

# LEM-1DL Supplemental Instructions

## Single Master Station with Door Release

**- REFER TO INSTALLATION MANUAL INSIDE LEM-1DL BOX FOR STANDARD INSTALLATION INFORMATION -**

The LEM-1DL master station provides communication to and from a door station, and has a separate button for door release. This supplemental instruction manual addresses many of the additional functions and modifications for the LEM-1DL system, including installation and troubleshooting information.

**MASTER STATION:**

LEM-1DL: 1-call master station with "Normally Open" door release button

**DOOR STATIONS: (Note: Door stations are weather resistant, made for outdoor use)**

- LE-D: Surface mount, plastic door station (included with LEM-1DLS Set)
- LE-DA: Flush mount in 2-gang box, stainless steel cover
- LS-NVP/C: Vandal resistant flush mount in 3-gang box, white powder-coat finish
- LE-SS: Vandal resistant flush mount sub in 2-gang box, stainless steel
- LE-SSR: Vandal resistant, red mushroom button, flush mount in 2-gang box, stainless steel
- LE-SS-1G: Vandal resistant flush mount sub in 1-gang box, stainless steel

**OPTIONAL COMPONENTS & ACCESSORIES:**

- RY-AC/A: External signaling relay (Requires 12VDC power supply)
- DAK-2S: Dual master adaptor kit (1 per 2 master stations. Use 2 DAK-2S for up to 4 total master stations)
- SBX-NVP: Surface mount box for LS-NVP/C
- SBX-2G: Surface mount box for LE-SS, LE-SSR, LE-DA
- SBX-1G-SS: Surface mount box for LE-SS-1G
- EL-12S: Door strike (for interior wood frame doors only)
- PT-1210N: AC 12V Transformer (used for door strike and for each master station)
- PS-1225UL: 12V DC Power Supply, 2.5A, UL Listed
- 822202: 2 conductor, 22AWG, Shielded wire (Available in 500' and 1000' boxes)  
*Install two separate runs of this cable, one for the intercom and one for the door release.*



LEM-1DL



LE-D



LE-DA



LS-NVP/C



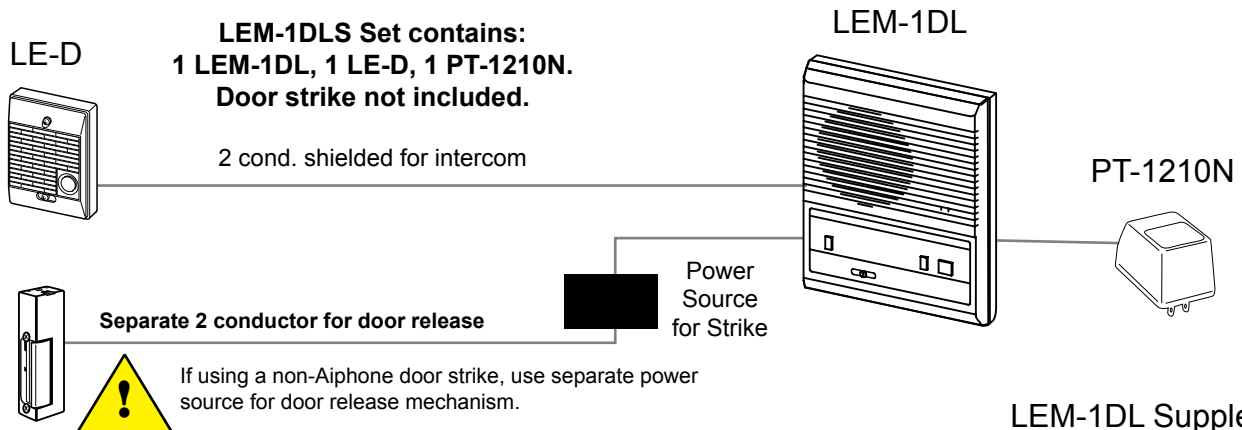
LE-SS



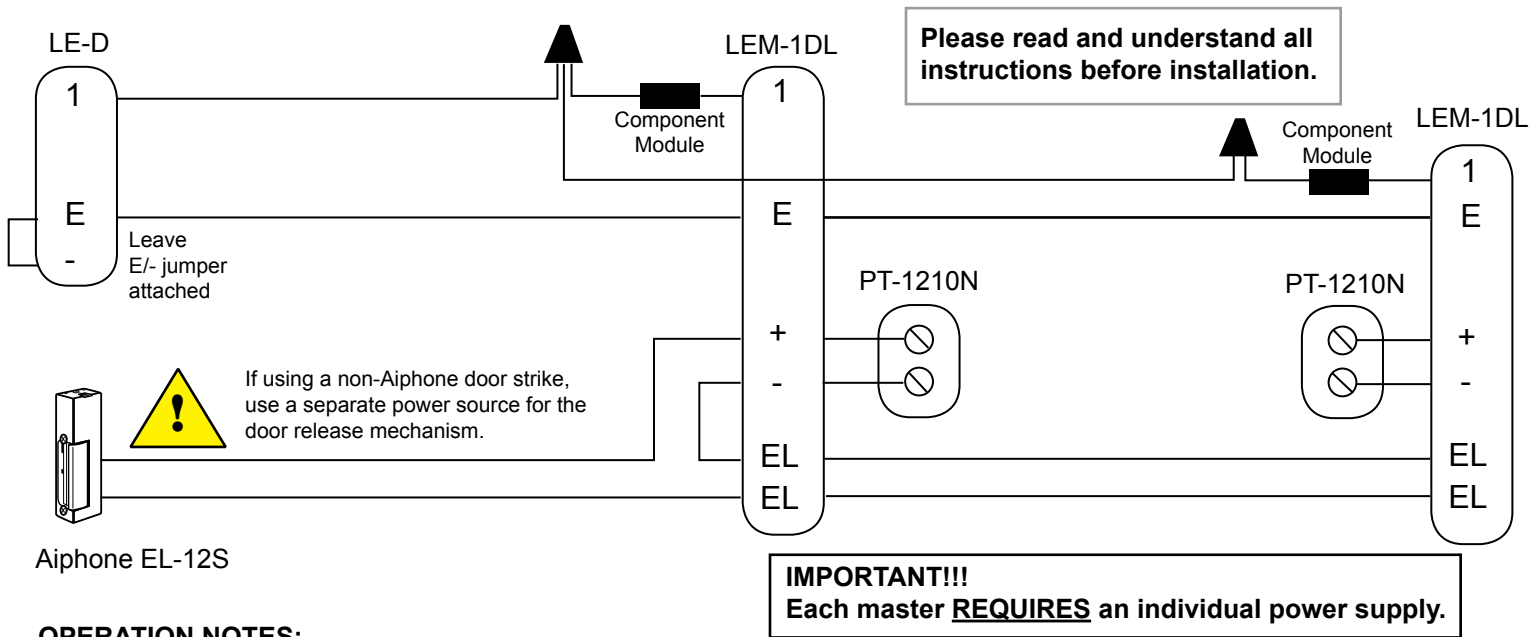
DAK-2S

(2 component modules per kit)

**DOOR RELEASE WIRES MUST BE IN A SEPARATELY JACKETED CABLE FROM THE INTERCOM WIRING.**



## WIRING DIAGRAM: Dual Master LEM-1DL System with DAK-2S Dual Master Adaptor



### OPERATION NOTES:

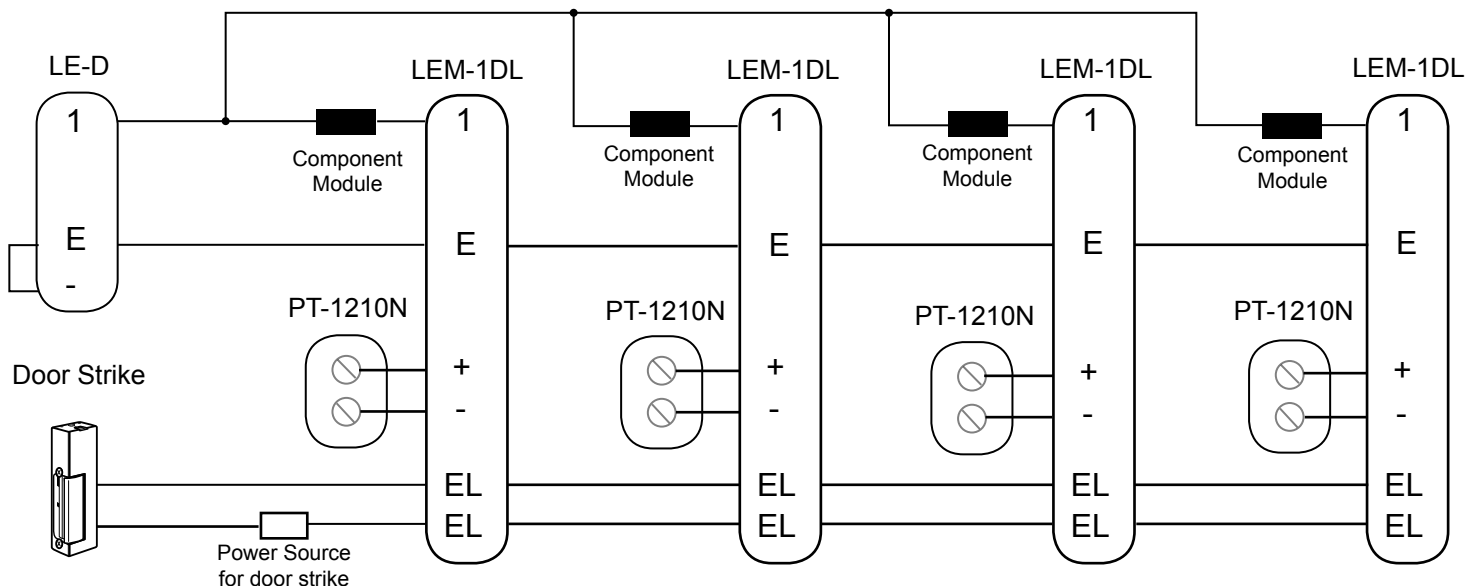
1. Only one master can be used at a time.
2. If both masters are activated, a feedback (squeal) will be heard through the system when either TALK button is pressed.
3. If feedback occurs, press the OFF button on one of the LEM-1DL masters.

### INSTALLATION GUIDELINES:

1. Use 2 conductor shielded wire from the door station to the first master, then to the second master.
2. Install the units at the desired locations.
3. Separate PT-1210N power supplies are required for each master station. NOTE: Connect power leads to master BEFORE plugging in power supply
4. Install the bare wire leg of the component module directly onto the "1" terminal of the LEM-1DL's.
5. Attach the wire coming from the "1" terminal of the LE-D to the colored wire end of the component modules at both masters. (The component modules will easily fit within the space available.)
6. Connect the "E" terminals between the door station and master stations.
7. If door release is included, use a separate 2-conductor wire from the "EL" terminals of the masters through an AC transformer and to the door strike.
8. The EL-12S is designed for a standard wood framed door, and for light and medium usage. If a different type of door is used, install a strike appropriate for the door.
9. The door release button on the master station is a "Normally Open" contact closure. Contact rating is 30V AC/DC @ 1 Amp.

## 4 LEM-1DL Master Stations with 1 Door

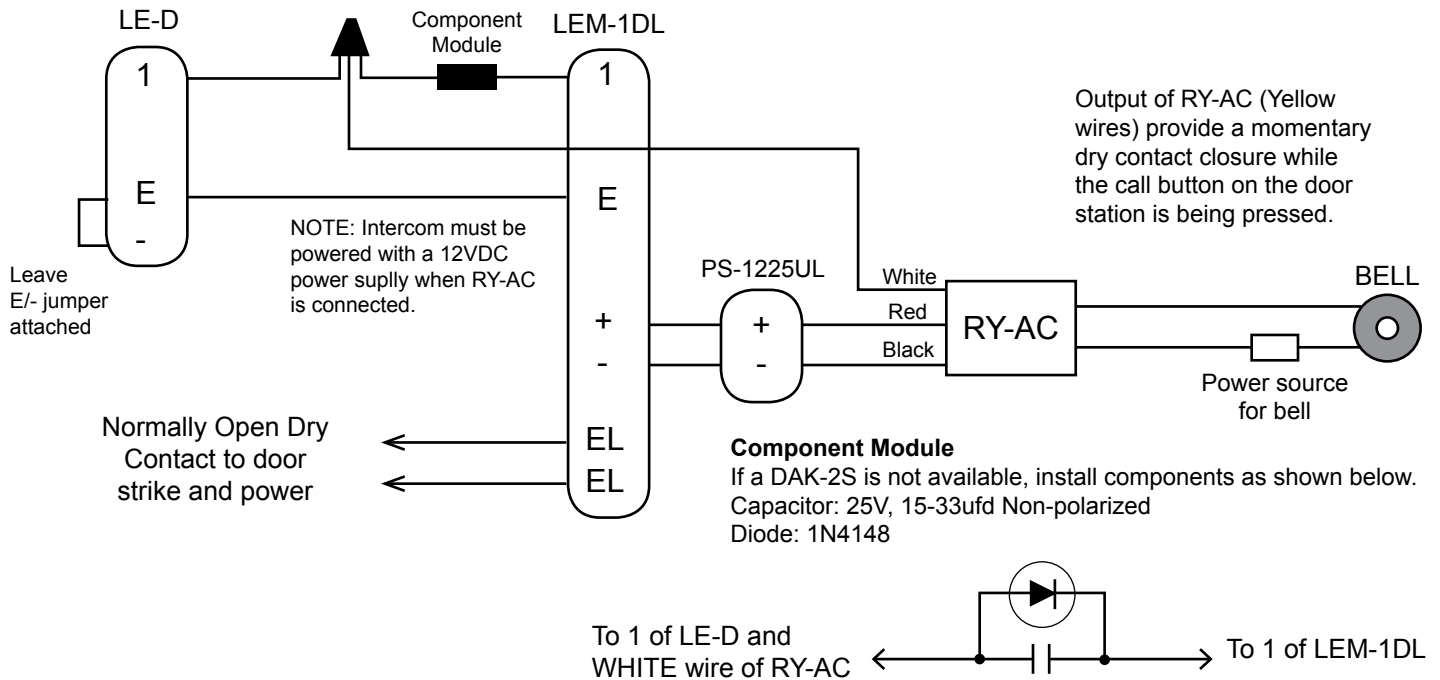
Note: In a multi-master system, all masters only talk to the door station, and only one master can be on at a time



LEM-1DL Supplement

Pg. 2

## WIRING DIAGRAM: LEM-1DL System with External Signaling using RY-AC Relay

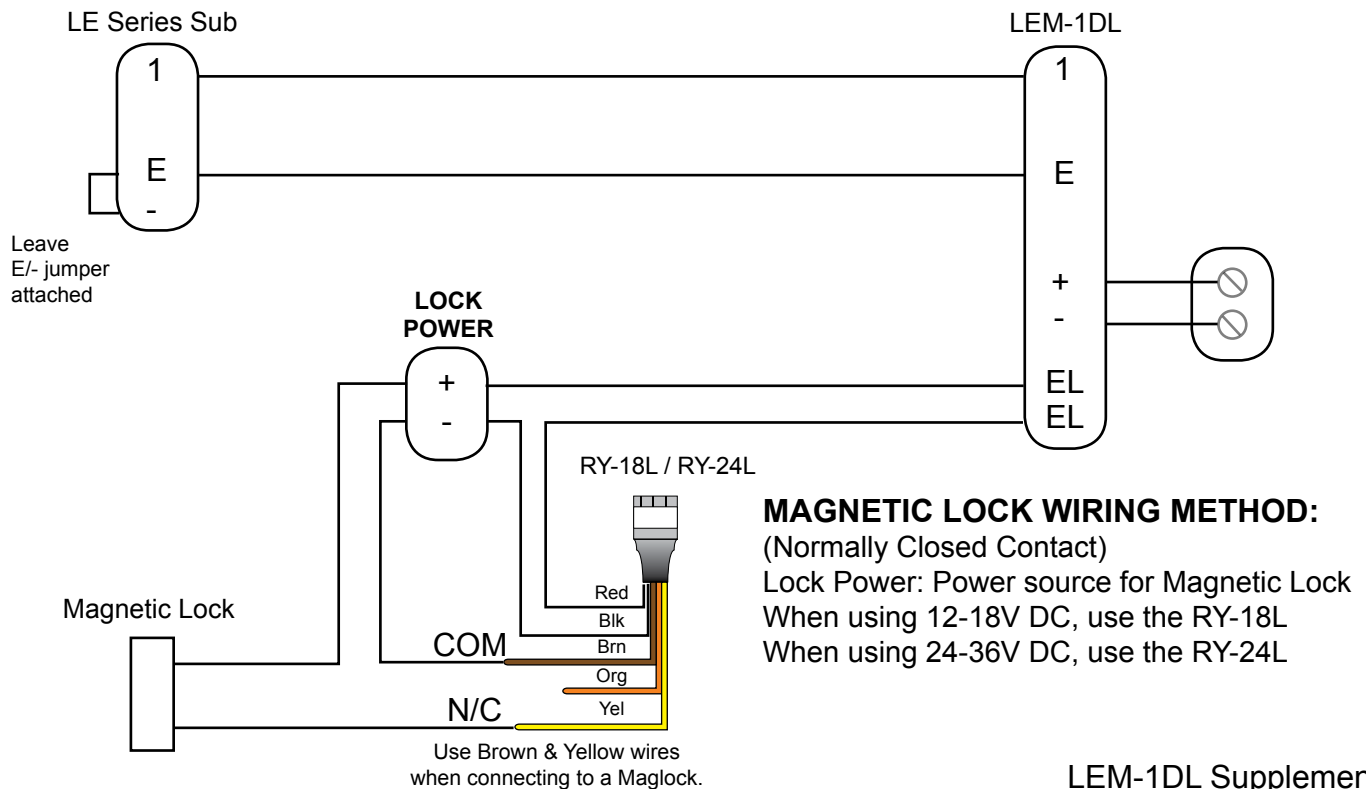


## SYSTEM CONFIGURATION:

### LEM-1DL with Door Release contact activating a Normally Closed relay for a Magnetic Lock

Note: For applications requiring a Normally Closed (N/C) contact (Magnetic locks, etc.), an external relay should be chosen based on the lock's power source.

- When using a 12-18V DC magnetic lock, Aiphone's RY-18L relay may be used.
- For 24V DC magnetic locks, Aiphone's RY-24L relay may be used.
- A 3rd party relay of similar specifications may also be used. Refer to manufacturer's documentation for connection details.



## INSTALLATION TIPS:

1. Use shielded wire for the communication path, and ground one end of the shield to an earth ground.
2. Run intercom wire at least 20" away from AC wiring, fluorescent lights or dimmer switches.
3. Keep intercom cable away from alarm, data, phone, and video cables.
4. Door release wires must be in a separately jacketed cable from the intercom wires. Use two separate cables; one for audio and one for door release.
5. When installing a second master station, wire must be run from the first master station, not from the door station. See diagram on page 2.
6. Do not install master station near light switches, dimmer switches, or other devices that may cause interference with the intercom system.
7. Do not install the master station on the opposite wall from the door station. If the units are too close, acoustical feedback may result.

## TROUBLESHOOTING GUIDE:

PROBLEM	POSSIBLE CAUSE	SOLUTION
No call tone from door to master station.	(A) OFF button on master not pressed. (B) E/- jumper not attached.	(A) Press OFF button on master. If call tone still doesn't come through, read solution (B). (B) Make sure jumper is attached to E/- terminals on door station (or proper wires jumpered on LS-NVP, LE-SS subs). Wire from E/- should be connected to E of master.
No communication from door station.	E/- jumper not attached	Ensure that the jumper at the door station is attached between E and - terminals
No call tone, no communication. Chirping sound when volume control is turned all the way up.	Wrong voltage on LEM-1DL	Check power supply. If it's a model SKK-620, remove and replace with model PT-1210N. Verify that voltage on +/- terminals is between 12-16V AC or 12-24V DC.
In a system with RY-AC and external signaling device connected, the external device is activated every time TALK button is pressed.	DAK-2S component module missing or installed incorrectly.	Make sure the component module is installed with the bare wire under the 1 terminal and the white wire of the RY-AC spliced to the colored wire.
In a dual master system, call tone is heard at the second master when pushing the talk button on one master.	Missing DAK-2S dual master adaptor kit.	Install 1 component module from the DAK-2S at each master. See Pg. 2. If DAK-2S is not available, connect specified diode and capacitor in parallel and install as shown on PG. 3.
In a dual master system, feedback occurs when pressing the talk button.	One power supply is used for both masters.	Ensure that each master has its own power supply. Use any power supply with output between 12-16V AC or 12-24V DC. Aiphone recommends the PT-1210N.
AC noise when listening to the door station	Intercom wiring run close to AC wiring.	Ensure that the intercom wire is run at least 20" from any AC electrical wire, or crossed at 90 degrees. Intercom wire should be shielded, with the drain wire connected to an earth ground at the master end.
AC noise when talking to the door station	Power wires run with communication wires.	Ensure that power wires coming from the PT-1210N are not run in the same jacket cable with the communication wires run to the door.

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