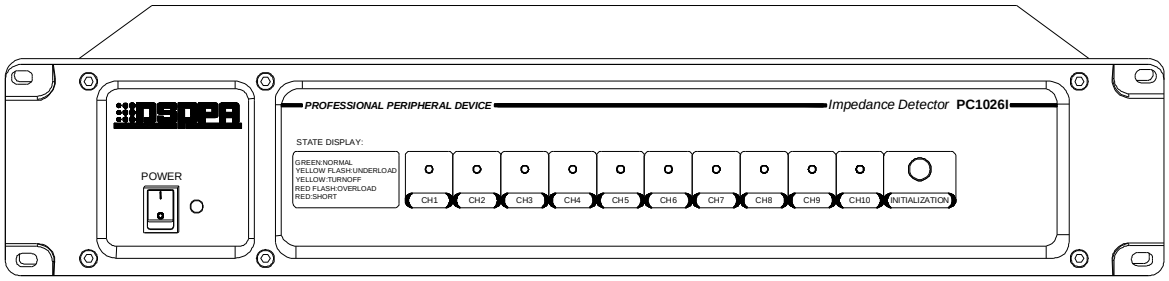
Public Address Series

Line Detector PC1026I



User's Manual

Welcome to use DSPPA Public Address System. For better use of this product, please read the manual carefully before operation.

Guangzhou DSPPA Audio Co., Ltd.
http://www.DSPPA.com

Product Description

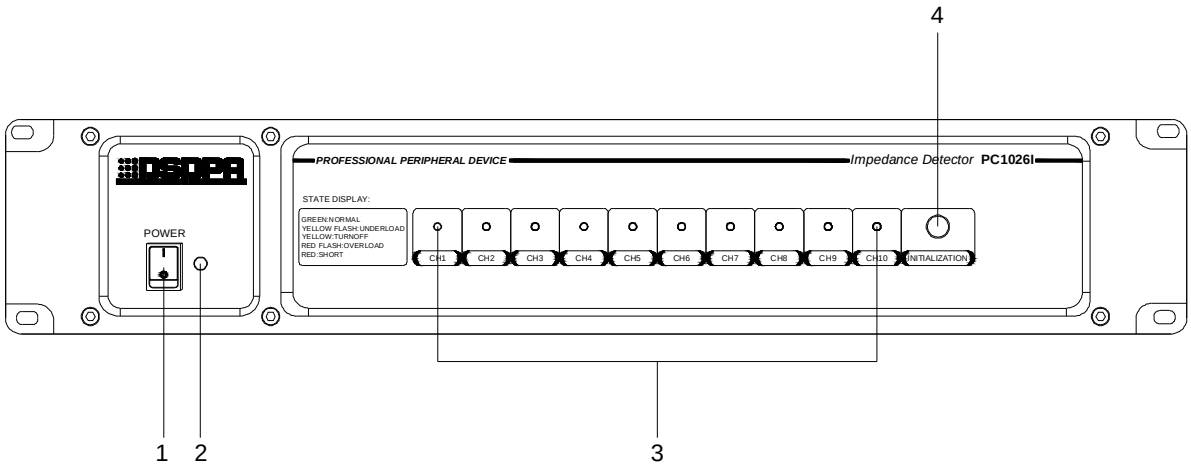
PC1026I Line Detector is specially designed for the constant-voltage loudspeaker circuit. It can conduct the accurate on-line detection of the operation status of the loudspeaker circuit, ensure the good operation performance of the loudspeaker circuit and enable all information to be played smoothly under any circumstance, especially in case of emergency. It can be connected to the central control system by the expansion interface. The device can monitor the loudspeaker circuits of ten zones simultaneously. The input and output power capacity for each circuit is 500W. The detection time is less than or equal to 300ms.

I Product Features

- **It can detect the loudspeaker circuits of ten zones simultaneously.**
- **In case of short circuit of a certain zone, the device can cut off the output of this circuit automatically.**
- **The accuracy of detection is optional, i.e., 2%, 5%, 10% and 20% respectively.**
- **The accuracy value can be setup through the wire jumpers.**
- **The maximum input and output power capacity for each zone is 500W.**
- **The detection time for each circuit is less than or equal to 300ms.**
- **The detection results can be displayed by three-color LED in real-time.**
- **The system can be expanded by connecting 15 units of this device through the expansion interface.**

II Description of outside functions

(I) Front panel



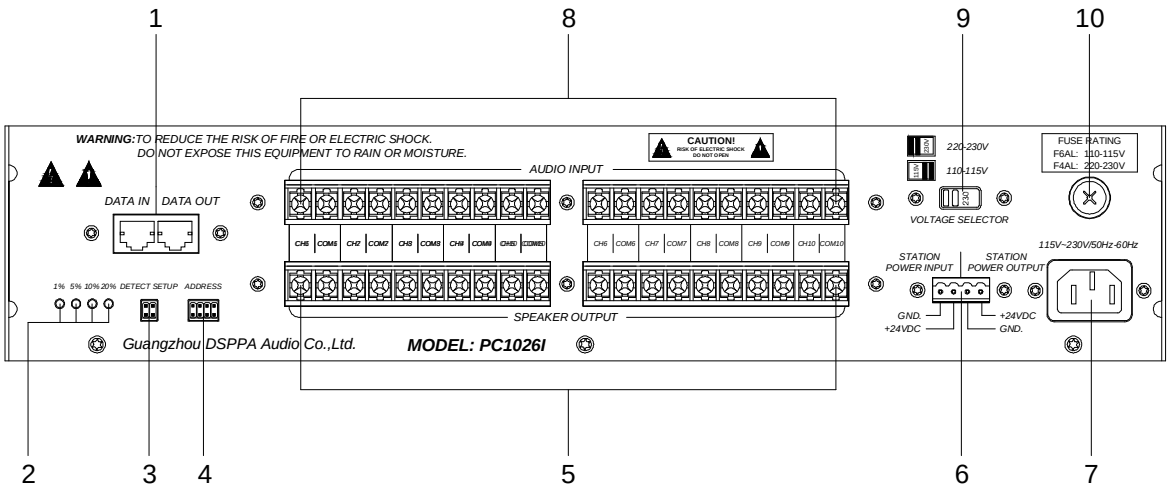
1. **Power Switch**
   Press **I** to turn on the power and press **0** to turn off the power.
2. **Power Indication**
   The indicator is on when power is turned on, and off when power is turned off.
3. **Status indicators for circuit detection of ten zones**
   The meanings of the indicator for status are as follows: Off--no load (not wire connected during

initialization), green and flash ---start-up, green ---normal, yellow ---unloaded (trouble), yellow and flash ---light load (trouble), red and flash ----heavy load (trouble), red ---short circuit (trouble).

4 Initialization button

Press this button for over 3 seconds and the device will memorize the current status of circuits.

(II) Back Panel



1 Remote control input/output interface

The ***DATA IN*** port is the input interface for remote control of PC-LINK. The ***DATA OUT*** port is used to connect the next device in the system.

2 Indicators for detection accuracy

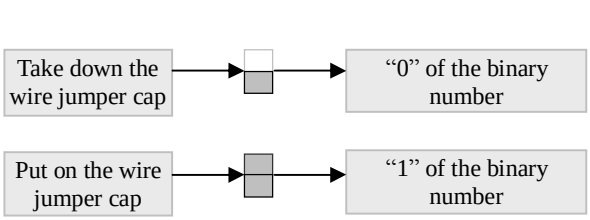
This device has four detection accuracy values, i.e. 2%, 5%, 10% and 20% respectively. For example, if the device uses the 10% detection accuracy, then the corresponding indicator will be on.

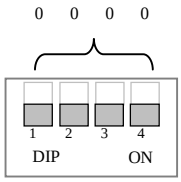
3 Wire jumpers for detection accuracy setting

The wire jumpers are used to set up the detection accuracy. Different detection accuracy will be set up according to different environment and requirements. Refer to "Operation Instructions" for detailed setup methods.

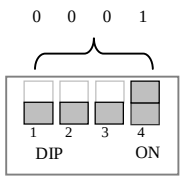
4 Jumpers block for address set up

A number of same types of devices are allowed in one PC-LINK system but different address must be set up for each device for identification purpose. Each device is equipped with 4-digit wire jumpers for address setup. These 4-digit wire jumpers are set up according to "0" and "1" of the binary code. Through the address setup, 16 units of PC1026 can be connected to one PC-LINK system. The method of setup is as follows:

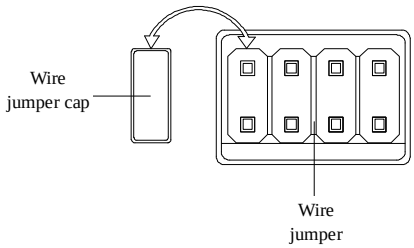




Address for first unit: 1



Address for second unit: 2



In the address setup, the address of the first unit of the same type of devices is set to 0000. The second one is 0001, and so on. If there is only one device of the same type in one system, its address should be set to 0000. **For the relations between the order of the device address and the binary number, refer to the "Address Corresponding Table" in the attachment.**

5 Signal output terminal of ten zones

During connecting, pay attention to the **hot** end and the **COM** end. Do not connect reversely.

6 Input terminal of DC 24V power

Input interface of DC 24V backup power.

7 Power socket

Insert the AC power cable into this socket.

8 Signal input terminal of ten zones

During connecting, pay attention to the **hot** end and the **COM** end. Do not connect reversely.

9 AC 110V/220V selector

It is used to select the working voltage of the device.

10 Power fuse

The specification of the fuse must correspond to the working voltage. If the fuse blows, use the fuse of the same specification for replacement. If the fuse blows again when the unit turns on, it indicates the unit has trouble.

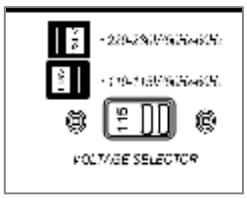
III Operation Instructions

(I) Selection of Power Supply Mode

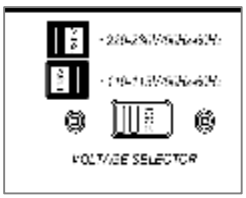
To meet the requirements of different power supply voltage in different countries, all devices in PC-LINK system have three types of working voltage:

① AC220-230V working voltage; ② AC110-115V working voltage;③ DC24V working voltage, which is used as the backup power supply in the system, i.e. in case of AC220V or AC110V is not available, the device can operate normally under the DC24V power supply. The DC24V power supply is supplied by PC1022E (emergency power supply device for PA system).

Use voltage selector on the back panel (shown in the following figure) to select working voltage.



Selection of AC110V

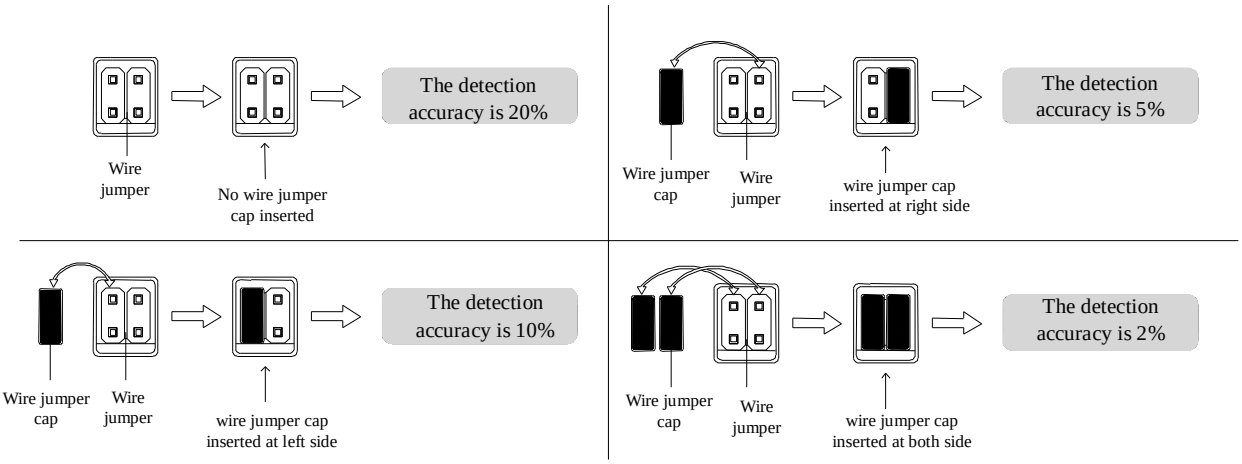


Selection of AC220V

1) When the selector is turned to the right till "115" appears, the working voltage of the device is set to AC110V-115V.
2) When the selector is turned to the left till "230" appears, the working voltage of the device is set to AC220V-230V.
3) DC24V can be used directly if neither of the above two types of power is available.

(II) Setting of detection Accuracy

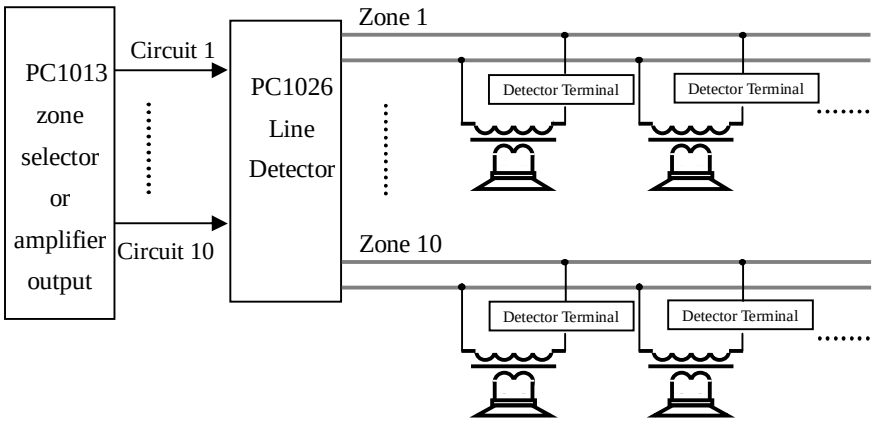
Different detection accuracy needs to be set according to different circumstance and requirements. Four detection accuracy values can be set in this device, i.e. 2%, 5%, 10% and 20%. Use two wire jumpers to set one of them as the detection accuracy under the current circumstance. The setup method is as follows:



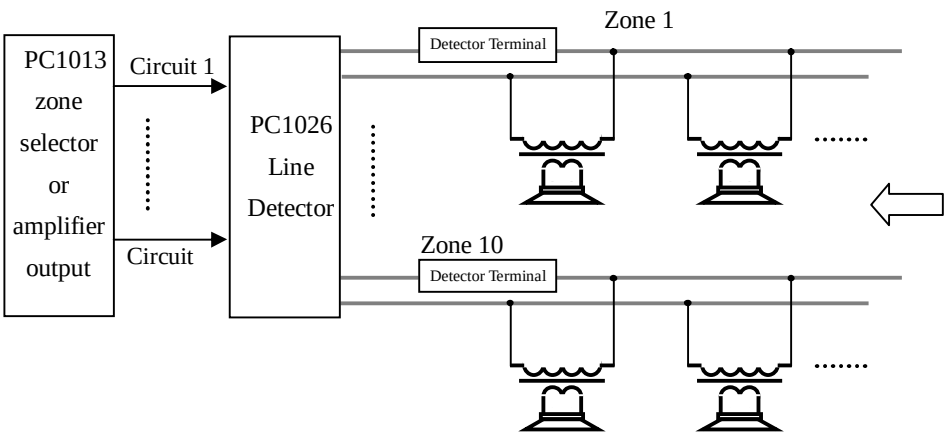
(III) Connection Figure

1 Basic connection block diagram of the device in the system: There are two types of connection, as shown in the following figure:

Connection method 1



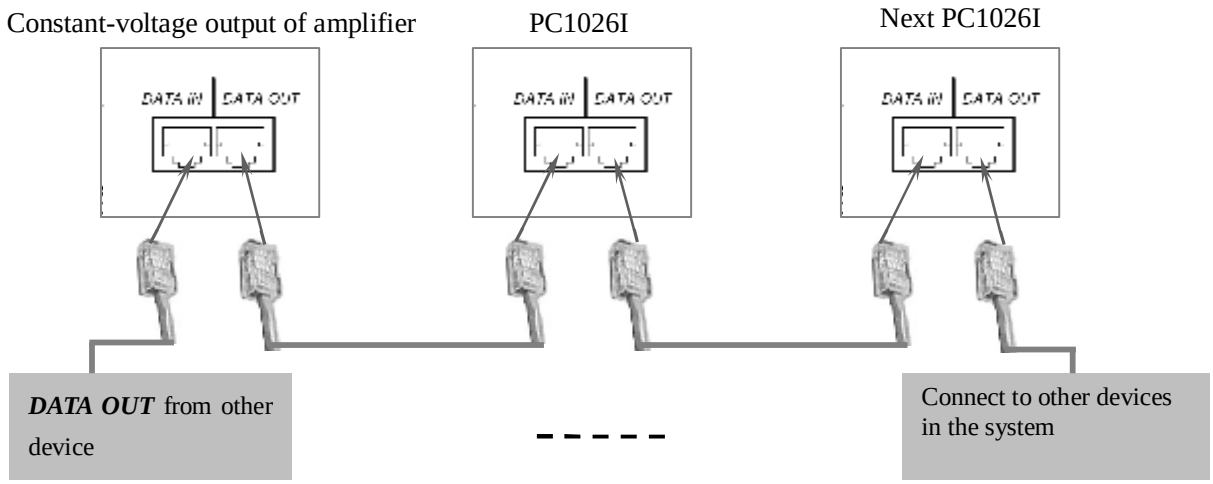
Connection method 2



Connect the Detector Terminal Box at the front and near to the first speaker.

Note: The loudspeakers connected into the circuit should be the constant-voltage loudspeakers and have the line transformers.

2 Connection figure for remote control interface of device



(IV) Initialization method and determination of detection result

The purpose of device initialization is to determine the effective data when the circuit of system operates normally and to provide a basis for monitoring the circuit trouble. Keep pressing the **SETUP** button on the front panel for over 3 seconds, the corresponding indicator for each zone becomes red and flashes, and the device enters the initialization status. During the initialization process, the device will memorize the current status of each zone. After initialization is completed, the buzzer will indicate completion and the device will enter operating status. Later, if the status of a certain zone changes (different from the initialization memory status), then the corresponding indicator of this zone will give the following instructions:

- If a certain zone operates normally, then the corresponding status indicator of this zone becomes green and is on constantly;
- If a certain zone is not connected with any load during initialization, then the corresponding indicator of this zone is not on during the device operating;
- Immediately after starting, the indicators of all zones become green and flash;
- The load connected to a certain zone is disconnected during the device operating, then the corresponding indicator of this zone becomes yellow and is on constantly;
- If the load connected to a certain zone is too light, then the corresponding indicator of this zone becomes yellow and flashes;
- If the load connected to a certain zone is too heavy, then the corresponding indicator of this zone becomes red and flashes;
- If a certain zone has short circuit, then the corresponding indicator of this zone becomes red and is on constantly. The buzzer will also give warnings, and this zone will stop output automatically.

IV. Instruction for Detector Terminal Box

The terminal detector box can be divided into two categories according to their power, i.e. PC1026R-10 (power: 10W) and PC1026R-50 (power: 50W). Detector Terminal Box with different power should be selected according to the specific project configuration.

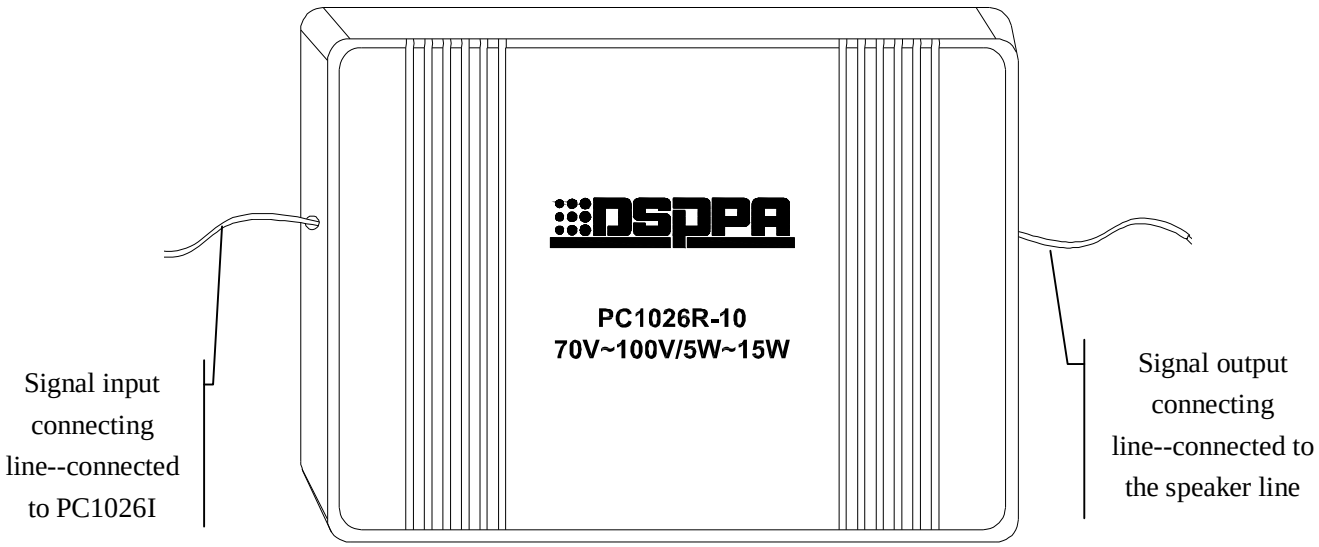
1) If the total power of the detected line is lower than 10w, the detector terminal box PC1026R-10 should be selected;

2) If the total power of the detected line is between 10W~50W, the detector terminal box PC1026R-50 should be selected;

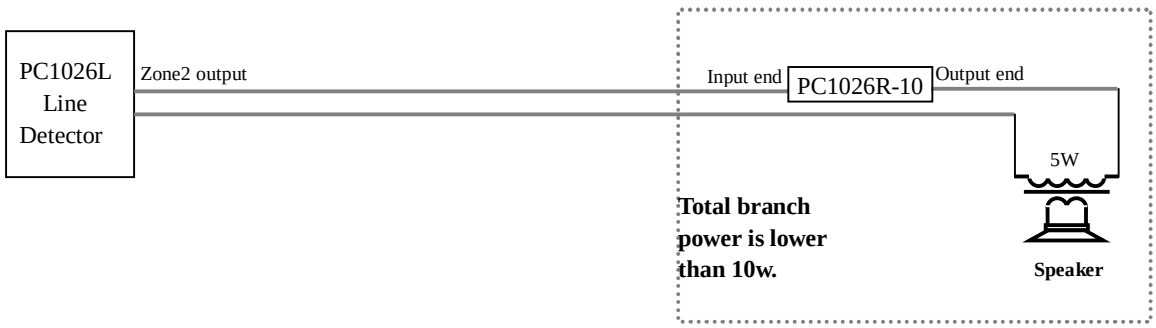
3) If the total power of the detected line is more than 50W, two or above detector terminal boxes should be connected in a parallel way, so as to complete the monitoring over zone line. The connection type in the system zone is show as follows **(next page)**: All the following connection legends are just examples for connection types and projects in some zones. Specific connection should be made according to the actual site requirement.

Prompt: The Line detector can be connected to the hot or cooling end of transmission line in a serial way.

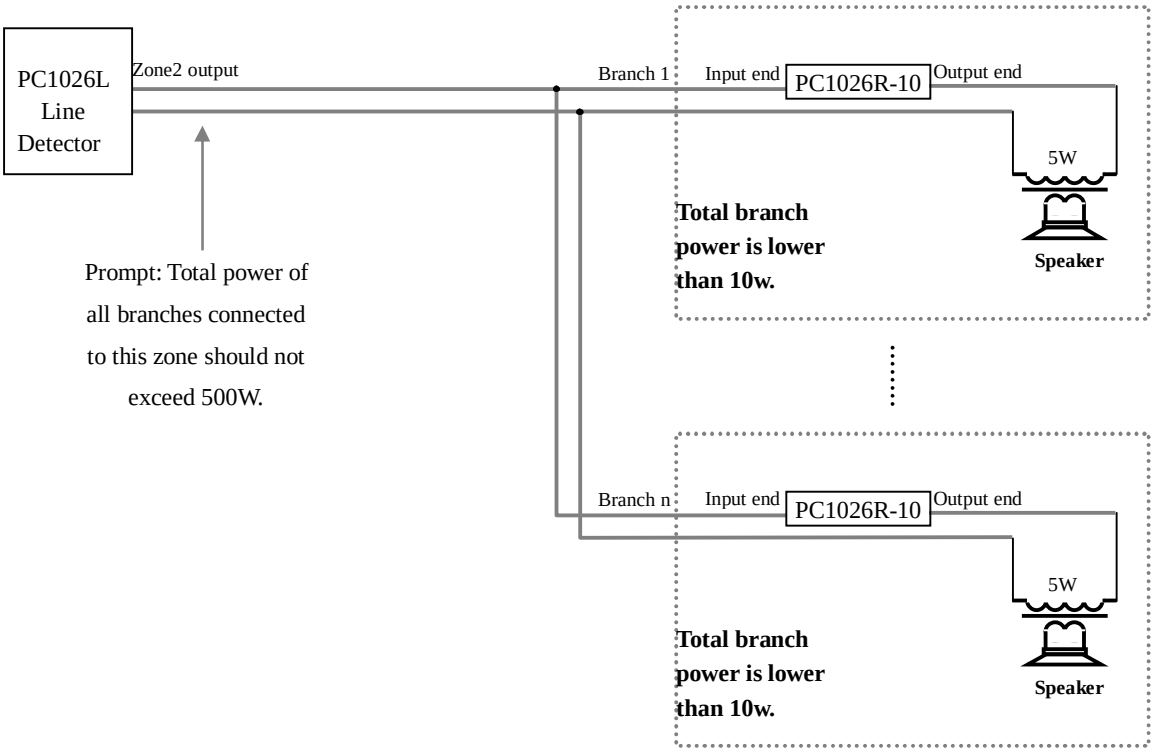
(I) Elevation of PC1026R-10/50:



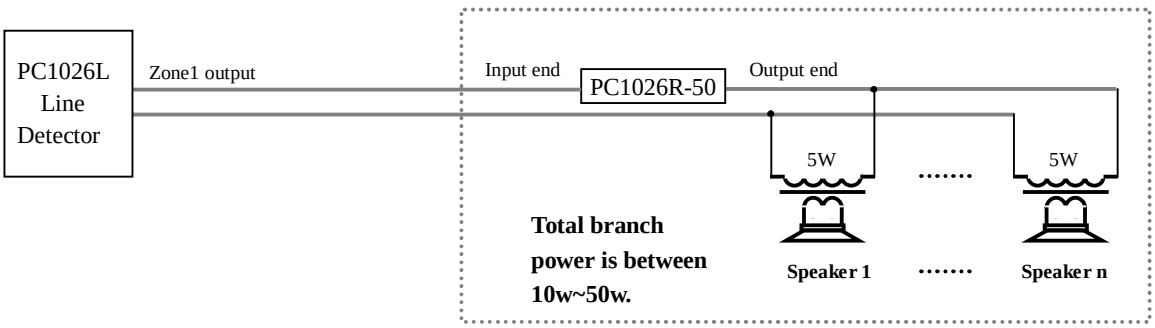
(II) Connection diagram for PC1026R-10 in the line (take line connection in zone 2 as an example): (one branch connection for one line)



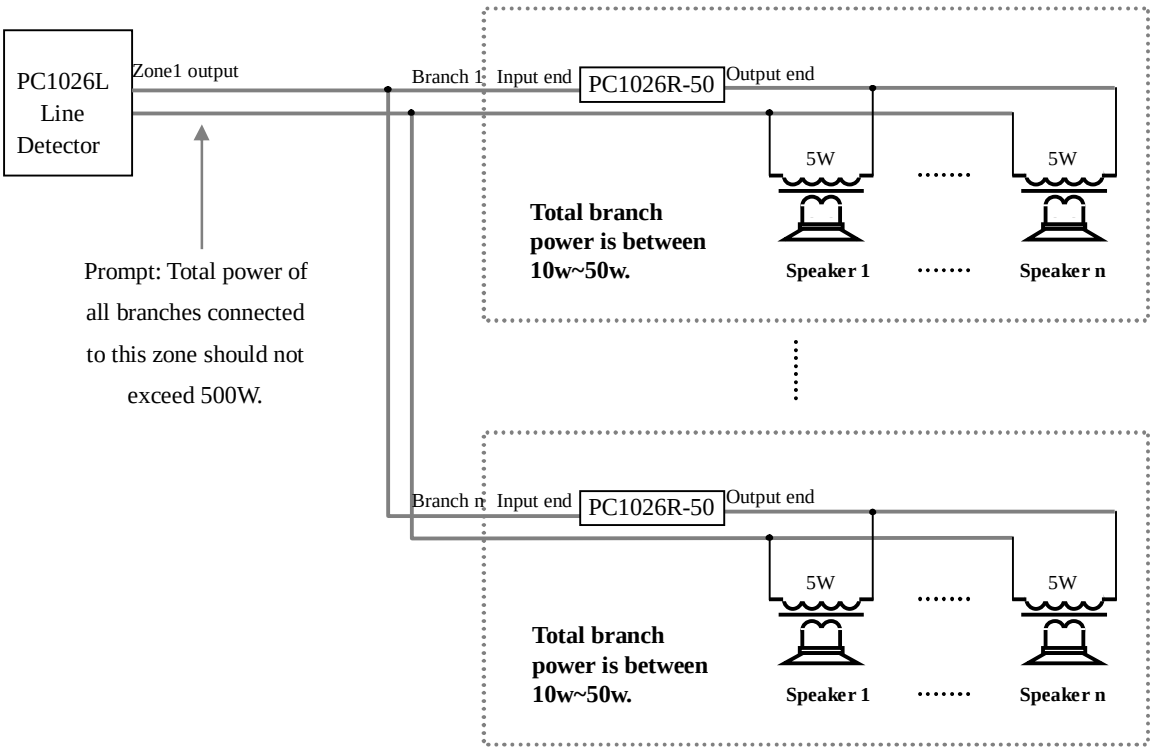
If there is more than one branch in one zone, the following connection type is available: (multiple-branch connection in one line)



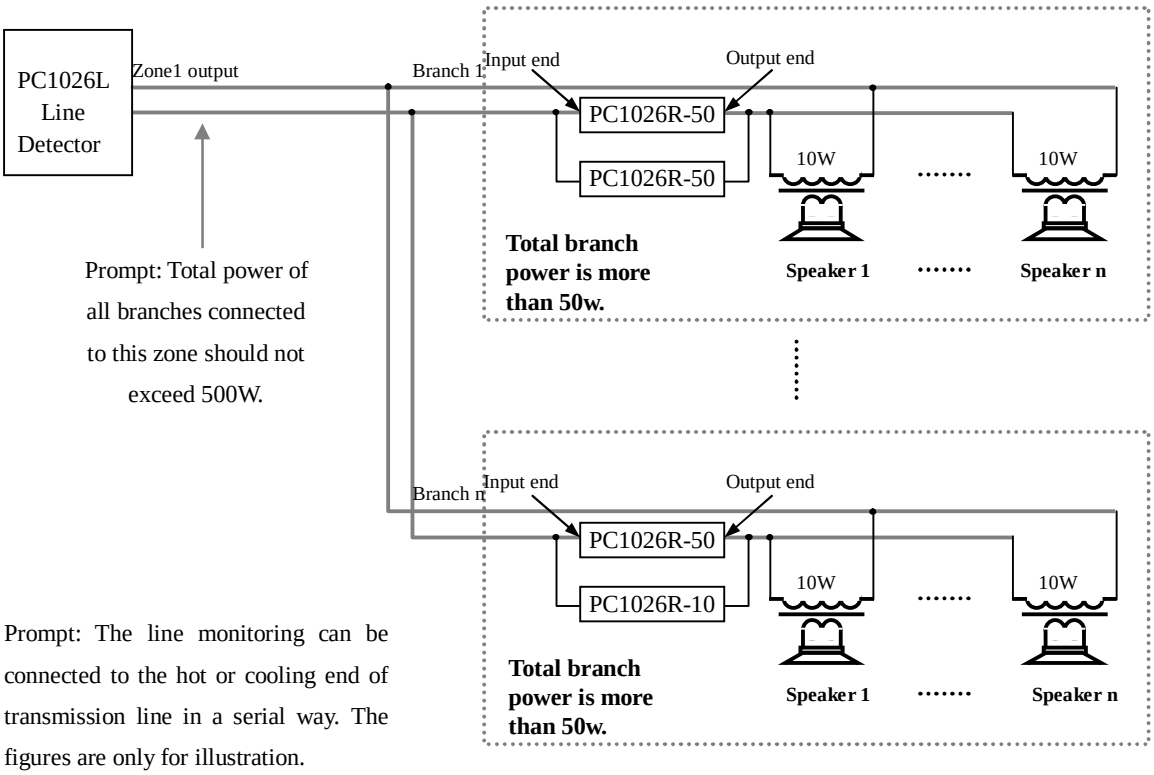
(III) Connection diagram for PC1026R-50 in the line (take line connection in zone 1 as an example): (one branch connection for one line)



If there is more than one branch in one zone, the following connection type is available: (multiple-branch connection in one line)



(IV) If the total power of the monitored line is more than 50W, two or above line monitoring boxes should be connected in a parallel way. For example: If the total power of the speaker in the line is 60W, one PC1026R-50 and one PC1026R-10 can be connected with each other in a parallel way. For example: If the total power of the speaker in the line is more than 100W, two PC1026R-50s can be connected with each other in a parallel way. The number of parallel line monitoring box should be determined depending on the actual demand. Connection diagram is shown as follows:



Prompt: The line monitoring can be connected to the hot or cooling end of transmission line in a serial way. The figures are only for illustration.

IV Packing List

One unit of PC1026I (Line Detector), one User's Manual, one warranty card, one quality certificate, one 568A-568A network cable, one power cable, M5 *18 oval-head stainless steel screws, black gasket, one 24V stranded wire with plugs on both ends.

. After-sale Services

1. We provide the one-year warranty free of charge (including free supply of spare parts) for any quality problem of the product from the day of purchase, if product is installed and used according to this manual strictly.
2. The user must provide the warranty card and sales invoice before the warranty is provided.
3. The following conditions are not covered by free warranty:
   (1) Damages resulted from improper installation, use or handling;
   (2) Failure of product due to abnormal conditions (e.g. excessively high supply voltage or ambient humidity, etc);
   (3) Damage to product due to natural and man-made disasters and accidents;
   (4) The number of product is changed, altered or deleted;
   (5) The product has been repaired or refitted by personnel without the authorization of our company;
4. Please keep the manual and warranty card properly.
5. For questions or matters not mentioned in the manual, please contact the dealer or visit our website http://www.dsppa.com for more information.
6. In case of any failure of the device during the warranty period, please contact our staff (or the dealer). We are not responsible for any free maintenance if the product is damaged due to the removal by the users themselves or due to repair by personnel other than our technicians.

Attachment

Corresponding table for address:

Address	Number	Address	Number	Address	Number	Address	Number
Address 1	0000	Address 5	0100	Address 9	1000	Address 13	1100
Address 2	0001	Address 6	0101	Address 10	1001	Address 14	1101
Address 3	0010	Address 7	0110	Address 11	1010	Address 15	1110
Address 4	0011	Address 8	0111	Address 12	1011	Address 16	1111

Specifications

Number of zones monitored	10 channels
Input voltage	0-100V for each channel
Maximum power for each channel	500W
Maximum total output power	5000W
Indication of indicator	Three-color LED indications: open circuit, short circuit, normal, light load, heavy load, no load
Accuracy value of detection	2%, 5%, 10%, 20%
Time of detection for each channel	≤ 300ms
Protection	AC fuse ×1(220V : F1AL, 110V : F1.5AL)
Power	1.AC220V/110V 50/60Hz 2. DC24V
Outer Packing Size(mm)	(L×W×H)555×455×185
Unit Size(mm)	(L×W×H)484×349.5×88
Gross weight	16kg
Net weight	14.3kg

Changes of specifications will not be further noticed.

Notice

- **When the power switch of this device is at OFF position, the device is not completely disconnected with the grid power. For your safety, please pull the plug out of the socket when you do not use this device.**
- **Avoid any water drop or splash on this device, and never place such object as vases which are full of water on the device.**
- **Do not open the machine cover to avoid electric shock. If necessary, the device must be repaired by professionals with professional certificate.**

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