

# INSTRUCTION MANUAL



## FIRE ALARM SYSTEM MODEL : LUXES

ERTL TESTED AS PER IS:2189

### NATIONAL SECURITY DEVICES

OFFICE : 485/14, SARPANCH KA BARA, MANDAWALI  
FAZALPUR, DELHI-110092

WORKS : 2-A, Patparganj, Mayur Vihar,  
Phase - 1, Delhi - 110091

PHONE : 011 - 22751020, 64603599, Fax: 011 - 22751020

MOBIL : 9891222660, E-mail : mailanilrawat@gmail.com

# **Index**

- 1.Introduction**
- 2.System Feature**
- 3.Installation**
- 4. Indicator and control**
- 5.Terminal connection diagram**
- 6.Technical Data**
- 7. Trouble Shooting**
- 8.Lexus Main Board**
- 9.Lexus Express Board**
- 10.Lexus Power Card**
- 11.Warranty Certificate**
- 12.Dealer's Name**

# INTRODUCTION

## About The Company

We heartily welcome you in the family of **NATIONAL SECURITY DEVICES**, is well known name in the field of mfg fire alarm systems. We came in to the field of manufacturing and within a short span of a decades time, We succeed to achieve upper layer of the industry, got good response & respect from the customer for quality product & timebond services. Still aiming to keep the high standard with our professionals, advanced technology, computerized R&D, in-house tool room/assembly plant and of course our skilled workmanship with the strict quality control.

## About The Product

This manual intended as a complete guide to the model PA cum Talk Back system control panel. This Public address based amplifier & talk back system is useful with wide range of application required in fire alarm and building security alarm & Automation.

## System Requirement and Design

This panel is designed to meet the general requirement of IS 2189:1999. These system are used in residential society, large complex, hospitals, multistory buildings, sensitive area where fire & emergency escape need quick evocation. This system operated by fire fighting depart/duty persons.

# SYSTEM FEATURE

Your LEXUS fire alarm panel comes with its internal robust Power unit, changer change over circuit mains fail to battery & vice versa. Card less motherboard & express board. Panel has spaced of 2No. 17AH battery, 8 to 40 flexible zones facility with the individuals Hooter lines and a common point which gives continuous output voltage . Also has provision of extra relay contact.

## Feature of the system are describe as follows :-

- 1-- Micro controller based & fault monitoring system.
- 2-- Separate LED display for individuals zones.
- 3-- Zones wise/common hooter facility
- 4-- Zone wise repeaters fire & fault(optioninal).
- 5-- Tactile type switch building evacuation, lamp test zone test walk reset the system.
- 6-- Visual indication of common fire, common fault mains, charging low battery etc.
- 7-- In built auto charging.
- 8-- Audio visual indication for fire/fault(zone wise).
- 9-- Common silence switch for accept of fire/fault/ zone/ power) and respective common relay.
- 10--If multiple condition appear in same time press salience switch again & again till the streaming of condition .In that condition sounder & buzzer will activate again .After rectification of fault press reset switch.
- 11--System is fully detachable card by card such as power unit, mother board, switch pad, express board etc. Thus servicing is simple, cost effective and time saving also. This process does not need very experienced person, thus you can easily change the defective part.

## **Public Address System**

The PA system is designed to individual selector switch & respective indicating lamp.

Individual selector switch is design for announcement in particular area. So operator can select the are where public addressing/evacuation is needed. Hooter/speaker output automatically sounds evacuated /alert fire in case of fire signal if fire panel input is collaborated with this panel. These hooter/speaker activated in selective areas as directed by fire alarm panel. Whole premisses can be evacuate through ALL- CALL switch.

The panel operates on 220 V AC Mains with 24 V DC Battery as a stand by power .The built in circuit provide constant voltage charging to maintain the battery capacity.

**Inbuilt Power amplifier to drive the all speaker simultaneous play.**

High quality unidirectional mike for announcement.

Dual function audio system for hooter cum announcement.

Low battery visual warning with Audio able tone.

Zone wise PA Selector switch & Talk -Back operating switch.

All switch are with individual ON indication LED.

P.A Announcement Hooter Output with silence facility.

Manual test/Evacute facility/Selector with All-Call facility.

Rugged CRCA sheet with powder coated finish.

Modular Construction.

Relay Output for associate gadgets.

Stand by battery backup with Built in charging.

# INSTALLATION

Before the installation of any device it is necessary to choose the right place.  
In the case of fire alarm system it is necessary to see the following points.

- 1) Do not install system in high radioactive, magnetic field and moisture area.
- 2) Where the heavy Electric cables junction and shock hazard area.
- 3) In restricted area enclosed area.
- 4) For the installations of a panel make sure the back box assemble is held accurately against the wall, and mark the position of the four fixing holes .  
Fix it by hole.

## SYSTEM COMMISSIONING

Before connection field wire is must to check them by a low voltage millimeter.  
It is must be satisfied hooter or other control circuit are giving right symptom.  
If found dough full please check them again. Before the system commissioning  
all the detection zone lines circuit must be check the resistance between each line  
& negative must be check and certified to be 4.7 Ohm +- 10%.

After the line have been found satisfactory then the detection & sounder circuit  
connected as per wiring with diagram. Now connected battery supply first, power  
fault & system on lamps glow(wrong connection reverse Battery lamps glow).  
Now connected mains 230V mains lamps & system on glow system will silent.

## Important

**Please note that  
NEVER USE SPEAKER WITHOUT LINE MATCHING TRANSFORMER (LMT)  
This may burn fire alarm panel or PA System.**

# INDICATORS AND CONTROLS



## Fire alarm with PA system

4

<b>NATIONAL SECURITY DEVICES</b> OFFICE : 485/14, SARPANCH KA BARA, MANDAWALI FAZALPUR, DELHI-11092 PHONE : 011-22751020, 64603599 FAX : 01122751020 MOBILE : 9891222660, E-MAIL- MAILANILRAWAT@GMAIL.COM	
TITLE	PA System & Talk-Back Console Controls & Features

# Controls & indicator

## START

- 1--Turn on power switch, all lamps glow once for few seconds & buzzer will short beep. Digital LCD will shows initial messages & company product information in brief till few moments.
- 2-- All lamps glow with internal sounder for few moment. this is initial lamp test to monitor the physical check the LED. If lamps not glow in LED display card check ribbon cable in proper position & tightly inserted in its header box. position.
- 3--In alarm condition check the Respective zone & search fire become alarm actuated. point. Remove respective zone & monitor fire lamps glow remain OFF. LCD will display message . Now remove fault &check it again. Reset the system, sensor become normal condition.
- 4--To test silence simulate open or short of detection line fault lamp glow. Monitor fault lamp glow & common fault relay energies with continues tone. Push silence and system will be silence monitor fault lamp relay switch while zonal fault lamps remain it.

## LCD Display

**24X 4 LCD:-** Display information received from slave. More than one information will be display one by one in each line. LCD clearly show the status of slave like FIRE/OPEN/SHORT. Information will display till the remove of FIRE/SHORT/OPEN.

## CONTROL

**EVACUATE :-** If the operator/security officer understand the fire is hard to handle. and hooter are in idle position, then he can activate hooters manually by pressing this button. This is manual alert switch to evacuate in case of fire emergency.

**LAMP TEST :-** To check the LED in healthy position condition press this switch. ALL LED will be glow for few seconds with the buzzer sound.

**RESET :-** This has provided for restarting the system after any event or function.

**ZONE TEST :-** This switch for automatic testing of detector lines/zone lines. This is working four zone per transition of fire & same for open /short. During this test common hooter sounds for 3-4 sec & buzzer beeps for as real fire. similarly buzzer sounds as actual open /short condition. Also LED are glowing for few moment as running test. All other relays and outputs are unaffected in this test.

**SILENCE :-** Whenever fire/open/ short signal comes from zone line/break glass /detector internal buzzer beeps as in fire or fault. Fire beeps are interrupted & fault beeps (open or short) are continues tone. Also respective LED glow & LCD display the information. Fire hooter are starts hooting. Silence switch mute the buzzer & hooters. Other relay & out puts are un affected from this switch



**WALK TEST :-** This switch for maintenance purpose & not used regularly. During maintenance suppose there is only one person and he want test smoke detector locate at far from panel. In that condition he can not reach immediately to silence the panel . At that period Form long distance sensor to panel, hooter will raise untrue alarm . It may be create unwanted panic .So before testing long distance sensor press walk Test switch Hooter will not operated for 15 minutes & there after it will in normal condition. Reset switch is used to abandon Walk test action.

## **Zone LED Display**

**ZONE NO. :-** This is print on sticker for displaying the Zone No.

**NORMAL LED.:-** These are pair of Green LED. Glow in below condition.

At the time of system start/Normal.

At the time of lamp test.

If the Zone line is off .this pair of LED goes off. In case of fire & short/open this pair also OFF

**FIRE LED.:-** These are pair of RED LED. Glow in 3 condition.

At the time of system start/Reset (for 2-3 sec.)

At the time of lamp test.

If the FIRE in respective zone. This mean whenever FIRE detected by zone.

It is automatically off if FIRE resolved.

**FAULT LED:-** These are pair of yellow LED. Glow in 3 condition. These are OPEN/SHORT LED

OPEN/SHORT detected in zone line called fault..

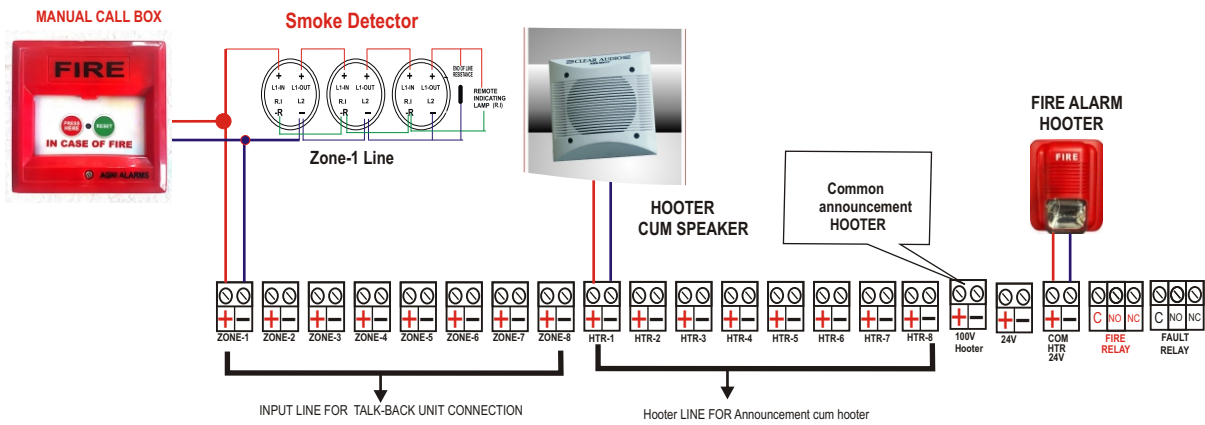
At the time of system start/Reset (for 2-3 sec.)

At the time of lamp test.

Although fault LED glow but LCD display SHORT/OPEN with zonr no.

It is automatically off if OPEN/SHORT resolved.

# TERMINAL CONNECTION DIAGRAM



# TECHNICAL DATA

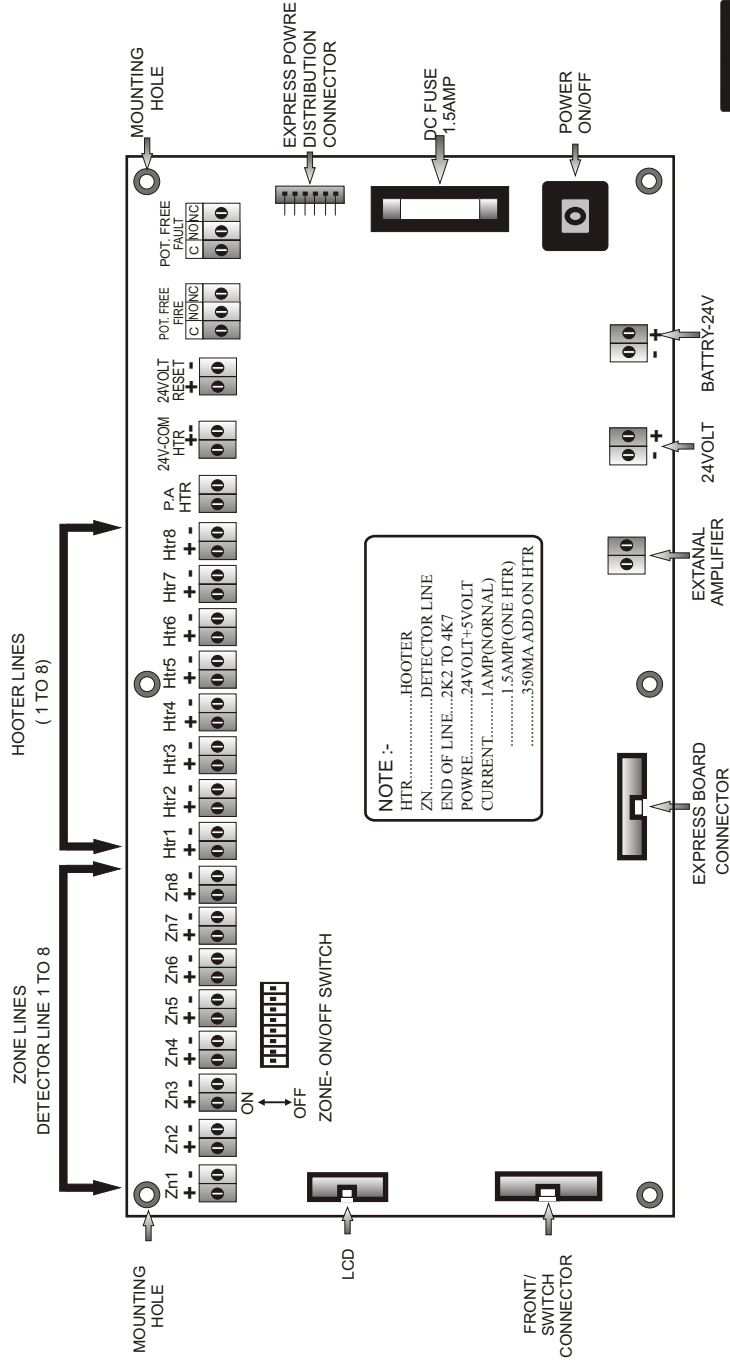
- 1)** OPERATING VOLTAGE : 24 DC + 10%.
- 2)** MAINS SUPPLY : 220V AC.
- 3)** STAND BY SUPPLY : 24V DC.
- 4)** AUXILIARY CHARGER : 24V/1AMP.
- 5)** VOLTAGE CHARGER : 26.6V.
- 6)** STAND BY CURRENT : 15.6MA ZONE.
- 7)** ALARM CURRENT : 35MA ZONE
- 8)** AC FUSE RATING : 750 ma.for fire alarm
- 9)** DC FUSE RATING : 1.5AMP.
- 10)** DIMENSIONS : (500X400X110)m.m
- 11)** WEIGHT : Depends on Amplifier Watt
- 13)** Amplifier watt : Calculated by No. Of Speaker

# TROUBLE SHOOTING

Fault	Solution/check Point
<b>1)</b> Only mains lamp glow	Check DC Fuse
<b>2)</b> Only Power fault lamp glow	Check all fuse
<b>3)</b> Low batt charging lamp glow For long period	Replace battery
<b>4)</b> Zone display lamp not glow	Check the cable . Call the engineer
<b>5)</b> L.C.D. Not massaging	check cable . call to engineer
<b>6)</b> Sounder not operated.	Check filed wiring. silence switch check. Call engineer
<b>7)</b> Zone fault appear	Check field wiring. Call engineer.

# WIRING/CONNECTOR DIAGRAM

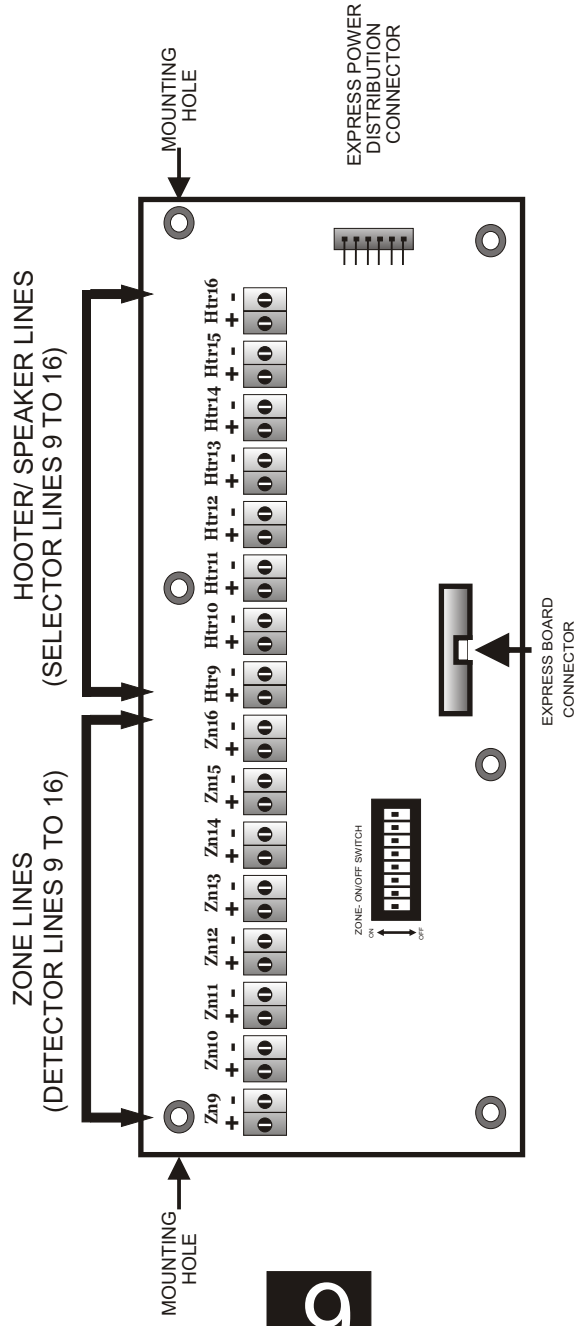
## MAIN BOARD MODULE : LEXUS



PROPERTY OF NATIONAL SECURITY DEVICES DO NOT COPY



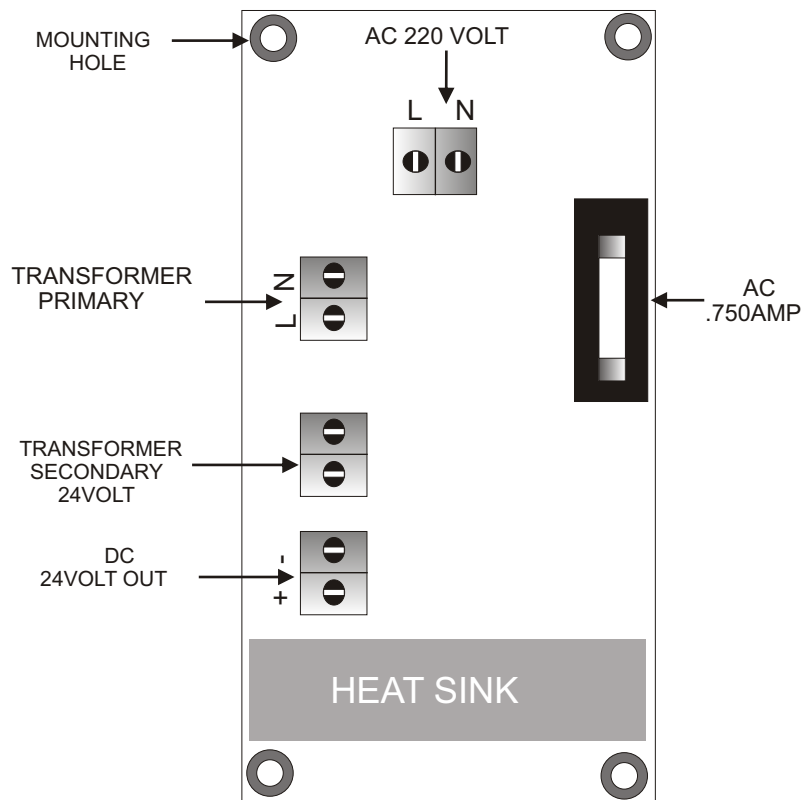
# LEXUS'S EXPRESS BOARD WIRING/CONNECTOR DIAGRAM



9



**Power supply**  
**(WIRING/CONNECTOR DIAGRAM)**



# Warranty Certificate

Dear Customer,

Your **NATIONAL SECURITY DEVICES** Fire alarm system so guaranteed against manufacturing defects of parts and components for a period of 12 months from date of purchase.....

During this period any items found defective will be repaired at our works or through service center.

**Terms & Condition : -**

- 1) Serial No. Sticker should not be broken/tempered /mismatch
- 2) Serial No. Sticker should not be tempered/loss or miss match our company record.

**Serial No :-**

**Stamp :-**

**NATIONAL SECURITY DEVICES**



**DEALER'S NAME & ADDRESS**



**MODEL NO : LEXUS PA**

**SRL.NO :**

**SALE DATE :**



**H.O.** : 485/13 & sarpanch ka Bara,Mandawali,  
Fazalpur,Delhi-11 00 92.

**Works** : 2A Patparganj, Mayur vihar -1,  
Near Pandev Nager Police Station,Delhi- 11 00 91.

**Fax** : +91 11 2275 1020.

**Phone** : +91 11 2275 1020,6460 3599.

**E-Mail** : natioaldevices@gmail.com,  
mailanilrawat@gmail.com

**Website** : [www.all-safe.in](http://www.all-safe.in)