

R-IDSC-E Specification

rev. 1.0E



PRODUCT NAME: IDE-SCSI Converter

PART NUMBER: R-IDSC-E

PRODUCT DESCRIPTION IDE-SCSI Conversion Adapter
CATS-3 IDE-SCSI Conversion IC

These specifications are subject to change without prior notice.

I-O DATA DEVICE INC.
Network Solution Unit

APPROVED BY	RELEASED BY
	

Revision History

Data	Revision	Contents
April 8, 2002	0.9	Preliminary Version
April 15, 2002	1.0	First Draft
April 18, 2005	1.0E	English Version



Caution

This product is not intended for use as medical equipment, nuclear facility or equipment, aerospace equipment, transportation facility or equipment, weapon system or other facility or equipment that affects human life; undersea relay, space satellite or other facility or equipment that requires high levels of reliability; or any component thereof. I-O DATA DEVICE shall not be liable whatsoever for any bodily injury, fire or social cost arising from a failure in this product during its use as or in any of the aforementioned facilities, equipment or their control systems. If this product is to be used as or in any of the aforementioned facilities, equipment or their control systems, the user is advised to take all possible precautions to ensure design safety of the applicable facility/equipment/system, by incorporating redundancy, flame-retardation measures, measures to prevent malfunction, and so on.

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1. ADAPTATION

This specification is applied for CATS-3 mounted IDE-SCSI converter adapter R-IDSC-E.

2. OVERVIEW

2.1. Product Overview

R-IDSC-E is an interface converter board from IDE disk drive to SCSI disk drive.

Main Features

- (1) Ultra SCSI(20MB/S)
- (2) Ultra DMA/66 supported

2.2. Specifications

2.2.1. Product name / Product ID

- (1) Product name: IDE-SCSI converter adapter for 5.0" disk drive
- (2) Product ID: R-IDSC-E

2.2.2. Dimensions

126.3mm (W) X 34.8mm (D) x 22.5mm (H)

2.2.3. Weight

Approximately 35g

2.2.4. Power Consumption

Power voltage	DC+5V \pm 5%
Power current	360 mA (Max 400 mA) (Excluding the output external term power of SCSI signal)
Power-on sequence	The power supply of R-IDSC-E and IDE device should be the same and switch on the power at the same time.
Usage connector	350211-1 manufactured by AMP

2.2.5. Usage Environment

5 °C to 55 °C
20 to 80% RH (no condensation)

2.2.6. Storage Environment

-40 °C to 65 °C
5 to 95% RH (no condensation)

2.2.7. ATA Interface

ATA/ATAPI-5	Compliant
Transfer mode	PIO0 to 4, MultiWordDMA0 to2, UltraDMA0 to 4 supported
Address	Master (Slave function is not supported)
Maximum transfer speed	16/10/8/5/3.2MB/S(PIO4/3/2/1/0), 16MB/S(DMA2), 40MB/S(UltraDMA3)
Bus width	16 bit
Usage connector	MIL type 2.54mm pitch, 2 lines 40 pins receptacle

2.2.8. SCSI Interface

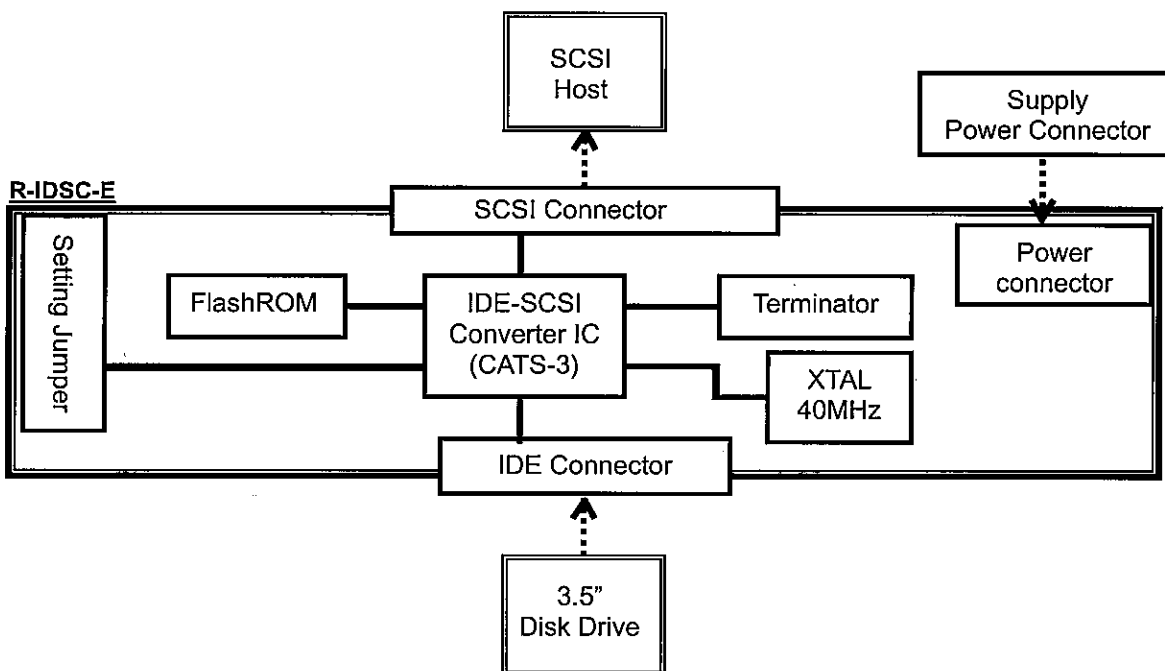
SCSI standard SPI-4	Compliant
Transfer mode	Asynchronous, Synchronous Ultra SCSI.
Maximum transfer speed	20/10/5MB/S (Synchronous), 10MB/S (Asynchronous)
Bus method	Single-end
Bus width	8 bit
Parity Function	Yes
Off set	1 to 16
SCSI ID	0 to 7
Output external term power	Yes.
Active terminator	Internal (possible to separate)
Connector	MIL type 2.54mm pitch, 2 lines 50 pins, box-type plug

2.2.9. Setting Interface

- (1) To use for setting of SCSI ID, operation mode, SCSI terminator
 (2) Connector: 2.0mm pitch 2 lines 18 pins plug

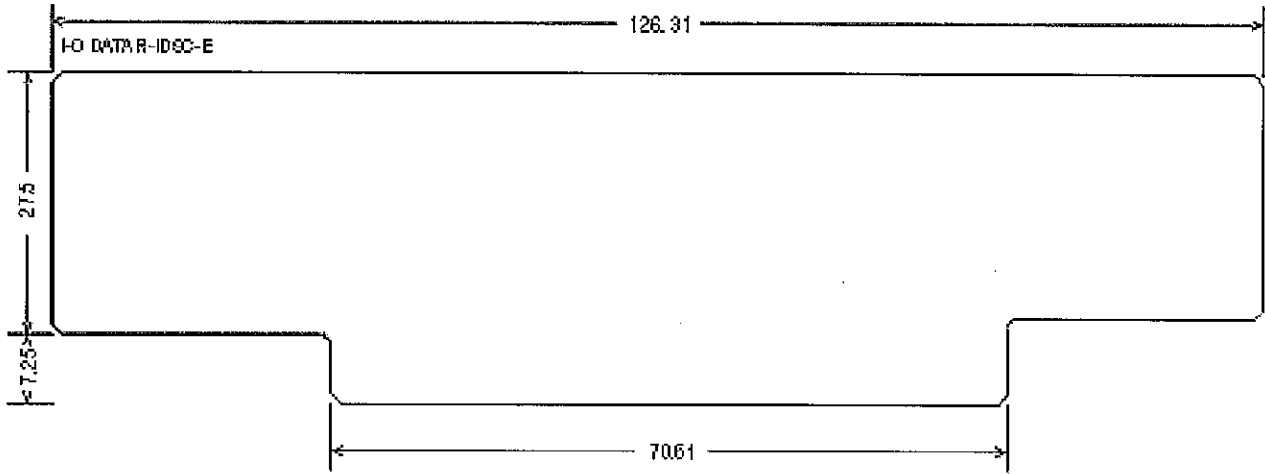
2.2.10. Other functions

Internal Flash ROM is built-in and it is possible to update the firmware from SCSI bus.

3. INTERNAL BLOCK DIAGRAM

4. DIMENSIONAL OUTLINE OF BOARD

(Unit: mm)



Board Outline

5. JP SETTING

5.1. Pin Assign

Pin No.	Signal Name	Pin No.	Signal Name	Details
1	ID0	2	GND	For setting of SCSI ID [ID1]
3	ID1	4	GND	For setting of SCSI ID [ID2]
5	ID2	6	GND	For setting of SCSI ID [ID4]
7	Reserve	8	GND	Not in use
9	Reserve	10	GND	Not in use
11	Reserve	12	GND	Not in use
13	Reserve	14	GND	Not in use
15	MODE	16	GND	switchable for firmware mode
17	TermPD	18	GND	switchable for term power on and off

5.2. Setting

SCSI ID

Pin No.									Details
1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	
0	0	0							ID=0 (*1)
1	0	0							ID=1
0	1	0							ID=2
1	1	0							ID=3
0	0	1							ID=4
1	0	1							ID=5
0	1	1							ID=6
1	1	1							ID=7

Firmware Mode

Pin No.									Details
1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	
							0		Main Mode (*1)
							1		Core Mode

Term Power ON / OFF

Pin No.									Details
1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	
								0	TRMPWR ON (*1)
								1	TRMPWR OFF

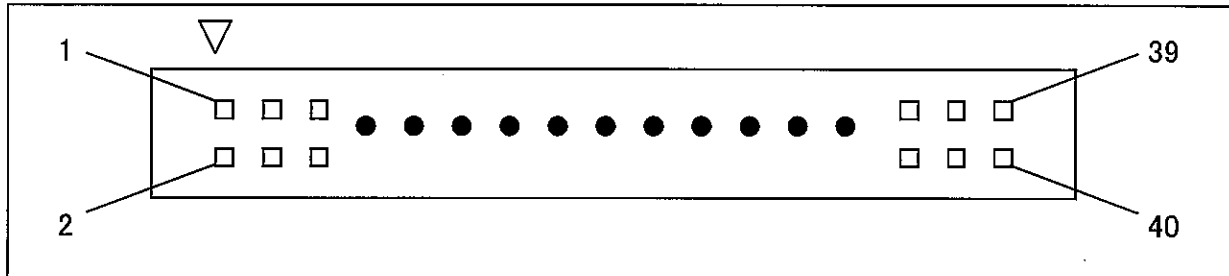
1: JP short 2: JP open

(*1) Default setting. Each pin has JP socket.

6. SPECIFICATIONS OF IN-PUT AND OUT-PUT SIGNAL

6.1. IDE

6.1.1. Shape

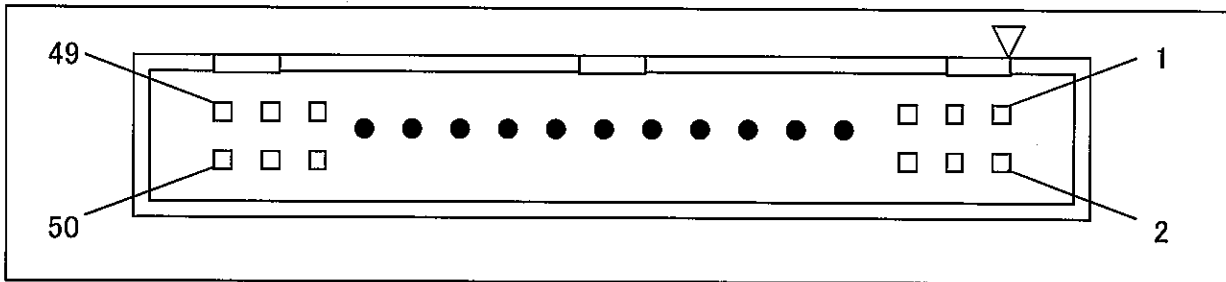


6.1.2. Pin Assign

No.	Signal Name	IN / OUT	No.	Signal Name	IN / OUT
1	-DRST	OUT	2	GND	-
3	DD7	IN / OUT	4	DD8	IN / OUT
5	DD6	IN / OUT	6	DD9	IN / OUT
7	DD5	IN / OUT	8	DD10	IN / OUT
9	DD4	IN / OUT	10	DD11	IN / OUT
11	DD3	IN / OUT	12	DD12	IN / OUT
13	DD2	IN / OUT	14	DD13	IN / OUT
15	DD1	IN / OUT	16	DD14	IN / OUT
17	DD0	IN / OUT	18	DD15	IN / OUT
19	GND	-	20	(KEY)	-
21	DREQ	IN	22	GND	-
23	-DIOW	OUT	24	GND	-
25	-DOIR	OUT	26	GND	-
27	IORDY	IN	28	CSEL	-
29	-DMACK	OUT	30	GND	-
31	INTRQ	IN	32	N.C.	-
33	DA1	OUT	34	N.C.	-
35	DA0	OUT	36	DA2	OUT
37	-CS0	OUT	38	-CS1	OUT
39	-DASP	-	40	GND	-

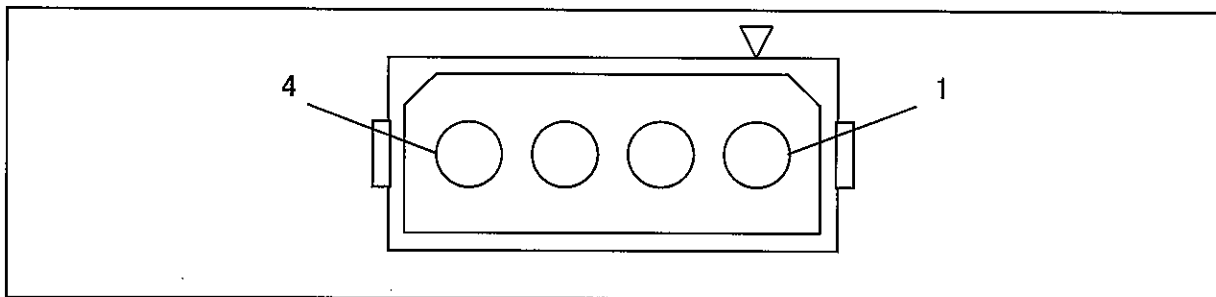
6.2. SCSI

6.2.1. Shape



6.2.2. Pin Assign

No.	Signal Name	IN / OUT	No.	Signal Name	IN / OUT
1	GND	-	2	-DB0	IN / OUT
3	GND	-	4	-DB1	IN / OUT
5	GND	-	6	-DB2	IN / OUT
7	GND	-	8	-DB3	IN / OUT
9	GND	-	10	-DB4	IN / OUT
11	GND	-	12	-DB5	IN / OUT
13	GND	-	14	-DB6	IN / OUT
15	GND	-	16	-DB7	IN / OUT
17	GND	-	18	-DBP	IN / OUT
19	GND	-	20	GND	-
21	N.C.	-	22	GND	-
23	N.C.	-	24	N.C.	-
25	N.C.	-	26	TERMPWR	-
27	GND	-	28	N.C.	-
29	GND	-	30	GND	-
31	GND	-	32	-ATN	IN
33	GND	-	34	GND	-
35	GND	-	36	-BSY	IN / OUT
37	GND	-	38	-ACK	IN
39	GND	-	40	-RST	IN
41	GND	-	42	-MSG	OUT
43	GND	-	44	-SEL	IN
45	GND	-	46	-C/D	IN / OUT
47	GND	-	48	-REQ	OUT
49	GND	-	50	-I/O	OUT

6.3. Power Connector**6.3.1. Shape****6.3.2. Pin Assign**

No.	Signal Name	IN / OUT	Details
1	N.C.	-	Not in use
2	GND	-	Ground
3	GND	-	Ground
4	+5V	-	DC +5.0V