ}$  C -40° C to 60° C Non-operatina Thermal Gradient 20° C per hour maximum

Humidity

5% to 90% non-condensing **Operating** 5% to 90% non-condensing Non-operating

28.9° C Maximum Wet Bulb

Altitude (relative to sea level)

-200 to 10.000 feet Operating 1 4 1 -200 to 15,000 feet Non-operating (max)

#### RELIABILITY AND MAINTENANCE

300.000 hours MTRF Preventive Maintenance None Component Design Life 5 years

 $<1\ non\text{-recoverable error in }10^{\scriptscriptstyle 14}\text{bits}$ Data Reliability

#### SHOCK AND VIBRATION

1/2 sine pulse (without non-recoverable errors)

20 Gs @ 2 msec Operating Shock 300 Gs @ 2 msec Non-operating Shock

Vibration

Operating Vibration Swept sine, 1 octave per minute

5-400 Hz 1.0 Gs peak (without non-recoverable errors)

Swept sine, 1 octave per minute Non-operating Vibration

5 Gs peak (without non-recoverable errors) 5-400 Hz

## 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

4.2 Bels max in idle mode Acoustic Sound Power

WARRANTY 3 years

NOTE: Specifications subject to change



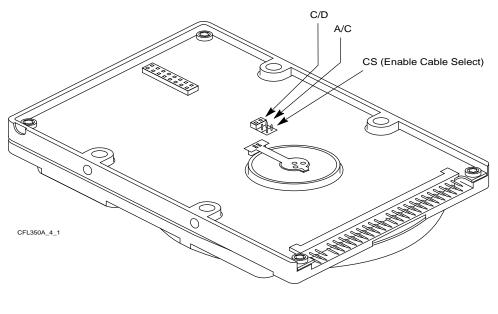
Worldwide Headquarters: 3081 Zanker Road, San Jose, CA 95134, (408) 456-4500 Technical Support (800) 426-6637, Sales Support (800) 626-6637 Sales Offices: U.S. - Northeast Region (617) 449-9550 Southeast Region (404) 806-3900 • Central Region (214) 789-2800 Northwest Region (408) 456-4500 • Southwest Region (714) 641-4482 Canada - Ontario (905) 272-3216 Europe - Aosta 39/125-800111 London 44/1628-771277 • Munich 49/89-996-5570 • Paris 33/1-4745-9250 Asia - Hong Kong 852/560-0229 • Seoul 82/2-551-0511 • Singapore 65/296-1992 Taipel 886/2-718-9193 • Tokyo 81/3-3485-8901 Latin America - Miami (305) 789-6685 Latin America - Miami (305) 789-6685

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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.

# **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:





## 2a. ISA Master/Standalone



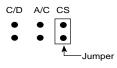
## 1b. CAM Slave



2b. ISA Slave



## 1c. CAM Cable Select Master or Slave



2c.	ISA Cable Select
	Master or Slave

C/D	A/C	CS	
•	•	•	
•	•	•	
	<u> </u>	<b>^</b>	—Jumper

<b>CMOS Drive Pa</b>	rameters
Cylinders	818
Heads	16
Cootoro	60

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

Embedded Controller/Interface Capacity (Formatted)  PHYSICAL CONFIGURATION  Number of Disks	MODEL		CFL350A	CFL420A
PHYSICAL CONFIGURATION	Emhedded i	Controller/Interface	Enhanced IDE	Enhanced IDE
PHYSICAL CONFIGURATION   Number of Disks   2   2   2   2   2   2   2   2   2				
Mumber of Disks	oupuony (	o.mattou)	0001112	144 1112
Data Surfaces         4         4         4         A         A         A         A         A         B         B         B         B         Tack Density         Embedded         20         B         20         Tack Density         11         20         12	PHYSICAL	CONFIGURATION		
Data Surfaces         4         4         4         A         A         A         A         A         B         B         B         B         Tack Density         Embedded         20         B         20         Tack Density         11         20         12	Number of I	Disks	2	2
Data Heads				
Zones per Surface   Rack Density   4110 TPI   4200 TPI   17012 (Jinders   2225   2393   2512   512			4	4
Track Density	Servo		Embedded	Embedded
Total Cylinders   2225   2393	Zones per S	Gurface	8	8
Syles per Sector   512   512   512   54-96   60-107	Track Dens	ity	4110 TPI	4200 TPI
Sectors per Zone (Physical)   54-96   60-107	Total Cylind	ters	2225	2393
Performance   Seek Times (Typical)*   Track to Track   3 msec   3 msec   20 msec   2	Bytes per S	ector	512	512
Seek Times (Typical)*   Track to Track	Sectors per	Zone (Physical)	54-96	60-107
Track to Tack         3 msec         3 msec           Average (Read/Write)         12 msec**         12 msec**           Maximum         20 msec         20 msec           Average Latency         8.00 msec         8.33 msec           3600 RPM         3600 RPM         3600 RPM           Data Transfer Rate         10.22 Mb/sec         11.1 MB/sec           11.1 MB/sec         11.1 MB/sec         11.1 MB/sec           Start Time - Power Down         3 sec         3 sec         3 sec           Maximum         20 sec***         20 sec***         3 sec           Maximum         5 sec         5 sec           Interleave         1:1         1:1         1:1           Buffer Size         32 KB         64 KB           Recording Method         1,7 RLL         1,7 RLL         1,7 RLL </td <td>PERFORMA</td> <td>ANCE</td> <td></td> <td></td>	PERFORMA	ANCE		
Average (Read/Write)	Seek Times	(Typical)*		
Maximum	Track to	o Track	3 msec	3 msec
Receive	Average	e (Read/Write)	12 msec**	12 msec**
Rotation Speed (£ . 1%)   3750 RPM   3600 RPM	Maximu	ım		
Data Transfer Rate         19-32 Mb/sec         19-33 Mb/sec           To/from buffer         11.2 ME/sec         11.1 MB/sec           Start Time - Power Up         3 sec         3 sec           Typical         3 sec         20 sec***           Stop Time - Power Down         1 sec         3 sec           Maximum         5 sec         5 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         4.00" (101.6 mm)         4.00" (101.6 mm)           Height         4.00" (101.6 mm)         4.00" (101.6 mm)           Weight         5.0 oz (142 kg)         5.0 oz (142 kg)           POWER REQUIREMENTS - (TYPICAL)           +5 VDC ±5%         Read/Write Mode         30 mA         30 mA           Standby Mode         30 mA         30 mA           Seek Mode         1.0 W         1.0 amp <tr< td=""><td>-</td><td>-</td><td></td><td></td></tr<>	-	-		
To/from media	Rotation Sp	need (± .1%)	3750 RPM	3600 RPM
To/from buffer	Data Transf	fer Rate		
Start Time - Power Up   Typical   3 sec   3 sec   20 sec***   20 sec***   20 sec***   20 sec***   20 sec***   3 sec				
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         30 mA         30 mA           Seek Mode         200 mA         200 mA           Idle Mode         1.0 amp         1.0 amp           Power         Read/Write Mode         1.5 W           Seek Mode         1.0 W         1.0 W <tr< td=""><td></td><td></td><td>11.2 MB/sec</td><td>11.1 MB/sec</td></tr<>			11.2 MB/sec	11.1 MB/sec
Stop Time - Power Down   Typical   3 sec   3 sec   5 sec   Interleave   1:1   1:1   1:1   Buffer Size   32 KB   64 KB			Ō	0
Stop Time - Power Down   Typical   3 sec   3 sec   5 sec   1:1				
Typical   3 sec   3 sec   5			20 Sec	20 sec
Maximum			3 coc	3 coc
### Transport of Company Compa				
### READ/WRITE    Recording Method		an		
Recording Method   1,7 RLL   1,7 RLL   Recording Density   70.6 K BPI   80 K BPI   53 K FCI   60 K FCI				
Recording Method   1,7 RLL   1,7 RLL   Recording Density   70.6 K BPI   80 K BPI   53 K FCI   60 K FCI				
Recording Density   To.6 K BPI   S0 K BPI   Flux Density   53 K FCI   60 K FCI	READ/WRI	TE		
### Flux Density	Recording I	Method		
## PHYSICAL DIMENSIONS  Height	-	-		
Height	Flux Densit	у	53 K FCI	60 K FCI
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	PHYSICAL	DIMENSIONS		
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	-			
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         170 mA         170 mA           Idle Mode         170 mA         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	-			
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			` ,	, ,
#5 VDC ±5% Read/Write Mode	Weight		5.0 OZ (.142 Kg)	5.0 OZ (.142 Kg)
Seek Mode	POWER RE	OUIREMENTS – (TYPICAL)		
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	+5 VDC ±5%	6 Read/Write Mode	300 mA	
Standby Mode   30 mA   30 mA   1.0 amp   1.0 w   1		Seek Mode	200 mA	200 mA
Spin-up Mode   1.0 amp   1.0 amp   1.0 amp		Idle Mode		
Power   Read/Write Mode   1.5 W   1.5 W		Standby Mode		
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		Spin-up Mode	1.0 amp	1.0 amp
$\begin{tabular}{ll} \textit{Idle Mode} & 0.85\mathrm{W} & 0.85\mathrm{W} \\ \textit{Standby Mode} & 0.15\mathrm{W} & 0.15\mathrm{W} \\ \textit{Spin-up Mode} & \mathrm{n/a} & \mathrm{n/a} \\ \end{tabular}$	Power	Read/Write Mode	1.5 W	1.5 W
$ \begin{array}{ccc} \textit{Standby Mode} & 0.15  \mathrm{W} & 0.15  \mathrm{W} \\ \textit{Spin-up Mode} & \mathrm{n/a} & \mathrm{n/a} \end{array} $ Fax Information Service		Seek Mode	1.0 W	1.0 W
Spin-up Mode n/a n/a Fax Information Service		Idle Mode	0.85 W	0.85 W
Fax Information Service		Standby Mode	0.15 W	0.15 W
		Spin-up Mode	n/a	n/a
	Eav Inform	nation Convice		
			5059	5060

## ENVIRONMENTAL CHARACTERISTICS

Temperature

 $5^{\circ}$  C to  $55^{\circ}$  C -40° C to 60° C Non-operatina Thermal Gradient 20° C per hour maximum

Humidity

5% to 90% non-condensing **Operating** 5% to 90% non-condensing Non-operating

28.9° C Maximum Wet Bulb

Altitude (relative to sea level)

-200 to 10.000 feet Operating 1 4 1 -200 to 15,000 feet Non-operating (max)

#### RELIABILITY AND MAINTENANCE

300.000 hours MTRF Preventive Maintenance None Component Design Life 5 years

 $<1\ non\text{-recoverable error in }10^{\scriptscriptstyle 14}\text{bits}$ Data Reliability

#### SHOCK AND VIBRATION

1/2 sine pulse (without non-recoverable errors)

20 Gs @ 2 msec Operating Shock 300 Gs @ 2 msec Non-operating Shock

Vibration

Operating Vibration Swept sine, 1 octave per minute

5-400 Hz 1.0 Gs peak (without non-recoverable errors)

Swept sine, 1 octave per minute Non-operating Vibration

5 Gs peak (without non-recoverable errors) 5-400 Hz

## 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

4.2 Bels max in idle mode Acoustic Sound Power

WARRANTY 3 years

NOTE: Specifications subject to change



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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.

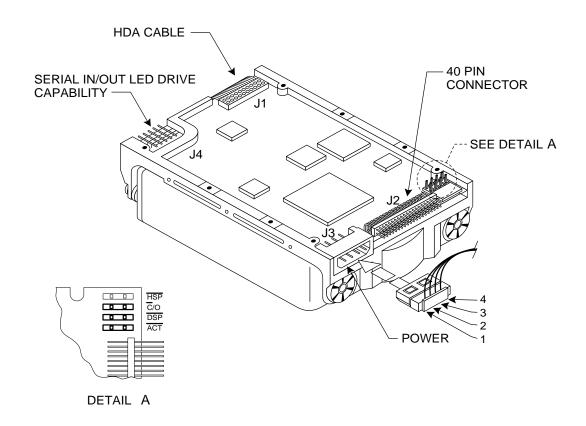
# **IDE DRIVES**

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.



	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	MODEL	MODEL CD 210	4 DOWED I	DEOLUDES (Estema	
	CP-3104	CP-3100	(PC/AT interface ty	4 FOWER 1	REQUIREMENTS	,
Embedded Controller	PC/AT	SCSI	( o, micraecty	• /	0/ =====	
Capacity (Formatted)	104.9 MB	104.9 MB	R/W Mode	+12 VDC ± 5 350 ma		POWER
	101101112	104.5 MD	Seek Mode	260 ma	300 ma	5.7 W
PHYSICAL CONFIGURAT	ΓΙΟΝ		Idle Mode	175 ma	180 ma 160 ma	4.0 W
Actuator Type	Voice coil	Voice coil	Spin-up Mode	180 ma	180 ma max	2.9 W
Number of Disks	4	4	-p up mode	100 ma	100 ma max	n/a
Data Surfaces	8	8	PHYSICAL CHA	RACTEDIS	TICS	
Data Heads	8	8	Physical Dimension			
Servo	Embedded	Embedded	i nysicai Dimension		1.625" (41.3	
Tracks per Surface	776	776		Length Width	5.75" (146.1	
Track Density	1150 TPI	1150 TPI		Weight	4.00" (101.6	
Track Capacity				weight	2.0 lbs. (.9 k	(g)
(Formatted)	16,896 bytes	16,896 bytes	ENVIRONMENT	AL CHADA	CTEDICTION	
Bytes per Block	512	512		AL CHAKA	CIERISTICS	
Blocks per Drive	204,864	204,864	Temperature			
Sectors per Track	34 physical	34 physical	Operating		5° C to 55° C	
	33 accessible	33 accessible	Non-operating Thermal Gradient		-40° C to 60° C	
			Humidity		20° C per hour max	kimum
PERFORMANCE			Operating		00/ 1 000/	
Seek Times*			Non-operating		8% to 80% non-con	densing
Track to Track	8 msec	8 msec	Maximum Wet Bul	lb.	8% to 80% non-con 26° C	densing
Average	25 msec**	25 msec**	Altitude (relative to		26° C	
Maximum	45 msec	45 msec	Operating	sea ievei)	2004-10.0004	
Average Latency	8.4 msec	8.4 msec	Non-operating (ma	av )	-200 to 10,000 feet 40,000 feet	
Rotation Speed (± .1%)	3575 RPM	3575 RPM	operating (in	un.)	40,000 feet	
Controller Overhead	1 msec	1 msec	RELIABILITY AN	ID MAINTE	ENANCE	
Data Transfer Rate			MTBF	WAINTE		
To/From Media	1.25 MB/sec	1.25 MB/sec	MTTR		30,000 hours (POH	)
Data Transfer Rate			Preventive Maintena		10 minutes typical	
To/From Buffer	3.75/4.75 MB/sec	1.66 MB/sec	Component Design I		None 5 years	
Start Time – Power Up (0-3575			Data Reliability	lie.		
Typical	15 sec	15 sec	Data Nellability		<1 non-recoverable	error in 1012
Maximum	20 sec	20 sec			bits read	
Stop Time – Power Down			SHOCK AND VIB	DATION		
Typical Maximum	15 sec	15 sec	Shock	KAHON	to a second	
	20 sec	20 sec			½ sine pulse	
Start/Stop Cycles Interleave	10,000 min	10,000 min	Vibration		Swept sine, 1 octav	e per minute
Buffer size	1-to-1	l-to-l	Non-operating Shock Non-operating Vibra	K A!	50 G's	
	32 K	16 K	5-62 Hz		000777	
* At nominal D.C. input voltages.  ** Average seek time is determined by div	alate and the second		63-500 Hz		.020" (double ampli	tude)
all possible ordered pairs of track addr	vicing the total time required esses by the total number of	to seek between	Operating Shock		4 G's (peak) 10 G's	
		mese ordered pairs.	Operating Shock			
READ/WRITE			Operating Vibration		(without non-recov	erable errors)
Interface	PC/AT	SCSI	5-27 Hz		.010" (double ampli	tudo)
Recording Method	2,7 RLL code	2,7 RLL code	28-500 Hz		.25 G's peak	tude)
Recording Density - ID	23.441 BPI	23.441 BPI			(without non-recov	orable annuma)
Flux Density – ID	-0,111 D1 (	20,771 DI I			( *** renout non-recov	erable errors)
(flux reversals per inch)	15,627	15,627	MAGNETIC FIELI	)		
,	,	,541	The externally induc		O	
			6 gauss as measured	eu magnetic i	nux density may no	t exceed
			o Parasa na menanten	at the disk St	iriace.	
			ACQUIETTO MOTOR	-		

ACOUSTIC NOISE

40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

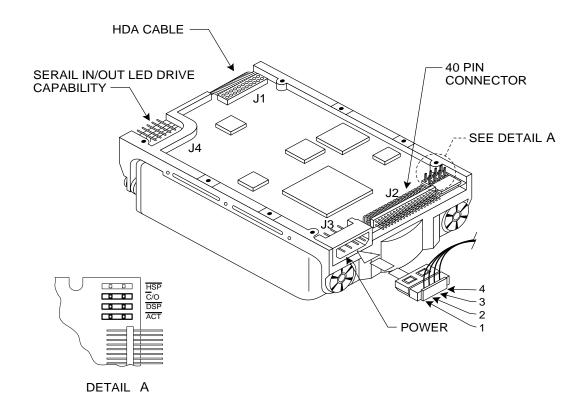


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# **CP3184 Customer Options**

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.



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

CMOS Drive Pa	arameters
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	MODEL CP-3184 Po (PC/AT interface typica		EMENTS	
Embedded Controller Capacity (Formatted) PHYSICAL CONFIGURATIC Actuator Type	PC/AT 84.3 MB ON Voice coil	SCSI 84.3 MB	R/W Mode Seek Mode Idle Mode Spin-up Mode	+12 VDC ± 5% 350 ma 260 ma 175 ma 180 ma	6 +5 VDC ± 5% 300 ma 180 ma 160 ma 180 ma max	POWER 5.7 W 4.0 W 2.9 W n/a
Number of Disks	3	3	PHYSICAL CHARA	CTERISTICS		
Data Surfaces	6	6				
Data Heads	6	6	Physical Dimensions		1.625" (41.3	
Servo	Embedded	Embedded		Length	5.75" (146.1	
Tracks per Surface	832	832		Width	4.00" (101.6	
Track Density	1150 TPI	1150 TPI		Weight	1.8 lbs. (.8 k	g)
Track Capacity			FNVIDANIAFNITAL		7100	
(Formatted)	16,896 bytes	16,896 bytes	ENVIRONMENTAL	CHARACTERIS	TICS	
Bytes per Block	512	512	Temperature			
Blocks per Drive	164,736	164,736	Operating	50	°C to 55° C	
Sectors per Track	33	33	Non-operating		0°C to 60°C	
PERFORMANCE			Thermal Gradient Humidity		)°C per hour max	imum
Seek Times*			Operating	80	% to 80% non-cor	ndensing
Track to Track	8 msec	8 msec	Non-operating	80	% to 80% non-cor	densing
Average	25 msec**	25 msec**	Maximum Wet Bul		5°C	
Maximum	45 msec	45 msec	Altitude (relative to s			
Average Latency	8.4 msec	8.4 msec	Operating		00 to 10,000 feet	
Rotation Speed (± .1%)	3575 RPM	3575 RPM	Non-operating (ma		0.000 feet	
Controller Overhead	1 msec	1 msec	rion operating (iii	,	,,000 1001	
Data Transfer Rate	Tillsee	1 mscc	RELIABILITY AND	MAINTENANCI	<b>E</b>	
To/From Media	1.25 MB/sec	1.25 MB/sec				
Data Transfer Rate	1.25 WID/Sec	1.23 WID/SCC	MTBF		excess of 50,000	hours (POH)
To/From Buffer	3.75/4.75 MB/sec	1.66 MB/sec	MTTR		minutes typical	
Start Time – Power Up (0-357		1.00 MID/SCC	Preventive Maintena		one	
Typical	15 sec	15 sec	Component Design I		years	
Maximum	20 sec	20 sec	Data Reliability		1 non-recoverable	error in 1012
Stop Time – Power Down	20 300	20 300		bi	ts read	
Typical	15 sec	15 sec				
Maximum	20 sec	20 sec	SHOCK AND VIBRA	ATION		
Start/Stop Cycles	10,000 min	10,000 min	Shock	1/5	sine pulse	
Interleave	1:1	1:1	Vibration		vept sine, 1 octave	nar minuta
Buffer size	32 K	16 K	Non-operating Shock		) G's	per minute
	32 K	10 K	Non-operating Vibra		7.63	
<ul> <li>At nominal D.C. input voltages.</li> <li>Average seek time is determined by d all possible ordered pairs of track add</li> </ul>	ividing the total time required to	seek between e ordered pairs.	5-62 Hz 63-500 Hz	.0	20" (double ampl G's (peak)	itude)
READ/WRITE	,	•	Operating Shock	10	) G's	
			On anning Wile	(v	rithout non-recov	eradie errors)
Interface	PC/AT	SCSI	Operating Vibration	^	10" (double	
Recording Method	2,7 RLL code	2,7 RLL code	5-27 Hz		10" (double ampl	ituaej
Recording Density – ID	24,437 BPI	24,437 BPI	28-500 Hz		5 G's peak	
Flux Density – ID		4 4 9 9 4		(V	vithout non-recove	erable errors)
(flux reversals per inch)	16,291	16,291	MAGNETIC FIELD			
			The externally induc 6 gauss as measured a			xceed

ACOUSTIC NOISE

Acoustic Noise

40 dBA max. at 1 meter.

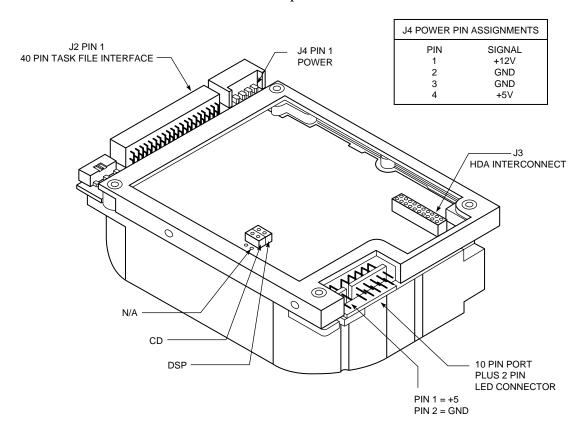
 $NOTE: Specifications \ subject \ to \ change.$ 



## CP3204F Costomer Options

The CP3204F has two jumper options, DSP and  $\mbox{C/D}$  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.



CMOS Drive Pa	arameters
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

MODEL

MODEL

- Sub-16 msec average seek time
- Low 4.2 watts typical power dissipation
- Half-height form factor
- PC/AT® or SCSI interface

	CP-3204F	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-coi
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 R	PM)	
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 dividi all possible ordered pairs of track address	ing the total time required t es by the total number of th	to seek between lese ordered pairs.

POWER REQUIREMENTS (PC/AT interface typical)

READ/WRITE

Recording Method Recording Density – ID Flux Density – ID (flux reversals per inch)

+12 VDC ± 5%	POWER
400 ma	6.0 W
400 ma	6.3 W
250 ma	4.2 W
2.0 amp max	n/a
	400 ma 250 ma

### PHYSICAL CHARACTERISTICS

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

1,7 RLL code 31,800 BPI

## **ENVIRONMENTAL CHARACTERISTICS**

remperature	
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 1013
•	hite 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

 $NOTE: Specifications \ subject \ to \ change.$ 



# **CP3304** Customer Options

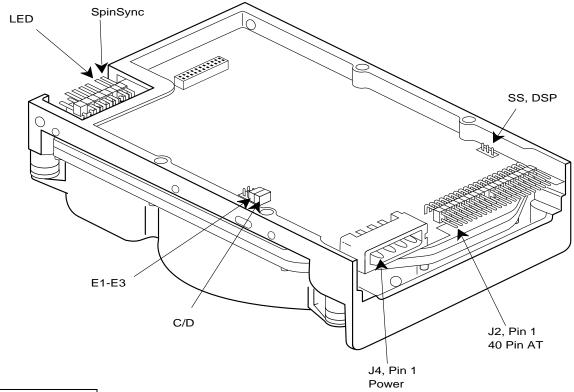
## C/D

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.

Jun	nper			
DSP	SS	Action		
Х		- spindle synchronization signal disabled on pin 39 activity LED signal available on pin 39.		
		<ul> <li>Must be in place for CAM /ATA drives.</li> </ul>		
		- spindle synchronization signal enabled on pin 39.		
	Χ	- 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 FEATURE

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

REA	DA.	WD.	TE

Recording Method
Recording Density-ID
Flux Density
(flux reversal per inch)

2,7 RLL code 41,665 BPI 27,777

## POWER REQUIREMENTS

(PC/A	T int	erf	ace

R/W mode	4.9V
Seek Mode	6.8V
idle Mode	4.4V

## 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	

Non-operating
Thermal Gradient

5° to 55° c -40° to 60° c 20 c per hour maximum

Humidity
Operating
Non-operating
Maximum Wet Bulb

8% to 80% non-condensing 8% to 80% non-condensing 26 c per hour

Altitude (relative tosea level)
Operating
Non-operating (max.)

-200 to 10,000 feet 40,000 feet

## RELIABILITY AND MAINTENANCE

MTBF MTTR 150,000 hours (POH)1 10 minutes typical None 5 years

Preventive Maintenance Component Design Life Data Reliability

<1 non-recoverable error in 10^13 bits read

## SHOCK AND VIBRATION

Shock

nock 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 28-500 Hz

0.010 inch displacement (double amplitude)
0.5 G's (without non-recoverable error)

Non-operating Vibration

5-62Hz 63-500Hz 0.020 inch double amplitude

4 G's peak

## ACOUSTIC NOISE

Acoustice Sound Pressure(idle)

40 dBA max, at 1 meter

Note: Specifications subject to change

# **CP3364** Customer Options

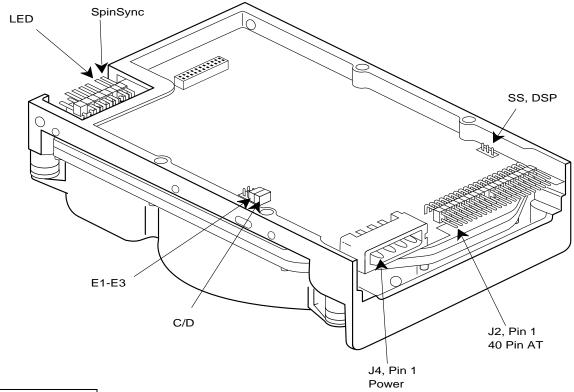
## C/D

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	SS	Action
		- spindle synchronization signal disabled on pin 39.
X		- activity LED signal available on pin 39.
		- Must be in place for CAM /ATA drives.
		- spindle synchronization signal enabled on pin 39.
	Χ	- 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 Capacity (Formatted)	PC/AT 362.8 MB	PC/AT 544.3 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-c
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 Kr Wr <500 μsec	<500 ki M
Data Transfer Rate	< 300 µsec	< 300 μsec
To/from Media	2.5 MB/sec	2.5 MB/sec
Data Transfer Rate	2.3 IVID/Sec	2.5 IVID/SEC
To/from Buffer	8.0 MB/sec	8.0 MB/sec
Start Time – Power Up (0-4500 R		0.0 MID/SEC
Typical	10 sec	10 sec
Maximum	20 sec	20 sec
Stop Time – Power Down	20 Sec	20 sec
Typical	10 sec	10 sec
Maximum	20 sec	20 sec
Start/stop Cycles Interleave	10,000 min	10,000 min
	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, Recording Density – ID 44 Flux Density – ID 29 (flux reversals per inch)

2,7 RLL code 44,325 BPI 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
Non-operating
Thermal Gradient
Humidity
Operating
Non-operating
Maximum Wet Bulb

5° C to 55° C -40° C to 60° C 20° C per hour maximum 8% to 80% non-condensing 8% to 80% non-condensing 26° C

Altitude (relative to sea level)
Operating
Non-operating (max.)

-200 to 10,000 feet 40,000 feet

#### RELIABILITY AND MAINTENANCE

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

#### SHOCK AND VIBRATION

Shock
Operating Shock
Operating Shock
So Gs
(without non-recoverable errors)

Vibration
Operating Vibration
5-27 Hz
28-500 Hz

Non-operating Vibration
5-62 Hz
63-500 Hz

Si sine pulse, 11 msec duration
5 Gs
(without non-recoverable errors)
Swept sine, 1 octave per minute
O10" (double amplitude)
SO Gs (peak)
(without non-recoverable errors)

Non-operating Vibration
5-62 Hz
63-500 Hz

Si sine pulse, 11 msec duration
Swept sine, 10 case per minute
O20 Gs
(without non-recoverable errors)

O20" (double amplitude)
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. - Adianta (404) 414-1169, Aurin (512) 346-5706, Boston (617) 449-9550, Dallaz (214) 680-2913, Iriner (714) 753-5822, Lox Angeles (818) 397-8395, Minnespolis (612) 449-5186, San Jose (408) 456-4500, Empe (813) 538-682, Washington D.C. (410) 266-6666 Sareque - Aosta 3912/28-80111. London 4471 409-0909, Minnel 499-99-96-570, Ren's 331-147-37-4140 & Adai - Scool 822-531311, Singapore 65/256-1992, Topos 613-3945-3901 Lattice Analysis and Control of Control of

## **CP3504** Customer Options

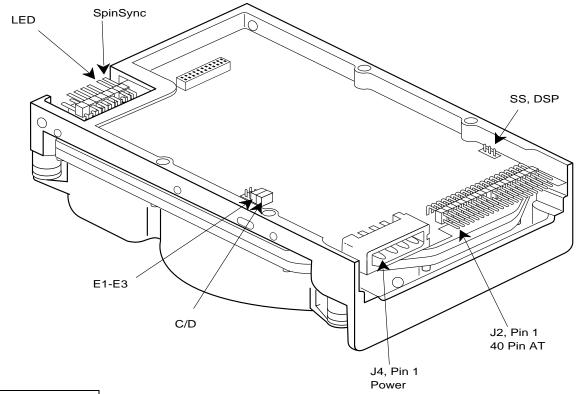
## C/D

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.

		1 7 1
Jun	per	
DSP	SS	Action
		- spindle synchronization signal disabled on pin 39.
X		- activity LED signal available on pin 39.
		- Must be in place for CAM /ATA drives.
		- spindle synchronization signal enabled on pin 39.
	Χ	- 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

Occiois per Tracks	40
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

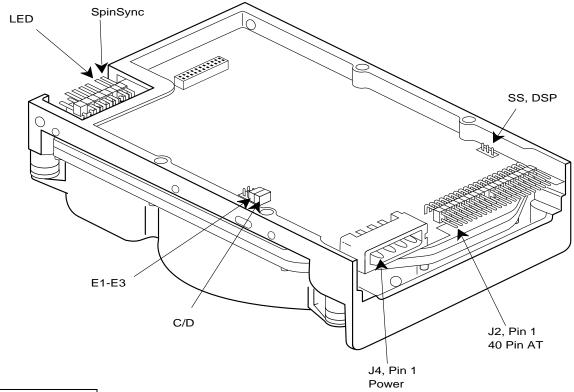
## C/D

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.

Jun	nper	
DSP	SS	Action
X		<ul> <li>spindle synchronization signal disabled on pin 39.</li> <li>activity LED signal available on pin 39.</li> <li>Must be in place for CAM /ATA drives.</li> </ul>
	Χ	<ul><li>spindle synchronization signal enabled on pin 39.</li><li>activity LED signal disabled from pin 39.</li></ul>
		- 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 Capacity (Formatted)	PC/AT 362.8 MB	PC/AT 544.3 MB
PHYSICAL CONFIGURATION		
Actuator Type	Rotary voice-coil	Rotary voice-c
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 Kr Wr <500 μsec	<500 ki M
Data Transfer Rate	< 300 µsec	< 300 μsec
To/from Media	2.5 MB/sec	2.5 MB/sec
Data Transfer Rate	2.3 IVID/Sec	2.5 IVID/SEC
To/from Buffer	8.0 MB/sec	8.0 MB/sec
Start Time – Power Up (0-4500 R		0.0 MID/SEC
Typical	10 sec	10 sec
Maximum	20 sec	20 sec
Stop Time – Power Down	20 Sec	20 sec
Typical	10 sec	10 sec
Maximum	20 sec	20 sec
Start/stop Cycles Interleave	10,000 min	10,000 min
	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, Recording Density – ID 44 Flux Density – ID 29 (flux reversals per inch)

2,7 RLL code 44,325 BPI 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
Non-operating
Thermal Gradient
Humidity
Operating
Non-operating
Maximum Wet Bulb

5° C to 55° C -40° C to 60° C 20° C per hour maximum 8% to 80% non-condensing 8% to 80% non-condensing 26° C

Altitude (relative to sea level)
Operating
Non-operating (max.)

-200 to 10,000 feet 40,000 feet

#### RELIABILITY AND MAINTENANCE

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

#### SHOCK AND VIBRATION

Shock
Operating Shock
Operating Shock
So Gs
(without non-recoverable errors)

Vibration
Operating Vibration
5-27 Hz
28-500 Hz

Non-operating Vibration
5-62 Hz
63-500 Hz

Si sine pulse, 11 msec duration
5 Gs
(without non-recoverable errors)
Swept sine, 1 octave per minute
O10" (double amplitude)
SO Gs (peak)
(without non-recoverable errors)

Non-operating Vibration
5-62 Hz
63-500 Hz

Si sine pulse, 11 msec duration
Swept sine, 10 case per minute
O20 Gs
(without non-recoverable errors)

O20" (double amplitude)
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. - Adianta (404) 414-1169, Aurin (512) 346-5706, Boston (617) 449-9550, Dallaz (214) 680-2913, Iriner (714) 753-5822, Lox Angeles (818) 397-8395, Minnespolis (612) 449-5186, San Jose (408) 456-4500, Empe (813) 538-682, Washington D.C. (410) 266-6666 Sareque - Aosta 3912/28-80111. London 4471 409-0909, Minnel 499-99-96-570, Ren's 331-147-37-4140 & Adai - Scool 822-531311, Singapore 65/256-1992, Topos 613-3945-3901 Lattice Analysis and Control of Control of

## **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



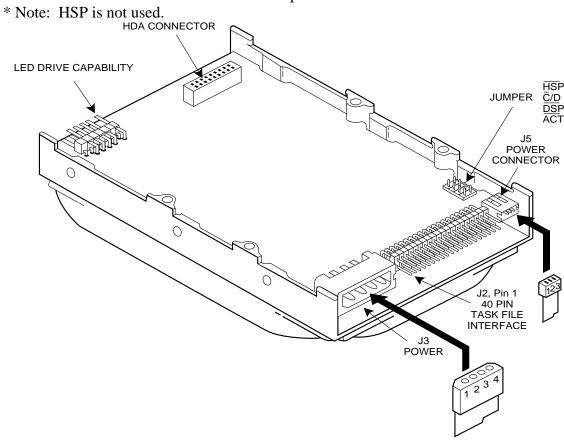


Figure 2. Connectors and Jumpers

	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

#### READ/WRITE

Recording Method Recording Density – ID Flux Density – ID (flux reversals per inch) 2,7 RLL code 30,871 BPI 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) 5.75" (146.1 mm) 4.00" (101.6 mm) Length Width Weight 1.1 lbs. (.50 kg)

5°C to 55°C

#### ENVIRONMENTAL CHARACTERISTICS

Tempe	eratur
Ope	rating
Nor	1-opei
ment.	

MODEL CP-3000

Embedded Controller/Interface PC/AT Capacity (Formatted) 42.65 MB

#### PHYSICAL CONFIGURATION

Actuator Type	Rotary voice co
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
A A A A A A D C A A A A A A A A A A A A	- **

\*\* 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.

Operating Non-operating Thermal Gradient

Humidity Operating Non-operating Maximum Wet Bulb Altitude (relative to sea level)

8% to 80% non-condensing 8% to 80% non-condensing 26° C

-40° C to 60° C 20° C per hour maximum

-200 to 10,000 feet 40,000 feet Non-operating (max.)

#### RELIABILITY AND MAINTENANCE

<b>ATBF</b>	In excess of 150,000 hours (POH)
ATTR	10 minutes typical
reventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 1012
	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.



## **CP3024**

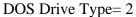
## **Customer Options**

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.



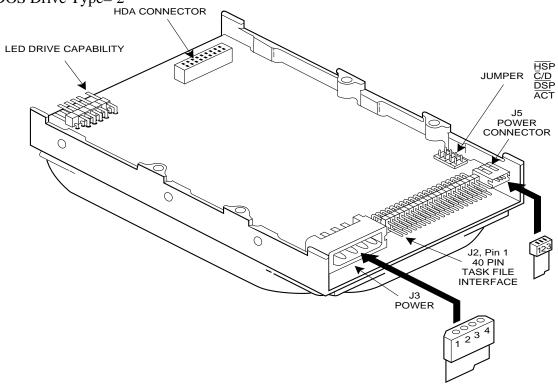


Figure 2. Connectors and Jumpers

	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	MODEL CP-3024 Pe (PC/AT interface typica		EMENIS	
Embedded Controller	PC/AT	SCSI		+12 VDC ± 59	6 +5 VDC ± 5%	POWER
Capacity (Formatted)	21.5 MB	21.0 MB	R/W Mode	230 ma	275 ma	4.2 W
, (commune,	41.0 1.10	2110 1112	Seek Mode	140 ma	180 ma	2.8 W
PHYSICAL CONFIGURATIO	N		Idle Mode	120 ma	120 ma	2.0 W
			Standby Mode	1 ma	90 ma	0.5 W
Actuator Type	Voice coil	Voice coil	Sleep Mode	1 ma	77 ma	0.4 W
Number of Disks	1	1	Spin-up Mode	700 ma	180 ma max	n/a
Data Surfaces	2	2				
Data Heads	2	2	PHYSICAL CHARA	CTERISTICS		
Servo	Embedded	Embedded	Physical Dimensions	Usiaka	1.007/254	
Tracks per Surface	636	622	r nysicai Dimensions	Height Length	1.00" (25.4 r 5.75" (146.1	
Track Density	1150 TPI	1150 TPI		Width	4.00" (101.6	
Track Capacity	14.0041	16.0061		Weight	1.1 lbs. (.50 l	
(Formatted)	16,896 bytes	16,896 bytes		weight	1.1 105. (.301	(g)
Bytes per Block	512	512	ENVIRONMENTAL	CHARACTERIS	TICS	
Blocks per Drive	41,976	41,052				
Sectors per Track	33	33	Temperature			
PERFORMANCE			Operating		°C to 55°C	
Jimanot			Non-operating		0°C to 60°C	
Seek Times*			Thermal Gradient	2	0°C per hour max	imum
Track to Track	8 msec	8 msec	Humidity			
Average	27 msec**	27 msec**	Operating		% to 80% non-cor	
Maximum	50 msec	50 msec	Non-operating		% to 80% non-con	densing
Average Latency	8.4 msec	8.4 msec	Maximum Wet Bulb		26°C	
Rotation Speed (± .1%)	3575 RPM	3575 RPM	Altitude (relative to sea level)			
Controller Overhead	1 msec	1 msec	Operating		-200 to 10,000 feet	
Data Transfer Rate			Non-operating (max.)		40,000 feet	
To/From Media	1.25 MB/sec	1.25 MB/sec				
Data Transfer Rate			RELIABILITY AND	MAINTENANC	E	
To/From Buffer	4.0 MB/sec	4.0 MB/sec	MTBF	1-	excess of 50,000	Laura /POU
Start Time - Power Up (0-3575	5 RPM)		MTTR			nours (FOF
Typical	5 sec	5 sec				
Maximum	10 sec	10 sec	Preventive Maintenance None Component Design Life 5 years			
Stop Time - Power Down			Data Reliability		1 non-recoverable	in 10
Typical	5 sec	5 sec	Data Renability		ts read	citoi ili to
Maximum	10 sec	10 sec		U.	is read	
Start/stop Cycles	20,000 min	20,000 min	SHOCK AND VIBRA	ATION		
Interleave	1:1	1:1				
* At nominal D.C. input voltages.			Shock		sine pulse	
** Average seek time is determined by div	viding the total time required	to seek between	Vibration		Swept sine, 1 octave per minute	
all possible ordered pairs of track addr	esses by the total number of the	nese ordered pairs.	Non-operating Shoc		S G's	
READ/WRITE			Non-operating Vibra			
	-		5-62 Hz		20" (double ampl	itude)
Interface	PC/AT	SCSI	63-500 Hz		G's (peak)	
Recording Method	2,7 RLL code	2,7 RLL code	Operating Shock		5 G's	
Recording Density - ID	21,379 BPI	21,379 BPI			vithout non-recove	erable errors
Flux Density – ID			Operating Vibration			
(flux reversals per inch)	14,396	14,396	5-27 Hz		10" (double ampl	itude)
-			28-500 Hz		G's peak	
				(1	vithout non-recov	erable error:
			MAGNETIC FIELD			
			The externally induced gauss as measured			xceed
			3			

ACOUSTIC NOISE

oustic Noise 40 dBA max. at 1 meter.

 $NOTE: Specifications \ subject \ to \ change.$ 



3081 Zanker Road, San Jose, CA 95134, Telephone (408) 433-3340, FAX (408) 433-3303, Boston (508) 660-1088, Dallas v214) 680-2913, Lor Angeles (714) 455-2777, Munich 49/89-811-2097, Paris 33/1-47-73 82 51, London 44/249-659 930, Singapore 65/2845366, Tokyo 81/3-597-8321, Taipei 886/02-718-9193

<sup>1. \*\*</sup>Mrademark of Conner Peripherals, Inc. @registered trademark of International Business Machines Curp. \*\*\*Patents Pending. ©1990 Conner Peripherals.alnc.

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

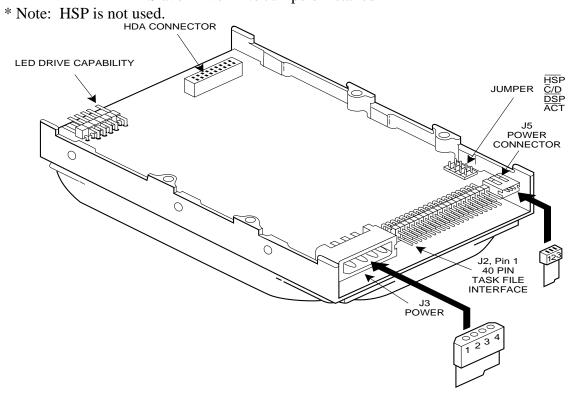


Figure 2. Connectors and Jumpers

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

J5		
1	+5 V	
2	+12 V	
3	Ground	

<b>CMOS Drive Parameters</b>		
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

RE/	AD/W	RITE
_	4.	

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

1.00" (25.4 mm) 5.75" (146.1 mm) 4.00" (101.6 mm) Physical Dimensions Height

Weight 1.1 lbs. (.50 kg)

L		
40		

MODEL CP-3044 MODEL CP-304 Embedded Controller/Interface PC/AT 42 MB SCSI 42 MB Capacity (Formatted)

#### PHYSICAL CONFIGURATION

A street Town	D	D
Actuator Type	Rotary voice-coil	Rotary voice-co
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 (0-355)	7 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.

## **ENVIRONMENTAL CHARACTERISTICS**

5°C to 55°C
-40° C to 60° C
20° C per hour maximum
•
8% to 80% non-condensing
8% to 80% non-condensing
26°C
-200 to 10,000 feet
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 1012
	hits read

#### SHOCK AND VIBRATION

Shock	½ sine pulse
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 Ĝ'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)
MACHETIC FIELD	

#### **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.

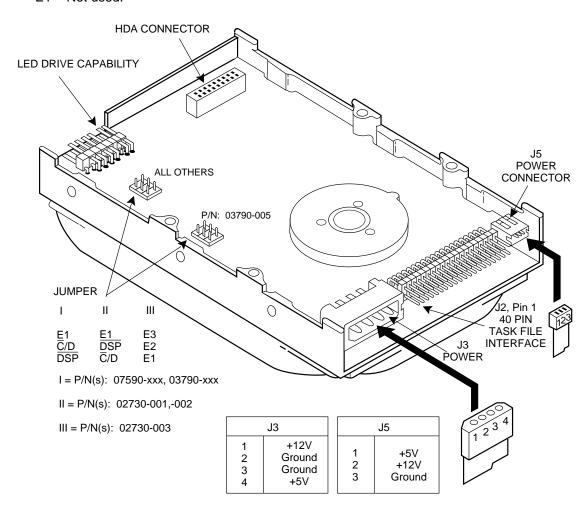
NOTE: Specifications subject to change.



## 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.



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 CONFIGUR	ATION		
Actuator Type	Rotary	Rotary	Rotary
	voice-coil	voice-coil	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*			
	0	0	0
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		110 1112/300	110 1112/300
Typical	15 sec	15 sec	15 sec
Maximum	20 sec	20 sec	20 sec
Stop Time – Power Dow:		20 300	20 300
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
buller size	0 T IX	OTK	OTK

#### READ/WRITE

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

1.00" (25.4 mm) 5.75" (146.1 mm) 4.00" (101.6 mm) Physical Dimensions Height Length Width 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 1012
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#### SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 Ĝ'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)

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

40 dBA max. at 1 meter. Acoustic Sound Pressure

NOTE: Specifications subject to change.



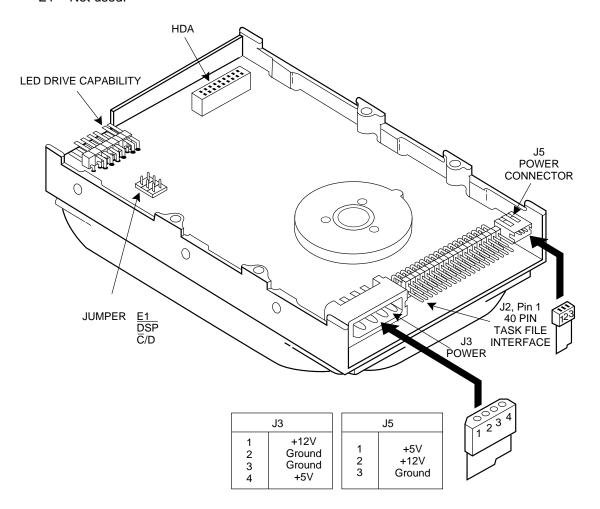
<sup>\*</sup> At nominal DC input voltages.

\*\*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.

# **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.



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 Capacity (Formatted)	PC/AT/EISA 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

#### READ/WRITE

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

#### POWER REQUIREMENTS

pic	

	+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	
dle 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	
Non-operating	
Thermal Gradient	
Humidity	
Operating	
Non-operating	
Maximum Wet Bulb	

5°C to 55°C 20°C per hour maximum 8% to 80% non-condensing 8% to 80% non-condensing 26° C

Altitude (relative to sea level) -200 to 10,000 feet Operating Non-operating (max.) 40,000 feet

#### RELIABILITY AND MAINTENANCE

MTBF MTTR	In excess of 150,000 hours (POH) 10 minutes typical
Preventive Maintenance	None
Component Design Life	5 years
Data Reliability	<1 non-recoverable error in 1012
ŕ	bits read

#### SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, ½ octave per minute
Non-operating Shock	75 Ĝs
Non-operating Vibration	
5-62 Hz	.020" (double amplitude)
63-500 Hz	4 Gs (peak)
Operating Shock	5 Gs "
. 0	(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.

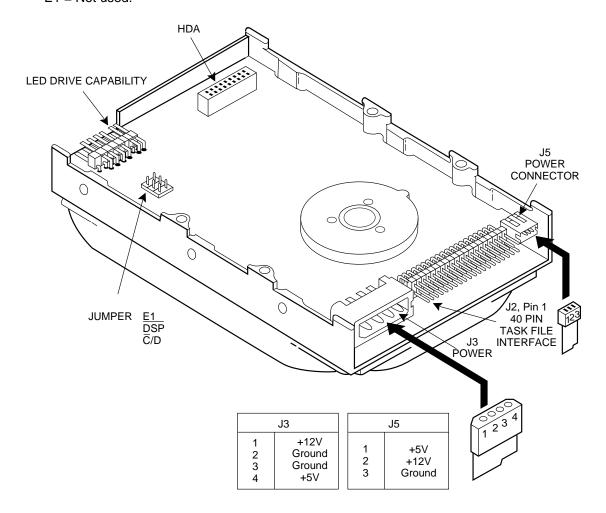
World Headquarters: 3081 Zanker Road, San Jose, CA 95134, Telephone (408) 456-4500, FAX (408) 456-4501 Sales Offices: U.S. - Boston (617) 449-9550, Dallas (214) 680-2913, Irvine (714) 753-5823, Minneapolis (612) 449-5186, San Jose (408) 456-4500 Europe - Rosta 39/125-800260, London 4471-409-0090, Munich 49/89-129-8061, 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

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.

# **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.



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

			ENVIRONMENTAL
	MODEL CP-30084	MODEL CP-30080	Temperature Operating
Embedded Controller/Interface Capacity (Formatted)	PC/AT/EISA 84.1 MB	SCSI 84.1 MB	Non-operating Thermal Gradient Humidity
PHYSICAL CONFIGURATION			Operating
Actuator Type Number of Disks Data Surfaces	Rotary voice-coil 2 4	Rotary voice-coil 2 4	Non-operating Maximum Wet Bul Altitude (relative to s Operating
Data Heads	4	4	Non-operating (ma
Servo Tracks per Surface	Embedded 1058	Embedded 1058	RELIABILITY AND
Track Density	1400 TPI	1400 TPI	MTBF
Track Capacity (Formatted) Bytes per Block Blocks per Drive Sectors per Track	19,968 bytes 512 164,268 39	19,968 bytes 512 164,268 39	MTTR Preventive Maintena Component Design I Data Reliability
PERFORMANCE			SHOCK AND VIBRA
Seek Times* Track to Track Average Maximum	8 msec sub-19 msec** 35 msec	8 msec sub-19 msec**	Shock Vibration Non-operating Shock
Average Latency	8.8 msec	8.8 msec	Non-operating Vibra 5-62 Hz
Rotation Speed (± .1%) Controller Overhead Data Transfer Rate	3400 RPM 1 msec	3400 RPM 1 msec	63-500 Hz Operating Shock
To/from Media	1.5 MB/sec	1.5 MB/sec	Operating Vibration
Data Transfer Rate To/from Buffer	4.0 MB/sec	4.0 MB/sec	5-27 Hz 28-500 Hz

Start Time – Power Up (0-3400 RPM)
Typical 15 sec
Maximum 20 sec

Stop Time – Power Down Typical Maximum

Start/stop Cycles Interleave

**Buffer Size** 

15 sec 20 sec 40,000 min

1:1 64 K

20 sec

15 sec

20 sec 40,000 min

#### READ/WRITE

Recording Method Recording Density – ID Flux Density – ID (flux reversals per inch) 1,7 RLL code 33,184 BPI 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 Length	1.00" (25.4 mm) 5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Waight	1.3 lbc (59 kg)

#### 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

#### 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 1012
,	bits read

#### RATION

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

40 dBA max. at 1 meter. Acoustic Sound Pressure

NOTE: Specifications subject to change

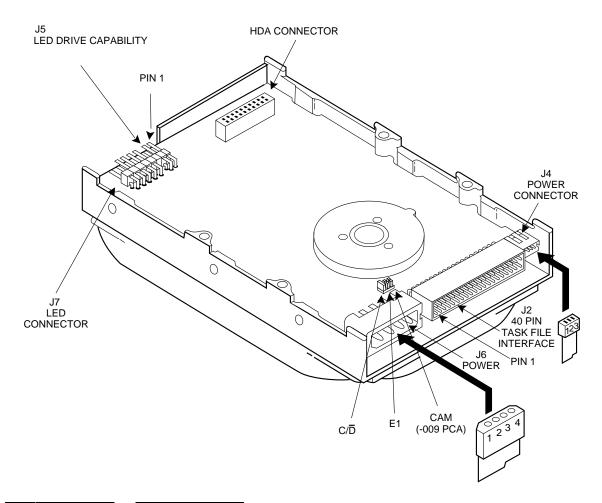


<sup>\*</sup>A rnominal DC input voltages.

\*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.

# **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	

<b>CMOS Drive Parameters</b>	
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**

	MODEL CP-30084E	MODEL CP-30080E	POWER REQUIREMENTS - (	TYPICAL)		
Embedded Controller/Interface	PC/AT	SCSI		+12 VDC ± 5%	+5 VDC ± 5%	POWER
•	85 MB	85 MB	R/W Mode	140 ma	390 ma	3.75 W
Capacity (Formatted)	83 IVID	93 MID	Seek Mode	230 ma	200 ma	3.75 W
PHYSICAL CONFIGURATION			Idle Mode	120 ma	200 ma	2.50 W
Actuator Type	Dotami visios soil	Dotom voice cail	Sieep Mode	10 ma	130 ma	.75 W
	Rotary voice-coil	Rotary voice-coil	Standby Mode	10 ma	130 ma	.75 W
Number of Disks Data Surfaces	1 2	1 2	Spin-up Mode	1100 ma	420 ma	n/a
vata Surraces Data Heads	2	2	(for first 7 seconds)			
	Embedded	_				
Servo	1806	Embedded	***************************************			
Tracks per Surface		1806	Physical Dimensions	-	1.00" (25.4 mm)	
Track Density	2150 TPI	2150 TPI			5.75" (146.1 mm	
Track Capacity (Formatted)	23,552 bytes	23,552 bytes			4.00" (101.6 mm	)
Bytes per Block	512	512		Weight	1.3 lbs (.59 kg)	
Blocks per Brive	166,152	166,152				
Sectors per Track	46	46				
	THUS SHARE IN	n o De <b>i de</b> n er de Barrane	Temperature			
1. Samuel and a second		and the second of the second of the	Operating	5°C to 55°C		
Seek Times*			Non-operating	−40°C to 60	°C	
Track to Track	3 msec	3 msec	Thermal Gradient	20°C per ho	ur maximum	
Average	17 msec**	17 msec**	Humidity			
Maximum	30 msec	30 msec	Operating		non-condensing	
Average Latency	7.8 msec	7.8 msec	Non-operating	8% to 80% non-condensing		
Rotation Speed (± .1%)	3833 RPM	3833 RPM	Maximum Wet Bulb	29°C		
Controller Overhead	1 msec	1 msec	Altitude (relative to sea level)			
Data Transfer Rate			Operating	-200 to 10,000 feet		
To/from Media	2.0 Mb/sec	2.0 Mb/sec	Mon-operating (max)	40,000 feet		
Data Transfer Rate			Commence of the Commence of th	Hand Maddin American	on the Androdesia Administration of	year-reak
To/from Buffer	6.0 MB/sec	5.0 MB/sec		A STATE OF THE STA	*********	- 1466
Start Time - Power Up			MTBF	In excess of	150,000 hours (P	OH)
Typical	15 sec	15 sec	MTTR	10 minutes t	ypical	
Maximum	20 sec	20 sec	Preventive Maintenance	None		
Stop Time - Power Down			Component Design Life	5 years		
Typical	15 sec	15 sec	Data Reliability	<1 non-reco	verable error in	1013 bits read
Maximum	20 sec	20 sec	ACCOUNT OF THE PARTY OF THE PAR	and the contract of the contra		management of the second
Start/Stop Cycles	20,000 min	20,000 min		特別的	PARTIES AND	S. S. S. S.
Interleave	1:1	1:1	Shock	1/2 sine puls	e, 11 msec durati	on
Buffer Size	32 K	32 K	Operating Shock		it non-recoverab	
A SCHOOL OF THE PROPERTY OF THE PARTY OF THE	TOTAL PROPERTY AND	A SAN AND RESERVE AND	Non-operating Shock	75 Gs		,
			Vibration	Swept sine,	octave per minu	ite
Recording Method	1,7 RLL code		Operating Vibration			
Recording Density – ID	42,173 BPI		5-10 Hz	0.10" (doub	e amplitude)	
Flux Density – ID	31,630		10-100 Hz	0.5 Gs (peak) (without non-recoverable erro		coverable errors
(flux reversals per inch)	•		Non-operating Vibration	(Pean	, ,	
			5-28 Hz	0.10" (doub	e amplitude)	
* Physical seek times at nominal D	C input voltages.	. I a sout to source	10-400 Hz	•	without non-rec	overable errord
** Average seek time is determined all possible ordered pairs of trac	k addresses by the total number	of these ordered pairs.	. 0 100 114	i Os (peak)		orerable 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.



Worldwide Meadquarterus 3081 Zanker Road, San Jose, CA 95134, Telephone 1-800-5-CONNER

osset U.S. - Northeast Region (617) 449-9550 \* Southeast Region (404) 414-1169 \* Central Region (124) 850-2913 \* Northwest Region (408) 456-4500 \* Southwest Region (714) 753-5823

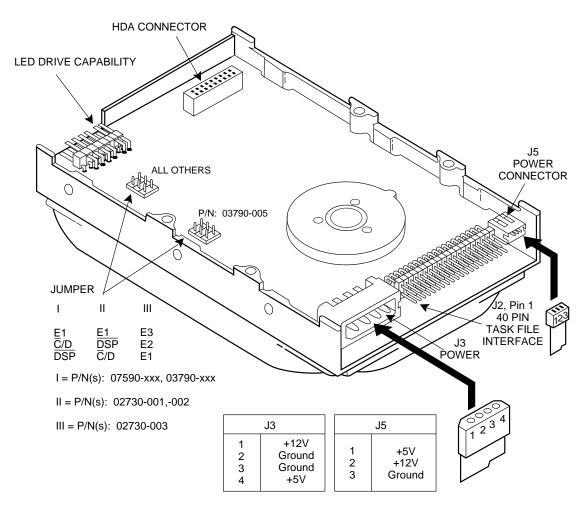
Language — Asses 3378-2580011 \* London 44662-377277 \* Winnich 49/89-995-5507 \* Paris 331-747-59-25.0

Asla – Hong Kong 85/2-560-0229 \* Scoul 82/2-551-0511 \* Singapore 65/296-1992 \* Taipei 88/62-718-9193 \* Tokyo 81/3-3485-8901 Letin America — Mizmi (305) 789-6685

# **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.



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

\* 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.

- 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	ENVIRONMENTAL CHARACT	TERISTICS
Embedded Controller/ Interface Capacity (Formatted) PHYSICAL CONFIGURA	PC/AT/EISA 120 MB	MCA 120 MB	SCSI 120 MB	Temperature Operating Non-operating Thermal Gradient Humidity	5° C to 55° C -40° C to 60° C 20° C per hour maximum
Actuator Type Number of Disks Data Surfaces Data Heads Servo Tracks per Surface Track Density	Rotary voice-coil 2 4 4 Embedded 1524 1850 TPI	Rotary voice-coil 2 4 4 Embedded 1524 1850 TPI	Rotary voice-coil 2 4 4 Embedded 1524 1850 TPI	Operating Non-operating Maximum Wet Bulb Altitude (relative to sea level) Operating Non-operating (max.)  RELIABILITY AND MAINTEN  MTBF	8% to 80% non-condensing 8% to 80% non-condensing 26° C  -200 to 10,000 feet 40,000 feet  In excess of 150,000 hours (PC
Track Capacity (Formatted) Bytes per Block Blocks per Drive Sectors per Track PERFORMANCE	19,968 bytes 512 237,432 39	19,968 bytes 512 237,432 39	19,968 bytes 512 237,432 39	MTTR Preventive Maintenance Component Design Life Data Reliability  SHOCK AND VIBRATION	10 minutes typical None 5 years <1 non-recoverable error in 10 bits read
Seek Times* Track to Track Average Maximum Average Latency Rotation Speed (± .1%) Controller Overhead Data Transfer Rate To/From Media Data Transfer Rate To/From Buffer Start Time – Power Up (0- Typical Maximum Stop Time – Power Down	15 sec 20 sec	35 msec 8.8 msec 3399 RPM 1 msec 1.5 MB/sec 4.0 MB/sec 15 sec 20 sec	35 msec 8.8 msec 3399 RPM 1 msec 1.5 MB/sec 4.0 MB/sec 15 sec 20 sec	Shock Vibration Non-operating Shock Non-operating Vibration 5-62 Hz 63-500 Hz Operating Shock Operating Vibration 5-27 Hz 28-500 Hz  MAGNETIC FIELD	½ sine pulse, 11 msec duration Swept sine, 1 octave per minute 75 G's  .020" (double amplitude) 4 G's (peak) 5 G's (without non-recoverable error .025" (double amplitude) .50 G's peak (without non-recoverable error
Typical Maximum Start/stop Cycles Interleave Buffer size	15 sec 20 sec 40,000 min 1:1 64 K	15 sec 20 sec 40,000 min 1:1 64 K	15 sec 20 sec 40,000 min 1:1 64 K	The externally induced magneti 6 gauss as measured at the disk s  ACOUSTIC NOISE  Acoustic Noise	
				I ICOUSTIC I TOISC	. o abri max. at 1 metel.

READ/WRITE

R/W Mode Seek Mode Idle Mode

Spin-up Mode

Recording Method

Recording Density – ID Flux Density – ID (flux reversals per inch)

POWER REQUIREMENTS

(PC/AT/EISA interface typical)

PHYSICAL CHARACTERISTICS

Physical Dimensions Height

1,7 RLL code 33,184 BPI 24,888

+12 VDC ± 5% +5 VDC ± 5% 200ma 280ma

150ma 150ma

380ma

1.00" (25.4 mm) 5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs. (.59 kg)

260ma 175ma

1100ma

Length Width

POWER

3.8 W 3.9 W 2.8 W

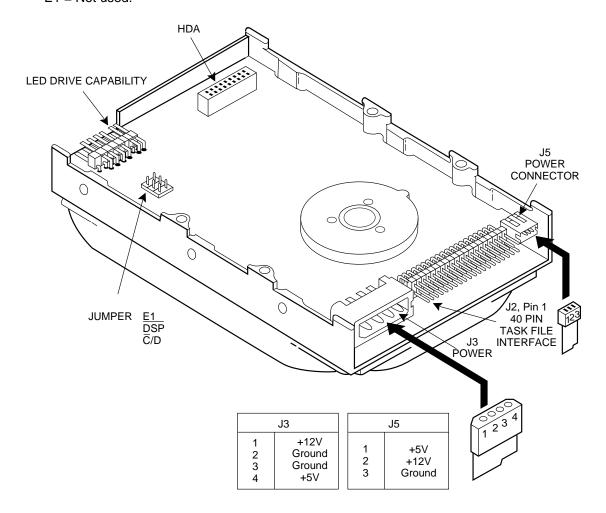
## **CONNER**

NOTE: Specifications subject to change.

# **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.



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

#### READ/WRITE

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

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

#### **ENVIRONMENTAL CHARACTERISTICS**

CP-30104H PC/AT/EISA

120 MB

MODEL

Embedded Controller/Interface PHYSICAL CONFIGURATION

Capacity (Formatted)

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

#### PERFORMANCE

0.100	
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 M	
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

Temperature Operating -40°C to 60°C 20°C per hour maximum Non-operating Thermal Gradient Humidity Operating 8% to 80% non-condensing 8% to 80% non-condensing

Non-operating Maximum Wet Bulb Altitude (relative to sea level)

Operating
Non-operating (max.)

-200 to 10,000 feet 40,000 feet

#### RELIABILITY AND MAINTENANCE

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

bits read

#### SHOCK AND VIBRATION

Shock ½ sine pulse, 11 msec duration Swept sine, ½ octave per minute 75 Gs Non-operating Shock Non-operating Vibration 5-62 Hz .020" (double amplitude) 63-500 Hz 4 Gs (peak) 5 Gs Operating Shock (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 Sound Pressure

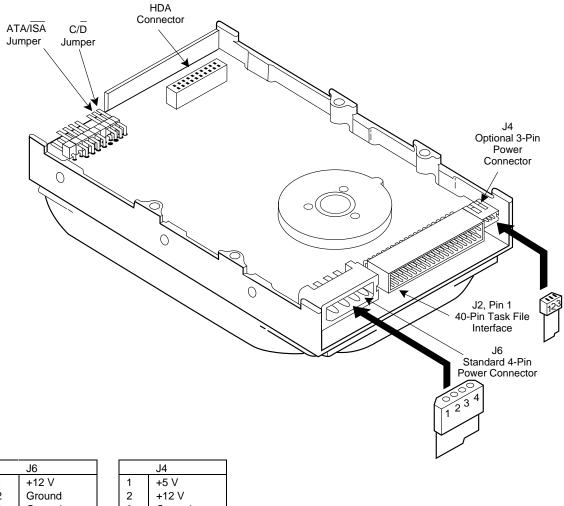
40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

### CCHNER

## **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	

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

	MODEL CP-30124	Charles and the second			ACCUSED OF THE
Embedded Controller/Interface	PC/AT		+12 <b>VDC</b> ± 5%		POWER
Capacity (Formatted)	126 MB	R/W Mode	150 ma	330 ma	3.5 W
sapasny (r. simunos)	120 1112	Seek Mode	275 ma	160 ma	4.1 W
		Idle Mode	160 ma	170 ma	2.77 W
Actuator Type	Rotary voice-coil	Sieep Mode	1 ma	60 ma	.31 W
Number of Disks	1	Standby Mode	1 ma	65 ma	.34 W
Data Surfaces	2	Spin-up Mode	1200 ma	460 ma	n/a
ata Surraces Data Heads	2	(for first 7 seconds)			
ervo	Embedded				0.000
racks per Surface	1985			1.007 (25.4	THE REAL PROPERTY OF THE PARTY
•	2450 TPI	Physical Dimensions	Height	1.00" (25.4 mm)	
rack Density			Length	5.75" (146.1 mm	,
Frack Capacity (Formatted)	31,744 bytes		Width	4.00" (101.6 mm	1)
lytes per Block	512		Weight	1.2 lbs (.54 kg)	
Nocks per Drive	246,140				
ectors per Track	62		and the second		
		Temperature			
Company of the Compan	20.5	Operating	5°C to 55°	_	
lumber of Cylinders	895	Non-operating	-40°C to 6		
lumber of Heads	.5	Thermal Gradient	20°C per h	our maximum	
lumber of Sectors	55	Humidity			
		Operating 0	8% to 80%	non-condensing	
		Non-operating	8% to 80%	non-condensing	
eek Times (Typical)*		Maximum Wet Bulb	26°C		
Track to Track	3 msec	Altitude (relative to sea level)			
Average (Read/Write)	14 msec**	Operating	-200 to 15	,000 feet	
Maximum	26 msec	Non-operating (max)	40,000 feet	t	
verage Latency	6.6 msec				Contract of the Contract of th
lotation Speed (± .1%)	4542 RPM	<u> </u>			
Controller Overhead	<500 µsec	MTBF	In excess of	f 250,000 hours (I	POH)
lata Transfer Rate		MTTR	10 minutes	typical	
To/from Media	3.0 Mb/sec	Preventive Maintenance	None		
ata Transfer Rate		Component Design Life	5 years		
To/from Buffer	6.0 MB/sec	Data Reliability	<1 non-rec	overable error in	1014 bits read
tart Time - Power Up (O-Ready)		,			
Typical	15 sec				
Maximum	20 sec	Shock	1/2 sine pul	lse, 11 msec durat	ion
top Time - Power Down		Operating Shock		out non-recoverab	
Typical	15 sec	Non-operating Shock		out non-recovera	
Maximum	20 sec	Vibration		1 octave per minu	
tart/Stop Cycles	20,000 min	Operating Vibration	o rrept silie,	2 source per mini	
nterleave	1:1	5-27 Hz	0.10" (doub	ble amplitude)	
uffer Size	32 K	3-27 HZ 28-300 Hz		ik) (without non-r	ecoverable erro
		Non-operating Vibration	0.5 Gs (pea	without holl-r	CCOACLADIC CLLO
		Non-operating vibration 5-62 Hz	0.10" (4	blo amuliuuda)	
ecording Method	1,7 RLL code	— 5-62 иz 63-500 Hz		ble amplitude)	
ecording Density	52,270 BPI	63-300 MZ	5 Gs (peak)	(without non-rec	overable errors
					100000000000000000000000000000000000000
Flux Density - ID (flux reversals per inch)	39,202	The externally induced mag	netic flux densi	tv mav not exceed	6 gauss

*	Physical seek times at nominal DC input voltages.
**	Average seek time is determined by dividing the to

rnysical seek times at nominal DC input voitages.

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
ldie 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)	
	118%		
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,		
Non-operating (max)	40,000 feet		
MTBF	In excess of	250,000 hours (PC	OH)
MTTR	10 minutes typical		
Preventive Maintenance	None		
Component Design Life	5 years		
Data Reliability	<1 non-recoverable error in 1014 bits read		

hout non-recoverable errors) 1 ne 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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Sales Offices: U.S. - Northeast Region (617) 4449-9550 \* Southseast Region (404) 414-1169 \* Central Region (214) 680-2913 \* Northewer Region (408) 456-4500 \* Southwest Region (714) 753-5823

Barges - Actual 397125-8000 111 \* London 44628 417000 \* Munich 49789-996-5570 \* Paris 331/14-74-1108

Asia - Hong Kong 85/2-560-0229 \* South 82/2-551-0511 \* Singapore 65/296-1992 \* Taipe 886/2-718-9193 \* Tokyo 81/3-3463-9901 \* Latin America - Mamii (105) 442-8835

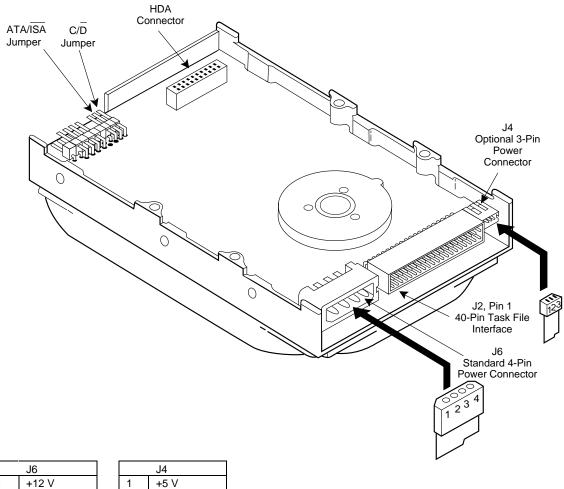
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Covered by the following parents: 4,876,491 4,965,476 4,999,055 5,050,016; other patents pending in the U.S. and elsewhere.

Dis-511-035 5/93

## 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	

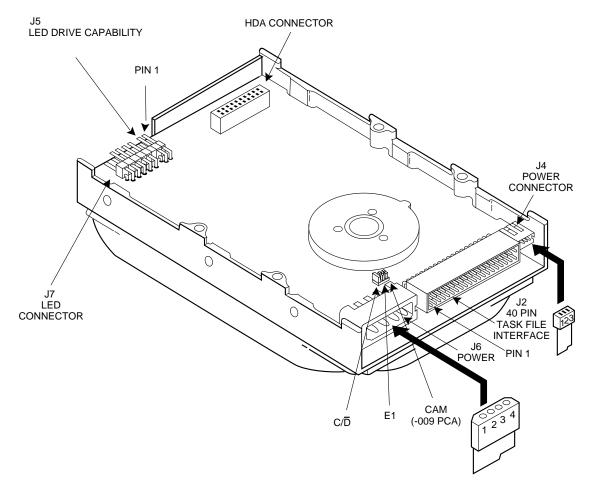
J4		
1	+5 V	
2	+12 V	
3	Ground	
3		

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		

<b>CMOS Drive Parameters</b>	
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

	MODEL CP-30174E	MODEL CP-30170E	POWER REQUIREMENTS - (	TIPREAL)		
				+12 VDC ± 5%	+5 VDC ± 5%	POWER
Embedded Controller/Interface	PC/AT	SCSI	R/W Mode	140 ma	390 ma	3.75 W
Capacity (Formatted)	170 MB	170 MB	Seek Mode	230 ma	200 ma	3.75 W
	a Printer de la Constantina		idie Mode	120 ma	200 ma	2.50 W
With an area of the control of the c		CT 2017 CROWN DEBUGEO - KNIECTON GLOSS GLOSS (F. 140)	Sleep Mode	10 ma	130 ma	.75 W
Actuator Type	Rotary voice-coil	Rotary voice-coil	Standby Mede	10 ma	130 ma	.75 W
Number of Disks	2	2	Spin-up Mode	1100 ma	420 ma	n/a
Data Surfaces	4	4	(for first 7 seconds)			
Data Heads	4	4				The state of
Servo	Embedded	Embedded	Eliani non management			Particular Control of the Control of
Tracks per Surface	1806	1806	Physical Dimensions	Height 1	.00" (25.4 mm)	
Track Density	2150 TPI	2150 TPI		Length 5	.75" (146.1 mn	1)
Track Capacity (Formatted)	23,552 bytes	23,552 bytes		Width 4	.00" (101.6 mn	1)
Bytes per Block	512	512		Weight 1	.3 lbs (.59 kg)	
Blocks per Orive	332,304	332,304		and the second second second second	Service has the service of the	macanas-consulars
Sectors per Track	46	46	St			
	ich des au d'Araba		Temperature			
3307483468			Operating	5°C to 55°C		
Seek Times*			Non-operating	-40°C to 60°	°C	
Track to Track	3 msec	3 msec	Thermal Gradient	20°C per hou	ır maximum	
Average	17 msec**	17 msec**	Humidity			
Maximum	30 msec	30 msec	Operating	8% to 80% n	on-condensing	
Average Latency	7.8 msec	7.8 msec	Non-operating	8% to 80% n	on-condensing	
Rotation Speed (± .1%)	3833 RPM	3833 RPM	Maximum Wet Bulb	29°C		
Controller Overhead	1 msec	1 msec	Altitude (relative to sea level)			
Data Transfer Rate			Operating	-200 to 10,0	00 feet	
To/from Media	2.0 Mb/sec	2.0 Mb/sec	Non-operating (max)	40,000 feet		
Data Transfer Rate			CHOCK THE TAXABLE PROPERTY AND A STATE OF THE PARTY.			annua annua annua
To/from Buffer	6.0 MB/sec	5.0 MB/sec		<b>人名英格兰</b>		
Start Time - Power Up			MTBF	In excess of 1	50,000 hours (I	POH)
Typical	15 sec	15 sec	MITR	10 minutes ty	pical	
Maximum	20 sec	20 sec	Preventive Maintenance	None		
Stop Time - Power Down			Component Design Life	5 years		
Typical	15 sec	15 sec	Data Reliability		verable error in	1013 bits read
Maximum	20 sec	20 sec				
Start/Stop Cycles	20,000 min	20,000 min		· in contribution and	<b>世代的</b> 的一名	解解中276年
Interleave	1:1	1:1	Shock	1/2 sine pulse	, 11 msec durat	ion
Buffer Size	32 K	32 K	Operating Shock		t non-recoverab	
			Non-operating Shock	75 Gs		,
	April 19 Comment	STATE OF STREET	Vibration		octave per min	ute
Recording Method	1.7 RLL code		Operating Vibration	op.o.me, r	a. o per min	
Recording Bensity – ID	42,173 BPI		5-10 Hz	0.10" (double	e amplimde)	
Flux Density – ID	31,630		10-100 Hz		(without non-r	ecoverable en
(flux reversals per inch)			Non-operating Vibration	0.5 G5 (peak)	,	costerable tri
			5-28 Hz	0.10" (double	amplitude)	
Physical seek times at nominal DO	input voltages.		5-28 HZ 10-400 Hz		e ampiitude) without non-rec	overshle e
** Average seek time is determined be all possible ordered pairs of track	by dividing the total time requi	red to seek between of these ordered pairs.	10-400 RZ	4 Gs (peak) (	without non-rec	overable erro
p orose oracerou pand of Mack	oj ma tom number	Marray Panto		40.75.545	n de la companya de	Part of
			TI . II . I . I			1

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

The second secon 42 dBA max at 1 meter

NOTE: Specifications subject to change.



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### Acad — Hong Kong 85/2-560-0229 - Secoll 82/2-551-0511 - Singapore 65/296-1992 - Taipei 886/2-718-9193 - Tokyo 81/3-3485-8901 Lettin America — Miami (305) 789-6685

### Or registered trademark of International Business Machines Corporation @1993 Conner Peripherals, Inc.

Covered by the following patents: 4,876,491 4,965,474 - 4,979,055 4,979,055 (orther patents pending in the U.S. and elsewhere.

DS-511-027 7/93

## **CP30204**

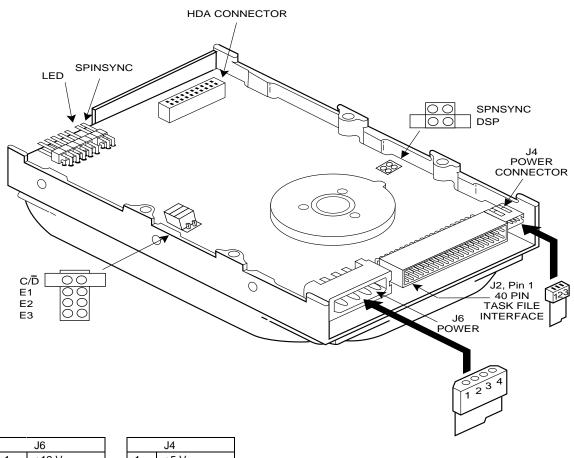
## **Customer Options**

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.

Jun	nper		
DSP	SS	Action	
Х		<ul> <li>spindle synchronization signal disabled on pin 39.</li> <li>activity LED signal available on pin 39.</li> <li>Must be in place for CAM /ATA drives.</li> </ul>	
	Х	<ul> <li>spindle synchronization signal enabled on pin 39.</li> <li>activity LED signal disabled from pin 39.</li> <li>pin 39 floating.</li> </ul>	

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

			ENVIRONME
	MODEL CP-30204	MODEL CP-30200	Temperature Operating
Embedded Controller/Interface Capacity (Formatted)	PC/AT 212.6 MB	SCSI-2 212.6 MB	Non-operatii Thermal Gradi
PHYSICAL CONFIGURATION	l		Humidity Operating
Actuator Type	Rotary voice-coil	Rotary voice-coil	Non-operatii Maximum W
Number of Disks	2	2	Altitude (relativ
Data Surfaces	4	4	Operating
Data Heads	4	4	Non-operation
Servo	Embedded	Embedded	
Tracks per Surface	2124	2124	RELIABILITY
Track Density	2496 TPI	2496 TPI	) (TDF
Track Capacity			MTBF
(Formatted)	25,088 bytes	25,088 bytes	MTTR
Bytes per Block	512	512	Preventive Mai
Blocks per Drive	416,304	416,304	Component De
Sectors per Track	49	49	Data Reliability
PERFORMANCE			SHOCK AND
Seek Times*			
Track to Track	3 msec	3 msec	Shock
Average	12 msec**	12 msec**	Operating Sh
Maximum	30 msec	30 msec	
Average Latency	6.7 msec	6.7 msec	Non-operatii
Rotation Speed (± .1%)	4500 RPM	4500 RPM	Vibration
Controller Overhead	<500 μsec	< 500 μsec	Operating Vi
Data Transfer Rate		•	5-27 Hz 28-500 Hz
To/from Media	2.5 MB/sec	2.5 MB/sec	28-300 Hz
Data Transfer Rate			
To/from Buffer	8.0 MB/sec	5.0 MB/sec	Non-operation
Start Time - Power Up (0-4542 I	RPM)		5-62 Hz
Typical	15 sec	15 sec	63-500 Hz
Maximum	20 sec	20 sec	
Stop Time – Power Down			MAGNETIC FI
Typical	15 sec	15 sec	
Maximum	20 sec	20 sec	The externally
Start/stop Cycles	20,000 min	20,000 min	6 gauss as meas
Interleave	1:1	1:1	-
Buffer Size	256 K	256 K	ACOUSTIC N

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 45,610 BPI 34,407 Recording Density – ID Flux Density – ID (flux reversals per inch)

#### POWER REQUIREMENTS

	+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	1500 ma	5.5 amp	n/a
(for first 7 seconds)			

#### PHYSICAL CHARACTERISTICS

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

#### ENTAL CHARACTERISTICS

5° C to 55° C -40° C to 60° C 20° C per hour maximum 8% to 80% non-condensing 8% to 80% non-condensing  $26^{\circ}\,C$ ing Wet Bulb ive to sea level) -200 to 10,000 feet 40,000 feet ing (max)

#### AND MAINTENANCE

In excess of 150,000 hours (POH) 10 minutes typical None 5 years <1 non-recoverable error in 10<sup>13</sup> bits read aintenance Design Life

#### 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)

#### HELD

y induced magnetic flux density may not exceed as ured at the disk surface (0-700 KHz).

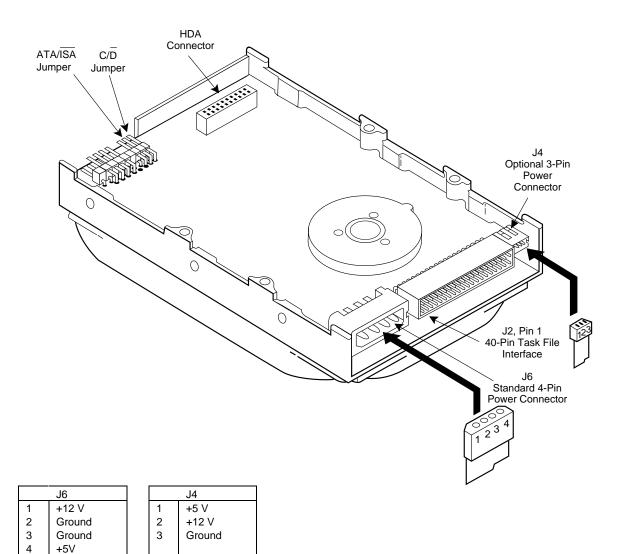
Acoustic Sound Pressure (idle) 40 dBA max at 1 meter.

NOTE: Specifications subject to change.

### **CCHNER**

## **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.



CMOS Drive Parameters		
685		
16		
38		
0		
685		
	685 16 38 0	

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

## CFS 210A SPECIFICATION SUMMARY

	MODEL CFS 210A	POWER REQUIREMENTS -	(TYPICAL)		
Embedded Controller/Interface	PC/AT		+12 VDC ± 5%		POWER
moeoged Controller/Interrace Capacity (Formatted)	213.4 MB	R/W Mode	190 ma	500 ma	4.8 W
apacity (Formatted)	213.4 MB	Seek Mode (100%)	300 ma	420 ma	5.7 W
PHYSICAL CONFIGURATION		Seek Made (30%)	170 ma	390 ma	4.0 W
ctuator Type	Rotary voice-coil	Idle Mode	190 ma	300 ma	3.8 W
lumber of Disks	1	Sleep Mode	70 ma	190 ma	1.8 W
ata Surtaces	2	Standby Mode	70 ma	200 ma	1.9 W
ata Barabos Pata Heads	2	Spin-up Mode	1200 ma	500 ma	
ervo	Embedded	(for first 7 seconds)			
ones per Surtace	8	PHYSICAL CHARACTERIST	nes		
rack Density	2774 TPI	Obvious Olimpusians	H-i-bi	1.00" (25.4 mm)	
racks per Surface	2388	Physical Dimensions	Height	5.75" (146.1 mm	. \
racks per Surface Bytes per Block	512		Length Width	4.00" (101.6 mm	*
Sectors per Track (Physical)	64 – 101		Weight	1.0 lbs (.45 kg)	1)
, ,	01 101		-	1.0 ibs (.+5 kg)	
PERFORMANCE		ENVIRONMENTAL CHARAC	TERISTICS		
eek Times (Typical)*	2	Temperature			
Track to Track	3 msec 14 msec**	Operating	5°C to 55°	-	
Average (Read/Write)		Non-operating	-40°C to 6		
Maximum	25 msec 8.3 msec	Thermal Gradient	20°C per h	our maximum	
verage Latency		Humidity			
Notation Speed (± .1%)	3600 RPM	Operating		non-condensing	
ontroller Overhead	<1.0 msec	Mon-operating		non-condensing	
ata Transfer Rate	20 22341/	Maximum Wet Bulb	28.9°C		
To/from Media	20 – 32 Mb/sec	Altitude (relative to sea level)			
Data Transfer Rate	7.5 MP/	Operating	-200 to 15,000 feet		
To/from Buffer	7.5 MB/sec	Mon-operating (max)	-200 to 40,	,000 feet	
tart Time - Power Up (0-3600 RPM)		RELIABILITY AND MAINTE	NANCE		
Typical	6 sec				
Maximum	10 sec***	MTBF	250,000 hours		
top Time - Power Down	15	Preventive Maintenance	None		
Typical	15 sec	Component Design Life	5 years		
Maximum	20 sec	Data Reliability	<1 non-rec	overable error in	1014 bits read
Start/Stop Cycles	20,000 min	SHOCK AND VIRRATION			
nterieave	1:1		40.		
Buffer Size	32 KB	Shock	•	lse, 11 msec durati	
READ/WRITE		Operating Shock	,	out non-recoverab	,
	17011	Non-operating Shock	75 Gs (without non-recoverable errors)		
Recording Method	1,7 RLL code	Vibration	Swept sine,	1 octave per minu	ite
Recording Density	58,566 BPI	Operating Vibration			
Flux Density - ID	43,924 FCI	5-27 Hz	•	ble amplitude)	
(flux reversals per inch)		28-400 Hz	0.5 Gs peak	(without non-rec	overable eri
Physical seek times at nominal DC input voltages.		Non-operating Vibration			
<ul> <li>Average seek time is determined by dividing the tot</li> </ul>		5-62 Hz	0.10" (double amplitude)		
all possible ordered pairs of track addresses by the	otal number of these ordered pairs.	63-400 Hz	5 Gs peak (	without non-reco	verable erroi

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

NOTE: Specifications subject to change.



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Canada - Ontario (905) 272-2216 Europe - Acts 31912-8800111 - London 446.282 - 27727 - Munich 2979-65.579 - Para 34147-45-92-50

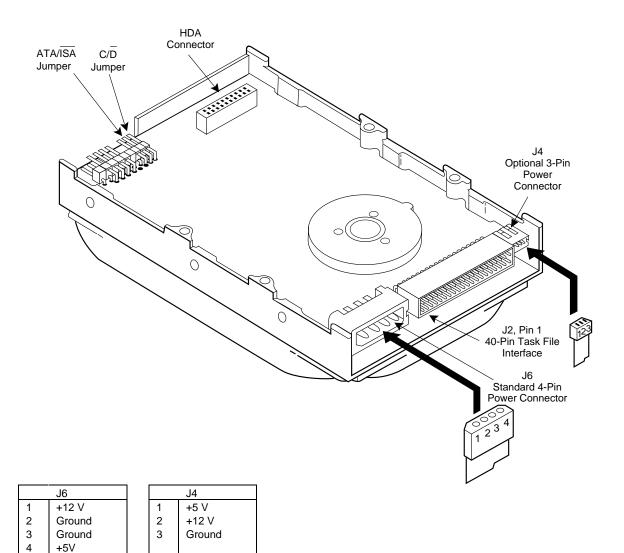
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all possible ordered pairs of track addresses by the total number of these c

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

## 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.



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**

	MODEL CP-30254	POWER REQUIREMENTS – (TYPICAL)			
Embadded Controller Setantes	PC/AT		+12 VDC ± 5%	+5 VDC ± 5%	POWER
Embedded Controller/Interface	252 MB	R/W Mode	150 ma	330 ma	3.5 W
Capacity (Formatted)	232 MB	Seek Mode	275 ma	160 ma	4.1 W
PHYSICAL CONFIGURATION		idle Mode	160 ma	170 ma	2.77 W
Actuator Type	Rotary voice-coil	Sleep Mode	1 ma	60 ma	.31 W
Number of Disks	2	Standby Mode	1 ma	65 ma	.34 W
Data Surfaces	4	Spin-up Mode (for first 7 seconds)	1200 ma	460 ma	n/a
Data Heads	4	(for first / seconds)			
Servo	Embedded	PHYSICAL CHARACTERIST			
Tracks per Surface	1985	Physical Dimensions	Height 1	.00" (25.4 mm)	
Track Density	2450 TPI	rnysicai bimensions	•	.75" (146.1 mn	. \
Track Capacity (Formatted)	31,744 bytes		-	.00" (101.6 mm	,
Bytes per Block	512			.00 (101.6 iiii .2 lbs (.54 kg)	ı)
Blocks per Drive	492,280		areigin. 1	.2 105 (.34 Kg)	
Sectors per Track	62	ENVIRONMENTAL CHARAC	TERISTICS		
-		Temperature			
SETUP PARAMETERS		Operating	5°C to 55°C		
Number of Cylinders	895	Non-operating	-40°C to 60°	C,C	
Number of Heads	10	Thermal Gradient	20°C per hor	ır maximum	
Number of Sectors	55	Humidity			
		Operating	8% to 80% n	on-condensing	
PERFORMANCE		Non-operating		on-condensing	
Seek Times (Typical)*		Maximum Wet Bulb	26°C	0	
Track to Track	3 msec	Altitude (relative to sea level)			
Average (Read/Write)	14 msec**	Operating	-200 to 15,0	00 feet	
Maximum	26 msec	Non-operating (max)	40,000 feet		
Iverage Latency	6.6 msec				
Rotation Speed (± .1%)	4542 RPM	RELIABILITY AND MANITES	LANCE		
Controller Overhead	<500 µsec	MTBF	In excess of 2	50,000 hours (I	POH)
Data Transfer Rate		MTTR	10 minutes ty	pical	
To/from Media	3.0 Mb/sec	Preventive Maintenance	None	•	
Data Transfer Rate		Component Design Life	5 years		
To/from Buffer	6.0 MB/sec	Data Reliability	<1 non-reco	verable error in	1014 bits read
Start Time - Power Up (O-Ready)					
Typical	15 sec	SHOCK AND VIBRATION			
Maximum	20 sec	Shock	1/2 sine pulse	, 11 msec durat	ion
Stop Time - Power Down		Operating Shock	5 Gs (withou	t non-recoverab	le errors)
Typical	15 sec	Non-operating Shock	50 Gs (witho	ut non-recovera	ble errors)
Maximum	20 sec	Vibration	Swept sine, 1	octave per mini	ite
Start/Stop Cycles	20,000 min	Operating Vibration	•	•	
Interieave	1:1	5-27 Hz	0.10" (double	e amplitude)	
Buffer Size	64 K	28-300 Hz	0.5 Gs (peak)	(without non-r	ecoverable erroi
REAR/WRITE		Non-operating Vibration			
MEMBY WINE I E		5-62 Hz	0.10" (double	e amplitude)	
Recording Method	1,7 RLL code	63-500 Hz	5 Gs (peak) (	without non-rec	overable errors)
Recording Density	52,270 BPI				
Flux Density - ID	39,202	MAGNETIC FIELD			
(flux reversals per inch)		The externally induced ma	agnetic flux density		6 gauss DC,

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.

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

#### ACOUSTIC MOISE

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

NOTE: Specifications subject to change.



The Storage Answer

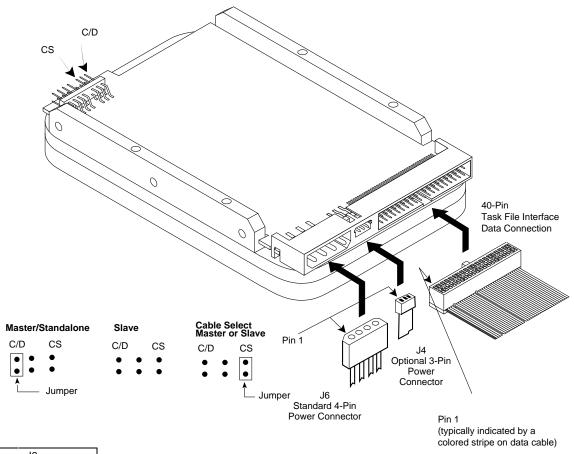
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## **CFS270A Customer Options**

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

<b>CMOS Drive Parameters</b>		
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

## CFS 270 SPECIFICATION SUMMARY

CFEST   POUT   CATA (CATA), ISA)   R/W Mode   190 ma   5.00 ma   4.90 mas   5.00 mas   4.00 mas   6.00 mas		MODEL	POWER REQUIREMENTS			
Part		CFS270A		12 VDC ±5%	5 VDC ±5%	Power
Pays	Embodded Controller Interface	PC/AT (ATA/CAM ISA)	R/W Mode	190 ma	500 ma	4.9W
PHYSICAL CONFIGURATION   Single Mode   190 ma   340 ma   3.8 W			Seek Mode	380 ma	420 ma	5.7W
Rotary voice-coil   Standby Mode   30 ma   200 ma   <1.0W   Number of Bisks   1	supposity (* ormation)	2, 0 1112	Idle Mode	190 ma	340 ma	3.8W
Standby Mode   30 ma   200 ma   <1,0W	PHYSICAL CONFIGURATION		Sleep Mode	30 ma	190 ma	<1.0W
Number of Bisks   1		Rotary voice-coil	Standby Mode	30 ma		<1.0W
Data Surfaces         2         (float first 7 secondes)           Data Heads         2         PHYSICAL CHARACTERISTICS           Searro         Embedded         PHYSICAL CHARACTERISTICS           Zones per Surface         8         Physical Dimensions         Meight         1.00° (25.4 mm)           Long Board Method         2.988 TPI         Length         5.75° (146.1 mm)           Intel Cylinders         2.595         Method         4.00° (101.6 mm)           Bytes per Sector         512         EEVYBROMMETIAL CHARACTERISTICS           FERFORMANCE         Temperature           Sect Times (Typical)         72-117           EEVYBROMMETIAL CHARACTERISTICS           Sect Times (Typical)         5°C to 55°C           Operating         5°C to 55°C           Sect Times (Typical)         40°C to 60°C           Average Aleand         20°C to 55°C           Average Lafency         8.8 msc         Operating         8% to 80% non-condensing           Average (Band/Write)         98% to 80% to 80% non-condensing	• • • • • • • • • • • • • • • • • • • •	•	Spin-up Mode	1200 ma	500 ma	n/a
Base o         Embedded           Sør o         Embedded           Canes par Surface         8           Track Bensity         2988 TPI         Height         1.00" (25.4 mm)           Total Cylinders         2595         Morth         4.00" (101.6 mm)           Bytes par Sector         512         Weight         1.1 lbs (.50 kg)           EPERFORMANCE         Temperature           PERFORMANCE         Temperature           Operating         5°C to 55°C         Sec           One Track         3 msc         Mon-operating         40°C to 60°C         Colspan="3">Condensing           One Track         3 msc         Mon-operating         8% to 80% non-condensing           Average (Latency         8.8 msc         Operating         8% to 80% non-condensing           Average Latency         8.8 msc         Mon-operating         8% to 80% non-condensing           Rotation Speed         3400 RPM         Maximum Wet Bulb         29°C           Data Transfer Rate         13 MB/sec         Mon-operating (max)         40,000 feet           But Transfer Power Down         Free Power Down         RELABRITY AND MANTENANCE           Typical         15 sec         MELABRITY AND MANTENANCE			(for first 7 seconds)			
Serve						
Physical Dimensions		_	PHYSICAL CHARACTERISTICS			
Track Density   2988 TP    Length   5.75" (146.1 mm)   1761b  Cylluders   2595   Width   4.00" (101.6 mm)   176   189   175   189   175   189			Physical Dimensions	Height	1.00" (25.4 r	nm)
Total Cylinders   2595   12   12   13   14   15   15   15   15   15   15   15	•	•	•	Length	5.75" (146.1	mm)
### Spies per Sector   512   ### Meight   1.1 lbs (.50 kg)	•			Width	4.00" (101.6	mm)
PERFORMANCE   Tomps:   PERFORMANCE   Tomps:   PERFORMANCE   PERFORMANCE   Tomps:   PERFORMANCE   PERFORMANCE   Tomps:   PERFORMANCE   PERFOR	•			Weight	1.1 lbs (.50 k	(g)
ENTROMMENTAL CHARACTERISTICS           PERFORMANCE         Temperature           Saek Times (Typical)         5°C to 55°C           One Track         3 msec         Non-operating         -40°C to 60°C           Average (Read/Write)         <15 msec**         Thermal ferallent         20°C per hour maximum           Maximum         24 msec         Huntity         Average Lanney         8.8 msec         Operating         8% to 80% non-condensing           Rotation Speed         3400 RPM         Non-aperating         8% to 80% non-condensing           Controller Overhead         <1,0 msec         Attitude         29°C           Data Transfer Rate         13 MB/sec         Attitude         29°C           Start Time - Power Up (0-3400 RPM)         Operating         -200 to 10,000 feet           Typical         6 sec         Mon-aperating (max)         40,000 feet           Maximum         10 sec         RELIABILITY AND MAINTENANCE           Stop Time - Power Down         Proventive Maintenance         None           Typical         15 sec         MTBF         250,000 power on hours           Maximum         20 sec***         Proventive Maintenance         None           Typical         15 sec         MTBF         250,000 power on hours<				•	,	U'
Seek Times (Typical)	Sectors per Zone (pnysical)	/2-11/	ENVIRONMENTAL CHARACTERIS	TICS		
Non-operating   Preventing	PERFORMANCE		Temperature			
One Track         3 msec         Non-operating         -40°C to 60°C           Average (Read/Write)         < 15 msec**         Thermal Gradient         20°C per hour maximum           Average Latency         8.8 msec         Operating         896 to 80% non-condensing           Notation Speed         3400 RPM         Non-operating         896 to 80% non-condensing           Controller Overhead         < 1.0 msec         Maximum Wet Bulb         29°C           Data Transfer Rate         13 MB/sec         Altitude           Start Time - Power Up (0-3400 RPM)         Operating         −200 to 10,000 feet           Typical         6 sec         Non-operating (max)         40,000 feet           Maximum         10 sec         RELIABRITY AND MARITERANCE         250,000 power on hours           Non-operating Nazimum         20 sec***         Proventive Maintenance         None           Maximum         20 sec***         Proventive Maintenance         None           Interleave         1:1         Component Design Life         5 years           Butfor Size         SHOCK AND VIBRATION          1/2 sine pulse, 11 msec duration           REAGL/WRITE         68K BPI         Operating Shock         5 Gs (without non-recoverable errors)         75 Gs (without non-recoverable errors)	Seek Times (Tynical)		Operating	5°C to 55°C		
Average (Read/Write)		3 msec	Non-operating	-40°C to 60°C	C	
Maximum         24 msec         Humilatify         8% to 80% non-condensing           Average Latency         8.8 msec         Operating         8% to 80% non-condensing           Rotation Speed         3400 RPM         Non-operating         8% to 80% non-condensing           Controller Overhead         <1.0 msec			Thermal Gradient	20°C per hou	r maximum	
Notestage Latency   8.8 msc   Operating   8% to 80% non-condensing	* '		Humidity			
Rotation Speed   3400 RPM   Ron-operating   8% to 8.0% non-condensing			Operating	8% to 80% no	on-condensing	
Controller Overhead			Non-operating	8% to 80% no	on-condensing	
Data Transfer Rate   13 MB/sec   Altitude	•		Maximum Wet Bulb	29°C		
Start Time - Power Up (0-3400 RPM) Typical 6 sec Mon-aperating (max) 40,000 feet  Maximum 10 sec  Stop Time - Power Down Typical 15 sec MTBF 250,000 power on hours  Maximum 20 sec*** Proventive Maintenance None Interleave 1:1 Component Design Life 5 years  Butfor Size 32 KB Data Reliability < 1 non-recoverable error in 10 <sup>14</sup> bits read  REALPHATE  Recording Method 1,7 RLL code Shock 11/2 sine pulse, 11 msec duration  Recording Method 1,7 RLL code Shock 11/2 sine pulse, 11 msec duration  Recording Density 68K BPI Operating Shock 75 Gs (without non-recoverable errors)  Flux Density - 10 51K FCI Ron-aperating Shock 75 Gs (without non-recoverable errors)  (flux changes per inch)  (flux changes per inch)  (flux changes per inch)  (flux changes per inch)			Altitude			
Typical   6 sec   Non-operating (max)   40,000 feet		15 1115/000	Operating	-200 to 10,00	00 feet	
Maximum 10 sec    Interference		6 sec	Non-operating (max)	40,000 feet		
Stop Time - Power Down   Files   Fil	••					
Maxinum 20 sec*** Proventive Maintenance None Interleave 1:1 Component Design Life 5 years Buffer Size 32 KB Data Reliability <1 non-recoverable error in 1014 bits read  READ/WRITE SHOCK AND VIBRATION  Recording Method 1,7 RLL code Shock 1/2 sine pulse, 11 msec duration Recording Density 68K BPI Operating Shock 5 Gs (without non-recoverable errors) Flux Density - 10 51K FCI Non-operating Shock 75 Gs (without non-recoverable errors) (flux changes per inch) Vibration Operating Vibration - 5-27 Hz 0.10" (double amplitude)			RELIABILITY AND MAINTENANCE	F		
Maximum 20 scc*** Proventive Maintenance None Interleave 1:1 Component Design Life 5 years Butler Size 32 KB Bata Reliability < 1 non-recoverable error in 1014 bits read  READ/WRITE SHOCK AND VIBRATION  Recording Method 1,7 RLL code Shock 1/2 sine pulse, 11 msec duration Recording Density 68K BPI Operating Shock 5 Gs (without non-recoverable errors) Flux Density - ID 51K FCI Mon-operating Shock 75 Gs (without non-recoverable errors) (flux changes per inch) Vibration Operating Vibration - 5-27 Hz 0.10" (double amplitude)	Typical	15 sec	MTBF	250,000 power	er on hours	
Buttor Size 32 KB Data Reliability <1 non-recoverable error in 10 <sup>14</sup> bits read  READ/WRITE  Recording Method 1,7 RLL code Shock 1/2 sine pulse, 11 msc duration  Recording Density 68K BPI Operating Shock 5 Gs (without non-recoverable errors)  Flux Density - 10 51K FCI Ron-parating Shock 75 Gs (without non-recoverable errors)  (flux changes per Inch)  (flux changes per Inch)  (Flux Density - 10 0,10° (double amplitude)	••	20 sec***	Preventive Maintenance	None		
READ/WRITE  Recording Method 1,7 RLL code Shock 1/2 sine pulse, 11 msec duration  Recording Density 68K BPI Operating Shock 5 Gs (without non-recoverable errors)  Flux Density - ID 51K FCI Non-operating Shock 75 Gs (without non-recoverable errors)  (flux changes per inch)  (flux changes per inch)  (flux changes per inch)  (flux changes per inch)	Interleave	1:1	Component Design Life	5 years		
Recording Method 1,7 RLL code Shock 1/2 sine pulse, 11 mscc duration  Recording Density 68K BPI Operating Shock 5 Gs (without non-recoverable errors)  Flux Density - ID 51K FCI Non-aperating Shock 75 Gs (without non-recoverable errors)  (flux changes per inch)  (flux changes per inch)  (Physician Operating Wibration - 5-27 Hz 0.10" (double amplitude)	Buffer Size	32 KB	Data Reliability	<1 non-recov	erable error in 10	14 bits read
Recording Method  1,7 RLL code  8hoek  1/2 sine pulse, 11 msec duration  8cording Density  68K BPI  9perating Shock  5 Gs (without non-recoverable errors)  75 Gs (without non-recoverable errors)  8hor-operating Shock  (flux changes per inch)  (flux changes per inch)  (perating Vibration - 5-27 kz  0.10" (double amplitude)	READAWRITE		SHOCK AND VIBRATION			
Recording Density 68K BPI Operating Shock 5 Gs (without non-recoverable errors) Flux Density - ID 51K FCI Romanity - ID (flux changes per inch) (flux changes per inch) (Flux Density - ID (flux changes per inch)	•	1.7 RLL code	Shack	1/2 sine pulse	11 msec duration	n
Flux Density - 10 51K FCI Non-operating Shock 75 Gs (without non-recoverable errors)  (flux changes per Inch) Vibration  Operating Vibration - 5-27 Hz 0.10" (double amplitude)		*				
(flux changes per inch)  Vibration  Operating Vibration - 5-27 Hz 0.10" (double amplitude)	• •		• •			
Operating Vibration - 5-27 ltz 0.10" (double amplitude)		JIKTO		. 5 05 (1711100	recoverable	
	inax changes per menj			0.10" (double	amplitude)	
			Operating Visiation - 28-400 Hz			verable errors

- 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.

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
Sieep Mode	30 ma	190 ma	<1.0W
Standby Mode	30 ma	200 ma	<1.0W
Spin-up Mode	1200 ma	500 ma	n/a

Operating Vibration - 28-400 Hz

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).

### ACQUISTIC NOISE

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

NOTE: Specifications subject to change.



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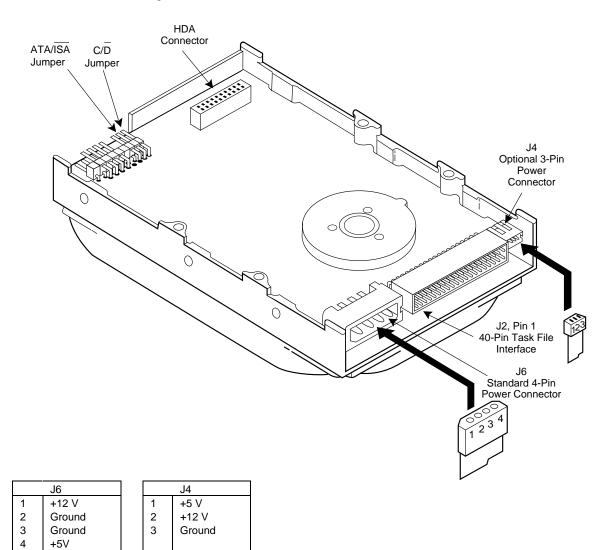
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## CFA340A (CP30344) Customer Options

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.



CMOS Drive Para	meters
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**

	MODEL CFA 340A	MODEL CFA 340S	POWER REQUIREMENTS - (TYP			•
Embedded Controller/Interface	PC/AT	SCSI-2		+12 VDC ± 5%		POWER 4.0 NV
Capacity (Formatted)	343 MB	343 MB	R/W Mode	190 ma	500 ma	4.8 W
··· <b>/</b> ······/			Seek Mode	300 ma	420 ma	5.7 W
PHYSICAL CONFIGURATION			idie Mode	190 ma	300 ma	3.8 W
Actuator Type	Rotary voice-coil	Rotary voice-coil	Sleep Mode	30 ma 30 ma	190 ma 200 ma	1.3 W 1.3 W
Number of Disks	2	2	Standby Mode	30 ma 1200 ma	200 ma 500 ma	1.3 W
Data Surfaces	4	4	Spin-up Mode (for first 7 seconds)	1200 ma	300 ma	
Data Heads	4	4	,			
Servo	Embedded	Embedded	PHYSICAL CHARACTERISTICS			
Zones per Surface	8	8	Physical Dimensions	Height	1.00" (25.4 mm)	
Track Density	2553 TPI	2553 TPI		Length	5.75" (146.1 mm)	
Tracks per Surface	2111	2111		Width	4.00" (101.6 mm)	
Bytes per Block	512	512		Weight	1.2 lbs (.54 kg)	
Sectors per Track (Physical)	67 – 91	67 – 91			( 8)	
PERFORMANCE			ENVINORMENTAL CHARACTERS	STICS		
			Temperature			
Seek Times (Typical)*			Operating	5°C to 55°	-	
Track to Track	3 msec	3 msec	Non-operating	-40° C to 6		
Average (Read/Write)	13 msec**	13 msec**	Thermal Gradient	20°C per h	our maximum	
Maximum	25 msec	25 msec	Humidity			
Average Latency	7.5 msec	7.5 msec	Operating	8% to 80%	non-condensing	
Rotation Speed (± .1%)	4011 RPM	4011 RPM	Non-operating	8% to 80%	non-condensing	
Controller Overhead	<1.0 msec	<1.0 msec	Maximum Wet Bulb	28.9°C		
Data Transfer Rate			Altitude (relative to sea level)			
To/from Media	23 – 33 Mb/sec	23 – 33 Mb/sec	Operating	-200 to 15,	,000 feet	
Data Transfer Rate			Non-operating (max)	-200 to 15,	,000 feet	
To/from Buffer	7.5 MB/sec	5.0 MB/sec Async	RELIABILITY AND MARKTENANC	_		
		10.0 MB/sec Sync	RELIABILITY AND MOUNTERANG	æ		
Start Time - Power Up (0-4011 RPM	)		MTBF	300,000 hc	ours	
Typical	6 sec	6 sec	MTTR	10 minutes	typical	
Maximum	10 sec***	10 sec***	Preventive Maintenance	None		
Stop Time - Power Down			Component Design Life	5 years		
Typical	15 sec	15 sec	Data Reliability	<1 non-rec	overable error in 1	014 bits read
Maximum	20 sec	20 sec	SHOCK AND VIDRATION			
Start/Stop Cycles	20,000 min	20,000 min	SHOUR AND VISHALINI			
Interleave	1:1	1:1	Shock	1/2 sine pul	lse, 11 msec duration	on
Buffer Size	64 KB	64 KB	Operating Shock	5 Gs (witho	out non-recoverabl	e errors)
READ/WRITE			Non-operating Shock	75 Gs (with	out non-recoveral	le errors)
NEAD/WHITE	•		Vibration	Swept sine,	1 octave per minu	te
Recording Method	1,7 RLL code		Operating Vibration			
Recording Density	56,833 BPI		5-27 Hz	0.10" (doul	ble amplitude)	
Flux Density - ID	42,662 FCI		28-400 Hz	0.5 Gs peal	(without non-rec	overable error
(flux reversals per inch)			Non-operating Vibration			
e Blacket and discourse 2 1897	St		5-62 Hz	0.10" (doul	ble amplitude)	
<ul> <li>Physical seek times at nominal DO</li> <li>Average seek time is determined b</li> </ul>	input voitages.		63-400 Hz	0.5 Gs peak	(without non-rec	overable error

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.

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.

40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.



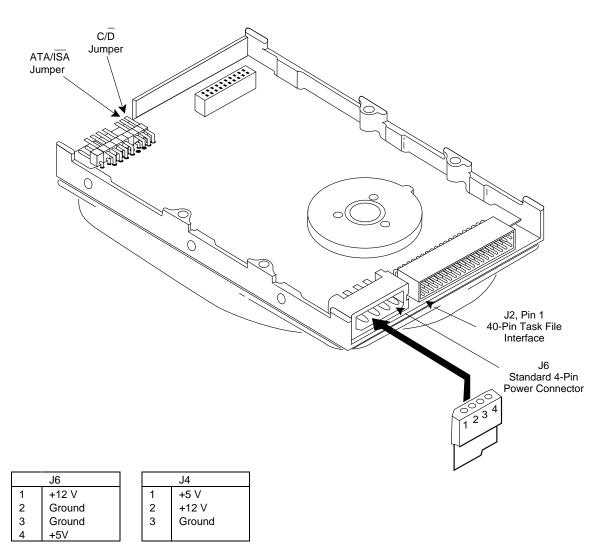
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Range - Acta - Hong Kong 85/2-560-0229 \* Scoul 82/2-551-0511 \* Singapore 65/296-1992 \* Taipei 886/2-718-9193 \* Tokyo 81/3-3485-8901 Latin America - Miami (305) 789-6685

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Covered by the following patents: 4,876,491 4,965,476 4,979,055 5,050,016; other patents pending in the U.S. and elsewhere.
DS-11-D34 1093.

# **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.



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

	MODEL CFS 420A	POWER REQUIREMENTS – (TYPICAL)			
Embedded Controller/Interface	PC/AT		+12 VDC ± 5%		POWER
Capacity (Formatted)	426.8 MB	R/W Mode	190 ma	500 ma	4.8W
oupcosty (r ormation)	12010 1112	Seek Mode	300 ma	420 ma	5.7 W
PHYSICAL CONFIGURATION		idie Mode	190 ma	300 ma	3.8 W
Actuator Type	Rotary voice-coil	Sleep Mode	30 ma	190 ma	1.3 W
Number of Disks	2	Standby Mode	30 ma	200 ma	1.4 W
Data Surfaces	4	Spin-up Mode (for first 7 seconds)	1200 ma	500 ma	
Data Heads	4	(10/1/01/0000000)			
Servo	Embedded	PHYSICAL CHARACTERIST	TCS		
Zones per Surface	8	Physical Dimensions	Height	1.00" (25.4 mm)	
Track Density	2774 TPI	Thysical Dinicusions	Length	5.75" (146.1 mn	
Tracks per Surface	2388		Width	4.00" (101.6 mn	*
Bytes per Block	512		Weight	1.2 lbs (.54 kg)	•,
Sectors per Track (Physical)	68 - 107		g	112 100 (10 1 145)	
		ENVIRONMENTAL CHARAC	TERISTICS		
PERFORMANCE		Temperature			
Seek Times (Typical)*		Operating	5°C to 55°	-	
Track to Track	3 msec	Non-operating	−40°C to 6	0°C	
Average (Read/Write)	14 msec**	Thermal Gradient	20°C per h	our maximum	
Maximum	25 msec	Humidity			
Average Latency	8.3 msec	Operating	8% to 80%	non-condensing	
Rotation Speed (± .1%)	3600 RPM	Non-operating	8% to 80% non-condensing		
Controller Overhead	<1.0 msec	Maximum Wet Bulb	28.9°C		
Data Transfer Rate		Altitude (relative to sea level)			
To/from Media	20 – 32 Mb/sec	Operating	-200 to 15,000 feet		
Data Transfer Rate		Non-operating (max)	-200 to 15	000 feet	
To/from Buffer	7.5 MB/sec				
Start Time - Power Up (0-3600 RPM)		RELIABILITY AND MAINTE	VANCE		
Typical	6 sec	MTBF	250,000 ho	ours	
Maximum	10 sec***	MTTR	10 minutes	typical	
Stop Time - Power Bown		Preventive Maintenance	None		
Typical	15 sec	Component Besign Life	5 years		
Maximum	20 sec	Data Reliability	<1 non-rec	overable error in	1014 bits read
Start/Stop Cycles	20,000 min				
Interleave	1:1	SHOCK AND VIBRATION			
Buffer Size	32 KB	Shock	1/2 sine pul	se, 11 msec durat	ion
DF 40 440/FF		Operating Shock	5 Gs (witho	out non-recoverab	le errors)
READ/WRITE		Non-operating Shock	75 Gs (with	out non-recovera	ble errors)
Recording Method	1,7 RLL code	Vibration	Swept sine,	1 octave per min	ute
Recording Density	58,566 BPI	Operating Vibration			
Flux Density - ID	43,924 FCI	5-27 Hz	0.10" (dou	ole amplitude)	
(flux reversals per inch)		28-400 Hz		(without non-red	coverable erro
		Non-operating Vibration			
<ul> <li>Physical seek times at nominal DC input voltages.</li> <li>Average seek time is determined by dividing the to</li> </ul>	tal time required to seek between	5-62 Hz	0.10" (dou	ole amplitude)	
			,	1 . 7	

<sup>\*\*</sup> 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.

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)

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.

### ACQUISTIC MOISE

Acoustic Sound Pressure

40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.



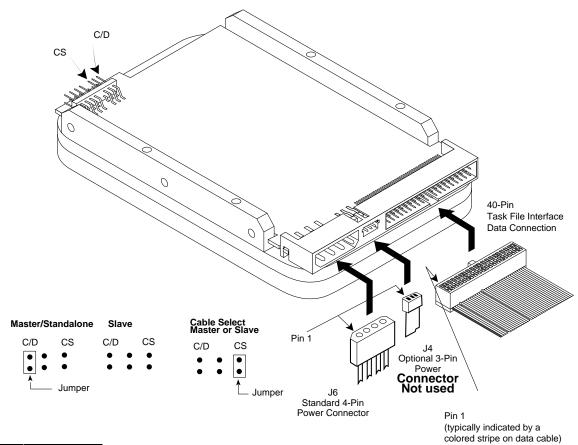
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### CFS425A Customer Options



	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	CECASEA	CECE 41A	CEC/2EA	CECOEOA	CEC10014	CEC127EA	CFC1/21A
	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 CONFIGURAT	ION						
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 Servo	2 Embedded	2 Embedded	3 Embedded	4 Embedded	4 Embedded	6 Embedded	6 Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density Total Cylinders	3845 TPI 3687	4100 TPI 3924	3849 TPI 3640	3849 TPI 3640	4100 TPI 3924	3849 TPI 3640	4100 TPI 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)*	0	0	0	0	0	0	0
Track to Track Average (Read/Write)	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency Rotation Speed (± .1%)	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 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	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		TOTO IMPOSEC	10.0 IVID/SEC	10.0 IVID/SEC	TO.U IVID/SEC	TO O IVID/SEC	10.0 IVID/SEC
Typical	6.0 sec	6.0 sec	8.5 sec 20 sec***	8.5 sec	6.0 sec	8.5 sec 20 sec***	6.0 sec
Maximum Stop Time - Power Down	10 sec***	10 sec***	20 sec	20 sec***	10 sec***	20 sec	10 sec***
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum Interleave	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 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 Flux Density - ID	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	94 K BPI 70 K FCI
(flux reversals per inch	)						
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"	5.75"	,	(&J.T IIIII)	` '	(20.4 IIIII)	(&U.T IIIII)
	(4.40.4		5.75"	5.75"	5.75"	5.75"	5.75"
1477-141-	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	5.75" (146.1 mm)
Width	(146.1 mm) 4.00" (101.6 mm)	4.00"					5.75"
Width Weight	4.00" (101.6 mm) 1.1 lbs	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs
Weight	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	5.75" (146.1 mm) 4.00" (101.6 mm)
Weight  POWER REQUIREMENTS	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs
Weight  POWER REQUIREMENTS +5 VDC ±5%	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs)	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs)
Weight  POWER REQUIREMENTS	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) (TYPICAL) 400 mA 200 mA 200 mA 400 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA 500 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 3-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 3-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 570 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 3.8 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA 4.2 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA <1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 125 mA 850 mA 3.8 W 3.9 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 3.8 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode Seek Mode Idle Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 5-(TYPICAL)  400 mA 200 mA 200 mA 400 mA < 1.0 W  150 mA 240 mA 125 mA 1000 mA 4.0 W 4.5 W 3.0 W < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 125 mA 850 mA 3.8 W 3.9 W 2.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W 3.9 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 1200 mA 4.2 W 5.6 W 3.9 W

### **ENVIRONMENTAL CHARACTERISTICS**

Temperature

5° C to 55° C Operating 1 4 1 -40° C to 60° C Non-operating

20° C per hour maximum Thermal Gradient

Humidity

8% to 80% non-condensing Operating 1 4 1 8% to 80% non-condensing Non-operating

29° C Maximum Wet Bulb

Altitude (relative to sea level) -200 to 10,000 feet Operating Non-operating (max) -200 to 40,000 feet

### RELIABILITY AND MAINTENANCE

Up to 300,000 hours

Preventive Maintenance None Component Design Life 5 years

< 1 non-recoverable error in 1014 bits Data Reliability

### SHOCK AND VIBRATION

1/2 sine pulse, 11 msec duration Shock 5 Gs (without non-recoverable errors) Operating Shock Non-operating Shock 75 Gs (without non-recoverable errors)

Swept sine, 1 octave per minute Operating Vibration 5-10 Hz .10" (double amplitude)

10-400 Hz 0.5 Gs peak

(without non-recoverable errors)

Swept sine, 1/2 octave per minute Non-operating Vibration

5-32 Hz .10" (double amplitude)

5 Gs peak 32-400 Hz

(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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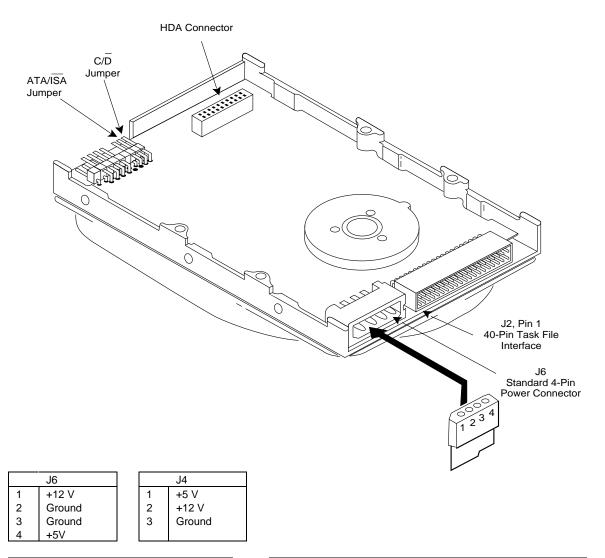
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DS-511-CABO2 8/95

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.

# **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.



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

<sup>\* 1024</sup> 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.

	MODEL CFA 540A	MODEL CFA 540S	POWER REQUIREMENTS - (	TYPICAL)		
Embedded Controller/Interface	PC/AT	FAST SCSI-2		+12 VDC ± 5%	% +5 VDC ± 5%	POWER
Capacity (Formatted)	541 MB	541 MB	R/W Mode	150 ma	500 ma	4.3 W
		V	Seek Mode (100%)	370 ma	480 ma	6.8 W
PHYSICAL CONFIGURATION			Seek Mode (30%)	170 ma	500 ma	4.6 W
Actuator Type	Rotary voice-coil	Rotary voice-coil	Idle Mode	190 ma	340 ma	4.0 W
Number of Disks	2	2	Sieep Mode (540A only)	0 ma	350 ma	1.75 W
Data Surfaces	4	4	Standby Mode	0 ma	40 ma	0.2 W
Data Heads	4	4	Spin-up Mode	1200 ma	500 ma	
Servo	Embedded	Embedded	(for first 7 seconds)			
Zones per Surface	8	8	PHYSICAL CHARACTERISTIC	·e		
Track Density	3253 TPI	3253 TPI		~		
Tracks per Surface	2805	2805	Physical Dimensions	Height	1.00" (25.4 mm)	
Bytes per Block	512	512		Length	5.75" (146.1 mm	
Sectors per Track	72 – 114	72 – 114		Width	4.00" (101.6 mm	)
•	, 2 III	/2-114		Weight	1.2 lbs (.54 kg)	
PERFORMANCE			ENVIRONMENTAL CHARACTE	ERISTICS		
Seek Times (Typical)*			Temperature			
Track to Track	3 msec	3 msec	Operating	5°C to 55°	C	
Average	12 msec**	12 msec**	Non-operating	-40°C to 6		
Maximum	26 msec	26 msec	Thermal Gradient			
Average Latency	6.7 msec	6.7 msec	Humidity	20 C per n	our maximum	
Rotation Speed (± .1%)	4500 RPM	4500 RPM	Operating	904 +- 900/		
Controller Overhead	<1.0 msec	<1.0 msec	Non-operating		non-condensing	
Data Transfer Rate			Maximum Wet Buib	29° C	non-condensing	
To/from Media	27 - 46 Mb/sec	27 - 46 Mb/sec	Altitude (relative to sea level)	29 C		
Data Transfer Rate	11.1 MB/sec	5.0 MB/sec Async	Operating	200 . 15	000 (	
		10.0 MB/sec Sync	Non-operating (max)	-200 to 15,0 40,000 feet	000 feet	
Start Time - Power Up (0-4500 RPM)		.,,	won-uperacing (max)	40,000 feet		
Typical	7 sec	7 sec	RELIABILITY AND MAINTENAL	NCE		
Maximum	10 sec***	10 sec***	MTRF	200 000 1		
Stop Time - Power Down			Preventive Maintenance	300,000 ho	urs	
Typical	15 sec	15 sec		None		
Maximum	20 sec	20 sec	Component Design Life	5 years		
Start/Stop Cycles	40,000 min	40,000 min	Data Reliability	<1 non-reco	overable error in 1	014 bits read
Interleave	1:1	1:1	SHOCK AND VIBRATION			
Buffer Size	256 KB	256 KB	Shock	1/2 : 1		
					e, 11 msec duratio	
READ/WRITE			Operating Shock		it non-recoverable	
lecording Method	1,7 RLL code		Mon-operating Shock		out non-recoverabl	
lecording Density	62,500 BPI		Vibration	Swept sine, 1	octave per minute	2
lux Density - ID	46,850 FCI		Operating Vibration	0.400.41		
(flux reversals per inch)	,		5-27 Hz	0.10" (doubl		
			28-400 Hz	0.5 Gs peak	(without non-reco	verable error
Physical seek times at nominal DC i	nput voltages.		Non-operating Vibration			
<ul> <li>Average seek time is determined by all possible ordered pairs of track ac</li> </ul>	idresses by the total number of	these ordered pairs	5-62 Hz	0.10" (doubl		
** If spin recovery is invoked, the max	imum start time could be 40 se	conds.	63-400 Hz	4 Gs peak (w	ithout non-recove	rable 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.

43 Bels max in idle mode.

NOTE: Specifications subject to change.



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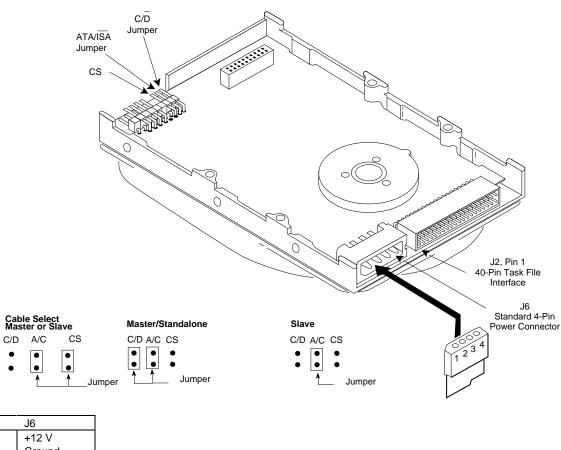
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## CFS540A Customer Options

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

<sup>\* 1024</sup> 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**

	MODEL	POWER REQUIREMENTS - (TYPICAL)			
	CFS540A		+12 <b>VDC</b> ± 5%	6 +5 <b>VDC</b> ± 5%	POWER
Embedded Controller/Interface	PC/AT (ATA/CAM, ISA)	R/W Mode	170 mA	430 mA	4.2 W
Capacity (Formatted)	541 MB	Seek Mode	270 mA	430 mA	5.6 W
		Idle Mode	170 mA	370 mA	3.9 W
PHYSICAL CONFIGURATION		Sleep Mode	0 mA	190 mA	<1.0 W
Actuator Type	Rotary voice-coil	Standby Mode	0 mA	190 mA	<1.0 W
Mumber of Disks	2 ,	Spin-up Mode	1200 mA	500 mA	n/a
Data Surfaces	4	(for first 7 seconds)			
Data Heads	4				
Serva	Embedded	PHYSICAL CHARACTERISTICS	,		
Zones per Surface	8	Physical Dimensions	Height	1.00" (25.4 mm)	
Track Density	2990 TPI		Length	5.75" (146.1 mm	)
Total Cylinders	2574		Width	4.00" (101.6 mm	)
Bytes per Sector	512		Weight	1.25 lbs (.57 kgs)	
Sectors per Zone (Physical)	80 – 120				
		ENVIRONMENTAL CHARACTE	RESTRUS		
PERFORMÁNCE		Temperature			
Seek Times (Typical)*		Operating	5° C to 55°	'C	
Track to Track	3 msec	Non-operating	-40° C to 6	0° C	
Average (Read/Write)	<15 msec**	Thermal Gradient	20° C per h	nour maximum	
Maximum	24 msec	Humidity			
Average Latency	8.3 msec	Operating	8% to 80%	non-condensing	
Rotation Speed (± .1%)	3600 RPM	Non-operating	8% to 80%	non-condensing	
Controller Overhead	<1.0 msec	Maximum Wet Bulb	29° C		
Data Transfer Rate	13 MB/sec	Altitude (relative to sea level)			
Start Time - Power Up (0-3600 RPM)		Operating	-200 to 10	,000 feet	
Typical	8.5 sec	Non-operating (max)	-200 to 40	,000 feet	
Maximum	20 sec***				
Stop Time - Power Down		RELIGILITY AND MAINTENA	NCE		
Typical	8.5 sec	MTBF	250,000 ho	ours	
Maximum	20 sec	Preventive Maintenance	None		
Interleave	1:1	Component Design Life	5 years		
Buffer Size	64 KB	Data Reliability	<1 non-re	coverable error in 1	014 bits read
READ/WRITE		SHOCK AND VIDRATION			
Recording Method	1,7 RLL	Shock	1/2 sine pu	lse, 11 msec duratio	on
Recording Density	70 K BPI	Operating Shock		out non-recoverable	
Flux Density - ID	52 K FCI	Non-operating Shock		hout non-recoverab	,
(flux reversals per inch)		Vibration			,
		Operating Vibration	Swept sine.	, 1 octave per minut	re .
* Physical seek times at nominal DC input voltages.	and a second and a second beautiful.	5-22 Hz		ble amplitude)	-
** Average seek time is determined by dividing the total tir all possible ordered pairs of track addresses by the total	number of these ordered pairs.	22-400 Hz		k (without non-reco	verable errors)
*** If spin recovery is invoked, the maximum start time cou	ald be 40 seconds.	Non-operating Vibration		, 1/2 octave per min	
		5-22 Hz		ble amplitude)	
				:	11 \

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.

22-400 Hz

Acoustic Sound Pressure Acoustic Sound Power

38 dBA max at 1 meter in idle mode. 42 Bels max in idle mode.

5 Gs peak (without non-recoverable errors)

NOTE: Specifications subject to change.



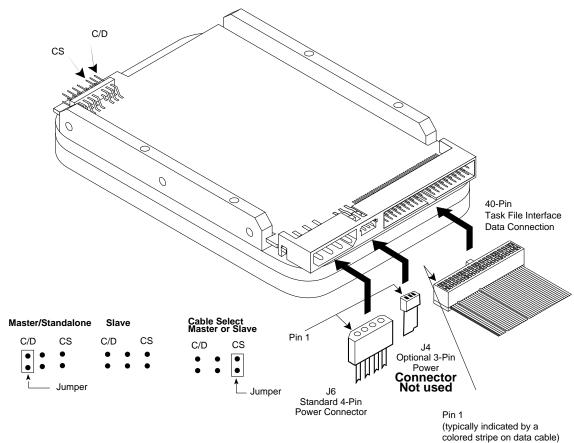
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# **CFS541A Customer Options**



	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

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

## CONNER FILEPRO FAMILY (CABO SERIES) SPECIFICATION SUMMARY

MODEL	CECASEA	CECE 41A	CEC/2EA	CECOEOA	CEC10014	CEC127EA	CFC1/21A
	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 CONFIGURAT	ION						
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 Servo	2 Embedded	2 Embedded	3 Embedded	4 Embedded	4 Embedded	6 Embedded	6 Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density Total Cylinders	3845 TPI 3687	4100 TPI 3924	3849 TPI 3640	3849 TPI 3640	4100 TPI 3924	3849 TPI 3640	4100 TPI 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)*	0	0	0	0	0	0	0
Track to Track Average (Read/Write)	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency Rotation Speed (± .1%)	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 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	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		TOTO IMPOSEC	10.0 IVID/SEC	10.0 IVID/SEC	TO.U IVID/SEC	10.0 IVID/SEC	10.0 IVID/SEC
Typical	6.0 sec	6.0 sec	8.5 sec 20 sec***	8.5 sec	6.0 sec	8.5 sec 20 sec***	6.0 sec
Maximum Stop Time - Power Down	10 sec***	10 sec***	20 sec	20 sec***	10 sec***	20 sec	10 sec***
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum Interleave	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 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 Flux Density - ID	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	94 K BPI 70 K FCI
(flux reversals per inch	)						
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"	5.75"	,	(&J.T IIIII)	` '	(20.4 IIIII)	(&U.T IIIII)
	(4.40.4		5.75"	5.75"	5.75"	5.75"	5.75"
1477-141-	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	5.75" (146.1 mm)
Width	(146.1 mm) 4.00" (101.6 mm)	4.00"					5.75"
Width Weight	4.00" (101.6 mm) 1.1 lbs	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs
Weight	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	5.75" (146.1 mm) 4.00" (101.6 mm)
Weight  POWER REQUIREMENTS	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs
Weight  POWER REQUIREMENTS +5 VDC ±5%	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs)	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs)
Weight  POWER REQUIREMENTS	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) (TYPICAL) 400 mA 200 mA 200 mA 400 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA 500 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 3-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 3-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 570 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 3.8 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA 4.2 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA <1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 125 mA 850 mA 3.8 W 3.9 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 3.8 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode Seek Mode Idle Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 5-(TYPICAL)  400 mA 200 mA 200 mA 400 mA < 1.0 W  150 mA 240 mA 125 mA 1000 mA 4.0 W 4.5 W 3.0 W < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 125 mA 850 mA 3.8 W 3.9 W 2.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W 3.9 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 1200 mA 4.2 W 5.6 W 3.9 W

### **ENVIRONMENTAL CHARACTERISTICS**

Temperature

5° C to 55° C Operating 1 4 1 -40° C to 60° C Non-operating

20° C per hour maximum Thermal Gradient

Humidity

8% to 80% non-condensing Operating 1 4 1 8% to 80% non-condensing Non-operating

29° C Maximum Wet Bulb

Altitude (relative to sea level) -200 to 10,000 feet Operating Non-operating (max) -200 to 40,000 feet

### RELIABILITY AND MAINTENANCE

Up to 300,000 hours

Preventive Maintenance None Component Design Life 5 years

< 1 non-recoverable error in 1014 bits Data Reliability

### SHOCK AND VIBRATION

1/2 sine pulse, 11 msec duration Shock 5 Gs (without non-recoverable errors) Operating Shock Non-operating Shock 75 Gs (without non-recoverable errors)

Swept sine, 1 octave per minute Operating Vibration 5-10 Hz .10" (double amplitude)

10-400 Hz 0.5 Gs peak

(without non-recoverable errors)

Swept sine, 1/2 octave per minute Non-operating Vibration

5-32 Hz .10" (double amplitude)

5 Gs peak 32-400 Hz

(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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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.

### **Customer Options**

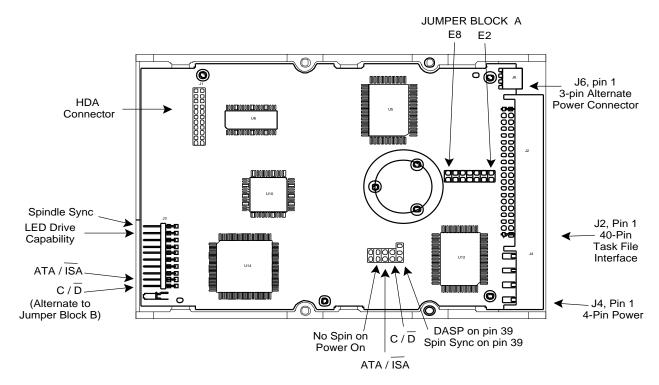
### C/D

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
		-Spindle synchronization signal disable on pin 39
Χ		-Activity LED signal available on pin 39.
	-Spindle synchronization signal enable on pin	
	Х	-Activity LED signal disabled from pin 39.
		-Pin 39 floating.

		Function		
Jun	Jumper		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	



JUMPER BLOCK B

<b>CMOS Drive Parameters</b>			
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

	MODEL CP-30544	MODEL CP-30540	POWER REQUIREMENTS - (TYF	MEAL)		. •
				+12 VBC ± 10%	+5 <b>VDC</b> ± 5%	POWER
Embedded Controller/Interface	PC/AT	FAST SCSI-2	R/W Mode	325 ma	675 ma	6.5 W
Capacity (Formatted)	545.9 MB	545.9 MB	Seek Mode	550 ma	675 ma	9.0 W
PHYSICAL CONTROLLEGE			Idie Mode	300 ma	450 ma	5.2 W
4-44 <b>T</b>	Rotary voice-coil	Rotary voice-coil	Spin-up Mode	1.7 amp	750 ma	n/a
Actuator Type Number of Disks	3	3	(for first 7 seconds)			
Data Surfaces	6	6	Personal Commentumeries			
Data Heads	6	6	Physical Dimensions	47-1-64	1.00" (25.4 mm)	
Servo	Embedded	Embedded	ruysicai Dimensions		5.75" (146,1 mm)	
Zones per Surface	6	6			4.00" (101.6 mm)	
Track Density	2628 TPI	2628 TPI			1.3 lbs (.59 kg)	
Total Cylinders	2243	2243		weight	1.5 lbs (.55 kg)	
Bytes per Sector	512-520/1024-1040	512-520/1024-1040	environmental bilance fem	STIES .		
Sectors per Zone (Physical)	60 - 90	60 - 90	<b></b>			
Sectors per zone (Fnysicar)	00-70	00-70	Temperature	5°C to 55°C	^	
PROFESSION			Operating	-40°C to 60		
Seek Times (Typical)*			Non-operating Thermal Gradient		our maximum	
Track to Track	2 msec	2 msec		20°C per no	our maximum	
Average (Read/Write)	10 msec**	10 msec**	Humidity	504 0504		
Maximum	17 msec	17 msec	Operating		non-condensing	
maximum Average Latency	5.55 msec	5.55 msec	Non-operating	29°C	non-condensing	
Average Latency Rotation Speed (± .1%)	5400 RPM	5400 RPM	Maximum Wet Bulb	29°C		
notation speed (± . 1 %) Controller Overhead	3400 KI M	<400 µsec	Altitude (relative to sea level)	-200 to 10,	000 6	
Data Transfer Rate		< 400 μsec	Operating	40,000 feet	ooo reer	
To/from Media	28.4 - 43.1 Mb/sec	28.4 - 43.1 Mb/sec	Non-operating (max)	40,000 feet		
Data Transfer Rate	20.4 - 45.1 Mil/sec	26.4 - 45.1 Mb/sec	RELIGIOTY AND BOUTTERAN	T.		
To/from Buffer	6.0 MB/sec	10.0 MB/sec	MTBF	In avenue of	250 000 5000 /00	)LI)
Start Time - Power Up (0-5400 RPM)	6.0 IVID/SCC	10.0 MD/SCC			250,000 hours (PC	)н)
Start Time - Power up (0-5400 NPM) Typical	15 sec	15 sec	MTTR	10 minutes	typicai	
nypicai Maximum	20 sec***	20 sec***	Preventive Maintenance	None		
Stop Time - Power Down	20 800	20 800	Component Design Life	5 years	overable error in 1	0141.21
Typical	15 sec	15 sec	Data Reliability	< 1 non-rec	overable error iii 1	o bits read
nypicai Maximum	20 sec	20 sec	AND CLASS VALUE OF THE PARTY OF			
maximum Start/Stop Cycles	10,000 min	10,000 min		1/2		
start/stup bycies Interleave	1:1	1:1	Shock		se, 11 msec duratio	
Interleave Buffer Size	256 KB	256 KB	Operating Shock		ut non-recoverable	
Butter Size	230 KD	236 KD	Non-operating Shock		out non-recoverab	,
ACAD TIMETE			Vibration	swept sine,	1 octave per minut	e
Recording Method	1,7 RLL code		Operating Vibration 5-32 Hz	010" (4	do amplitudo)	
necoraing method Recording Density	54,224 BPI				ole amplitude)	ouonable or
	40,961		33-400 Hz	o.5 Gs (peal	k) (without non-red	overable error
Flux Density - ID (flux reversals per inch)	TU,/01		Non-operating Vibration	020" (4 1	I	
			5-62 Hz 63-400 Hz		le amplitude) (without non-reco	

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

Acoustic Sound Pressure

40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.



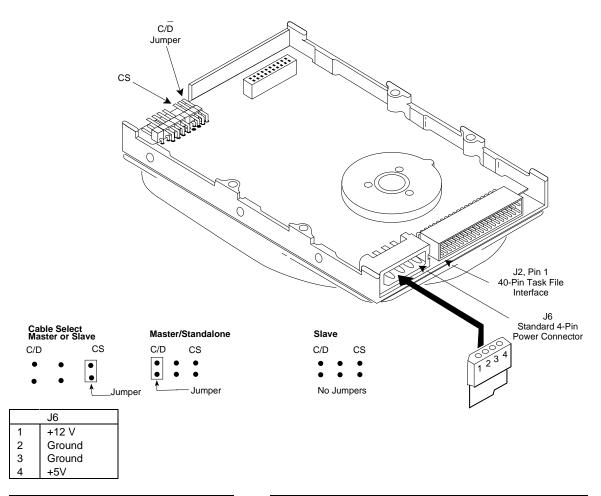
Worldwide Meadquanters: 3081 Zanker Road, San Jose, CA. 95134, Telephone 1-800-5-CONNER

Sales Offices: U.S. - Northeast Region (617) 449-9550 - Southeast Region (404) 414-1169 - Central Region (214) 680-2913 - \*\*Northeest Region (408) 456-4500 - \*\*Southewest Region (714) 753-5823

Europe - Acca - Hong Kong 85/2-560-0229 - \*\*Seoul 82/2-551-0511 - \*\*Singapore 65/296-1992 - \*\*Taipei 886/2-718-9193 \*\*Tokyo 81/3-3485-8901 Latin America - Misimi (305) 789-6685

Physical seek times a 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.

# **CFS635A Customer Options**



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

<sup>\* 1024</sup> 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	CECASEA	CECE 41A	CEC/2EA	CECOEOA	CEC10014	CEC127EA	CFC1/21A
	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 CONFIGURAT	ION						
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 Servo	2 Embedded	2 Embedded	3 Embedded	4 Embedded	4 Embedded	6 Embedded	6 Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density Total Cylinders	3845 TPI 3687	4100 TPI 3924	3849 TPI 3640	3849 TPI 3640	4100 TPI 3924	3849 TPI 3640	4100 TPI 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)*	0	0	0	0	0	0	0
Track to Track Average (Read/Write)	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency Rotation Speed (± .1%)	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 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	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		TOTO IMPOSEC	10.0 IVID/SEC	10.0 IVID/SEC	TO.U IVID/SEC	10.0 IVID/SEC	10.0 IVID/SEC
Typical	6.0 sec	6.0 sec	8.5 sec 20 sec***	8.5 sec	6.0 sec	8.5 sec 20 sec***	6.0 sec
Maximum Stop Time - Power Down	10 sec***	10 sec***	20 sec	20 sec***	10 sec***	20 sec	10 sec***
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum Interleave	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 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 Flux Density - ID	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	94 K BPI 70 K FCI
(flux reversals per inch	)						
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"	5.75"	,	(&J.T IIIII)	` '	(20.4 IIIII)	(&U.T IIIII)
	(4.40.4		5.75"	5.75"	5.75"	5.75"	5.75"
1477-141-	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	5.75" (146.1 mm)
Width	(146.1 mm) 4.00" (101.6 mm)	4.00"					5.75"
Width Weight	4.00" (101.6 mm) 1.1 lbs	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs
Weight	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	5.75" (146.1 mm) 4.00" (101.6 mm)
Weight  POWER REQUIREMENTS	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs
Weight  POWER REQUIREMENTS +5 VDC ±5%	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs)	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs)
Weight  POWER REQUIREMENTS	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) (TYPICAL) 400 mA 200 mA 200 mA 400 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA 500 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 3-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 3-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 570 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 3.8 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA 4.2 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA <1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 125 mA 850 mA 3.8 W 3.9 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 3.8 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode Seek Mode Idle Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 5-(TYPICAL)  400 mA 200 mA 200 mA 400 mA < 1.0 W  150 mA 240 mA 125 mA 1000 mA 4.0 W 4.5 W 3.0 W < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 125 mA 850 mA 3.8 W 3.9 W 2.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W 3.9 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 1200 mA 4.2 W 5.6 W 3.9 W

### **ENVIRONMENTAL CHARACTERISTICS**

Temperature

5° C to 55° C Operating 1 4 1 -40° C to 60° C Non-operating

20° C per hour maximum Thermal Gradient

Humidity

8% to 80% non-condensing Operating 1 4 1 8% to 80% non-condensing Non-operating

29° C Maximum Wet Bulb

Altitude (relative to sea level) -200 to 10,000 feet Operating Non-operating (max) -200 to 40,000 feet

### RELIABILITY AND MAINTENANCE

Up to 300,000 hours

Preventive Maintenance None Component Design Life 5 years

< 1 non-recoverable error in 1014 bits Data Reliability

### SHOCK AND VIBRATION

1/2 sine pulse, 11 msec duration Shock 5 Gs (without non-recoverable errors) Operating Shock Non-operating Shock 75 Gs (without non-recoverable errors)

Swept sine, 1 octave per minute Operating Vibration 5-10 Hz .10" (double amplitude)

10-400 Hz 0.5 Gs peak

(without non-recoverable errors)

Swept sine, 1/2 octave per minute Non-operating Vibration

5-32 Hz .10" (double amplitude)

5 Gs peak 32-400 Hz

(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.



Worldwide Headquarters: 3081 Zanker Road, San Jose, CA 95134, (408) 456-4500 Technical Support (800) 426-6637, Sales Support (800) 626-6637 Sales Offices: U.S. - Northeast Region (617) 449-9550 Southeast Region (404) 806-3900 • Central Region (214) 789-2800 Northwest Region (408) 456-4500 • Southwest Region (714) 641-4482 Canada - Ontario (905) 272-3216 Europe - Aosta 39/125-800111 London 44/1628-771277 • Munich 498-996-5570 • Paris 33/1-4745-9250 Asia - Hong Kong 852/560-0229 • Seoul 82/2-551-0511 • Singapore 65/296-1992 Taipei 886/2-718-9193 • Tokyo 81/3-3485-8901 Latin America - Miami (305) 789-6685 Latin America - Miami (305) 789-6685

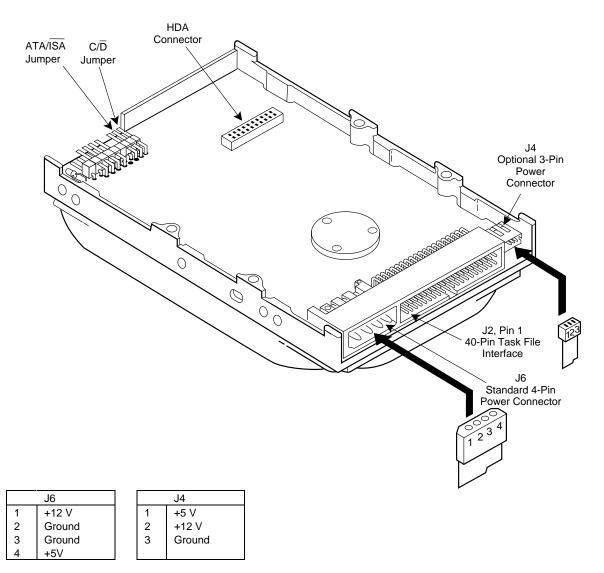
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DS-511-CABO2 8/95

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.

# **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.



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

<sup>\* 1024</sup> 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**

MODEL CFA 810A	MODEL CFA 810S	POWER REQUIREMENTS - (TY	PICAL)		
			+12 VDC ± 10%	+5 VBC $\pm$ 5%	POWER
		R/W Mode	210 ma	710 ma	6.0 W
810 MD	810 MD	Seek Mode	550 ma	690 ma	10.1 W
		idie Mode			4.5 W
Rotary voice-coil	Rotary voice-coil		1.6 amp	720 ma	
3	3	,			
6	6	PHYSICAL CHARACTERISTICS	'		
6	6	Physical Dimensions	Height 1.	00" (25.4 mm)	
Embedded	Embedded	-	Length 5.	75" (146.1 mm)	
8	8		Width 4.	00" (101.6 mm)	
3200 TPI	3200 TPI		Weight 1.	3 lbs (.59 kg)	
2794	2794			. 0,	
512	512	ENVIRONMENTAL CHARACTER	HSTICS		
72 – 114	72 – 114	Temperature			
		Operating	5°C to 55°C		
		Mon-operating	-40°C to 60°	С	
		Thermal Gradient	20°C per hou	r maximum	
2.5 msec	2.5 msec	Humidity	•		
12 msec**	12 msec**	Operating	5% to 95% n	on-condensing	
20 msec	20 msec	Non-operating	5% to 95% n	on-condensing	
6.67 msec	6.67 msec	Maximum Wet Bulb	29°C		
4500 RPM	4500 RPM	Altitude (relative to sea level)			
<1.0 msec	<1.0 msec	Operating	-200 to 15,00	0 feet	
		Non-operating (max)	40,000 feet		
27 – 46 Mb/sec	27 – 46 Mb/sec				
10.0 MB/sec	5.0 MB/sec Async	RELIABILITY AND MAINTENAN	CE		
	10.0 MB/sec Sync	MTBF	300,000 hour	s	
I		MTTR	10 minutes ty	pical	
7 sec	7 sec	Preventive Maintenance	None		
12 sec***	12 sec***	Component Design Life	5 years		
		Data Reliability	<1 non-recov	erable error in 1	014 bits read
15 sec	15 sec				
20 sec	20 sec	SHOCK AND VIBRATION			
	20,000 min	Shock	1/2 sine pulse	11 msec duration	on
		Operating Shock	5 Gs (without	non-recoverable	errors)
256 KB	256 KB	Non-operating Shock	75 Gs (withou	ıt non-recoverab	le errors)
		Vibration	Swept sine, 1	octave per minut	te
		Operating Vibration			
,		5-32 Hz			
65,000 BPI		32-400 Hz	0.5 Gs peak (	without non-reco	overable error
		Non-operating Vibration			
48,340 FCI		non-operating violation			
48,340 FCI		5-28 Hz	.1" (double ar	nplitude)	
	PC/AT 810 MB  Rotary voice-coil 3 6 6 6 Embedded 8 3200 TPI 2794 512 72 – 114  2.5 msec 12 msec*** 20 msec 6.67 msec 4500 RPM < 1.0 msec 10.0 MB/sec 10.0 MB/sec 11.5 sec 20 sec 20,000 min 1:1 256 KB	Rotary voice-coil   Rotary voice-coil   3   3   3   6   6   6   6   6   6   6	PC/AT	PC/AT	PC/AT

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.

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 MOISE

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.



The Storage Answer

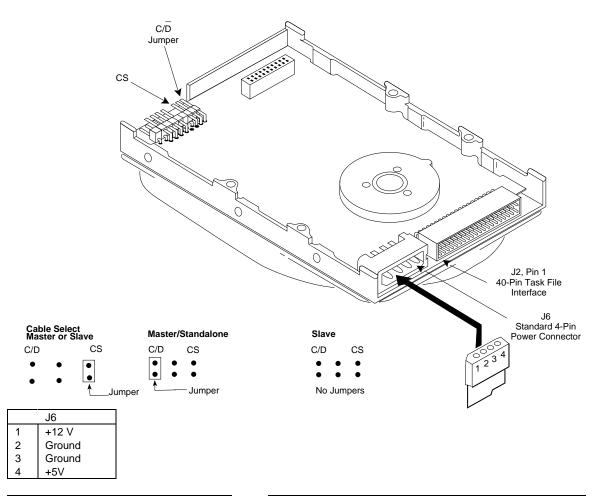
Worldwide Headquarters: 3081 Zanker Road, San Jose, CA 95134, Telephone (408) 456-4500, 1-800-4-CONNER

Sales Offices: U.S. - Northeast Region (617) 449-9550 \* Southeast Region (404) 414-1169 \* Central Region (214) 789-2800 \* Northwest Region (408) 456-4500 \* Southwest Region (714) 641-4482

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Aaia - Hong Kong 85/2-560-0229 \* Seoul 82/2-551-0511 \* Singapore 65/296-1992 \* Taipei 886/2-718-9193 \* Tokyo 81/3-3485-8901 \* Latin America - Miami (105) 789-6685

## CFS850A Customer Options



<b>CMOS Drive Parameters</b>		
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

<sup>\* 1024</sup> 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	CECASEA	CECE 41A	CEC/2EA	CECOEOA	CEC10014	CEC127EA	CFC1/21A
	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 CONFIGURAT	ION						
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 Servo	2 Embedded	2 Embedded	3 Embedded	4 Embedded	4 Embedded	6 Embedded	6 Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density Total Cylinders	3845 TPI 3687	4100 TPI 3924	3849 TPI 3640	3849 TPI 3640	4100 TPI 3924	3849 TPI 3640	4100 TPI 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)*	0	0	0	0	0	0	0
Track to Track Average (Read/Write)	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency Rotation Speed (± .1%)	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 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	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		TOTO IMPOSEC	10.0 IVID/SEC	10.0 IVID/SEC	TO.U IVID/SEC	TO O IVID/SEC	10.0 IVID/SEC
Typical	6.0 sec	6.0 sec	8.5 sec 20 sec***	8.5 sec	6.0 sec	8.5 sec 20 sec***	6.0 sec
Maximum Stop Time - Power Down	10 sec***	10 sec***	20 sec	20 sec***	10 sec***	20 sec	10 sec***
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum Interleave	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 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 Flux Density - ID	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	94 K BPI 70 K FCI
(flux reversals per inch	)						
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"	5.75"	,	(&J.T IIIII)	` '	(20.4 IIIII)	(&U.T IIIII)
	(4.40.4		5.75"	5.75"	5.75"	5.75"	5.75"
1477-141-	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	5.75" (146.1 mm)
Width	(146.1 mm) 4.00" (101.6 mm)	4.00"					5.75"
Width Weight	4.00" (101.6 mm) 1.1 lbs	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs
Weight	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	5.75" (146.1 mm) 4.00" (101.6 mm)
Weight  POWER REQUIREMENTS	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs
Weight  POWER REQUIREMENTS +5 VDC ±5%	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs)	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs)
Weight  POWER REQUIREMENTS	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) (TYPICAL) 400 mA 200 mA 200 mA 400 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA 500 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 3-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 3-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 570 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 3.8 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA 4.2 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA <1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 125 mA 850 mA 3.8 W 3.9 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 3.8 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode Seek Mode Idle Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 5-(TYPICAL)  400 mA 200 mA 200 mA 400 mA < 1.0 W  150 mA 240 mA 125 mA 1000 mA 4.0 W 4.5 W 3.0 W < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 125 mA 850 mA 3.8 W 3.9 W 2.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W 3.9 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 1200 mA 4.2 W 5.6 W 3.9 W

### **ENVIRONMENTAL CHARACTERISTICS**

Temperature

5° C to 55° C Operating 1 4 1 -40° C to 60° C Non-operating

20° C per hour maximum Thermal Gradient

Humidity

8% to 80% non-condensing Operating 1 4 1 8% to 80% non-condensing Non-operating

29° C Maximum Wet Bulb

Altitude (relative to sea level) -200 to 10,000 feet Operating Non-operating (max) -200 to 40,000 feet

### RELIABILITY AND MAINTENANCE

Up to 300,000 hours

Preventive Maintenance None Component Design Life 5 years

< 1 non-recoverable error in 1014 bits Data Reliability

### SHOCK AND VIBRATION

1/2 sine pulse, 11 msec duration Shock 5 Gs (without non-recoverable errors) Operating Shock Non-operating Shock 75 Gs (without non-recoverable errors)

Swept sine, 1 octave per minute Operating Vibration 5-10 Hz .10" (double amplitude)

10-400 Hz 0.5 Gs peak

(without non-recoverable errors)

Swept sine, 1/2 octave per minute Non-operating Vibration

5-32 Hz .10" (double amplitude)

5 Gs peak 32-400 Hz

(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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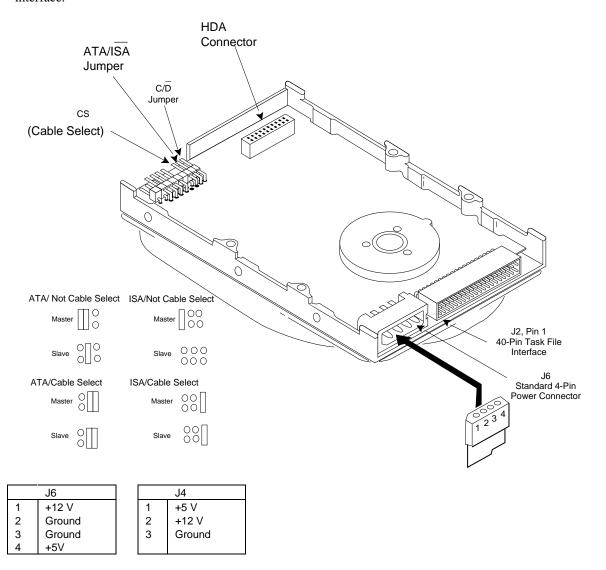
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DS-511-CABO2 8/95

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.

# **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.



<b>CMOS Drive Pa</b>	arameters
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

<sup>\* 1024</sup> 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 Co	ontroller/Interface	Enhanced IDE	Enhanced IDE
Capacity (Fo	rmatted)	852 MB	1278 MB
PHYSICAL C	CONFIGURATION		
Actuator Typ	e	Rotary voice-coil	Rotary voice-coil
Number of Di		2	3
Data Surface Data Heads	es .	4 4	6 6
Servo		Embedded	Embedded
Zones per Su	rface	8	8
Track Density	y	3833 TPI	3833 TPI
Tracks per Su		3659	3659
Bytes per Sec Sectors per 2	ctor Zone (Physical)	512 80-144	512 80-144
PERFORMAI	-		
Seek Times (			
Track to	Track	3 msec	3 msec
	(Read/Write)	< 12 msec**	< 12 msec**
Maximun		26 msec 6.7 msec	26 msec 6.7 msec
Average Late Rotation Spe	-	4500 RPM	4500 RPM
Data Transfe		1000 101 101	1000101111
To/from r	media	31.3-55.3 Mb/sec	31.3-55.3 Mb/sec
To/from b	ouffer	10 MB/sec	10 MB/sec
Start Time - F	Power Up	0.5	0.5
Typical Maximun		8.5 sec 20 sec***	8.5 sec 20 sec***
Stop Time - F		20 360	LU SEC
Typical	5.1.5. 2.5	8.5 sec	8.5 sec
Maximun	m	20 sec	20 sec
Start/Stop Cy	ıcles	40,000 min	40,000 min
Interleave		1:1 256 KB	1:1 256 KB
Buffer Size		230 KB	230 KD
READ/WRITE	E		
Recording M		1,7 RLL 77.3 K BPI	1,7 RLL 77.3 K BPI
Recording De Flux Density	-	58 K FCI	58 K FCI
_		JOKI CI	JOK I CI
PHYSICAL D	IMENSIONS	1.00" (95.4)	1 00" (95 4)
Height Length		1.00" (25.4 mm) 5.75" (146.1 mm)	1.00" (25.4 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 REQ	OUIREMENTS – (TYPICAL)		
+5 VDC ±5%	Read/Write Mode	430 mA	430 mA
	Seek Mode	430 mA	430 mA
	Idle Mode	370 mA 500 mA	370 mA 500 mA
	Spin-up Mode 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 Informa File Number	tion Service	5225	5227
		<b>0.2.0</b>	· · · · · · · · · · · · · · · · · · ·

#### ENVIRONMENTAL CHARACTERISTICS

Temperature  $5^{\circ}$  C to  $55^{\circ}$  C -40° C to 60° C Non-operating Thermal Gradient 20° C per hour maximum Humidity

8% to 80% non-condensing **Operating** 8% to 80% non-condensing Non-operating

Maximum Wet Bulb 29° C

Altitude (relative to sea level)

-200 to 10.000 feet Operating 1 4 1 40,000 feet Non-operating (max)

### RELIABILITY AND MAINTENANCE

300.000 hours MTRE Preventive Maintenance Component Design Life 5 years

< 1 non-recoverable error in 1014 bits Data Reliability

### SHOCK AND VIBRATION

1/2 sine pulse, 11 msec duration 5 Gs (without non-recoverable errors) Operating Shock Non-operating Shock 75 Gs (without non-recoverable errors)

Vibration

Operating Vibration Swept sine, 1 octave per minute 0.02" (double amplitude) 5-22 Hz

0.5 Gs peak (without non-recoverable errors) 23-400 Hz

Non-operating Vibration Swept sine, 1 octave per minute 0.20" (double amplitude) 5-22 Hz

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

NOTE: Specifications subject to change



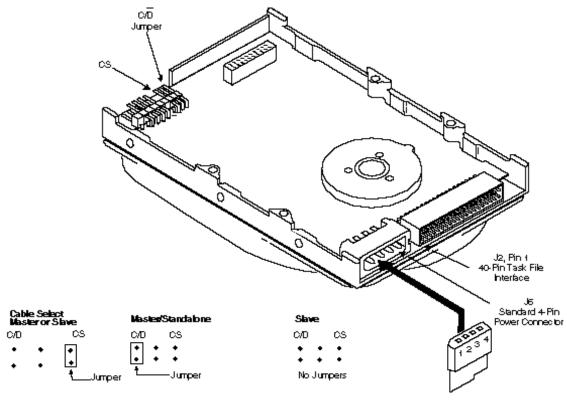
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Physical seek times at nominal DC input voltages. Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

<sup>\*\*\*</sup> If spin recovery is invoked, the maximum start time could be 40 seconds.

## **CFS1060A Customer Options**



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

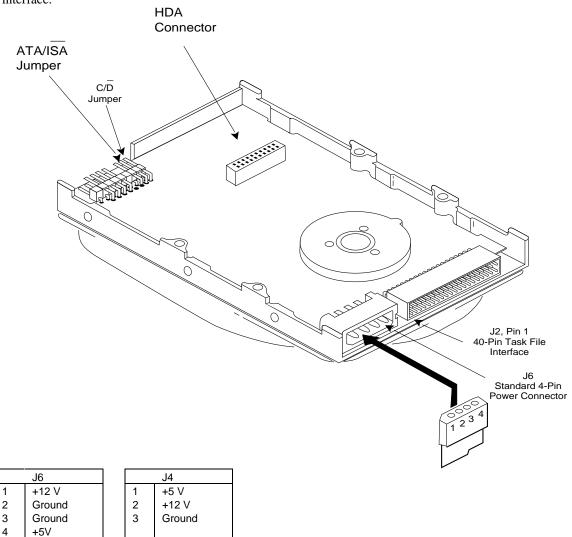
CMOS Drive Parameters		
Cylinders	2064*	
Heads	16	
Sectors	63	
Precomp	0	
Landing Zone	2064	

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

<sup>\* 1024</sup> 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.



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

<sup>\* 1024</sup> 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**

	MODEL CFA 1080A	MODĒL CFA 1080S	POWER REQUIREMENTS - (T			
Embedded Controller/Interface	PC/AT	FAST SCSI-2		+12 VDC ± 10%	+5 VDC ± 5%	POWER
Capacity (Formatted)	1080 MB	1080 MB	R/W Mode	210 ma	710 ma	6.0 W
			Seek Mode	550 ma	690 ma	10.1 W
PHYSICAL CONFIGURATION			idle Mode	180 ma	460 ma	4.5 W
Actuator Type	Rotary voice-coil	Rotary voice-coil	Spin-up Mode (for first 1.5 seconds)	1.6 amp	720 ma	
Number of Disks	4	4				
Data Surfaces	8	8	PHYSICAL CHARACTERISTIC	S		
Data Heads	8	8	Physical Dimensions	Height 1.	00" (25.4 mm)	
Serva	Embedded	Embedded		Length 5.	75" (146.1 mm)	1
Zones per Surface	8	8		Width 4.	00" (101.6 mm)	ı
Track Density	3200 TPI	3200 TPI		Weight 1.	3 lbs (.59 kg)	
Tracks per Surface	2794	2794				
Bytes per Sector	512	512	ENVIRONMENTAL CHARACTE	RISTICS		
Sectors per Track	72 – 114	72 – 114	Temperature			
			Operating	5°C to 55°C		
PERFORMANCE			Non-operating	-40°C to 60°	С	
Seek Times (Typical)*			Thermal Gradient	20°C per hou	r maximum	
Track to Track	2.5 msec	2.5 msec	Humidity	•		
Average	12 msec**	12 msec**	Operating	5% to 95% no	n-condensing	
Maximum	20 msec	20 msec	Non-operating	5% to 95% no	n-condensing	
Average Latency	6.67 msec	6.67 msec	Maximum Wet Bulb	29° C		
Rotation Speed (± .1%)	4500 RPM	4500 RPM	Altitude (relative to sea level)			
Controller Overhead	<1.0 msec	<1.0 msec	Operating	-200 to 15,00	0 feet	
Data Transfer Rate			Non-operating (max)	40,000 feet		
To/from Media	27 - 46 Mb/sec	27 - 46 Mb/sec				
Data Transfer Rate	10.0 MB/sec	5.0 MB/sec Async	RELIABILITY AND MAINTENA	MCE		
		10.0 MB/sec Sync	MTBF	300,000 hour	6	
Start Time - Power Up (0-4500 RPM	)		MTTR	10 minutes typ	oical	
Typical	7 sec	7 sec	Preventive Maintenance	None		
Maximum	12 sec***	12 sec***	Component Besign Life	5 years		
Stop Time - Power Down			Data Reliability	<1 non-recov	erable error in 1	014 bits read
Typical	15 sec	15 sec				
Maximum	20 sec	20 sec	SHOCK AND VIBRATION			
Start/Step Cycles	20,000 min	20,000 min	Shock	1/2 sine pulse,	11 msec duration	on
Interleave	1:1	1:1	Operating Shock	5 Gs (without	non-recoverable	e errors)
Buffer Size	256 KB	256 KB	Non-operating Shock	75 Gs (withou	t non-recoverab	le errors)
			Vibration	Swept sine, 1	octave per minu	te
READ/WRITE			Operating Vibration			
Recording Method	1,7 RLL code		5-32 Hz	0.10" (double	amplitude)	
Recording Density	65,000 BPI		32-400 Hz	0.5 Gs peak (v	vithout non-rece	overable erro
Flux Density - ID	48,340 FCI		Non-operating Vibration	•		
(flux reversals per inch)			5-28 Hz	.1" (double an	iplitude)	
* Physical seek times at nominal DO			28-400 Hz		hout non-recov	erable errore)

Physical seek times a 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.

### 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 MOISE

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



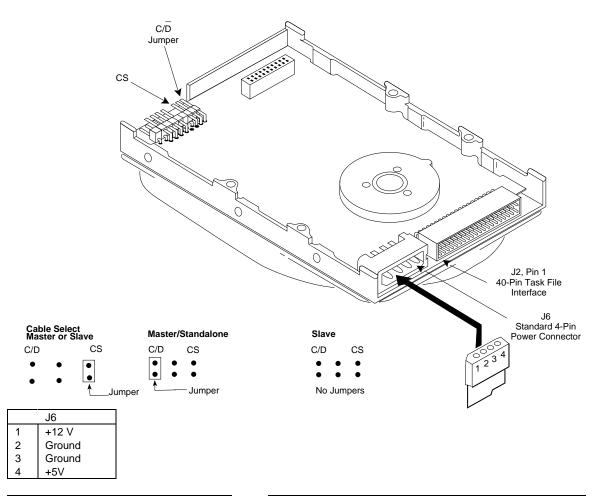
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# **CFS1081A Customer Options**



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

<sup>\* 1024</sup> 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	CECASEA	CECE 41A	CEC/2EA	CECOEOA	CEC10014	CEC127EA	CFC1/21A
	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 CONFIGURAT	ION						
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 Servo	2 Embedded	2 Embedded	3 Embedded	4 Embedded	4 Embedded	6 Embedded	6 Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density Total Cylinders	3845 TPI 3687	4100 TPI 3924	3849 TPI 3640	3849 TPI 3640	4100 TPI 3924	3849 TPI 3640	4100 TPI 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)*	0	0	0	0	0	0	0
Track to Track Average (Read/Write)	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency Rotation Speed (± .1%)	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 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	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		TOTO IMPOSEC	10.0 IVID/SEC	10.0 IVID/SEC	TO.U IVID/SEC	TO O IVID/SEC	10.0 IVID/SEC
Typical	6.0 sec	6.0 sec	8.5 sec 20 sec***	8.5 sec	6.0 sec	8.5 sec 20 sec***	6.0 sec
Maximum Stop Time - Power Down	10 sec***	10 sec***	20 sec	20 sec***	10 sec***	20 sec	10 sec***
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum Interleave	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 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 Flux Density - ID	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	94 K BPI 70 K FCI
(flux reversals per inch	)						
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"	5.75"	,	(&J.T IIIII)	` '	(20.4 IIIII)	(&U.T IIIII)
	(4.40.4		5.75"	5.75"	5.75"	5.75"	5.75"
1477-141-	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	5.75" (146.1 mm)
Width	(146.1 mm) 4.00" (101.6 mm)	4.00"					5.75"
Width Weight	4.00" (101.6 mm) 1.1 lbs	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs
Weight	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	5.75" (146.1 mm) 4.00" (101.6 mm)
Weight  POWER REQUIREMENTS	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs
Weight  POWER REQUIREMENTS +5 VDC ±5%	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs)	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs)
Weight  POWER REQUIREMENTS	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) (TYPICAL) 400 mA 200 mA 200 mA 400 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA 500 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 3-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 3-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 570 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 3.8 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA 4.2 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA <1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 125 mA 850 mA 3.8 W 3.9 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 3.8 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode Seek Mode Idle Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 5-(TYPICAL)  400 mA 200 mA 200 mA 400 mA < 1.0 W  150 mA 240 mA 125 mA 1000 mA 4.0 W 4.5 W 3.0 W < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 125 mA 850 mA 3.8 W 3.9 W 2.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W 3.9 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 1200 mA 4.2 W 5.6 W 3.9 W

### **ENVIRONMENTAL CHARACTERISTICS**

Temperature

5° C to 55° C Operating 1 4 1 -40° C to 60° C Non-operating

20° C per hour maximum Thermal Gradient

Humidity

8% to 80% non-condensing Operating 1 4 1 8% to 80% non-condensing Non-operating

29° C Maximum Wet Bulb

Altitude (relative to sea level) -200 to 10,000 feet Operating Non-operating (max) -200 to 40,000 feet

### RELIABILITY AND MAINTENANCE

Up to 300,000 hours

Preventive Maintenance None Component Design Life 5 years

< 1 non-recoverable error in 1014 bits Data Reliability

### SHOCK AND VIBRATION

1/2 sine pulse, 11 msec duration Shock 5 Gs (without non-recoverable errors) Operating Shock Non-operating Shock 75 Gs (without non-recoverable errors)

Swept sine, 1 octave per minute Operating Vibration 5-10 Hz .10" (double amplitude)

10-400 Hz 0.5 Gs peak

(without non-recoverable errors)

Swept sine, 1/2 octave per minute Non-operating Vibration

5-32 Hz .10" (double amplitude)

5 Gs peak 32-400 Hz

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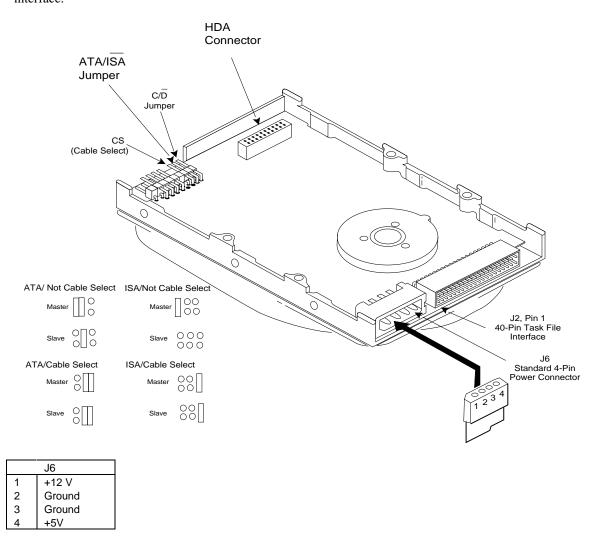
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Physical seek times at nominal DC input voltages.
 Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
 ### If spin recovery is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

# **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.



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

<sup>\* 1024</sup> 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 Co	ontroller/Interface	Enhanced IDE	Enhanced IDE
Capacity (Fo	rmatted)	852 MB	1278 MB
PHYSICAL C	CONFIGURATION		
Actuator Typ	e	Rotary voice-coil	Rotary voice-coil
Number of Di		2	3
Data Surface Data Heads	es .	4 4	6 6
Servo		Embedded	Embedded
Zones per Su	rface	8	8
Track Density	y	3833 TPI	3833 TPI
Tracks per Su		3659	3659
Bytes per Sec Sectors per 2	ctor Zone (Physical)	512 80-144	512 80-144
PERFORMAI	-		
Seek Times (			
Track to	Track	3 msec	3 msec
	(Read/Write)	< 12 msec**	< 12 msec**
Maximun		26 msec 6.7 msec	26 msec 6.7 msec
Average Late Rotation Spe	-	4500 RPM	4500 RPM
Data Transfe		1000 101 101	1000101111
To/from r	media	31.3-55.3 Mb/sec	31.3-55.3 Mb/sec
To/from b	ouffer	10 MB/sec	10 MB/sec
Start Time - F	Power Up	0.5	0.5
Typical Maximun		8.5 sec 20 sec***	8.5 sec 20 sec***
Stop Time - F		20 360	LU SEC
Typical	5.1.5. 2.5	8.5 sec	8.5 sec
Maximun	m	20 sec	20 sec
Start/Stop Cy	ıcles	40,000 min	40,000 min
Interleave		1:1 256 KB	1:1 256 KB
Buffer Size		230 KB	230 KD
READ/WRITE	E		
Recording M		1,7 RLL 77.3 K BPI	1,7 RLL 77.3 K BPI
Recording De Flux Density	-	58 K FCI	58 K FCI
_		JOKI CI	JORTO
PHYSICAL D	IMENSIONS	1.00" (95.4)	1 00" (95 4)
Height Length		1.00" (25.4 mm) 5.75" (146.1 mm)	1.00" (25.4 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 REQ	OUIREMENTS – (TYPICAL)		
+5 VDC ±5%	Read/Write Mode	430 mA	430 mA
	Seek Mode	430 mA	430 mA
	Idle Mode	370 mA 500 mA	370 mA 500 mA
	Spin-up Mode 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 Informa File Number	tion Service	5225	5227
		<b>0.2.0</b>	· · · · · · · · · · · · · · · · · · ·

#### ENVIRONMENTAL CHARACTERISTICS

Temperature  $5^{\circ}$  C to  $55^{\circ}$  C -40° C to 60° C Non-operating Thermal Gradient 20° C per hour maximum Humidity

8% to 80% non-condensing **Operating** 8% to 80% non-condensing Non-operating

Maximum Wet Bulb 29° C

Altitude (relative to sea level)

-200 to 10.000 feet Operating 1 4 1 40,000 feet Non-operating (max)

### RELIABILITY AND MAINTENANCE

300.000 hours MTRE Preventive Maintenance Component Design Life 5 years

< 1 non-recoverable error in 1014 bits Data Reliability

### SHOCK AND VIBRATION

1/2 sine pulse, 11 msec duration 5 Gs (without non-recoverable errors) Operating Shock Non-operating Shock 75 Gs (without non-recoverable errors)

Vibration

Operating Vibration Swept sine, 1 octave per minute 0.02" (double amplitude) 5-22 Hz

0.5 Gs peak (without non-recoverable errors) 23-400 Hz

Non-operating Vibration Swept sine, 1 octave per minute 0.20" (double amplitude) 5-22 Hz

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

NOTE: Specifications subject to change



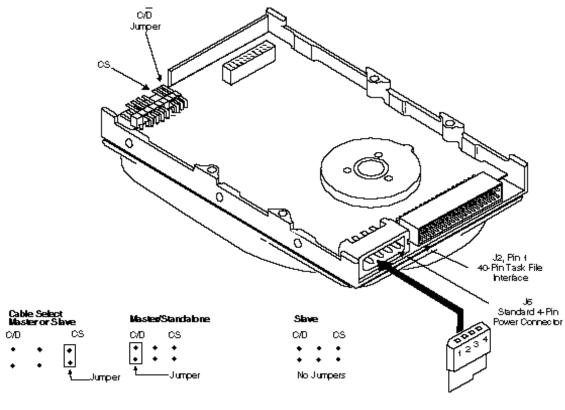
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Physical seek times at nominal DC input voltages. Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.

<sup>\*\*\*</sup> If spin recovery is invoked, the maximum start time could be 40 seconds.

## **CFS1275A Customer Options**



	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

<sup>\* 1024</sup> 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	CECASEA	CECE 41A	CEC/2EA	CECOEOA	CEC10014	CEC127EA	CFC1/21A
	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 CONFIGURAT	ION						
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 Servo	2 Embedded	2 Embedded	3 Embedded	4 Embedded	4 Embedded	6 Embedded	6 Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density Total Cylinders	3845 TPI 3687	4100 TPI 3924	3849 TPI 3640	3849 TPI 3640	4100 TPI 3924	3849 TPI 3640	4100 TPI 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)*	0	0	0	0	0	0	0
Track to Track Average (Read/Write)	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**	3 msec 14 msec**
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency Rotation Speed (± .1%)	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 3600 RPM	8.3 msec 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	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		TOTO IMPOSEC	10.0 IVID/SEC	10.0 IVID/SEC	TO.U IVID/SEC	10.0 IVID/SEC	10.0 IVID/SEC
Typical	6.0 sec	6.0 sec	8.5 sec 20 sec***	8.5 sec	6.0 sec	8.5 sec 20 sec***	6.0 sec
Maximum Stop Time - Power Down	10 sec***	10 sec***	20 sec	20 sec***	10 sec***	20 sec	10 sec***
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum Interleave	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 1:1	20 sec 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 Flux Density - ID	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	94 K BPI 70 K FCI
(flux reversals per inch	)						
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"	5.75"	,	(&J.T IIIII)	` '	(20.4 IIIII)	(&U.T IIIII)
	(4.40.4		5.75"	5.75"	5.75"	5.75"	5.75"
1477-141-	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	(146.1 mm)	5.75" (146.1 mm)
Width	(146.1 mm) 4.00" (101.6 mm)	4.00"					5.75"
Width Weight	4.00" (101.6 mm) 1.1 lbs	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs
Weight	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	(146.1 mm) 4.00" (101.6 mm)	5.75" (146.1 mm) 4.00" (101.6 mm)
Weight  POWER REQUIREMENTS	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs
Weight  POWER REQUIREMENTS +5 VDC ±5%	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs)	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs)	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs)
Weight  POWER REQUIREMENTS	4.00" (101.6 mm) 1.1 lbs (.50 kgs)	4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) (TYPICAL) 400 mA 200 mA 200 mA 400 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA 500 mA
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 3-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 3-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 570 mA 500 mA < 1.0 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 3.8 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA 4.2 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode Seek Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA <1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 125 mA 850 mA 3.8 W 3.9 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 6-(TYPICAL) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 240 mA 125 mA 1000 mA	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 3.8 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 270 mA 170 mA 1200 mA	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W
Weight  POWER REQUIREMENTS +5 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Sleep Mode +12 VDC ±5% Read/Write Mode Seek Mode Idle Mode Spin-up Mode Power Read/Write Mode Seek Mode Idle Mode Seek Mode Idle Mode	4.00" (101.6 mm) 1.1 lbs (.50 kgs) 5-(TYPICAL)  400 mA 200 mA 200 mA 400 mA < 1.0 W  150 mA 240 mA 125 mA 1000 mA 4.0 W 4.5 W 3.0 W < 1.0 W	4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 200 mA 200 mA 400 mA < 1.0 W 150 mA 200 mA 125 mA 850 mA 3.8 W 3.9 W 2.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	(146.1 mm) 4.00" (101.6 mm) 1.25 lbs (.57 kgs) 430 mA 430 mA 370 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 4.2 W 5.6 W 3.9 W	(146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 400 mA 240 mA 210 mA 300 mA < 1.0 W 150 mA 125 mA 1100 mA 4.0 W 3.5 W 3.5 W	5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs (.59 kgs) 430 mA 430 mA 500 mA < 1.0 W 170 mA 170 mA 1200 mA 1200 mA 4.2 W 5.6 W 3.9 W

### **ENVIRONMENTAL CHARACTERISTICS**

Temperature

5° C to 55° C Operating 1 4 1 -40° C to 60° C Non-operating

20° C per hour maximum Thermal Gradient

Humidity

8% to 80% non-condensing Operating 1 4 1 8% to 80% non-condensing Non-operating

29° C Maximum Wet Bulb

Altitude (relative to sea level) -200 to 10,000 feet Operating Non-operating (max) -200 to 40,000 feet

### RELIABILITY AND MAINTENANCE

Up to 300,000 hours

Preventive Maintenance None Component Design Life 5 years

< 1 non-recoverable error in 1014 bits Data Reliability

### SHOCK AND VIBRATION

1/2 sine pulse, 11 msec duration Shock 5 Gs (without non-recoverable errors) Operating Shock Non-operating Shock 75 Gs (without non-recoverable errors)

Swept sine, 1 octave per minute Operating Vibration 5-10 Hz .10" (double amplitude)

10-400 Hz 0.5 Gs peak

(without non-recoverable errors)

Swept sine, 1/2 octave per minute Non-operating Vibration

5-32 Hz .10" (double amplitude)

5 Gs peak 32-400 Hz

(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.



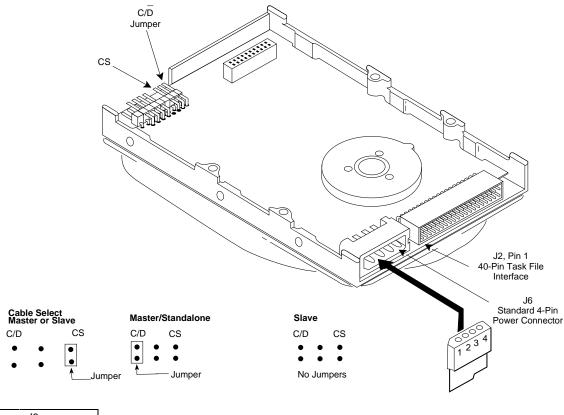
Worldwide Headquarters: 3081 Zanker Road, San Jose, CA 95134, (408) 456-4500 Technical Support (800) 426-6637, Sales Support (800) 626-6637 Sales Offices: U.S. - Northeast Region (617) 449-9550 Southeast Region (404) 806-3900 • Central Region (214) 789-2800 Northwest Region (408) 456-4500 • Southwest Region (714) 641-4482 Canada - Ontario (905) 272-3216 Europe - Aosta 39/125-800111 London 44/1628-771277 • Munich 498-996-5570 • Paris 33/1-4745-9250 Asia - Hong Kong 852/560-0229 • Seoul 82/2-551-0511 • Singapore 65/296-1992 Taipei 886/2-718-9193 • Tokyo 81/3-3485-8901 Latin America - Miami (305) 789-6685 Latin America - Miami (305) 789-6685

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DS-511-CABO2 8/95

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.

# **CFS1621A Customer Options**



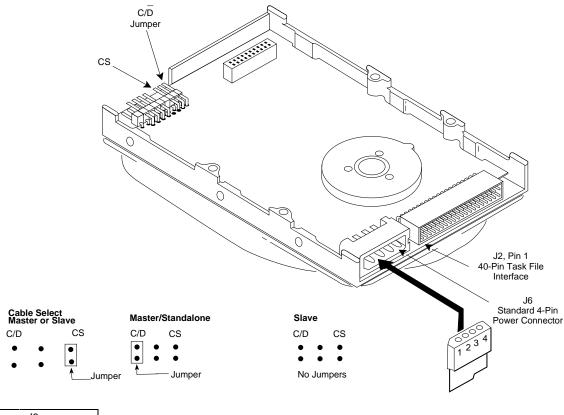
	J6
1	+12 V
2	Ground
3	Ground
4	+5V

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

<sup>\* 1024</sup> 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**



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

<sup>\* 1024</sup> 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	CEC 42E A	CECE 41A	CEC/2EA	CECOEOA	CEC1001A	CEC127EA	CEC1/21A
MODEL	CFS425A	CFS541A	CFS635A	CFS850A	CFS1081A	CFS1275A	CFS1621A
Embedded Controller/ Interface	Enhanced IDE						
Capacity (Formatted)	425 MB	540 MB	635 MB	850 MB	1080 MB	1275 MB	1620 MB
PHYSICAL CONFIGURATI	ON						
Actuator Type	Rotary voice coil						
Number of Disks	1	1	2	2	2	3	3
Data Surfaces	2	2	3	4	4	6	6
Data Heads Servo	2 Embedded	2 Embedded	3 Embedded	4 Embedded	4 Embedded	6 Embedded	6 Embedded
Zones per Surface	8	8	8	8	8	8	8
Track Density Total Cylinders	3845 TPI 3687	4100 TPI 3924	3849 TPI 3640	3849 TPI 3640	4100 TPI 3924	3849 TPI 3640	4100 TPI 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)*	0	0	0	0	0	0	0
Track to Track Average (Read/Write)	3 msec 14 msec**						
Maximum	28 msec	28 msec	26 msec	26 msec	28 msec	26 msec	28 msec
Average Latency Rotation Speed (± .1%)	8.3 msec 3600 RPM						
Controller Overhead	< 1.0 msec						
Data Transfer Rate	Up to	Up to 16.6 MB/sec					
Start Time - Power Up	10.0 IVID/Sec	10.0 MID/Sec	10.0 MD/360	10.0 IVID/Sec	10.0 IVID/Sec	10.0 IVID/Sec	10.0 Mid/sec
Typical	6.0 sec	6.0 sec	8.5 sec 20 sec***	8.5 sec	6.0 sec	8.5 sec 20 sec***	6.0 sec
Maximum Stop Time - Power Down	10 sec***	10 sec***	20 sec	20 sec***	10 sec***	20 sec	10 sec***
Typical	15 sec	15 sec	8.5 sec	8.5 sec	15 sec	8.5 sec	15 sec
Maximum Interleave	20 sec 1:1						
Buffer Size	64 KB						
READ/WRITE							
Recording Method	1,7 RLL						
Recording Density Flux Density - ID	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	77 K BPI 58 K FCI	93 K BPI 70 K FCI	77 K BPI 58 K FCI	94 K BPI 70 K FCI
(flux reversals per inch	)						
PHYSICAL DIMENSIONS							
Height	1.00" (25.4 mm)						
Length	5.75"	5.75"	5.75"	5.75"	5.75"	5.75"	5.75"
	(146.1 mm)						
Width	4.00" (101.6 mm)						
Weight	1.1 lbs	1.25 lbs	1.25 lbs	1.25 lbs	1.25 lbs	1.3 lbs	1.3 lbs
	(.50 kgs)	(.57 kgs)	(.57 kgs)	(.57 kgs)	(.57 kgs)	(.59 kgs)	(.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 Sleep Mode	400 mA < 1.0 W	400 mA < 1.0 W	300 mA < 1.0 W	300 mA < 1.0 W	500 mA < 1.0 W	300 mA < 1.0 W	500 mA < 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 Idle Mode	240 mA 125 mA	200 mA 125 mA	150 mA 125 mA	150 mA 125 mA	270 mA 170 mA	150 mA 125 mA	270 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 Idle Mode	4.5 W 3.0 W	3.9 W 2.5 W	3.5 W 3.5 W	3.5 W 3.5 W	5.6 W 3.9 W	3.5 W 3.5 W	5.6 W 3.9 W
Sleep Mode	< 1.0 W						
Fax Information Service File Number	5223	5229	5230	5226	5231	5228	5232

### **ENVIRONMENTAL CHARACTERISTICS**

Temperature

5° C to 55° C Operating 1 4 1 -40° C to 60° C Non-operating

20° C per hour maximum Thermal Gradient

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8% to 80% non-condensing Operating 1 4 1 8% to 80% non-condensing Non-operating

29° C Maximum Wet Bulb

Altitude (relative to sea level) -200 to 10,000 feet Operating Non-operating (max) -200 to 40,000 feet

### RELIABILITY AND MAINTENANCE

Up to 300,000 hours

Preventive Maintenance None Component Design Life 5 years

< 1 non-recoverable error in 1014 bits Data Reliability

### SHOCK AND VIBRATION

1/2 sine pulse, 11 msec duration Shock 5 Gs (without non-recoverable errors) Operating Shock Non-operating Shock 75 Gs (without non-recoverable errors)

Swept sine, 1 octave per minute Operating Vibration 5-10 Hz .10" (double amplitude)

10-400 Hz 0.5 Gs peak

(without non-recoverable errors)

Swept sine, 1/2 octave per minute Non-operating Vibration

5-32 Hz .10" (double amplitude)

5 Gs peak 32-400 Hz

(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.

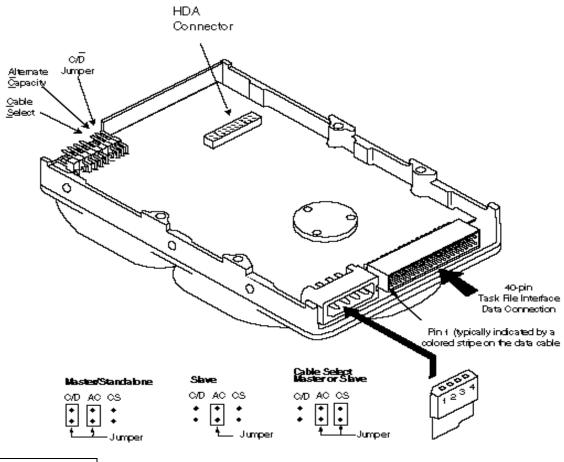


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Physical seek times at nominal DC input voltages.
 Average seek time is determined by dividing the total time required to seek between all possible ordered pairs of track addresses by the total number of these ordered pairs.
 ### If spin recovery is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

## **CFA2161A Customer Options**



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

Drive:	No of ylinders:	No. of Heads	No. of Sectors	Capacity MBytes
CFA2161A <sup>1</sup>	4095	16	63	2110
CFA2161A <sup>2</sup>	4160	16	63	2140
CFA2161A <sup>3</sup>	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**

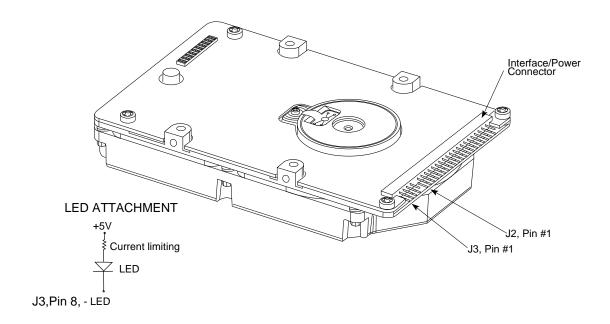
SCSI DRIVES

PART ONE SCSI 2.5"

# **CFN170S Customer Options**

The following table defines the settings:

J3, Pin	5	6	7
SCSI ID	<b>E</b> 1	<b>E2</b>	<b>E3</b>
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**

	MODEL CFN 170A	MODEL CFN 170S	POWER REQUIREMENTS - (T	YPIGAL)	
Embedded Controller/Interface	PC/AT	SCSI		+5 <b>VDC</b> ± 5%	POWER
	168.2 MB	168.2 MB	R/W Mode	275 ma	1.4 W
Capacity (Formatted)	168.2 IVID	100.2 MD	Seek Mode	210 ma	1.1 W
PHYSICAL CONFIGURATION			idle Mode	200 ma	1.0 W
	D-+1	D	Standby Mode	40 ma	0.20 W
Actuator Type	Rotary voice-coil 2	Rotary voice-coil	Sleep Mode	40 ma	0.20 W
Number of Disks	4	2 4	Spin-up Mode	1.0 amp	
Data Surfaces	4	4	PHYSICAL CHARACTERISTIC	s	
Data Heads	Embedded	Embedded			0.7707 (10.5 )/ : )
Servo	1339	1339	Physical Dimensions	Height	0.770" (19.5 mm)(maximum)
Tracks per Surface			(±.01 except height)	Length	4.00" (101.6 mm)
Track Density	2611 TPI	2611 TPI		Width	2.75" (69.8 mm)
Track Capacity (Formatted)		24,064 – 40,448 bytes		Weight	6.0 oz (.17 kg)
Bytes per Block	512	512	ENVIRONMENTAL CHARACTE	RISTICS	
Blocks per Drive	329,084	329,084			
Sectors per Track (Physical)	47 – 72	47 – 72	Temperature		
PERFORMANCE			Operating	5°C to 55°	-
			Non-operating	-40°C to 6	
Seek Times (Typical)*		2.4	Thermal Gradient	20°C per l	nour maximum
Track to Track	2.6 msec	2.6 msec	Humidity		
Average (Read/Write)	12 msec**	12 msec**	Operating		6 non-condensing
Maximum	20 msec	20 msec	Non-operating		6 non-condensing
Average Latency	6.7 msec	6.7 msec	Maximum Wet Bulb	28.9°C	
Rotation Speed (± .1%)	4500 RPM	4500 RPM	Altitude (relative to sea level)		
Controller Overhead	500 μsec	500 μmsec	Operating	-200 to 10	,
Data Transfer Rate			Non-operating (max)	-200 to 15	,000 feet
To/from Media	18 – 28 Mb/sec	18 – 28 Mb/sec	RELIABILITY AND MAINTENA	MCE	
Data Transfer Rate			RELIABILITY AND MAINTERA	MGE	
To/from Buffer	8.0 MB/sec	6.0 MB/sec	MTBF	150,000 h	
Start Time - Power Up (0 – 4500 RPM)			MTTR	10 minute:	s typical
Typical	5 sec	5 sec	Preventive Maintenance	None	
Maximum	20 sec	20 sec	Component Design Life	5 years	
Stop Time - Power Bown			Data Reliability	<1 non-re	coverable error in 1013 bits read
Typical	4 sec	4 sec	CHOOK AND INDUSTRAL		
Maximum	5 sec	5 sec	SHOCK AND VIBRATION		
Start/Stop Cycles	50,000 min	50,000 min	Shock	1/2 sine pu	ilse (without non-recoverable error
Interleave	1:1	1:1	Operating Shock	10 Gs @ 1	1 msec/20 Gs @ 2 msec
Buffer Size	32 KB	32 KB	Non-operating Shock	200 Gs @	11 msec/300 Gs @ 2 msec
DE 4 D AUDITE			Vibration	Swept sine	, 1 octave per minute
READ/WRITE			Operating Vibration		
Recording Method	1,7 RLL code		5-400 Hz	1.0 Gs pea	k (without non-recoverable errors)
Recording Density	58,230 BPI		Non-operating Vibration		
Flux Density - ID (flux reversals per inch)	43,684 FCI		5-400 Hz	5 Gs peak	(without non-recoverable errors)
(max reversars per men)			MAGNETIC FIELD		

all possible ordered pairs of track addresses by the total number of these ordered pairs.

7 miligauss (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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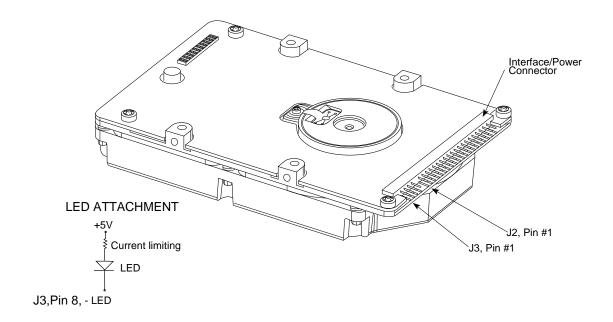
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### CFN250S Customer Options

The following table defines the settings:

J3, Pin	5	6	7
SCSI ID	<b>E</b> 1	<b>E2</b>	<b>E3</b>
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

	MODEL CFN 250A	MODEL CFN 250S	POWER REQUIREMENTS - (TY	PICAL)	
Embedded Controller/Interface	PC/AT	SCSI		+5 VDC ± 5%	POWER
Capacity (Formatted)	252.7 MB	252.7 MB	R/W Mode	275 ma	1.4 W
Capacity (roimatted)	232.7 NID	232.7 IVID	Seek Mode	210 ma	1.1 W
PHYSICAL CONFIGURATION			idie Mode	200 ma	1.0 W
Actuator Type	Rotary voice-coil	Rotary voice-coil	Standby Mode	40 ma	0.20 W
Notuator Type Number of Disks	3	3	Sleep Mode	40 ma	0.20 W
Data Surfaces	6	6	Spin-up Mode	1.0 amp	
vata surraces Data Heads	6	6	PHYSICAL CHARACTERISTICS		
Servo	Embedded	Embedded	THI OTOME CHANNE I ENIOTICS		
servu Tracks per Surface	1339	1339	Physical Dimensions	Height	0.770" (19.5 mm)(maximum)
•	2611 TPI	2611 TPI	(±.01 except height)	Length	4.00" (101.6 mm)
Track Bensity		24,064 – 40,448 bytes		Width	2.75" (69.8 mm)
Track Capacity (Formatted)	512	512		Weight	7.0 oz (.20 kg)
Bytes per Block					
Blocks per Drive	493,626	493,626	ENVIRONMENTAL CHARACTER	usnes	
Sectors per Track (Phylsical)	47–72	47–72	Temperature		
PERFORMANCE			Operating	5°C to 55°	C
			Non-operating	-40°C to €	50°C
Seek Times (Typical)*			Thermal Gradient	20°C per l	nour maximum
Track to Track	2.6 msec	2.6 msec	Humidity	•	
Average (Read/Write)	12 msec**	12 msec**	Operating	5% to 90%	non-condensing
Maximum	20 msec	20 msec	Non-operating	5% to 90%	non-condensing
Average Latency	6.7 msec	6.7 msec	Maximum Wet Bulb	28.9°C	Ü
Rotation Speed (± .1%)	4500 RPM	4500 RPM	Altitude (relative to sea level)		
Controller Overhead	500 μsec	500 μsec	Operating	-200 to 10	.000 feet
Data Transfer Rate			Non-operating (max)	-200 to 15	,
To/from Media	18 – 28 Mb/sec	18 – 28 Mb/sec	, , , , , , , , , , , , , , , , , , , ,		,
Data Transfer Rate			RELIABILITY AND MAINTENAN	ICE	
To/from Buffer	8.0 MB/sec	6.0 MB/sec	MTBF	150,000 h	ours
Start Time - Power Up (0-4500 RPM)			MTTR	10 minutes	
Typical	5 sec	5 sec	Preventive Maintenance	None	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Maximum	20 sec	20 sec	Component Design Life	5 years	
Stop Time - Power Bown			Data Reliability	,	coverable error in 1013 bits read
Typical	4 sec	4 sec	Data Nonaumiy	vi non re	toverable error in 10 bits read
Maximum	5 sec	5 sec	SHOCK AND VIBRATION		
Start/Stop Cycles	50,000 min	50,000 min	Shock	1/2 sine pu	lse (without non-recoverable errors)
Interleave	1:1	1:1	Operating Shock		1 msec/20 Gs @ 2 msec
Buffer Size	32 KB	32 KB	Non-operating Shock		11 msec/20 Gs @ 2 msec
			Wibration	_	11 disec/300 Gs @ 2 disec 1 octave per minute
READ/WRITE				3wept sine	, i octave per inminite
Recording Method	1,7 RLL code		Operating Vibration	1.0 Cc 200	k (without non-recoverable errors)
Recording Density	58,230 BPI		5-400 Hz	1.0 Gs pea	(without hon-recoverable effors)
Flux Density - ID	43,684 FCI		Non-operating Vibration 5-400 Hz	5 Come-l-	(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 NOISE

Acoustic Sound Pressure

34 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.



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Example - Acust 349/12-580011 1 - London 446/28-77272- V Munich 44989-96-5570 - Paris 24) 414-745-92-50
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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.

# **SCSI DRIVES**

PART TWO SCSI 3.5" Half-Height

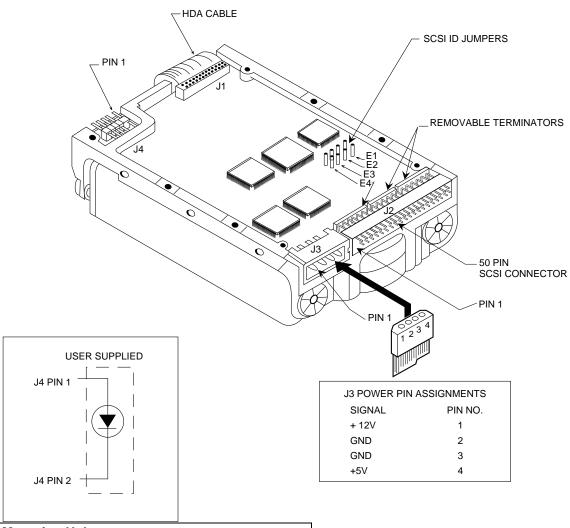
**CP340 Customer Options** 

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



### **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	MODEL CP-34 (PC/AT interface	4 POWER R	REQUIREMENTS	
Embedded Controller	PC/AT	SCSI	. ,	,	-0/	
Capacity (Formatted)	42.9 MB	42.0 MB	R/W Mode	+12 VDC ± 5		POWER
. , , , , , , , , , , , , , , , , , , ,	12.0 MB	42.0 MD		250 ma	250 ma	4.25 W
PHYSICAL CONFIGURA	ATION		Seek Mode	240 ma	150 ma	3.6 W
			Idle Mode	150 ma	140 ma	2.5 W
Actuator Type	Voice coil	Voice coil	Standby Mode	l ma	97 ma	0.5 W
Number of Disks	2	2	Sleep Mode	1 ma	77 ma	0.4 W
Data Surfaces	4	4	Spin-up Mode	l amp max	140 ma	n/a
Data Heads	4	4				
Servo	Embedded	Embedded	PHYSICAL CH.	ARACTERIS	STICS	
Tracks per Surface	805	788	Physical Dimension		1.50" (38.1	
Track Density	1000 TPI	1000 TPI		Length	5.75" (146.	11111)
Track Capacity				Width	4.00" (101.	r mm)
(Formatted)	13,312 bytes	13,312 bytes		Weight		
Bytes per Block	512	512		weight	1.5 lbs. (.67	(kg)
Blocks per Drive	83,720	81.952	ENIADONIA CAT	THE OTTER		
Sectors per Track	27 physical	27 physical	ENVIRONMEN	IAL CHARA	ACTERISTICS	
·	26 accessible	26 accessible	Temperature			
	_	20 accessible	Operating		5° C to 55° C	
PERFORMANCE			Non-operating		-40° C to 60° C	
Seek Times*			Thermal Gradient		20° C per hour ma	ximum
			Humidity		par nour me	.xiiiidiii
Track to Track	10 msec	10 msec	Operating		8% to 80% non-co	ndensina
Average	29 msec**	29 msec**	Non-operating		8% to 80% non-co	ndensing
Maximum	50 msec	50 msec	Maximum Wet B	ulb	26° C	idensing
Average Latency	8.33 msec	8.33 msec	Altitude (relative t	o sea level)	<b>-</b> 0 C	
Rotation Speed (± .1%)	3600 RPM	3600 RPM	Operating	o ocu icvci)	-200 to 10,000 feet	
Controller Overhead	1 msec	1 msec	Non-operating (	max )	40,000 feet	
Data Transfer Rate			· · · · · · · · · · · · · · · · · · ·	··········	40,000 icet	
To/From Media	1.0 MB/sec	1.0 MB/sec	RELIABILITY A	NID MAINTE	ENLANCE	
Data Transfer Rate		,		ND WAIN I		
To/From Buffer	4.0 MB/sec	1.0 MB/sec	MTBF		20,000 hours (POF	f)
Start Time - Power Up (0-360	0 RPM)	110 1112/000	MTTR		5 minutes typical	
Typical	7 sec	7 sec	Preventive Mainter	nance	None	
Maximum	20 sec	20 sec	Component Design	ı Life	5 years	
Stop Time - Power Down		20 300	Data Reliability		<1 non-recoverabl	e error in 1012
Typical	7 sec	7 sec			bits read	
Maximum	20 sec	20 sec				
Start/Stop Cycles	10,000 min	10,000 min	SHOCK AND VI	BRATION		
Interleave	1-to-1	10,000 mm	Shock		½ sine pulse	
Buffer Size	8 K	1-to-1 1 K	Vibration			
* At nominal D.C. input voltages.	O K	1 K	Non-operating Sho	ck	Swept sine, 1 octav 75 G's	e per minute
** Average seek time is determined by	dividing the total time requir	rod to each between	Non-operating Vibr		13 G S	
all possible ordered pairs of track ad	dresses by the total number	of these orderednairs	5-62 Hz	ation	0007771	
			63-500 Hz		.020" (double amp	litude)
READ/WRITE			Operating Shock		4 G's (peak)	
Interface	PC/AT	SCSI	Operating Shock		5 G's	
Recording Method	2,7 RLL code		Operating Viber	_	(without non-recov	erable errors)
Recording Density – ID	4,1 NLL Code	2,7 RLL code	Operating Vibration 5-27 Hz	n	0.00.41	
(bits per inch)	21,379	01.070			.010" (double ampl	itude)
Flux Density – ID	41,319	21,379	28-500 Hz		.15 G's peak	
(flux reversals per inch)	14.959	14.050			(without non-recov	erable errors)
(ax reversais per ilicii)	14,253	14,253	MACAITIMA			
			MACNETIC REI	13		

### 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.



### **CP3100**

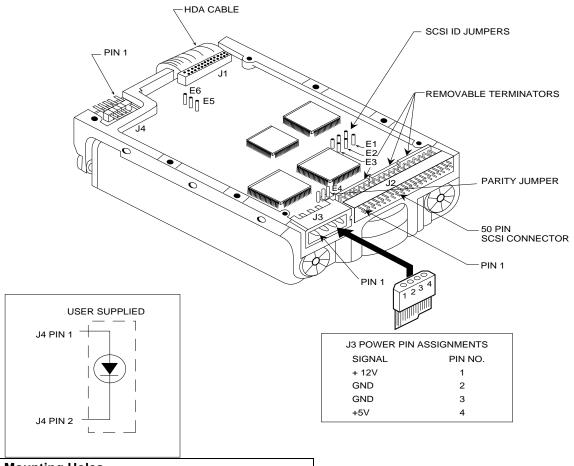
### **Customer Options**

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



### **Mounting Holes**

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

## CP-3100 SERIES SPECIFICATION SUMMARY

	MODEL	MODEL	MODEL CP 31	A PAWED I	REQUIREMENTS	
	CP-3104	CP-3100	(PC/AT interface	tvoical)	CEQUIREMENTS	•
Embedded Controller	PC/AT	SCSI	( o) III III CIII CC	,	0/	
Capacity (Formatted)	104.9 MB	104.9 MB	R/W Mode	+12 VDC ± 5	.0 100 20/0	POWER
	10 110 1112	104.5 MD	Seek Mode	350 ma 260 ma	300 ma	5.7 W
PHYSICAL CONFIGURA	TION		Idle Mode	260 ma 175 ma	180 ma	4.0 W
Actuator Type	Voice coil		Spin-up Mode	175 ma 180 ma	160 ma	2.9 W
Number of Disks	4	Voice coil	Spin-up Wode	100 IIIa	180 ma max	n/a
Data Surfaces	8	4 8	DUVCICAL OIL	AD A CTEDIO	TIOO	
Data Heads	8	8	PHYSICAL CH		TICS	
Servo	Embedded	8 Embedded	Physical Dimensi		1.625" (41.3	
Tracks per Surface	776	776		Length	5.75" (146.1	
Track Density	1150 TPI	1150 TPI		Width	4.00" (101.6	
Track Capacity	1130 111	1150 171		Weight	2.0 lbs. (.9 l	cg)
(Formatted)	16,896 bytes	16,896 bytes	ENUMBAN CO.			
Bytes per Block	512	512	ENVIRONMEN	TAL CHARA	CTERISTICS	
Blocks per Drive	204.864	204.864	Temperature			
Sectors per Track	34 physical	34 physical	Operating		5° C to 55° C	
	33 accessible	33 accessible	Non-operating		-40° C to 60° C	
	TO MCCCOOLDIC	oo accessibic	Thermal Gradient		20° C per hour ma	ximum
PERFORMANCE			Humidity			
Seek Times*			Operating		8% to 80% non-cor	ndensing
Track to Track	8 msec	0	Non-operating		8% to 80% non-cor	ndensing
Average	25 msec**	8 msec	Maximum Wet B	ulb	26° C	-
Maximum	45 msec	25 msec** 45 msec	Altitude (relative t	o sea level)		
Average Latency	8.4 msec		Operating		-200 to 10,000 feet	
Rotation Speed (±.1%)	3575 RPM	8.4 msec 3575 RPM	Non-operating (	max.)	40,000 feet	
Controller Overhead	l msec	1 msec	DEL LI DIL IIII .			
Data Transfer Rate	1 msec	Tillsec	RELIABILITY A	ND MAINTE	ENANCE	
To/From Media	1.25 MB/sec	1.25 MB/sec	MTBF		30,000 hours (POH	D
Data Transfer Rate	1.20 MD/36C	1.25 MID/Sec	MTTR		10 minutes typical	-9
To/From Buffer	3.75/4.75 MB/sec	1.66 MB/sec	Preventive Mainte		None	
Start Time - Power Up (0-3575	RPM)	1.00 MD/Sec	Component Design	n Life	5 years	
Typical	15 sec	15 sec	Data Reliability		<1 non-recoverable	e error in 1012
Maximum	20 sec	20 sec			bits read	
Stop Time - Power Down		20 000				
Typical	15 sec	15 sec	SHOCK AND VI	BRATION		
Maximum	20 sec	20 sec	Shock		½ sine pulse	
Start/Stop Cycles	10,000 min	10,000 min	Vibration		Swept sine, 1 octav	e per minute
Interleave	1-to-1	l-to-l	Non-operating Sho	ck	50 G's	o por illinate
Buffer size	32 K	16 K	Non-operating Vib	ration		
* At nominal D.C. input voltages.			5-62 Hz		.020" (double ampl	itude)
** Average seek time is determined by di	viding the total time required	to seek between	63-500 Hz		4 G's (peak)	
all possible ordered pairs of track add	resses by the total number of	these orderedpairs.	Operating Shock		10 G's	
READ/WRITE					(without non-recov	erable errors)
			Operating Vibratio	n		
Interface	PC/AT	SCSI	5-27 Hz		.010" (double ampl	itude)
Recording Method	2,7 RLL code	2,7 RLL code	28-500 Hz		.25 G's peak	
Recording Density - ID	23,441 BPI	23,441 BPI			(without non-recov	erable errors)
Flux Density – ID	4					ĺ
(flux reversals per inch)	15,627	15,627	MAGNETIC FIEI			
			The externally indu	ced magnetic	flux density may no	t exceed
			6 gauss as measure	d at the disk su	ırface.	
			ACOLICTIC NOD			

ACOUSTIC NOISE

40 dBA max. at 1 meter.

NOTE: Specifications subject to change.



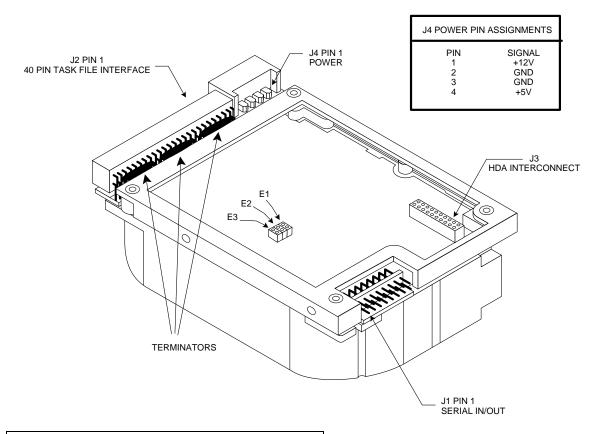
### **CP3200F**

### **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	
<b>E</b> 1	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



### **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

MODEL

MODEL

- Sub-16 msec average seek time
- Low 4.2 watts typical power dissipation
- Half-height form factor
- PC/AT® or SCSI interface

	CP-3204F	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-coi
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 R	PM)	
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 dividi all possible ordered pairs of track address	ing the total time required t es by the total number of th	to seek between lese ordered pairs.

POWER REQUIREMENTS (PC/AT interface typical)

READ/WRITE

Recording Method Recording Density – ID Flux Density – ID (flux reversals per inch)

+12 VDC ± 5%	POWER
400 ma	6.0 W
400 ma	6.3 W
250 ma	4.2 W
2.0 amp max	n/a
	400 ma 250 ma

#### PHYSICAL CHARACTERISTICS

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

1,7 RLL code 31,800 BPI

#### **ENVIRONMENTAL CHARACTERISTICS**

remperature	
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 1013
•	hite 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

 $NOTE: Specifications \ subject \ to \ change.$ 



### CP3360 & CP3540

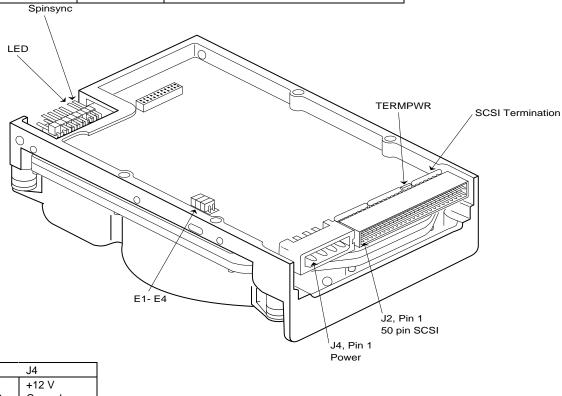
### **Customer Options**

There are three jumpers available for configuration of SCSI ID: E1, E2, and E3. The following table defines the settings:

<u>ID</u>	<u>Jumper</u>	
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	

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 R	PM)	
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 Recording Density - ID Flux Density - ID (flux reversals per inch)

2,7 RLL code 44,325 BPI 29,550

#### POWER REQUIREMENTS

(typical)

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

#### PHYSICAL CHARACTERISTICS

Physical Dimensions Height

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

5°C to 55°C

#### ENVIRONMENTAL CHARACTERISTICS

Temperature Operating Non-operating Thermal Gradient Humidity Operating

-40° C to 60° C 20° C per hour maximum 8% to 80% non-condensing Non-operating Maximum Wet Bulb 8% to 80% non-condensing 26° C

Altitude (relative to sea level) Operating Non-operating (max.)

-200 to 10,000 feet 40,000 feet

#### RELIABILITY AND MAINTENANCE

MTBF Preventive Maintenance Component Design Life Data Reliability In excess of 150,000 hours (POH) 10 minutes typical None 5 years
<1 non-recoverable error in 10<sup>13</sup>

### SHOCK AND VIBRATION

Shock Vibration Non-operating Shock Non-operating Vibration 5-62 Hz 63-500 Hz ½ sine pulse, 11 msec duration Swept sine, 1 octave per minute 50 Gs .020" (double amplitude)

Operating Shock Operating Vibration 5-27 Hz 28-500 Hz 4 Gs (peak) (without non-recoverable errors) .010" (double amplitude) .50 Gs (peak)

(without non-recoverable errors)

### ACOUSTIC NOISE

Acoustic Sound Pressure (idle)

40 dBA max. at 1 meter.

NOTE: Specifications subject to change.

### CFP4207S Customer options

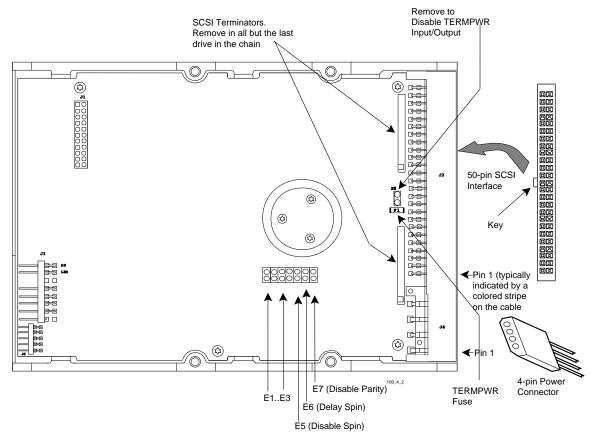
### **SCSI Bus Address**

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	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

<sup>\*</sup>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 settling 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	CFP2105S	CFP2107S	CFP4207S	ENVIRONMENTAL CHARACTI	ERISTICS
		CFP1080E	CFP2105W CFP2105E	CFP2107W CFP2107E	CFP4207W CFP4207E	Temperature Operating	5° C to 55° C
						Non-operating	-40° C to 60° C
Embedded Cor	ntroller/Interface	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	Thermal Gradient	20° C per hour maximum
Capacity (Form	natted)	FAST-WIDE SCSI-2 1080 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 4294 MB	Humidity	5% to 95% non-condensing
PHYSICAL CO	NEICHDATION					Operating Non-operating	5% to 95% non-condensing
		ā	~	~	10	Maximum Wet Bulb	29° C
Number of Disi		3	5	5	10	Altitude (relative to sea level)	
Data Surfaces		6	10	10	20	Operating	-200 to 10,000 feet
Data Heads		6 Frank adda d	10	10	20	Non-operating (max)	40,000 feet
Servo		Embedded 8	Embedded 15	Embedded	Embedded		
Zones per Surf	ace	3849 TPI	4030 TPI	15 4090 TPI	15 4090 TPI	RELIABILITY AND MAINTENA	INCE
Track Density	_	3658	3948	4016	4016	MTBF	Up to 1,000,000 hours
Total Cylinders  Bytes per Sect		256/512	512	512	512	Preventive Maintenance	None
Sectors per Zo		66-120	67-139	69-124	69-124	Component Design Life	7 years
Sectors per 20	ne (Physical)	00-120	07-139	03-124	03-124	Data Reliability	$< 1$ non-recoverable error in $10^{24}$ bits
PERFORMAN	CE					SHOCK AND VIBRATION	CFP1080, CFP2105, CFP2107
Seek Times (T)	/pical)*					Shock	1/2 sine pulse, 11 msec duration
Track to Tr	rack	3 msec	2 msec	2 msec	2 msec	Operating Shock	5 Gs (without non-recoverable errors)
Average (F	Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**	Non-operating Shock	75 Gs (without non-recoverable errors)
Maximum		26 msec	18 msec	18 msec	18 msec	Vibration	
Average Laten	су	5.56 msec	5.55 msec	4.17 msec	4.17 msec	Operating Vibration	Swept sine, 1 octave per minute
Rotation Spee	d (± . 1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM	5-32 Hz	0.01" (double amplitude)
Data Transfer	Rate					33-400 Hz	0.5 Gs peak
To/from me	edia	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec		(without non-recoverable errors)
To/from bu		10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	Non-operating Vibration	Swept sine, 1/2 octave per minute
Start Time - Po	ower Up					5-28 Hz	0.10" (double amplitude)
Typical		8.5 sec	15 sec	15 sec	15 sec	29-400 Hz	4 Gs peak
Maximum		20 sec***	20 sec***	20 sec***	20 sec***		(without non-recoverable errors)
Stop Time - Po	wer Down	17	10	10	10		CFP4207
Typical		15 sec	12 sec	10 sec	10 sec	Shock	1/2 sine pulse, 11 msec duration
Maximum		20 sec 256/512 KB	15 sec 512 KB	15 sec	15 sec 512 KB	Operating Shock	5 Gs (without non-recoverable errors)
Buffer Size		230/312 KD	312 ND	512 KB	312 KB	Non-operating Shock	50 Gs (without non-recoverable errors)
READ/WRITE						Vibration	oo da (widiodi non recoverable errora)
	thad	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	Operating Vibration	Swept sine, 1 octave per minute
Recording Me Recording Den		64 K BPI	74 K BPI	78 K BPI	78 K BPI	5-32 Hz	0.01" (double amplitude)
Recording Den	isity	OT IX DI I	74 K DI I	70 K DI 1	70 K DI 1	33-375Hz	0.5 Gs peak
PHYSICAL DII	MENSIONS						(without non-recoverable errors)
	VILIVSIONS	1.00" (07.4)	1.00" (07.4)	1.00" (07.4)	1.00" (41.0)	Non-operating Vibration	Swept sine, 1/2 octave per minute
Height		1.00" (25.4 mm)	1.00" (25.4 mm) 5.75" (146.1 mm)	1.00" (25.4 mm) 5.75" (146.1 mm)	1.62" (41.2 mm)	5-28 Hz	0.10" (double amplitude)
Length		5.75" (146.1 mm) 4.00" (101.6 mm)	4.00" (101.6 mm)		5.75" (146.1 mm) 4.00" (101.6 mm)	29-375Hz	4 Gs peak
Width Weight		1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)		(without non-recoverable errors)
neigh		1.0 lbs (.00 kg)	1.1105 (.0111g)	1.1105 (.0111g)	2.0 105 (.01 115)	ACOUSTIC NOISE	CFP1080, CFP2105
POWER REQU	IREMENTS – (TYPICAL	-				Acoustic Sound Power	< 4.3 Bels max in idle mode
+5 VDC ±5%	Idle Mode	275 mA	420 mA	450 mA	680 mA		OFD2107 OFD4207
	Spin-up Mode	500 mA	700 mA	750 mA	880 mA		CFP2107, CFP4207
+12 VDC ±5%	Idle Made	200 mA	300 mA	550 mA	780 mA		< 4.6 Bels max in idle mode
+12 VDC ±3%	Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp	WADDANTY	Even
	эриг-ир июис	•	•	≈.o amp	o.o amp	WARRANTY	5 years
Power	Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W	NOTE: Specifications subject to	change
	Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W	1 VO 1 E. Specifications subject to	Change
	Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W		
MODELS/CON	NECTORS/INTERFACES	S					

CFP1080S/2105S/2107S/4207S

CFP1080E/2105E/2107E/4207E CFP2107WD/4207WD

CFP2105W/2107W/4207W

Fax Information Service

File Number

5512

= 50-pin single-ended FAST SCSI-2

= 68-pin single-ended FAST/FAST-WIDE SCSI-2

= 68-pin differential (FAST/FAST-WIDE SCSI-2)

5513

= 80-pin connector attachment (FAST-WIDE SCSI-2)

5516

5406

# CCNNER.

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<sup>\*</sup> 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.

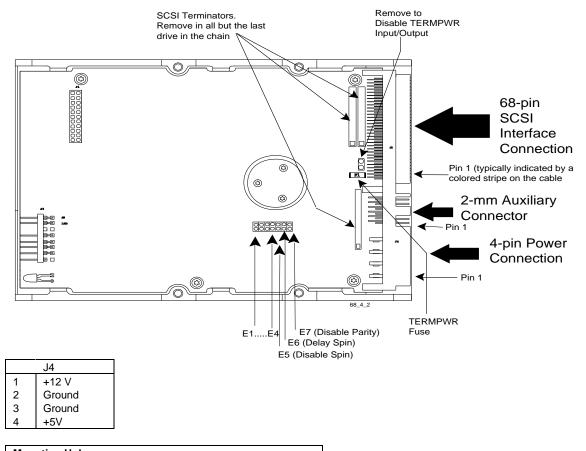
# **CFP4207W Customer options**

### **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	0
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.



M	ou	ntır	ng F	101	es

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	CFP2105S	CFP2107S	CFP4207S	ENVIRONMENTAL CHARACTI	ERISTICS
		CFP1080E	CFP2105W CFP2105E	CFP2107W CFP2107E	CFP4207W CFP4207E	Temperature Operating	5° C to 55° C
						Non-operating	-40° C to 60° C
Embedded Cor	ntroller/Interface	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	Thermal Gradient	20° C per hour maximum
Capacity (Form	natted)	FAST-WIDE SCSI-2 1080 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 4294 MB	Humidity	5% to 95% non-condensing
PHYSICAL CO	NEICHDATION					Operating Non-operating	5% to 95% non-condensing
		ā	~	~	10	Maximum Wet Bulb	29° C
Number of Disi		3	5	5	10	Altitude (relative to sea level)	
Data Surfaces		6	10	10	20	Operating	-200 to 10,000 feet
Data Heads		6 Frank adda d	10	10	20	Non-operating (max)	40,000 feet
Servo		Embedded 8	Embedded 15	Embedded	Embedded		
Zones per Surf	ace	3849 TPI	4030 TPI	15 4090 TPI	15 4090 TPI	RELIABILITY AND MAINTENA	INCE
Track Density	_	3658	3948	4016	4016	MTBF	Up to 1,000,000 hours
Total Cylinders  Bytes per Sect		256/512	512	512	512	Preventive Maintenance	None
Sectors per Zo		66-120	67-139	69-124	69-124	Component Design Life	7 years
Sectors per 20	ne (Physical)	00-120	07-139	03-124	03-124	Data Reliability	$< 1$ non-recoverable error in $10^{24}$ bits
PERFORMAN	CE					SHOCK AND VIBRATION	CFP1080, CFP2105, CFP2107
Seek Times (T)	/pical)*					Shock	1/2 sine pulse, 11 msec duration
Track to Tr	rack	3 msec	2 msec	2 msec	2 msec	Operating Shock	5 Gs (without non-recoverable errors)
Average (F	Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**	Non-operating Shock	75 Gs (without non-recoverable errors)
Maximum		26 msec	18 msec	18 msec	18 msec	Vibration	
Average Laten	су	5.56 msec	5.55 msec	4.17 msec	4.17 msec	Operating Vibration	Swept sine, 1 octave per minute
Rotation Spee	d (± . 1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM	5-32 Hz	0.01" (double amplitude)
Data Transfer	Rate					33-400 Hz	0.5 Gs peak
To/from me	edia	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec		(without non-recoverable errors)
To/from bu		10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	Non-operating Vibration	Swept sine, 1/2 octave per minute
Start Time - Po	ower Up					5-28 Hz	0.10" (double amplitude)
Typical		8.5 sec	15 sec	15 sec	15 sec	29-400 Hz	4 Gs peak
Maximum		20 sec***	20 sec***	20 sec***	20 sec***		(without non-recoverable errors)
Stop Time - Po	wer Down	17	10	10	10		CFP4207
Typical		15 sec	12 sec	10 sec	10 sec	Shock	1/2 sine pulse, 11 msec duration
Maximum		20 sec 256/512 KB	15 sec 512 KB	15 sec	15 sec 512 KB	Operating Shock	5 Gs (without non-recoverable errors)
Buffer Size		230/312 KD	312 ND	512 KB	312 KB	Non-operating Shock	50 Gs (without non-recoverable errors)
READ/WRITE						Vibration	oo da (widiodi non recoverable errora)
	thad	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	Operating Vibration	Swept sine, 1 octave per minute
Recording Me Recording Den		64 K BPI	74 K BPI	78 K BPI	78 K BPI	5-32 Hz	0.01" (double amplitude)
Recording Den	isity	OT IX DI I	74 K DI I	70 K DI 1	70 K DI 1	33-375Hz	0.5 Gs peak
PHYSICAL DII	MENSIONS						(without non-recoverable errors)
	VILIVSIONS	1.00" (07.4)	1.00" (07.4)	1.00" (07.4)	1.00" (41.0)	Non-operating Vibration	Swept sine, 1/2 octave per minute
Height		1.00" (25.4 mm)	1.00" (25.4 mm) 5.75" (146.1 mm)	1.00" (25.4 mm) 5.75" (146.1 mm)	1.62" (41.2 mm)	5-28 Hz	0.10" (double amplitude)
Length		5.75" (146.1 mm) 4.00" (101.6 mm)	4.00" (101.6 mm)		5.75" (146.1 mm) 4.00" (101.6 mm)	29-375Hz	4 Gs peak
Width Weight		1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)		(without non-recoverable errors)
neigh		1.0 lbs (.00 kg)	1.1105 (.0111g)	1.1105 (.0111g)	2.0 105 (.01 115)	ACOUSTIC NOISE	CFP1080, CFP2105
POWER REQU	IREMENTS – (TYPICAL	-				Acoustic Sound Power	< 4.3 Bels max in idle mode
+5 VDC ±5%	Idle Mode	275 mA	420 mA	450 mA	680 mA		OFD2107 OFD4207
	Spin-up Mode	500 mA	700 mA	750 mA	880 mA		CFP2107, CFP4207
+12 VDC ±5%	Idle Made	200 mA	300 mA	550 mA	780 mA		< 4.6 Bels max in idle mode
+12 VDC ±3%	Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp	WADDANTY	Eveny
	эриг-ир июис	•	•	≈.o amp	o.o amp	WARRANTY	5 years
Power	Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W	NOTE: Specifications subject to	change
	Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W	1 VO 1 E. Specifications subject to	Change
	Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W		
MODELS/CON	NECTORS/INTERFACES	S					

CFP1080S/2105S/2107S/4207S

CFP1080E/2105E/2107E/4207E CFP2107WD/4207WD

CFP2105W/2107W/4207W

Fax Information Service

File Number

5512

= 50-pin single-ended FAST SCSI-2

= 68-pin single-ended FAST/FAST-WIDE SCSI-2

= 68-pin differential (FAST/FAST-WIDE SCSI-2)

5513

= 80-pin connector attachment (FAST-WIDE SCSI-2)

5516

5406

# CCNNER.

The Storage Answer

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<sup>\*</sup> 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.

# **SCSI DRIVES**

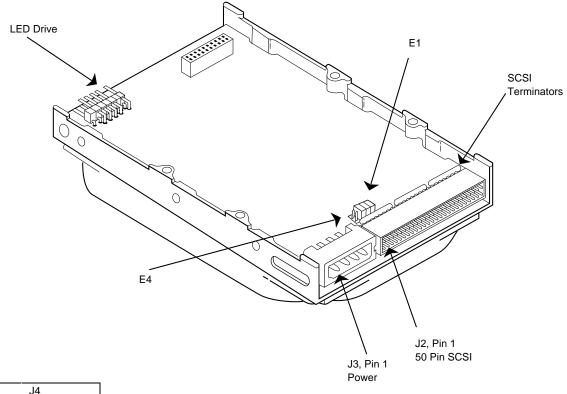
PART THREE SCSI 3.5" 1/3-Height

### **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:

101 jumpers L1, L2,	and L3.
E1	Е

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

RE/	AD/W	RITE
_	4.	

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

1.00" (25.4 mm) 5.75" (146.1 mm) 4.00" (101.6 mm) Physical Dimensions Height

Weight 1.1 lbs. (.50 kg)

L		
40		

MODEL CP-3044 MODEL CP-304 Embedded Controller/Interface PC/AT 42 MB SCSI 42 MB Capacity (Formatted)

### PHYSICAL CONFIGURATION

A street Town	D	D
Actuator Type	Rotary voice-coil	Rotary voice-co
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 (0-355)	7 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.

### **ENVIRONMENTAL CHARACTERISTICS**

5°C to 55°C
-40° C to 60° C
20° C per hour maximum
•
8% to 80% non-condensing
8% to 80% non-condensing
26°C
-200 to 10,000 feet
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 1012
	hits read

#### SHOCK AND VIBRATION

Shock	½ sine pulse
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 Ĝ'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)
MACHETIC FIELD	

#### **MAGNETIC FIELD**

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

### ACOUSTIC NOISE

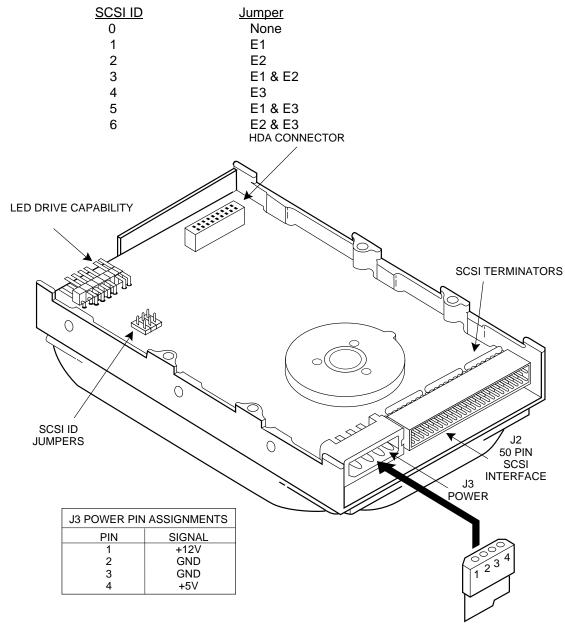
Acoustic Noise 40 dBA max. at 1 meter.

NOTE: Specifications subject to change.



### **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:



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 CONFIGUR	ATION		
Actuator Type	Rotary	Rotary	Rotary
	voice-coil	voice-coil	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*			
	0	0	0
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		110 1112/300	110 1112/300
Typical	15 sec	15 sec	15 sec
Maximum	20 sec	20 sec	20 sec
Stop Time – Power Dow:		20 300	20 300
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
buller size	OTK	OTK	OTK

#### READ/WRITE

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

1.00" (25.4 mm) 5.75" (146.1 mm) 4.00" (101.6 mm) Physical Dimensions Height Length Width 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 1012
,	hita road

#### SHOCK AND VIBRATION

Shock	½ sine pulse, 11 msec duration
Vibration	Swept sine, 1 octave per minute
Non-operating Shock	75 Ĝ'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)

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

40 dBA max. at 1 meter. Acoustic Sound Pressure

NOTE: Specifications subject to change.

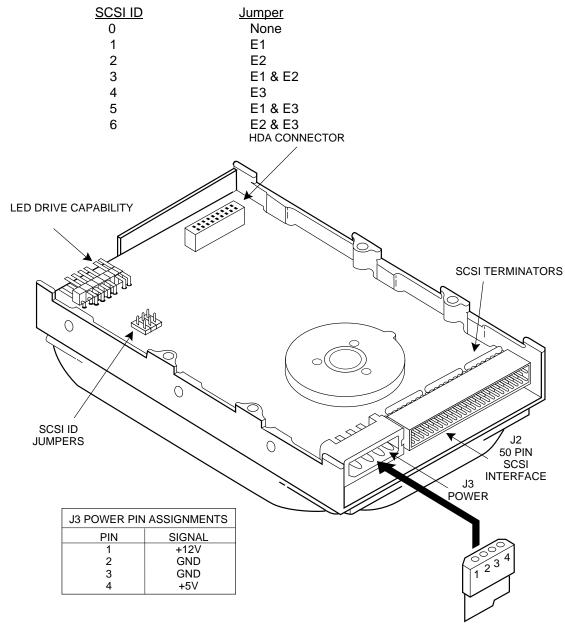


<sup>\*</sup> At nominal DC input voltages.

\*\*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.

### **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:



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

			ENVIRONMENTAL
	MODEL CP-30084	MODEL CP-30080	Temperature Operating
Embedded Controller/Interface Capacity (Formatted)	PC/AT/EISA 84.1 MB	SCSI 84.1 MB	Non-operating Thermal Gradient Humidity
PHYSICAL CONFIGURATION			Operating
Actuator Type Number of Disks Data Surfaces	Rotary voice-coil 2 4	Rotary voice-coil 2 4	Non-operating Maximum Wet Bul Altitude (relative to s Operating
Data Heads	4	4	Non-operating (ma
Servo Tracks per Surface	Embedded 1058	Embedded 1058	RELIABILITY AND
Track Density	1400 TPI	1400 TPI	MTBF
Track Capacity (Formatted) Bytes per Block Blocks per Drive Sectors per Track	19,968 bytes 512 164,268 39	19,968 bytes 512 164,268 39	MTTR Preventive Maintena Component Design I Data Reliability
PERFORMANCE			SHOCK AND VIBRA
Seek Times* Track to Track Average Maximum	8 msec sub-19 msec** 35 msec	8 msec sub-19 msec**	Shock Vibration Non-operating Shock
Average Latency	8.8 msec	8.8 msec	Non-operating Vibra 5-62 Hz
Rotation Speed (± .1%) Controller Overhead Data Transfer Rate	3400 RPM 1 msec	3400 RPM 1 msec	63-500 Hz Operating Shock
To/from Media	1.5 MB/sec	1.5 MB/sec	Operating Vibration
Data Transfer Rate To/from Buffer	4.0 MB/sec	4.0 MB/sec	5-27 Hz 28-500 Hz

Start Time – Power Up (0-3400 RPM)
Typical 15 sec
Maximum 20 sec

Stop Time – Power Down Typical Maximum

Start/stop Cycles Interleave

**Buffer Size** 

15 sec 20 sec 40,000 min

1:1 64 K

20 sec

15 sec

20 sec 40,000 min

#### READ/WRITE

Recording Method Recording Density – ID Flux Density – ID (flux reversals per inch) 1,7 RLL code 33,184 BPI 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 Length	1.00" (25.4 mm) 5.75" (146.1 mm)
	Width	4.00" (101.6 mm)
	Waight	1.3 lbc (59 kg)

#### 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

#### 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 1012
,	bits read

#### RATION

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

40 dBA max. at 1 meter. Acoustic Sound Pressure

NOTE: Specifications subject to change



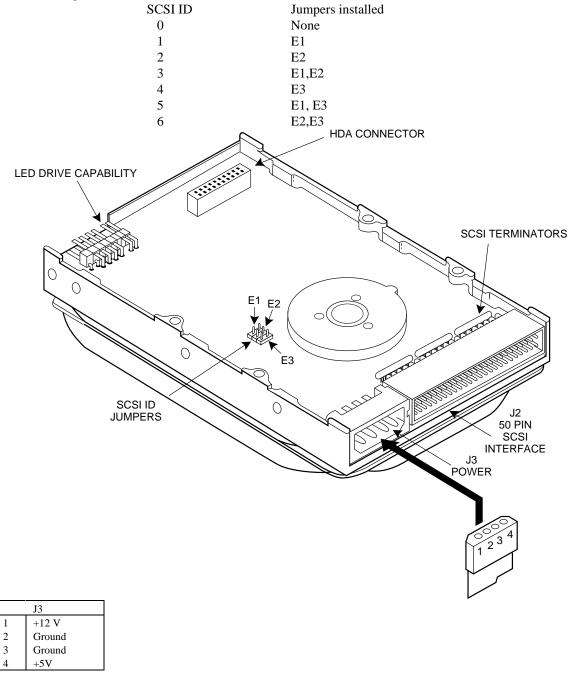
<sup>\*</sup>A rnominal DC input voltages.

\*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.

### **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:



### **Mounting Holes**

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

## **CP-30080E SPECIFICATION SUMMARY**

	MODEL CP-30084E	MODEL CP-30080E	POWER REQUIREMENTS - (	TYPICAL)		
Embedded Controller/Interface	PC/AT	SCSI		+12 VDC ± 5%	+5 VDC ± 5%	POWER
•	85 MB	85 MB	R/W Mode	140 ma	390 ma	3.75 W
Capacity (Formatted)	83 IVID	93 MID	Seek Mode	230 ma	200 ma	3.75 W
PHYSICAL CONFIGURATION			Idle Mode	120 ma	200 ma	2.50 W
Actuator Type	Dotom: voice soil	Dotom voice cail	Sieep Mode	10 ma	130 ma	.75 W
	Rotary voice-coil	Rotary voice-coil	Standby Mode	10 ma	130 ma	.75 W
Number of Disks Data Surfaces	1 2	1 2	Spin-up Mode	1100 ma	420 ma	n/a
vata Surraces Data Heads	2	2	(for first 7 seconds)			
	Embedded	_				
Servo	1806	Embedded	***************************************			
Tracks per Surface		1806	Physical Dimensions	-	1.00" (25.4 mm)	
Track Density	2150 TPI	2150 TPI			5.75" (146.1 mm	
Track Capacity (Formatted)	23,552 bytes	23,552 bytes			4.00" (101.6 mm	)
Bytes per Block	512	512		Weight	1.3 lbs (.59 kg)	
Blocks per Brive	166,152	166,152				
Sectors per Track	46	46				
	THUS SHARE IN	n o De <b>i de</b> n er de Barrane	Temperature			
1. Samuel and a second		and the second of the second of the	Operating	5°C to 55°C		
Seek Times*			Non-operating	−40°C to 60	°C	
Track to Track	3 msec	3 msec	Thermal Gradient	20°C per ho	ur maximum	
Average	17 msec**	17 msec**	Humidity			
Maximum	30 msec	30 msec	Operating		non-condensing	
Average Latency	7.8 msec	7.8 msec	Non-operating	8% to 80%:	non-condensing	
Rotation Speed (± .1%)	3833 RPM	3833 RPM	Maximum Wet Bulb	29°C		
Controller Overhead	1 msec	1 msec	Altitude (relative to sea level)			
Data Transfer Rate			Operating	-200 to 10,0	000 feet	
To/from Media	2.0 Mb/sec	2.0 Mb/sec	Mon-operating (max)	40,000 feet		
Data Transfer Rate			Commence of the Commence of th	Hand Maddin American	on the Androdesia Administration of	year-reak
To/from Buffer	6.0 MB/sec	5.0 MB/sec		A STATE OF THE STA	*********	1466
Start Time - Power Up			MTBF	In excess of	150,000 hours (P	OH)
Typical	15 sec	15 sec	MTTR	10 minutes t	ypical	
Maximum	20 sec	20 sec	Preventive Maintenance	None		
Stop Time - Power Down			Component Design Life	5 years		
Typical	15 sec	15 sec	Data Reliability	<1 non-reco	verable error in	1013 bits read
Maximum	20 sec	20 sec	ACCOUNT OF THE PERSON NAMED OF THE PERSON NAME	and the contract of the contra		man company of the control of the co
Start/Stop Cycles	20,000 min	20,000 min		特別的	PARTIES AND	S. S. S. S.
Interleave	1:1	1:1	Shock	1/2 sine puls	e, 11 msec durati	on
Buffer Size	32 K	32 K	Operating Shock		it non-recoverab	
A COMPANY OF THE PARTY OF THE P	TOTAL PROPERTY AND	A SAN AND RESIDENCE AND AN ARREST MARKET PROCESSOR AND AN ARREST MARKET PROCESSOR AND ARREST	Non-operating Shock	75 Gs		,
			Vibration	Swept sine,	octave per minu	ite
Recording Method	1,7 RLL code		Operating Vibration			
Recording Density – ID	42,173 BPI		5-10 Hz	0.10" (doub	e amplitude)	
Flux Density – ID	31,630		10-100 Hz			coverable errors
(flux reversals per inch)	•		Non-operating Vibration	(Pean	, ,	
			5-28 Hz	0.10" (doub	e amplitude)	
* Physical seek times at nominal D	C input voltages.	. I a sout to source	10-400 Hz	•	without non-rec	overable errord
** Average seek time is determined all possible ordered pairs of trac	k addresses by the total number	of these ordered pairs.	. 0 100 114	i Os (peak)		orerable 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.



Worldwide Meadquarterus 3081 Zanker Road, San Jose, CA 95134, Telephone 1-800-5-CONNER

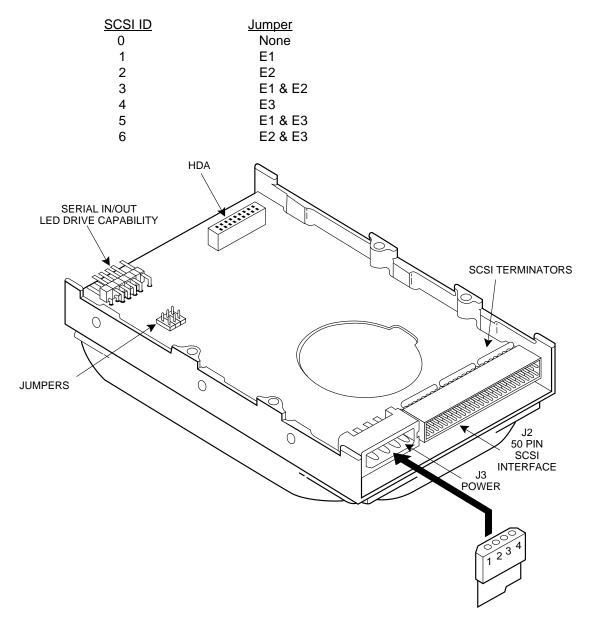
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### **CP30100 SCSI**

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:



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

\* 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.

- 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	ENVIRONMENTAL CHARACT	TERISTICS
Embedded Controller/ Interface Capacity (Formatted) PHYSICAL CONFIGURA	PC/AT/EISA 120 MB	MCA 120 MB	SCSI 120 MB	Temperature Operating Non-operating Thermal Gradient Humidity	5° C to 55° C -40° C to 60° C 20° C per hour maximum
Actuator Type  Number of Disks  Data Surfaces  Data Heads  Servo  Tracks per Surface  Track Density	Rotary voice-coil 2 4 4 Embedded 1524 1850 TPI	Rotary voice-coil 2 4 4 Embedded 1524 1850 TPI	Rotary voice-coil 2 4 4 Embedded 1524 1850 TPI	Operating Non-operating Maximum Wet Bulb Altitude (relative to sea level) Operating Non-operating (max.)  RELIABILITY AND MAINTEN MTBF	8% to 80% non-condensing 8% to 80% non-condensing 26° C  -200 to 10,000 feet 40,000 feet  In excess of 150,000 hours (PC
Track Capacity (Formatted) Bytes per Block Blocks per Drive Sectors per Track PERFORMANCE	19,968 bytes 512 237,432 39	19,968 bytes 512 237,432 39	19,968 bytes 512 237,432 39	MTTR Preventive Maintenance Component Design Life Data Reliability  SHOCK AND VIBRATION	10 minutes typical None 5 years <1 non-recoverable error in 10 bits read
Seek Times* Track to Track Average Maximum Average Latency Rotation Speed (± .1%) Controller Overhead Data Transfer Rate To/From Media Data Transfer Rate To/From Buffer Start Time – Power Up (0- Typical Maximum Stop Time – Power Down	15 sec 20 sec	35 msec 8.8 msec 3399 RPM 1 msec 1.5 MB/sec 4.0 MB/sec 15 sec 20 sec	35 msec 8.8 msec 3399 RPM 1 msec 1.5 MB/sec 4.0 MB/sec 15 sec 20 sec	Shock Vibration Non-operating Shock Non-operating Vibration 5-62 Hz 63-500 Hz Operating Shock Operating Vibration 5-27 Hz 28-500 Hz  MAGNETIC FIELD	½ sine pulse, 11 msec duration Swept sine, 1 octave per minute 75 G's  .020" (double amplitude) 4 G's (peak) 5 G's (without non-recoverable error .025" (double amplitude) .50 G's peak (without non-recoverable error
Typical Maximum Start/stop Cycles Interleave Buffer size	15 sec 20 sec 40,000 min 1:1 64 K	15 sec 20 sec 40,000 min 1:1 64 K	15 sec 20 sec 40,000 min 1:1 64 K	The externally induced magneti 6 gauss as measured at the disk s  ACOUSTIC NOISE  Acoustic Noise	
				I ICOUSTIC I TOISC	. o abri max. at 1 metel.

READ/WRITE

R/W Mode Seek Mode Idle Mode

Spin-up Mode

Recording Method

Recording Density – ID Flux Density – ID (flux reversals per inch)

POWER REQUIREMENTS

(PC/AT/EISA interface typical)

PHYSICAL CHARACTERISTICS

Physical Dimensions Height

1,7 RLL code 33,184 BPI 24,888

+12 VDC ± 5% +5 VDC ± 5% 200ma 280ma

150ma 150ma

380ma

1.00" (25.4 mm) 5.75" (146.1 mm) 4.00" (101.6 mm) 1.3 lbs. (.59 kg)

260ma 175ma

1100ma

Length Width

POWER

3.8 W 3.9 W 2.8 W

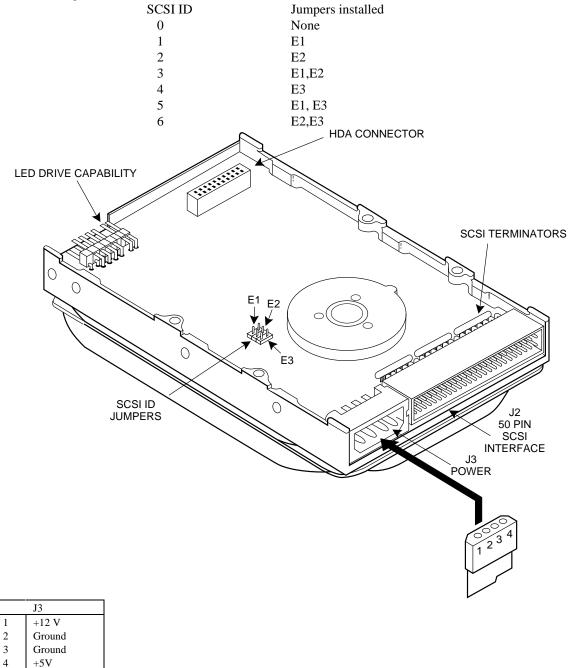
### **CONNER**

NOTE: Specifications subject to change.

### **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:



### **Mounting Holes**

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

## CP-30170E SPECIFICATION SUMMARY

	MODEL CP-30174E	MODEL CP-30170E	POWER REQUIREMENTS - (	TIPREAL)		
				+12 VDC ± 5%	+5 VDC ± 5%	POWER
Embedded Controller/Interface	PC/AT	SCSI	R/W Mode	140 ma	390 ma	3.75 W
Capacity (Formatted)	170 MB	170 MB	Seek Mode	230 ma	200 ma	3.75 W
	a Printer de la Constantina		idie Mode	120 ma	200 ma	2.50 W
With an area of the control of the c		CT 2017 CROWN DEBUGEO - KNIECT REPORT GENERAL TRANS	Sleep Mode	10 ma	130 ma	.75 W
Actuator Type	Rotary voice-coil	Rotary voice-coil	Standby Mede	10 ma	130 ma	.75 W
Number of Disks	2	2	Spin-up Mode	1100 ma	420 ma	n/a
Data Surfaces	4	4	(for first 7 seconds)			
Data Heads	4	4				The state of
Servo	Embedded	Embedded	Eliani non management			Particular Control of the Control of
Tracks per Surface	1806	1806	Physical Dimensions	Height 1	.00" (25.4 mm)	
Track Density	2150 TPI	2150 TPI		Length 5	.75" (146.1 mn	1)
Track Capacity (Formatted)	23,552 bytes	23,552 bytes		Width 4	.00" (101.6 mn	1)
Bytes per Block	512	512		Weight 1	.3 lbs (.59 kg)	
Blocks per Orive	332,304	332,304		and the second second second second	Service has the service of the	macanas-consulars
Sectors per Track	46	46	St			
	ich des au d'Araba		Temperature			
3307483468			Operating	5°C to 55°C		
Seek Times*			Non-operating	-40°C to 60°	°C	
Track to Track	3 msec	3 msec	Thermal Gradient	20°C per hou	ır maximum	
Average	17 msec**	17 msec**	Humidity			
Maximum	30 msec	30 msec	Operating	8% to 80% n	on-condensing	
Average Latency	7.8 msec	7.8 msec	Non-operating	8% to 80% n	on-condensing	
Rotation Speed (± .1%)	3833 RPM	3833 RPM	Maximum Wet Bulb	29°C		
Controller Overhead	1 msec	1 msec	Altitude (relative to sea level)			
Data Transfer Rate			Operating	-200 to 10,0	00 feet	
To/from Media	2.0 Mb/sec	2.0 Mb/sec	Non-operating (max)	40,000 feet		
Data Transfer Rate			CHOCK THE TAXABLE PROPERTY AND A STATE OF THE PARTY.			annua annua annua
To/from Buffer	6.0 MB/sec	5.0 MB/sec		<b>人名英格兰</b>		
Start Time - Power Up			MTBF	In excess of 1	50,000 hours (I	POH)
Typical	15 sec	15 sec	MITR	10 minutes ty	pical	
Maximum	20 sec	20 sec	Preventive Maintenance	None		
Stop Time - Power Down			Component Design Life	5 years		
Typical	15 sec	15 sec	Data Reliability		verable error in	1013 bits read
Maximum	20 sec	20 sec				
Start/Stop Cycles	20,000 min	20,000 min		· in contribution and	<b>世代的</b> 的一名	解解 4.7 15 与
Interleave	1:1	1:1	Shock	1/2 sine pulse	, 11 msec durat	ion
Buffer Size	32 K	32 K	Operating Shock		t non-recoverab	
			Non-operating Shock	75 Gs		,
	April 19 Comment	STATE OF THE STATE	Vibration		octave per min	ute
Recording Method	1.7 RLL code		Operating Vibration	op. o.me, r	a. o per min	
Recording Bensity – ID	42,173 BPI		5-10 Hz	0.10" (double	e amplimde)	
Flux Density – ID	31,630		10-100 Hz		(without non-r	ecoverable en
(flux reversals per inch)			Non-operating Vibration	0.5 G5 (peak)	,	coretable til
			5-28 Hz	0.10" (double	amplitude)	
Physical seek times at nominal DO	input voltages.		5-28 HZ 10-400 Hz		e ampilitude) without non-rec	overshle e
** Average seek time is determined h all possible ordered pairs of track	by dividing the total time requi	red to seek between of these ordered pairs.	10-400 RZ	4 Gs (peak) (	without non-rec	overable erro
p orose oracerou pand of Mack	oj ma tom number	Marray Panto		40.75.545	r system	A CONTRACTOR
			TI . II . I . I			1

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.



## Worldwide Needgearterns 3081 Zanker Road, San Jose, CA 95134, Telephone 1-800-5-CONNER

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Covered by the following patents: 4,876,491 4,965,474 - 4,979,055 4,979,055 (orther patents pending in the U.S. and elsewhere.

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:

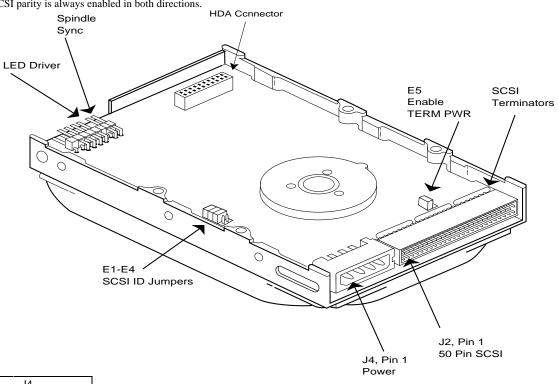
Jumper Options				
<b>E</b> 1	E2	E3	SCSI ID	
OUT	OUT	OUT	О	
IN	OUT	OUT	1	
OUT	IN	OUT	2	
IN	IN	OUT	3	
OUT	OUT	IN	4	
IN	OUT	IN	5	
OUT	IN	IN	6	
IN	IN	IN	7	

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	

Mou	ntina	Hol	les

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

			ENVIRONME
	MODEL CP-30204	MODEL CP-30200	Temperature Operating
Embedded Controller/Interface Capacity (Formatted)	PC/AT 212.6 MB	SCSI-2 212.6 MB	Non-operatii Thermal Gradi
PHYSICAL CONFIGURATION	l		Humidity Operating
Actuator Type	Rotary voice-coil	Rotary voice-coil	Non-operatii Maximum W
Number of Disks	2	2	Altitude (relativ
Data Surfaces	4	4	Operating
Data Heads	4	4	Non-operation
Servo	Embedded	Embedded	
Tracks per Surface	2124	2124	RELIABILITY
Track Density	2496 TPI	2496 TPI	) (TDF
Track Capacity			MTBF
(Formatted)	25,088 bytes	25,088 bytes	MTTR
Bytes per Block	512	512	Preventive Mai
Blocks per Drive	416,304	416,304	Component De
Sectors per Track	49	49	Data Reliability
PERFORMANCE			SHOCK AND
Seek Times*			
Track to Track	3 msec	3 msec	Shock
Average	12 msec**	12 msec**	Operating Sh
Maximum	30 msec	30 msec	
Average Latency	6.7 msec	6.7 msec	Non-operatii
Rotation Speed (± .1%)	4500 RPM	4500 RPM	Vibration
Controller Overhead	<500 μsec	< 500 μsec	Operating Vi
Data Transfer Rate		•	5-27 Hz 28-500 Hz
To/from Media	2.5 MB/sec	2.5 MB/sec	28-300 Hz
Data Transfer Rate			
To/from Buffer	8.0 MB/sec	5.0 MB/sec	Non-operation
Start Time - Power Up (0-4542 I	RPM)		5-62 Hz
Typical	15 sec	15 sec	63-500 Hz
Maximum	20 sec	20 sec	
Stop Time – Power Down			MAGNETIC FI
Typical	15 sec	15 sec	
Maximum	20 sec	20 sec	The externally
Start/stop Cycles	20,000 min	20,000 min	6 gauss as meas
Interleave	1:1	1:1	-
Buffer Size	256 K	256 K	ACOUSTIC N

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 45,610 BPI 34,407 Recording Density – ID Flux Density – ID (flux reversals per inch)

### POWER REQUIREMENTS

	+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	1500 ma	5.5 amp	n/a
(for first 7 seconds)			

#### PHYSICAL CHARACTERISTICS

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

#### ENTAL CHARACTERISTICS

5° C to 55° C -40° C to 60° C 20° C per hour maximum 8% to 80% non-condensing 8% to 80% non-condensing  $26^{\circ}\,C$ ing Wet Bulb ive to sea level) -200 to 10,000 feet 40,000 feet ing (max)

#### AND MAINTENANCE

In excess of 150,000 hours (POH) 10 minutes typical None 5 years <1 non-recoverable error in 10<sup>13</sup> bits read aintenance Design Life

#### 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)

#### HELD

y induced magnetic flux density may not exceed as ured at the disk surface (0-700 KHz).

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

NOTE: Specifications subject to change.

### **CCHNER**

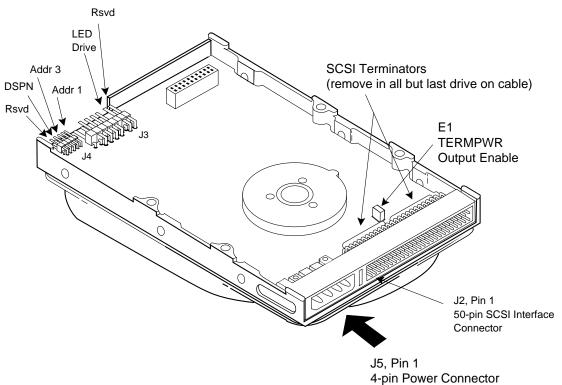
### CFA340S/CFA170S (CP30340/30170) Customer options

### **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	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				

**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 settling the DSPN bit in MODE SELECT page 0.



J5 +12 V Ground

3	Ground	
4	+5V	
		_
Mou	nting Holes	
Side:	6-32 UNC-2B	.15 Max. Insertion

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

### **CFA 340 SPECIFICATION SUMMARY**

	MODEL CFA 340A	MODEL CFA 340S	POWER REQUIREMENTS - (TYPICAL)				
Embedded Controller/Interface	PC/AT	SCSI-2		+12 VDC ± 5%		POWER	
Capacity (Formatted)	343 MB	343 MB	R/W Mode	190 ma	500 ma	4.8 W	
oopporty (1 ormatica)	3 13 MD	3 13 IMD	Seek Mode	300 ma	420 ma	5.7 W	
PHYSICAL CONFIGURATION			Idle Mode	190 ma	300 ma	3.8 W	
Actuator Type	Rotary voice-coil	Rotary voice-coil	Sleep Mode	30 ma	190 ma	1.3 W	
Number of Disks	2	2	Standby Mode	30 ma	200 ma	1.3 W	
Data Surfaces	4	4	Spin-up Mode (for first 7 seconds)	1200 ma	500 ma		
Data Heads	4	4	(rui insi i seconus)				
Servo	Embedded	Embedded	PHYSICAL CHARACTERISTICS				
Zones per Surface	8	8	Physical Dimensions	Height	1.00" (25.4 mm)		
Track Density	2553 TPI	2553 TPI	r nysical billions	Length	5.75" (146.1 mm	١	
Tracks per Surface	2111	2111		Width	4.00" (101.6 mm		
Bytes per Block	512	512		Weight	1.2 lbs (.54 kg)	'	
Sectors per Track (Physical)	67 – 91	67 – 91		weight	1.2 lbs (.54 kg)		
	0. 71	0, ,1	ENVIRONMENTAL CHARACTERI	STICS			
PERFORMANCE			Temperature				
Seek Times (Typical)*			Operating	5°C to 55°	C		
Track to Track	3 msec	3 msec	Non-operating	-40°C to 6	60°C		
Average (Read/Write)	13 msec**	13 msec**	Thermal Gradient	20°C per h	our maximum		
Maximum	25 msec	25 msec	Humidity				
Average Latency	7.5 msec	7.5 msec	Operating	8% to 80% non-condensing			
Rotation Speed (± .1%)	4011 RPM	4011 RPM	Non-operating	8% to 80% non-condensing			
Controller Overhead	<1.0 msec	<1.0 msec	Maximum Wet Bulb	28.9°C			
Data Transfer Rate			Altitude (relative to sea level)				
To/from Media	23 - 33 Mb/sec	23 - 33 Mb/sec	Operating	-200 to 15	,000 feet		
Data Transfer Rate			Non-operating (max)	-200 to 15	,000 feet		
To/from Buffer	7.5 MB/sec	5.0 MB/sec Async					
		10.0 MB/sec Sync	RELIABILITY AND MARITENAN	Œ			
Start Time - Power Up (0-4011 RPM)	)		MTBF	300,000 ho	ours		
Typical	6 sec	6 sec	MTTR	10 minutes	typical		
Maximum	10 sec***	10 sec***	Preventive Maintenance	None	**		
Stop Time - Power Down			Component Design Life	5 years			
Typical	15 sec	15 sec	Data Reliability	<1 non-recoverable error in 1014 bits read			
Maximum	20 sec	20 sec	•				
Start/Stop Cycles	20,000 min	20,000 min	SHOCK AND VIBRATION				
Interleave	1:1	1:1	Shack	1/2 sine pu	lse, 11 msec durati	on	
Buffer Size	64 KB	64 KB	Operating Shock	5 Gs (without non-recoverable errors)			
			Non-operating Shock		hout non-recoveral		
REAB/WRITE	•		Vibration	,	1 octave per minu		
Recording Method	1,7 RLL code		Operating Vibration				
Recording Density	56,833 BPI		5-27 Hz	0.10" (dou	ble amplitude)		
Flux Density - ID	42,662 FCI		28-400 Hz		k (without non-rec	overable erro	
(flux reversals per inch)	*		Non-operating Vibration				
			5-62 Hz	0.10" (don	ble amplitude)		
<ul> <li>Physical seek times at nominal DC</li> </ul>		red to seek between	63-400 Hz		k (without non-rec		

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.

# 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.

40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.



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Covered by the following patents: 4,876,491 4,965,476 4,979,055 3,050,016; other patents pending in the U.S. and elsewhere.
DS-11-D34 1093.

# CP30540 Customer options

## **SCSI Bus Address**

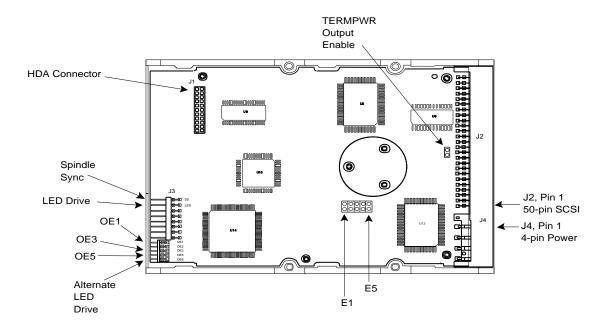
There are three jumpers available for configuration of SCSI ID: E1, E2, and E3. The following table defines the settings:

	SCSI Bus	Addresses*	
E1/0E1	E2/0E2	E3/0E3	SCSI ID
OUT	OUT	OUT	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

<sup>\*</sup>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 settling 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

	MODEL CP-30544	MODEL CP-30540	POWER REQUIREMENTS - (TYF	MEAL)		. •
				+12 VBC ± 10%	+5 <b>VDC</b> ± 5%	POWER
Embedded Controller/Interface	PC/AT	FAST SCSI-2	R/W Mode	325 ma	675 ma	6.5 W
Capacity (Formatted)	545.9 MB	545.9 MB	Seek Mode	550 ma	675 ma	9.0 W
PHYSICAL CONTROLLEGE			Idie Mode	300 ma	450 ma	5.2 W
4-44 <b>T</b>	Rotary voice-coil	Rotary voice-coil	Spin-up Mode	1.7 amp	750 ma	n/a
Actuator Type Number of Disks	3	3	(for first 7 seconds)			
Data Surfaces	6	6	Personal Commentumeries			
Data Heads	6	6	Physical Dimensions	47-1-64	1.00" (25.4 mm)	
Servo	Embedded	Embedded	ruysicai Dimensions		5.75" (146,1 mm)	
Zones per Surface	6	6			4.00" (101.6 mm)	
Track Density	2628 TPI	2628 TPI			1.3 lbs (.59 kg)	
Total Cylinders	2243	2243		weight	1.5 lbs (.55 kg)	
Bytes per Sector	512-520/1024-1040	512-520/1024-1040	environmental bilance fem	STIES .		
Sectors per Zone (Physical)	60 - 90	60 - 90	<b></b>			
Sectors per zone (Fnysicar)	00-70	00-70	Temperature	5°C to 55°C	^	
PROFESSION			Operating	-40°C to 60		
Seek Times (Typical)*			Non-operating Thermal Gradient		our maximum	
Track to Track	2 msec	2 msec		20°C per no	our maximum	
Average (Read/Write)	10 msec**	10 msec**	Humidity	504 0504		
Maximum	17 msec	17 msec	Operating		non-condensing	
maximum Average Latency	5.55 msec	5.55 msec	Non-operating	29°C	non-condensing	
Average Latency Rotation Speed (± .1%)	5400 RPM	5400 RPM	Maximum Wet Bulb	29°C		
notation speed (± . 1 %) Controller Overhead	3400 KI M	<400 µsec	Altitude (relative to sea level)	-200 to 10,	000 6	
Data Transfer Rate		< 400 μsec	Operating	40,000 feet	ooo reer	
To/from Media	28.4 - 43.1 Mb/sec	28.4 - 43.1 Mb/sec	Non-operating (max)	40,000 feet		
Data Transfer Rate	20.4 - 45.1 Mil/sec	26.4 - 45.1 Mb/sec	RELIGIOTY AND BOUTTERAN	T.		
To/from Buffer	6.0 MB/sec	10.0 MB/sec	MTBF	In avenue of	250 000 5000 /00	)LI)
Start Time - Power Up (0-5400 RPM)	6.0 IVID/SCC	10.0 MD/SCC			250,000 hours (PC	)н)
Start Time - Power up (0-5400 NPM) Typical	15 sec	15 sec	MTTR	10 minutes	typicai	
nypicai Maximum	20 sec***	20 sec***	Preventive Maintenance	None		
Stop Time - Power Down	20 800	20 800	Component Design Life	5 years	overable error in 1	0141.21
Typical	15 sec	15 sec	Data Reliability	< 1 non-rec	overable error iii 1	o bits read
nypicai Maximum	20 sec	20 sec	AND CLASS VALUE OF THE PARTY OF			
maximum Start/Stop Cycles	10,000 min	10,000 min		1/2		
start/stup bycies Interleave	1:1	1:1	Shock		se, 11 msec duratio	
Interleave Buffer Size	256 KB	256 KB	Operating Shock		ut non-recoverable	
Butter Size	230 KD	236 KD	Non-operating Shock		out non-recoverab	,
ACAD TIMETE			Vibration	swept sine,	1 octave per minut	e
Recording Method	1,7 RLL code		Operating Vibration 5-32 Hz	010" (4	do amplitudo)	
necoraing method Recording Density	54,224 BPI				ole amplitude)	ouonable or
	40,961		33-400 Hz	o.5 Gs (peal	k) (without non-red	overable error
Flux Density - ID (flux reversals per inch)	TU,701		Non-operating Vibration	020" (4 1	I	
			5-62 Hz 63-400 Hz		le amplitude) (without non-reco	

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

Acoustic Sound Pressure

40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.



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Physical seek times a 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.

## CFA540S Customer options

## **SCSI Bus Address**

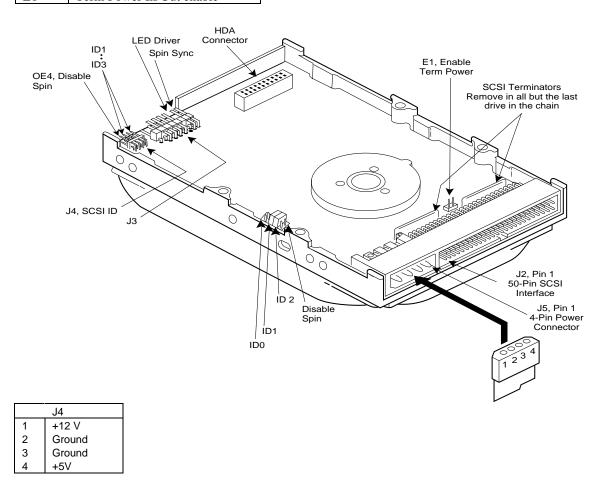
There are three jumpers available for configuration of SCSI ID: ID1, ID2, and ID3. The following

table defines the settings:

	C		
	SCSI Bus	Addresses*	
ID1	ID2	ID3	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

**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 settling the DSPN bit in MODE SELECT page 0.

0E4	Disable Spin on Power on
E1	Term Power In/Out enable



Mounting Holes
----------------

	MODEL CFA 540A	MODEL CFA 540S	POWER REQUIREMENTS - (TYPICAL)			
Embedded Controller/Interface	PC/AT	FAST SCSI-2		+12 VDC ± 5%	% +5 VDC ± 5%	POWER
Capacity (Formatted)	541 MB	541 MB	R/W Mode	150 ma	500 ma	4.3 W
		V	Seek Mode (100%)	370 ma	480 ma	6.8 W
PHYSICAL CONFIGURATION			Seek Mode (30%)	170 ma	500 ma	4.6 W
Actuator Type	Rotary voice-coil	Rotary voice-coil	Idle Mode	190 ma	340 ma	4.0 W
Number of Disks	2	2	Sieep Mode (540A only)	0 ma	350 ma	1.75 W
Data Surfaces	4	4	Standby Mode	0 ma	40 ma	0.2 W
Data Heads	4	4	Spin-up Mode	1200 ma	500 ma	
Servo	Embedded	Embedded	(for first 7 seconds)			
Zones per Surface	8	8	PHYSICAL CHARACTERISTIC	·e		
Track Density	3253 TPI	3253 TPI		~		
Tracks per Surface	2805	2805	Physical Dimensions	Height	1.00" (25.4 mm)	
Bytes per Block	512	512		Length	5.75" (146.1 mm	
Sectors per Track	72 – 114	72 – 114		Width	4.00" (101.6 mm	)
•	, 2 III	/2-114		Weight	1.2 lbs (.54 kg)	
PERFORMANCE			ENVIRONMENTAL CHARACTE	ERISTICS		
Seek Times (Typical)*			Temperature			
Track to Track	3 msec	3 msec	Operating	5°C to 55°	C	
Average	12 msec**	12 msec**	Non-operating	-40°C to 6		
Maximum	26 msec	26 msec	Thermal Gradient			
Average Latency	6.7 msec	6.7 msec	Humidity	20 C per n	our maximum	
Rotation Speed (± .1%)	4500 RPM	4500 RPM	Operating	904 +- 900/		
Controller Overhead	<1.0 msec	<1.0 msec	Non-operating		non-condensing	
Data Transfer Rate			Maximum Wet Buib	29° C	non-condensing	
To/from Media	27 - 46 Mb/sec	27 - 46 Mb/sec	Altitude (relative to sea level)	29 C		
Data Transfer Rate	11.1 MB/sec	5.0 MB/sec Async	Operating	200 . 15	000 (	
		10.0 MB/sec Sync	Non-operating (max)	-200 to 15,0 40,000 feet	000 feet	
Start Time - Power Up (0-4500 RPM)		.,,	won-uperacing (max)	40,000 feet		
Typical	7 sec	7 sec	RELIABILITY AND MAINTENAL	NCE		
Maximum	10 sec***	10 sec***	MTRF	200 000 1		
Stop Time - Power Down			Preventive Maintenance	300,000 ho	urs	
Typical	15 sec	15 sec		None		
Maximum	20 sec	20 sec	Component Design Life	5 years		
Start/Stop Cycles	40,000 min	40,000 min	Data Reliability	<1 non-reco	overable error in 10	014 bits read
Interleave	1:1	1:1	SHOCK AND VIBRATION			
Buffer Size	256 KB	256 KB	Shock	1/2 : 1		
					e, 11 msec duratio	
READ/WRITE			Operating Shock		it non-recoverable	
lecording Method	1,7 RLL code		Mon-operating Shock		out non-recoverabl	
lecording Density	62,500 BPI		Vibration	Swept sine, 1	octave per minute	2
lux Density - ID	46,850 FCI		Operating Vibration	0.400.41		
(flux reversals per inch)	,		5-27 Hz	0.10" (doubl		
			28-400 Hz	0.5 Gs peak	(without non-reco	verable error
Physical seek times at nominal DC i	nput voltages.		Non-operating Vibration			
<ul> <li>Average seek time is determined by all possible ordered pairs of track ac</li> </ul>	idresses by the total number of	these ordered pairs	5-62 Hz	0.10" (doubl		
** If spin recovery is invoked, the max	imum start time could be 40 se	conds.	63-400 Hz	4 Gs peak (w	ithout non-recove	rable 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.

43 Bels max in idle mode.

NOTE: Specifications subject to change.



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# CFP1080s Customer options

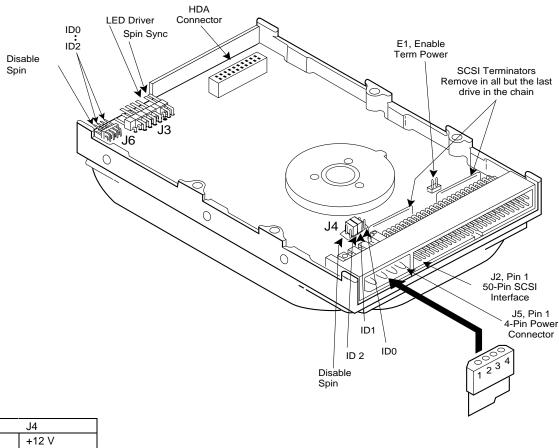
## **SCSI Bus Address**

There are three jumpers available for configuration of SCSI ID: ID0, ID1, and ID2. The following table defines the settings:

<u> </u>	SCSI Bus	Addresses*	
ID0	ID1	ID2	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

<sup>\*</sup>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 settling the DSPN bit in MODE SELECT page 0.



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

**Mounting Holes** 

MODEL		CFP1080S	CFP2105S	CFP2107S	CFP4207S	ENVIRONMENTAL CHARACTI	ERISTICS
		CFP1080E	CFP2105W CFP2105E	CFP2107W CFP2107E	CFP4207W CFP4207E	Temperature Operating	5° C to 55° C
						Non-operating	-40° C to 60° C
Embedded Cor	ntroller/Interface	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	Thermal Gradient	20° C per hour maximum
Capacity (Form	natted)	FAST-WIDE SCSI-2 1080 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 4294 MB	Humidity	5% to 95% non-condensing
PHYSICAL CO	NEICHDATION					Operating Non-operating	5% to 95% non-condensing
		ā	~	~	10	Maximum Wet Bulb	29° C
Number of Disi		3	5	5	10	Altitude (relative to sea level)	
Data Surfaces		6	10	10	20	Operating	-200 to 10,000 feet
Data Heads		6 Frank adda d	10	10	20	Non-operating (max)	40,000 feet
Servo		Embedded 8	Embedded 15	Embedded	Embedded		
Zones per Surf	ace	3849 TPI	4030 TPI	15 4090 TPI	15 4090 TPI	RELIABILITY AND MAINTENA	INCE
Track Density	_	3658	3948	4016	4016	MTBF	Up to 1,000,000 hours
Total Cylinders Bytes per Sect		256/512	512	512	512	Preventive Maintenance	None
Sectors per Zo		66-120	67-139	69-124	69-124	Component Design Life	7 years
Sectors per 20	ne (Physical)	00-120	07-139	03-124	03-124	Data Reliability	$< 1$ non-recoverable error in $10^{24}$ bits
PERFORMAN	CE					SHOCK AND VIBRATION	CFP1080, CFP2105, CFP2107
Seek Times (T)	/pical)*					Shock	1/2 sine pulse, 11 msec duration
Track to Tr	rack	3 msec	2 msec	2 msec	2 msec	Operating Shock	5 Gs (without non-recoverable errors)
Average (F	Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**	Non-operating Shock	75 Gs (without non-recoverable errors)
Maximum		26 msec	18 msec	18 msec	18 msec	Vibration	
Average Laten	су	5.56 msec	5.55 msec	4.17 msec	4.17 msec	Operating Vibration	Swept sine, 1 octave per minute
Rotation Spee	d (± . 1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM	5-32 Hz	0.01" (double amplitude)
Data Transfer	Rate					33-400 Hz	0.5 Gs peak
To/from me	edia	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec		(without non-recoverable errors)
To/from bu		10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	Non-operating Vibration	Swept sine, 1/2 octave per minute
Start Time - Po	ower Up					5-28 Hz	0.10" (double amplitude)
Typical		8.5 sec	15 sec	15 sec	15 sec	29-400 Hz	4 Gs peak
Maximum		20 sec***	20 sec***	20 sec***	20 sec***		(without non-recoverable errors)
Stop Time - Po	wer Down	17	10	10	10		CFP4207
Typical		15 sec	12 sec	10 sec	10 sec	Shock	1/2 sine pulse, 11 msec duration
Maximum		20 sec 256/512 KB	15 sec 512 KB	15 sec	15 sec 512 KB	Operating Shock	5 Gs (without non-recoverable errors)
Buffer Size		230/312 KD	312 ND	512 KB	312 KB	Non-operating Shock	50 Gs (without non-recoverable errors)
READ/WRITE						Vibration	oo da (widiodi non recoverable errora)
	thad	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	Operating Vibration	Swept sine, 1 octave per minute
Recording Me Recording Den		64 K BPI	74 K BPI	78 K BPI	78 K BPI	5-32 Hz	0.01" (double amplitude)
Recording Den	isity	OT IX DI I	74 K DI I	70 K DI 1	70 K DI 1	33-375Hz	0.5 Gs peak
PHYSICAL DII	MENSIONS						(without non-recoverable errors)
	VILIVSIONS	1.00" (07.4)	1.00" (07.4)	1.00" (07.4)	1 00" (41 0)	Non-operating Vibration	Swept sine, 1/2 octave per minute
Height		1.00" (25.4 mm)	1.00" (25.4 mm) 5.75" (146.1 mm)	1.00" (25.4 mm) 5.75" (146.1 mm)	1.62" (41.2 mm)	5-28 Hz	0.10" (double amplitude)
Length		5.75" (146.1 mm) 4.00" (101.6 mm)	4.00" (101.6 mm)		5.75" (146.1 mm) 4.00" (101.6 mm)	29-375Hz	4 Gs peak
Width Weight		1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)		(without non-recoverable errors)
neigh		1.0 lbs (.00 kg)	1.1105 (.0111g)	1.1105 (.0111g)	2.0 105 (.01 115)	ACOUSTIC NOISE	CFP1080, CFP2105
POWER REQU	IREMENTS – (TYPICAL	-				Acoustic Sound Power	< 4.3 Bels max in idle mode
+5 VDC ±5%	Idle Mode	275 mA	420 mA	450 mA	680 mA		OFD2107 OFD4207
	Spin-up Mode	500 mA	700 mA	750 mA	880 mA		CFP2107, CFP4207
+12 VDC ±5%	Idle Made	200 mA	300 mA	550 mA	780 mA		< 4.6 Bels max in idle mode
+12 VDC ±3%	Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp	WADDANTY	Eveny
	эриг-ир июис	•	•	≈.o amp	o.o amp	WARRANTY	5 years
Power	Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W	NOTE: Specifications subject to	change
	Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W	1 VO 1 E. Specifications subject to	Change
	Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W		
MODELS/CON	NECTORS/INTERFACES	S					

CFP1080S/2105S/2107S/4207S

CFP1080E/2105E/2107E/4207E CFP2107WD/4207WD

CFP2105W/2107W/4207W

Fax Information Service

File Number

5512

= 50-pin single-ended FAST SCSI-2

= 68-pin single-ended FAST/FAST-WIDE SCSI-2

= 68-pin differential (FAST/FAST-WIDE SCSI-2)

5513

= 80-pin connector attachment (FAST-WIDE SCSI-2)

5516

5406

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The Storage Answer

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<sup>\*</sup> 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.

## CFP1060S Customer options

### **SCSI Bus Address**

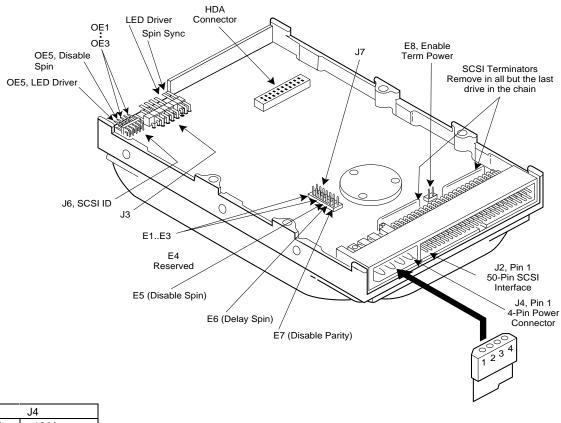
There are three jumpers available for configuration of SCSI ID: E1, E2, and E3. The following table defines the settings:

SCSI Bus Addresses*				
E1/OE1	E2/OE2	E3/OE3	SCSI ID	
OUT	OUT	OUT	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	

<sup>\*</sup>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 settling 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	LINC-2

	MODEL	POWER REQUIREMENTS – (TYPICAL)				
	CFP 1060S CFP 1060D		+12 VDC ± 5%	5 +5 VDC ± 5%	POWER	
	CFP 1060W	R/W Mode	325 ma	775 ma	7.8 W	
	CFP 1060E	Seek Mode	870 ma	775 ma	14.3 W	
Embedded Controller/Interface	FAST SCSI-2,	idie Mode	300 ma	600 ma	6.6 W	
Embeuded Controller/Interface	FAST-WIDE SCSI	Spin-up Mode	1.70 amp	775 ma	0.0 W	
Capacity (Formatted)	1062.44 MB	(for first 1.5 seconds)	1.70 amp	773 ma		
PHYSICAL CONFIGURATION		PHYSICAL CHARACTERISTICS				
Actuator Type	Rotary voice-coil	Physical Dimensions	Height	1.00" (25.4 mm)		
Number of Disks	4		Length	5.75" (146.1 mm)		
Data Surfaces	8		Width	4.00" (101.6 mm)		
Data Heads	8		Weight	1.3 lbs (.59 kg)		
Servo	Embedded					
Zones per Surface	9	ENVIRONMENTAL CHARACTERI	STICS			
Track Density	3147 TPI	Temperature				
Tracks per Surface	2757	Operating	5°C to 55°	С		
Bytes per Sector	512 - 520/1024	Non-operating	-40°C to 6	0°C		
Sectors per Track (Physical)	64 – 112	Thermal Gradient	20°C per h	our maximum		
Sectors per track (Friysical)	04-112	Humidity				
PERFORMANCE		Operating	5% to 95%	non-condensing		
0-d-7/ (T/1)*		Non-operating		non-condensing		
Seek Times (Typical)*	2 msec	Maximum Wet Bulb	29°C			
Track to Track	2.0/9.5 msec**	Altitude (relative to sea level)				
Average (Read/Write)		Operating	-200 to 10	.000 feet		
Maximum	16 msec	Non-operating (max)	40,000 fee			
Average Latency	5.55 msec	non operating (max)	10,000 100	•		
Rotation Speed (± .1%)	5400 RPM	RELIABILITY AND MAINTENANG	CE			
Controller Overhead	20 μsec	MTBF	500,000 ho	nire		
Data Transfer Rate	21 55 141	Preventive Maintenance	None			
To/from Media	31 – 55 Mb/sec	Component Design Life	7 years			
Data Transfer Rate	40 20 100	Data Reliability		overable error in 1	014 hits read	
To/from Buffer	10 or 20 MB/sec	bata nonasinty	vi non rev	toverable error iii i	o busicad	
Start Time - Power Up (0-5400 RPM)		SHOCK AND VIBRATION				
Typical	12 sec	Shack	1/2 sine pu	lse, 11 msec duratio	n	
Maximum	20 sec***	Operating Shock		out non-recoverable		
Stop Time - Power Down	_	Hon-operating Shock		out non-recoverable		
Typical	7 sec	Vibration		1 octave per minut		
Maximum	10 sec	Operating Vibration	swept sine,	1 octave per minut	c	
Start/Stop Cycles	20,000 min	5-32 Hz	0.10" (dou	ble amplitude)		
Interleave	1:1	32-400 Hz		ε (without non-reco		
Buffer Size	512 KB	32-400 nz Non-operating Vibration	0.5 Gs pear	(without non-reco	verable errors)	
READ/WRITE		non-operating vioration 5-28 Hz	0.10" (dou	ble amplitude)		
		3-20 HZ 28-400 Hz		without non-recove	mable annone)	
Recording Method	1,7 RLL code	20-400 HZ	4 Gs peak (	without hon-recove	rable errors)	
Recording Density	65,131 BPI	MAGNETIC FIELD				
Flux Density - ID	48,848 FCI	The externally induced magne	نصماء بساله منت		DC	
(flux reversals per inch)  MODELS/CONNECTORS/INTERFACES		7 milligauss (to 700 KHz), 3 n				
		at the disk surface.				
CFP 1060S = 50-pin single-ended FAST SCSI-2		ACOUSTIC NOISE				
CFP 1060D = 50-pin differential FAST SCSI-2		4	27 JDA	x at 1 meter in idle		
CFP 1060W = 68-pin single-ended FAST/FAST-WI		Acoustic Sound Pressure		x at 1 meter in idle	mode.	
CFP 1060E = 80-pin single connector attachment	(SCSI)	Acoustic Sound Power	+.5 beis ma	ix in idie mode.		

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.

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The Storage Answer

NOTE: Specifications subject to change.

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## CFP1060W Customer options

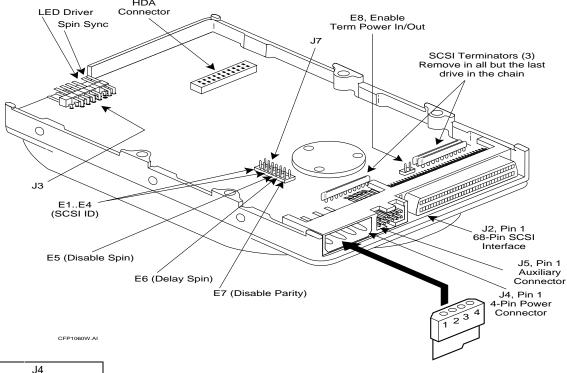
### **SCSI Bus Address**

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 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 settling 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		
HDA				



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

Mounti	ing F	loles	
			ī

	MODEL	POWER REQUIREMENTS – (TYPICAL)				
	CFP 1060S CFP 1060D		+12 VDC ± 5%	5 +5 VDC ± 5%	POWER	
	CFP 1060W	R/W Mode	325 ma	775 ma	7.8 W	
	CFP 1060E	Seek Mode	870 ma	775 ma	14.3 W	
Embedded Controller/Interface	FAST SCSI-2,	idie Mode	300 ma	600 ma	6.6 W	
Embeuded Controller/Interface	FAST-WIDE SCSI	Spin-up Mode	1.70 amp	775 ma	0.0 W	
Capacity (Formatted)	1062.44 MB	(for first 1.5 seconds)	1.70 amp	773 ma		
PHYSICAL CONFIGURATION		PHYSICAL CHARACTERISTICS				
Actuator Type	Rotary voice-coil	Physical Dimensions	Height	1.00" (25.4 mm)		
Number of Disks	4		Length	5.75" (146.1 mm)		
Data Surfaces	8		Width	4.00" (101.6 mm)		
Data Heads	8		Weight	1.3 lbs (.59 kg)		
Servo	Embedded					
Zones per Surface	9	ENVIRONMENTAL CHARACTERI	STICS			
Track Density	3147 TPI	Temperature				
Tracks per Surface	2757	Operating	5°C to 55°	С		
Bytes per Sector	512 - 520/1024	Non-operating	-40°C to 6	0°C		
Sectors per Track (Physical)	64 – 112	Thermal Gradient	20°C per h	our maximum		
Sectors per track (Friysical)	04-112	Humidity				
PERFORMANCE		Operating	5% to 95%	non-condensing		
0-d-7/ (T/1)*		Non-operating		non-condensing		
Seek Times (Typical)*	2 msec	Maximum Wet Bulb	29°C			
Track to Track	2.0/9.5 msec**	Altitude (relative to sea level)				
Average (Read/Write)		Operating	-200 to 10	.000 feet		
Maximum	16 msec	Non-operating (max)	40,000 fee			
Average Latency	5.55 msec	non operating (max)	10,000 100	•		
Rotation Speed (± .1%)	5400 RPM	RELIABILITY AND MAINTENANG	CE			
Controller Overhead	20 μsec	MTBF	500,000 ho	nire		
Data Transfer Rate	21 55 141	Preventive Maintenance	None			
To/from Media	31 – 55 Mb/sec	Component Design Life	7 years			
Data Transfer Rate	40 20 100	Data Reliability		overable error in 1	014 hits read	
To/from Buffer	10 or 20 MB/sec	bata nonasinty	vi non rev	overable error iii i	o busicad	
Start Time - Power Up (0-5400 RPM)		SHOCK AND VIBRATION				
Typical	12 sec	Shack	1/2 sine pu	lse, 11 msec duratio	n	
Maximum	20 sec***	Operating Shock		out non-recoverable		
Stop Time - Power Down	_	Hon-operating Shock		out non-recoverable		
Typical	7 sec	Vibration		1 octave per minut		
Maximum	10 sec	Operating Vibration	swept sine,	1 octave per minut	c	
Start/Stop Cycles	20,000 min	5-32 Hz	0.10" (dou	ble amplitude)		
Interleave	1:1	32-400 Hz		ε (without non-reco		
Buffer Size	512 KB	32-400 nz Non-operating Vibration	0.5 Gs pear	(without non-reco	verable errors)	
READ/WRITE		non-operating vioration 5-28 Hz	0.10" (dou	ble amplitude)		
		3-20 HZ 28-400 Hz		without non-recove	mable annone)	
Recording Method	1,7 RLL code	20-400 HZ	4 Gs peak (	without hon-recove	rable errors)	
Recording Density	65,131 BPI	MAGNETIC FIELD				
Flux Density - ID	48,848 FCI	The externally induced magne	نصماء بساله منت		DC	
(flux reversals per inch)  MODELS/CONNECTORS/INTERFACES		7 milligauss (to 700 KHz), 3 n				
		at the disk surface.				
CFP 1060S = 50-pin single-ended FAST SCSI-2		ACOUSTIC NOISE				
CFP 1060D = 50-pin differential FAST SCSI-2		4	27 JDA	x at 1 meter in idle		
CFP 1060W = 68-pin single-ended FAST/FAST-WI		Acoustic Sound Pressure		x at 1 meter in idle	mode.	
CFP 1060E = 80-pin single connector attachment	(SCSI)	Acoustic Sound Power	+.5 beis ma	ix in idie mode.		

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.

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The Storage Answer

NOTE: Specifications subject to change.

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# CP31370 Baja SCSI Customer options

## **SCSI Bus Address**

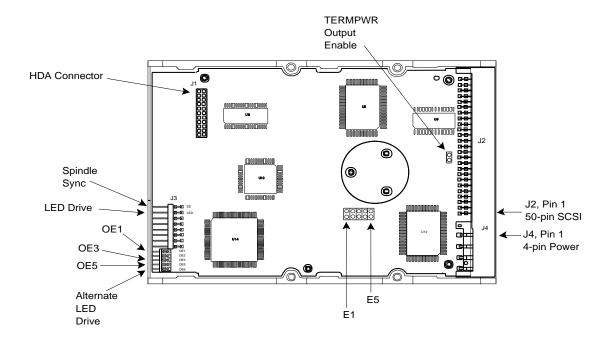
There are three jumpers available for configuration of SCSI ID: E1, E2, and E3. The following table defines the settings:

SCSI Bus Addresses*				
E1/0E1	E2/0E2	E3/0E3	SCSI ID	
OUT	OUT	OUT	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	

<sup>\*</sup>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 settling 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

	MODEL CP-31374	MODEL CP-31370	POWER REQUIREMENTS - (T)	PICAL)		•
				+12 VBC ± 10%	+5 VBC ± 5%	POWER
Embedded Controller/Interface	PC/AT	FAST SCSI-2	R/W Mode	450 ma	700 ma	9.0 W
Capacity (Formatted)	1,371.8 MB	1,371.8 MB	Seek Mode	900 ma	675 ma	14.2 W
PHYSICAL CONFIGURATION			Idie Mode	475 ma	450 ma	8.0 W
Actuator Type	Rotary voice-coil	Rotary voice-coil	Spin-up Mode (for first 4 seconds)	3.25 amp	750 ma	n/a
Number of Disks	7	7	,,			
Data Surfaces	14	14	PHYSICAL CHARACTERISTICS	1		
Data Heads	14	14	Physical Dimensions	Height 1	.625" (41.3 mm)	ı
Servo	Embedded	Embedded	,		.75" (146.1 mm)	
Zones per Surface	8	8			.00" (101.6 mm	
Track Density	2694 TPI	2694 TPI			.3 lbs (1.04 kg)	
Total Cylinders	2386	2386		worgin	.5 105 (1.0 1 Kg)	
Bytes per Sector	512-520/1024-1040	512-520/1024-1040	ENVINGEMENTAL CHARACTES	MSTICS		
Sectors per Zone (Physical)	53 - 96	53 - 96	Temperature			
oottoro por 20110 (r. 11yorour)	33 70	33 70	Operating	5°C to 55°C		
PERFORMANCE			Non-operating	-40°C to 60°		
Seek Times (Typical)*					-	
Track to Track	2.1 msec	2.1 msec	Thermal Gradient	20°C per hou	ir maximum	
Average (Read/Write)	10 msec**	10 msec**	Humidity	50/ - 050/		
• • • •	17 msec	17 msec	Operating		on-condensing	
Maximum	5.55 msec	5.55 msec	Non-operating		on-condensing	
Average Latency			Maximum Wet Buib	29° C		
Rotation Speed (± .1%)	5400 RPM	5400 RPM	Altitude (relative to sea level)			
Controller Overhead		<400 μsec	Operating	-200 to 10,00	00 feet	
Data Transfer Rate			Non-operating (max)	40,000 feet		
To/from Media	25.1 - 45.8 Mb/sec	25.1 - 45.8 Mb/sec	RELIGIOTY AND BANKTERNA	-		
Data Transfer Rate						
To/from Buffer	6.0 MB/sec	10.0 MB/sec	MTBF	In excess of 2	50,000 hours (P	OH)
Start Time - Power Up (0-5400 RPM)			MTTR	10 minutes ty	pical	
Typical	15 sec	15 sec	Preventive Maintenance	None		
Maximum	20 sec***	20 sec***	Component Besign Life	5 years		
Stop Time - Power Down			Data Reliability	<1 non-reco	verable error in 1	014 bits read
Typical	15 sec	15 sec				
Maximum	20 sec	20 sec	ANGER AND PROPATION			
Start/Stop Cycles	10,000 min	10,000 min	Shack	1/2 sine pulse		
Interleave	1:1	1:1	Operating Shock	5 Gs (withou	non-recoverabl	e errors)
Buffer Size	256 KB	256 KB	Non-operating Shock	75 Gs (witho	ut non-recoveral	le errors)
			Vibration		octave per minu	
REAR/WRITE			Operating Vibration			••
Recording Method	1,7 RLL code		5-32 Hz	.010" (double	amplitude)	
Recording Density	54,478 BPI		33-400 Hz	,	(without non-re	coverable erro
Flux Density - ID	40,961		Non-operating Vibration	o.o Go (peak)	,thout noil-ic	co-crabic ciro
(flux reversals per inch)	,- • •		5-62 Hz	.020" (double	amplitude)	
			0.07 UT	.ozo (uoubic	ampilitude)	

MAGNETIC FIELD

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

Acoustic Sound Pressure

40 dBA max at 1 meter in idle mode.

NOTE: Specifications subject to change.



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<sup>\*\*</sup> 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.

# **CFP2105S Customer options**

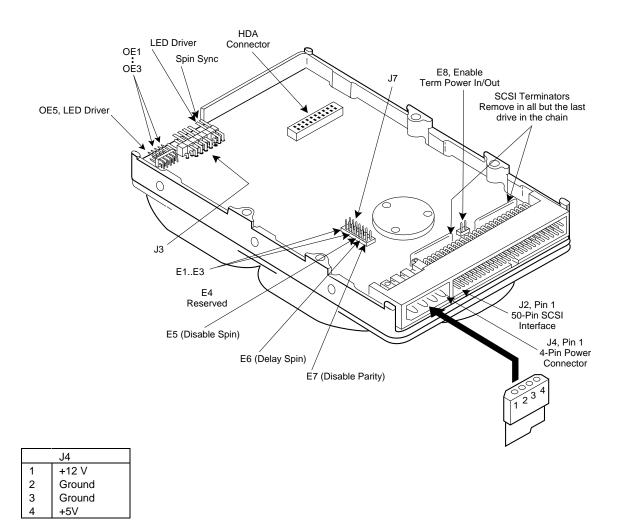
### **SCSI Bus Address**

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	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				

<sup>\*</sup>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 settling the DSPN bit in MODE SELECT page 00H.



M	lo	ur	<u>ıti</u>	ng	H	0	les

MODEL		CFP1080S	CFP2105S	CFP2107S	CFP4207S	ENVIRONMENTAL CHARACTERISTICS	
		CFP1080E	CFP2105W CFP2105E	CFP2107W CFP2107E	CFP4207W CFP4207E	Temperature Operating	5° C to 55° C
						Non-operating	-40° C to 60° C
Embedded Cor	ntroller/Interface	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	Thermal Gradient	20° C per hour maximum
Capacity (Form	natted)	FAST-WIDE SCSI-2 1080 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 4294 MB	Humidity	5% to 95% non-condensing
PHYSICAL CO	NEICHDATION					Operating Non-operating	5% to 95% non-condensing
		ā	~	~	10	Maximum Wet Bulb	29° C
Number of Disi		3	5	5	10	Altitude (relative to sea level)	
Data Surfaces		6	10	10	20	Operating	-200 to 10,000 feet
Data Heads		6 Frank adda d	10	10	20	Non-operating (max)	40,000 feet
Servo		Embedded 8	Embedded 15	Embedded	Embedded		
Zones per Surf	ace	3849 TPI	4030 TPI	15 4090 TPI	15 4090 TPI	RELIABILITY AND MAINTENA	INCE
Track Density	_	3658	3948	4016	4016	MTBF	Up to 1,000,000 hours
Total Cylinders Bytes per Sect		256/512	512	512	512	Preventive Maintenance	None
Sectors per Zo		66-120	67-139	69-124	69-124	Component Design Life	7 years
Sectors per 20	ne (Physical)	00-120	07-139	03-124	03-124	Data Reliability	$< 1$ non-recoverable error in $10^{24}$ bits
PERFORMAN	CE					SHOCK AND VIBRATION	CFP1080, CFP2105, CFP2107
Seek Times (T)	/pical)*					Shock	1/2 sine pulse, 11 msec duration
Track to Tr	rack	3 msec	2 msec	2 msec	2 msec	Operating Shock	5 Gs (without non-recoverable errors)
Average (F	Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**	Non-operating Shock	75 Gs (without non-recoverable errors)
Maximum		26 msec	18 msec	18 msec	18 msec	Vibration	
Average Laten	су	5.56 msec	5.55 msec	4.17 msec	4.17 msec	Operating Vibration	Swept sine, 1 octave per minute
Rotation Spee	d (± . 1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM	5-32 Hz	0.01" (double amplitude)
Data Transfer	Rate					33-400 Hz	0.5 Gs peak
To/from me	e <b>dia</b>	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec		(without non-recoverable errors)
To/from bu		10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	Non-operating Vibration	Swept sine, 1/2 octave per minute
Start Time - Po	ower Up					5-28 Hz	0.10" (double amplitude)
Typical		8.5 sec	15 sec	15 sec	15 sec	29-400 Hz	4 Gs peak
Maximum		20 sec***	20 sec***	20 sec***	20 sec***		(without non-recoverable errors)
Stop Time - Po	wer Down	17	10	10	10		CFP4207
Typical		15 sec	12 sec	10 sec	10 sec	Shock	1/2 sine pulse, 11 msec duration
Maximum		20 sec 256/512 KB	15 sec 512 KB	15 sec	15 sec 512 KB	Operating Shock	5 Gs (without non-recoverable errors)
Buffer Size		230/312 KD	312 ND	512 KB	312 KB	Non-operating Shock	50 Gs (without non-recoverable errors)
READ/WRITE						Vibration	oo da (widiodi non recoverable errora)
	thad	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	Operating Vibration	Swept sine, 1 octave per minute
Recording Me Recording Den		64 K BPI	74 K BPI	78 K BPI	78 K BPI	5-32 Hz	0.01" (double amplitude)
Recording Den	isity	OT IX DI I	74 K DI I	70 K DI 1	70 K DI 1	33-375Hz	0.5 Gs peak
PHYSICAL DII	MENSIONS						(without non-recoverable errors)
	VILIVSIONS	1.00" (07.4)	1.00" (07.4)	1.00" (07.4)	1 00" (41 0)	Non-operating Vibration	Swept sine, 1/2 octave per minute
Height		1.00" (25.4 mm)	1.00" (25.4 mm) 5.75" (146.1 mm)	1.00" (25.4 mm) 5.75" (146.1 mm)	1.62" (41.2 mm)	5-28 Hz	0.10" (double amplitude)
Length		5.75" (146.1 mm) 4.00" (101.6 mm)	4.00" (101.6 mm)		5.75" (146.1 mm) 4.00" (101.6 mm)	29-375Hz	4 Gs peak
Width Weight		1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)		(without non-recoverable errors)
neigh		1.0 lbs (.00 kg)	1.1105 (.0111g)	1.1105 (.0111g)	2.0 105 (.01 115)	ACOUSTIC NOISE	CFP1080, CFP2105
POWER REQU	IREMENTS – (TYPICAL	-				Acoustic Sound Power	< 4.3 Bels max in idle mode
+5 VDC ±5%	Idle Mode	275 mA	420 mA	450 mA	680 mA		OFD2107 OFD4207
	Spin-up Mode	500 mA	700 mA	750 mA	880 mA		CFP2107, CFP4207
+12 VDC ±5%	Idle Made	200 mA	300 mA	550 mA	780 mA		< 4.6 Bels max in idle mode
+12 VDC ±3%	Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp	WADDANTY	Eveny
	эриг-ир июис	•	•	≈.o amp	o.o amp	WARRANTY	5 years
Power	Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W	NOTE: Specifications subject to	change
	Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W	1 VO 1 E. Specifications subject to	Change
	Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W		
MODELS/CON	NECTORS/INTERFACES	S					

CFP1080S/2105S/2107S/4207S

CFP1080E/2105E/2107E/4207E CFP2107WD/4207WD

CFP2105W/2107W/4207W

Fax Information Service

File Number

5512

= 50-pin single-ended FAST SCSI-2

= 68-pin single-ended FAST/FAST-WIDE SCSI-2

= 68-pin differential (FAST/FAST-WIDE SCSI-2)

5513

= 80-pin connector attachment (FAST-WIDE SCSI-2)

5516

5406

# CCNNER.

The Storage Answer

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<sup>\*</sup> 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.

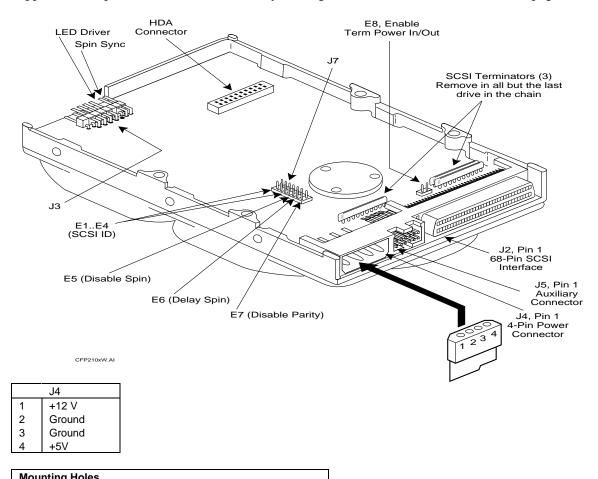
# CFP2105W Customer options

## **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	0				
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.



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

MODEL		CFP1080S	CFP2105S	CFP2107S	CFP4207S	ENVIRONMENTAL CHARACTERISTICS	
		CFP1080E	CFP2105W CFP2105E	CFP2107W CFP2107E	CFP4207W CFP4207E	Temperature Operating	5° C to 55° C
						Non-operating	-40° C to 60° C
Embedded Cor	ntroller/Interface	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	Thermal Gradient	20° C per hour maximum
Capacity (Form	natted)	FAST-WIDE SCSI-2 1080 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 4294 MB	Humidity	5% to 95% non-condensing
PHYSICAL CO	NEICHDATION					Operating Non-operating	5% to 95% non-condensing
		ā	~	~	10	Maximum Wet Bulb	29° C
Number of Disi		3	5	5	10	Altitude (relative to sea level)	
Data Surfaces		6	10	10	20	Operating	-200 to 10,000 feet
Data Heads		6 Frank adda d	10	10	20	Non-operating (max)	40,000 feet
Servo		Embedded 8	Embedded 15	Embedded	Embedded		
Zones per Surf	ace	3849 TPI	4030 TPI	15 4090 TPI	15 4090 TPI	RELIABILITY AND MAINTENA	INCE
Track Density	_	3658	3948	4016	4016	MTBF	Up to 1,000,000 hours
Total Cylinders Bytes per Sect		256/512	512	512	512	Preventive Maintenance	None
Sectors per Zo		66-120	67-139	69-124	69-124	Component Design Life	7 years
Sectors per 20	ne (Physical)	00-120	07-139	03-124	03-124	Data Reliability	$< 1$ non-recoverable error in $10^{24}$ bits
PERFORMAN	CE					SHOCK AND VIBRATION	CFP1080, CFP2105, CFP2107
Seek Times (T)	/pical)*					Shock	1/2 sine pulse, 11 msec duration
Track to Tr	rack	3 msec	2 msec	2 msec	2 msec	Operating Shock	5 Gs (without non-recoverable errors)
Average (F	Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**	Non-operating Shock	75 Gs (without non-recoverable errors)
Maximum		26 msec	18 msec	18 msec	18 msec	Vibration	
Average Laten	су	5.56 msec	5.55 msec	4.17 msec	4.17 msec	Operating Vibration	Swept sine, 1 octave per minute
Rotation Spee	d (± . 1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM	5-32 Hz	0.01" (double amplitude)
Data Transfer	Rate					33-400 Hz	0.5 Gs peak
To/from me	edia	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec		(without non-recoverable errors)
To/from bu		10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	Non-operating Vibration	Swept sine, 1/2 octave per minute
Start Time - Po	ower Up					5-28 Hz	0.10" (double amplitude)
Typical		8.5 sec	15 sec	15 sec	15 sec	29-400 Hz	4 Gs peak
Maximum		20 sec***	20 sec***	20 sec***	20 sec***		(without non-recoverable errors)
Stop Time - Po	wer Down	17	10	10	10		CFP4207
Typical		15 sec	12 sec	10 sec	10 sec	Shock	1/2 sine pulse, 11 msec duration
Maximum		20 sec 256/512 KB	15 sec 512 KB	15 sec	15 sec 512 KB	Operating Shock	5 Gs (without non-recoverable errors)
Buffer Size		230/312 KD	312 ND	512 KB	312 KB	Non-operating Shock	50 Gs (without non-recoverable errors)
READ/WRITE						Vibration	oo da (widiodi non recoverable errora)
	thad	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	Operating Vibration	Swept sine, 1 octave per minute
Recording Me Recording Den		64 K BPI	74 K BPI	78 K BPI	78 K BPI	5-32 Hz	0.01" (double amplitude)
Recording Den	isity	OT IX DI I	74 K DI I	70 K DI 1	70 K DI 1	33-375Hz	0.5 Gs peak
PHYSICAL DII	MENSIONS						(without non-recoverable errors)
	VILIVSIONS	1.00" (07.4)	1.00" (07.4)	1.00" (07.4)	1.00" (41.0)	Non-operating Vibration	Swept sine, 1/2 octave per minute
Height		1.00" (25.4 mm)	1.00" (25.4 mm) 5.75" (146.1 mm)	1.00" (25.4 mm) 5.75" (146.1 mm)	1.62" (41.2 mm)	5-28 Hz	0.10" (double amplitude)
Length		5.75" (146.1 mm) 4.00" (101.6 mm)	4.00" (101.6 mm)		5.75" (146.1 mm) 4.00" (101.6 mm)	29-375Hz	4 Gs peak
Width Weight		1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)		(without non-recoverable errors)
neigh		1.0 lbs (.00 kg)	1.1105 (.0111g)	1.1105 (.0111g)	2.0 105 (.01 115)	ACOUSTIC NOISE	CFP1080, CFP2105
POWER REQU	IREMENTS – (TYPICAL	-				Acoustic Sound Power	< 4.3 Bels max in idle mode
+5 VDC ±5%	Idle Mode	275 mA	420 mA	450 mA	680 mA		OFD2107 OFD4207
	Spin-up Mode	500 mA	700 mA	750 mA	880 mA		CFP2107, CFP4207
+12 VDC ±5%	Idle Made	200 mA	300 mA	550 mA	780 mA		< 4.6 Bels max in idle mode
+12 VDC ±3%	Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp	WADDANTY	Eveny
	эриг-ир июис	•	•	≈.o amp	o.o amp	WARRANTY	5 years
Power	Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W	NOTE: Specifications subject to	change
	Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W	1 VO 1 E. Specifications subject to	Change
	Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W		
MODELS/CON	NECTORS/INTERFACES	S					

CFP1080S/2105S/2107S/4207S

CFP1080E/2105E/2107E/4207E CFP2107WD/4207WD

CFP2105W/2107W/4207W

Fax Information Service

File Number

5512

= 50-pin single-ended FAST SCSI-2

= 68-pin single-ended FAST/FAST-WIDE SCSI-2

= 68-pin differential (FAST/FAST-WIDE SCSI-2)

5513

= 80-pin connector attachment (FAST-WIDE SCSI-2)

5516

5406

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The Storage Answer

Worldwide Headquarters: 3081 Zanker Road, San Jose, CA 95134, (408) 456-4500 Worldwide Headquarters: 3081 Zanker Road, San Jose, CA 95134, (408) 456-4500 Technical Support (800) 426-6637, Sales Support (800) 426-6637. Sales Support (800) 426-6637. Southeast Region (404) 806-3900 • Central Region (214) 789-2800 Northwest Region (404) 806-3900 • Central Region (214) 789-2800 Northwest Region (408) 456-4500 • Southwest Region (149) 44-4482 Canada - Ontario (905) 272-3216 Europe - Aosta 391/25-800111 London 44/1628-777277 • Munich 49/89-996-5570 • Paris 33/1-4745-9250 Asia - Hong Kong 852/560-0229 • Seoul 82/2-551-0511 • Singapore 65/296-1992 Taipei 886/2-718-9193 • Tokyo 81/3-3485-8901 Latin America - Miami (305) 789-6685

<sup>\*</sup> 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.

# **CFP2107S Customer options**

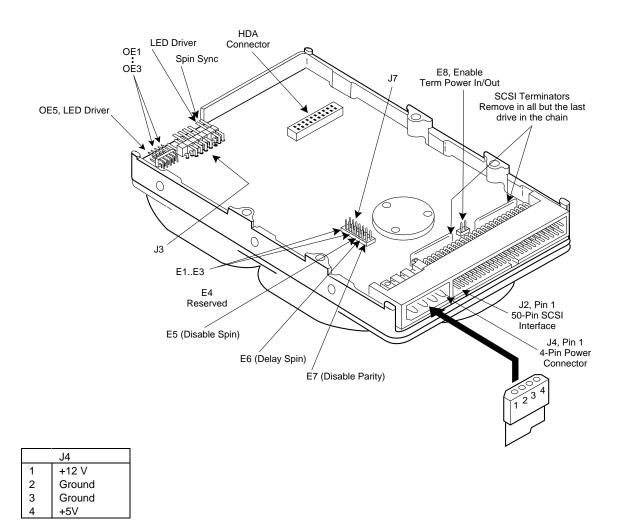
### **SCSI Bus Address**

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	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

<sup>\*</sup>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 settling the DSPN bit in MODE SELECT page 00H.



N	<u>lo</u>	ur	ıtiı	ng	<u>H</u>	o	les

MODEL		CFP1080S	CFP2105S	CFP2107S	CFP4207S	ENVIRONMENTAL CHARACTERISTICS	
		CFP1080E	CFP2105W CFP2105E	CFP2107W CFP2107E	CFP4207W CFP4207E	Temperature Operating	5° C to 55° C
						Non-operating	-40° C to 60° C
Embedded Cor	ntroller/Interface	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	Thermal Gradient	20° C per hour maximum
Capacity (Form	natted)	FAST-WIDE SCSI-2 1080 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 4294 MB	Humidity	5% to 95% non-condensing
PHYSICAL CO	NEICHDATION					Operating Non-operating	5% to 95% non-condensing
		ā	~	~	10	Maximum Wet Bulb	29° C
Number of Disi		3	5	5	10	Altitude (relative to sea level)	
Data Surfaces		6	10	10	20	Operating	-200 to 10,000 feet
Data Heads		6 Frank adda d	10	10	20	Non-operating (max)	40,000 feet
Servo		Embedded 8	Embedded 15	Embedded	Embedded		
Zones per Surf	ace	3849 TPI	4030 TPI	15 4090 TPI	15 4090 TPI	RELIABILITY AND MAINTENA	INCE
Track Density	_	3658	3948	4016	4016	MTBF	Up to 1,000,000 hours
Total Cylinders Bytes per Sect		256/512	512	512	512	Preventive Maintenance	None
Sectors per Zo		66-120	67-139	69-124	69-124	Component Design Life	7 years
Sectors per 20	ne (Physical)	00-120	07-139	03-124	03-124	Data Reliability	$< 1$ non-recoverable error in $10^{24}$ bits
PERFORMAN	CE					SHOCK AND VIBRATION	CFP1080, CFP2105, CFP2107
Seek Times (T)	/pical)*					Shock	1/2 sine pulse, 11 msec duration
Track to Tr	rack	3 msec	2 msec	2 msec	2 msec	Operating Shock	5 Gs (without non-recoverable errors)
Average (F	Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**	Non-operating Shock	75 Gs (without non-recoverable errors)
Maximum		26 msec	18 msec	18 msec	18 msec	Vibration	
Average Laten	су	5.56 msec	5.55 msec	4.17 msec	4.17 msec	Operating Vibration	Swept sine, 1 octave per minute
Rotation Spee	d (± . 1%)	5400 RPM	5400 RPM	7200 RPM	7200 RPM	5-32 Hz	0.01" (double amplitude)
Data Transfer	Rate					33-400 Hz	0.5 Gs peak
To/from me	e <b>dia</b>	31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec		(without non-recoverable errors)
To/from bu		10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	Non-operating Vibration	Swept sine, 1/2 octave per minute
Start Time - Po	ower Up					5-28 Hz	0.10" (double amplitude)
Typical		8.5 sec	15 sec	15 sec	15 sec	29-400 Hz	4 Gs peak
Maximum		20 sec***	20 sec***	20 sec***	20 sec***		(without non-recoverable errors)
Stop Time - Po	wer Down	17	10	10	10		CFP4207
Typical		15 sec	12 sec	10 sec	10 sec	Shock	1/2 sine pulse, 11 msec duration
Maximum		20 sec 256/512 KB	15 sec 512 KB	15 sec	15 sec 512 KB	Operating Shock	5 Gs (without non-recoverable errors)
Buffer Size		230/312 KD	312 ND	512 KB	312 KB	Non-operating Shock	50 Gs (without non-recoverable errors)
READ/WRITE						Vibration	oo da (widiodi non recoverable errora)
	thad	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	Operating Vibration	Swept sine, 1 octave per minute
Recording Me Recording Den		64 K BPI	74 K BPI	78 K BPI	78 K BPI	5-32 Hz	0.01" (double amplitude)
Recording Den	isity	OT IX DI I	74 K DI I	70 K DI 1	70 K DI 1	33-375Hz	0.5 Gs peak
PHYSICAL DII	MENSIONS						(without non-recoverable errors)
	VILIVSIONS	1.00" (07.4)	1.00" (07.4)	1.00" (07.4)	1 00" (41 0)	Non-operating Vibration	Swept sine, 1/2 octave per minute
Height		1.00" (25.4 mm)	1.00" (25.4 mm) 5.75" (146.1 mm)	1.00" (25.4 mm) 5.75" (146.1 mm)	1.62" (41.2 mm)	5-28 Hz	0.10" (double amplitude)
Length		5.75" (146.1 mm) 4.00" (101.6 mm)	4.00" (101.6 mm)		5.75" (146.1 mm) 4.00" (101.6 mm)	29-375Hz	4 Gs peak
Width Weight		1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)		(without non-recoverable errors)
neigh		1.0 lbs (.00 kg)	1.1105 (.0111g)	1.1105 (.0111g)	2.0 105 (.01 115)	ACOUSTIC NOISE	CFP1080, CFP2105
POWER REQU	IREMENTS – (TYPICAL	-				Acoustic Sound Power	< 4.3 Bels max in idle mode
+5 VDC ±5%	Idle Mode	275 mA	420 mA	450 mA	680 mA		OFD2107 OFD4207
	Spin-up Mode	500 mA	700 mA	750 mA	880 mA		CFP2107, CFP4207
+12 VDC ±5%	Idle Made	200 mA	300 mA	550 mA	780 mA		< 4.6 Bels max in idle mode
+12 VDC ±3%	Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp	WADDANTY	Eveny
	эриг-ир июис	•	•	≈.o amp	o.o amp	WARRANTY	5 years
Power	Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W	NOTE: Specifications subject to	change
	Seek Mode	6.5 W	7.0 W	11.9 W	14.3 W	1 VO 1 E. Specifications subject to	Change
	Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W		
MODELS/CON	NECTORS/INTERFACES	S					

CFP1080S/2105S/2107S/4207S

CFP1080E/2105E/2107E/4207E CFP2107WD/4207WD

CFP2105W/2107W/4207W

Fax Information Service

File Number

5512

= 50-pin single-ended FAST SCSI-2

= 68-pin single-ended FAST/FAST-WIDE SCSI-2

= 68-pin differential (FAST/FAST-WIDE SCSI-2)

5513

= 80-pin connector attachment (FAST-WIDE SCSI-2)

5516

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<sup>\*</sup> 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.

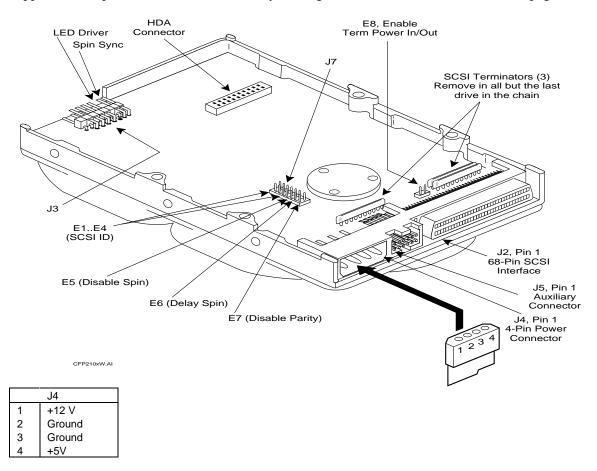
# **CFP2107W Customer options**

## **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	0
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.



**Mounting Holes** 

MODEL		CFP1080S	CFP2105S	CFP2107S	CFP4207S	ENVIRONMENTAL CHARACTERISTICS	
		CFP1080E	CFP2105W CFP2105E	CFP2107W CFP2107E	CFP4207W CFP4207E	Temperature Operating	5° C to 55° C
						Non-operating	-40° C to 60° C
Embedded Cor	ntroller/Interface	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	FAST SCSI-2	Thermal Gradient	20° C per hour maximum
Capacity (Form	matted)	FAST-WIDE SCSI-2 1080 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 2147 MB	FAST-WIDE SCSI-2 4294 MB	Humidity	5% to 95% non-condensing
DUVSICAL CO	NFIGURATION					Operating Non-operating	5% to 95% non-condensing
		ā	~	~	10	Maximum Wet Bulb	29° C
Number of Disi		3	5	5	10	Altitude (relative to sea level)	
Data Surfaces		6	10	10	20	Operating	-200 to 10,000 feet
Data Heads		6 Emboddod	10 Emboddod	10 Emboddod	20 Emboddod	Non-operating (max)	40,000 feet
Servo	fa.a.	Embedded 8	Embedded 15	Embedded 15	Embedded 15		
Zones per Surf Track Density	ace	3849 TPI	4030 TPI	4090 TPI	4090 TPI	RELIABILITY AND MAINTENA	INCE
,	•	3658	3948	4016	4016	MTBF	Up to 1,000,000 hours
Total Cylinders  Bytes per Sect		256/512	512	512	512	Preventive Maintenance	None
Sectors per Zo		66-120	67-139	69-124	69-124	Component Design Life	7 years
Sectors per 20	ne (r nysical)	00 120	07 100	00 121	00 121	Data Reliability	< 1 non-recoverable error in 10 <sup>24</sup> bits
PERFORMANO	CE					SHOCK AND VIBRATION	CFP1080, CFP2105, CFP2107
Seek Times (Ty	ypical)*					Shock	1/2 sine pulse, 11 msec duration
Track to Tr	rack	3 msec	2 msec	2 msec	2 msec	Operating Shock	5 Gs (without non-recoverable errors)
Average (R	Read/Write)	11/11.5 msec**	8.5/9.0 msec**	8.5/9.0 msec**	9.0/9.5 msec**	Non-operating Shock	75 Gs (without non-recoverable errors)
Maximum		26 msec	18 msec	18 msec	18 msec	Vibration	
Average Laten	-	5.56 msec	5.55 msec	4.17 msec	4.17 msec	Operating Vibration	Swept sine, 1 octave per minute
Rotation Speed		5400 RPM	5400 RPM	7200 RPM	7200 RPM	5-32 Hz	0.01" (double amplitude)
Data Transfer I		01 5 55 73 41 /	00.0.00.7141/	477 07 0 141 /	477 7 07 0 3 41 /	33-400 Hz	0.5 Gs peak
To/from me		31.5-55.7 Mb/sec	33.3-68.7 Mb/sec	47.7-87.2 Mb/sec	47.7-87.2 Mb/sec		(without non-recoverable errors)
To/from bu		10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	10-20 MB/sec	Non-operating Vibration	Swept sine, 1/2 octave per minute
Start Time - Po	ower Up	0 5	15	15	15	5-28 Hz	0.10" (double amplitude)
Typical		8.5 sec 20 sec***	15 sec 20 sec***	15 sec 20 sec***	15 sec 20 sec***	29-400 Hz	4 Gs peak
Maximum Cton Time Do		20 sec	20 sec	20 sec	20 Sec		(without non-recoverable errors)
Stop Time - Po Typical	wer Down	15 sec	12 sec	10 sec	10 sec		CFP4207
Maximum		20 sec	15 sec	15 sec	15 sec	Shock	1/2 sine pulse, 11 msec duration
Buffer Size		256/512 KB	512 KB	512 KB	512 KB	Operating Shock	5 Gs (without non-recoverable errors)
Durier 3120		200/012 RD	OIL KD	OIL IND	012 KD	Non-operating Shock	50 Gs (without non-recoverable errors)
READ/WRITE						Vibration	
Recording Met	thod	1,7 RLL	1,7 RLL	1,7 RLL	1,7 RLL	Operating Vibration	Swept sine, 1 octave per minute
Recording Den	nsity	64 K BPI	74 K BPI	78 K BPI	78 K BPI	5-32 Hz	0.01" (double amplitude)
						33-375Hz	0.5 Gs peak
PHYSICAL DII	MENSIONS						(without non-recoverable errors)
Height		1.00" (25.4 mm)	1.00" (25.4 mm)	1.00" (25.4 mm)	1.62" (41.2 mm)	Non-operating Vibration	Swept sine, 1/2 octave per minute
Length		5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5.75" (146.1 mm)	5-28 Hz 29-375Hz	0.10" (double amplitude) 4 Gs peak
Width		4.00" (101.6 mm)	4.00" (101.6 mm)		4.00" (101.6 mm)	29-3/3012	(without non-recoverable errors)
Weight		1.3 lbs (.59 kg)	1.4 lbs (.64 kg)	1.4 lbs (.64 kg)	2.0 lbs (.91 kg)		(Without hon-recoverable errors)
DUNED DEAT	IIREMENTS – (TYPICAL	)				ACOUSTIC NOISE	CFP1080, CFP2105
	-	-	420 A	450 A	680 mA	Acoustic Sound Power	< 4.3 Bels max in idle mode
+5 VDC ±5%		275 mA	420 mA	450 mA			CFP2107, CFP4207
	Spin-up Mode	500 mA	700 mA	750 mA	880 mA		< 4.6 Bels max in idle mode
+12 VDC ±5%	Idle Mode	200 mA	300 mA	550 mA	780 mA		1.0 Dels max in rate mode
	Spin-up Mode	1.5 amp	1.7 amp	2.3 amp	3.5 amp	WARRANTY	5 years
Power	Read/Write Mode	4.5 W	7.0 W	10.6 W	13.2 W		
rowel	Seek Mode	6.5 W	7.0 W 7.0 W	10.0 W 11.9 W	14.3 W	NOTE: Specifications subject to	change
	Idle Mode	3.75 W	5.7 W	8.9 W	12.8 W		
			••				
MODELS/CON	INECTORS/INTERFACES	S					

CFP1080S/2105S/2107S/4207S

CFP1080E/2105E/2107E/4207E CFP2107WD/4207WD

CFP2105W/2107W/4207W

Fax Information Service

File Number

5512

= 50-pin single-ended FAST SCSI-2

= 68-pin single-ended FAST/FAST-WIDE SCSI-2

= 68-pin differential (FAST/FAST-WIDE SCSI-2)

5513

= 80-pin connector attachment (FAST-WIDE SCSI-2)

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<sup>\*</sup> 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.