

# MAMI MULTI BASE STATION

INSTALLATION MANUAL

SOFTWARE VER. S0031C23

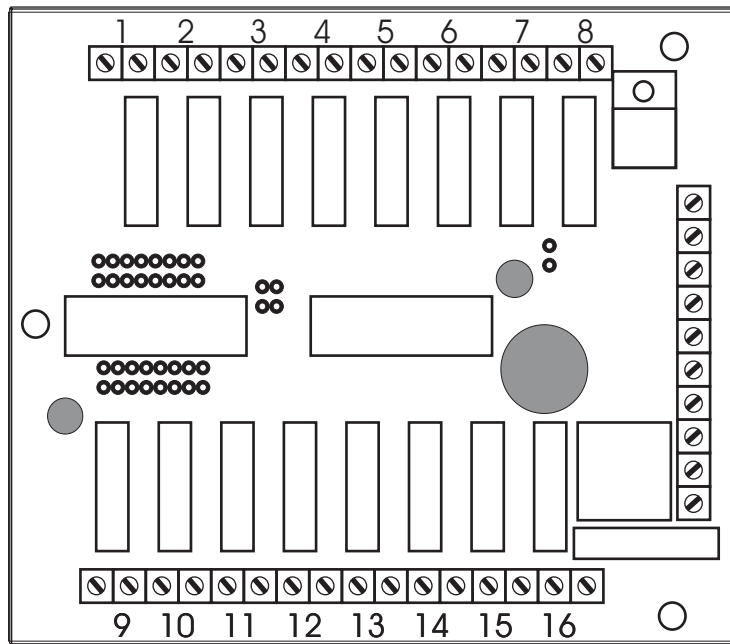


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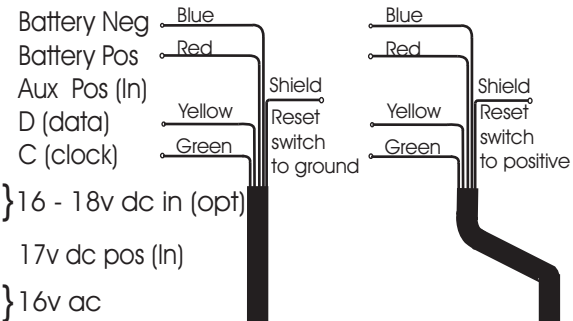
# MIMIC CONNECTIONS

## RELAY BOARD (338D03)



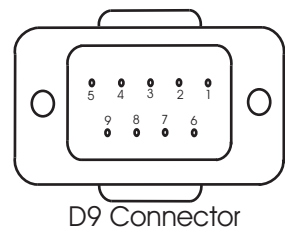
For Multibase connect the shield to positive

For Smartbase connect the shield to ground

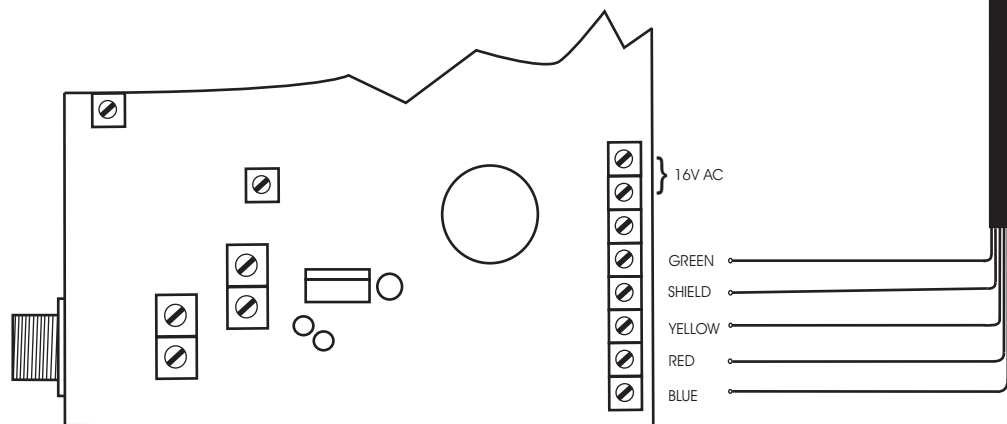


NOTE: Connections: ( on the D9 connector)

1. Green
- 2.
- 3.
- 4.
- 5.
6. Shield
7. Yellow
8. Red
9. Blue



NOTE: To Smart Base serial connection



NOTE: Direct connection from the relay PCB to the receiver

# M.A.M.I. MULTI BASE STATION DECODER

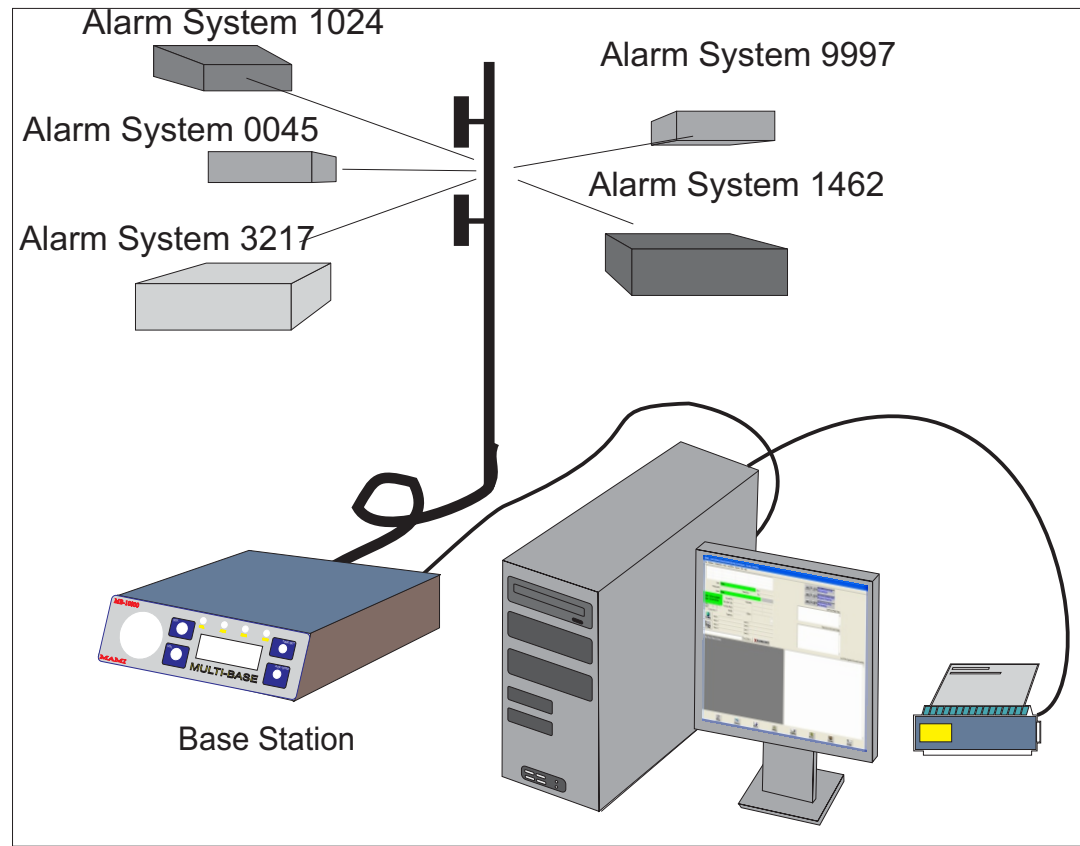
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## COMPONENTS FROM CONTROL ROOM

The **M.A.M.I** MULTI BASE station consists of the following:

- A decoder unit with built in receiver and power supply.
- Telephone plug in module.
- Tone decoder module.

For a complete base station setup, a decoder unit, computer, printer (optional), as well as a base station antenna are required. This is shown in the following diagram.



## DECODER FEATURES

The **M.A.M.I** MULTI BASE unit has the following features:

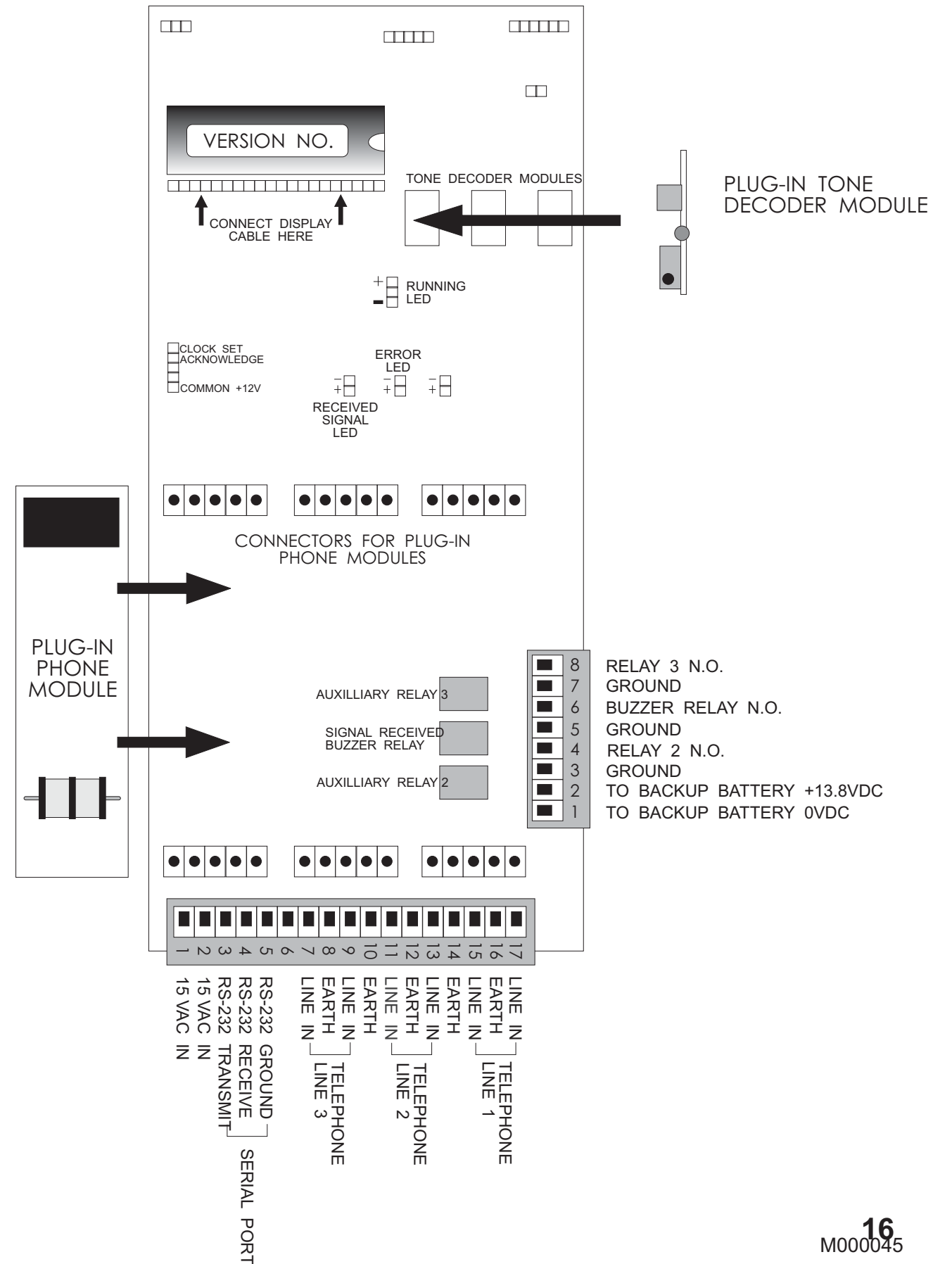
- On-board 1.5 A battery charger and a 6.5 A/H backup battery.
- Built in backlit LCD display to show incoming signals & alarms.
- Real time clock.
- Acknowledge button to accept incoming alarms.
- Date/time button to view time and date programmed in the unit.
- Volume control to listen for incoming signals.
- Squelch adjustment control.
- Four status LEDs indicating:
  - RUNNING/ RECEIVING SIGNAL
  - ERROR DETECTED
  - AUXILIARY
  - SQUELCH INDICATION
- Can expand to three telephone lines (optional). (One line standard from factory).
- Onboard relay providing for buzzer or siren output.
- RS-232c interface for linking to your computer or printer.
- Capability of receiving:
  - M.A.M.I** radio signals
  - M.A.M.I** telephone communicators
  - SESCOA SUPERFAST (telephone communicators only)
  - SESCOA STANDARD (telephone communicators only)
  - M.A.M.I** Contact ID signals via radio and telephone
  - ADEMCO Contact ID telephone signals
- Can be programmed to display "Descriptive Zone Information"
- Optional **4-wire (I2C)** interface for mimic or relay panels
- Various alarm display formats



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# BASE STATION DECODER CONNECTION DIAGRAM



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## TECHNICAL SPECIFICATIONS

<b>DIMENSIONS</b>	- Decoder dimensions approx. <b>34cm x 22cm x 7.5cm</b>
<b>POWER SUPPLY</b>	- <b>16VAC</b> in.
	- <b>13.8VDC 1.5A</b> out ( to backup battery ).
<b>DECODER CURRENT CONSUMPTION</b>	- <b>180mA</b> , with no relays energized
<b>SIGNAL INPUTS</b>	- <b>1 radio, 1 telephone line</b> ( 3 line up gradable ).
<b>SIGNAL COMPATIBILITY</b>	- <b>M.A.M.I.</b> Radio, plus either
	- <b>M.A.M.I.</b> Communicator
	- <b>SESCOA SUPERFAST 3+3+1</b> Communicator .
	- <b>SESCOA 4+2</b> Communicator .
	- Contact ID
<b>DATA TO HOST</b>	- <b>RS-232C</b> signal levels
	- <b>1200/4800</b> baud rate
<b>RADIO RECEIVER FREQUENCY</b>	- <b>VHF</b> - 138 to 172MHz ( ICASA licence required ).
	- <b>UHF</b> - 402 to 405Mhz ( RKU ).
<b>AUDIO OUTPUT</b>	- Internal audio speaker and squelch adjustment.
<b>MODULATION (FM) ( Transmitters)</b>	- Approved for 12.5KHz channel spacing.
<b>TRANSMITTER RANGE</b>	- <b>UHF</b> = MAX 3-4Km in good conditions.  - <b>VHF</b> ( RKF) = ± 25Km in good conditions. ( Above ranges depend on type and Location of the antenna, as well as environmental conditions ).
<b>CONNECTIONS PROVIDED</b>	- <b>16VAC</b> plug in transformer.
	- Serial port <b>D9 / D25</b> female connector.
	- <b>1 telephone</b> plug ( <b>expandable to 3</b> ).

## INSTALLING THE RECEIVER-DECODER UNIT

The **M.A.M.I MULTI BASE** receiver /decoder is very simple to install as there is minimal wiring required. Just follow these steps below for a successful installation.

- Ensure that the computer, base decoder and printer are switched off.
- Connect the base decoder to the computer with the supplied **9-pin** serial plug to the serial port. This connection can be made either to port one or to port two of your pc. (D25 plug available on request)
- Connect the optional printer to the computer's parallel port.
- Connect the antenna cable to the base decoder receiver. This is the receiver section of the base decoder and is usually a **PL259** connection. ( See antenna installation manual.)
- Connect the telephone line to the telephone interface on the back of the decoder unit.(optional).
- Connect the supplied ac transformer to the mains socket outlet.
- Switch the computer, decoder and printer on.
- Your computer should display the Windows Desktop after startup.
- Set the volume and squelch levels on the base decoder if audio is required. (Note that neither the squelch or the volume control effect the receiver sensitivity in any way).
- The base decoder unit should display the following start up message on the LCD display

**"MULTI BASE"**  
**"0000 00 S0031CXX"**

- The green LED will flash at one second intervals.
- The system is now ready for the CRIME software installation. ( See CRIME installation guide).

## OPERATING THE BASE STATION DECODER

- After correct installation the base station should operate in the following manner:  
(Note: Make sure the battery terminals are connected to the battery)

## DECODER POWER UP

- When powered up, the decoder unit will display the initial start-up message on the LCD display.

**"MULTI BASE"**  
**"0000 00 S0031CXX"**

- The clock will start from date: 01:01:98 And the time from: 00:00:00
- The green 'RUNNING' led will flash at 1 second intervals.
- The red 'ERROR' led as well as the yellow 'SIGNAL RECEIVED' led will remain off.
- The decoder unit will send a start-up message to the host computer. This message will be 'DECODER SIGN ON' .

## SETTING THE REAL TIME CLOCK

- **Switch the decoder unit off.**
- **Hold down the yellow button on the decoder front panel, and switch the decoder back on.**
- Release the **yellow button** after **5 seconds**.
- The LCD display will prompt you to set the **year**. Push the **red button** once to increment the year. **Holding** this button down will increment the year at a faster rate.
- Push the **yellow button** to set the **month**. Push the **red button** to increment the month to the correct value. Again **holding** the red button down will increment the months at a faster rate.
- Push the yellow button to set the day. And again press the red button to increment.
- Follow this sequence until the time and date are correctly set.
- Pressing the **yellow button** will toggle between alarm record display and time display.

## RECEIVING SIGNALS

### IN STANDBY MODE

- The **green LED** on the decoder will flash at 1 second intervals.
- The **red** and **yellow LED** will remain off.
- The **buzzer** ( if connected) will be silent.

### WHEN A RADIO SIGNAL IS RECEIVED

- The **green LED** will flicker with the incoming signal as it is being received.
- If the code is accepted by the decoder unit, the **buzzer relay** will latch.
- The **yellow LED** on the front panel will switch on.
- If the signal is rejected , the **red LED** will switch on for a one second period. ( Code ignored)
- Received signals (alarms) will be displayed on the **LCD** display.
- Received signals can also be heard on the **internal speaker**, by adjusting the **volume** and **squelch** settings on the front panel.
- Pressing the **red acknowledge** button on the front panel will silence the **beeper** and switch the **yellow LED** off.
- NOTE: To toggle the beeper function ON or OFF, hold the red Acknowledge button in and press the yellow button once. Two bleeps indicate that the beeper will come on with received signals; one beep for when the beeper is disabled.

## MAMI MULTI BASE STATION-TO-HOST PROTOCOL

The following is a description of the code structure sent from the MAMI MULTI BASE to the host computer. Note that the code, excluding the start-of-text and end-of-text sequence, is displayed on the decoder LCD display unit.

### 1. DATA STRUCTURE FROM BASE STATION DECODER TO COMPUTER

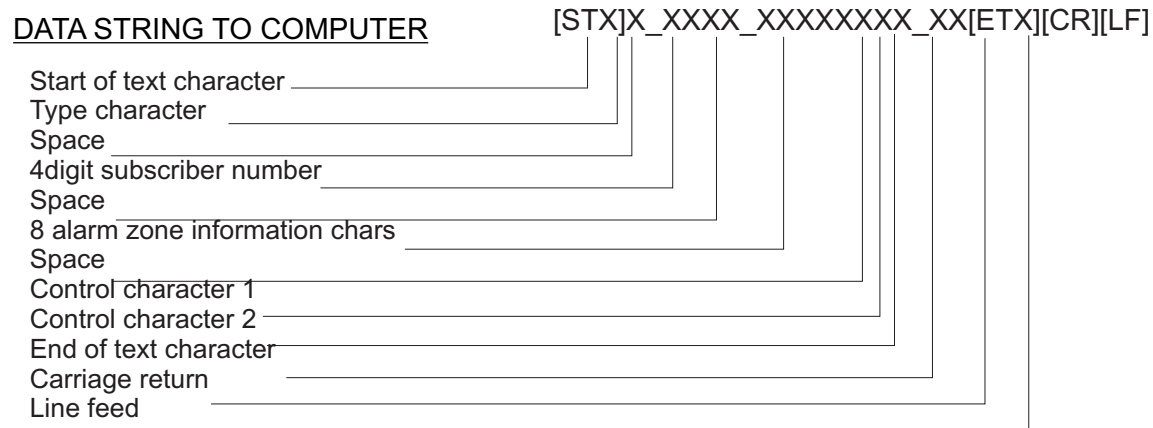
#### 1.1 DATA FORMAT

MAMI / CLASSIC BAUD RATE / PRINTER	SURE GUARD BAUD RATE
SIGNAL TYPE = RS-232C	SIGNAL TYPE = RS-232C
DATA BITS = 8	DATA BITS = 7
DATA RATE = 4800 BPS	DATA RATE = 1200 BPS
STOP BITS = 1	STOP BITS = 1
PARITY = NONE	PARITY = EVEN

NOTE: Printer output can be raw code or screen print with time and date.

#### 1.2 CODE STRUCTURE

The structure of the data sent to the computer is as follows:



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The **BASE** may be programmed to suit the type of operation required. Programming is done using the **M.A.M.I. RKF\_PROGRAMMER**.

### OPTIONS REGISTER '1'

Data is entered from bit 1 to bit 8 . Enter a '0' or a '1', corresponding to your choice.

A list of these choices are shown in the programming sheet below and are self explanatory.

The **different display formats** that appear on the LCD display and the printer when an alarm signal is received can be programmed using bits 1,2 and 3 and are shown in "PROGRAM REGISTER 1". For specific monitoring applications, the messages to be displayed may be **customized**.

**TO PROGRAM:**  
1-HOLD THE SELECTED REGISTER KEY UNTIL A "P" IS DISPLAYED (EG. "3") **1** → **P**

2-ENTER EIGHT "0" OR "1" **?** **0** OR **1** AS SELECTED

**TO VISUALIZE**  
PRESS SHORTLY THE NUMBER OF THE REGISTER YOU WANT TO CHECK **?**

THE DISPLAY WILL SHOW, SEQUENTIALLY THE CONTENT OF THE REGISTER **0** OR **1**

## PROGRAMMING THE OPTION REGISTER **1**

FACTORY-PROGRAMMED DEFAULT SETTINGS ENTER YOUR SELECTIONS HERE

BIT NO.	RAW CODE	STANDARD MESSAGES	FARM MESSAGES	TRACERADIOCOM	CUSTOM 1	CONTACT ID MESSAGES	PAGER MESSAGES
1	1	0	1	0	1	0	1
2	0	0	0	1	1	0	0
3	1	0	0	0	0	1	1
4	0	(IGNORE)					
5	1	→ 1 = SEND DATA TO HOST COMPUTER	→ 0 = NO COMPUTER				
6	0	→ 1 = SEND OUTPUT TO PRINTER	→ 0 = NO PRINTER				
7	0	→ 1 = CLASSIC BAUD RATE (4800)	→ 0 = SURE GUARD BAUD RATE (1200)				
8	0	→ 1 = SMART BASE	→ 0 = BASE STATION				

On request the **BASE** can be configured so that the **installer** can program the range of transmitter numbers that can be received.

The highest transmitter number to be received is programmed into register 'B'.

Registers 'A' and 'B' will then define the "window" transmitter numbers that can be received by the **BASE**.

Valid codes are any decimal values between '0000' and '9999'.

### LOWEST CODE REGISTER 'A'

This defines the **LOWEST** transmitter ID code that will be accepted by the **BASE**. Any received ID code below this number will be ignored.

Data is entered from digit 1 to digit 4.

### HIGHEST CODE REGISTER 'B'

Any transmitter whose number is higher than this number will be ignored by the receiver.

### PROGRAMMING THE RANGE OF VALID CODES **A** & **B**

I.D. CODE OF THE FIRST TRANSMITTER BEING MONITORED

**A**

1	2	3	4
0	0	0	1

← ENTER A 4-DIGIT NUMBER  
← FACTORY DEFAULTS

I.D. CODE OF THE LAST TRANSMITTER BEING MONITORED

**B**

1	2	3	4
0	0	1	0

← ENTER A 4-DIGIT NUMBER  
← FACTORY DEFAULTS

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## MULTI BASE MESSAGES

RAW CODE (000XXXXX)	STANDARD (100XXXXX)	FARM (010XXXXX)	TRACER (110XXXXX)	CUSTOMIZED (001XXXXX)	PAGER (111XXXXX)	CONTACT ID (101XXXXX)
ZONE_1:	Circuit 1	ROBBERY 1	Circuit 1	-----	GO TO POINT 1	<i>PLEASE REFER TO CONTACT ID FORMAT LIBRARY</i>
ZONE_2:	Circuit 2	ROBBERY 2	Circuit 2	-----	GO TO POINT 2	
ZONE_3:	Circuit 3	AMBULANCE	Circuit 3	-----	GO TO POINT 3	
ZONE_4:	Circuit 4	FIRE !	Circuit 4	-----	GO TO POINT 4	
ZONE_5:	Circuit 5	ATTACK !!	Circuit 5	-----	CALL ROUTINE	
ZONE_6:	Circuit 6	FRIDGE	Circuit 6	-----	CALL URGENTLY	
ZONE_7:	Circuit 7	CONTROL 1	Circuit 7	-----	CALL EMERGENCY	
ZONE_8:	Circuit 8	RESPONDS	Circuit 8	-----	CANCEL CALL	
CONTROL1 = 1	Panic	Panic	Panic	-----	EMERGENCY !!!	
CONTROL1 = 2	Medical	Medical	Duress / Medical	-----	-----	
CONTROL1 = 3	Panic cancel	Check in	Check in	-----	-----	
CONTROL1 = 4	Fire	Fire	Armed	-----	-----	
CONTROL1 = 5	Undefined	Undefined	Disarmed	-----	-----	
CONTROL1 = 6	Undefined	Undefined	Mains Fail	-----	-----	
CONTROL1 = 7	Undefined	Undefined	Battery Low	-----	-----	

### Note for users linking the BASE to a host computer:

The BASE is transparent to certain signals from the JACK R and TRACER control transmitters. These signals will not generate an alarm on the BASE itself, but the received code WILL be transmitted to the host computer where full monitoring takes place. These signals are as follows:

- System armed
- System disarmed
- Wireless battery low
- Mains Failure
- System backup battery low

## PROGRAMMING PROCEDURE

Now that the programmable selections have been made, the MULTI-BASE unit can be programmed. This is done using the RKF programmer.

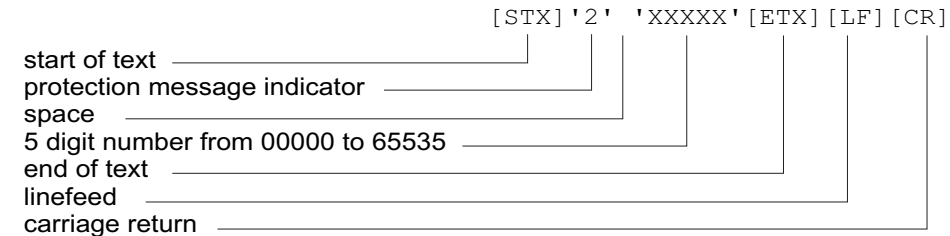
### The following procedure applies to all registers.

1. Remove power from the MULTI-BASE receiver.
2. Disconnect the LCD display cable from the pinstrip adjacent to the microprocessor, noting carefully which row of holes in the ribbon cable Header connects to the pinstrip.
3. Plug the programmer ribbon cable onto the pinstrip, so that the cable passes over the MULTI-BASE screw-connector strip.
4. While holding the '#' key apply power .
5. After a short delay release the '#' key, the '-' character will appear on the programmer. You can now start programming.
6. To program a particular register hold down that register number until a 'P' is displayed. Release the key, and enter the selections that you previously made.
7. To read an existing setting, press the register key BRIEFLY. The setting will be displayed sequentially on the programmer display.
8. If you wish to program another register, repeat steps 6 and 7 above.
9. When programming is complete, press the '#' key and remove the programmer from the MULTI-BASE pinstrip.
10. Remove power from the MULTI-BASE.
11. Reconnect the LCD display ribbon cable to the pinstrip and apply power .

## 1.3 BASE DECODER PROTECTION MESSAGE

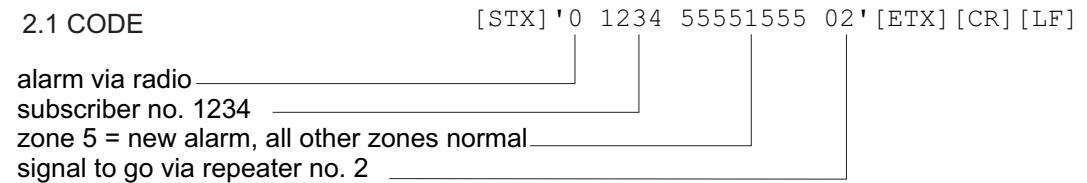
The MAMI base station decoder sends a predetermined 'protection' code to the host computer every 5 minutes. This has been designed for the situation where the base decoder is used with MAMI 'CRIME' software. The CRIME software will indicate an alarm (SNIPER NOT CONNECTED) if this code is not received from the decoder every 10 minutes.

The code structure of the protection message is as follows:

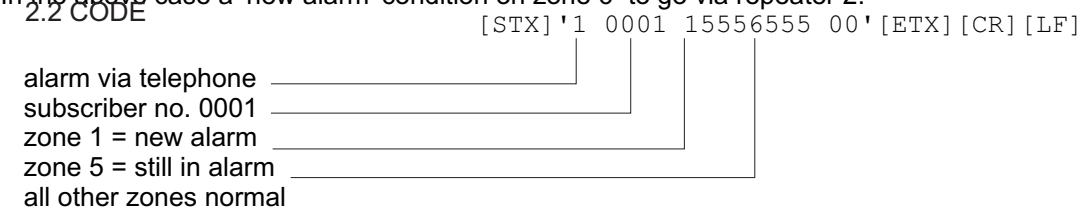


The hex codes for STX, ETX, CR and LF are as explained above.

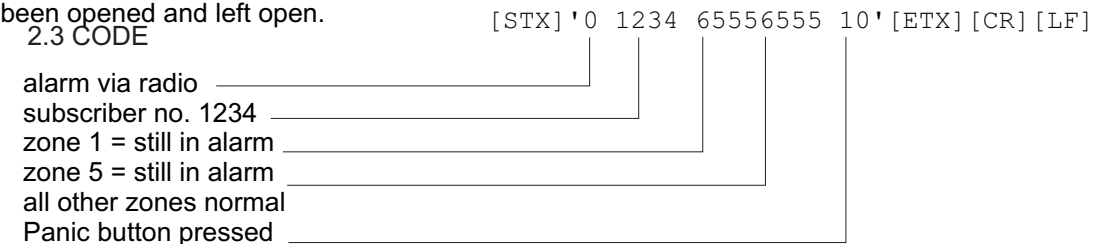
## 2. SAMPLE CODE SEQUENCES TO THE HOST COMPUTER



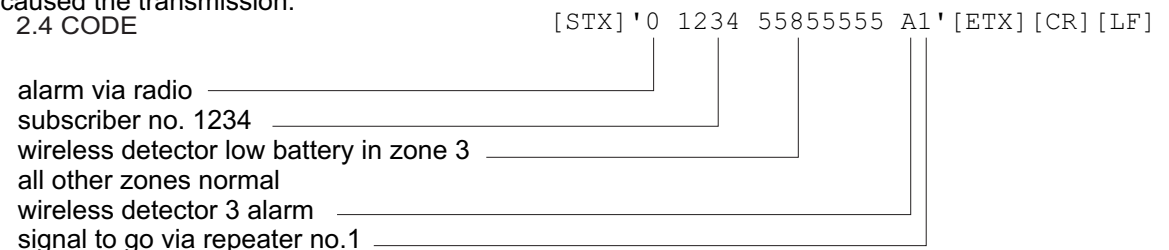
In the above case a 'new alarm' condition on zone 6 to go via repeater 2.



In the above case a 'still in alarm' condition may be caused by, for example, a doorguard contact where the door has been opened and left open.



In the above case the panic button should take priority over the 'still in alarm' conditions. It is the panic button that has caused the transmission.



In the above case a 'battery low' from wireless detector zone 3 to go via repeater 1.

2.5 CODE [STX]'1 4321 5555555 30'[ETX][CR][LF]

alarm via telephone \_\_\_\_\_  
 subscriber no. 4321 \_\_\_\_\_  
 all zones normal \_\_\_\_\_  
 test transmission received \_\_\_\_\_

In the above the test transmission is generated either by the user or by the regular-interval autotest facility built in to our radio transmitters and communicators.

2.6 CODE [STX]'0 1234 55155555 A1'[ETX][CR][LF]

alarm via radio \_\_\_\_\_  
 subscriber no. 1234 \_\_\_\_\_  
 zone 3 = new alarm \_\_\_\_\_  
 all other zones normal \_\_\_\_\_  
 wireless detector 3 alarm \_\_\_\_\_  
 signal to go via repeater no.1 \_\_\_\_\_

2.7 CODE [STX]'2 47032'[ETX][CR][LF]

protection message from decoder \_\_\_\_\_  
 to follow \_\_\_\_\_  
 protection code = 47032 \_\_\_\_\_

### 3. COMMUNICATOR CODE STRUCTURES

The base station will accept communicator codes of type SESCOA SUPERFAST and 4+2, 1800HZ CARRIER, 2300HZ HANDSHAKE, 20PPS, as well as the standard M.A.M.I. radio and communicator signals.

#### SESCOA SUPERFAST DATA STRING TO COMPUTER

The data string to the computer is the same as previously described, but the meaning of the different characters is different. Note that a 4+2 code is always indicated by a '5' as the first character, and a SUPERFAST code is always indicated by a '6' as the first character.

3.1 CODE [STX]'5 1234 13555555 00'[ETX][CR][LF]

alarm from 4+2 communicator \_\_\_\_\_  
 subscriber no. 1234 \_\_\_\_\_  
 received alarm = '13' \_\_\_\_\_  
 ignore last 6 characters \_\_\_\_\_  
 unused control characters \_\_\_\_\_

3.2 CODE [STX]'6 2143 1A155555 00'[ETX][CR][LF]

alarm from superfast communicator \_\_\_\_\_  
 subscriber no. 2143 \_\_\_\_\_  
 received alarm = '1A1' \_\_\_\_\_  
 ignore last 5 characters \_\_\_\_\_  
 unused control characters \_\_\_\_\_

DSC 10 PPS 1400HZ  
 0 4+2

FBI 0 = 10 PPS DIAL  
 6 = 20 PPS 2300HZ  
 4 4+2  
 5

#### F.B.I. CONTROL PANEL

CONDITION	CODE	CONDITION	CODE	CONDITION	CODE
Z1 ALARM	[0A1]	Z1 RESTORE	[031]	PANIC	[AEE]
Z2 ALARM	[0A2]	Z1 RESTORE	[032]	DURESS	[ADD]
Z3 ALARM	[0A3]	Z1 RESTORE	[033]	TEST / 24HR	[ADB]
Z4 ALARM	[0A4]	Z1 RESTORE	[034]	ARMED	[AC1]
Z5 ALARM	[0A5]	Z1 RESTORE	[035]	DISARMED	[AB1]
Z6 ALARM	[0A6]	Z1 RESTORE	[036]	MAINS FAIL	[AEB]
Z7 ALARM	[0A7]	Z1 RESTORE	[037]	BATT.LOW	[AEA]
Z8 ALARM	[0A8]	Z1 RESTORE	[038]	-----	[000]

#### D.S.C CONTROL PANEL

CONDITION	CODE	CONDITION	CODE	CONDITION	CODE
Z1 ALARM	[1A1]	Z1 RESTORE	[031]	PANIC	[AEE]
Z2 ALARM	[1A2]	Z1 RESTORE	[032]	DURESS	[0D1]
Z3 ALARM	[1A3]	Z1 RESTORE	[033]	TEST / 24HR	[CD1]
Z4 ALARM	[1A4]	Z1 RESTORE	[034]	ARMED	[AC1]
Z5 ALARM	[1A5]	Z1 RESTORE	[035]	DISARMED	[AB1]
Z6 ALARM	[1A6]	Z1 RESTORE	[036]	MAINS FAIL	[BEB]
Z7 ALARM	[1A7]	Z1 RESTORE	[037]	BATT.LOW	[0E0]
Z8 ALARM	[1A8]	Z1 RESTORE	[038]	-----	[000]

#### CORENELL COMMUNICATOR

CONDITION	CODE	CONDITION	CODE	CONDITION	CODE
Z1 ALARM	[1A1]	Z1 RESTORE	[031]	PANIC	[EEE]
Z2 ALARM	[2A2]	Z1 RESTORE	[032]	DURESS	[0D1]
Z3 ALARM	[3A3]	Z1 RESTORE	[033]	TEST / 24HR	[ODB]
Z4 ALARM	[4A4]	Z1 RESTORE	[034]	ARMED	[9B9]
Z5 ALARM	[5A5]	Z1 RESTORE	[035]	DISARMED	[9C9]
Z6 ALARM	[6A6]	Z1 RESTORE	[036]	MAINS FAIL	[0BA]
Z7 ALARM	[7A7]	Z1 RESTORE	[037]	BATT.LOW	[0AE]
Z8 ALARM	[8A8]	Z1 RESTORE	[038]	-----	[000]



This Routine checks for the SESCOA format via the tel. interface.

The routine reads either 6 SESCOA 4+2 characters or 7 SUPERFAST characters. If the SUPERFAST format has been read, the pentad-decimal account is converted to 4-digit decimal. The code is then validated, and loaded into the MAMI string format as follows:

SESCOA SUPERFAST (40pps) the mark/space is 15msec/10msec, with a 300msec inter-character

SESCOA 4+2 (20pps) the mark/space is 30msec/20msec, with a 600msec inter-character

The tones must be ON for min. 6 Msec and OFF for at least 6msec.  
The interval between characters is measured, and if it is less than 450msec it is assumed to be SUPERFAST timing, a counter is incremented.  
This counter holds the number of intercharacter spaces of less than 450msec.

SESCOA SUPERFAST FORMAT (3+3+1 40PPS, 2300Hz HANDSHAKE, 1800Hz TONE, PARITY).

	A1	A2	A3	Z1	Z2	Z3	P
3-digit pentadecimal account	X	X	X				
3-digit alpha alarm code				X	X	X	
Parity							X

converted to: 6 CCCC AAA55555 00 C = ACCOUNT NUMBER, A = ALARM CODE

SESCOA SLOW FORMAT (4+2) (20PPS, 2300Hz HANDSHAKE, 1800Hz TONE, NO PARITY).

	A1	A2	A3	A4	Z1	Z2
4-digit account	X	X	X	X		
2-digit alarm code					X	X

Converted to: 5 CCCC AA555555 00 C = ACCOUNT NUMBER, A = ALARM CODE

SESCOA 3+1 FORMAT (20PPS, 2300Hz HANDSHAKE, 1800Hz TONE, NO PARITY).

	A1	A2	A3	A4	Z1
3-digit account	X	X	X	X	
1-digit alarm code					X

(INSTALLED 01/06/1994)

Converted to: 3 CCCC A5555555 00 C = ACCOUNT NUMBER, A = ALARM CODE

## EXPLANATION OF CHARACTERS

### Type Character:

Radio MAMI	0
Telephone ADEMCO	1
Security Number	2
SESCOA 3 + 1	3
RNET Format	4
SESCOA 4 +2	5
SESCOA Superfast	6
Local (CRAM)	7

### I.D. Code

The I.D. Code is the Subscriber code that the Administrator gives to a client.

### Alarm Zones Code:

0	Not Used
1	New Alarm
2	New Open
3	New Restore
4	New Close
5	Normal
6	Still in Alarm
7	Wireless Alarm
8	Wireless Sensor Battery
9	Not Active
A	Active
B	Wireless Tamper
C	Not Used
D	Not Used
E	Not Used
F	Not Used

### Control Bit 1

0	Not Used
1	Panic
2	Duress
3	Test / Cancel-Alarm
4	System On
5	System Off
6	System Mains Failed
7	System Battery Low
8	System Mains Restore
9	System Battery Restore
A	System Tamper
B	Installer Password Changed
C	Used for GRS
D	Guard on-site
E	Guard Panic
F	Not Used

### Control Bit 2

0	No Repeaters
A	Repeater 1 - 1 -
B	Repeater 2 - 2 -
C	Repeater 3 - 3 -
D	Repeater 4 - 4 -
E	Repeater 5 - 5 -
F	Repeater 6 - 6 -

### USER NUMBER:

To indicate which user sends information such as ARM/DISARM the Zone relevant to the user number is reduced by '4'.

eg:

- '0 1234 99AAAAAA 40' is the same as '0 1234 99A6AAAA 40' with the added information in the latter that it was sent by USER 4. The 6 in Zone 4 means that the operation (ARMING) was performed by user four and if 4 is added to that zone an "A" is obtained which means that that Zone was active (see Alarm codes).
- If the information was sent by USER 1 the same signal will be sent as '0 1234 59AAAAAA 40'. Note the position of the '5' or '6' to determine the user number. The '5' is still classified as a '9' (Non-active) and the '6' as a 'A' (Active), thus no other information is lost when user information.
- In the same way up to 35 users can be obtained if these zone locations are added together. At least one zone must contain either a '9' or 'A' to conform to new signal format.
- User 35 is the unit user number and thus will an Auto-arm be signaled as an arm by User 35.

## R-Net Format

### Message Format:

4, 1234, 12000000, Ctrl 1, Ctrl 2

Which		What
0	Control Character Coming 0	Not Used
1	Zone 1	1 New Alarm
2	Zone 2	2 New Open
3	Zone 3	3 New Restore
4	Zone 4	4 New Close
5	Zone 5	5 Normal
6	Zone 6	6 Still Alarm
7	Zone 7	7 Wireless TX
8	Zone 8	8 Battery Low in Wireless Sensor
9	Panic	9 Fault
A	Duress	A Tamper
B	Test / Cancel - Alarm	B Not Used
C	System On	C Not Used
D	System Off	D Not Used
E	System Mains Failed	E Not Used
F	System Battery Low	F Cancel

### Control Bit 1

Not Used.

### Control Bit 2

0	No Repeaters
A	Repeater 1 - 1 -
B	Repeater 2 - 2 -
C	Repeater 3 - 3 -
D	Repeater 4 - 4 -
E	Repeater 5 - 5 -

## Signals Related to guard Monitoring Units

Identification: Set as user 34 (User 35 - Automatic - see Auto arm)

Abbreviated as GRS (Guard Route Monitoring)

This section should be read in accordance with the section on USERS

Type of signals that can be expected:

1. Panic per point (16 expandable to 32)

Eg: 0 1000 59999999 10 PANIC POINT NO 1 (USER 1 PANIC)

2. Visit to a point

Eg: 0 1000 59999999 C0 VISIT POINT NO 1

3. System enable (GRS - ON)

Eg: 0 1000 59555555 40 GRS ARMED [ON] (ARM USER 34)

4. System disable (GRS - OFF)

Eg: 0 1000 59555555 50 GRS DISARMED [OFF] (DISARM USER 34)

5. Starting a patrol sequence

Eg: 0 1000 AAAAAAAA C0 START PATROL [OFF] (GRS USER 0)

6. Fail Patrol

7. Patrol Completed successfully

Eg: 0 1000 59555555 C0 PATROL COMPLETED (GRS USER 34)

M000045

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## NOTE ON SESCOA FORMATS

- If you are receiving *SESCOA SUPERFAST* format from tel communicators, the alarms that will be received from the communicator are as follows:

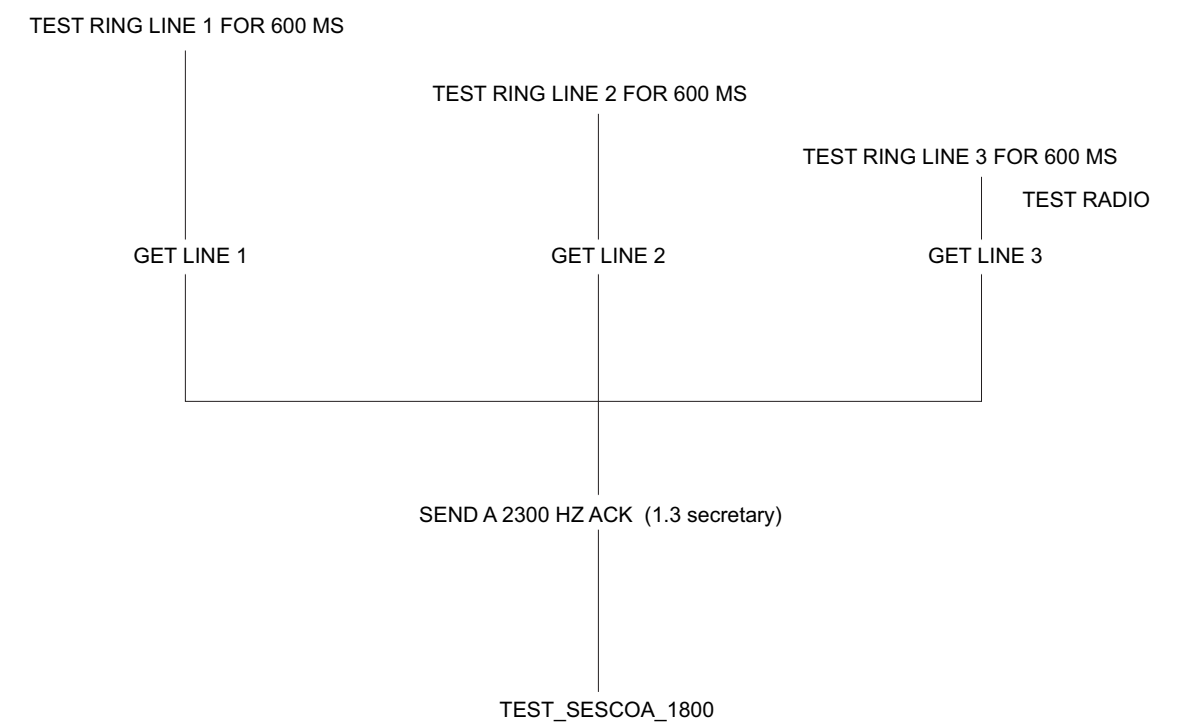
New alarm (All zones)	Closing (System armed)
Restoral (All zones)	Opening (System disarmed)
Panic	AC fail
Test transmission	Low battery
24 hour report	

If you are receiving *SESCOA SLOW* format from tel communicators, the alarm codes must be programmed into the communicator as follows:

(Note : this format is 4/2, 20 bps, 2300Hz handshake).

### TO RECEIVE THIS PROGRAM THIS CODE ON THE COMMUNICATOR

ALARM ZONE X	2X (X =ZONE NO.)
RESTORE ZONE X	3X
TROUBLE	1A
DURESS	AA
TEST/24 HR REPORT	8A
CLOSING	4A
OPENING	5A
AC FAIL/LOW BATTERY	7A



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