

INSTR,INSTL,DXS-14 - LINEAR P/N: 233766 X3 - INK: BLACK - MATERIAL: 20 LB. MEAD BOND - SIZE: 5.500" X 8.500" - SCALE: 1:1 - FOLDING: ALBUM FOLD - BINDING: SADDLE-STITCH  
PRINTER'S INSTRUCTIONS:

# DXS-14

## ***SUPERVISED REMOTE KEYPAD***



## Operating Instructions

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## KEYPAD OVERVIEW

The LCD Supervised Remote Keypad adds remote control to Alarm Force Security System Panels. The wireless keypad transmits key presses to the panel and displays alphanumeric data received from the panel.

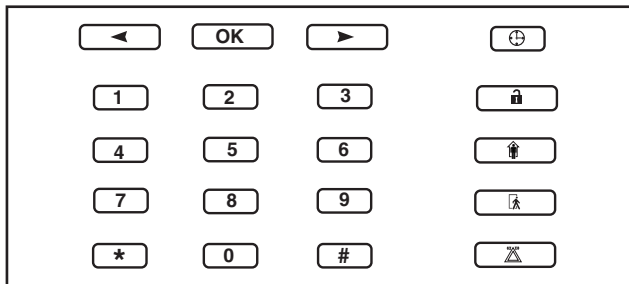
A press of any key puts the keypad in a fully operational mode with backlit LCD and RF Transceiver active. After 15 seconds of inactivity the keypad will return to the standby mode unless tones are being generated. If tones are required, then the keypad will enter standby mode only when tone cycles have been completed.

The keypad can be wall mounted and is powered by four 1.5 volt AA batteries. The batteries will operate the keypad for three years based on two minutes of operation per day. If the AA batteries become low, the keypad will send low battery reports to the panel. The keypad will continue to operate for 3 months after the first low battery report.



## KEYPAD RESOURCES

The keypad consists of 20 silicone rubber keys. The keys are backlit making it visible in low light conditions.



## REAL TIME CLOCK

The keypad has a real time clock (RTC) that must be set during installation and after battery replacement. The RTC is required for the keypad to display time- and date-stamped events, using time offset data received from the panel. Time and date are also shown during the keypad status display when the keypad first wakes up:

```
KEYPAD READY  
28/07/2011 12:45AM
```

Depending on the country/language selected, the time and date format is:

French and Spanish display:

DD/MM/YYYY HH:MM (24 hour time) -- default

US/English display:

MM/DD/YYYY HH:MM (AM/PM)

RTC time and date are set locally at the keypad from the keypad configuration menu. A configuration setting is also provided to manually turn on Daylight Saving Time (advances or sets back time by 1 hour).

A “clock” key is provided for local keypad operation and configuration:

- Pressing the clock key once displays the keypad status and time and date on the LCD.
- Pressing and holding the clock key for more than 1 second displays the time and date setting on the LCD (flashing digits), which can then be set using the numbers (0-9) and navigation keys (◀▶) on the keypad.
- Pressing the clock key again provides the setting for Daylight Saving Time (DST) on/off.
- Pressing OK toggles between AM-PM, DST ON-OFF
- Pressing the clock key once more exits keypad set-up mode and resumes normal operation.

## LCD

The keypad has a two line, twenty characters LCD display. The display is backlit with LEDs for low light conditions.

The LCD display text is controlled by commands from the panel. The keypad will also display information on the LCD upon wake-up (“keypad status”) and in response to certain key press combinations.

The LCD is capable of displaying over 200 characters and symbols.

## Autonomous Keypad Commands and User Prompts

In most operations, the keypad will only send key presses to the panel and in response the panel will update the display, LED and tone annunciations as needed to reflect the current state of the system.

When doing an initial installation or manually activated program updates the keypad will function autonomously and provide user prompts without intervention by the panel.

Entering autonomous keypad command operation: When the keypad detects the long press \*, it will display the following user prompt on the 2-line LCD display:

```
SPECIAL COMMAND  
<-- TOGGLE CHIME -->
```

A long press \* key press message is sent to the panel at this time. At this point, the panel may respond to disallow the operation of special commands if special commands are disabled. The keypad will display the reason the command is disallowed and abort the autonomous command mode:

```
SPECIAL COMMANDS DISABLED
```

### Alarm history

The alarm history command is serviced by the ARM DISPLAY message packet. Up to 5 alarm events are sent from the panel to the keypad in a single message packet. These events are displayed one event at a time on the LCD. The user may scroll through these events by pressing the ◀▶ keys. Pressing OK exits the display (and autonomous command operation).

Display example with 3 alarm events:

```
07/22/11  1:55PM  
ZONE 32  ALARM -->  
  
07/20/11  11:55AM  
<-- ZONE 21  ALARM -->  
  
06/17/11  12:55AM  
<-- ZONE 32  ALARM
```

## Arming history

The arming history command is serviced by the ARM DISPLAY message packet. Individual arm or disarm events are sent from the panel to the keypad in a single message packet; if arming, any bypassed zones are also included (up to 15) in the same message packet. These events are displayed one event at a time on the LCD. The user may scroll through these events and bypassed zones by pressing the ◀▶ keys.

When viewing the last event in the list, pressing the ▶ key when displaying an event with no bypassed zones or the last bypassed zone listed will cause the keypad to send the key press to the panel, which in turn will provide a DISPLAY ARM message packet for the next event in the panel's arming history.

When viewing the first event in the list, pressing the ◀ key when displaying an arm or disarm event will send the key press to the panel, which will provide a DISPLAY ARM message packet for the previous event in the panel's arming history.

Pressing OK exits the display (and autonomous command operation).

Display example with 3 arming events, the first one with two bypassed zones:

```
07/22/11  6:55AM
KFOB 05 ARM AWAY -->

07/22/11  6:55AM
<-- BYPASS ZONE 05 -->

07/22/11  6:55AM
<-- BYPASS ZONE 08 -->

07/22/11  9:55PM
<-- USER 05 ARM HOME -->

07/20/11  5:30PM
<-- USER 05 DISARMED
```

### **Keypad Low Battery**

The keypad communicates a low battery condition to the panel through the low battery bit set in the KEY PRESS message. If the battery is low, on keypad wake up the keypad will indicate a fault condition (beep and flash the LED red once) while briefly displaying on the LCD a low battery prompt, instead of the usual keypad ready message:

PLEASE REPLACE  
KEYPAD BATTERIES

Once the low battery condition occurs, key presses will also be annunciated by a double click instead of the usual single click.

If the battery condition continues to deteriorate to marginal levels, the keypad may take measures to conserve power by limiting backlight operation or reducing inactivity timeout before going into standby.

### **Communication Failure**

If the keypad is unable to communicate with the panel during operation and receives a RETRY FAIL message from its transceiver, it will indicate a fault condition (beep and flash the LED red once) and display a prompt to the user:

PLEASE RE-ENTER  
KEY SEQUENCE

If the keypad is active and the condition persists for more than 15 seconds, the keypad will repeat the fault indication. This will recur until the communication is restored or until the keypad times out and goes into standby mode.

### **Piezo Annunciator**

The keypad has a piezo sounder to indicate system conditions to the user. A short beep will occur every time a key is pressed. In addition, commands from the panel will instruct the sounder to operate in a specified pattern.

### **Bicolor LED**

The keypad has a red / green LED controlled by commands from the panel.

## KEYPAD WIRELESS SYSTEM

The keypad has a wireless transceiver module that communicates with the microprocessor via a serial UART. The internal antenna is used for both transmit and receive functions. The transceiver module is mounted in a shielded enclosure for RFI protection.

### RF Transceiver Specifications

The transceiver complies with FCC Part 15 and ISC Canada RSS-210 requirements.

Frequency	433.92MHz ±43.4 KHz (100 ppm) Receive and Transmitt
Receiver Image Rejection	30 dB
L.O. Re-Radiation	Meets FCC Part 15 and ISC Canada
Dynamic Range	85 dB
RF Encoding Format	Proprietary format
RF Input	Single integral antenna
Power Input	3.0-3.3 VDC regulated supply 100 mA
Operating Temperature Range	-10 °C to +60 °C
Antenna	2 insulated wires approximately 6.5"

### MECHANICAL

Material	Cases molded in ABS plastic
Mounting	Wall mounting
Battery Access	4 AA Batteries are replaceable by removing keypad from wall mounting bracket. There is no access to the electronics when replacing batteries.
Miscellaneous	The silicone keypad is covered by a door that can be swung out of the way for access to the keypad. In addition the door can be removed by user if desired. An opening in the case is provided for a piezo sounder and bi-color LED.

### MISCELLANEOUS REQUIREMENTS

Environmental	Operating Temperature 32°-120° F (0-49° C)
Regulatory	IC/ Industry Canada, FCC (Part 15)
Power	4 AA batteries supply power and are included. The keypad battery life is three years based on two minutes of operation per day. The batteries are user replaceable.
Mounting Hardware	Screws and anchors for standard wall mounting are included.

### **FCC / IC COMPLIANCE STATEMENT**

This device complies with FCC Rules and Regulations as Part 15 Rules and Regulations and Industry Canada license exempt RSS standards. Operation is subject to the following two conditions: 1. This device may not cause harmful interference and 2. This device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### **IMPORTANT INFORMATION ABOUT RADIO DEVICES**

1. AlarmForce radio controls provide a reliable communications link and fill an important need in portable wireless signaling. However, there are some limitations which must be observed.
2. For US installations only: the radios are required to comply with FCC rules and regulations including FCC part 15 devices. As such, they have limited transmitter power and therefore limited range.
3. A receiver cannot respond to more than one transmitted signal at a time and may be blocked by radio signals that occur on or near their operating frequencies regardless of code settings.
4. Changes or modifications to the device not expressly approved by AlarmForce could void the authority to operate the equipment.
5. Infrequently used radio links should be tested regularly to protect against undetected interference or fault.
6. RF signals can be affected by metal objects including metal doors or large mirrors. Care should be taken to avoid these objects during installation as they can interfere with proper operation.