**1 NAMES AND FUNCTIONS**

1. Speaker
2. Microphone
3. Directory card
4. Call annunciator LED
5. Station selector button
6. Communication volume control
7. Call tone volume control
8. ALL CALL button
9. ALL CALL indicator LED
10. OCCUPIED LED
11. Door release button
12. PRIVACY button
13. TALK button
14. OFF button
15. Station selection indicator LED
16. Mounting back box (Model: BBX-1)

**2 SYSTEM FEATURES**

1. Versatile communication system. Either All-master, Single-master or Intermixed System can be created.
2. Intermixable masters and subs, either semi-flush mount (LAF-B) or desk/wall mount type (LAF).
3. All Call announcement and Background music distribution, using BG-1A/B and an amplifier.
   (With urgent message break-in in occupied mode ... ONLY in a LAF-10B(Type A)/LAF-7B system with no existing models included.)
4. Handsfree reply and high output power.
5. Sub call-in annunciator LED stays lit for approx. 20 seconds.
6. During your communication, sub call-in can be signalled by soft tone.
7. Options; * Door station (any number).
   * Door release, using RY-PA relay.
   * Paging thru an 8-ohm horn with talkback.
BEFORE YOU INSTALL AND OPERATE THE EQUIPMENT  
— Prohibitions and precautions —

*Operation;  
1. On all LAF master stations, except station initiating a call, OFF button MUST BE DEPRESSED and LOCKED DOWN, or system will not work. The illuminated LED above OFF button indicates you forget to depress OFF button, if not in use.
2. The illuminated OCCUPIED LED indicates the other station is using the system. While this OCCUPIED LED is lit,
   (1) Do not depress any selector button. The squeak sound will come out at initiating and receiving stations.
   So, when you receive calls from another master and a sub at the same time, REPLY FIRST TO THE MASTER and, after the OCCUPIED LED goes out, depress a selector button of the calling sub and communicate.
   (2) Do not make All Call nor any other operation, when LAF-B units are intermixed with existing models (LAF-3A/5/10/10S/10B/10BS).
3. When a sub station calls during Background music distribution, the call tone will come out through all LAF station speakers, and call-in annunciator LED stays lit for approximately 20 seconds on the called master station.

* Installation;  
1. DO NOT CONNECT ANY TERMINAL ON ANY UNIT TO AC POWER LINES.
2. Be sure not to plug power supply into AC receptacle until you complete wiring connections, and unplug before opening the unit.
3. Lay out your system in advance. Determine the exact location of each station. Assign station number and make a sketch showing the number of wires and color codes from one station to another. Begin your installation with master station No. 1. Upon installing second master station, we recommend a test be made for all functions, calling and talking between each station.
   After completing all the masters connection and testing, begin sub station installation.
4. Insulate by tape, etc. each unused connector wire end. If touches the other wires or back box it will cause damage to the units.

Installation location;  
5. Select the installation locations that would not be exposed to temperature/humidity extremes, water, oil, dust, iron dust, inflammable and chemical products, etc.
6. To avoid feedback, DO NOT PLACE MASTER STATION AND ANOTHER MASTER OR SUB STATION BACK TO BACK, OR ON A COMMON WALL BETWEEN ROOMS.

Unit selection;  
7. When making an intermixed system, note in advance that master stations: LAF-3A, LAF-5, LAF-10 console types have no button for All Call nor door release. LAF-1B and LAF-3B have only door release button. If such functions required at console type station, please use LAF-10S.
8. If any LAF-B station: LAF-1B/3B/7B/10B (Type A) is intermixed with existing models: LAF-3A/5/10/10S/10B, install a supplied 2-pin connector on back of all the LAF-B units.

Adaptor installation location;  
9. Locate PS-12A (or PS-12C) power supply near center of the system.
10. Locate BG-1A/1B adaptor near by the power supply.

* Maintenance;  
1. Clean your equipment with a soft cloth dampened with neutral household cleanser. Never use thinne nor benzine, etc.
# 2 LAF-10B (Type A) ALL-MASTER SYSTEM
WITH ONE EACH DOOR STATION & DOOR RELEASE AND BGM/ALL CALL

*ROOM-TO-ROOM COMMUNICATION
*DOOR STATION CALL-IN
*DOOR RELEASE
*BGM RECEPTION/ALL CALL TRANSMISSION

### MASTER STATIONS (LAF-10B/A)
- DOOR STATION
- #1
- #2
- #3
- #4
- #5
- #6
- #7
- #8
- #9
- #10
- BGM/ALL CALL ADAPTOR
- PAGING AMP.
- POWER SUPPLY
- AC
- BGM SOURCE

### LAF-10B/A
- DOOR STATION LAF/D/A
- #1
- #2
- #3
- #4
- #5
- #6
- #7
- #8
- #9
- #10
- BGM/ALL CALL ADAPTOR (BG-1A/1B)
- 25V line (for PG-10A)
- 8 ohm line (for PG-10B)
- PAGING AMP.
- (PG-10A/10B)
- SHIELDED
- INPUT OUTPUT
- SHIELDED
- MUSIC INPUT
- BGM SOURCE
- POWER SUPPLY
- PS-12A/PS-12C
- AC

### BGM reception/All Call transmission
(at any room station)

(1) When using a STEREO MUSIC SOURCE, eg. FM Tuner, 8-track player or cassette player, etc., connect the PHONO plugs directly to two PHONO jacks on BG-1A/1B.

(2) Music source output requirements:
- Tuner; Use AUDIO output (Range: 300 mV ~ 1.2V, 10 K ohm ~ 100 K ohm).
- Tape player; Use low level output (Range: 300 mV ~ 1.2 V, more than 600 ohm).

### Door station call receiving
(at station Nos. 1 & 2 only)

*Door station call be received at max. 2 room stations. So DO NOT CONNECT TERMINALS FOR DOOR STATION (each own station No.) on any other room station than station Nos. 1 & 2.

### Door release
(at station Nos. 1 & 2)

*Connect [ ] terminal on each room station, accepting door station call.
*Use a bell transformer: AC 12V, 0.25A or more to power EL-9S.
*Separate wiring for door release from wiring for communication.
**WIRING DIAGRAM**

#1 LAF-10B (Type A) ALL-MASTER SYSTEM WITH BGM/ALL CALL

**MASTER STATIONS (LAF-10B/A):**

![Wiring Diagram]

**BGM reception/All Call transmission**

(at any room station)

<table>
<thead>
<tr>
<th>BGM reception/All Call transmission</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) When using a STEREO MUSIC SOURCE, eg. FM Tuner, 8-track player or cassette player, etc., connect the PHONO plugs directly to two PHONO jacks on BG-1A/1B.</td>
<td>Each own number button connects to a last station No. 11.</td>
</tr>
<tr>
<td>(2) Music source output requirements; Tuner; Use AUDIO output (Range: 300 mV ~ 1.2V, 10 K ohm ~ 100 K ohm). Tape player; Use low level output (Range: 300 mV ~ 1.2V, more than 600 ohm)</td>
<td></td>
</tr>
</tbody>
</table>
All calls and also receive BGM.

1. Each master No. 1 call a master No. 1

2. Sub No. 6 can only receive BGM and

3. Sub No. 5 can only receive BGM and

4. LAF-1B station can

master.

NOTES:

1. A call from sub No. 1 ~ 4 signals two

Masters.

2. Call STATION.

3. CALL STATION.

4. BGM/ALL CALL.

5. Door Release.

6. Door Station Call-in.

7. Door Master.

8. Door Station.

9. 3 Call Sub.

10. BGM/ALL CALL.

11. Master.

12. STATION.

13. LA-F-1B (Type A) MASTER SELECTIVE SYSTEM

With one each Door Station, Door Release & 3 Call Sub and BGM/ALL Call

14. 1 Call Master
Volume adjustment:
LAF-B unit has pre-setting volume, allowing to lower the maximum level of communication. On back of LAF-B unit, using a philip screwdriver, turn the volume counter-clockwise to achieve the desired level.
On front panel, LAF-B unit has two volume controls for communication and call tone, each adjustable to three levels as desired.

ACTUAL TERMINAL LOCATION

PIN/WIRE COLOR CODE IDENTIFICATION
1. Brown
2. Red
3. Orange
4. Yellow
5. Green
6. Blue
7. Purple
8. Gray
9. White
10. Pink
P1. Green
P2. Blue
P3. Purple
Y. Orange
L. White
R. Gray

INSTALLATION

(1) Semi-flush mounting to wall (in new construction):
For new construction, use a mounting back box (Model: BBX-1).
1. Install the back box in the wall.
2. Attach the supplied mounting bracket with four screws (supplied).
3. Mount LAF-10B/A unit to the bracket with two screws (supplied).

(2) Semi-flush mounting to an existing wall;
1. To install LAF-10B/A unit to an existing wall, cut and open a hole of H: 165 mm (6-1/2") x W: 206 mm (8-1/8"), securing depth of more than 47 mm (1-7/8").
2. Attach the mounting bracket directly to wall with four wood screws (supplied).
3. Mount LAF-10B/A unit to the bracket with two screws (supplied).
**SPECIFICATIONS**

*Power source:* DC 12V. Use PS-12A (or PS-12C in North America) power supply.

*Current consumption:* 350 mA maximum.

*Communication:* Press-to-talk release-to-listen at calling master.

*Communication output:* 800 mW maximum at 20 ohm.

*Communication network:* Either of All-Master, Single-Master or Intermixed System can be created.

*Calling:* Electronic tone and an illuminated LED (staying lit for approx. 20 seconds), when called by sub (at master)
Electronic tone or Voice direct when called by master (at master)
Electronic tone or Voice direct when called by master (at sub).

*Talk channel:* 1 talk channel.

*Wiring:*

<table>
<thead>
<tr>
<th></th>
<th>Between masters</th>
<th>Between masters &amp; BG-1A/1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>For communication only</td>
<td>5 common + 1 individual</td>
<td></td>
</tr>
<tr>
<td>For communication and BGM reception</td>
<td>5 common + 1 individual</td>
<td>4 common + 1 individual</td>
</tr>
<tr>
<td>For communication and All Call transmission</td>
<td>8 common + 1 individual</td>
<td>7 common + 1 individual</td>
</tr>
<tr>
<td>For communication, BGM reception and All Call transmission</td>
<td>8 common + 1 individual</td>
<td>7 common + 1 individual</td>
</tr>
<tr>
<td>For door release</td>
<td>plus 1 common (additional)</td>
<td></td>
</tr>
<tr>
<td>For all functions as above</td>
<td>9 common + 1 individual</td>
<td>7 common + 1 individual</td>
</tr>
</tbody>
</table>

(2) Between sub station; 3 wires for each sub station.

*Wiring distance:*

<table>
<thead>
<tr>
<th>AWG</th>
<th>24 AWG</th>
<th>22 AWG</th>
<th>20 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance</td>
<td>400'</td>
<td>650'</td>
<td>1,000'</td>
</tr>
<tr>
<td>Diameter</td>
<td>0.5 mm</td>
<td>0.65 mm</td>
<td>0.8 mm</td>
</tr>
<tr>
<td>Distance</td>
<td>120 m</td>
<td>200 m</td>
<td>300 m</td>
</tr>
</tbody>
</table>

*Dimensions:*

H : 200 mm x W : 266 mm x D : 20 mm
(H : 7-7/8" x W : 10-1/2" x D : 13/16")

Recessed:

H : 150 mm x W : 190 mm x D : 47 mm
(H : 5-7/8" x W : 7-1/2" x D : 1-7/8")

*Back box diamensions:* H : 178 mm x W : 238 mm x D : 65 mm
(H : 7" x W : 9-3/8" x D : 2-9/16")

*Weight:* Approximately 1,040 g (2.3 lbs.)

*RY-PA relay contact capacity:* AC 110V, 1A.
DC 24V, 1A.