L33 Series Line Amplifier

User

PLEASE KEEP APPROPRIATELY AND CAREFULLY READ THIS USER MANUAL BEFORE INSTALLATION

 The power supply voltage of the repeater should meet the standards of security requirements.	 Ensure of grounding, waterproof and lightning protection when installing the repeater.
 The repeater should be installed and initiated by professionals.	 The user had better not dismantle the repeater to maintain or replace the components by himself/herself.
 Keep the repeater away from heat source and do not install it in a confined space.	

Content

Package Contents

L33 Amplifier 1pc

27V5A Power adapter

Installation Screws

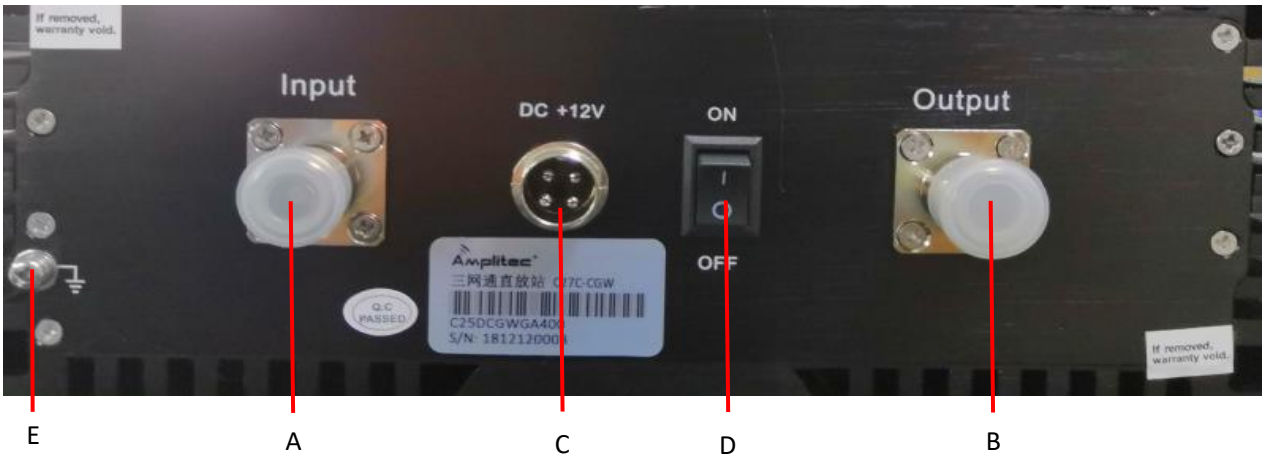
Product Description

The L33 dual-band line amplifier has the humanistic design concept of environmental protection and harmony, and realizes the perfect combination of signal coverage and environmental integration. Supporting two frequency bands at the same time, the L33 dual-band line amplifier has the advantages of low power consumption, light weight, high gain, and easy disassembly and assembly. Improve the signal loss caused by cables or components.

Product Features

- LED light display the power and ALC status, support quick installation and debugging;
- Support dual band mobile operator network at the same time;
- Low power consumption, low interference, stable performance;
- Automatically gain control function could limit the output power to ensure the stable coverage;
- Manual gain attenuation function, attenuate repeater gain in the range of 31dB, 1dB per step;
- Light weight and easy to install.

Interface Description



- A : Repeater Input cable connector(N-Female)

- B: Service antenna connector (N-Female)
- C : 27V DC power supply connector.
- D: Power switch
- E: Grounding screws

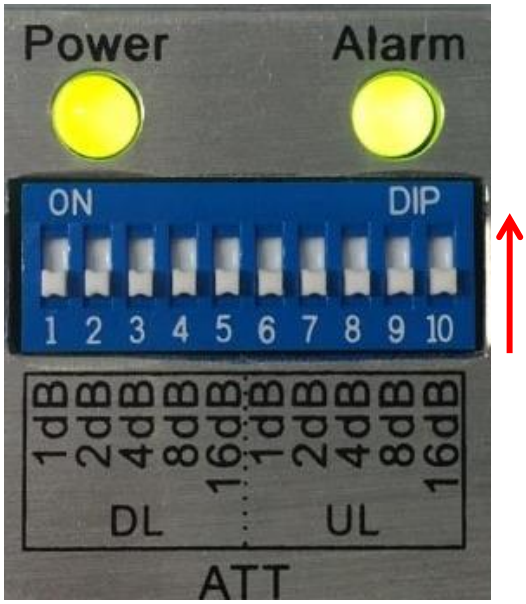
LED Description

LED indicator description as below:

POWER	Power on, green light
Alarm	Downlink active @5~10dB, orange light Active @15~20dB, red light

ATT Operation Description

When the Alarm light turns red, it means that the system signal is too strong, and ALC starts to control. At this time, you need to operate the ATT DIP switch to attenuate the downlink gain first, until the alarm light turns orange, and the uplink gain is simultaneously attenuated. The ATT attenuation parameters are as follows:



ATT	Operation
Downlink 1dB	The key "1" is dialed to the top, and the other keys are down
Downlink 2dB	The key "2" is dialed to the top, and the other keys are down
Downlink 3dB	The key "1" and “2” is dialed to the top, and the other keys are down
Downlink 4dB	The key "3" is dialed to the top, and the other keys are down
Downlink 5dB	The key "1" and “3” is dialed to the top, and the other keys are down
Downlink 6dB	The key "2" and “3” is dialed to the top, and the other keys are down

.....	So on and so forth
Downlink 31dB	All keys 1, 2, 3, 4, and 5 are dialed to the top
Uplink 1dB	The key "6" is dialed to the top, and the other keys are down
Uplink 2dB	The key "7" is dialed to the top, and the other keys are down
Uplink 3dB	The key "6"and "7" are dialed to the top, and the other keys are down
Uplink 4dB	The key "8" is dialed to the top, and the other keys are down
Uplink 5dB	The key "6"and "8" are dialed to the top, and the other keys are down
Uplink 6dB	The key "7"and "8" are dialed to the top, and the other keys are down
.....	So on and so forth
Uplink 31dB	All keys 6, 7, 8, 9, and 10 are dialed to the top

Technical Specification

Model	Up link Frequency Range	Down link Frequency Range
L33-B3B8	880 ~ 915/1710 ~ 1785 MHz	925 ~ 960/1805 ~ 1880MHz
L33-B1B8	880 ~ 915/1920 ~ 1980 MHz	925 ~ 960/2110 ~ 2170MHz
L33-B1B5	824 ~ 849 /1920 ~ 1980 MHz	869 ~ 894/2110 ~ 2170MHz
L33-B4B5	824 ~ 849/1710 ~ 1785 MHz	869 ~ 894/2110 ~ 2170 MHz
L33-B2B5	824 ~ 849/1850 ~ 1910 MHz	869 ~ 894/1930 ~ 1990MHz
L33-B1B3	1710 ~ 1785/1920 ~ 1980 MHz	1805 ~ 1880/2110 ~ 2170MHz
L33-B3B20	832 ~ 862/1710~1785 MHz	791 ~ 821/1805~1880 MHz
L33-B1B28	703 ~ 748/1920~1980 MHz	758 ~ 803/2110~2170 MHz

Item		Up link	Down link
Output power		0±2 dBm	33±2 dBm
Gain		40±2 dB	45±2 dB
Ripple in band		6~12 dB	6~12 dB
Spurious emission	9KHz~1GHz	≤-36 dBm	≤-36 dBm
	1GHz~12.75GHz	≤-30 dBm	≤-30 dBm
Gain Attentute Range		1~31 dB,step of 1 dB	
ALC control Range		≥ 25 dB	≥ 25 dB
Alarm	ALC not Active	—	Green
	ALC Active 5~10dB	—	Orange
	ALC Active 15~20dB	—	Red
Mute when there is no user		Available	
Real-time Self Oscillation Elimination Function		Available	
Over input turn-off		Available	

Item	Up link	Down link
EVM	Fully comply with 3GPP	
PCDE	Fully comply with 3GPP	
ACRR	Fully comply with 3GPP	
Noise figure	≤8 dB	≤8 dB
Group delay	≤1.5 μs	≤1.5 μs
I/O impedance	50Ω	
Power supply	DC：+27 V	
Power consumption	< 100 W	
RF connector	N-Female	
Operating temperature	-10℃~ +55℃	
Protection Grade	IP40	
Size	320*268*58mm	
Weight	<7kg	

Installation Guideline

Repeater installation requirements

1) Install in a space free from corrosive gas, smoke, and liquid leakage.
2) Installed on waterproof, lightning-proof, sun-proof, cool and ventilated walls.
3) Mounting height should be easy to route, easy to dissipate, safe and easy to maintain.
4) Stable and independent power supply.

Installation Tool

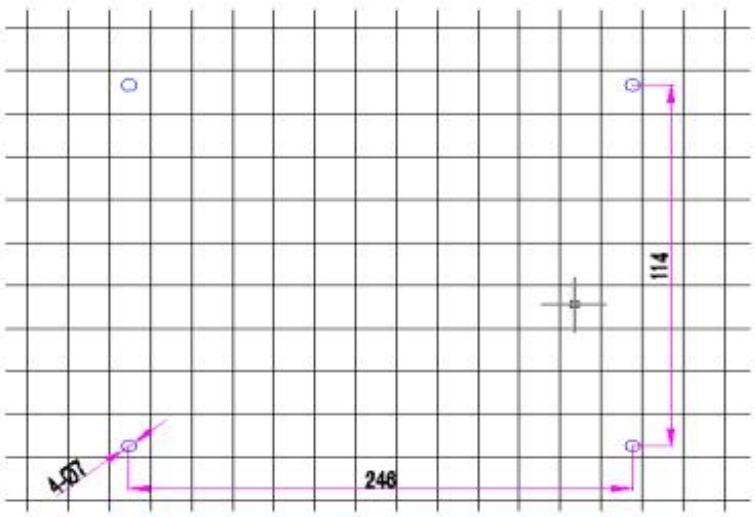
No.	Items	Quantity	Remarks
1	Impact drill	1	Drill holes on wall self-provided
2	Wrench	1	Reinforce the interface connection, self-provided
3	expansion tube, screw	4	Fixed equipment, attached to the equipment
4	Mobile phone for testing	1	Test installation effectiveness, self-provided
5	Multimeter	1	est voltage and wiring connection, self-provided
6	Screwdriver	1	Tighten or fasten the device, self-provided
7	Waterproof tape	A few	Prevent liquid from leaking into the feeder interface, self-provided

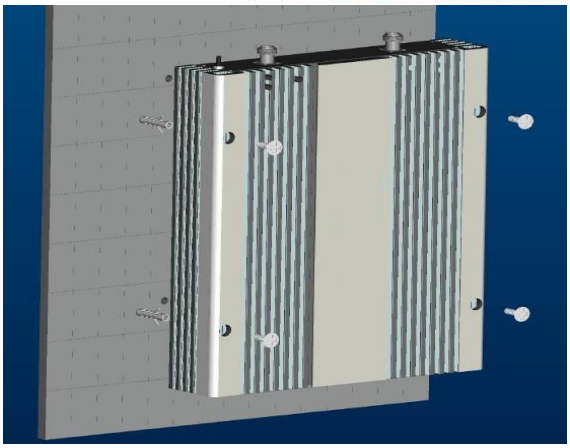
Installation Steps

This amplifier needs to be installed on a solid wall, the installation steps are as follows:

1）According to the size and installation requirements of the equipment, choose a suitable placement site to measure the distance between the holes of the machine and draw it.

2）As shown in the figure, the position of the installation hole is drilled with an impact drill 4 Φ7 holes.





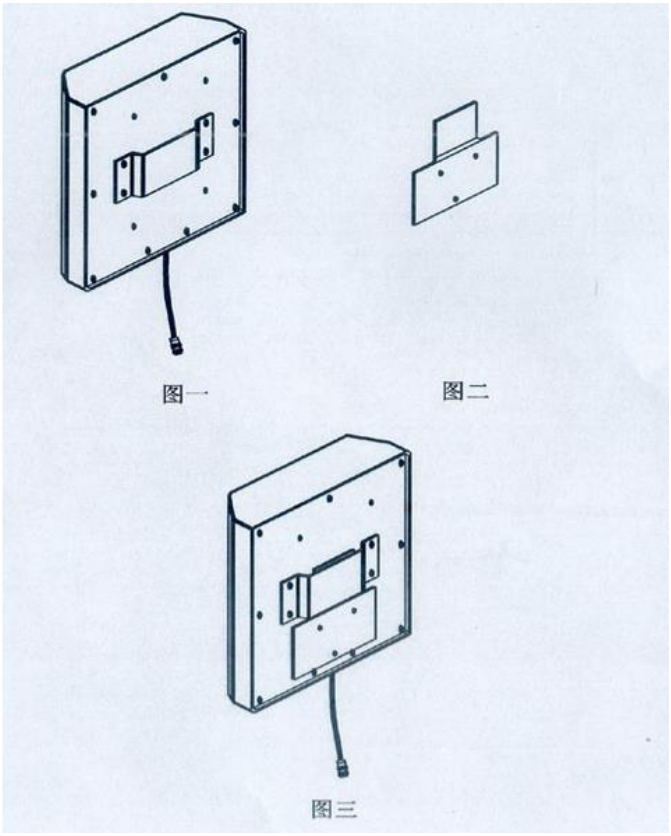
3）Put the Φ8 expansion tube into the 4 drilled holes, place the device in the position where the holes were drilled, and use a screwdriver to screw 4 M6*40 screws into the expansion tube to make the device firmly installed. The host is fixed and installed, the grounding is good, and the equipment installation is completed.

Antenna connection

1）According to the characteristics of the indoor space to be covered, choose a ceiling antenna or a wall-mounted antenna as the indoor coverage antenna;

2）Choose a suitable antenna installation point, if it is a ceiling antenna, install it on the ceiling in the center of the room. If it is a wall-mounted antenna, install it on one wall of the room, as shown in the picture below;

Omni ceiling antenna installation picture



Wall mounted indoor panel antenna installation picture

Connect the indoor antenna to the OUTPUT port of the device with a feeder, and tighten the connector; use a repeater output feeder cable to connect to the INPUT port of the device. Do not power on the equipment until the feeder is connected. The antenna should be designed and installed by professionals. When the feeder is connected, please wrap a waterproof tape at the interface to prevent water ingress and waterproofing. When the feeder connector is connected to the equipment, a wrench can be used to assist in tightening the tooth pattern. Before connecting to the power supply, use a multimeter to measure the voltage to ensure that the input voltage meets the standard. The external connection lines of the device are as follows:

1）Input：feeder connected to repeater output.

2）Output：connect the feeder of the service antenna.

3）DC27V：the rated input AC power of the power adapter is 100~240V, and the frequency range is 50~60Hz; the output DC is 27V5A.

4）GND：connect the ground wire

Tail operation

1）Make sure that the installation and wiring of the equipment are completed, and that the power supply and grounding meet the requirements, then power on the equipment, and the indicator light will light up to indicate that it has entered the normal working state.

2）View indicator display and adjustment：

a.Power：No light means the power supply is not connected, green light means the power supply is normal.

b.Alarm：After the power is turned on, adjust it to display green or orange, adjust the ATT or adjust the direction or height of the outdoor receiving antenna to display green or orange.

c.If the indicator light is abnormal and cannot be eliminated by normal adjustment, please contact the supplier in time.

3）By the above observation and adjustment, make sure that the power indicator is green and the ALC indicator is green or orange when the device is running. Pass the test of the mobile phone to verify the installation effect of the amplifier, and the installation of the amplifier is completed.

Maintenance

- **Power Supply**

Make sure that the AC supply voltage and frequency meet the amplifier's requirements.

- **Device replacement**

Please do not repair or replace the equipment parts by yourself to prevent electric shock, repair or replacement of the equipment parts should be operated by professionals.

- **Waterproof and moistureproof**

Please do not turn on the device in a humid environment.

Notes

Disconnect the power in the following situations:

- ・ The power supply is in an abnormal state
- ・ Water enters the equipment. Close to fire

- The device is overheated, smells bad, or has foreign objects
- Performance degradation

Guangond Amplitec Tech Development Co., Ltd.

4th Floor, 4th Building, No. 60 of Langbao West Rd,

Chancheng, Foshan, China, 528000

Tel: (86)757-83308238

Fax: (86)757-83123923

Email: info@amplitec.cn

www.amplitec.net