
**Please read this
document carefully
before installation!**

AER800-1PC

Installation Manual

Widearea Telecommunication Technology Co., Ltd

Add: 2nd,3rd East Round Longtan Industry Garden 10#, Chengdu, Sichuan, China

Tel: (86)28 84207501 Fax: (86)28 84209696

E-mail: master@widearea.com.cn Web Site: <http://www.widearea.com.cn>

Preface

This manual provides information on how to best use this product. Please read this manual thoroughly before installation and use. Additionally, please keep this manual handy for ease of reference during installation and troubleshooting.

- The contents of this document may be updated in the future, without prior notice.
- This booklet was created with thorough attention to the content. If, however, you have a question, spot an error, or find a description lacking, please refer to the end of this booklet for information on how to contact us.
- All brand names and trademarks are the property of their respective owners.

Contents

General Description.....	3
2. Technical Specifications.....	3
3. Application.....	4
3.1. The actual lines connecting of equipment.....	4
3.2. Resistance and distance demand	4
4. Physical structure.....	5
5. Installation Procedure.....	6
5.1 Unpack.....	6
5.2 Install the remote power supply.....	6
5.3 Install the ADSL loop extender.....	6
6. Troubleshooting.....	7

General Description

ADSL loop extender can extend the coverage of ADSL lines. It will provide systems with higher performance-to-cost ratio, improve the equipment utilization rate and optimize the network. This product will allow you to double the number of subscribers that you can reach while offering more consistent high bandwidth services to your existing customers.

ADSL loop extender is an active element installed in the outside loop plant. It operates as an amplifier and equalizes the signal.

AER800-IPC can be powered by AEC-B1P/B4P/RACK.

Technical Specifications

Table 1 –Technical specifications

Operating environment	Temperature	-35℃ ~ +65℃
	Relative humidity	5%~95% (Non-condensing)
Input power	DC60V ~ DC155V	

Power consumption	Less than 0.4W	
Dimension(LWH)	AER800-1P box	192mm×92mm×42mm
Number of supported subscriber	AER800-1P	1 ADSL subscriber

3. Application

3.1. The actual lines connecting of equipment

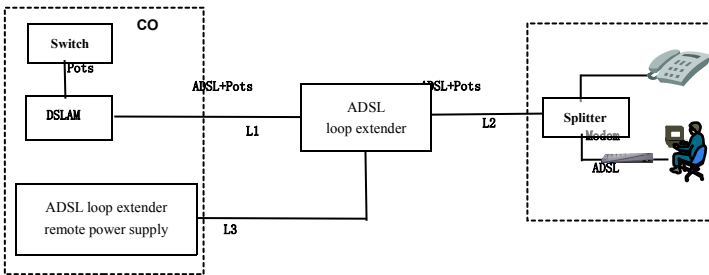


Figure 1 ADSL loop extender application diagram

L1: The signal twist pair connecting ADSL loop extender to DSLAM.

L2: The signal twist pair connecting ADSL loop extender to modem.

L3: The power twist pair connecting AEC to ADSL loop extender.

3.2. Resistance and distance demand

The recommended installation conditions are as follows.

- (1) 26AWG twist pair

Table 2 -The demand about resistance and distance:

Route	20°C loop resistance (Ω)	Distance demand	
		Kft	Km
L1	444 ~ 1332	4.9 ~ 14.8	1.5 ~ 4.5
L2	444 ~ 1184	4.9 ~ 13.2	1.5 ~ 4.0

This publication may neither be reproduced in whole nor in part without the express written permission of WIDEAREA.

L(L1+L2)	888 ~ 1776	9.8 ~ 19.7	3.0 ~ 6.0
----------	------------	------------	-----------

(2) 24 AWG twist pair

Table 3 -The demand about resistance and distance:

Route	20°C Loop Resistance (Ω)	Distance Demand	
		Kft	Km
L1	344~1032	6.6~19.7	2.0~6.0
L2	344~929	1.6~17.7	2.0~5.4
L(L1+L2)	688~1445	10.8~27.7	4.0~8.4

Physical structure

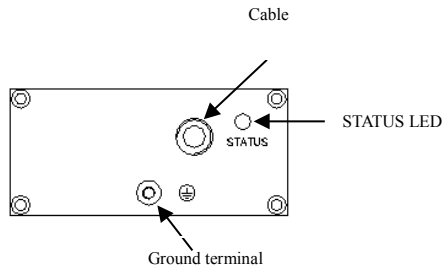


Figure 2 AER800-IP

Table 4- Twist-pair connection description of AER800-IP

Twist-pair color	Connection
Blue/White	Remote PWR
Orange/White	to DSLAM
Green/White	to Modem
Brown/White	Unused



Installation Procedure

5.1 Unpack

Unpack equipment carefully, check for completeness against the purchase order. Notify the supplier if items are missing.

Note: Save packing material. All equipment returned must be packed in the original packing material.

Inspect equipment for shipping damage, including bent or loose hardware, and broken connectors. If equipment was damaged in transit, contact the supplier.

5.2 Install the remote power supply

- (1) Generally, the Power Supply is installed at CO side. The type of power supply ordered should be right, either AC110V /AC220V or DC48V.

The Power supply also can be installed in the CPE or near the extender.

- (2) One Spare copper pair is needed for deliver power to AER800-IP.
- (3) Before installation, the DC 48V or AC110V~AC220V power supply should be grounded reliably.
- (4) DC 48V Power input is non-polarity.
- (5) The output of DC116V is non-polarity.

Attention:

- 1. Ground terminal should be grounded reliably. Copper-core wire with no less than 2.5mm² section area is required as ground wire.**
- 2. Remote power supply should not be turned on until the extender installation is finished.**
- 3. When the power supply wire is active, do not touch both two wires of the twist pair simultaneously.**

5.3 Install the ADSL loop extender

- (1) Fix the AER800-IP in the junction cabinet or at the supplied mounted brackets. Ground the box through the grounding screw in the bottom outside the box.

Attention: Copper-core wire with no less than 2.5mm² section area is required as ground wire. One end of the wire should connect to loop extender's ground terminal. The other

end of the wire should connect to a good ground point.

(2) Connect the cable

Connect the power line with blue/white pair wire, CO signal line with orange/white, CPE signal line with green/white pair wire.

Attention: The power supply should not be turn on until the extender installation is finished.

(3) Power on

Power on after confirming that all the twist-pair cables are connected correctly and box is securely installed.

Troubleshooting

Table 5 - ADSL loop extender troubleshooting

Problem description	Problem description	Suggested resolution
STATUS LED is not lit on	Power supply cable(L3) is not connected properly	Correct the power connection or check cable
	No Power is supplied from power supply(AEC)	Correct the connection of the input cable of power supply(AEC) power on the power supply(AEC)
Phone not ok	CO cable (L1), or CPE cable (L2) is not properly connected	Correct the connection of cable L1 or cable L2
High noise on telephone	No splitter used at CPE side	Add splitter
	Cable is connected to ground or the insulation is not good caused by men during the construction process	Check the cables
	Cable is too near to some electric equipments with strong magnetic field, such as high power sounder, rectifier and high power motor	Make cable far from the strong magnetic field
ADSL is not ok, but the status LED is on, and telephone ok	Cable L1 and cable L2 are connected on wrong side	Correct the connection of cable L1 and cable L2
	splitter is connected on wrong terminal ports	Correct the connection of terminal ports: “Line” to cable L2; “Phone” to telephone set; “Modem” to ADSL modem
	Not suitable installation site	Correct the installation site according to table 2, table 3
	Too long parallel lines	Replace parallel lines with twist pair wires
	Affection of computer hardware failures, system failures and virus	Check computer or take with PC, testers and so on to deal with
The parallel cable at CPE side is too long or the connector is oxidation	It is better to change the parallel cable to copper twist cable	
The cable to CPE side is connected with too many connectors	Avoid exposed connectors, use good quality cable instead scattered connectors	

Attention: If all the resolution is not practicable, please contact with supplier.