

Pioneer

Max.40X CAV Ultra-SCSI
CD-ROM DRIVE UNIT

DR-966

Operating Instructions

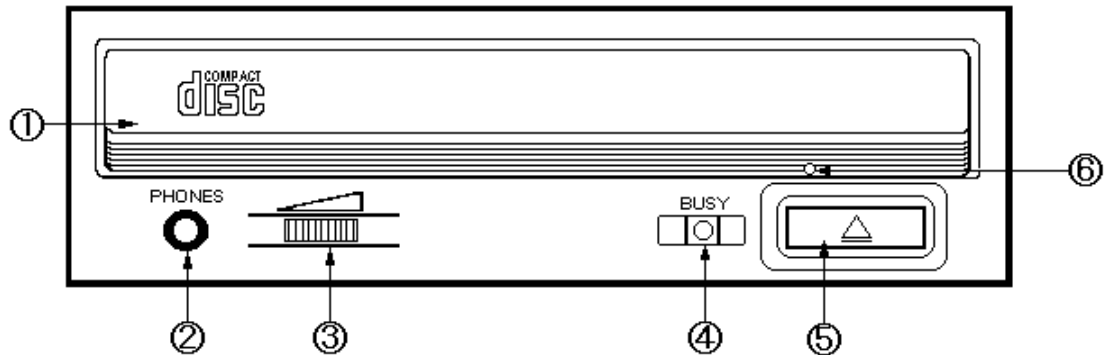
Pioneer Electronic Corporation

Standard Features

- Internal 5.25inch Half-Height CD-ROM Drive
- Ultra-SCSI/SCSI-2 Interface
- Max. 40X Data Transfer
Max.40X CAV; 17.5X(inner side of a disc) to 40X(outer side of a disc) maximum, 28.8X(average)
- Power Tray Loading
- Conforms to MPC Level 3 specifications
- Low Vibration Mechanism
- High Speed Access : Access Time 70 msec (Random Average)
- High Speed Seek : Seek Time 60 msec (Random Average)
- Buffer Memory Size : 128 kBytes
- Supports SCAM Function (Level 1)
- Supports KODAK Photo CD
- Supports Single and Multi-Session
- Supports CD-XA Ready
- Supports CD-I Ready
- Supports CD Extra
- Supports Video CD
- Supports to read CD-RW discs
- Supports Power Save Mode
- Stereo Analog Audio Line Output
- Digital Audio Through SCSI (Read CD-DA)
- Head Phone Output & Volume Control Knob (Front Panel)
- Horizontal / Vertical Operation
- Forced Ejection

Name of Parts/Function/Setting

Front Panel



1. Disc Tray

Tray loading-unloading is done by pressing the eject button.

Place the CD-ROM onto the tray with the label facing up.

Place a disc onto the inner lower groove on the tray in case an 8cm disc is used.

Press the eject button or push the front part of the tray gently to load disc tray.

2. Head-Phone Jack (PHONES)

Stereo mini jack for head-phone.

Adjust "Volume Control Knob" minimum position before head-phone is connected.

The audio output of rear panel is active even when head-phone plug is inserted to this jack.

3. Volume Control Knob (Head-Phone Level)

This is the volume control knob for adjusting sound level for head-phone.

When the knob is turned to the right, the head-phone volume goes up, and turned to the left, the volume goes down.

4. BUSY Indicator

It is lit when data on the disc is accessed.

5. Eject Button

This button is used to load and unload the tray.

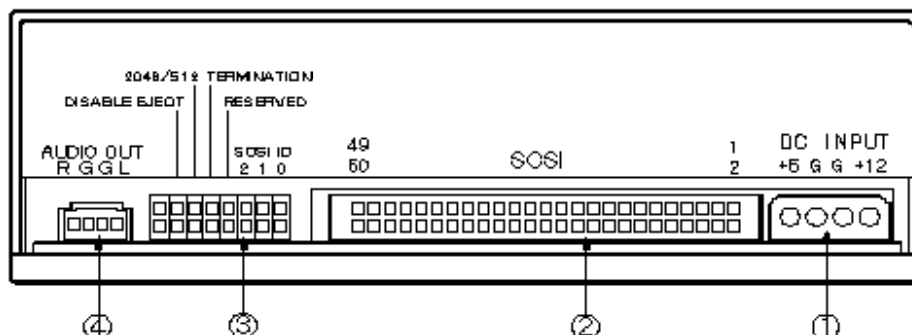
6. Forced Ejection Hole

When a disc is stacked in the drive and eject button does not work to open the tray, insert a stiff rod into this hole and gently so that the tray comes out. Unload the tray by hand then remove the disc. Do not use the Forced Eject Hole except emergency case, use the eject button in normal operation.

Before executing this operation, turn off the power supply and wait more than 1 minute till disc rotation is stopped.

Name of Parts/Function/Setting

Rear Panel



1. DC Input

Pin	Name	Function
1	+12	Power supply input of DC +12V
2	G	Ground
3	G	Ground
4	+5	Power supply input of DC +5V

2. SCSI Interface

It should be connected to the SCSI port of the computer. Use 50pin flat type cable.

Total length of this cable is less than 6m according to the SCSI specifications.

Set "Terminator" the end of the cable.

Pin	Name	Pin	Name	Pin	Name	Pin	Name	Pin	Name
1	GND	11	GND	21	GND	31	GND	41	GND
2	-DB0	12	-DB5	22	GND	32	-ATN	42	-MSG
3	GND	13	GND	23	NC	33	GND	43	GND
4	-DB1	14	-DB6	24	NC	34	GND	44	-SEL
5	GND	15	GND	25	NC	35	GND	45	GND
6	-DB2	16	-DB7	26	TERMPOWER	36	-BSY	46	-C/D
7	GND	17	GND	27	NC	37	GND	47	GND
8	-DB3	18	-DBP	28	NC	38	-ACK	48	-REQ
9	GND	19	GND	29	GND	39	GND	49	GND
10	-DB4	20	GND	30	GND	40	-RST	50	-I/O

Remarks; The minus sign indicates active low.

Name of Parts/Function/Setting

3. Device Configuration Jumper

Switch turns on by inserting short socket.

Make sure that drive power is turned off before jumper setting is changed.

Only Pin#2 is ``on`` at the time of shipping from the plant. (This means SCSIID=2 and Terminator is OFF)

Pin	Name	Function										
1-3	SCSIID	Setting SCSIID										
		Pin	ID	0	1	2	3	4	5	6	7	
		1	bit0	off	on	off	on	off	on	off	on	
		2	bit1	off	off	on	on	off	off	on	on	
3	bit2	off	off	off	off	on	on	on	on			
4	Reserved											
5	TERMINATI ON	off	Internal SCSI Terminator is OFF.									
		on	Internal SCSI Terminator is ON.									
6	2048/512	off	Setting Sector size at power on to 2048Bytes									
		on	Setting Sector size at power on to 512Bytes									
7	DISABLE EJECT	off	Enable Eject Button of front panel.									
		on	Disable Eject Button of front panel.									
8	Reserved											

4. Audio Output

A connector for output of analog audio.

This connector is compatible with "Molex 70553" , choose a connection cable which matches with the connector.

Pin	Name	Function
1	L	Left channel audio output
2	G	Ground
3	G	Ground
4	R	Right channel audio output

Specifications

1. Disc Format

- CD-ROM Mode 1
- CD-ROM XA Mode2 (form 1, form2)
- Photo CD (single and multiple session)
- Video CD (4.4x – 10x)
- CD-DA (4.4x – 10x at Audio Play, 8.8x – 20x at Read CD-DA)
- CD-Extra
- CD-RW (read only, 4.4x – 10x)
- CD-IReady

2. Disc Size

- 12 cm
- 8 cm (4X at data disc, Horizontal operation only)

Precautions on playing CD singles (8cm discs)

An 8cm disc can be played only when the drive is horizontal condition and the disc is set in the 8cm groove on the disc tray at loading.

Do not use an adapter for 8cm disc in any conditions for this drive, or malfunction may occur.

3. Data Transfer Rate

Parameter		Min.	Typ.	Max.	Unit	Note
Sustained	inner	2250	2415	2625	kBytes/sec	Max.40X CAV Mode
	outer			6000	kBytes/sec	
Burst				20	MBytes/sec	

Remarks

Maximum data transfer rate is specified with a disc of 1.2m/s linear velocity.

4. Buffer Memory Size

- 128 kBytes

5. Access Time/Seek Time

Parameter	Min.	Ave.	Max.	Unit	Note
Access Time		70	140	msec	Random Average CD-ROM Mode1 Disc
Random Seek Time		60	90	msec	Random Average
Full Stroke Seek Time		160	300	msec	

Specifications

6 Initializing Time/Starting Time/Finishing Time

Parameter	Specification	Note
Initializing Time	Less than 10 sec	The period from a disc is set in the drive till it becomes pause condition after initialization.
Starting Time	Less than 10 sec	The period from stop condition after finishing initialization till it becomes pause condition by executing start command.
Finishing Time	Less than 7 sec	The period from pause condition till disc rotation is stopped by issuing stop command.

7 Loading Time/Unloading Time

Parameter	Specification	Note
Loading Time	Less than 4sec	The period from a disc starts loading till it is clumped in the drive.
Unloading Time	Less than 4sec	The time of disc unloading with stop condition by Pressing the eject button.

8 Audio Characteristic

Item	Specification	Note
Output level	Line out	0.7 \pm 0.1 Vrms 10 k ohm Load
	Head phone Out	0.45 \pm 0.2 Vrms 32 ohm Load
S/N Ratio	Line out	Over 80 dB JIS A-Weighted 20kHz LPF ON
Channel Separation	Line out	Over 65 dB
Frequency Response	Line out	20Hz~20kHz +1/-3 dB
THD	Line out	Less than 0.1% 1kHz 0dB 20kHz LPF ON

Dimensions/Weight/Packing

1. Dimensions/Weight

- Dimensions: W148mm x D207.5mm x 42.3mm
- Net Weight : 0.9 kg

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