

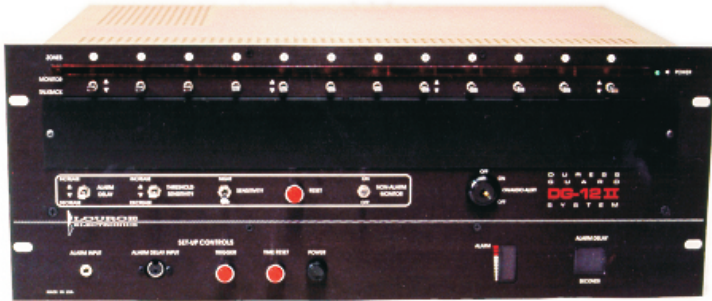


LOUROE ELECTRONICS®

6955 VALJEAN AVE, VAN NUYS, CA 91406
PH: (818)994-6498 / FAX: (818)994-6458
techsupport@louroe.com / www.louroe.com

DG-12II and DG-MA SOUND ACTIVATED BASE STATION

INSTALLATION AND OPERATING INSTRUCTIONS



MODEL DG-12II

COMPANION DG-MA

Monitor/Talkback amplifier provides:

- 6 Two-way listen/talkback between base station & remote units
- 6 "All-Call" for addressing all zones simultaneously (12 zones maximum)
- 6 Input/output to DVR/VCR for audio recording & playback



MODEL DG-MA

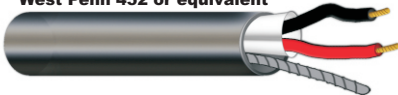
FOR ONE-WAY LISTEN

WIRING REQUIREMENTS

2 Conductor **shielded** cable, 22 gauge with a 24 gauge drain wire

NOTE: Unshielded cable is not satisfactory for audio systems

West Penn 452 or equivalent

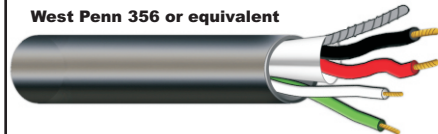


FOR TWO-WAY TALK/LISTEN

WIRING REQUIREMENTS

- 4 Conductor consisting of:
- + 2 Conductor **shielded**, 20 gauge with 22 gauge drain (microphone connection)
 - + 2 Conductor **unshielded**, 18 gauge (speaker connection)
- All in the same jacket

West Penn 356 or equivalent



INSTALLATION AND OPERATING INSTRUCTIONS

INSTALLATION AND OPERATING INSTRUCTIONS

TABLE OF CONTENTS:

Page 1	DG-12II QUICK REFERENCE
Page 1	DG-12II APPLICATION
Page 2	DESCRIPTION OF PARTS (FRONT PANEL LAYOUT)
Page 5	DG-12II REAR PANEL LAYOUT
Page 6	DG-MA DESCRIPTION (FRONT PANEL LAYOUT)
Page 7	DG-MA REAR PANEL LAYOUT
Page 8	OPERATIONS
Page 9	INSTALLATION
Page 10	MICROPHONE CONNECTIONS (CONNECTIONS TO MODEL TLI)
Page 11	CONNECTION TO TLMC
Page 12	CONNECTIONS TO PLUG-IN CONNECTOR (AUDIO AND RELAY)
Page 13	DG-12II AND DG-MA CONNECTIONS
Page 14	CONNECTION TO EXTERNAL RECORDER
Page 15	CONNECTING MLA-6 MIXER TO DG-12II AND REMOTE MICROPHONE
Page 17	POWER CONNECTIONS
Page 18	PARALLELING TWO DG-12II
Page 19	CONNECTING AN EXTERNAL AMPLIFIER
Page 20	OPERATION AND TEST
Page 24	TROUBLE SHOOTING
Page 25	SUMMARY AND SPECIFICATIONS
Page 25	Dg12II MODULE ALARM FREQUENCY RESPONSE
Page 26	GLOSSARY

QUICK REFERENCE:

Wiring Requirements:

If using microphones for one-way / listen-only:

2 Conductor shielded cable, 22-gauge with a 24-gauge drain wire.
West Penn 452 or equivalent

If using speaker/microphones for two-way listen/talkback:

4 Conductor (all within the same jacket):

Microphone Connection: 2 Conductor shielded, 20-gauge with a
22-gauge drain wire.

Speaker Connection: 2 Conductor unshielded, 18-gauge

West Penn 356 or equivalent

NOTE: Unshielded cable is not recommended for
microphone connections.

APPLICATION:

The DG-12II "Duress Guard" audio alarm Base Station is a sound activated 12 zone audio surveillance system, which provides audio and visual alarms when sound levels exceed the preset threshold, time duration and frequency band in a given zone.

It is designed for life and property protection by monitoring areas of possible crime or violence. When coupled to the DG-MA Monitor/Talkback Amplifier, the operator may speak and listen to any or all surveillance zones, as selected on the front panel. An audio mixer such as Louroe's MLA-6 may be used to expand the area of coverage per zone. Up to 6 microphones per zone may be used.

Provisions for audio output to a recorder and alarm relay closures for other equipment are available at the DG-12II rear panel. A tester for alarm delay and audio is built into the DG-12II. The DG-12II will work with all Louroe microphones and speakers. Two-way talk/listen is accomplished with the addition of a DG-MA Monitor/Talkback Amplifier.

INSTALLATION AND OPERATING INSTRUCTIONS

DESCRIPTION:

The DG-12II Audio Alarm Base Station is of panel construction and mounts in a standard 19" equipment rack. All controls and indicators are mounted on the front panel and all electrical connections are made at the rear of the unit. DC power is supplied to the DG-12II by an external power supply unit (included), which connects to 120 VAC.

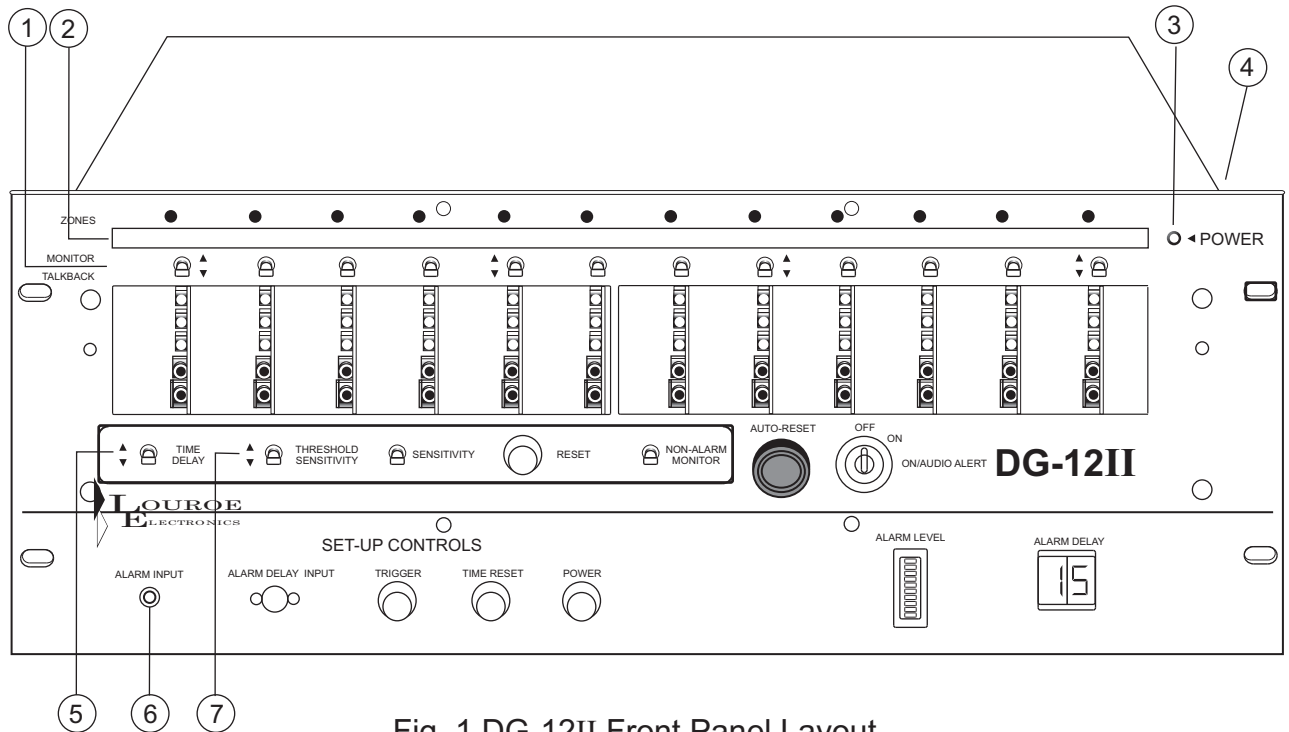


Fig. 1 DG-12II Front Panel Layout

- | | |
|----------------------------------|---|
| [1] Zone Selector Switch | Selects monitor or talkback operation for that zone. Zone numbers are located directly above the switches (zones 1-12). |
| [2] Alarm Indicator LED | Lights red when the unit goes into alarm. Stays red until the reset button is pressed. Lights green (flickers) when audio is detected. |
| [3] Power Indicator LED | Lights when power is applied to the unit. |
| [4] Sonalert Buzzer | Gives a 3 second pulsating audible sound whenever the unit goes into alarm. Located on side of chassis. May be turned OFF using the Keyswitch[16] . |
| [5] Time Delay Switch | Selects to increase or decrease the length of alarm delay.
Switch operations:
a). UP position- increases the length of alarm delay
b). DOWN position- decreases the length of alarm delay. |
| [6] Audio Alarm Input Jack | Used for testing the level of audio coming into the unit as seen from the Audio Level Indicator[17] . |
| [7] Threshold Sensitivity Switch | Selects to increase or decrease the audio threshold sensitivity settings. Used in conjunction with the Day/Night Sensitivity Switch[9] , Night Sensitivity Setting Pushbutton[20] and Day Sensitivity Setting Pushbutton[21] (see next page).
Switch operations:
a). UP position- increases the sensitivity of audio threshold settings
b). DOWN position- decreases the sensitivity of audio threshold |

INSTALLATION AND OPERATING INSTRUCTIONS

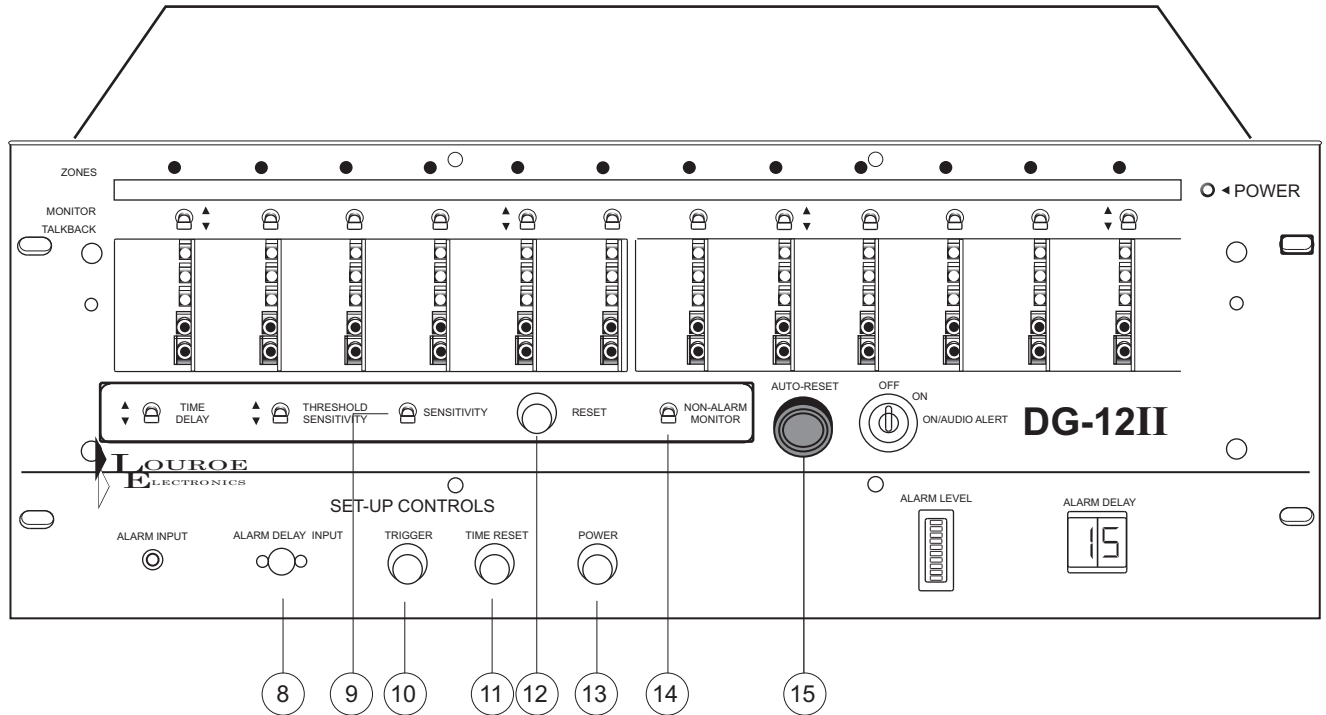


Fig. 1 DG-12II Front Panel Layout

settings.

- [8] Alarm Delay Input Jack Used for testing the length of alarm delay settings as shown by the **Alarm Delay Indicator[18]**.
- [9] Day/Night Sensitivity Switch Selects day or night sensitivity.
Switch operations:
a). UP position- selects night sensitivity. Used in conjunction with the **Night Sensitivity Setting Pushbutton[20]**.
b). DOWN position- selects day sensitivity setting. Used in conjunction with the **Day Sensitivity Setting Pushbutton[21]**.
- [10] Tester Trigger Pushbutton Used to initiate a test alarm to set and determine the length of the alarm time delay setting as shown by the **Alarm Delay Indicator[18]**.
- [11] Tester Reset Pushbutton Resets **Alarm Delay Indicator[18]**.
- [12] Reset Switch Resets all zone alarms simultaneously.
- [13] Tester Power Switch Turns ON power to the tester section of the unit.
- [14] Non-Alarm Monitor Switch Used to listen or monitor any or all the zones even when no alarm has occurred. Audio from any or all zones that have been switched to "monitor" (**Zone Selector Switches[1]** in UP position) can be monitored at the **Monitor Speaker[36]** located in the DG-MA unit.
- [15] Auto-Reset Knob Cancels the alarm after a set period of time and returns the unit in standby mode. Time can be set from 3 seconds to 3 minutes. Turn knob clockwise to ON position. Continue rotating to desired time setting.

INSTALLATION AND OPERATING INSTRUCTIONS

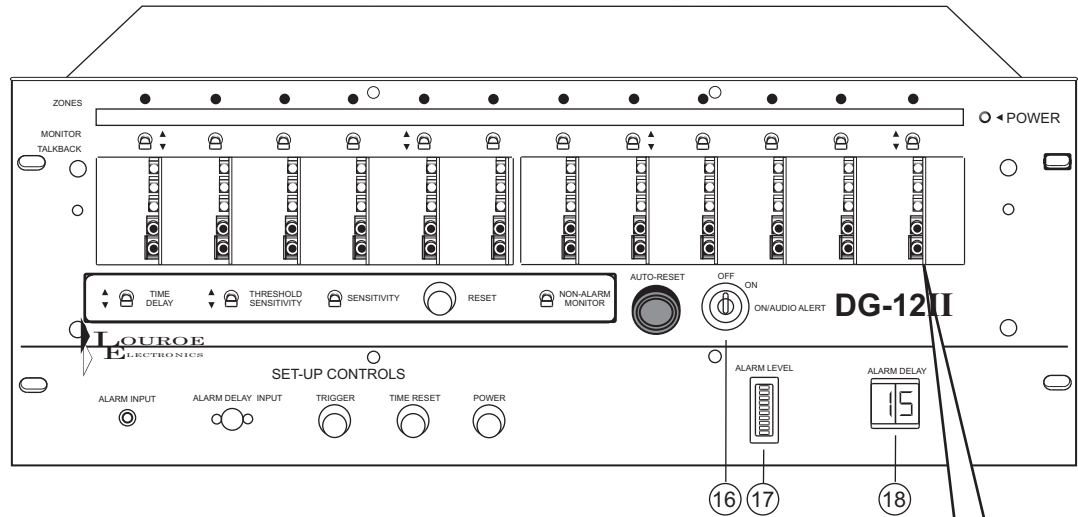


Fig. 1 DG-12II Front Panel Layout

[16] Keyswitch

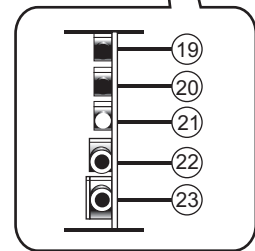
Turns ON power to the unit. Also Turns ON the **Sonalert Buzzer** [4].

Switch operations:

Position 1- Power OFF

Position 2- Power ON

Position 3- Power and Sonalert Buzzer ON



[17] Audio Level Indicator

Shows the level of the audio of the zone in test. It contains 10 level segments (7 green and 3 red) that illuminate and move up and down the scale, depending upon the amount of signal it receives. Settings should be made so that the level of the ambient sound on test does not reach the red segments. The unit will go into alarm when the audio reaches the last red segment.

[18] Alarm Delay Indicator

Indicates the length of the alarm delay setting.

[19] Alarm Delay Setting Pushbutton

Used to set the length of alarm delay. The switch can be pushed to a maximum of 32 times. It must be pushed and released quickly. The switch will go to the next step or more if not released immediately.

[20] Night Sensitivity Setting Pushbutton Used to set the audio threshold sensitivity for nighttime. The **Day/Night Sensitivity Switch** [9] must be in the UP position. The switch can be pushed to a maximum of 32 times. Additional pushes have no effect on the switch.

[21] Day Sensitivity Setting Pushbutton Used to set the audio threshold sensitivity for daytime. The **Day/Night Sensitivity Switch** [9] must be in the Down position. The switch can be pushed to a maximum of 32 times.

[22] Audio Alarm Output Jack

Provides DC output corresponding to the audio alarm level after the filter network. Used to set and test the level of audio as seen at the **Audio Level Indicator** [17]. A test cable is provided to connect between this jack and **Audio Input Jack**[6].

[23] Alarm Delay Output Jack

Provides output to the **Alarm Delay Input Jack**[8]. Used to set the time delay feature and for checking the time delay setting, which is variable between 0.1-3.2 seconds.

INSTALLATION AND OPERATING INSTRUCTIONS

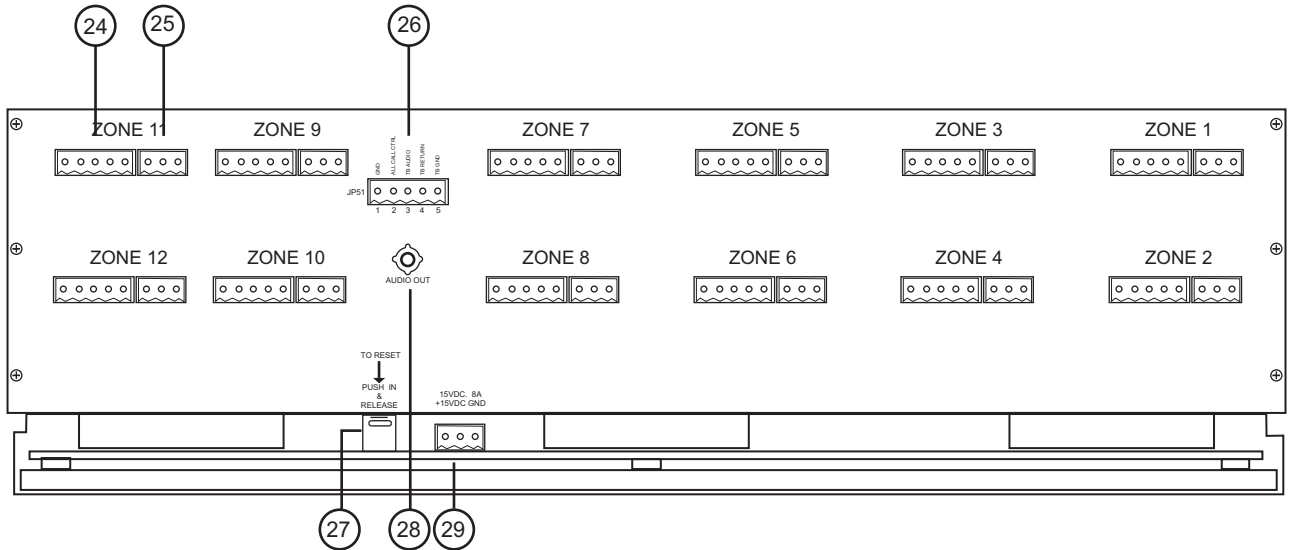


Fig. 2 DG-12II Back Panel Layout

- | | |
|------------------------------------|--|
| [24] Mic/Talkback 5-Pin Header | Connects to remote station (microphones, audio mixer & speakers) for each zone. |
| [25] Relay Output 3-Pin Header | Relay output (COM, NC, and NO). Common (COM) and Normally Open (NO) closes whenever that zone goes into alarm. |
| [26] Talkback Control 5-Pin Header | Connects to the DG-MA for talkback operation. |
| [27] Power Breaker | 6.3A, 28Vdc power circuit breaker. |
| [28] Audio Out Jack | Connects to DG-MA for listening to monitored audio. |
| [29] Power Header | Accepts 15Vdc from power supply (included). |

INSTALLATION AND OPERATING INSTRUCTIONS

DG-MA

DESCRIPTION:

The DG-MA Monitor/ Talkback Amplifier is of panel construction and mounts in a standard 19" equipment rack.

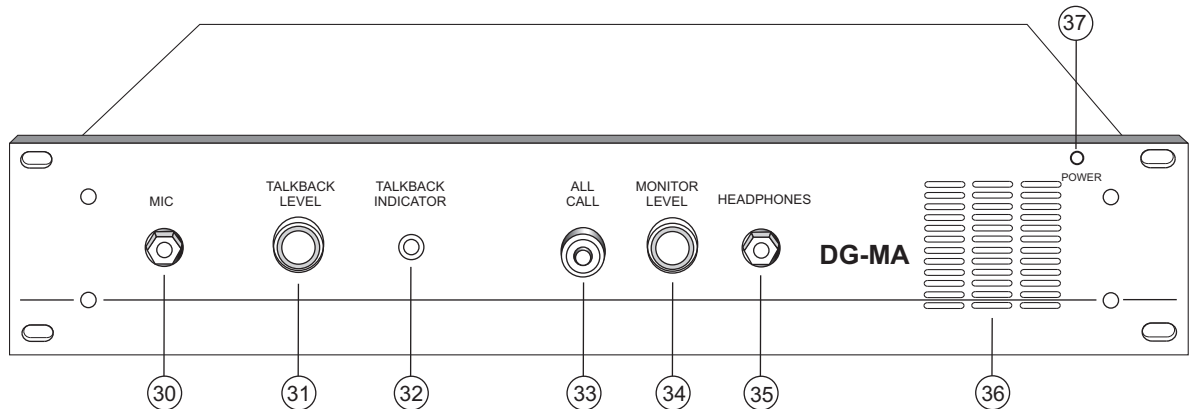


Fig. 3 DG-MA Front Panel Layout

[30]	AUX. MIC Jack	Accepts ¼ " plug from a handheld microphone used for talkback.
[31]	Talkback Level Control remote	Used to adjust the level of talkback audio transmitted to the speakers.
[32]	Talkback Indicator LED	Illuminates whenever the talkback switch is pressed.
[33]	All Call Pushbutton Switch	Used to talk to all audio zones at once.
[34]	Monitor Level Control	Used to adjust the level of monitored audio.
[35]	Headphone Jack	Used for private listening. Any monaural headphone with an impedance of 8 to 600W may be used.
[36]	Monitor Speaker	Audio from any selected zone is produced through the speaker.
[37]	Power LED	Indicates power is present at the unit.

INSTALLATION AND OPERATING INSTRUCTIONS

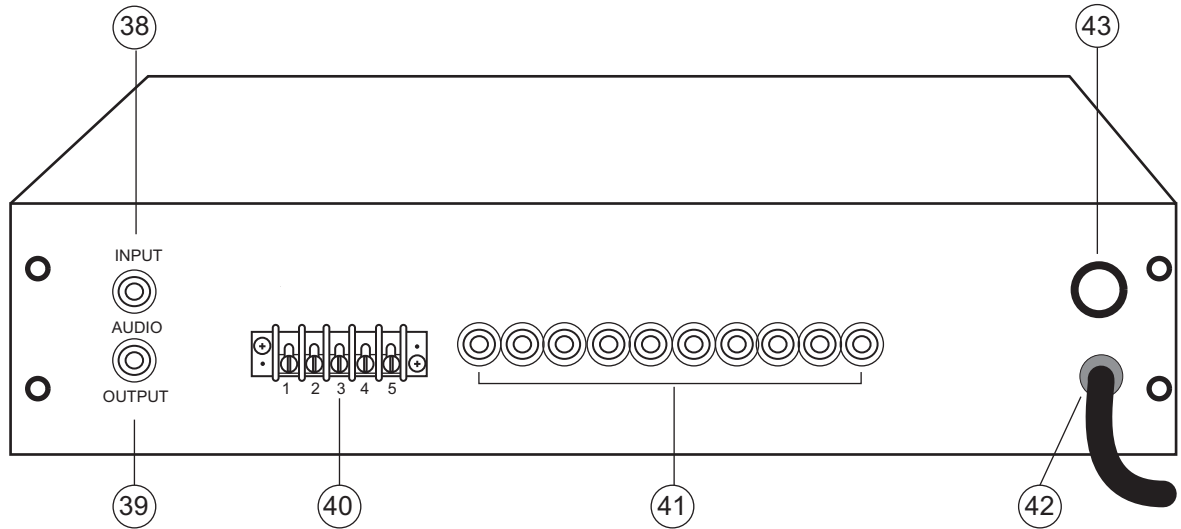


Fig. 4 DG-MA Rear Panel Layout

- | | | |
|------|------------------------|---|
| [38] | Audio Input Jack | Accepts audio playback from a DVR, VCR, etc. |
| [39] | Audio Output Jack | Provides audio for recording to a DVR, VCR, etc. |
| [40] | Control Terminal Block | Connects to the DG-12II Base Station and provides talkback control and audio to DG-12II. |
| [41] | DG-12II Input Jack | Accepts monitored audio from DG-12II. Audio is transmitted through the Monitor Speaker [36]. |
| [42] | Power Cord | Connects to 120 Vac line. |
| [43] | Fuse Holder | Holds the power fuse of the unit. Fuse is 1.5A slow-blow. |

INSTALLATION AND OPERATING INSTRUCTIONS

OPERATION:

The DG-12II Audio Alarm Base Station is normally paired with the DG-MA Monitor/Talkback Amplifier for utilizing the monitor and talkback capabilities of the unit. The operation below includes the DG-MA unit.

The **Keyswitch[14]** has three functions. At position 1, it turns “OFF” the power to the DG-12II. At Position 2, it turns “ON” power as indicated by the **Power Indicator LED[3]**. At Position 3, it turns “ON” the **Sonalert Buzzer[4]** while the power is still “ON”. The key can be pulled out at any of these positions for security purposes.

When a microphone picks up sound within its vicinity, the bi-color zone **Alarm Indicator LED[2]** will start to glow “green”. The brightness depends on the intensity and type of audio the microphone is picking up. As long as there is noise present near the microphone, the green light will continue to blink. This would signal the operator that somebody is out there in that particular zone. When the audio exceeds the threshold level setting, the unit will go into alarm. At this time, the **Alarm Indicator LED[2]** for that zone will change color from “green” to “red” indication an alarm condition and produce a 3-second audio alert from the **Sonalert Buzzer[4]**. When the alarm has occurred the audio from that zone can be monitored on the DG-MA **Monitor Speaker[36]** or headphone by moving the alarmed **Zone Selector Switch[1]** to “monitor” (UP position). Monitor level is adjusted with the **Monitor Level Control Knob[34]** on the DG-MA panel. The alarm is canceled by pressing the **Reset Switch[12]**.

Selecting the “monitor” position for one or more zones allows the audio to be monitored without an alarm occurring when the **Non-Alarm Monitor Switch[14]** is in the “ON” position. The level is controlled by the **Monitor Level Control[34]** on the DG-MA.

When a **Zone Selector Switch[1]** is in the “monitor” position (UP) and an alarm occurs, audio is immediately present on the built-in **Monitor Speaker[36]** or optional Headphones[34].

Alarm threshold settings can be adjusted by pushing the **Night Sensitivity Setting Pushbutton[20]** or **Day Sensitivity Setting Pushbutton[21]**. The **Day/Night Sensitivity Switch[9]** selects which sensitivity setting pushbuttons are active. When the **Day/Night Sensitivity Switch[9]** is in the UP position, all the **Night Threshold Sensitivity Switches[20]** are activated. The switches can now be adjusted to their proper settings. When the **Day/Night Sensitivity Switch[9]** is in the DOWN position, all the **Day Threshold Sensitivity Switches[21]** are activated. The sensitivity setting pushbutton switches are factory preset to a certain threshold. This can be used as a reference setting.

The **Alarm Delay Setting Pushbutton[19]** is factory set to 0.1 second (minimum or no delay). It can be adjusted to the desired time (up to 3.2 seconds) by placing the **Time Delay Switch[5]** UP and pushing the **Alarm Delay Setting Pushbutton[19]** one step at a time to increment the increase. The DG-12II can be triggered using the **Tester Trigger Pushbutton[10]** to determine the alarm delay as seen on the **Alarm Delay Indicator[18]**.

Talkback to a given zone is accomplished by plugging the provided handheld microphone into the **AUX MIC Jack[30]** on the DG-MA front panel and holding down the respective **Zone Selector Switch[1]**. To talk to all zones at once, press the **All Call Pushbutton Switch[33]**. The volume of the talkback audio present at the zone is set to the **Talkback**

INSTALLATION AND OPERATING INSTRUCTIONS

Level Control[31] on the front of the DG-MA.

INSTALLATION-Mechanical:

The DG-12II and DG-MA units mount to a 19" wide equipment rack. They should be located away from extreme dampness or heat to ensure long life and reduce maintenance requirements. Adequate space should be provided around the units when placed inside the rack to prevent heat build-up due to poor air circulation. The air must be vented out of the cabinet. The fan's filter filament should be taken out of the guard and cleaned with warm water after 3 months and replaced every six months. The filter filament should be cleaned with warm water after 3 months and replaced every six months. The filter filament should be cleaned more often when subjected to dust or dirt. Additional filter filaments can be obtained from Louroe Electronics. (Part #28-0074-1).

INSTALLATION-Electrical:

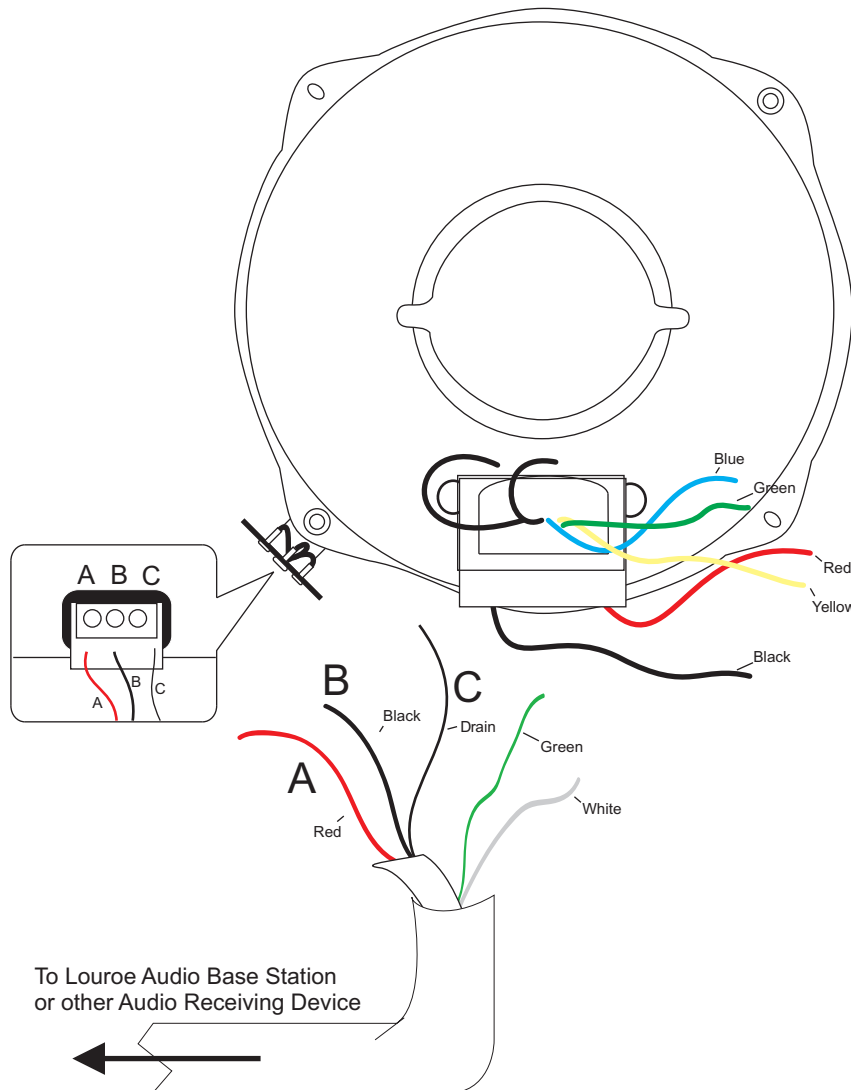
All electrical installations are made at the rear of the unit.

INSTALLATION AND OPERATING INSTRUCTIONS

MICROPHONE AND SPEAKER CONNECTIONS (CONNECTIONS TO MODEL TLI):

Connect WEST PENN 356 (sample cable used) to remote station such as a Louroe TLI as shown in Fig. 5 below. Connect the 3 wires wrapped with a shield (red, black and bare) to microphone terminals marked "A", "B", and "C". Red to "A", black to "B" and bare or drain wire to "C". Connect the other two unshielded cables to speaker 70V transformer. Connect **green wire** to proper transformer tap. See power tap table below for wattage. It is recommended to use a lower wattage tap when two or more speakers are used or for "All Call" function. Connect **white wire** to black wire of transformer, using wire nuts for connections.

See Fig. 6 for connection diagram using model TLMC (speaker/microphone unit).



Mounting TLI to VPSC Housing

Place TLI inside VPSC matching the 4 mounting screws and secure with furnished nuts and washers.

No knockouts are provided on the VPSC. Bore a 3/4" opening through for connecting to TLI.

Green Wire - of West Penn 356 connects to the proper power tap

White Wire - of West Penn 356 connects to Black wire from the TLI Transformer using a wire nut.

Speaker Power Tap Table

Green Lead	70V	5 Watts
Yellow Lead	70V	2.5 Watts
Blue Lead	70V	1.25 Watts
Red Lead	70V	.62 Watts
Black Lead	70V	Common

Fig. 5 Connection Diagram using TLI (speaker/microphone)

INSTALLATION AND OPERATING INSTRUCTIONS

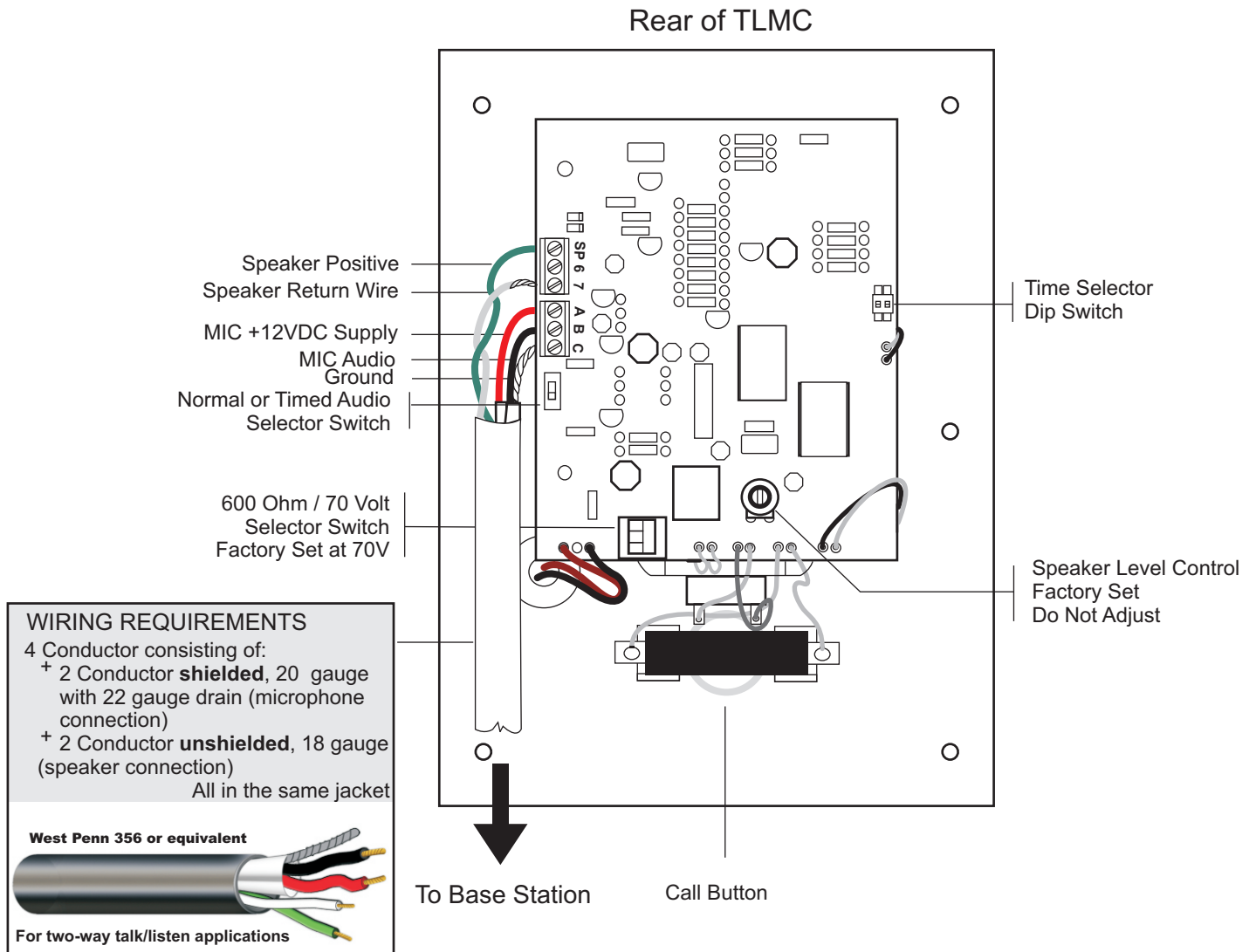


Fig. 6 Connection diagram using TLMC (speaker/microphone unit)

INSTALLATION AND OPERATING INSTRUCTIONS

CONNECTIONS TO PLUG-IN CONNECTOR (AUDIO):

Prior to connecting the microphone cables to the DG-12II plug-in connectors, each microphone should be checked for proper operation. This can be done quickly by connecting the Louroe PTA (portable test amplifier) to each microphone cable. The battery powered PTA powers the microphone under test and monitors its output through the installed cabling. This eliminates any faulty microphone circuits before final testing. After each microphone is tested, connect cables coming from remote station or MLA-6 Mixer to the 5-pin plug-in connector (supplied) as shown in Fig. 7. Observe wire color coding. When no speaker is used in the remote station, there are no connections made on terminals marked "SP" and "G".

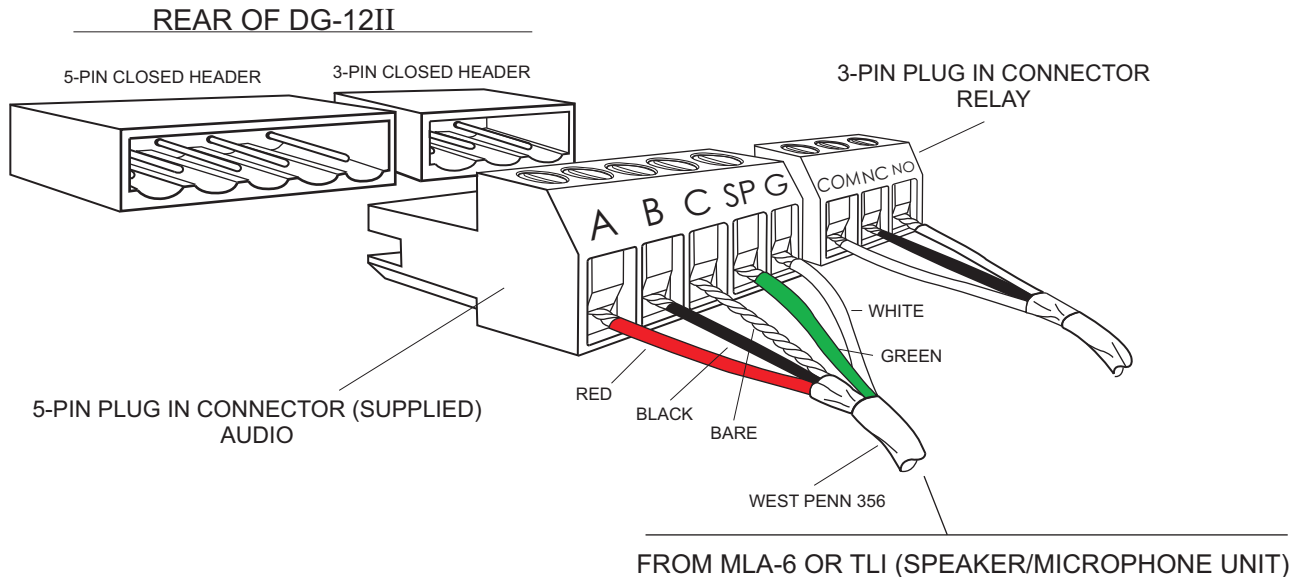


Fig. 7 Connections to the DG-12II using 5-pin connector

RELAY CONNECTIONS:

One single pole, double throw relay contact is available from each zone alert circuit, for connections to outside equipment. Each relay contains three terminal outputs: COM (common), NC (normally closed) and NO (normally open). Connection to the outside equipment can be done by connecting the cable to the 3-pin plug-in connector (supplied) as shown in Fig. 7. To prevent losing the connectors until needed, plug the connectors to the headers in the rear panel of the DG-12II when relay outputs are not in use. Maximum rating of the relay contact is 0.5A @ 125 Vac or 1.8A @ 30 Vdc. DO NOT EXCEED CURRENT RATING OR RELAY MAY BE DAMAGED.

CONNECTOR TO HEADER CONNECTIONS:

With power OFF, plug in the 5-pin plug-in connector to its respective header at the rear of the DG-12II. See Fig. 7. Plug-in connector for zone 1 to header of zone 1; connector for zone 2 to header of zone 2, etc... Plug in the 3-pin plug in connector to its respective relay header. Push the connector firmly against the header until the lock snaps in.

INSTALLATION AND OPERATING INSTRUCTIONS

DG-12II AND DG-MA CONNECTIONS

Connect the DG-12II to the DG-MA as shown in Fig 8. Both control blocks of the DG-12II and DG-MA are marked "1,2,3,4,5. Connect terminal "1" of DG-12II to terminal "1" of DG-MA. Connect terminal "2" of DG-12II to terminal "2" of DG-MA; terminal "3" of DG-12II to terminal "3" of DG-MA; terminal "4" of DG-12II to terminal "4" of DG-MA; terminal "5" of DG-12II to terminal "5" of DG-MA. Connect the RCA cable between the DG-12II and DG-MA as shown in Fig 8.

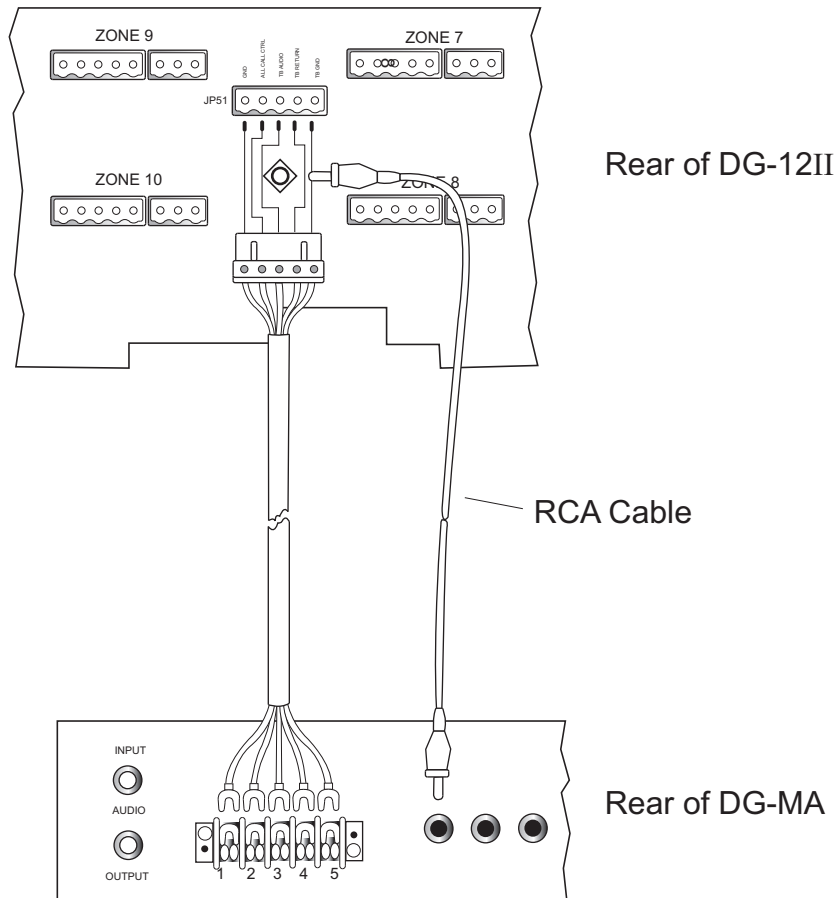


Fig. 8 Connecting the DG-12II to DG-MA

INSTALLATION AND OPERATING INSTRUCTIONS

CONNECTION TO A DVR, VCR OR OTHER RECORDING DEVICE:

Remove the jumper (FIG.9A) that connects the **Audio Input Jack[38]** to the **Audio Output Jack [39]** located at the rear of the DG-MA. Using a dual RCA cable, connect the **Audio Input Jack[38]** of the DG-MA to the Audio Output Jack of the recorder. Connect the **Audio Output Jack[39]** of the DG-MA to the Audio Input Jack of the recorder. See Fig. 9 below.

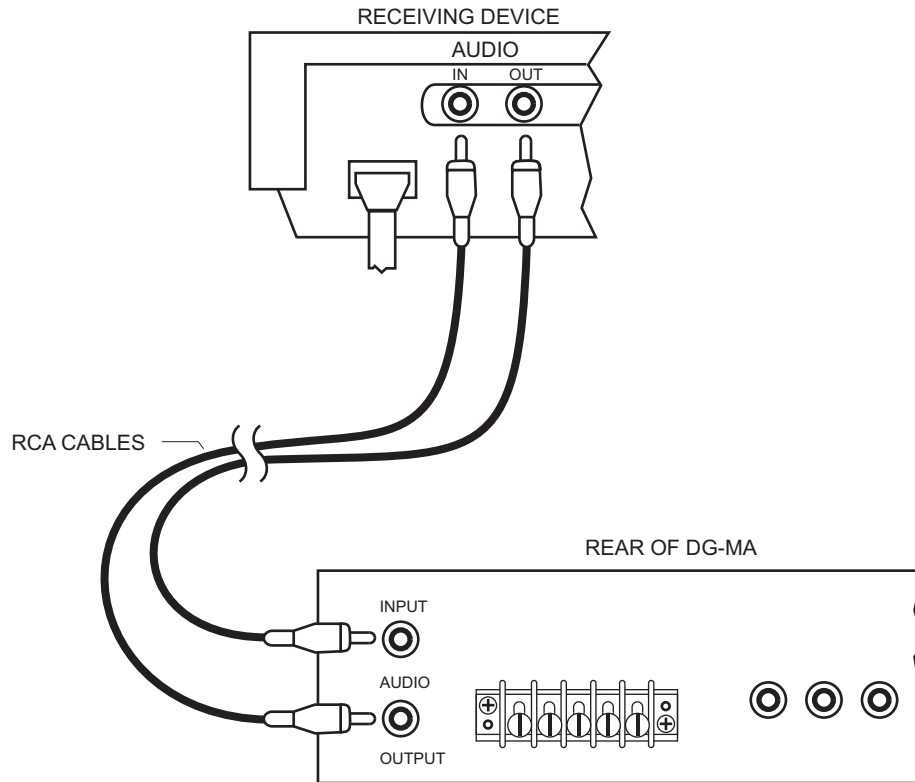


Fig. 9 Connecting to a Receiving Device

NOTE:
If DG-MA is not connected to a recording device, jumper must be plugged into the audio input and output. Otherwise DG-MA will not receive audio from the remote microphone.

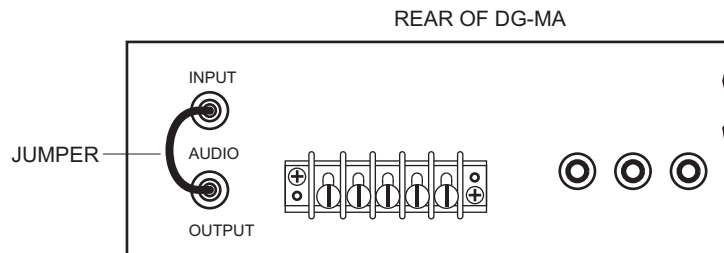


Fig. 9A Jumper Connection

INSTALLATION AND OPERATING INSTRUCTIONS

CONNECTION TO AN AUDIO MIXER/COMBINER:

Up to six microphones or four speakers can be installed in one zone by using Louroe MLA-6 audio mixer;/combiner unit. See Fig. 10 for connecting speaker/microphone combination units and Fig. 11 for microphone only unit. Fig. 10 shows connection for only one speaker/microphone unit. Additionally, up to 6 microphones and 4 speakers can be installed to this unit by connecting the microphone cables to inputs "MIC 2" through "MIC 6". Speaker cables are connected to the remaining terminals of the speaker terminal block. Speaker "HIGH" side denotes the positive and the "LOW" side denotes the negative or speaker return terminal. Fig. 11 shows connection for two microphones. Additional microphones are connected the same way as shown for "MIC 1" and "MIC 2".

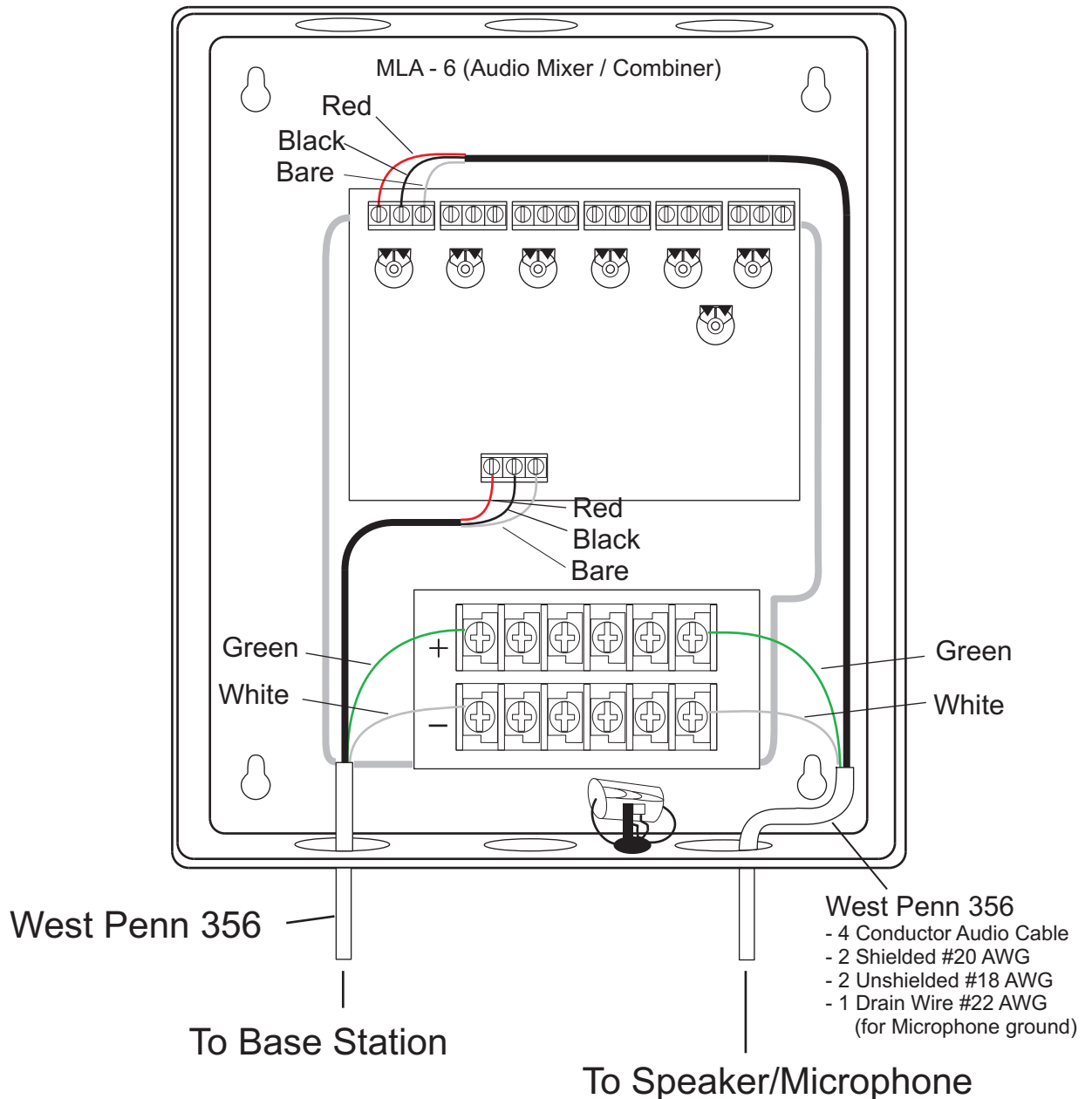


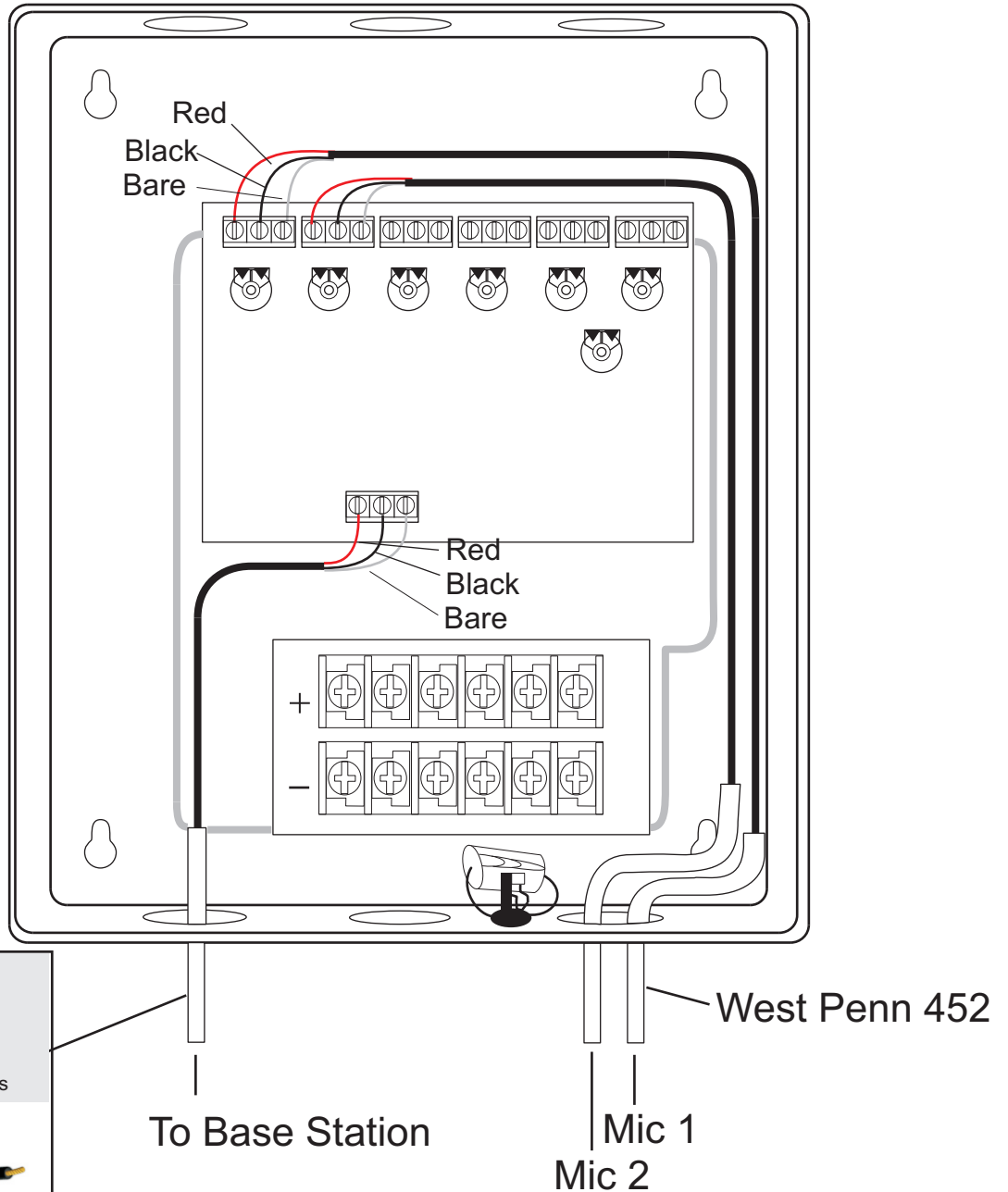
Fig. 10 Connecting MLA-6 to DG-1211 and speaker/microphone unit (TLI, TLMC..)

INSTALLATION AND OPERATING INSTRUCTIONS

CONNECTION TO AN AUDIO MIXER/COMBINER (cont.):

Fig. 11 shows connection for two microphones. Additional microphones are connected the same way as shown for "MIC 1" and "MIC 2".

MLA - 6 (Audio Mixer / Combiner)



WIRING REQUIREMENTS

2 Conductor **shielded** cable, 22 gauge with a 24 gauge drain wire

NOTE: Unshielded cable is not satisfactory for audio systems

West Penn 452 or equivalent



FOR ONE-WAY LISTEN APPLICATIONS

Fig. 11 Connecting MLA-6 to DG-12II and remote microphones

INSTALLATION AND OPERATING INSTRUCTIONS

POWER CONNECTIONS:

Plug the DG-12II power supply unit to the 3-pin right angle closed **Power Header[29]** marked "15 Vdc" located at the rear of the DG-12II unit. Push firmly and make sure that the locking tables hold the plug-in connector in place. Plug the power supply to a 110 Vac outlet. Plug the DG-MA AC cord to a 110 Vac outlet

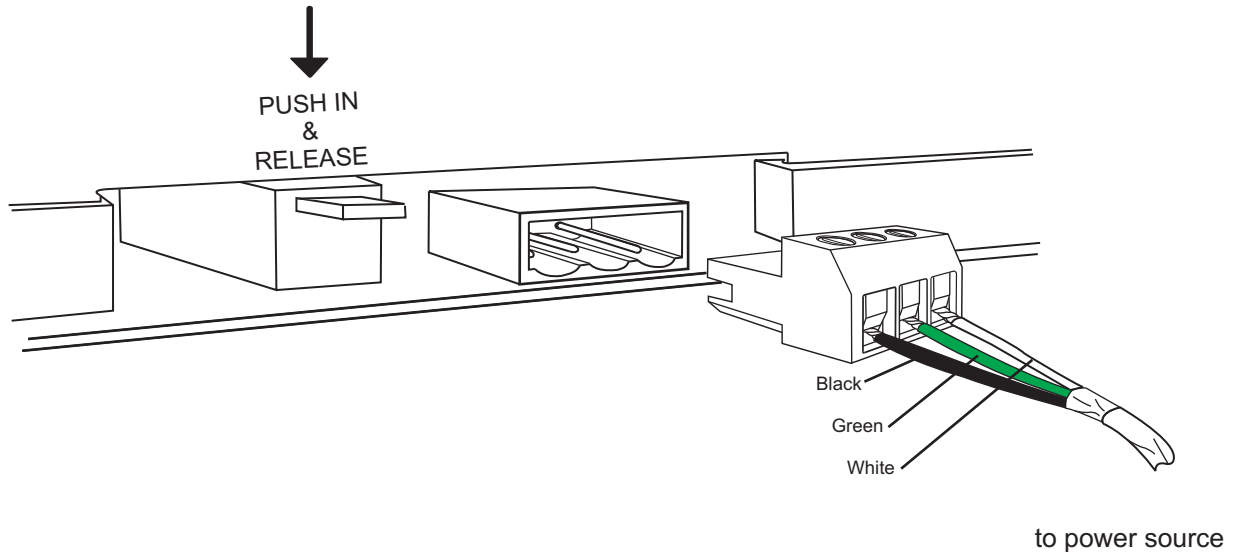


Fig. 12 Connecting power supply to DG-12II

INSTALLATION AND OPERATING INSTRUCTIONS

PARALLELING TWO DG-12II's:

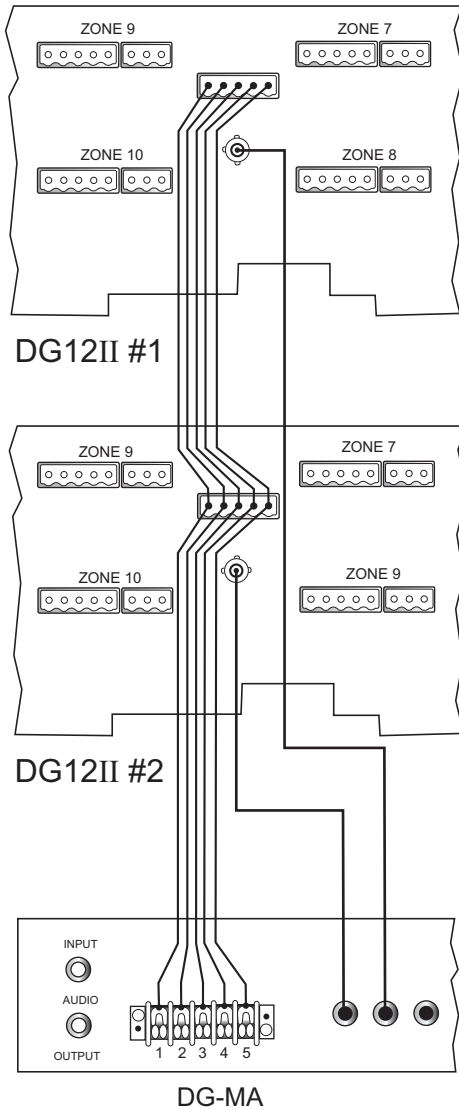


Fig. 13 Paralleling two DG-12II's

Two DG-12II units can be paralleled so that a zone can be monitored and controlled from two different locations. See fig. 13 for interconnection diagram between two DG-12II's and DG-MA. See Fig. 14 for interconnecting the two plug-in connectors of two DG-12II's. Note that only one DG-12II gives power to the remote microphone as shown by two end cables not connected. The plug-in connector on the left hand side is the one giving power to the remote station. No cable is connected to the "A" terminal of the other connector. These plug-in connectors plug into the **Mic/Talkback 5-Pin Header[24]** at the rear panel of the respective DG-12II.

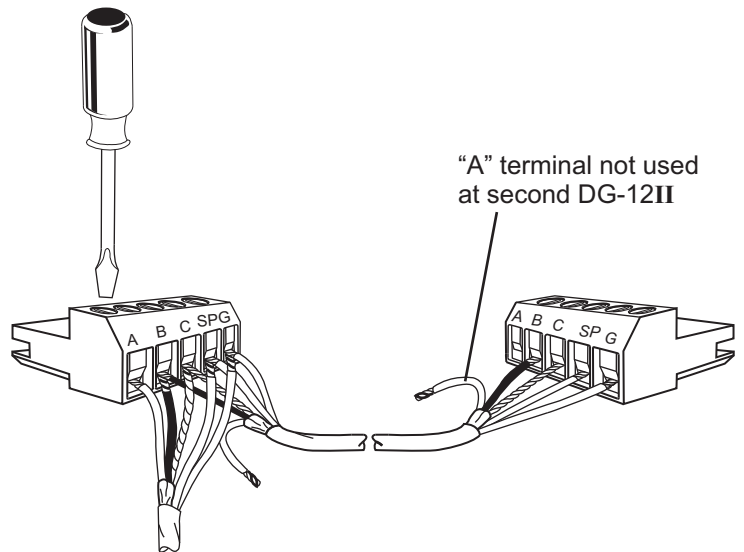


Fig 14 Paralleling two plug-in connectors of two DG-12II's

INSTALLATION AND OPERATING INSTRUCTIONS

CONNECTING AN EXTERNAL AMPLIFIER:

An external amplifier can be connected between the DG-MA and DG-25III to boost the power of its talkback capability. The DG-MA is factory set with a 70V audio output. Before connecting to an external amplifier, change the audio output to 600 Ohms as follows.

Remove the top lid or cover of the DG-MA is a slide switch located near the large black capacitor and with the number 230 visible. The switch position is factory set at 70V output which is towards the center of the PC board. Insert a small screwdriver into the slot of the switch lever and slide the switch to the left or towards the power transformer. A 115 mark will appear. This will change the audio output to 600 and will serve as a pre-amp for the external amplifier. Replace the cover of the DG-MA.

See Fig. 15 for the cable interconnection between units. The "Audio in" and "Audio Out" Terminal of the external amplifier can be RCA jacks. In such case, the interconnect cable between the DG-MA **Control Terminal Block [40]** numbers "1" and "3" and external amplifier "Audio In" should be two spade lug terminals on one end and on RCA plug on the other. Also the cable between "Audio Out" of the external amplifier and DG-12II plug-in connector numbers "3" and "5" should be an RCA plug on one end and two open tinned wires on the other. Double check the connections before testing. The talkback will not work properly if the connections are interchanged.

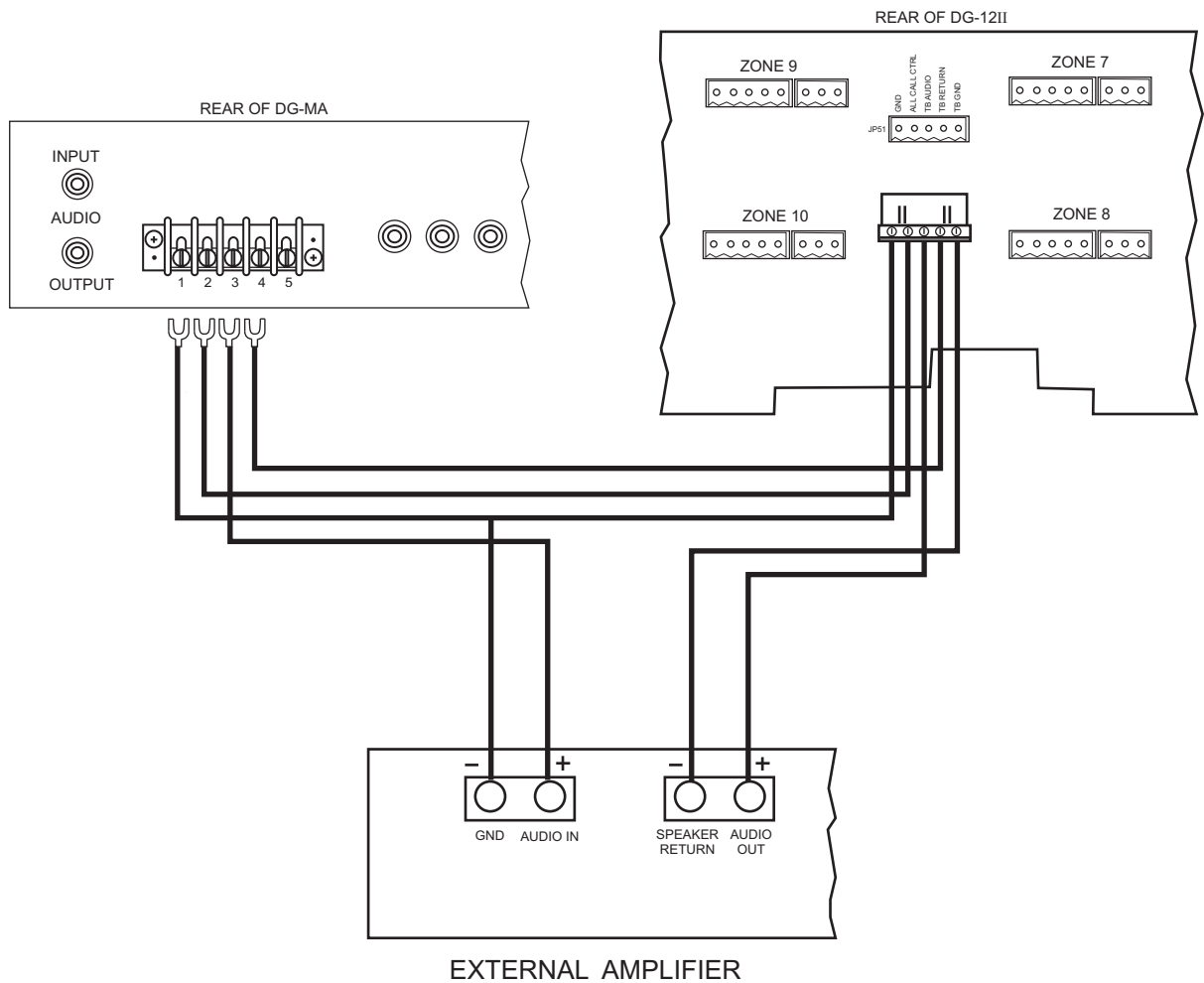


Fig. 15 Connecting an external amplifier

INSTALLATION AND OPERATING INSTRUCTIONS

OPERATION AND TEST:

- 1). Apply power to the DG-12II and DG-MA. Turn "ON" the switch of the DG-12II power supply unit. Using the **Keyswitch[16]**, turn "ON" power to the DG-1211 by rotating clockwise to "ON" position. The **Power Indicator LED[3]** located on the top right hand corner of the front panel will light. Turn "ON" power to the DG-12II Tester by pushing the **Tester Power Switch[12]**. The **Audio Level Indicator[17]** and **Alarm Delay Indicator[18]** will light. Turn "ON" power to the DG-MA by rotating the **Monitor Level control Knob[35]** clockwise. The **Power LED[36]** will light.
- 2). Place all **Zone Selector Switches[1]** to neutral or mid position.
- 3). Place the **Non-Alarm Monitor Switch[14]** to "ON" (UP) position.
- 4). One at a time, switch each zone **Selector Switch[1]** to "monitor" (UP) position. Check that each zone has a clear audio output as heard through the DG-MA **Monitor Speaker[36]**. Adjust the **Monitor Level Control[34]** on the DG-12II to comfortable listening level.
- 5). Return all **Zone Selector Switches[1]** to neutral (MID) position.
- 6). To set the threshold sensitivity of each zone, another person at the remote station is needed to generate a normal background noise (like people having a conversation) and an alarm noise such as someone screaming or yelling).
- 7). Place **Day/Night Sensitivity Switch[9]** in "DOWN" position to select the day sensitivity.
- 8). Place all zone **Selector Switch[1]** to "monitor" (UP) position and the **Non-Alarm Monitor Switch[14]** to OFF position (DOWN).
- 9). Push **Reset Switch[12]** to cancel all alarms. All **Alarm Indicator LED's[2]** should be "OFF"
- 10). There should be no audio at the **Monitor Speaker[35]** on the DG-MA unit. the **Alarm Indicator LED[2]** is OFF until a sound is picked up by the microphone, then the LED will Start to blink green.
- 11). Using an alien nut driver, remove the cover of the modules.

INSTALLATION AND OPERATING INSTRUCTIONS

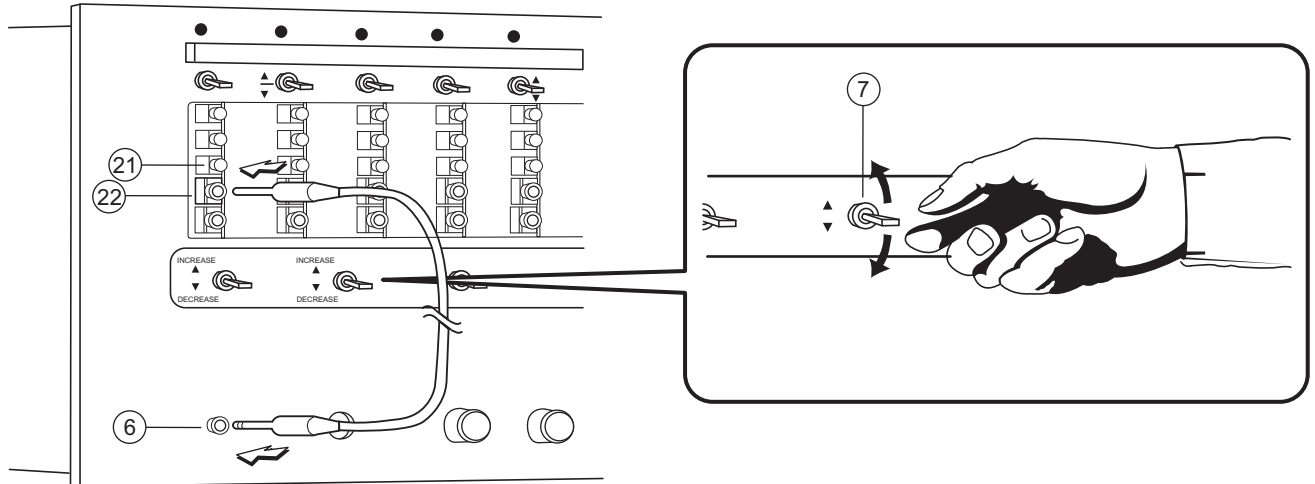


Fig. 16 Setting the audio threshold sensitivity

OPERATION AND TEST (cont.):

12). Set the audio threshold as follows:

- a. Connect the cable with a 3.5mm mono plug on both ends (supplied) between the **Audio Alarm Input Jack[6]** and **Audio Alarm Output Jack[22]**. See Fig. 16.
- b. The **Audio Level Indicator[17]** contains 10 level segments, 7 green and 3 red that luminate and move up and down the scale, depending upon the amount of alarm signal coming from the **Audio Alarm Output Jack[22]**. The closer the green segment moves up to the red area, the more sensitive the unit becomes, the further the green segments are from the red area, the less sensitive it becomes. In setting audio threshold, the lumination should not go past the last green segment. If it enters the red area, then the threshold sensitivity is too high. When the last red segments is illuminated and remains lit for the duration of the predetermined time delay (from 0.1 to 3.2 seconds) the unit goes into alarm.
- c. Flip the **Threshold Sensitivity Switch[7]** DOWN to decrease the sensitivity, and UP to increase sensitivity.
- d. Push and release quickly the **Day Sensitivity Setting Pushbutton[21]** once or twice while observing the **Audio Level Indicator[17]**. If the audio level does not pass the last green segment, the setting is near correct but an actual check is necessary. Another person is needed in the remote area to generate some noise to trigger the unit. The noise could be any loud sound such as a shout. If the unit does not go into alarm after a loud sound is generated, flip the **Threshold Sensitivity Switch[7]** upwards to increase the sensitivity.
- e. Push once and release quickly the **Day Sensitivity Setting Pushbutton[21]**. Again generate a loud noise to trigger the alarm. These miniature pushbutton switches are very sensitive. If you hold this switch for about a second long, it will go to the next step. These switches can be pushed up to a maximum of 32 times. Additional pushes beyond 32 have no effect on the switch.

INSTALLATION AND OPERATING INSTRUCTIONS

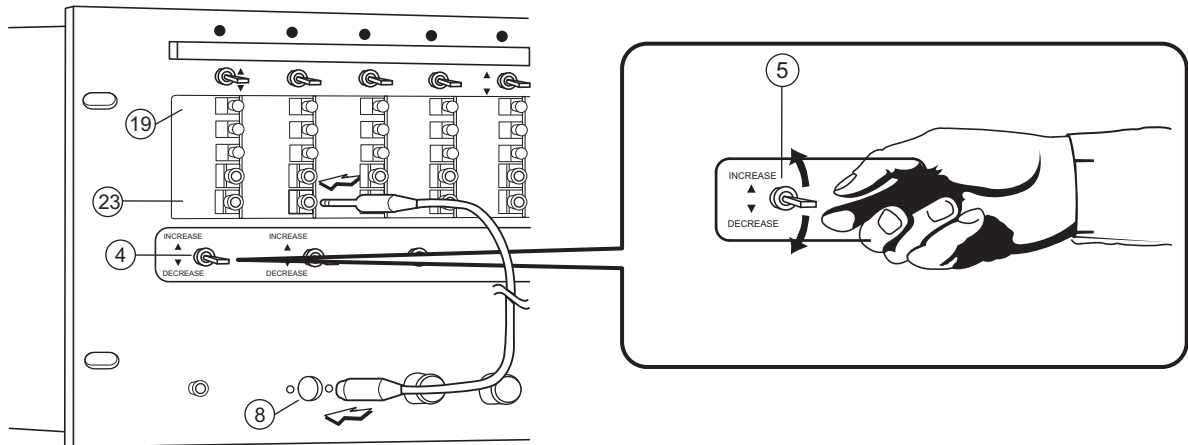


Fig. 17 Setting the alarm time delay

OPERATION AND TEST (cont.):

13). Set the alarm time delay as follow:

- a. Connect the second test cable with a 3.5mm stereo plug on one end and a 3-pin din plug on the other (supplied) between the **Alarm Delay Output jack[23]** and the **Alarm Delay Input Jack[8]**. See Fig. 17 above. Plug the 3.5 mm plug to the **Alarm Delay Output Jack[23]** of zone 1 module (first from the left).
- b. Push the **Tester Reset Pushbutton[11]**. The time shown on the **Alarm Delay Indicator [18]** should reset to "0.0" (zero). The time is measured in seconds.
- c. Starting with zone 1 module, push and released immediately the **Tester Trigger Pushbutton[10]**. The unit will go into alarm. The **Alarm Indicator LED[2]** will turn from green to red.
- d. Check the reading on the **Alarm Delay Indicator[18]**. It should indicate the factory setting for the length of time the alarm should stay on before the unit foes into alarm (0.1's).
- e. If the required time delay for that zone needs to be increased, flip the **Time Delay Switch[5]** upwards.
- f. Push the **Tester Reset Pushbutton[11]** to reset the time delay to zero as shown by the **Alarm Delay Indicator[18]**.
- g. Push and release quickly the **Alarm Delay Setting Pushbutton[19]** the number of times necessary to attain the correct time delay.
- h. Push the **Tester Trigger Pushbutton[10]**. Zone 1 will again go into alarm.
- i. Check the reading of the **Alarm Delay Indicator[18]**. The new time is now indicated. If the time is still below the desired time, repeat steps 13f thru 13i.
- j. If the required time delay needs to be decreased, or after performing step 13g, the time goes over, flip the **Time Delay Switch[5]** downwards.
- k. Push the **Tester Reset Pushbutton[11]** to reset the time to zero.
- l. Quickly push and release the **Alarm Delay Setting Pushbutton[19]** a number of times necessary to attain the desired time.
- m. Push the **Tester Trigger Pushbuttton[10]** Zone 1 will again go into alarm.
- n. Check the reading of the **Alarm Delay Indicator [18]**. The new time is now indicated. If the times is still below the desired time, repeat steps 10k thru 10m.

INSTALLATION AND OPERATING INSTRUCTIONS

OPERATION AND TEST (cont.):

- 14) Repeat procedures for setting the audio threshold and alarm delay for the rest of the zones starting at step 12.
- 15) To adjust threshold for night sensitivity, place **Day/Night Sensitivity Switch[9]** in "UP" position to select the night sensitivity.
- 16). Repeat the procedure for setting the audio threshold starting at step 12. this time use the Night Sensitivity Pushbutton for setting the threshold.

There is no need to adjust the alarm time delay for night setting. The time set during the day will also be the same time for night setting.

TALKBACK TEST:

- 1). Plug the factory furnished handheld microphone into the **AUX. Mic Jack[30]** located on the DG-MA panel
- 2). Set the **Talkback Level Control[31]** to mid range.
- 3) Talk to each zone one at a time by depressing each zone **Selector Switch[1]** to "talkback" while an observer in the remote zone checks for loudness and cleanness of the output from each speaker.
- 4). Press the **All Call Pushbutton Switch[33]** while using the talkback microphone to verify clear output to all zones.
- 5). Determine best talkback audio level by adjusting **Talkback Level Control[31]** on DG-MA panel during step 4, above.

NOTE: If a recorder is used, playback recorded audio to verify monitor operation.

Completion of the tests verifies the system is ready for use. The threshold for each zone should now be set for the customer's requirements.

INSTALLATION AND OPERATING INSTRUCTIONS

TROUBLESHOOTING:

POWER PROBLEMS

- 1). Unit is totally inoperative.
 - a. Check that units are receiving 120 VAC.
 - b. Make sure that the power supply unit of the DG-12II is turned "ON" and the LED is lighted.
 - c. Push the **Power Breaker[27]** IN and release quickly to reset power on DG-12II.
- 2). Talkback totally inoperative.
 - a. Check fuse at rear of DG-MA. Unplug DG-MA from 120 Vac source before checking the fuse.
- 3). No Microphone power.
 - a. Check for short on the DG-12II "A" terminals to "c" (ground). Remove short, If there is still no + 15VDC on the terminal, DG-12II power regulator maybe damaged.

AUDIO PROBLEMS

- 1). Loud sound in one zone causes alarm in another zone.
 - a. Microphone wires crossed between zones.
- 2). Talkback from DG-MA occurs in wrong zone.
 - a. Speaker wires crossed between zones.
- 3). Speaker monitors zones, but headphone does not.
 - a. Faulty headphone.
- 4). Zone microphone inoperative.
 - a. Check for + 15Vdc at microphone between terminals "A" and "C".
 - b. Temporarily plug in the connector of a known working microphone from another zone to the DG-12II **Mic/Talkback 5-pin Header[24]** of the inoperative zone to confirm that the circuitry of the DG-12II is operative and to confirm that the problem is in the remote microphone or cabling.
- 5). Zone speaker inoperative.
 - a. Check wiring from DG-12II and remote speaker. Check color coding.
- 6). No audio at speaker/headphone of DG-MA.
 - a. Check that the plugs of cable connecting DG-12II **Audio Out Jack[28]** and DG-12II **Input Jacks[41]** on the DG-MA rear panel are making proper contact.
 - b. Check if the jumper cable between **Audio Input Jack[38]** and **Audio Output Jack[39]** is present. Jumper cable must be left in place when no recorder is connected.
 - c. When used with a recorder interconnect cables. Replace recorder cables with factory jumper at audio input/output jacks on the rear of DG-MA. If system works, recorder is faulty.
- 7). Sonalert inoperative
 - A. Check position of **Keyswitch[16]**.

INSTALLATION AND OPERATING INSTRUCTIONS

SUMMARY:

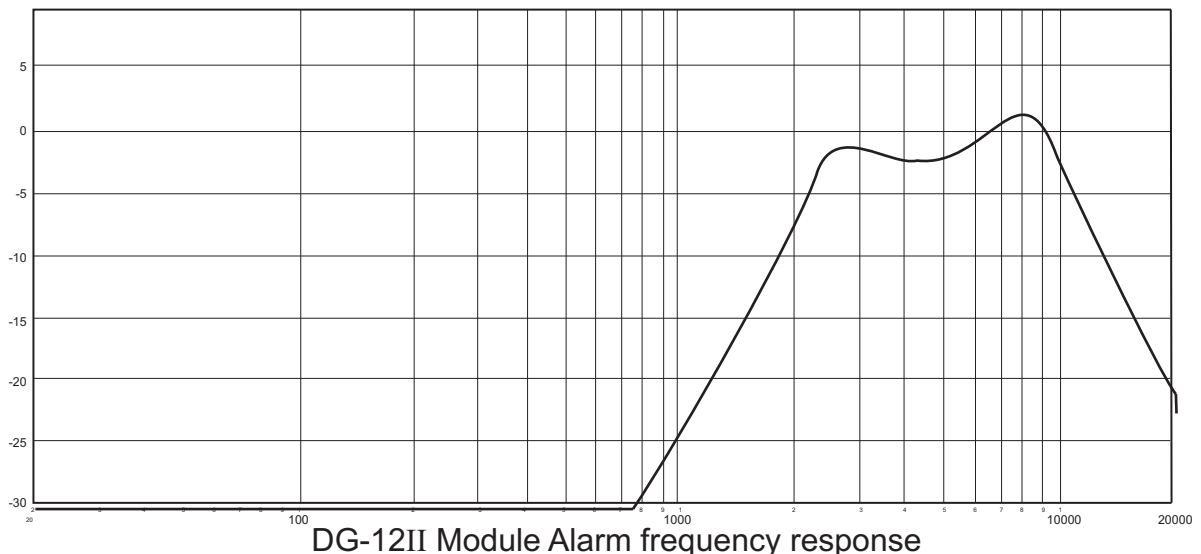
The DG-12II Audio Surveillance Base Station and DG-MA Monitor/Talkback Amplifier have been designed to give years of satisfactory service when operated in a reasonable environment and connected according to factory recommendations.

Please check that the wiring and power connections conform to the above instructions. In the event of malfunction, please follow the troubleshooting section carefully. Should the problem persist, factory assistance is available from 8:00 AM to 4:00 PM Pacific time, by calling (818) 994-6498.

Thank you for selecting LOUROE ELECTRONICS products.

SPECIFICATIONS:

Operating temperature range	+ 32° to + 122° F
Input impedance (zone)	10 kW
Input impedance (talkback)	10 kW
Monitor frequency response	100Hz to 10 kHz
Output impedance (talkback)	70 Volt line
Output impedance (record)	10 kW
Output impedance (headset)	8 to 600W
Alarm duration	3 sec
Monitor output power (DG-MA)	2W rms into 8W
Talkback output power (DG-MA)	20W rms into 70V line
Module filter frequency response	See figure on following page
Power supply input (DG-12II)	120 Vac. 6A 60 Hz
Power input (DG-12II)	15 Vdc, 5A, 60 Hz
Auto Reset Range	3 Sec to 3 Min
Dimensions (DG-12II)	19"W X 7"H X 10 ½ "D
Dimensions (DG-MA)	19"W X 3 ½ "H X 10 ½ "D
Weight (DG-12II)	13.5 lbs.
Weight (DG-MA)	10 lbs.
Panel Finish	Black anodize



INSTALLATION AND OPERATING INSTRUCTIONS

GLOSSARY OF TERMS:

ALL CALL	Addressing all zones simultaneously.
Audio Mixer/Combiner	A unit usually installed with remote stations that mixes audio coming from different provide an output to a base station (Ex: MLA 6 and RN-2).
Base Station	An audio monitoring console usually located at the security office where all the output cables of the microphone, audio mixers and speakers of different zones are connected, Examples of base stations are DG-12II, DG-25III, ALA Series, etc.
Cabling	A group of insulated conductors that is mechanically assembled or twisted together. (e.g. 2- cond. shielded and a twisted pair unshielded). An interconnection of cables between equipment.
Drain Wire	An uninsulated wire in contact with a shield throughout its length. Used for terminating the shield. It also serves as a ground cable when connected to a microphone unit.
GND	Ground
Handheld Microphone	A dynamic microphone supplied with the Model DG-MA for talkback.
High Sensitivity Settings	Alarm threshold settings which also correspond to NIGHT settings, where a small amount of noise picked up by the microphone will set off the alarm in the base station.
Input	The terminals on the apparatus to which signal is applied.
Jacket	Pertaining to wire and cable, the outer protective covering; may also provide additional insulation.
Low Sensitivity Settings	Alarm threshold settings which also correspond to DAY settings, where higher sound level is necessary to trigger the alarm in the base station.
Microphone	A remote station device capable of transforming a measurable quality of intelligence (such as sound) into relative electrical signals. (Ex: Louroe Model TLI, TLO, TLMC and TLM)
Microphone/Speaker Combination Unit	a remote station unit consisting of a microphone with pre-amp and a separate speaker, capable of monitoring as well as addressing an area or zone; a two way Talkback/Listen device. (Ex: Louroe Model TLI, TLO, TLMC, TLSP AND TLI Jr).
Monitor	To listen to incoming audio pick-up by the microphone in a surveillance zone.
Output	The useful power of signal delivered by a device.

INSTALLATION AND OPERATING INSTRUCTIONS

GLOSSARY OF TERMS (cont.):

Plug-in Connector	The connector supplied where all the cables coming from remote station units (microphones and speakers) are connected before they are plugged into the vertical header (socket) at the rear panel of the base station (DG-25III).
PTA (Portable Test Amplifier)	A portable audio amplifier for testing microphone audio output during field installation.
Remote Station	A device or unit (typically a Louroe speaker/microphone) located and installed in a remote area or in a surveillance zone for purpose of monitoring audio or generating an alarm to the Louroe base station.
Relay	An electromechanical switch in which a change of current or voltage in one circuit can be made to produce change in the electrical conditions of another circuit.
Relay COM Contact	Common contact of a relay. This contact transfers from the NC (normally closed) contact to NO (normally open) contact when the relay is energized, and reverse when de-energized.
Relay NC Contact	Normally closed contact of a relay. This contact opens whenever the relay coil is energized.
Shielded Cable	An insulated wire that has been shielded by a copper braid or tape. An aluminum foil or a semi-conductive vinyl.
Speaker	A term to refer to a loudspeaker located in the remote station. This unit can be used by itself for talkback-only operation, or in combination with microphone for two-way communication.
Talkback	A term used for addressing a speaker in a remote station or a zone, or addressing all the speakers simultaneously during ALL CALL talkback operations.
Threshold	An audio level limit, when exceeded, it will cause the base station to go into alarm.
Zone	An area of coverage where the remote stations are installed for audio surveillance. A large area can be divided into several zones to maximize the surveillance coverage. Six microphones or four speaker/microphones can be used per zone. It is also an area designation for ease of identifying the alarmed location. (Example: A stairwell or elevator lobby).

NOTES

MANUFACTURED IN THE



IMPORTANT NOTICE

When this equipment is used as part of an audio monitoring system, the law requires that the public be given notice of AUDIO MONITORING ON THE PREMISES. A decal notice is included with each microphone shipped.



Federal Law References:
Federal Regulations, US Code, Title 18.
Crime and Criminal Procedure, Sec 2510.

WARRANTY

LOUROE ELECTRONICS® warrants that at the time of shipment products manufactured by LOUROE ELECTRONICS® to be free of defects in material and workmanship. Should a defect appear within one year (12 months) from date of shipment, LOUROE ELECTRONICS will, at its sole discretion, repair or replace the defective equipment. This equipment shall not be accepted for repair or return without prior notification by LOUROE ELECTRONICS®.

This warranty does not extend to any Louroe product that has been subjected to improper or incorrect installation, misuse, accident, or in violation of installation instructions provided by LOUROE ELECTRONICS®.

Returned shipments to LOUROE ELECTRONICS® shall be at customer's expense. LOUROE ELECTRONICS® will return the equipment prepaid via best way.