VDL Series
IAD
User Manual

HanNae Technology Co.,Ltd

Contents

Chapter 1   Overview

This **IAD (Integrated Access Device)** provides high speed network access solution by integrating multiple voice phone service and data service by using a pair of copper wire. This equipment is located on subscriber's party who requires voice or data.

Notice

Information to the user

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, with can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning

Changes or modifications not expressly approved by the party responsible
for compliance could void the user's authority to operate the equipment

Chapter 2   Preparation for Installation

2.1   Unpacking

Before unpacking this product after purchasing, check necessarily to see if there is damage on packing box for preventing physical damage.

Upon carrying them out, if damage is found or the product is broken down, call at Customer Service Center (master number (+82-2-553-7802) in HanNae Technology Co., Ltd..

If damaged part or broken part is not found, open the box, and check to see if it contains the following contents:

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No.	Name	Contents	Quantity
			1
			1
3	RJ-11 cable (xDSL port)		1
			1
5	User Manual		1

(Product Package)

After opening the box, if something among contents is missing, call immediately at Customer Service Center in HanNae Technology Co., Ltd.

2.2 Exterior View and LED Description

2.2.1 Front Part of Terminal

Power Status LED

LED	Color	Status	Operational Status
ON	Green	ON	If power is normally supplied

xDSL Link Status LED

LED	Color	Status	Operational Status
LINK	Green	OFF	If xDSL LINK is not connected
		flickering	If xDSL LINK is in connection
		ON	If xDSL LINK is connected
DATA	Green	flickering	If data are sent/received
		OFF	If sent/received data does not exist.

Ethernet Port Status LED

LED	Color	Status	Operational Status
LINK	Green	OFF	If it is not connected to computer
		ON	If it is connected to computer
DATA	Green	flickering	If data is being sent/received
		OFF	If sent/received data does not exist

Phone Port Status LED

LED	Color	Status	Operational Status
Phone port	Green	ON	If the corresponding port is active
	Yellow	ON	If subscriber is busy
	Red	ON	If faults occur in the corresponding port

2.2.2 Rear Part of Terminal
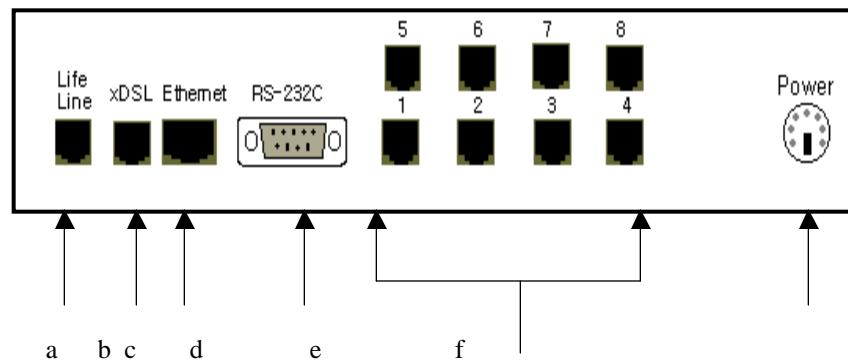
a Life Line

This is a RJ-11 port that connects general PSTN. Even though this product cannot be operated due to blackout or other reasons, this port can be used.

"CAUTION – To reduce the risk of fire, use only No.26 AWG or larger telecommunication line cord."

"ATTENTION – Pour réduire lea rlaques d'incendie, utiliser uniquemont des conducteurs de télécommunications 26 AWG au de section supérieure."

b xDSL Port

This is a RJ-11 port that connects xDSL Line, and enables external xDSL access.

c Ethernet Port

This is a RJ45 port that uses 10/100Base-T by connecting Ethernet Cable.

d Console Port

This is a DB-9 port that connects console, and users do not require additional setup except special cases in setting up equipment after being connected to PC.

When you want to change parameter setup contents of this product by connecting a console, you can download 'Operating Manual' from our homepage

e Phone Port

This is a RJ-11 port that can be used by connecting a phone, and provides voice service by using subscriber's phone. The number of this port varies on product model, that is, 4 for VDL7400(S), 8 for VDL7800(S) and 16 for VDL8160(S).

"CAUTION – To reduce the risk of fire, use only No.26 AWG or larger telecommunication line cord."

"ATTENTION – Pour réduire lea rlaques d'incendie, utiliser uniquemont des conducteurs de télécommunications 26 AWG au de section supérieure."

f Power Input Port

This is a port to which power is supplied from outside by connecting an adapter.

2.3   Standard Recommendation for Installation

The following items are recommendation for using products safely:

- Use **IAD terminal** at a clear place without dusts during or after installation.
- Do not put things on the equipment if possible.
- Install the equipment at a cool place where direct rays do not shine if possible.
- Keep it away from firearms, inflammable and magnetic materials at regular intervals.

2.3.1 Recommendation for Electricity Safety

Electric problems, which may be caused upon using an **IAD terminal**, are usually divided into the following: security problem by power part, and damage on equipment by static electricity.

- Electricity Safety
  - Perform the work at a place where you can immediately turn power off upon emergency when electric accidents occur.
  - Keep power off always when installing an equipment or uncovering it.
  - Pay more attention to when you work at humid area or under dangerous environment such as power extension cable without grounding.

- Preventing for Static Electricity
  - Major Chip-Sets of the terminal are very precise parts, and these elements can be damaged by static electricity when dealing with them in a wrong way.
  - If there is a Waist Strap for anti-static electricity, put it on the wrist, and ground the code to handle the equipment.
  - If there is not a Wrist Trap, hold the metal part of equipment Chassis with one hand in order to ground the worker. It is very helpful to prevent static electricity.
 - Do not touch parts of the main board or connector pin with hands.

Chapter 3   Installation Method

1. Designate a place according to recommendation of Item 2.3.

2. Connect an xDSL port.

3. Connect Ethernet port to the computer.

4. Connect phone ports as much phones as you use.

5. Connect a power port.

6. Connect an emergency phone to Life Line port if necessary.

7. Connect a console port if required.

If power switch is on

1. Power LED turns red.

2. The green ADSL LED turns on after flickering.

3. The green Ethernet port LED turns on.

4. The green phone port LED as many phones as connected turns on.

If the above are all normal, it is available.
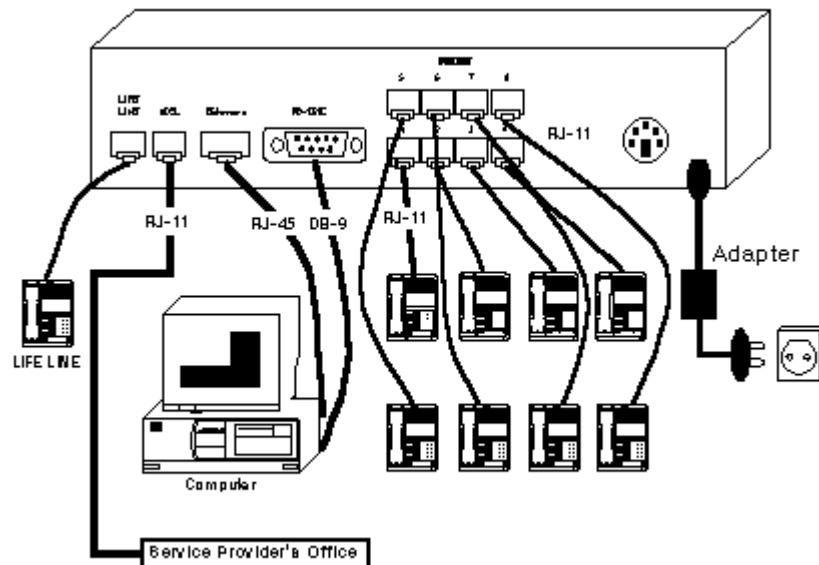
Chapter 4   Solution to Problems

4.1   Power Problems and Solution

-. If the system power does not operate, turn off power switch at the back of the system, and then turn it on again.

-. Check to see if power input terminal at the back of the system is normally connected to the power cable. Also check to see if adapter cable linked to the power input terminal is correctly connected to the power outlet.

-. Using a measuring instrument for voltage, check to see if power is normally supplied to from power input terminal to external outlet of the adapter cable, which is connected to the system.

-. Sometimes, the system does not operate. In such cases, check to see if power of the system place is normally supplied. If power is unstable, it can have effects on operating the system.

-. Make sure that the place in which the system is installed should not be polluted with dusts. The system should be necessarily installed at a place, which is clear and well ventilated.

-. Check to see if ventilators on both sides of the system are blocked by other materials. If so, internal temperature of the system may increase since cold air cannot enter into inside the system. If temperature of the internal system excessively increases, faults may occur in operating the system.

-. Turn off and on power switch finally, and then the system normally operates.

-. If the system is not normally operated in spite of the above measures, you can call at our Technology Support Department.

4.2   Ethernet Port Problems and Solution

-. If RJ-45 (10/100 Base-T) port is not communicated, check to see if cable is correctly connected to the port.

-. Check to see if straight-through cables are used when connecting a port, and if they are Category-5 cables.

-. If port is repeatedly connected or disconnected, check to see if power supplied to the system is normally grounded.

-. Check to see if cable grounding is cut. If so, problems occur the same as when grounding is not connected, and cables should be replaced with new ones.

-. Check to see if distance between equipment connected to the port is more than 100m. Maximum distance is 100m in which data can be normally sent and received.

-. Check UPS status if UPS is used. For the method of checking UPS status, refer to User Manual provided with UPS

4.3　　Problems and Solution When Connecting Phones

-. If RJ-11 port is not communicated, check to see if cable is correctly connected to the port.
-. If port is repeatedly connected or disconnected, check to see if power supplied to the system is normally grounded.
-. Check to see if cable grounding is cut. If so, problems occur the same as when grounding is not connected, and cable should be replaced with new ones. If cable is correctly connected, but LDE does not turn on, take the port out, and then check the cable connected to phone. Check to see if cable is cut.
-. If LED does not turn on when all subscriber's phone ports are connected, reset the system, and then turn it on again.

4.4　　Problems and Solution When Connecting Internet

-. If the Internet is not connected, check first to see if operation system or program is normally set up in PC. (It may occur due to problems of the existing PC operation system)
-. Check to see if it is connected to internal LAN network
-. Check to see if xDSL port of this product does not have any problems.
- Check if xDSL port is correctly connected.
- Check if xDSL port is disconnected. If RJ-11 port is not communicated, check to see if cable is normally connected to the port.
- If port is repeatedly connected or disconnected, check to see if power supplied to the system is normally grounded.
- Check to see if cable grounding is cut. If so, problems occur the same as when grounding is not connected, and cable should be replaced with new ones.
- If cable and its connection status is good, reset the system, and check the connection again.

Appendix　　Cable Specifications

1. Console Port Signal and Pin Setup

The built-in DB-9 to DB-9(Female DTE Connector) cables are used to connect the PC in which console port and Terminal Emulation software of this product are operated. Specifications of signal and Pinout exchanged between them are in'Console Port Signal and Pin Setup' of Table B-1 below.

Console (DTE)	DB-9	DB-9	Console Device (PC)
Signal	DB-9	DB-9 Pin	Signal
TxD	2	2	RxD
RxD	3	3	TxD
GND	5	5	GND

Table D-1 Console Port Signal and Pin Setup

2. Pin Setup of Ethernet Cable Assemble(RJ-45 to RJ-45)

RJ-45 to RJ-45 Ethernet Cables are used to connect this product with other equipment (usually HUB). At this time, Pin number of RJ-45 Connector is shown in Figure C-1.
Specifications of signal and Pinout exchanged between them are shown in'Signal and Pin Setup of Series Ethernet Cable' of Table C-2 below.

RJ-45	Signal	Direction	RJ-45 Pin
1	Tx +		1
2	Tx -		2
3	Rx +		3
4	-	-	4
5	-	-	5
6	Rx -		6
7	-	-	7
8	-	-	8

(Table D-2 Signal and Pin Setup of Series Ethernet Cable)

-. These specifications are for series cables connected between this product and HUB.
-. When connecting between our other products the same as this product, or connecting this product with PC, Cross Cable should be used.

Quality Assurance Certificate

Product Name	IAD Subscriber Terminal (Product No.:)			
Assurance Term	For 2 years			
User	Address			
	Company Name		TEL	
	Name			
Seller	Address			
	Company Name		TEL	
	Name			

Regulations for Product Assurance

1. If failure occurs in this product while consumers use it normally, the product can be repaired free of charge according to Assurance Repair Regulations.
2. The Company shall take charge of assurance service such as product repair or exchange without extra charge. At this time, the removed parts of the machine shall belong to The Company.
3. This certificate shall not assure of the following: 1) damage caused by wrong operational environment of the machine including electric power, and 2) failure caused by from accident, natural disaster, transportation, error and abuse, 3) damage resulted from machine revision or repair by technicians who are not approved by The Company
4. Service not included in this assurance shall be applied by service fee regulations of The Company.
5. This assurance shall be valid within the territory of Korea.

6. Even though The Company are informed of fault possibility of our products, The Company shall not assume the responsibility for the following regardless of any cases: 1) profit loss caused by the use or non-use of machine, 2) damage caused by special reasons or 3) claims of compensation for damage from the third party.

7. Compensation criteria for repair, exchange and refund of products shall comply with the compensation regulation for consumer's damage of Korea Consumer Protection Board.

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