

Panasonic[®]

3.5" Flexible Disk Drives



**Panasonic Industrial Co.
Memory Systems Division**

Key Features

- **Lower power consumption**
- **High performance**
3 msec track to track access time
- **High reliability**
Direct drive brushless and digitally controlled motor
No electrical adjustments necessary
All electrical detection for:
Write protection/Track 0 sensing
Index sensing/Diskette insertion sensing
- **Low profile (32 mm)**
- **Highly integrated circuitry**
Flat packaged LSI
Surface mount technology
- **Newly developed LSI**
Control logic: JU-363 CMOS
JU-364 TTL
Motor control: Bipolar
Read/Write: Bipolar
- **Light weight (550g)**
- **Quiet Operation**

Specifications

Performance

		JU-363/364	JU-386	JU-394
CAPACITY UNFORMATTED	Per Disk	1.0 Mbyte	1.0/1.6 Mbytes	2.0 Mbytes
	Per Track	6.2 Kbytes	6.2/10.4 Kbytes	12.5 Kbytes
Transfer Rate		250 Kbits/sec	250/500 Kbits/sec	500 Kbits/sec
ACCESS TIME	Track to Track	3 msec		
	Settling Time	15 msec		
	Motor Start Time	500 msec	300 msec	300 msec

Note: JU-363 for CMOS applications only.

Functional

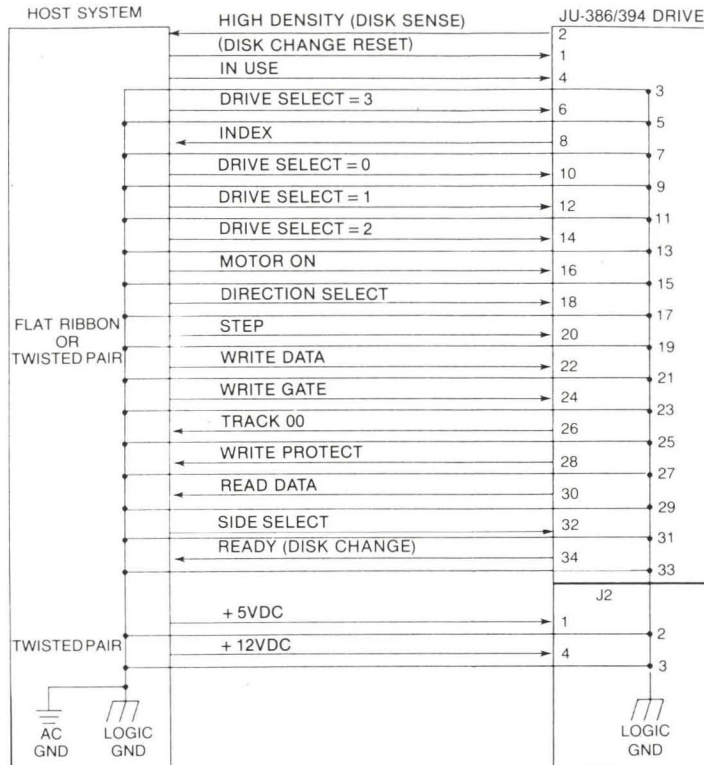
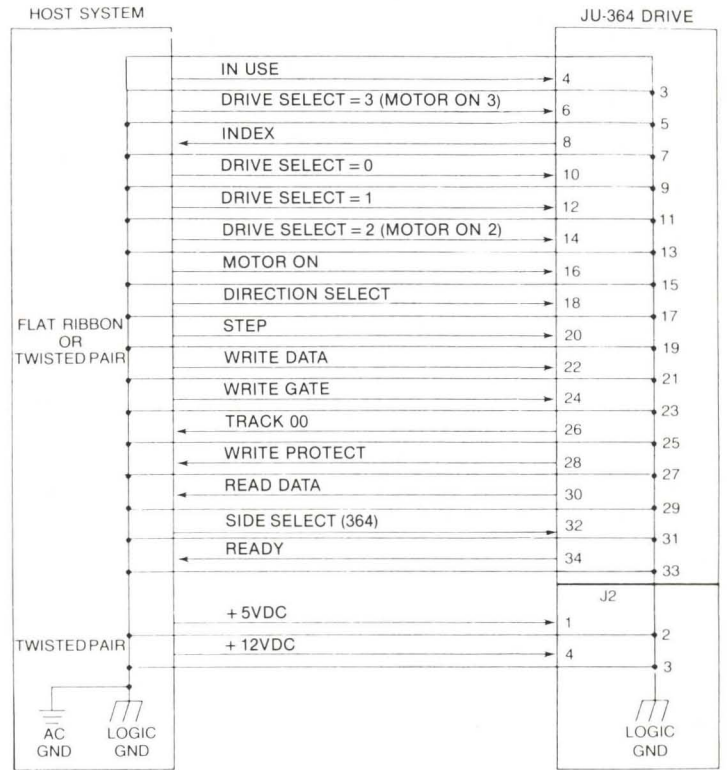
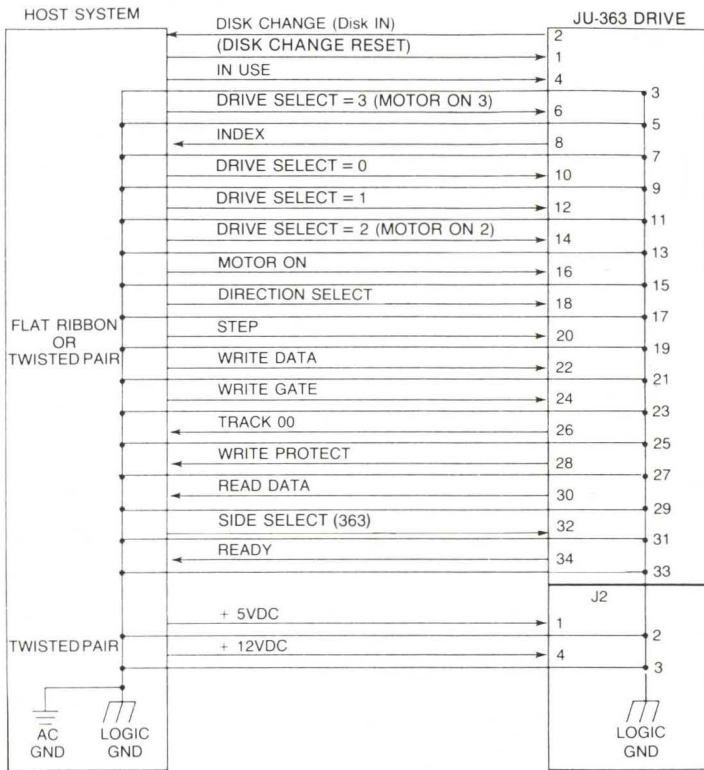
ROTATIONAL SPEED	300 RPM	300/360 RPM	300 RPM
RECORDING DENSITY	8717 BPI	8717/14180 BPI	17434 BPI
TRACK DENSITY	135 TPI		
NUMBER OF TRACKS	160		
NUMBER OF HEADS	2		
TEMPERATURE (Operating)	5°C to 45°C		
HUMIDITY (Operating)	20% to 80%		

Installation Requirements

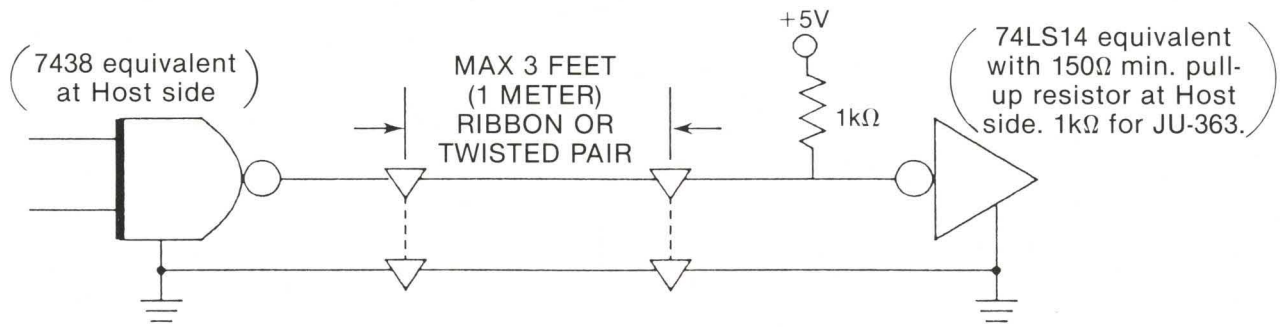
		JU-363/364	JU-386	JU-394	
DC POWER REQUIREMENTS	Voltage		12V ± 10% max ripple, 100 mVp-p		
	12V	Current (Operating)	Seek	0.24A (max), 0.2A (typ)	
			Read	0.16A (max), 0.13A (typ)	
			Write	0.17A (max), 0.14A (typ)	
	At motor start		0.4A (max), 0.35A (typ)		
	Voltage		5V ± 5% max ripple, 50 mVp-p		
	5V	Current (Operating)	Seek	0.16A (max) 0.15A (typ)	0.24A (max) 0.22A (typ)
			Read	0.23A (max) 0.22A (typ)	0.26A (max) 0.24A (typ)
			Write	0.25A (max) 0.24A (typ)	0.27A (max) 0.25A (typ)
	Power Dissipation	Seek Motor/Start	5.3W (typ)		
Read		3.3W (max), 2.76W (typ)			
Write		3.5W (max), 2.93W (typ)			
Standby		*1.8W (max), 1.51W (typ)			

*JU-363 40 mW (max), 30 mW (typ)

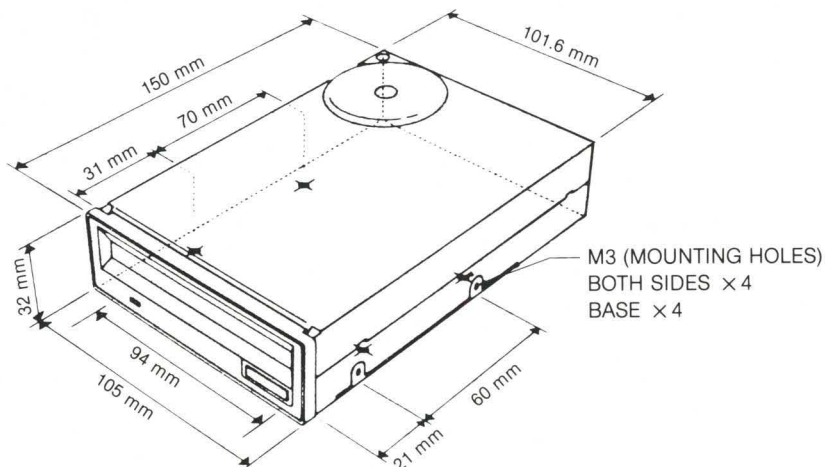
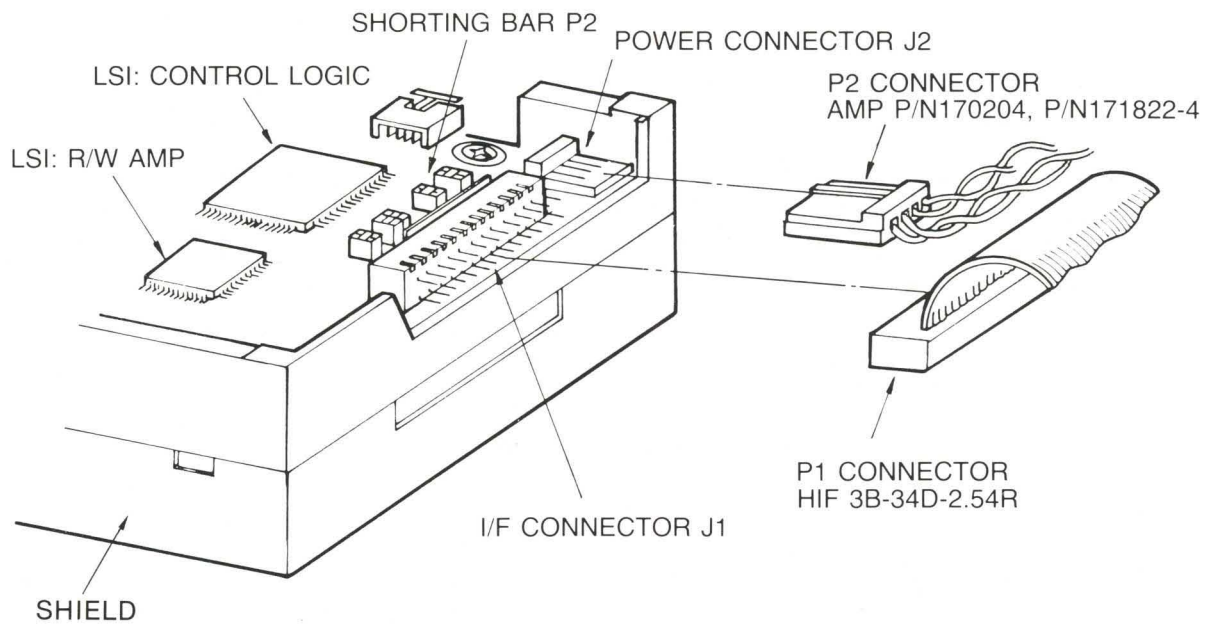
Interface Connections



Interface Signal Driver/Receiver

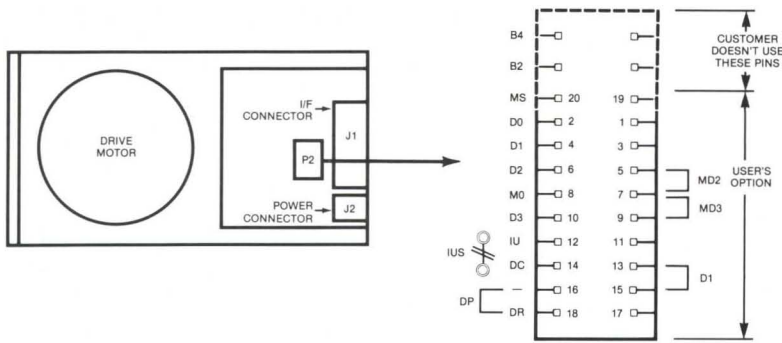


Physical Interface



JU-363

Trace Designator	Description	P2 Pin Number		Shipped from Factory
D0	DRIVE SELECT 0 input line	1	2	Plugged
D1, 2, 3	DRIVE SELECT 1, 2, 3 input line	3	4 5 6 9 10	Open
MO	MOTOR ON from MOTOR ON	7	8	Plugged
IU	In Use LED is lit with IN USE*	11	12	Open
DC	DISK CHANGE status	13	14	Plugged
DR	DISK CHANGE is RESET with DISK CHANGE RESET	17	18	Plugged
MS	MOTOR ON with DRIVE SELECT signal	19	20	Open
(DI)	DISK IN status	13	15	Open
(DP)	DISK CHANGE is reset with STEP	16	18	Open
(MD2)	MOTOR ON from DRIVE SELECT 2	5	7	Open
(MD3)	MOTOR ON from DRIVE SELECT 3	7	9	Open

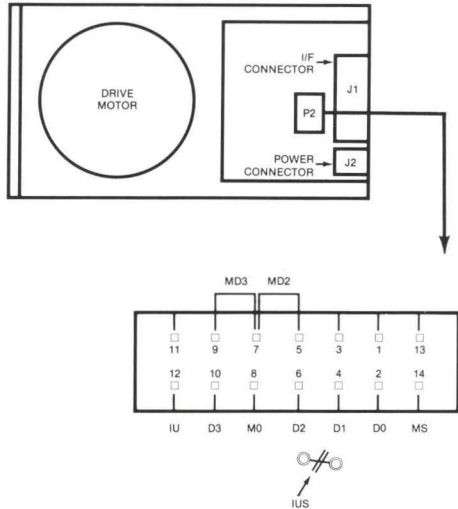


SHORTING BAR P2 PIN ASSIGNMENT

*When the shorting Pin 11, 12 of P2 are shorted, LED is lit with "low" of IN USE signal. IN USE signal is only available cutting the pattern of "IUS." (See shorting bar P2 pin assignment.) When the shorting Pin 11, 12 of P2 are open, IN USE LED is lit with DRIVE SELECT.

JU-364

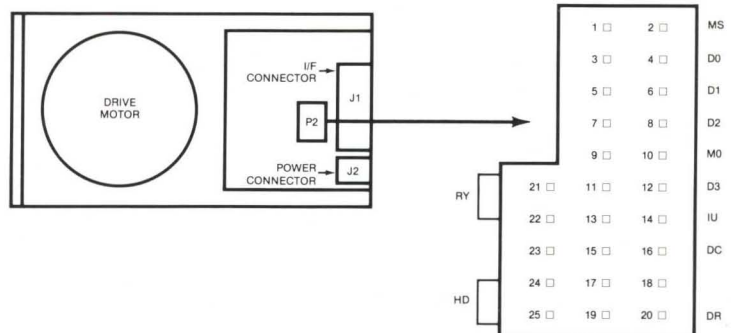
Trace Designator	Description	P2 Pin Number		Shipped from Factory
D0	DRIVE SELECT 0 input line	1	2	Plugged
D1, 2, 3	DRIVE SELECT 1, 2, 3 input line	3	4 5 6 9 10	Open
MO	MOTOR ON from MOTOR ON	7	8	Plugged
IU	In Use LED is lit with IN USE*	11	12	Open
(MD2)	MOTOR ON from DRIVE SELECT 2	5	7	Open
(MD3)	MOTOR ON from DRIVE SELECT 3	7	9	Open
MS	MOTOR ON from DRIVE SELECT	13	14	Open



SHORTING BAR P2 PIN ASSIGNMENT

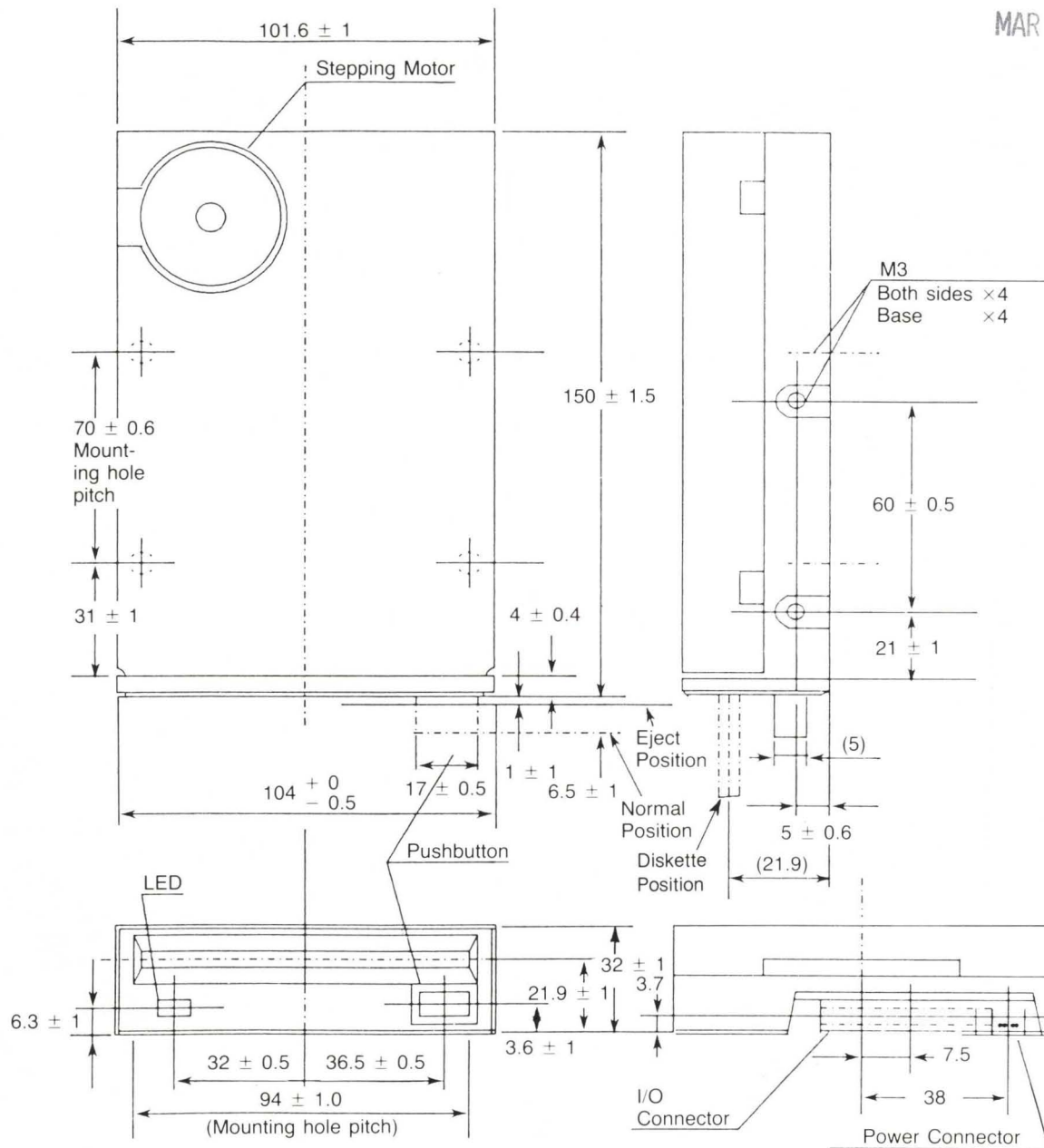
JU-386/394

Trace Designator	Description	P2 Pin Number		Shipped from Factory
D0	DRIVE SELECT 0 input line	3, 4		Plugged
D1	DRIVE SELECT 1 input line	5, 6		Open
D2	DRIVE SELECT 2 input line	7, 8		Open
D3	DRIVE SELECT 3 input line	11, 12		Open
MO	Spindle motor is ON and OFF with a MOTOR ON signal	9, 10		Plugged
MS	Spindle motor is ON and OFF with a DRIVE SELECT signal	1, 2		Open
IU	Display LED lit up with IN USE signal	13, 14		Open
DC	DISK CHANGE signal is selected	15, 16		Plugged
DI	DISK signal is selected	16, 18		Open
DR	DISK CHANGE signal is reset by a DISK CHANGE RESET signal	19, 20		Open
DP	DISK CHANGE signal is reset by a STEP signal	17, 19		Plugged
MD2	Spindle motor is ON and OFF with a DRIVE SELECT 2 signal	8, 10		Open
MD3	Spindle motor is ON and OFF with a DRIVE SELECT 3 signal	10, 12		Open
HD	Output from I/F connector pin 2 is a HIGH DENSITY signal	24, 25		Plugged
	Output from I/F connector pin 2 is a DISK IN or DISK CHANGE signal	23, 24		Open
	Output from I/F connector pin 34 is a DISK IN or DISK CHANGE signal	22, 23		Open
RY	Output from I/F connector pin 34 is a READY signal	21, 22		Plugged



Mechanical Dimensions

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