PROGRAMMING INFORMATION AND INSTRUCTIONS FOR THE CADDX 9090 WIRELESS RECEIVER AND INOVONICS (FA series) TRANSMITTERS
9000E Panel Version

Overview: The Caddx 9090 wireless receiver is designed to connect to the keypad terminals on a Caddx 9000E control communicator. It will support up to 100 Inovonics FA series transmitters of various types, including door/window transmitters, smoke detectors, PIR's, pendants, and handheld remote arming controls. Transmitters that are set for supervision will send a test signal once a minute, and the receiver will test for the receipt of a valid signal every 60 minutes. Each transmitter is assigned to a zone (1-32) in a similar manner as would multiple contacts on a wired zone. By assigning logical groups of transmitters to a zone, the amount of programming on the panel for zone features, output features, report codes, etc, is greatly reduced. Because of this, the alarm and tamper signals will be reported by zone, but the supervisory and low battery messages will identify a specific transmitter. All transmitters will be programmed by the 9090 receiver when used with a 9060E keypad or an 8950 programmer. When using the 9060E, the PROGRAM MODE must be entered by pressing [C] - [0] - [0] and your [PROGRAM CODE] (factory default is [9] - [0] - [5] - [0]).

Location 377: Before the 9090 receiver is connected to the keypad bus, location 377 on the 9000E must be programmed with the total number of expansion devices of any type on the keypad buss, DO NOT INCLUDE KEYPADS IN THIS COUNT!. The dip switches on the 9090 must also be set to assign it to the first available expansion address. **Note:** *The 9090 receiver cannot be used in conjunction with the 9032 zone expander board.*

DEVICE #	SWITCH 1	SWITCH 2	SWITCH 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

Location 378: 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: 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.

Shadow Locations: The 9090 contains a nonvolatile memory for storing specific information about the receiver and each transmitter. Because of the amount of information and the limited amount of programming locations available on the 9000E panel, a set of 12 *shadow locations* are employed to transfer information from the 9000E to the 9090 receiver during programming. These shadow locations are actual locations on the 9000E, but it does not use them. Instead, the 9090 receiver will read these shadow locations whenever a new set of program information is ready to set in the receiver or a transmitter. These shadow locations range from 636 to 647. Location 646 is a special location for initiating transmitter programming and deleting a transmitter from the system. The valid commands and result codes will be described in the table on the following page. Whenever a valid command has been intercepted by the 9090 receiver, the display on the keypad that you are using will go back to address 636 and read all locations up to 646 for the latest data to use during transmitter programming.

See table on the next page.

LOCATION 646			
DATA DISPLAY	FUNCTION DESCRIPTION OR RESULT TYPE	INITIATE FUNCTION	RESULT DISPLAY
0	Transmitter programmed Okay		X
1	Start Transmitter Programming	X	
2	Delete Transmitter From System	X	
6	Invalid Transmitter (Point) Number (loc. 644-645)		X
7	Invalid Zone Number (loc. 642-643)		X
8	Waiting for Transmitter Sync (TX attached and reset)		X
9	Transmitter was Successfully Deleted		X

Location 636-639: These locations contain the system ID codes that will be used to match the 9090 receiver to each transmitter it will accept messages from. These locations should be set differently for systems in radio range of each other to prevent interference and erratic operation. The system ID should be set during the first transmitter's programming and not changed so the 9090 receiver and each following transmitter will remain matched. Each location has a range of 0-15 which allows for a total of 65536 different system ID's.

Location 640: This location is used to set the transmitter type to be programmed. The following table defines all valid entries for this location.

LOCATION 640	
DATA	TRANSMITTER TYPE AND SUPERVISION
0	Non-supervised, Non-fire Detector/Transmitter
1	Supervised Non-fire Detector/Transmitter
2	Remote Arming Control (FA100)(set partition in loc. 642,643)
4	Non-supervised Smoke Detector/Transmitter
5	Supervised Smoke Detector/Transmitter

Location 641: This location will be used to set the transmitter's switch type and EOL features. The valid transmitter features will be listed in the two tables below.

FA200,FA200W & FA210,FA210W TRANSMITTER FEATURES			LOC. 641 DATA
Internal contact not used,	N/C external switch,	EOL resistor not used	0
Internal contact used,	N/C external switch,	EOL resistor not used	1
Internal contact not used,	N/O external switch,	EOL resistor not used	2
Internal contact used,	N/O external switch,	EOL resistor not used	3
Internal contact not used,	N/C external switch,	EOL resistor used	4
Internal contact used,	N/C external switch,	EOL resistor used	5
Internal contact not used,	N/O external switch,	EOL resistor used	6
Internal contact used,	N/O external switch,	EOL resistor used	7

PART#	TRANSMITTER DESCRIPTION	LOC. 641 DATA
FA100	REMOTE CONTROL UNIT	0
FA201	SMOKE DETECTOR & TRANSMITTER	2
FA204	PENDANT TRANSMITTER	2
FA206	SHARPSHOOTER PIR & TRANSMITTER	0
FA207	GLASSBREAK DETECTOR & TRANSMITTER	2

Location 642-643: These locations are used to set the zone number for the transmitter (point) being programmed to trigger. If location 640 defines the transmitter as a Remote Arming Control, this location will set the partition that will arm and disarm. Only partition numbers 1,2,3, & 4 are valid.

Location 644-645: These locations are used to set the transmitter (point) number that is to be programmed or deleted. The valid range for these locations is 00-99.

Location 646: See special table for use on previous page.

Location 647: This location sets the telephone (central station) number to be used for reporting transmitter missing (supervised transmitter failed to check in), and transmitter low battery signals. These signals can only be sent to a central station receiver that will accept either Contact ID or SIA formats. Make sure that the primary and/or secondary format location in the 9000E is also set to Contact ID or SIA. When the 9090 receiver has seen and accepted the data programmed at this location the data display is updated with 8 added to the value programmed. **Note:** *The supervisory signals sent from the 9090 to the central station are not stored in the event log.*

LOCATION 647		
ENTERED DATA	FUNCTION DESCRIPTION OR RESULT TYPE	RESULT DATA
0	Supervisory signals not sent	8
1	Supervisory signals are sent to telephone #1	9
2	Supervisory signals are sent to telephone #2	10
3	Supervisory signals are sent to telephones #1 & #2	11

Attaching the Transmitters: Program the transmitter data locations, initiate programming sequence by entering a 1 at location 646, and wait for beep and a result code of 8 to be returned. At this time, the programming cable supplied with the 9090 receiver should be attached to the 3 pin header to the left of the address dip switch (with the terminal strip facing the bottom). Each type of Inovonics FA series transmitters will also have a 3 pin programming header and a reset button. The free end of the programming cable should be attached to the header on the transmitter. The reset button of the transmitter should now be pressed. If the programming was successful, the keypad will beep and display a result code of 0. If the a beep was not heard and/or the 8 was not displayed within 3 seconds, try pressing the reset button again. This process should then be repeated for the remaining transmitters.

Special 9060E Keypad Functions: Then a 9060E LCD keypad is used on a system that has wireless points (transmitters) supported by a 9090 wireless receiver, an additional 'POINTS' message will appear on the LCD when any abnormal condition exists on at least one point (transmitter). When the point message is being displayed, other text is included to indicate what type of abnormal condition(s) is on the point(s). The other text that may be included is 'FAULTED' which indicates at least one point is in an active (alarm) condition, 'TMPR' which indicates at least one point has an enclosure tamper condition, 'LOBAT' which indicates at least one point has a low battery, and 'LOST' which indicates at least one point has failed to check-in within the prescribed supervision window.

Whenever the above described 'POINT' message is being displayed, additional information about the specific point or points that have an abnormal condition may be obtained by pressing [C]-[8]-[0] on the keypad. The keypad will scan through the point system starting with point 00. When it encounters any abnormal point it will display that point number along with its specific abnormal condition(s). If no additional keys are pressed, the keypad will begin searching for the next abnormal point and if one is found it will be displayed after a short delay. At any time, if the [#] key is pressed, the keypad will return to normal operation. If the [A] key is pressed while a specific point is being displayed, a 'WORKING' message will be display as the keypad finds the next abnormal point. After the last abnormal point is displayed, the keypad will return to normal operation.

LOCATION	DESCRIPTION	DATA 1	DATA 2	DATA 3	DATA 4
636-639	RADIO SYSTEM ID CODE				

TX TYPE & SUPERVISE 640	TX FEATURES 641	ZONE # (01-32) 642,643	POINT# (00-99) 644,645	TX TYPE & SUPERVISE 640	TX FEATURES 641	ZONE # (01-32) 642,643	POINT# (00-99) 644,645
			00				50
			01				51
			02				52
			03				53
			04				54
			05				55
			06				56
			07				57
			08				58
			09				59
			10				60
			11				61
			12				62
			13				63
			14				64
			15				65
			16				66
			17				67
			18				68
			19				69
			20				70
			21				71
			22				72
			23				73
			24				74
			25				75
			26				76
			27				77
			28				78
			29				79
			30				80
			31				81
			32				82
			33				83
			34				84
			35				85
			36				86
			37				87
			38				88
			39				89
			40				90
			41				91
			42				92
			43				93
			44				94
			45				95
			46				96
			47				97
			48				98
			49				99

LOCATION	DESCRIPTION	DATA 1
646	TRANSMITTER PROGRAMMING INITIATE AND RESULT DISPLAY	******
647	TELEPHONE RESOURCES FOR LOW BATTERY AND MISSING REPORTS	

9090 REV B (3-4-96)   WIRELESS RECEIVER AND INOVONICS TRANSMITTER