

ASI Communications, Inc.

ASI Annunciator

ANNR38 Installation and Operation Manual



for the AES IntelliNet 7788F RF Subscriber Unit

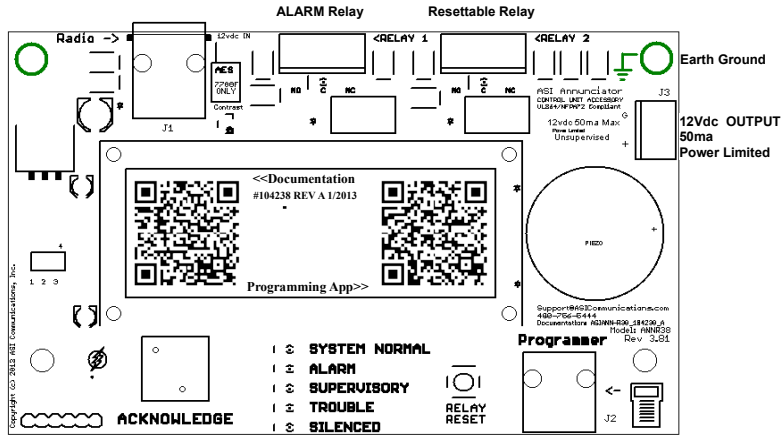
IMPORTANT! The AES 7788F Manual Document #40-7788 must be referenced in addition to this manual.

Copyright (c) 2013
ASI Communications, Inc.

ASI Communications, Inc.
1042 E GUADALUPE RD
TEMPE, AZ 85283
Tel (480) 756-5444
www.ASICommunications.com
support@asicommunications.com

ANNR38
P/N #104238
Revision: A
1/2013

ASI Annunciator - ANNR38
COMMERCIAL SUPERVISING-STATION CONTROL UNIT ACCESSORY FOR FIRE ALARM SYSTEMS, UL 864 NINTH EDITION
This equipment provides local annunciation for an AES IntelliNet 7788F Radio.



- Model Number ANNR38_HW_r3.81_FW_v3.80
- Electrical Input Rating: 12Vdc 500ma
- DC Current Draw: 90mA standby, 250mA max
- Audible Piezo Annunciation: 103dB/min @ 4" (2700Hz ± 500Hz)
- For INDOOR - DRY LOCATION



Technician Resources

Manufactured by
ASI Communications, Inc.
 1042 E GUADALUPE RD
 TEMPE, AZ 85283
Tel (480) 756-5444
www.ASICommunications.com
support@asicommunications.com



- Installation must be performed in accordance with NFPA-72 • Refer to Documentation #104238 REV A 1/2013

TEST THIS SYSTEM PERIODICALLY TO VERIFY PROPER OPERATION

Table of Contents

SECTION 1: Product Description	4
1.1: Features and Options	4
1.2: Specifications	5
1.3: Controls and Indicators	6
1.4: Circuits	7
1.5: Components	7
1.6: Getting Started	8
SECTION 2: Installation	9
2.1: Mounting the Enclosure	9
2.2: Install Main Board	9
2.3: Power and Data	9
2.4: Relays	10
SECTION 3: Programming	11
3.1: Initial Power-up	11
3.2: Programming Password	11
3.3: Programming Commands	11
3.3.1: System Text (F1)	11
3.3.2: Zones (F3)	11
3.3.3: Pass-Through to AES Radio (F5)	11
3.3.4: Send Manual Test (SHIFT+F2)	11
3.3.5: Key Transmitter (SHIFT+F5)	11
3.3.6: Password (CTRL+F1)	11
3.3.7: TEST Interval (CTRL+F2)	11
3.3.8: Set Alarm Relay Timeout (CTRL+F3)	11
3.3.9: Radio Transmitter Monitoring (CTRL+F4)	11
3.3.10: Default Settings (CTRL+F5)	12
3.4: FlashPort	13
SECTION 4: Hand-held → PC Keyboard Commands	14
SECTION 5: Operation	15
5.1: Display	15
5.2: Piezo Sounder	16
5.2.1: Reminder Sounds	16
5.3: Buttons	16
5.4: Relays	16
5.5: Alarms	16
5.6: Supervisories	16
5.7: Troubles	17
SECTION 6: Central Station Communications	18
6.1: ContactID Reporting Codes	18
SECTION 7: Display	19
7.1: LED Indicators	19
7.2: LCD Display Messages	20
SECTION 8: Electrical Specifications	21

SECTION 1: Product Description

The ASI Annunciator is an accessory designed to provide local visual and audible indications of Alarm, Supervisory, and Trouble conditions of an AES 7788F RF Subscriber Unit operating on an AES IntelliNet radio network. Power and Data are supplied by the 7788F's Accessory and Programming port, allowing for a quick and simple plug-n-play installation. Annunciation of a Zone Alarm condition is configurable for Alarm or Supervisory annunciation. A dry-contact alarm relay has been provided to notify external devices for Zone Alarm events. A dry-contact relay has been provided with a reset button which can be used to trigger the reset of external resettable devices. A 12vdc Power Limited (50ma) output is also provided.

1.1: Features and Options

- 32-character LCD back lit Display to display System and Zone conditions.
- LED's for System Normal, Alarm, Supervisory, Trouble, and Silenced conditions.
- Password Protected from Programming Changes.
- Separate distinct audible and visual indications for Alarm, Trouble, and Supervisory conditions.
- One Alarm Output Dry-Contact Relay (silenceable) with a programmable timeout period.
- One Resettable Dry-Contact Relay.
- LED indicators for active Relay Outputs.
- Single button to Silence Alarms/Acknowledge Events.
- Programmable System Text.
- Programmable Description and Annunciation Type for the 8 hardwired AES Radio zones.
- Periodic Reminder Tones for non-normal conditions.
- 24 Hour Trouble reminder, requires acknowledgement.
- Periodic Automatic TEST reported to monitoring center (24 hour default, programmable for 1 to 24 hours, Abnormal TEST is sent instead if a non-normal condition exist).
- Real-Time Radio Diagnostic Display Mode.
- AES Radio Programming Pass-Through mode.
- Programing and Diagnostics can be performed with a standard AES 7041 Hand-held Programmer or PC Serial Port.
- Unique FlashPort for wireless programming of the Annunciator and the connected AES Radio using a compatible iPhone.

1.2: Specifications

Main Board:

DC Power & Communications (J1)

12vdc Power Input, 250ma minimum
Reverse Polarity Protected
Power Limited by AES Radio Accessory Port
RS-232 Serial Data, 4800 baud, Supervised Data
Maximum Cable Length: 20'

Programming Port (J2)

12VDC output, 250ma, direct from AES Radio via J1 Port
Reverse Polarity Protected
RS-232 Serial Data
Power Limited by AES Radio Accessory Port – Unsupervised

12Vdc Power Output (J3)

12VDC output, 50ma
Power Limited – Unsupervised

Alarm Relay “silenceable” (RELAY 1)

Contact rating: 1.0amps @ 30VDC
Wire Size: AWG 28-14
Activates on Zone Alarm conditions
Form-C relay – Dry-Contact – “Silenceable” - Unsupervised

Resettable Relay (RELAY 2)

Contact rating: 1.0amps @ 30VDC
Wire Size: AWG 28-14
Form-C relay - Dry-Contact – Resettable - Unsupervised

Piezo

Loudness: 103db @ 10cm
Frequency: 2700 +/- 500Hz

LCD Display

FSTN Positive Transflective
1.2ma nominal - 120ma with back light
100,000 hours back light lifespan

FlashPort

Visible Light Receiver for an iPhone App to initiate diagnostics and send programming changes to the Annunciator and AES Radio.

Enclosure:

16GA Steel - Key Lock
5 x Knockouts for 1/2" conduit
4 x Mounting Holes
4 x Stand-Offs for Main Board
Cut-outs for Display, LED's, and Piezo

1.3: Controls and Indicators

LCD Display

The Annunciator uses a 32-character (2 lines X 16 characters) LCD Display to show details regarding system status and zone status of the attached AES Radio. The back light will turn on during abnormal conditions or when a button is pressed and turn off after five minutes of inactivity. A flashing arrow on the bottom left of the display indicates a pending condition that has not been acknowledged yet. Press the Acknowledge button for each event. After all events have been acknowledged, any non-normal conditions will be displayed on screen.

LED Indicators

LED indicators are provided to indicate the following conditions:

- System Normal (green)
- Alarm (red)
- Supervisory (yellow)
- Trouble (yellow)
- Silenced (red)

ALL LED's will illuminate upon power-up. At least one of the LED's will always be lit as long as power is present.

When all zones are normal and there are not any pending events to acknowledge, then **only** the System Normal LED will be lit.

An Alarm/Supervisory/Trouble LED indicates a Pending Zone or System condition that has not yet been silenced/acknowledged or has not cleared.

The Silenced LED will Flash if there are more events on the display that need to be Acknowledged. The Silenced LED will be lit solid when the system has a condition which has been silenced, but has not restored to normal. Once ALL conditions have been restored, the Silenced LED will turn off.

Acknowledge Button

The Acknowledge button is used to Silence the Piezo and disengage the Alarm Output Relay on first press. Subsequent presses will acknowledge the events on the display. An arrow symbol will flash in the lower left corner of the display and the Silenced LED will Flash as long as there are more events to acknowledge. Once all events are Acknowledged, the Silenced LED will stop Flashing. Holding the Acknowledge button for 10 seconds will display the Radios Connectivity Status.

RELAY RESET Button

Press to energize Relay 2 for Two (2) seconds.

NOTE: RELAY RESET will not function while piezo is sounding, you must Silence alarms first.

Piezo Sounder

The piezo sounder provides separate and distinct pulse rates for alarm, trouble, and supervisory conditions.

Alarm: Continuous Tone

Supervisory: Fast-Pulsing Tone

Trouble: Slow-Pulsing tone

1.4: Circuits

The following Form-C DPST Dry-Contact relays are available on the Annunciator:

- Alarm Output Relay: energized on Alarm condition, de-energized when Alarm is Silenced/Acknowledged or after a programmable Timeout period (default no timeout).
- Resettable Relay: press the RELAY RESET button to toggle relay for two (2) seconds

Relays are rated for 1 amp max @ 30VDC.

1.5: Components

Main Circuit Board

The main circuit board contains the system's CPU and other primary components and wiring interface connectors. Other than a connection from J1 to an AES 7788F Radio, no other external connections or components are necessary for the Annunciator to perform according to specifications. A programmer may be connected to change the configurable settings, or an iPhone application may be used for wireless programming.

1.6: Getting Started

The following is a brief summary of the minimum steps involved in bringing an ASI Annunciator on-line:

Installation:

- Mount the enclosure on the wall.
- With 1/2" conduit (20' max distance and in the same room), connect the enclosure to an AES 7788F radio enclosure.
- Install the Main Circuit Board in the enclosure using the provided stand-offs and screws.
- Connect the supplied cable between the Annunciator (J1) and the AES Radio Accessory/Programming port (J1) via the 1/2" conduit.
- Apply Power to the AES Radio (Battery First).

Programming:

- Connect the Hand-held Programmer to the Annunciator Programmer port (J2) (See Section 3).
(or)
Install the FlashPort App on your iPhone
(more info @ <http://www.azsecurity.com/flashport>).
- Change the Default Password (Default is 1271).
- Set System Text (Default is "ASI Annunciator").
- Change Zone Annunciation Type and Descriptions (Defaults will generate an Alarm sound on all zones with [blank] descriptions).

Just the Zone # will be displayed unless Descriptions are added.

SECTION 2: Installation

2.1: Mounting the Enclosure

- ✓ Mount Enclosure to Wall in same room within 20' of AES Radio.
- ✓ On Top-Right Mounting Post, connect a ring lug connector and 18 gauge (min) wire to a suitable earth ground.
- ✓ Connect Enclosure to AES Radio via 1/2" conduit.
- ✓ Run supplied cable, or CAT-5 wire through conduit.
- ✓ Crimp 6P6C connectors to each end of CAT-5 cable if necessary.

2.2: Install Main Board

- ✓ Mount main board on standoffs in Enclosure using provides screws.

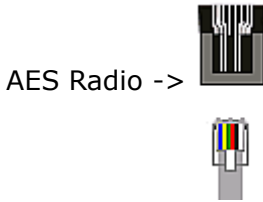
2.3: Power and Data

- ✓ Connect a cable between the Annunciator (J1) and the AES Radio Accessory port (J1) using RJ-11 connectors (6P6C).
- ✓ This input is protected from Reverse Polarity.

Important! Notice the images of both ends of the cable, the tab is UP and the colors are Reversed. ALL Six wires are required for Power and Data.

FIGURE 2:

The Annunciator (J1)



The AES 7788F Radio (J1)



2.4: Relays

Two Form-C relays are provided:

FIGURE 3:



A Green LED is located below each relay terminal to indicate when the relay is energized.

Note: *Your local AHJ (Authority Having Jurisdiction) must approve your application when the relays are used with external devices.*

ALARM Relay 1:

Triggers on Alarm conditions and stays energized for the duration of the Timeout period or until the Acknowledge button is pressed.

Resettable Relay 2:

Energizes for two (2) seconds when the RELAY RESET button is pressed.

SECTION 3: Programming

Programming can be accomplished using the AES 7041 Programmer or by connecting a PC using an optional DB9-to-RJ11 adapter. The FlashPort Programming Application (Section 3.4) can also be used for wireless programming using an iPhone.

Serial communications occur at 4800, No Parity, 8 bits, 1 stop bit.

See SECTION 4 for 7041 Programmer keys and PC keys for programming options.

3.1: Initial Power-up

When powered up, all LED's will light solid for a few seconds. This is the ONLY time you should ever see all of the LED's lit simultaneously.

3.2: Programming Password

Connect a Handheld Programmer and press **F1** for Programming Mode.

After the password is successfully entered, all of the programming options will be available. **Default Password: 1271**

3.3: Programming Commands

All Data Entry fields will Timeout after 30 seconds of no key-press.

3.3.1: System Text (F1)

Press F1 on the hand-held programmer to change the default Text that is displayed on the top line of the LCD display during System Normal conditions (no active or pending alarms, supervisories, or troubles).

3.3.2: Zones (F3)

Press F3 on the hand-held programmer to change the default Sound and Display Text for Zones.

3.3.3: Pass-Through to AES Radio (F5)

Pass-Through Mode allows you communicate directly with the AES Radio without disconnecting the Annunciator. Press ESC to return to Annunciator.

3.3.4: Send Manual Test (SHIFT+F2)

Sends a Manual Test event to the Central Station.

3.3.5: Key Transmitter (SHIFT+F5)

Keys AES Radio Transmitter for about 5 seconds.

3.3.6: Password (CTRL+F1)

Change the password (Default is 1271).

3.3.7: TEST Interval (CTRL+F2)

Change the Periodic TEST Interval (Default is 24 hours).

3.3.8: Set Alarm Relay Timeout (CTRL+F3)

Change the timeout time of the Alarm Relay during an Alarm Condition if not acknowledged. Default is 0, No Timeout.

3.3.9: Radio Transmitter Monitoring (CTRL+F4)

Monitor Transmitted and Received packets via the AES Radio.

3.3.10: Default Settings (CTRL+F5)

Reset all Annunciator settings back to factory default (including the password).

3.4: FlashPort

The FlashPort is for secure wireless programming of the Annunciator and select settings of the AES Radio itself.

You must have an iPhone or iPod with a camera Flash to use this feature.

You must install the iPhone app to use the FlashPort features.

Please visit <http://www.azsecurity.com/flashport> for more information.

SECTION 4: Hand-held → PC Keyboard Commands

7041 Hand-held Programmer Key				
PC Keyboard (Hyper-terminal) Key				
Programming Function				

F1	F2	F3	F4	F5
CTRL-Q	CTRL-R	CTRL-S	CTRL-T	CTRL-U
<u>System Text</u>	<i>unused</i>	<u>Zones</u>	<u>Status</u> *	<u>Pass-Thru to Radio</u>

SHIFT-F1	SHIFT-F2	SHIFT-F3	SHIFT-F4	SHIFT-F5
a	b	c	d	e
<i>unused</i>	<u>Send TEST</u>	<i>unused</i>	<i>unused</i>	<u>XMIT</u>

CTRL-F1	CTRL-F2	CTRL-F3	CTRL-F4	CTRL-F5
f	g	h	i	j
<u>Set Password</u>	<u>TEST Interval</u>	<u>Alarm Relay Timeout</u>	<u>Packet Monitoring</u>	<u>DEFAULT SETTINGS</u>

* These commands are ONLY available when NOT in Programming Mode.

SECTION 5: Operation

5.1: Display

GREEN LED (READY)

System Normal, No Troubles or Alarms.

RED LED (ALARM)

An Alarm Condition on a Zone is Active or a Buffered Alarm Event has not been acknowledged, or a pending Alarm Event has not been acknowledged.

YELLOW LED (SUPERVISORY)

Indicates a Supervisory Condition is Active on a Zone, or a pending Supervisory Event has not been acknowledged.

YELLOW LED (TROUBLE)

Indicates a Trouble Condition is Active or a pending Trouble Event has not been acknowledged, or a Buffered Trouble Event has not been acknowledged.

RED LED (SILENCED)

Flashes when an event is waiting to be acknowledged. When lit solid it indicates a condition exists that triggered an audible event which has been silenced but is still active or pending an acknowledgment.

LCD Display

Displays the [System Message] on Top Line and "SYSTEM NORMAL" on bottom line when everything is normal.

During Alarm, Supervisory, and Trouble conditions, the first, Highest Priority Event will be displayed on screen until Silence/Next is pressed.

The Display back-light will flash off and back on during an A/C Power Failure to conserve the radio's backup battery.

Event Priority:

1. Alarms (Zones Alarm marked as Alarm in Annunciator Zone Programming)
2. Supervisory (Zones Alarm marked as Supervisory in Annunciator Zone Programming)
3. Trouble (Zone and System Troubles)

Pressing F4 on the handheld programmer will display Radio Diagnostic information on the handheld programmer display.

Holding the ACKNOWLEDGE for ten seconds will display Radio Diagnostic information on the Annunciators LCD display.

5.2: Piezo Sounder

During a Zone Alarm:

- Piezo will generate a continuous tone until acknowledged.
- Alarm Output Relay will be energized.

During a Supervisory Zone Alarm:

- Piezo will Pulse (fast) until acknowledged.

During a Zone Trouble condition:

- Piezo will Pulse (slow) until acknowledged.

5.2.1: Reminder Sounds

- Alarm Reminder every five minutes - Continuous Tone for five seconds
- Supervisory Reminder every two minutes - Fast Pulse for five seconds
- Trouble Reminder every two minutes - Slow Pulse for five seconds

5.3: Buttons

RED (ACKNOWLEDGE) Button

First press will Silence the sounder and disengage Relay 1 (if engaged). Subsequent presses will step through events in order by Event Priority then the order of occurrence.

RELAY RESET Button

Toggles Relay 2 On for two (2) Seconds then back to Off.

5.4: Relays

The Alarm Output Relay (Relay 1) will activate during a Zone Alarm condition. The Relay will deactivate when the Silence button is pressed or after the Alarm Relay Timeout expires.

5.5: Alarms

An Alarm condition exists when a hardwired AES Radio zone is in an Alarm condition. Alarm conditions will sound the piezo and activate the Alarm Relay 1.

5.6: Supervisories

A Supervisory will occur when a hardwired AES Radio zone is in an ALARM condition AND the zone is configured as a Supervisory Type zone in the ANNUNCIATOR. A supervisory sound will be generated on the piezo.

5.7: Troubles

A Trouble condition exists when a hardwired AES Radio Zone is in a Trouble condition (when programmed as a Fire zone in the AES radio and no eol resistor is detected).

System Trouble conditions are also annunciated with a Trouble sound.

System Troubles including the following events:

- A/C FAILURE
- CHARGER FAILURE
- GROUND FAULT
- BATTERY FAILURE
- RADIO RAM FAIL
- RADIO EEPROM BAD
- RADIO ADC FAIL
- RADIO LOOP FAIL
- ANNUNCIATOR INTERFACE FAIL

SECTION 6: Central Station Communications

The Annunciator passively monitors the 7788F radios status. The Annunciator does not inhibit the 7788F radio from normal transmissions or operation in any way. The Annunciator will send additional information to the Central Station under the following conditions:

- Annunciator Power-Up (System Reset Event).
- An indication of Restoral of Network Connectivity after all peers are exhausted. The reported event includes the number of minutes the radio had no peers for communication.
- A Manually Triggered TEST Event.
- A Periodic TEST Event.
- An Abnormal TEST Event (in lieu of Periodic TEST Event).
- Fire Alarm Silence Event when the silence button is pressed during Alarm annunciation.

6.1: ContactID Reporting Codes:

305	System Reset (power-up or reset)
381	Loss of Super RF (reports duration of Comm Failure in Zone field in Minutes) (this only reports after all peers have been exhausted and a new peer is found)
601	Manual Test (Manual)
602	Periodic Test (Automatic)
608	Abnormal Test (sent instead of Periodic Test if any Alarm, Supervisory, or Trouble condition still exists)
912	Fire Alarm Silenced (Silence Button Pressed during a Zone Alarm condition)

SECTION 7: Display

7.1: LED Indicators

The GREEN Ready LED is lit **ONLY** when **All** conditions are Normal.

LED	(Steady)	Off	((Flashing))
READY (Green)	All Normal	Not Ready	N/A
ALARM (Red)	A Zone is in Alarm or is in the Event Buffer	No Alarm	N/A
SUPERVISORY (Yellow)	A Zone Supervisory Condition exists or is in the Event Buffer	No Supervisories	N/A
TROUBLE (Yellow)	A Zone or System Trouble exists or is in the Event Buffer	No Troubles	N/A
SILENCED (Red)	An Alarm or Supervisory or Trouble Condition has been Silenced	System Normal	Silence Pressed Event in buffer is waiting to be acknowledged

7.2: LCD Display Messages

The following will Display and Annunciate as Troubles:

A/C FAILURE	Radio A/C Failure
CHARGER FAILURE	Radio Charger Failure. Could indicate no/poor A/C power or a bad charging circuit. (contact AES)
GROUND FAULT	Radio Ground-Fault Condition (Zone Ground terminal is less then .1 ohm to System/Earth Ground)
BATTERY FAILURE	Radio Battery is LOW
RADIO RAM FAIL	Radio RAM Failure (contact AES) (Try: RESET RAM on the Radio then press the Reset button on the Radio)
RADIO EEPROM BAD	Radio EEPROM Failure (contact AES) (Try: RESET RAM on the Radio then press the Reset button on the Radio)
RADIO ADC FAIL	Radio ADC (analog-to-digital converter) Failure (contact AES) (Try: RESET RAM on the Radio then press the Reset button on the Radio)
RADIO LOOP FAIL	Radio Modem Failure (contact AES) (Try: RESET RAM on the Radio then press the Reset button on the Radio)
INTERFACE FAIL	Annunciator is not getting valid data from the Radio. (Try: Disconnect Annunciator, Reset Radio, Wait 10 seconds, Re-Connect Annunciator)

The J4 Trouble Relay on the AES Radio can be connected to a Hardwired Zone Input on the AES Radio with the resistor in-line on the normally-closed connection to generate an audible Trouble signal for immediate annunciation of communication failures (no check-in with peer for five minutes causes J4 Relay to de-energize, in effect causing the in-line relay to be eliminated causing a Trouble condition on the radio zone).

The LCD Display back-light will remain lit during non-normal conditions. The back-light will flash during an A/C FAILURE to conserve power.

SECTION 8: Electrical Specifications

SPECIFICATION	MIN	TYPICAL	MAX
Supply Voltage (VDD)	10.0 V DC	13.3 V DC	16.0 V DC
Operating Current	90 ma	90ma	250 ma @ 12vdc
Operating Temperature	32 F (0 C)	-	120 F (49 C)
Relay Contact Rating	-	AWG 28-14	1 A @ 30 V DC
Piezo Sounder	-	2700 +- 500 Hz 103 dB @ 10 cm @ 12 V DC	-
LCD Display	-	FSTN Positive Transflective	-
LCD Back-light	-	100,000 hours	-
12Vdc Output	11V DC	12V DC (no load)	12 V DC 50ma

Index

A/C FAILURE.....	17, 20
ALARM Relay 1.....	10
Alarms.....	16
BATTERY FAILURE.....	17, 20
Buttons.....	16
CHARGER FAILURE.....	17, 20
Commands.....	11
ContactID.....	18
CTRL-F1.....	14
CTRL-F2.....	14
CTRL-F3.....	14
CTRL-F4.....	14
CTRL-F5.....	14
Data.....	9
Event Priority.....	15
F1.....	14
F2.....	14
F3.....	14
F4.....	14
F5.....	14
FlashPort.....	13
GROUND FAULT.....	17, 20
Installation.....	9
Main Board.....	9
Mounting.....	9
Password.....	11
Piezo.....	16
Power.....	9
Programming.....	11
Programming Mode.....	11
Radio Diagnostic.....	15
Relays.....	10, 16
Reminder.....	16
Resettable Relay 2.....	10
SHIFT-F1.....	14
SHIFT-F2.....	14
SHIFT-F3.....	14
SHIFT-F4.....	14
SHIFT-F5.....	14
Supervisors.....	16
Troubles.....	17