

RANGER 9032 ZONE EXPANDER INSTALLATION INSTRUCTIONS

4-Position Dip Switch Settings

❶ Expansion ID Number: Each expansion device (expansion board, relay output boards, auxiliary output boards) connected to the Ranger 9000 must report a unique number to the control via the 4-wire buss. Positions 1, 2, and 3 of this 4-position dip switch located in the upper left quadrant of the P.C. board, are used to assign this number. Use the following chart to determine the appropriate dip switch setting for the 9032. For example, if the 9032 is the only expansion device connected to the Ranger 9000, dip switch positions 1, 2, & 3 should be "OFF", whereas, if the 9032 was the fourth expansion device connected to the control, dip switch positions 1 and 2 would be "ON", and position 3 would be "OFF". Seven is the maximum number of expansion devices that can be connected to the Ranger 9000.

Device #	Position #1	Position #2	Position #3
1	OFF	OFF	OFF
2	ON	OFF	OFF
3	OFF	ON	OFF
4	ON	ON	OFF
5	OFF	OFF	ON
6	ON	OFF	ON
7	OFF	ON	ON

❷ A.C. Power Failure Reporting: If the on-board power supply is utilized, position 4 should be in the "ON" position to enable A.C. power failure reporting. If this feature is not enabled, the 9032 will not report A.C. power failures.

Low Battery Detection Jumper

If a battery is utilized in conjunction with the on-board power supply, the Low Battery Detection Jumper located in the center of the P.C. board (see drawing on page 6) should be in the "ON" position to enable Low Battery Detection.

Programming The On Board Power Supply

1. If the on-board power supply is utilized, a 16.5, 25VA transformer must be connected to terminals 32 and 33. A back-up 12VDC battery of the appropriate capacity should be connected to the RED (+) and BLACK (-) battery leads. When utilizing the on-board power supply, the 9032 should be connected to the Ranger 9000 by THREE wires as described below:

Connect terminal 35 of the 9032 expansion board to terminal 45 of the Ranger 9000.

Connect terminal 36 of the 9032 expansion board to terminal 42 of the Ranger 9000.

Connect terminal 37 of the 9032 expansion board to terminal 43 of the Ranger 9000.

2. If the on-board power supply is NOT to be utilized, the 9032 will use 100 mA of the available auxiliary power from the 9000 control, and all buss devices must be wired back to the control terminals (home run). When the on-board power supply is not being utilized, the 9032 should be connected to the Ranger 9000 by FOUR wires as described below:

Connect terminal 34 of the 9032 expansion board to terminal 44 of the Ranger 9000.

Connect terminal 35 of the 9032 expansion board to terminal 45 of the Ranger 9000.

Connect terminal 36 of the 9032 expansion board to terminal 42 of the Ranger 9000.

Connect terminal 37 of the 9032 expansion board to terminal 43 of the Ranger 9000.

On-board Siren Driver

The 9032 has a built-in siren driver. Connect an 8 OHM, 15 to 30 WATT speaker to terminals 30 and 31. This siren driver can only be utilized if the 9032 is powered with the on-board power supply and a back-up battery.

The following programming locations should be reviewed and completed with the appropriate data before the 9032 is made operational. NOTE! LOCATION 377 MUST BE PROGRAMMED FOR THE NUMBER OF DEVICES ADDED TO THE BUSS.

Location 377: Programming The Number Of Expansion Devices On The Buss Loop

This location is used to program the number of expansion devices added to the buss loop. DO NOT INCLUDE KEYPADS IN THIS COUNT! The maximum number of expansion devices that can be added to the Ranger 9000 is seven, therefore the largest number that can be programmed in this location is "7". Factory default for this location is "0".

Location 378: Communicator Code For Expansion Trouble

Location 378 contains the extended communicator code digit for **Expander Trouble**. The one digit, or zone ID of this report will be the number of the expansion device that is in trouble. The **Expander Trouble Restore** code is programmed in location 511.

Location 379: Phone Number To Report Expansion Trouble Code

Location 379 is used to select the phone number to report Expander Trouble. Program a "1" in this location to report to phone #1 only. Program a "2" to report to phone #2 only. Program a "3" to report to both phone numbers. If an "8" is programmed in this location, Expander Trouble will cause zone 32 to "open", and cause Expander Trouble take on the reporting and alarm characteristics of zone 32.

Locations 380-395: Programming The Zone Types For Zones 17-32

Locations 380 through 395 contain a number identifying the **Zone Types** of zones 17 through 32. Location 380 corresponds to zone 17 and location 395 corresponds to zone 32. Each zone 17-32 has been factory defaulted to a "6", **"Instant"** zone type. To program zone types other than the default values, program a number from "1" to "9" based on the "Available Zone Types" table on page 13 of the Ranger 9000 Installation Manual (IM-9000).

Locations 396-411: Assigning Special Characteristics For Zones 17-32

Locations 396 through 411 are used to assign **Special Characteristics** for zones 17 through 32. Location 396 corresponds to zone 17 and location 411 corresponds to zone 32. Each zone can have any or all of the following characteristics regardless of the zone type selected in locations 380-395, excluding Fire zones which cannot have bypass capability enabled. Factory default is "12" for each of these locations, meaning that **Zone Bypass Capability & Entry-Guard** are enabled, and the other characteristics are not enabled. To include other characteristics, add the values, and program the sum in the appropriate location. See the table below for zone characteristics and their corresponding values.

VALUE	CHARACTERISTIC
1	Fast Loop Response (200mS)
2	Group Bypass Zone
4	Entry-Guard Zone
8	Zone Bypass Capability

Example 1 - To add **Group Bypass Zone (Value=2)** to **Zone Bypass Capability (Value=8)** for zone 20 (location 399), add the value of the two characteristics ($2 + 8 = "10"$), and program the sum of "10" in location 399.

Example 2 - To enable **ALL** characteristics for zone 20, add the value of all characteristics ($1 + 2 + 4 + 8 = "15"$), and program the sum of "15" in location 399 (zone 10 characteristics location).

Example 3 - To disable all characteristics and create a **Non Bypassable Zone**, program a "0" in the appropriate location.

Locations 412-427: Assigning Audible Characteristics For Zones 17-32

Locations 412-427 are used to assign the **Audible Characteristics** for zones 17 through 32. Location 412 corresponds to zone 17, and location 427 corresponds to zone 32. Each zone can be silent (**SILENT VALUE = "0"**), or have one, or any combination of the following audible characteristics. To determine the appropriate data for these locations, refer to the chart below and add the sum of the corresponding values to arrive at the correct data for these locations. Zones 17-32 have a factory default setting of "13" (1+ 4 + 8 = "13"). This means that zones 17-32 will create a yelp siren output and a keypad sounder output when an alarm is created. To select the audible characteristics for any zone, add the values of the audible characteristics from the table below, and program the sum in the appropriate locations 412-427. NOTE: If a Fire zone type is selected in locations 380-395, standard fire zone characteristics will override any selection made for a zone in this section. If you wish for the zone to be **SILENT**, program a "0" in the appropriate location.

VALUE	AUDIBLE CHARACTERISTICS
1	Yelp Siren Audible
2	Steady Siren Audible
4	Keypad Sounder Audible
8	Chime Enable
0	Silent

Locations 428-443: Special Communicator Reporting Characteristics For Zones 17-32

Locations 428-443 are used to assign communicator characteristics to individual zones 17 through 32. Location 428 is for zone 17 and location 443 is for zone 32. Each zone can have one, or any combination of these characteristics. Factory default for all zones is "11" (1 + 2 + 8 = "11"). This means that each zone has **RESTORE REPORTING (Value=1)**, **BYPASS REPORTING (Value=2)**, and **REPORT CANCELING (Value=8)** enabled. It should be noted that these locations are used to enable individual zone report capability by zone. A reporting code must be programmed in the appropriate location to enable overall reporting capability of Restore reports (location 364), Bypass reports (location 368), and Trouble/24 Hour tamper reports (location 372).

VALUE	REPORTING CHARACTERISTICS
1	Restore Reporting
2	Bypass Reporting
4	Trouble/24 Hour Tamper Reporting
8	Report Canceling

SELECTING COMMUNICATOR CODES FOR ZONES 17-32

All zones and other reported features are programmed with up to four (4) programming locations. The first three (3) are used for a 1, 2, or 3, digit communicator code, according to the restraints of the selected communicator format. The fourth (4th) and last location is used to select if the code is to be sent to phone #1, phone #2, the internal log, or any combination of these three selections. Factory defaults to a three digit event (alarm) code. However, as shown on the programming worksheet, the first digit will be ignored if a 3 + 1 or a 4 + 2 format is selected.

Locations 444-446: Programming The Communicator Code For Zone 17

Locations 444-446 contain the communicator codes to be reported each time zone 17 creates an alarm. Location 444 contains the first digit, location 445 contains the second digit, and location 446 contains the third digit. Always use the correct number of digits that the selected format allows, and program in the order you wish the receiver to print the report.

Location 447: Select Phone #1, 2, Internal Log, Or Any Combination For Zone 17

If a phone number other than phone #1 is desired, a binary number must be programmed into this location. This number is derived by adding a one (1) for phone #1, a two (2) for phone #2, and a four (4) for the internal log. If you want this code to be reported to both phone numbers you must program a "3" (1+2) in this location. If you want this code to be reported to both phone numbers and the internal log you must program a "7" (1+2+4) in this location. If left in the factory default, zone 17 will only report to phone #1.

Locations 448-450: Programming The Communicator Code For Zone 18

Location 451: Select Phone #1, 2, Internal Log, Or Any Combination For Zone 18

Locations 452-454: Programming The Communicator Code For Zone 19

Location 455: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 19

Locations 456-458: Enter The 1 To 3 Digit Communicator Code For Zone 20

Location 459: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 20

Locations 460-462: Programming The Communicator Code For Zone 21

Location 463: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 21

Locations 464-466: Programming The Communicator Code For Zone 22

Location 467: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 22

Locations 468-470: Programming The Communicator Code For Zone 23

Location 471: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 23

Locations 472-474: Programming The Communicator Code For Zone 24

Location 475: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 24

Locations 476-478: Programming The Communicator Code For Zone 25

Location 479: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 25

Locations 480-482: Programming The Communicator Code For Zone 26

Location 483: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 26

Locations 484-486: Programming The Communicator Code For Zone 27

Location 487: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 27

Locations 488-490: Programming The Communicator Code For Zone 28

Location 491: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 28

Locations 492-494: Programming The Communicator Code For Zone 29

Location 495: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 29

Locations 496-498: Programming The Communicator Code For Zone 30

Location 499: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 30

Locations 500-502: Programming The Communicator Code For Zone 31

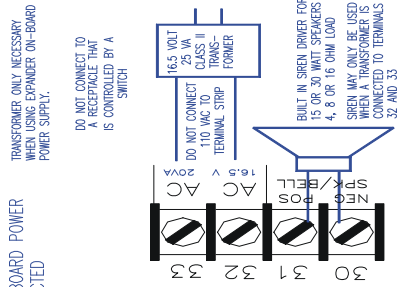
Location 503: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 31

Locations 504-506: Programming The Communicator Code For Zone 32

Location 507: Select Phone Number 1, 2, Internal Log, Or Any Combination For Zone 32

Locations 508-509: Reserved

TERMINAL DRAWING



SWITCH 1-3 SET TO A UNIQUE SEQUENTIAL ADDRESS BEGINNING WITH ZERO (SEE MANUAL)

SWITCH 4 SET ON IF ZONE EXPANDER AC FAIL REPORTING REQUIRED
USE ONLY IF ON-BOARD POWER SUPPLY USED

DO NOT CONNECT TERMINAL 34 WHEN USING ON-BOARD POWER SUPPLY

CONNECT TERMINALS 34-37 TO CONTROL PANEL 4 WIRE KEYPAD INTERFACE.

TRANSFORMER ONLY NECESSARY WHEN USING EXPANDER ON-BOARD POWER SUPPLY.

DO NOT CONNECT TO A RECEPTACLE THAT IS CONTROLLED BY A SWITCH

DO NOT CONNECT 110 VAC TO THIS TERMINAL STRIP

BUILT IN SIREN DRIVER FOR 15 OR 30 WATT SPEAKERS 4, 8 OR 16 OHM LOAD

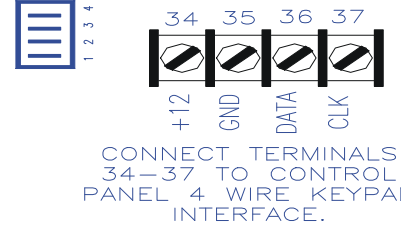
SIREN MAY ONLY BE USED WHEN A TRANSFORMER IS CONNECTED TO TERMINALS 32 AND 33

ONLY SELECT LOW BATTERY DETECT IF ON-BOARD POWER SUPPLY IS USED AND A BATTERY IS CONNECTED

ON OFF

LOW BATTERY DETECTION

WARNING - FOR CONTINUED PROTECTION AGAINST THE RISK OF FIRE REPLACE ONLY WITH THE SAME TYPE AND RATING OF FUSE



AUXILIARY POWER 12 VOLTS DC 500 mA MAX INCLUDING TERM 13 AVAILABLE WHEN USING ON-BOARD POWER SUPPLY

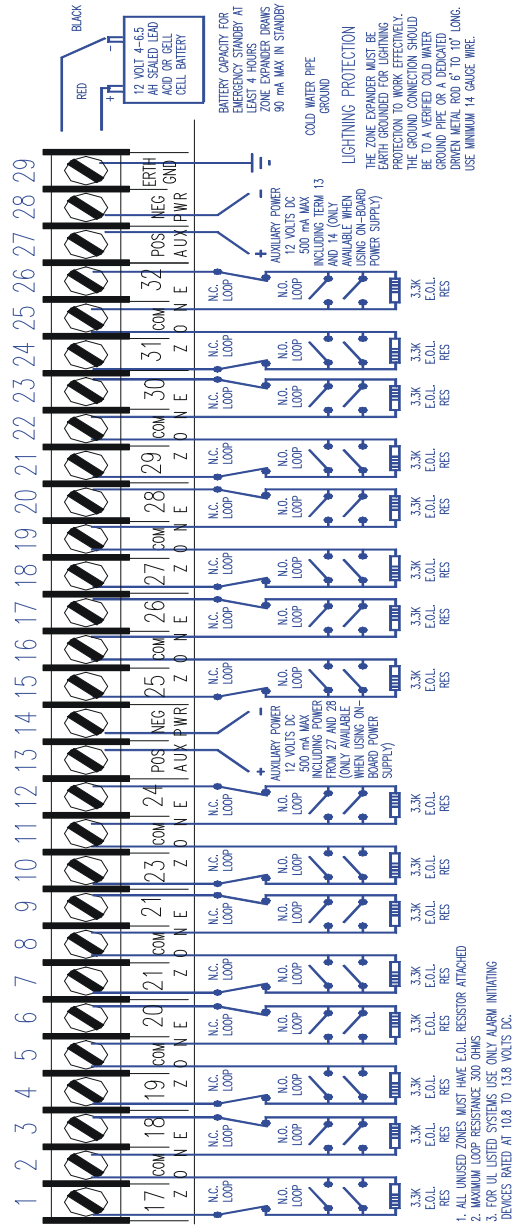
POS NEG COM ZONE

12 VOLT 4-6.5 AH SEALED LEAD ACID OR GELL CELL BATTERY

BATTERY CAPACITY FOR RESISTOR ATTACHED AT EACH TERMINAL ZONE EXPANDER TRANS 90 mA MAX IN STANDBY

COLD WATER PIPE GROUND

LIGHTNING PROTECTION THE ZONE EXPANDER MUST BE EARTH GROUND FOR LIGHTNING PROTECTION TO WORK EFFECTIVELY. IF ON-BOARD POWER SUPPLY IS USED BE TO A VERIFIED COLD WATER GROUND PIPE OR A DEDICATED GROUND METAL ROD 6 TO 10' LONG. USE MINIMUM 14 GAUGE WIRE.



ZONE 17	ZONE 25
ZONE 18	ZONE 26
ZONE 19	ZONE 27
ZONE 20	ZONE 28
ZONE 21	ZONE 29
ZONE 22	ZONE 30
ZONE 23	ZONE 31
ZONE 24	ZONE 32

CADDX RANGER 9032
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CADDX-QADRI CONTROLS, INC.

FOR ADDITIONAL INFORMATION AND INSTRUCTIONS REFER TO THE APPROPRIATE INSTALLATION AND OPERATION MANUALS

CONTROL CONNECTIONS:

- MAXIMUM WIRE RUN
 - a. 22 GAUGE 200 FEET
 - b. 18 GAUGE 500 FEET
- WHEN NOT USING ON-BOARD POWER SUPPLY KEYPADS MUST BE HOME RUN.
- WHEN USING ON-BOARD POWER SUPPLY CONNECT KEYPADS NEAR EXPANDER TO TERMINALS 36, 37 13, AND 14.

TERMINAL DESCRIPTION

<i>TERMINAL #</i>	<i>DESCRIPTION</i>
1	Connect one side of zone 17 loop. Connect other side of loop to common terminal 2. Open or short causes alarm.
2	Common (-) Terminal for zones 17 and 18.
3	Connect one side of zone 18 loop. Connect other side of loop to common terminal 2. Open or short causes alarm.
4 - 12	See terminal drawing, and repeat the above sequence for zones 19 through 24.
13 - 14	Auxiliary power, 12 VDC regulated 500mA Max including power from terminals 27 & 28.
15 - 26	See terminal drawing, and repeat the above sequence for zones 25 through 32.
27 - 28	Auxiliary power, 12 VDC regulated 500mA Max including power from terminals 13 & 14.
29	Earth ground, connect to a cold water pipe or 6 to 10 foot driven rod.
30 - 31	Siren driver output to speakers. Minimum speaker rating 15 or 30 watt at 4, 6, or 8 ohms. Output is available ONLY when a transformer is connected to terminals 32 & 33.
32 - 33	AC input. When using on-board power supply, connect a 16.5V 25VA Class II U.L. approved transformer. When on-board power supply is utilized, all keypads must be homerun.
34	Connect to terminal 44 on Ranger 9000 pc board. DO NOT connect this terminal if a transformer is connected to terminals 32 & 33 for utilizing on-board power supply.
35	Connect to terminal 45 on the Ranger 9000 pc board.
36	Connect to terminal 42 on the Ranger 9000 pc board.
37	Connect to terminal 43 on the Ranger 9000 pc board.
Battery leads	Connect to 12VDC lead acid rechargeable battery. Do not use a dry cell battery.

FUSE DESCRIPTION

<i>FUSE #</i>	<i>DESCRIPTION</i>
F1	1 AMP / Auxiliary Power.
F2	2 AMP / Siren Driver.

SPECIFICATIONS

OPERATING POWER	16.5 VAC 25 VA Transformer
* AUXILIARY POWER	12 VDC 500mA
* LOOP RESISTANCE	300 Ohms Maximum
BUILT-IN SIREN DRIVER	2-tone (Steady and Yelp)
* ALARM CURRENT AVAILABLE	5 Amp
LOOP RESPONSE	Selectable to 500ms
OPERATING TEMPERATURE	32 to 120 degrees F
METAL ENCLOSURE DIMENSION	11.25" Wide 11.25" High 3.50" Deep
SHIPPING WEIGHT	6 lbs.
* When using on-board power supply.	

WARRANTY STATEMENT

CADDX-CADDI CONTROLS, INC. GUARANTEES THIS PRODUCT AGAINST DEFECTIVE PARTS AND WORKMANSHIP FOR TWENTY-FOUR (24) MONTHS FROM DATE OF MANUFACTURING. IF ANY DEFECT APPEARS DURING THE WARRANTY PERIOD RETURN IT TO CADDX, POSTAGE PREPAID. THE UNIT WILL BE REPAIRED AND RETURNED. CADDX ASSUMES NO LIABILITY FOR CONSEQUENTIAL OR INDIRECT DAMAGE AND ACCEPTS NO RESPONSIBILITY FOR REPAIRING DAMAGE TO THE PRODUCT CAUSED BY MISUSE, CARELESS HANDLING, OR WHERE REPAIRS HAVE BEEN MADE BY OTHERS.

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