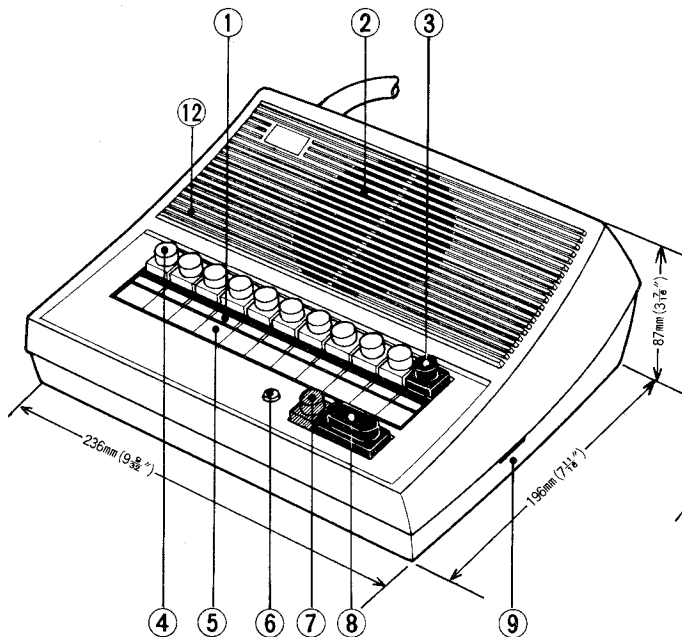


# LOUDSPEAKER INTERCOM SYSTEM

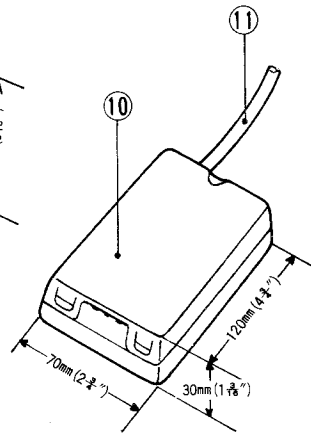
**MODELS: LAF-3A TYPE A** (three call master)  
**LAF-5** (five call master)  
**LAF-10** (ten call master)

## — INSTRUCTIONS —

**LAF-10**


## CONTROLS AND FUNCTIONS

- ① Call lamp
- ② Speaker
- ③ Off button
- ④ Selector button
- ⑤ Directory card
- ⑥ Occupied lamp
- ⑦ Privacy button
- ⑧ Talk button
- ⑨ Volume control
- ⑩ Terminal box
- ⑪ Terminal cord
- ⑫ Microphone



For specifications/installation information for Models LAF-3A TYPE A & LAF-10S, please refer to the sheet packed with each unit.

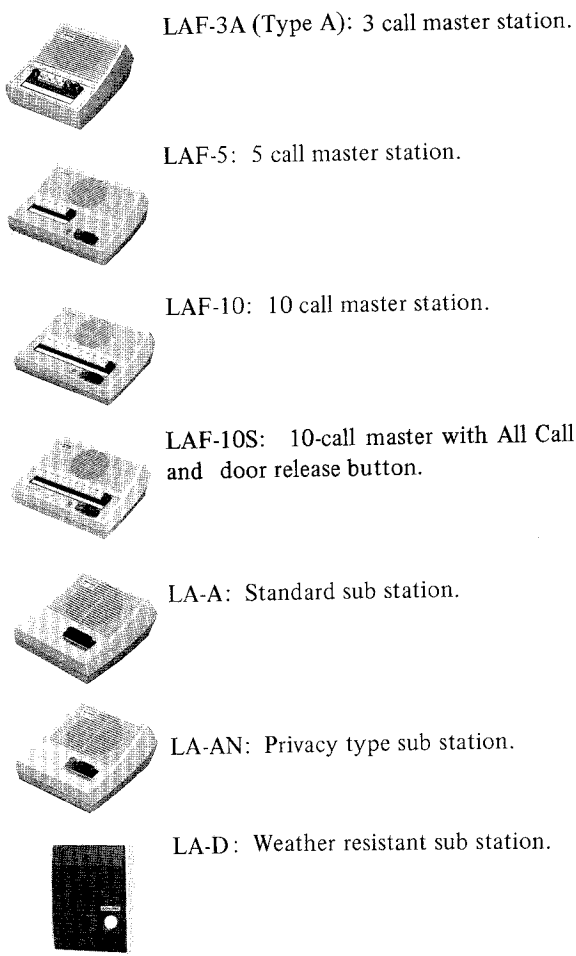
### SPECIFICATIONS:

- \* Power source: DC 12V. Use PS-12A (or PS-12C in North America) power supply.
- \* Current consumption: 350 mA maximum.
- \* Power output: 800 mW maximum at 20 ohm.
- \* Master station calling: Push button station selection. Occupied lamp illuminates when the system is in use.
- \* Wiring: 4 common wires plus 1 individual wire per station between masters, or 2 common wires plus 1 individual wire per sub station to master station.

### FEATURES:

- \* Background music and All Call can be incorporated, using LAF-10S, LAF-7B or LAF-10B/A, BG-1A/BG-1B and PG-10A/PG-10B.
- \* Paging through horn speakers is available using 8 ohm horn with PG-3 paging amplifier.
- \* Hands free reply and high output power allow use in large or noisy areas.
- \* Single talk path.
- \* Individual volume controls for communication and call tone on each master.
- \* Six different sub stations to suit various needs.
- \* Privacy button on master station prevents eavesdropping.
- \* Designed for desk or wall mount (LAF-5 & LAF-10/10S desk only with LAR-2 handset).
- \* Optional field installed handset for private communications.
- \* Timer circuit shuts off call in station lamp in approximate 20 seconds.

# EQUIPMENT AVAILABLE FOR USE WITH YOUR LAF LOUD SPEAKER INTERCOM SYSTEM



LAF-3A (Type A): 3 call master station.

LAF-5: 5 call master station.

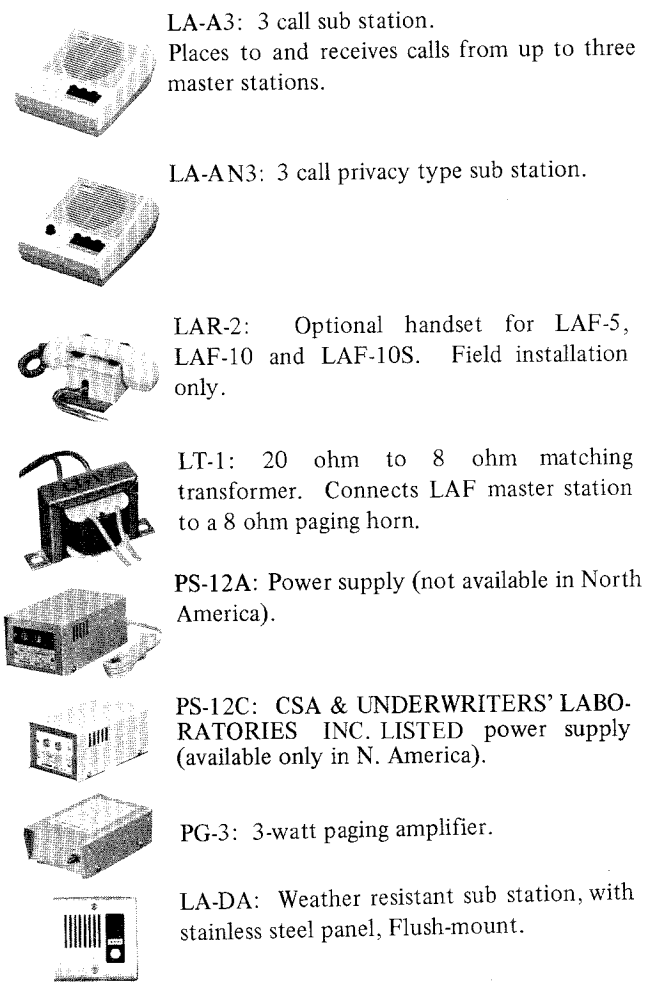
LAF-10: 10 call master station.

LAF-10S: 10-call master with All Call and door release button.

LA-A: Standard sub station.

LA-AN: Privacy type sub station.

LA-D: Weather resistant sub station.



LA-A3: 3 call sub station. Places to and receives calls from up to three master stations.

LA-AN3: 3 call privacy type sub station.

LAR-2: Optional handset for LAF-5, LAF-10 and LAF-10S. Field installation only.

LT-1: 20 ohm to 8 ohm matching transformer. Connects LAF master station to a 8 ohm paging horn.

PS-12A: Power supply (not available in North America).

PS-12C: CSA & UNDERWRITERS' LABORATORIES INC. LISTED power supply (available only in N. America).

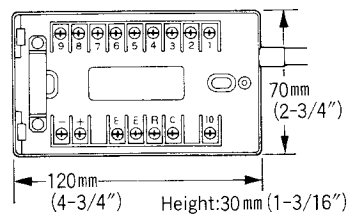
PG-3: 3-watt paging amplifier.

LA-DA: Weather resistant sub station, with stainless steel panel, Flush-mount.

## INSTALLATION

Do not attempt to install your LAF system until you have read and thoroughly understood the installation procedure. Aiphone's warranty is void if system is installed in a manner other than described in this manual.

## ACTUAL LAF-10 TERMINAL LOCATIONS



- ① - ⑩ : for connecting relative stations.
- ⓐ : for receiving a call from masters.
- + , - : for power supply.
- ⓔ : for common communication.
- Ⓡ : for occupied lamp.

## WIRING

Lay out your system in advance. Determine the exact location of each station. Make a sketch showing the number of wires required from each station to other stations. Assign station numbers at this time.

Begin your installation with master station #1. All masters included in your system should be connected and tested before beginning sub station installation. A space is provided at the left of the diagram to write in your color code. Note the position of C terminal on each master station. Be sure you wire each station correctly.

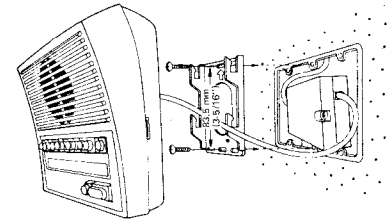
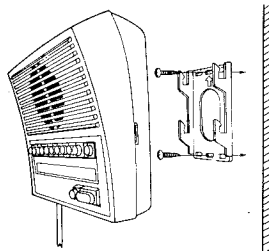
After installing your second station we recommend the power supply be connected to plus and minus and a test be made for all functions calling and talking between each station. Unplug power supply while making connections.

Refer to the chart below and select the proper wire gauge to meet your requirements.

AWG WIRE SIZE	24 AWG	22 AWG	20 AWG	18 AWG
DISTANCE	400'	650'	1000'	1600'
DIAMETER OF WIRE	0.5 mm	0.65 mm	0.8 mm	1.0 mm
DISTANCE	120 m	200 m	300 m	480 m

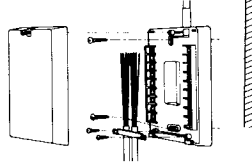
## WALL MOUNTING INSTALLATION

- 1) Attach mounting bracket to wall or box with supplied screws.
- 2) Mount station upon the mounting bracket.



## INSTALLATION OF TERMINAL BOX

- 1) Remove screw and cover as shown.
- 2) Attach bottom case to wall or box.
- 3) Wire terminal plate and replace cover.

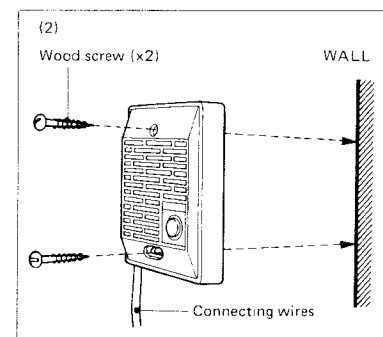
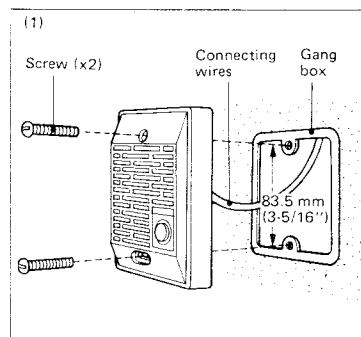
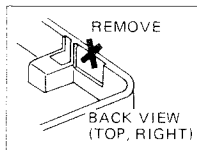


\* The Terminal box may be mounted inside 3-gang box.

## LA-D INSTALLATION

- (1) Attach the unit to single gang box with the supplied 2 screws.
- (2) When mounting to wall, conductors may be pulled out either from top or bottom of the back case.

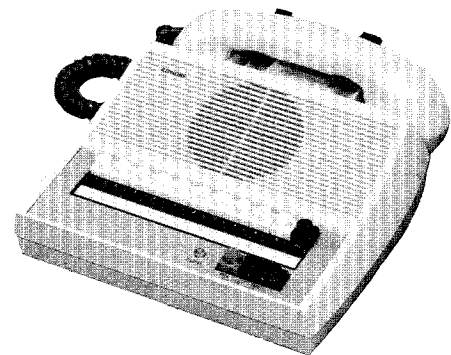
As shown, remove the outlet part of the case when passing conductors through the top.



## INSTALLATION OF LAR-2 OPTIONAL HANDSET

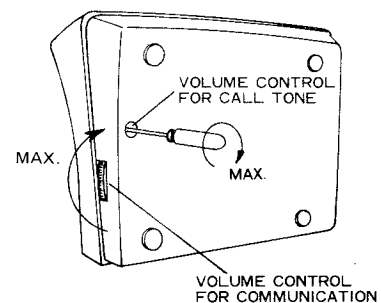
- 1) Remove four screws on the bottom of master station LAF-5, LAF-10, LAF-10S and lift the plastic case from the base.
- 2) Using a diagonal cutter, cut off 3 jumper wires on the printed circuit board.
- 3) Using 8mm (5/16") drill or soldering iron, make a hole to pass conductors into the body of master station.
- 4) Mount the handset to body of master station with supplied screws.
- 5) Connect the 12 conductors from the handset to the printed circuit board. For full information please refer to the instruction sheet packed with LAR-2.

NOTE: The LAF-5, LAF-10 & LAF-10S with LAR-2 can not be mounted to wall.

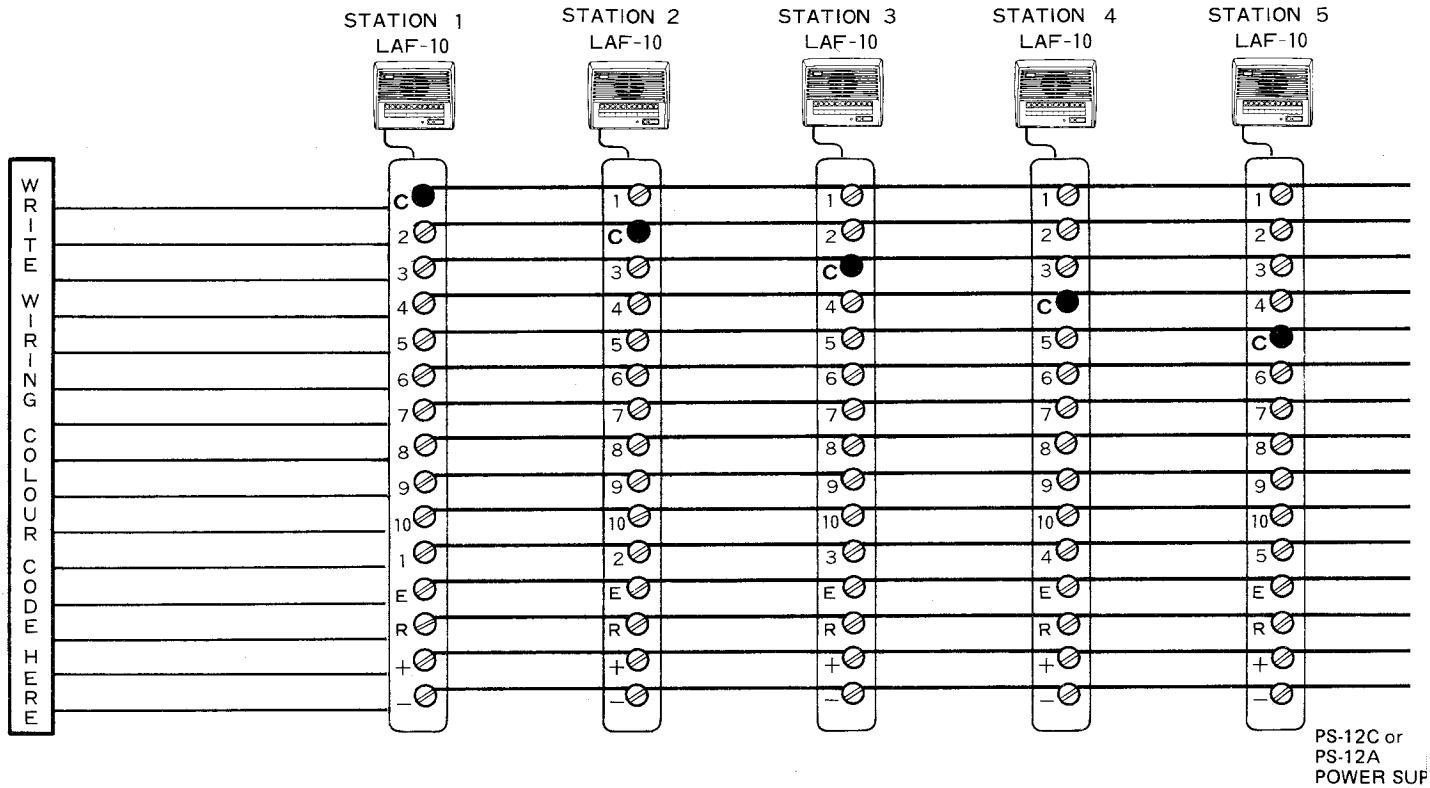


## ADJUSTING VOLUME CONTROLS

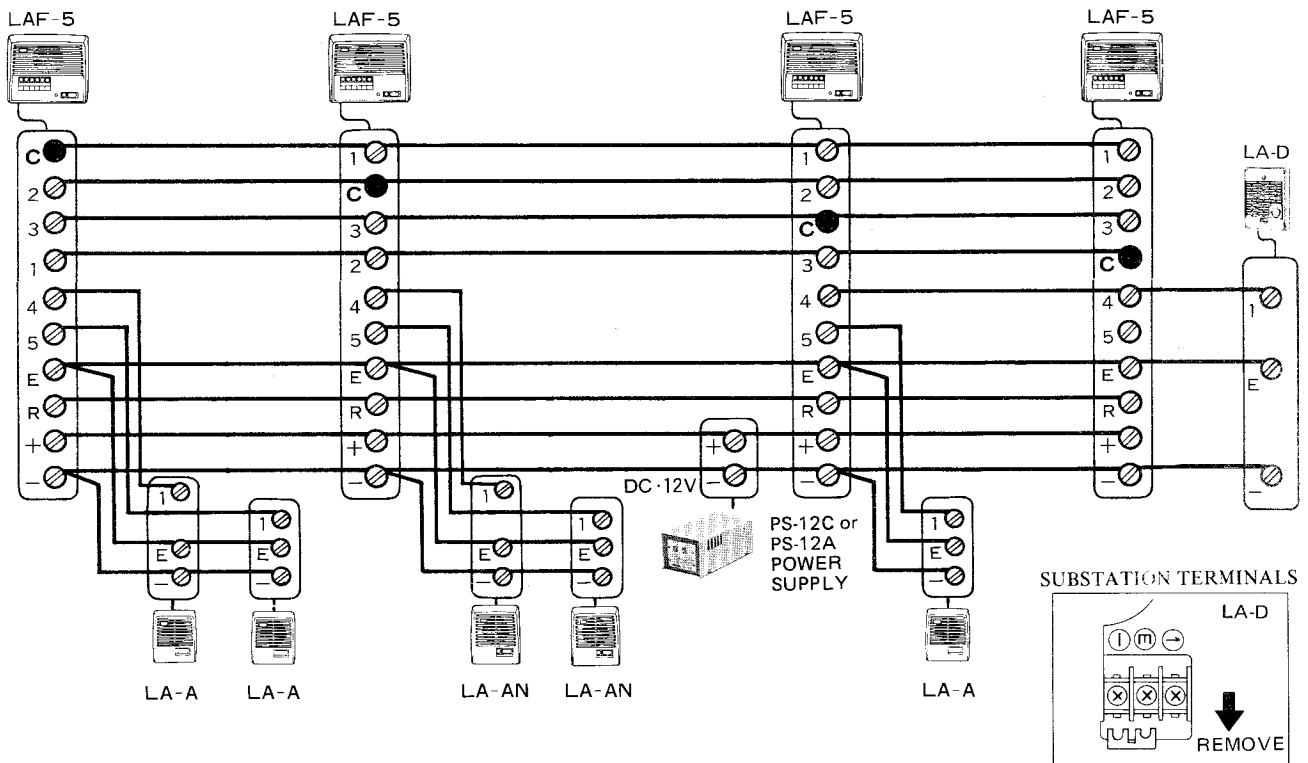
- 1) Fingertip adjustment ensures pleasant communication at desired level all the time.
- 2) Use screw driver to adjust volume control for call tone to desired level.



# LAF-10 ALL MASTER SYSTEM USING



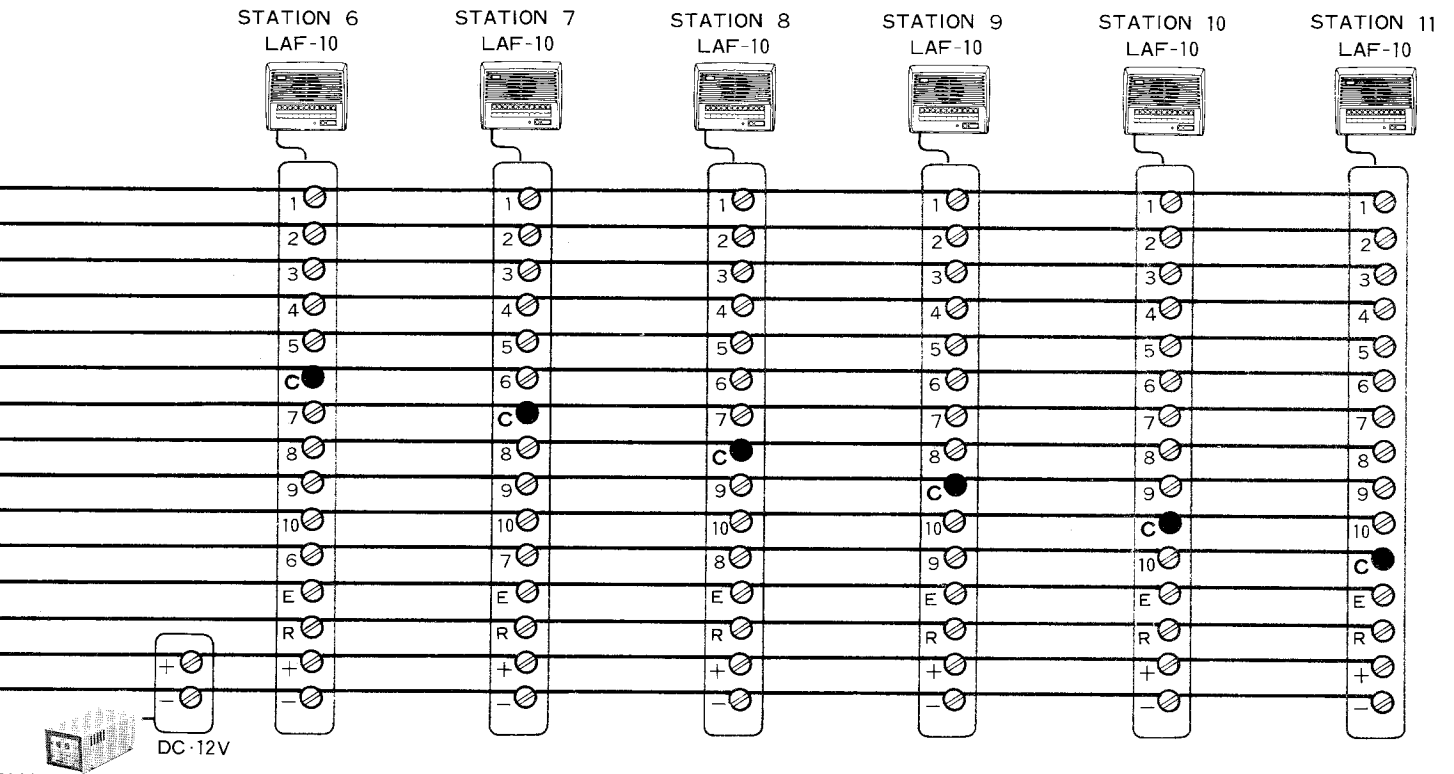
## INTERMIXED MASTER STATIONS AND SUBSTATIONS



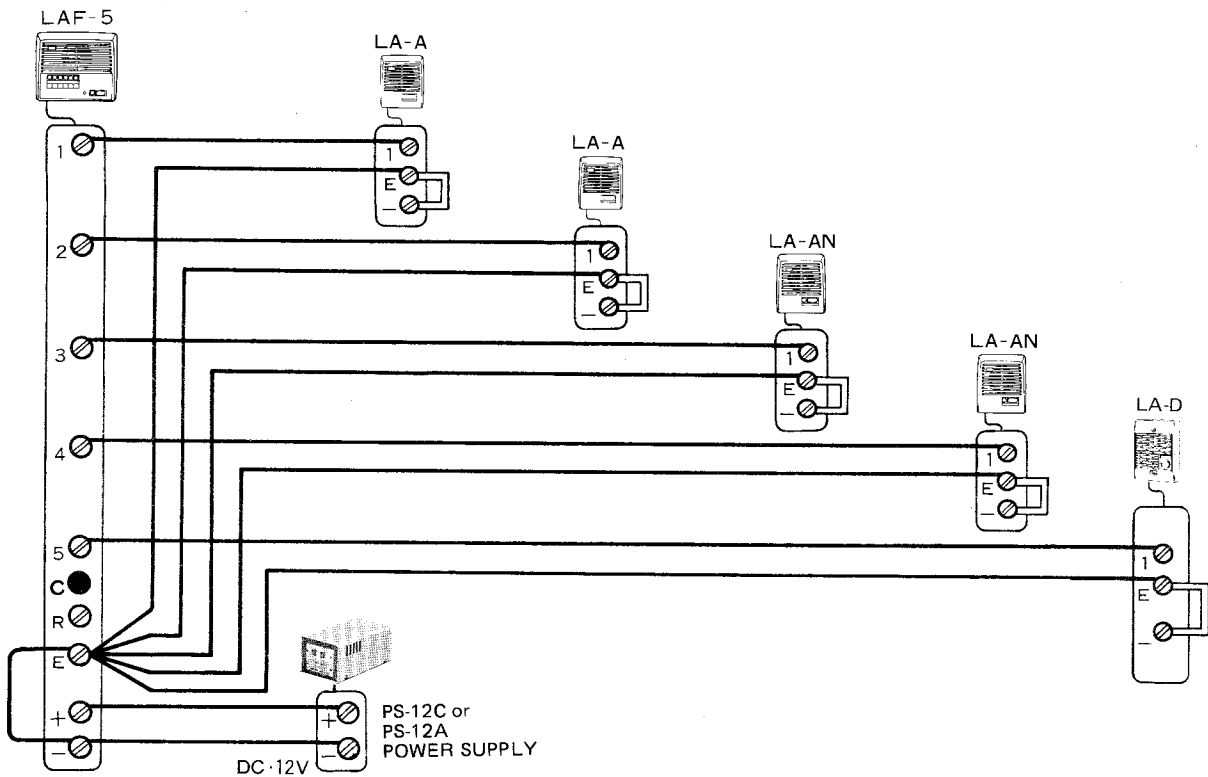
### IMPORTANT SUBSTATION INSTALLATION INFORMATION

If your LAF system consists of two or more masters and several substations, 2 common wires plus 1 individual wire per substation are required. Before attempting to install, remove the shorting link attached to terminals ⊕ and ⊖ on LA-A, LA-AN and LA-D as shown.

# PS-12A (or PS-12C) POWER SUPPLY



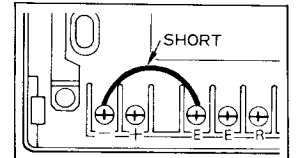
## LAF SYSTEM WITH ONE MASTER AND FIVE SUBS



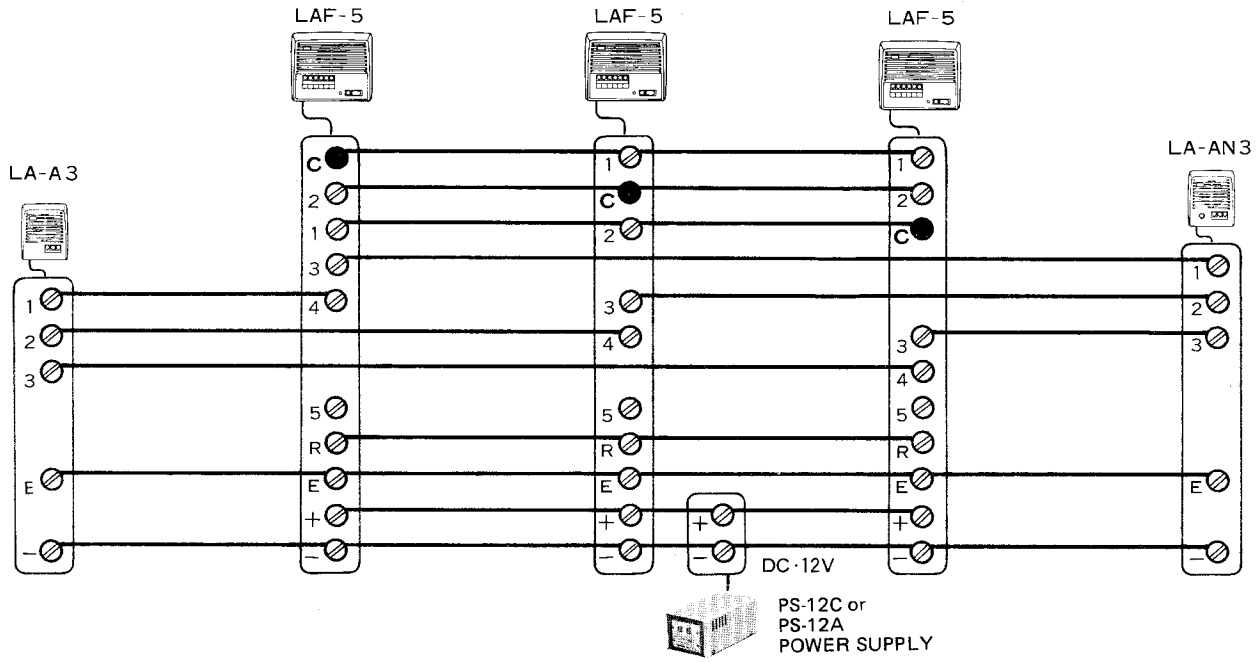
### IMPORTANT SUBSTATION INSTALLATION INFORMATION

If your LAF system consists of one master and several substations, 2 wires per substation to master station are required. It is necessary that  $\oplus$  and  $\ominus$  terminals should remain shorted on each sub station, either LA-A, LA-AN or LA-D. Before attempting to install master station, make a short between terminals  $\oplus$  and  $\ominus$  on the terminal board of master station as shown.

### MASTER STATION TERMINALS



# LAF SYSTEM WITH LA-A3 AND LA-AN3 THREE CALL SUBSTATION

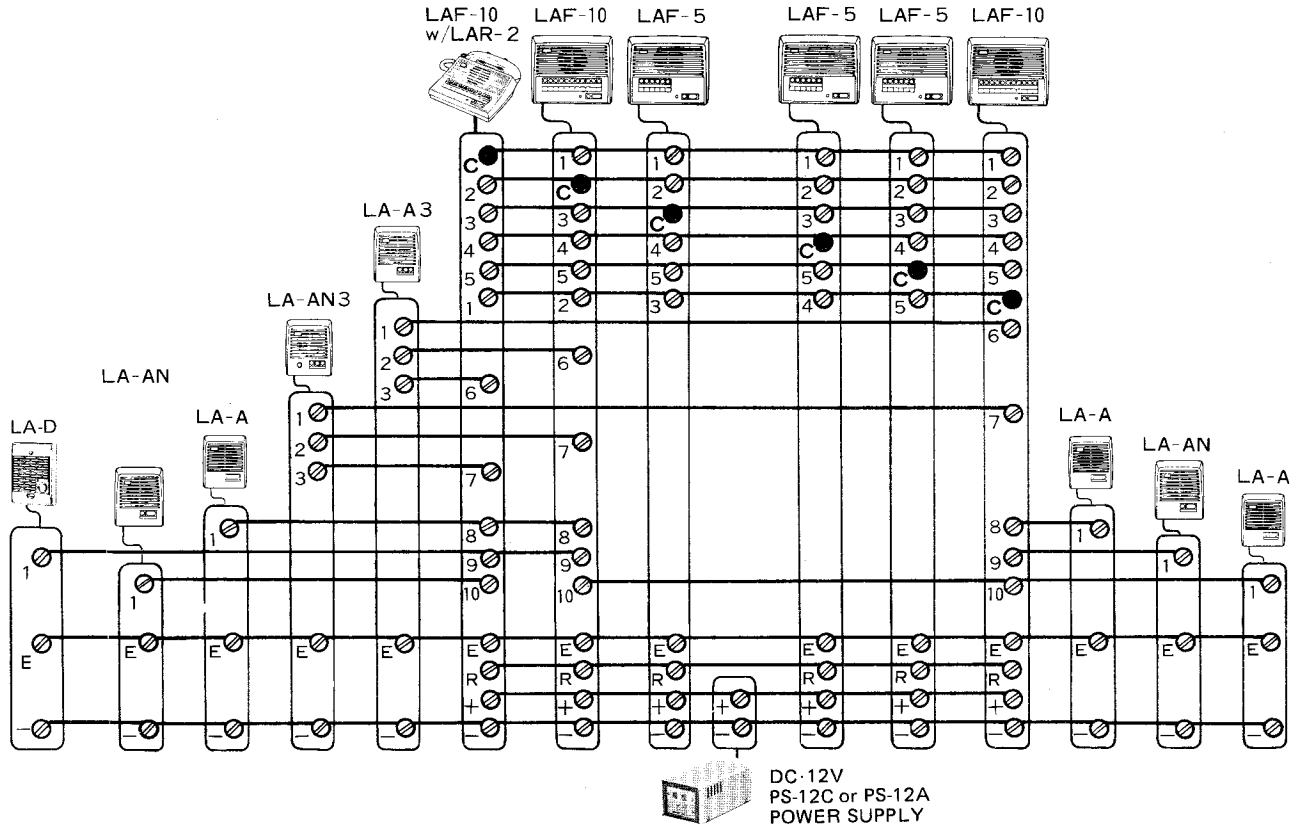


## IMPORTANT THREE CALL SUBSTATION INSTALLATION INFORMATION

2 common wires plus one individual wire to each of three selected masters are required. To assure the best communication fidelity we recommend to extend 5 conductors from LA-A3 (or LA-AN3) to minus (-), E, and unused number terminal on first selected master and then the remaining two conductors to unused number terminals on second and third selected masters respectively. Do not wire in a home-run manner.

## INTERMIXED MASTER STATIONS AND SUBSTATIONS

\* Equipment available for use with an LAF system can be intermixed to provide a communications network to meet your requirements. With proper pre-installation planning, your LAF system can become one of the most useful and versatile intercom networks available.

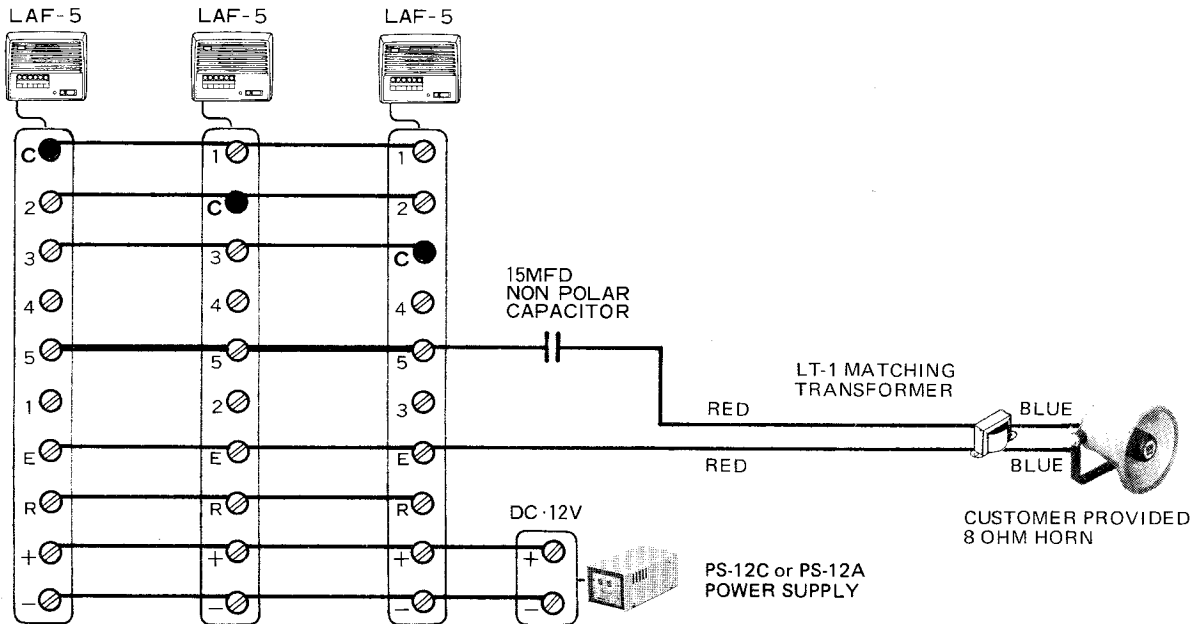


## LAF SYSTEM WITH TALKBACK PAGING HORN

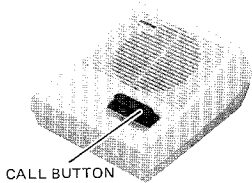
Your LAF system can not be connected to a standard paging system. In addition your LAF system was not designed to incorporate talkback paging horn substations. However, a talkback paging horn may be added to your system as shown below. You must keep in mind that the LAF-5, LAF-10 & LAF-10S has an output of 800 mW.

LT-1 matching transformer is designed for using a standard 8 ohm horn in place of a substation.

15 MFD non-polarized capacitor must be installed between number terminal on master and a red lead of LT-1.



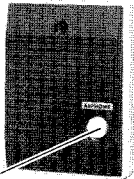
## SUBSTATION OPERATING INSTRUCTIONS



CALL BUTTON

### LA-A:

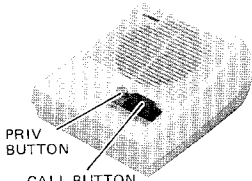
1. Depress momentarily call button. You will hear a call tone. Wait for master to answer. After master replies, communication from LA-A is hands free.
2. If no call tone is heard when LA-A call button is depressed, the system is occupied with another conversation. Please call later.



CALL BUTTON

### LA-D:

Same as LA-A.

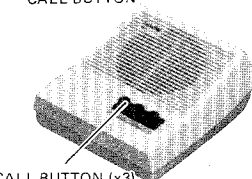


PRIV  
BUTTON  
CALL BUTTON

### LA-AN:

Calling and talking operation same as LA-A.

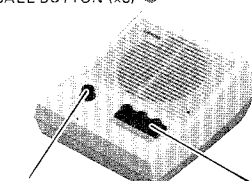
LA-AN has privacy switch which allows a call to be received from master but prevents sound going back to master. To place LA-AN in privacy position, depress PRIV button. To release privacy switch for conversation, momentarily depress call button.



CALL BUTTON (x3)

### LA-A3:

Same as LA-A except three buttons allowing calling and talking to three masters.



PRIVACY BUTTON  
CALL BUTTON (x3)

### LA-AN3:

Before placing a call, unlock the privacy switch. Calling and talking operation same as LA-A3. At conclusion of conversation, depress privacy button.

## MASTER STATION OPERATION

- \* Placing a call;
  - 1) If occupied lamp is not illuminated, depress the selector button of the desired station.
  - 2) To call by tone, momentarily depress both private and talk buttons.  
To call by voice, depress talk button and speak.
  - 3) Use talk button to control communications. If using optional handset, use talk switch in the handset to control communications.
  - 4) Upon completing conversation, depress OFF button.

NOTE: LAF master station OFF button, when depressed, puts station in standby position as well as off position. OFF button MUST BE DEPRESSED and LOCKED DOWN on all master stations except station initiating a call or system will not work.

- \* Receiving a call from another master;
  - a) When your station is in non-privacy position, no action is required and communication is hands free.
  - b) When your station is switched for privacy, release privacy button by momentarily depressing talk button, then resuming hands free operation or, if using optional handset, reply can be made privately using the handset.

NOTE: There is no lamp annunciation between master stations except the occupied lamp.

- \* Receiving a call from a substation;
  - 1) An incoming call is annunciated both by tone and lamp. Depress the selector button above the lighted call lamp.
  - 2) Use the talk button to control communications. Upon completing conversation, depress OFF button.

NOTE: When you receive calls from another master and a sub at the same time, reply first to master and, after the occupied lamp goes out, depress the selector button of the calling sub and communicate. DO NOT DEPRESS THE SELECTOR BUTTON WHILE OCCUPIED LAMP ILLUMINATES.

## CLEANING YOUR INTERCOM STATIONS

- \* Your Aiphone intercom stations may be cleaned with a soft cloth dampened with household cleanser, such as Mr. Clean or Fantastik.

\* \* \*

We at AIPHONE are proud of our products. Our designers and engineers strive to bring you the finest in communication equipment. Each item has been carefully tested and inspected before leaving our factory. Properly installed and used, your Aiphone intercom system should give years of trouble-free service.

We are pleased to offer the following warranty:

### WARRANTY

Aiphone warrants its products to be free from defects of material and workmanship under normal use and service for a period of one year after delivery to the ultimate user and will repair free of charge or replace at no charge, should it become defective upon which examination shall disclose to be defective and under warranty. Aiphone reserves unto itself the sole right to make the final decision whether there is a defect in materials and/or workmanship; and whether or not the product is within the warranty.

This warranty shall not apply to any Aiphone product which has been subject to misuse, neglect, accident, or to use in violation of instructions furnished, nor extended to units which have been repaired or altered outside of the factory.

This warranty does not cover batteries or damage caused by batteries used in connection with the product.

This warranty covers bench repairs only, and any repairs must be made at the shop or place designated in writing by Aiphone. Aiphone will not be responsible for any costs incurred involving on site service calls.

Aiphone Co., Ltd., Nagoya, Japan  
Aiphone Corporation, Bellevue, Washington

LAF INSTRUCTIONS (E)

INTERCOM SYSTEMS  
 **AIPHONE**  
HOME, BUSINESS, INDUSTRY

Printed in Japan