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# AES•Net77

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## WIRELESS NETWORK MANAGEMENT SOFTWARE INSTALLATION & OPERATION MANUAL

<< AES•IntelliNet Radio Network Management System Ver. 1.48 >>
Message Control Site Programming Database sYstem (c) AES Corp.
Tues Mar 07 12:57:01 1996 <5500 #00 -> 0000 (LNR) Unit Check In...> (Data 010: Unit 7054 is OK (New) Type=Supervisory ID=5500 Zone 000)
To Select Entry: Use Cursor Keys + Enter , Type Entry Number , ESC to Exit



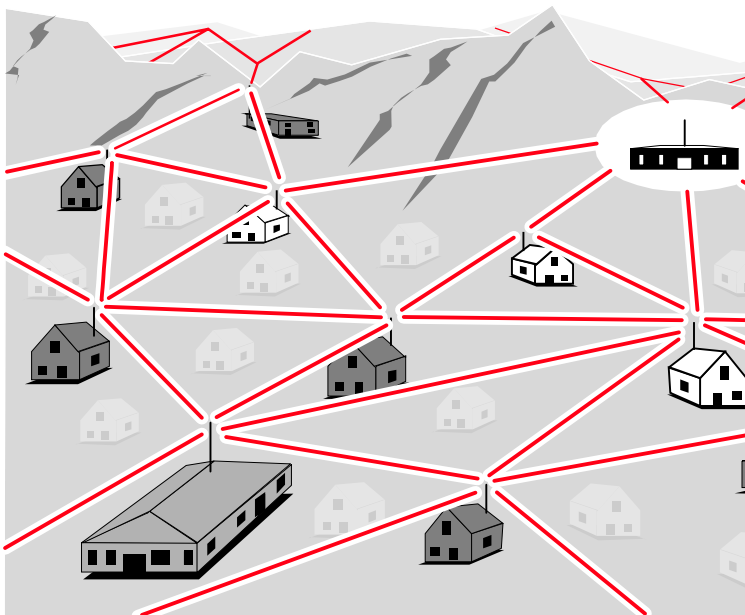
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## System Overview



The AES•IntelliNet Central Alarm Reporting System uses two-way radio to monitor alarms at remote locations. It requires no phone lines, which are subject to both tampering and general failure.

What sets the AES system apart is its "smart" communicators, called subscriber units. Each subscriber unit takes input from a local alarm panel and transmits alarm information by radio to the central station receiver. If a subscriber unit is too far away to reach the central station by direct radio transmission, its message will be relayed by another subscriber unit closer to the central station. This unique, built-in "repeater" capability creates a highly reliable, *adaptive* security link. The system adjusts itself to forward messages by the shortest and best available route. This message relay capability is completely automated - the subscriber units establish themselves in the network. Furthermore, by eliminating the need for a separate repeater tower, the AES system dramatically reduces the cost of setting up a wireless monitoring system.

The AES•IntelliNet software is an integral part of the system, serving as the hub of this central reporting network.

## Program Functions

- Query remote subscriber units to update database
- Query and Poll remote subscriber units for status
- Send and receive text messages to and from subscriber units equipped with data terminals
- Remote reset, deactivation and reactivation of subscriber units
- Remote changing of check-in time intervals
- Remote control of relay-switched functions
- Remote zone configuration
- Databasing of basic information on network structure
- Output to automation software in Radionics 6500 format

**NOTE:** It is assumed that a 7701 Central Receiver and the 7700 Network Controller are up and running. The receiver and controller must be linked by an RS-232 cable, connecting the chosen controller COM port (usually COM 2) to an "active" 7701 Central Receiver. See manual sections on setting up central station hardware.

## LOADING SOFTWARE

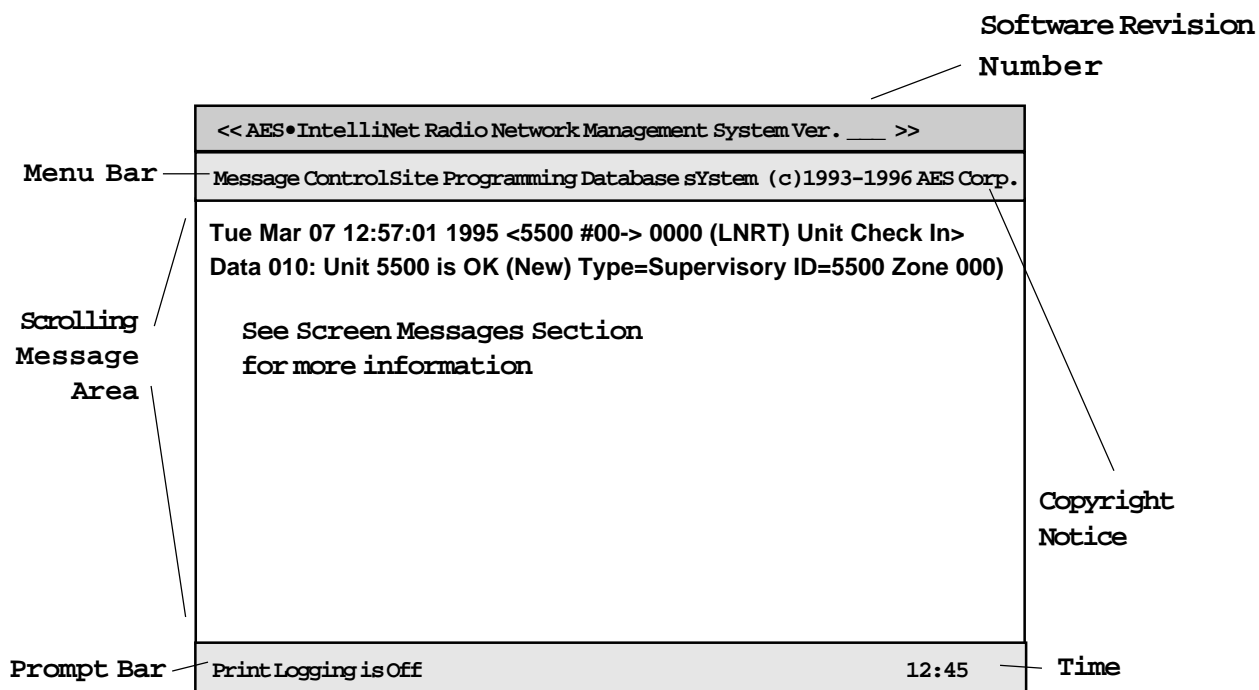
AES Net77 software is specifically designed to run on the AES 7700 controller, a 586 based processor. The UL Central Station Receiver must have Net77 software running on the AES 7700, and be connected to a 7701 Central Receiver. This hardware and software combination is required for the system to operate. To load the software, follow the instructions on the diskette provided. An installation program will automatically load the software onto the hard drive.

If you are loading V 1.48 to replace an earlier version of Net software, the install program will store your old software and database files under a separate directory. Should you need to re-activate the old version, a "revert" program is included with your V 1.48 software.

## STARTING NET77 SOFTWARE

To start the program, type "NET77" while in the c:\AES directory.

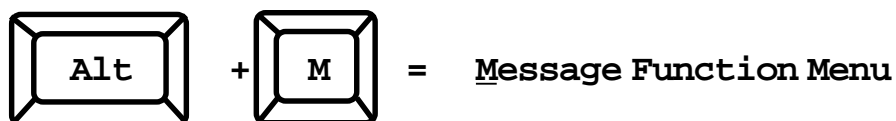
## Monitoring Screen



The basic AES•IntelliNet monitoring screen is illustrated above. Most of the screen displays network activity. Network information scrolls up the screen. In normal communication monitoring mode, all radio data "traffic" in range of the central station is displayed. This is a valuable tool for monitoring network activity. This data can be logged on the printer on LPT1 (or the DOS device PRN), which is toggled on or off by the <F9> key.

### Function Groups

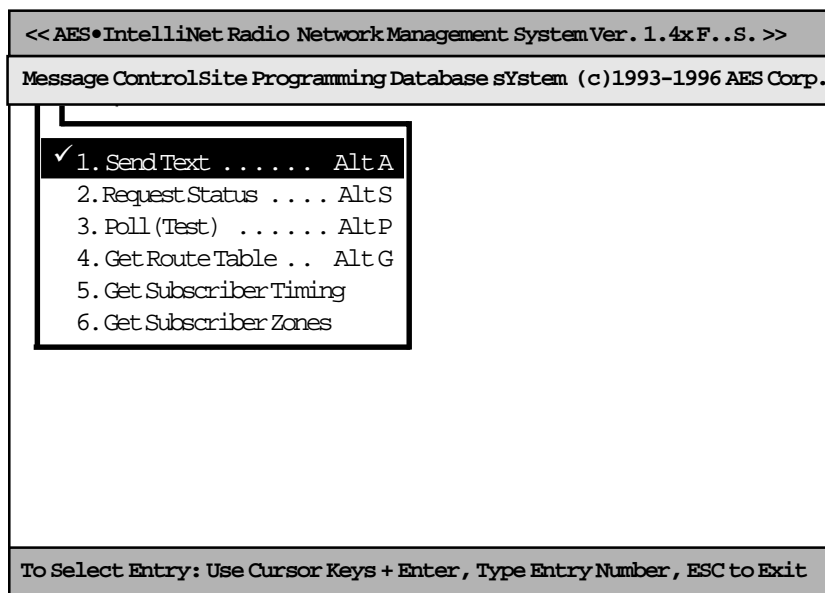
There are five function groups, including "Message," "ControlSite," "Programming," "Database" and "System." They are accessed from the menu bar in the upper part of the screen. Each of the menu bar function groups has a highlighted (red) letter. Menu function groups are selected by holding down the <ALT> key and pressing the function group's highlighted letter on your keyboard. Pressing F1 will also select the menu group.



## System Overview

### Function Groups, cont.

For example, you might want to select the "Message" function group. The word "Message" on the menu bar has the first letter "M" highlighted in the color red. This group is selected by pressing the <ALT> key plus the <M> key. The Message Group pulldown menu will now appear under the word "Message" on the menu bar.



The first of the pulldown functions, "Send Text," will be highlighted as illustrated above. Other functions within the pulldowns are selected using the arrow keys. The highlight bar follows the cursor. The pulldown functions are executed when the user presses <ENTER>. Alternately, pulldown functions can be executed by pressing the line number of the desired function.

Alternate menu bar function pulldowns can be selected by using the left and right arrow keys. Pressing the <ESC> key will close the pulldown menu and return you to normal communication monitoring mode. Pressing the <ESC> key within a function block also will return you to normal communication monitoring mode.

**NOTE:** When a pulldown, or function block popup is being displayed, new network communication messages are temporarily stored in a buffer. Should the system experience an extremely high level of transmission activity while an operator function is being carried out, the program will automatically return itself to normal monitoring operation, thereby ensuring that no messages are missed.

Note also that many of the NET77 functions can be accessed directly by "hot key" combinations like "<ALT> <T>, <ALT> <A>, etc." Hot key notations appear on the same line as the function descriptions. See the "SHORTCUTS" sections on later pages for the quickest methods of executing commands.

## System Overview

### Picklist Pop Up

When a function is chosen from a function group, a picklist popup, illustrated at right, appears. You will be asked to select the ID number of the subscriber unit you wish to contact. Highlight the appropriate ID number using arrow keys and select it by pressing <ENTER>. New subscriber units automatically register themselves here upon activation.

<< AES•IntelliNet Radio Network Management System Ver. 1.4x F..S. >>	
Message ControlSite Programming Database sYstem (c)1993-1996 AES Corp.	
Enter Origin ID, or Use#\$, PGUP, PGDN to Scroll Thru List. Home Moves to Start End Moves to End Hit <ENTER> to Complete Selection	<div style="border: 1px solid black; padding: 5px;">         0001          1002          2003          3004          4005          5006          6007          7008          8009       </div>
There are 9 IDs	
To Select Entry: Use Cursor Keys + Enter, Type Entry Number, ESC to Exit	

## Routing Communications

Since each subscriber unit in your AES•IntelliNet system acts as a radio repeater, you have a wide variety of routing options for communication with those units. The routing options you may choose from are compiled by the NET77 software databasing system. Routing records are constantly updated to provide a completely accurate record of all routes used by your subscriber units in communicating with your central station.

Due to varying radio traffic conditions, different routes may be more expedient than others at different times. The flexibility of both the AES•IntelliNet system and the NET77 software ensures that messages will not be delayed in reaching your central station.

Each time a message is received from a unit, the NET77 software extracts the subscriber unit ID number, as well as the message's routing information. That information is automatically stored in the NET77 database. That database of information is utilized whenever an operator sends a command of any kind to a subscriber unit from the central station.

When sending a message, you may choose to use one of the routes stored in the database. You also have the option of manually entering a route of your own.

## Routing Communications, continued

### Routing Pop Up

Once you have selected the subscriber unit number, the basic routing popup, illustrated at right, will appear. You may communicate with the unit through its most recent route, through its second most recent route, through its most frequently-used route, or you may manually enter a route.

<< AES•IntelliNet Radio Network Management System Ver. 1.4x >>

Message ControlSite Programming Database sYstem (c)1993-1996 AES Corp.

Select By Pressing Keys 1,2,3 or 4. Otherwise Press ESC Key

1 or <ENTER> Last Route	Mon, Mar 06 15:12:12 1996
DIRECT	
2 Next to Last Route	Mon, Mar 06 14:53:24 1996
7054	
3 Most Frequent Route	Mon, Mar 06 15:12:12 1996
DIRECT	
	64 Times
4 or \$ to Manually Enter Route	

To Select Entry: Use Cursor Keys + Enter , Type Entry Number , ESC to Exit

To automatically select the most recent route of communications, simply press <ENTER> on your keyboard. The most recent route is the default setting on this popup. To select the second most recent route, press the number <2> on your keyboard. To select the most frequently used route of communication, press the number <3> key. To manually enter a route of communication with your subscriber unit, press the number <4> key (or the down arrow) and fill out the manual routing screen as instructed below.

### Manual Routing

The screen illustrated at right will allow you to manually program a route to a subscriber unit. Type the ID number of the station closest to your central station first, then press <ENTER>. Then enter the next closest and hit <ENTER>, etc. You may enter up to eight intermediate subscriber stations to construct your route.

<< AES•IntelliNet Radio Network Management System Ver. 1.45 >>

Message ControlSite Programming Database sYstem (c)1993-1996 AES Corp.

<<Function Title>>  
Target

Central

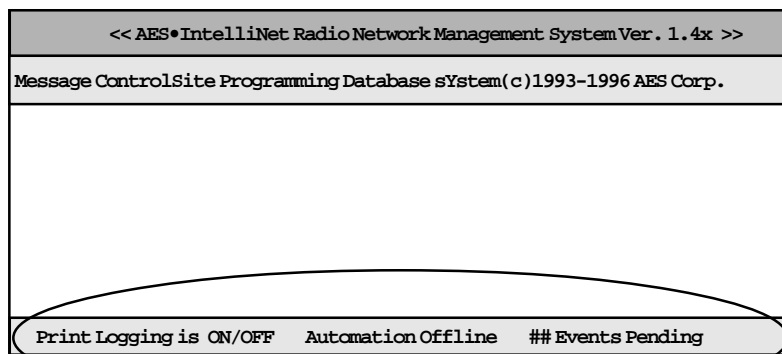
Press Alt S to Send/Save, Alt E to Erase Route Fields, else ESC to Exit

Once you have entered your communications route, hold down <ALT> and press the <S> key to send the message to your subscriber unit.



## Automation Offline Mode

If the link between the AES 7700 controller and central station automation is lost, the AES Net77 software activates a "manual acknowledge" mode. At the bottom of the Net77 screen, the prompt bar turns purple, and the message "Automation Offline" bar appears.



A beep sound is also generated, which is acknowledged and silenced using the F3 key.

Until the link with automation is re-established, the printer connected to the 7700 will be the readout device for all events received by the AES•IntelliNet system. Non-alarm events such as check-ins will be printed to the printer.

**When an "alarm", "status", "trouble" or "restoral" message is received** during an "Automation Offline" period, the following procedure is followed:

- The prompt bar at the bottom of the screen turns RED, and details of the event are displayed:

Account #####	[Event Type]	Zone ##	Press F12 to Acknowledge	## Events Pending	[time]
---------------	--------------	---------	--------------------------	-------------------	--------

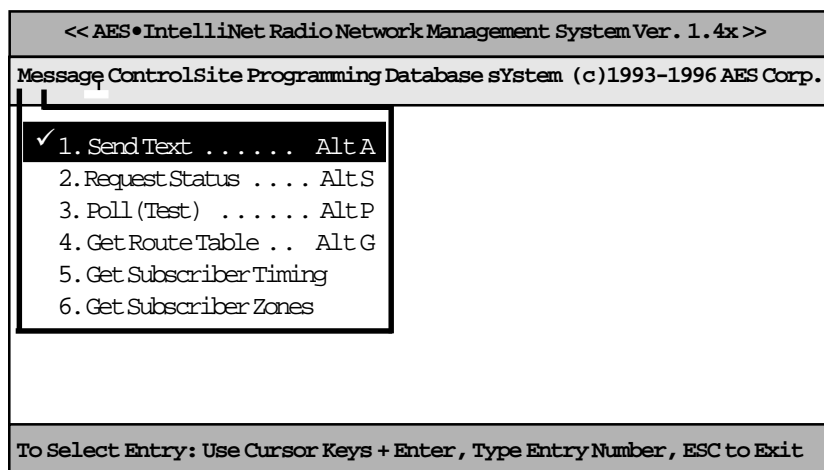
- An audible beeper is sounded.
- The alarm data is printed on the 7700 printer
- The operator acknowledges the event by pressing the F12 key
- The acknowledgment is printed on the 7700 printer
- The "Events Pending" counter decrements by 1.
- The operator acknowledges one event each time the F12 key is pushed.

To return to normal operating mode, correct the problem that caused a loss of communication with automation. When the link to automation is re-established:

- Acknowledge all pending events
- Re-establish link to automation by pressing F8
- Normal operation resumes

## The Message Function Group

To access the Message function menu group, hold down the <ALT> key and press <M>. The popup illustrated at right will appear. Use the arrow keys to highlight a message function and press <ENTER> to select it. Proceed by selecting your target unit and choosing a route of communication.



Function	Explanation
<b>SEND TEXT</b> <ul style="list-style-type: none"> <li>• Hold &lt;ALT&gt;, press &lt;A&gt;</li> <li>• Select Target Unit</li> <li>• Press &lt;ENTER&gt; for route</li> <li>• Type text message</li> <li>• Hold &lt;ALT&gt;, press &lt;S&gt; to send</li> </ul>	<ul style="list-style-type: none"> <li>• This function sends text messages to a remote subscriber unit. It is only used when a remote unit is equipped with a terminal or has a 7041 programmer attached. (While this feature is useful in systems with dedicated data terminals, it is seldom used in the day-to-day operation of alarm monitoring systems.)</li> </ul>
<b>REQUEST STATUS</b> <ul style="list-style-type: none"> <li>• Hold &lt;ALT&gt;, press &lt;S&gt;</li> <li>• Select Target Unit</li> <li>• Press &lt;ENTER&gt; for route</li> <li>• Hold &lt;ALT&gt;, press &lt;S&gt; to send</li> </ul>	<ul style="list-style-type: none"> <li>• This function queries a remote unit for its current status, requiring a report back to the central station. The resulting return message will provide the current status of the remote unit (see the manual section on messages types and interpretations).</li> </ul>
<b>POLL (TEST)</b> <ul style="list-style-type: none"> <li>• Hold &lt;ALT&gt;, press &lt;P&gt;</li> <li>• Select Target Unit</li> <li>• Press &lt;ENTER&gt; for route</li> <li>• Hold &lt;ALT&gt;, press &lt;S&gt; to send</li> </ul>	<ul style="list-style-type: none"> <li>• This function performs a quick test of a remote unit. No message is returned to the command center except in the case of a failure to communicate with the designated unit.</li> </ul>

## The Message Function Group, Continued

### Function

### Explanation

#### GET ROUTE TABLE

- Hold <ALT>, press <G>
- Select Target Unit
- Press <ENTER> for route
- Hold <ALT>, press <S> to send

- This function queries a remote unit for its current routing table. It prints the routing table for this subscriber, and displays the routing table from top (best) to bottom. For each unit on the list, the following items are displayed:
  - ID #
  - LINK LAYER #
  - NETCON
  - SIGNAL QUALITY between this unit and queried unit

#### GET SUBSCRIBER TIMING

- Hold <ALT>, press <M>
- Press <5>
- Select Target Unit
- Press <ENTER> for route
- Hold <ALT>, press <S> to send

- This function queries a remote unit for its current timing parameters. When received, this data will update any data previously stored in the database routing table. Timing parameters are defined in the Programming Function Group on page 13.

This data is also stored in a database for later reference.

#### GET SUBSCRIBER ZONES

- Hold <ALT>, press <M>
- Press <6>
- Select Target Unit
- Press <ENTER> for route
- Hold <ALT>, press <S> to send

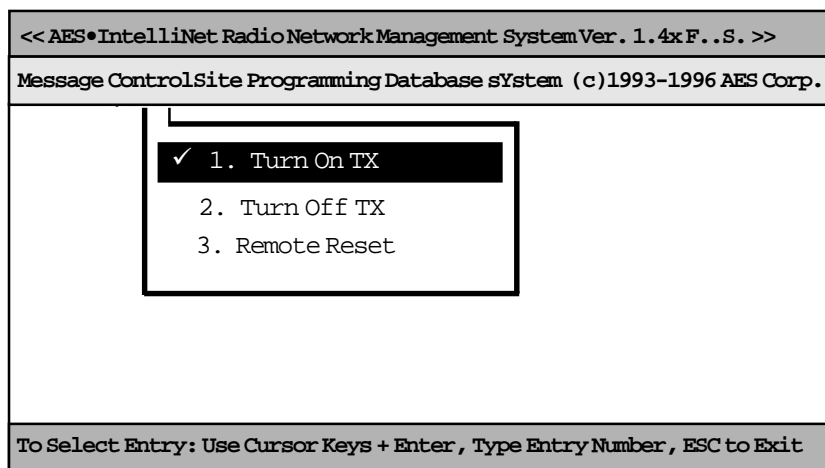
- This function queries a remote unit for its current zone configurations. When received, this data will update any information previously stored in the routing table database. Zone configuration parameters are defined in the Programming Function Group on page 17.

This data is also stored in a database for later reference.

NOTE: Unconnected zone banks will show Normally Open, No Restoral, the default condition.

## The ControlSite Function Group

To access the ControlSite function menu group, hold down the <ALT> key and press <C>. The popup illustrated at right will appear. Use the arrow keys to highlight a control function and press <ENTER> to select it. Proceed by selecting your target unit and choosing a route of communication.



Function	Explanation
<b>TURN ON TX</b> <ul style="list-style-type: none"> <li>• Hold &lt;ALT&gt;, press &lt;C&gt;</li> <li>• Press &lt;1&gt; or &lt;ENTER&gt;</li> <li>• Select Target Unit</li> <li>• Press &lt;ENTER&gt; for route</li> <li>• Hold &lt;ALT&gt;, press &lt;S&gt;</li> </ul>	<ul style="list-style-type: none"> <li>• This function re-enables transmitting on a remote subscriber unit that has been turned off.</li> </ul>
<b>TURN OFF TX</b> <ul style="list-style-type: none"> <li>• Hold &lt;ALT&gt;, press &lt;C&gt;</li> <li>• Press &lt;2&gt;</li> <li>• Select Target Unit</li> <li>• Press &lt;ENTER&gt; for route</li> <li>• Hold &lt;ALT&gt;, press &lt;S&gt;</li> </ul>	<ul style="list-style-type: none"> <li>• This function disables a remote subscriber unit should the need arise, such as when an alarm system fails and causes the transmitter to activate repeatedly. The operator can temporarily disable the remote unit from the central station using this feature. <b>NOTE:</b> The unit is not literally turned off, but is prevented from transmitting until it receives the "Turn On" signal (above). <b>WARNING:</b> This function disables the subscriber unit - use it only when absolutely necessary.</li> <li>• This function may be used on UL Burglar Alarm and Fire Alarm systems only when strict adherence to the requirements of UL Standard 611, Central Station Burglar Alarm Units and the National Fire Alarm Code, NFPA 72.</li> </ul>
<b>REMOTE RESET</b> <ul style="list-style-type: none"> <li>• Hold &lt;ALT&gt;, press &lt;C&gt;</li> <li>• Press &lt;3&gt;</li> <li>• Select Target Unit</li> <li>• Press &lt;ENTER&gt; for route</li> <li>• Hold &lt;ALT&gt;, press &lt;S&gt;</li> </ul>	<ul style="list-style-type: none"> <li>• The reset function is the same as physically pushing the reset button on a remote subscriber unit. A reset may be used to restart the check-in interval timer. The new interval will commence at the time of reset (see 7050/7750 manual).</li> </ul>

## The Programming Function Group

To access the Programming function menu group, hold down the <ALT> key and press <P>. The popup illustrated at right will appear. Use the arrow keys to highlight a function and press <ENTER> to select it. Proceed by selecting your target unit and choosing a route of communication.

<< AES•IntelliNet Radio Network Management System Ver. 1.4x• F..S. >>	
Message Control Site Programming Database sYstem (c)1993-1996 AES Corp.	
<div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 80%;"> <div style="background-color: black; color: white; padding: 2px 5px; margin-bottom: 5px;">✓ 1. Timing Parameters</div> <div style="padding: 2px 5px; margin-bottom: 5px;">2. Control Relay Outputs</div> <div style="padding: 2px 5px;">3. Zone Configuration</div> </div>	
To Select Entry: Use Cursor Keys + Enter, Type Entry Number, ESC to Exit	
<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p style="text-align: center;">ID # Timing Parameters [Default]</p> <p>Check In Interval [24 Hrs]: 12 (Hrs) 10 (Mins)</p> <p>Secondary Accum. Interval (0 to 80 Sec) [10]: 10</p> <p>Contact Debounce Delay (.05 to 2.5 Sec) [0.10]: 0.10</p> <p>Enable Test Time Supervision (Y/N) [N]: N</p> <p>Communication Timeout (60 to 300 Sec) [90]: 89</p> <p>Last Updated On: Mon, Mar 06 09:30:23 1995</p> <p>Press ALT-G to Get Update from Unit</p> </div>	
Press Alt S to Send/Save, Alt E to erase Fields, else ESC to Exit	

The screen illustrated at right enables an operator to change the timing parameters of a subscriber unit from the central station. Check-in intervals and the timing for secondary alarm accumulation, debounce delay and communication timeout time limits can be programmed using this screen.

### TIMING PARAMETER PROGRAMMING

• **TO BEGIN: PRESS <ALT>+<G>** This will query the remote subscriber unit to report all its current timing parameters for your review. It will also update the Net77 database.

• **CHECK IN INTERVALS:** When the above screen appears, a cursor will be flashing at the check-in interval area. The intervals can be programmed between one minute and 24 hours (the default setting is at 24 hours). To minimize radio air traffic, an interval of 12 to 24 hours is recommended, except in high security applications. The ability to change this timing feature by remote is a key advantage of the two-way AES•IntelliNet system. When you have entered a check-in time interval, press <ENTER> to move on to the next field.

### UL and COMMERCIAL FIRE INSTALLATION REQUIREMENTS:

- **Check In Interval:** Set to required amount according to UL codes.
- **Enable Test Time Supervision:** NO  
Supervision Must be monitored by a UL Listed Automation System.
- **The maximum allowable interval between check in signals on a UL Burglary Alarm system with line security is 5 minutes.**

**Note:** Whether operating with a Listed Automation System or in manual mode, a UL Burglar Alarm System with line security and a Grade A Central Station Burglar Alarm System requires a missing check in signal to be responded to as an alarm condition.

**•TIMING PARAMETER PROGRAMMING FEATURES continued**

•**SECONDARY ACCUMULATION INTERVAL:** This feature allows a subscriber unit to accumulate alarms, after its initial alarm report, for a programmed time period. When an alarm has occurred at a remote subscriber site, the Net77 system at your central station is notified immediately. The secondary accumulation interval allows a remote unit to compile additional subsequent alarms for a period of time, so that a more comprehensive packet of alarm data can be sent to the Net77 system all at once, thereby reducing network air time. The default setting for this feature is 10 seconds. If you choose to change the accumulation interval, just enter the new value and press <ENTER> to move to the next field. **A secondary accumulation interval of 10 seconds is the maximum time limit allowed for UL Burglar Alarm Systems and Commercial Fire Alarm Systems.**

•**CONTACT DEBOUNCE DELAY:** Programming a debounce delay into the subscriber units prevents input switches or relays from causing nuisance alarms and repeated reports of the same alarm. The default setting on the debounce delay is 0.12 seconds. If you choose to change this setting, simply enter the new value and press <ENTER> to move to the next field. **A control unit (panel) output(s) to the 7750 RF subscriber unit shall be programmed to latch in when it triggers a zone input on the 7750. For UL & Commercial Fire Systems, contact debounce delay may be no longer than 0.12 seconds.**

•**ENABLE TEST TIME SUPERVISION:** This feature enables the Net77 software to alert an operator if a subscriber unit fails to report in at its scheduled time. This feature reports a trouble signal "T 801" to automation when automation is connected to the 7700 controller. The default setting for this feature is "N" for no. If you would like to enable the test time supervision feature, change the setting to "Y" for yes and press <ENTER> to move to the next field. Also, enabling supervision BLOCKS check-in signals from being sent to automation. **When operating in Manual Mode, missing check in signals must be responded to as alarms.**

**UL and COMMERCIAL FIRE INSTALLATION REQUIREMENTS:**

- **Enable Test Time Supervision: NO**  
**Supervision Must be monitored by UL Listed Automation Software.**

• **ACKNOWLEDGMENT FAULT:** If a 7750 subscriber unit (or 7050 equipped with a 7072 multi-board) does not receive acknowledgment within the time parameters set by the Acknowledgment Fault function, it will activate a relay at the remote site to annunciate the problem.

The default setting for this feature is 89 seconds. If you choose to change the ACKnowledgment FAULT period, simply type in the new value, hold <ALT> and press <S> to complete and send your timing parameter data. **NOTE:** Please remember to save and send your actions by pressing <ALT> and <S> whenever executing a command.

A zone of the control panel shall be connected to the relay labeled "ACK DELAY", to monitor the 7750 subscriber unit against antenna removal, communication failure and to provide a local and remote annunciation of such a fault condition. (See 7750 manual for full details.)

•**LAST UPDATED ON:** This feature displays the last time that Timing Parameters were sent to or received from the subscriber unit selected. It is there for informational purposes only and cannot be accessed or changed by the operator. All information of this kind is constantly updated by the Net77 databasing system. To update the database with current Timing information, press <ALT> and <G> to access the "Get Data" functions.

**NOTE:** For all remote program functions, watch to make sure that a data confirmation packet is received from the target subscriber (watch scrolling message screen area).

## The Programming Function Group, *continued*

### CONTROL RELAY OUTPUT

This feature controls **optional** relay outputs (part number 7065) for subscriber units. Using this remote control capability, an operator may open gates, activate cameras or control any device at a remote location. The basic relay output uses eight relays, but as many as 64 may be controlled. This feature has not been evaluated for UL Listing.

```
<< AES•IntelliNet Radio Network Management System Ver. 1.4x F..S. >>
Message ControlSite Programming Database sYstem(c)1993-1996 AES Corp.

1. Timing Parameters
2. Control Relay Outputs
3. Zone Configuration

To Select Entry: Use Cursor Keys + Enter, Type Entry Number, ESC to Exit
```

Each relay can be individually addressed from the central station. Access the above screen by highlighting the "Control Relay Outputs" function on the Programming menu and press <ENTER>, or by pulling down the Programming menu as shown above and pressing the number <2> key. Complete the popup control form as instructed below.

### THE CONTROL RELAY OUTPUT BLOCK

Using the control block illustrated at right, the operator can turn on, turn off or toggle any switch connected to the subscriber unit relay board from the central station. Each box represents a relay. If a box is left blank, no change is made in the status of the switch.

ID # Control Relay Outputs																							
Function Keys																							
<+> ☐ = ON								<-> ☐ = OFF								<T> ☐ = Toggle							
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16								
£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£								
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32								
£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£								
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48								
£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£								
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64								
£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£								

• **USING THE CONTROL RELAY OUTPUT BLOCK** Using the arrow keys, place the cursor on the box representing the relay you wish to activate or deactivate. To activate a relay, press the <+> key. To deactivate a relay, press the <-> key. To toggle a relay, press the <T> key. To make no change in the relay setting, simply pass over the box using the arrow keys. To erase to no change, press the space bar. Move through the control relay output boxes by using the arrow keys. To send the command and save it in the database, hold down the <ALT> key and press the <S> key. The relays are latching; when a function has been turned on, a separate command must be sent to turn it off.

## The Programming Function Group, *continued*

### ZONE CONFIGURATION

This feature allows an operator to configure alarm zone inputs at a remote unit to "normally open" (circuit), "normally closed" (circuit), "bypassed", or "supervised" (zones 9 and higher).

It is also possible, using the Zone Configuration feature, to request a communication upon restoral of its "normal" state. Up to 72 separate zones on each remote subscriber unit can be addressed from the central station. Access the Zone Configuration function by highlighting it on the Programming menu and hitting <ENTER>, or by pulling down the Programming menu as shown above and pressing the number <3> key. Complete the Zone Configuration control block as instructed below.

```

<< AES•IntelliNet Radio Network Management System Ver. 1.4x >>
Message Control Site Programming Database sYstem(c)1993-1996 AES Corp.

1. Timing Parameters
2. Control Relay Outputs
3. 77/7050 Zone Configuration
4. 77/7050-E Zone Configuration

To Select Entry: Use Cursor Keys + Enter, Type Entry Number, ESC to Exit
  
```

### ZONE CONFIGURATION

#### CONTROL BLOCK

The zone configuration control block offers five options for the programming of each alarm zone. The underlined letters below designate the state of the circuit.

1. Normally Open
2. Normally Open + Restoral
3. Normally Closed
4. Normally Closed + Restoral
5. Bypassed
6. Supervised
7. Supervised + Restoral

ID #		Zone Configuration													
<ALT> S When Done <ALT> G To Update		-- Zones 1 thru 8-- N <u>O</u> , N <u>C</u> + <u>x</u> R estorals -- Zones 9 thru 72 -- Also Supervised <u>S</u> , <u>S</u> R Any Zone Bypassed <u>B</u>													
01	02	03	04	05	06	07	08								
£	£	£	£	£	£	£	£								
09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£

• **USING THE ZONE CONFIGURATION CONTROL BLOCK:** Use the arrow keys to place the cursor on the box of the zone you wish to program. Each zone has two sections. The left side of the box indicates the normal state of the circuit (Open, Closed, Supervised or Bypassed). The right side of the box indicates the Restoral setting. If you would like the subscriber unit to communicate a Restoral after an event, type an "R" in the right side. UL and NFPA require all zones of the 7750 Subscriber Unit to be programmed for Restoral signals. However, the control unit outputs to the 7750 unit must latch until manually reset. To make no change in a zone, simply pass over the filled in box using the arrows on your keyboard. To send and save the zone configuration command, hold down the <ALT> and <S> keys. Zones that are not programmed will return to a default setting of Normally Open.

#### UL and COMMERCIAL FIRE INSTALLATION REQUIREMENTS:

- **Zones 1-6:** Bypassed
- **Zone 7:** N.O. - Tamper (creates a N.C. loop through zone 7 of 7072 module)
- **Zone 8:** N.O. - AC Fail (from 7072 multi-board)
- **Zones 9-24, depending on the output of the control unit:**  
 Normally open with Restoral, or Normally Closed with Restoral, or  
 Supervised with Restoral, or if zone not used, Bypass

To verify the information actually stored by the subscriber unit, press <ALT> and <G>, and review the screen. This function also updates the Net77 database. (Note that any upper zones not installed will show a default. "0").



## The Programming Function Group, *continued*

### ZONE CONFIG, 77/7050-E

*Listing of 7750E is UL Pending.*

This feature allows an operator to configure alarm zone inputs on a remote 7750-E subscriber "normally open" (circuit), "normally closed" (circuit), "bypassed", or "supervised".

It is also possible, using the Zone Configuration feature, to request a communication upon restoral of its "normal" state. Up to 72 separate zones on each remote subscriber unit can be addressed from the central station. Access the Zone Configuration function by highlighting it on the Programming menu and hitting <ENTER>, or by pulling down the Programming menu as shown above and pressing the number <3> key. Complete the Zone Configuration control block as instructed below.

```

<< AES•IntelliNet Radio Network Management System Ver. 1.4x >>
Message ControlSite Programming Database sYstem(c)1993-1996 AES Corp.

1. Timing Parameters
2. Control Relay Outputs
3. 7050 Zone Configuration
4. 7050-E Zone Configuration

To Select Entry: Use Cursor Keys + Enter, Type Entry Number, ESC to Exit
  
```

### ZONE CONFIGURATION

#### CONTROL BLOCK

The zone configuration control block offers five options for the programming of each alarm zone. The underlined letters below designate the state of the circuit.

1. Normally Open
2. Normally Open + Restoral
3. Normally Closed
4. Normally Closed + Restoral
5. Bypassed
6. Supervised
7. Supervised + Restoral

```

ID # 7050E Zone Configuration
<ALT> S When Done          -- Zones 1 thru 8--
<ALT> G To Update          N O, N C + xRestorals

01 02 03 04 05 06 07 08      Supervised S, S R
£  £  £  £  £  £  £  £      Zone Bypassed B
  
```

• **USING THE ZONE CONFIGURATION CONTROL BLOCK:** Use the arrow keys to place the cursor on the box of the zone you wish to program. Each zone has two sections. The left side of the box indicates the normal state of the circuit (Open, Closed, Supervised or Bypassed). The right side of the box indicates the Restoral setting. If you would like the subscriber unit to communicate a Restoral after an event, type an "R" in the right side. UL and NFPA require all zones of the 7750 Subscriber Unit to be programmed for Restoral signals. However, the control unit outputs to the 7750 unit must latch until manually reset. To make no change in a zone, simply pass over the filled in box using the arrows on your keyboard. To send and save the zone configuration command, hold down the <ALT> and <S> keys. Zones that are not programmed will return to a default setting of Normally Open.

#### UL and COMMERCIAL FIRE INSTALLATION REQUIREMENTS:

- **Zones 1-8: Supervised** (select one zone to be used for tamper)

Depending on the output of the control unit: Normally open with Restoral,  
or Normally Closed with Restoral, or Supervised with Restoral (*recommended*)  
or if zone not used, Set to Supervise and install resistor on input terminals.

- **AC Fail** is sent as a separate message, and does not use a zone like the 7750. The AC Fail is sent to automation as a "T 904".

- **Zones 9 & above - not available on "E" type subscriber units**

To verify the information actually stored by the subscriber unit, press <ALT> and <G>, and review the screen. This function also updates the Net77 database.

## The Database Function Group

To access the Database function group, hold down the <ALT> key and press <D>. The popup screen illustrated at right will appear. Use the directional arrows on your keyboard to highlight your choice and then press <ENTER>.

<< AES•IntelliNet Radio Network Management System Ver. 1.4x >>	
Message ControlSite Programming Database sYstem(c)1993-1996 AES Corp.	
	<b>1. Print All Database IDs</b> <b>2. Query Routing Records</b> <b>3. Delete from Database</b> <b>4. Backup Databases</b> <b>5. Print Routes</b> <b>6. View Last Status</b> <b>7. Restore Databases</b>
To Select Entry: Use Cursor Keys + Enter, Type Entry Number, ESC to Exit	

**NOTE:** The AES•IntelliNet database automatically stores routing data on all subscriber units registered in the system. The data is stored on the computer hard drive in the subdirectory c:\aes\db. The Database function group allows the computer to retrieve information on specific subscriber units and to perform basic data "housekeeping".

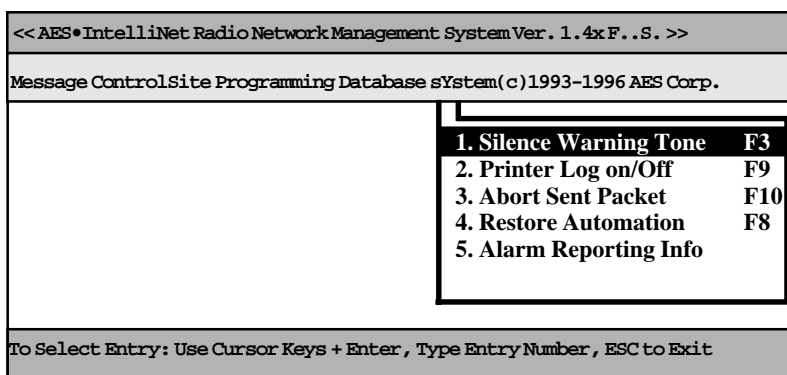
SHORTCUTS	EXPLANATIONS
<b>PRINT ALL DATABASE ID'S</b> •Hold <ALT>, press <D> •Press <1>	•This function allows the operator to print all the ID numbers in the current database. This list is identical to the ID number pick list.
<b>QUERY ROUTING RECORDS</b> •Hold <ALT>, press <D> •Press <2> •Select Target Unit	•This function allows the operator to check on the routing records of any given subscriber unit. Routing records are automatically updated by the Net77 system.  Routes shown are "outbound", ie ID#1 is closest to the central.
<b>DELETE FROM DATABASE</b> •Hold <ALT>, press <D> •Press <3> •Select Target Unit	•This function allows the operator to delete the current records of any given subscriber unit. Should that unit check in at a later date, it will be automatically entered into the routing database. <b>NOTE:</b> All specific programming information stored in the Net77 database for the deleted unit will revert to default settings if the deleted unit checks in again.

## The Database Function Group, *continued*

SHORTCUTS	EXPLANATIONS
<b>BACKUP DATABASES</b> <ul style="list-style-type: none"> <li>• Hold &lt;ALT&gt;, press &lt;D&gt;</li> <li>• Press &lt;4&gt;</li> <li>• Insert disk in drive A</li> <li>• Press &lt;ENTER&gt;</li> </ul>	<ul style="list-style-type: none"> <li>• This function backs up the current Net77 database on a floppy disk in drive A. NOTE: While the Net77 is backing up its database, all communications are temporarily stored in a buffer. Database backup may only be done during "Open Periods" and only on one alternate receiving systems at a time, so that there will be no loss or delay in receiving and processing alarm signals.</li> </ul>
<b>PRINT ROUTES</b> <ul style="list-style-type: none"> <li>• Hold &lt;ALT&gt;, press &lt;D&gt;</li> <li>• Press &lt;5&gt;</li> </ul>	<ul style="list-style-type: none"> <li>• This function allows the operator to print out all routes used by a subscriber unit. Be sure, when using this function, that the printer is toggled on. If it is not, simply press &lt;F9&gt; to turn the printer on.</li> </ul>
<b>VIEW LAST STATUS</b> <ul style="list-style-type: none"> <li>• Hold &lt;ALT&gt;, press &lt;D&gt;</li> <li>• Press &lt;6&gt;</li> <li>• Select Target Unit</li> </ul>	<ul style="list-style-type: none"> <li>• This function is a quick and convenient way of checking on the last known status of a subscriber unit. This information is automatically updated by the Net77 system when each unit reports in.</li> </ul> <p><b>For UL Burglar Alarm Systems and Commercial Fire Alarm Systems requiring a minimum of 2 paths, a NET-CON of 5 or less is required. This ensures that at least 2 paths of communication are open to the central station.</b></p>
<b>RESTORE DATABASE</b> <ul style="list-style-type: none"> <li>• Hold &lt;ALT&gt;, press &lt;D&gt;</li> <li>• Press &lt;7&gt;</li> </ul>	<ul style="list-style-type: none"> <li>• This function restores a database previously backed up using the BACKUP function above. CAUTION: Restoral function will overwrite any database file existing on the hard drive. NOTE: While the Net77 is backing up its database, all communications are temporarily stored in a buffer.</li> </ul> <p>Use this function only under extreme emergency conditions and, if possible, only on one receiving system at a time to allow alternate unit to receive and process signals.</p>

## The Systems Function Group

The Systems Function group menu is accessed by holding <ALT> and pressing <Y>. All but one of the Systems Functions can be accessed, as well, by pressing the function key (i.e. <F3>) assigned to that function.

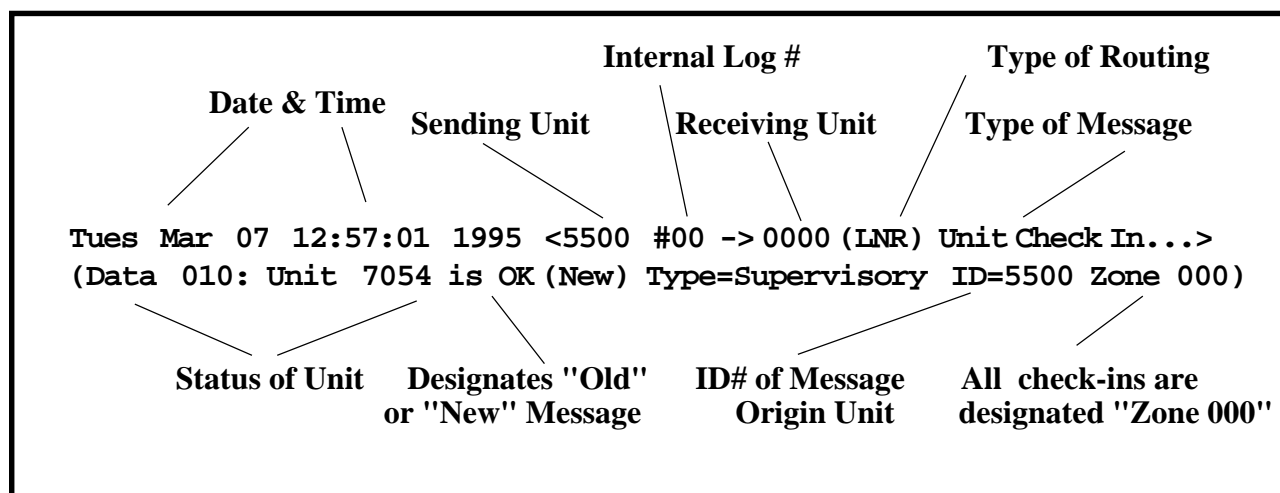


SHORTCUTS	EXPLANATIONS
<b>SILENCE WARNING TONE</b> • Press <F3>	<ul style="list-style-type: none"> <li>This function silences the warning tone that sounds whenever an error has occurred. A "chirp" continues to sound until the problem is resolved. The chirp cannot be silenced.</li> </ul>
<b>PRINTER LOG ON/OFF</b> • Press <F9>	<ul style="list-style-type: none"> <li>This function stops most events from being sent to the printer. Note that exceptions continue to be printed even when printer log is off.</li> </ul> <p><b>NOTE:</b> Remember to turn on the printer when using any of the printer functions.</p>
<b>ABORT SENT PACKET</b> • Press <F10>	<ul style="list-style-type: none"> <li>This function allows an operator to quickly cancel a packet sent to a subscriber unit.</li> </ul>
<b>RESTORE AUTOMATION</b> • Press <F8>	<ul style="list-style-type: none"> <li>If the automation output function of Net77 software has been taken off line for any reason, this function reestablishes the link to automation.</li> </ul>
<b>ALARM REPORTING INFO</b> • Press <5> • Complete table • Hold <ALT>, press <S>	<ul style="list-style-type: none"> <li>This feature allows the operator to program a different account number for alarm reporting to automation software. For example, subscriber unit "1234" can be reported to automation as "5678".</li> </ul>

## Interpreting Screen Messages

The network communications which scroll up your monitoring screen are really unscrambled data packets as sent and received by the command station. Once the basic codes are understood, the messages are easy to interpret.

### SAMPLE CHECK IN MESSAGE:



### WHO, WHAT, WHEN, WHERE...

The following information can be extracted from the sample message above:

- The message was sent on March 7, 1995 at 12:57:01.
- The message was sent by subscriber unit #5500.
- The message was received by Unit #0000 (the designation for the central station).
- This message is a Unit Check In. It is simply telling you, on schedule, that all is well.
- The type of routing used by the unit in its communication.
  - (EXR): an explicit route was specified by an operator or computer.
  - (LNR): automatic routing was used.
  - (LNRT): automatic routing was used, but a trace was placed on the route.
- "Data" refers to all the information this communication contains. In this case, the data indicates that the unit is fine.
- The direction of data flow has also been established. The unit ID before the "->" is the originating unit and the one after the "->" is the destination unit.

## Interpreting Screen Messages, *continued*

### SAMPLE TEXT MESSAGE, USING ANOTHER SUBSCRIBER AS REPEATER

```
Tues Mar 08 09:54:40 1995 <0000 #98 -> 8970 (EXR) Text Data...>
  Enroute Via ->5500>
(Data 011: Hello
Tues Mar 08 09:54:40 1995 <5500 #98 -> 0000 (LNR) Packet Acknowl-
edged...>
(Data 000: )
Tues Mar 08 09:54:41 1995 <0000 #98 -> 8970 (LNR) Text Data...>
  Via -> 5500>
```

### WHO, WHAT, WHEN, WHERE...

The above example shows a text message being sent to a subscriber unit via another unit.

- The message originated from the central station unit #0000 (shown on line 1, above)
- The message was sent to subscriber unit #8970 using an explicit (EXR) route (line 1) through subscriber unit #5500( line 2). Subscriber unit #5500 is acting, in this exchange, as a repeater.
- The message was acknowledged by unit #5500, acting as a repeater (lines 3 & 4)
- Note that when a message is being transmitted from the central station, the words "Enroute Via" appear. When a message is being transmitted through an intermediary unit, the word "Via" appears.
- **NOTE:** Consecutive transmissions alternate in color from yellow to white on your screen. This feature exists only to make the distinction between transmissions clearer. It is not an indication of the transmission's origin.

## Interpreting Screen Messages, *continued*

### SAMPLE ALARM MESSAGE:

```
Tues Mar 08 10:37:46 1995 <7003 #12 -> 0000 (LNRT) Alarm...>  
Data 007: (New) Type= Alarm ID= 7003 Zone 003  
Tues Mar 08 10:37:46 1995 <0000 #12 -> 7003 (LNR) Packet Acknowledged...>  
Data 000: )
```

### WHO, WHAT, WHEN, WHERE...

The above illustration is a sample of an alarm message and acknowledgment. The following information can be extracted from this message...

- The alarm event occurred at 10:37:46 1995 (line 1).
- The subscriber unit reporting the alarm event is ID # 7003 (line 1).
- The message type is an alarm (lines 1 & 2).
- The alarm event occurred in Zone 3 of the subscriber unit (line 2).
- The alarm transmission is described as "New" (line 2). This means that the alarm was not previously transmitted. If the same alarm event had been transmitted before, the notation would have read "Old."
- The alarm event transmission was acknowledged by a message from the central station unit #0000 (lines 3 & 4). This is indicated by the phrase "Packet Acknowledged" (line 3).
- **NOTE:** All alarm event transmissions from the unit of origin appear in red on your screen.

## Interpreting Screen Messages, *continued*

### COMMON MESSAGE TYPES

The following is a list of common message types and explanations

<b>Packet Acknowledged</b>	Information received correctly by destination unit
<b>Packet Not Acknowledged</b>	Information not received correctly by destination unit.
<b>Packet Rejected</b>	Information received, but cannot be accepted.
<b>Receiver Not Ready</b>	Unit cannot receive data.
<b>Receiver Ready</b>	Unit capable of receiving data.
<b>Request for Reply</b>	Unit gathering repeater data; building routing database.
<b>Receiver Not In Service</b>	Unit not operating until further notice.
<b>Request for PBU</b>	Request for parameter information.
<b>Parameter Block Upload</b>	Delivery of parameter information.
<b>Receiver Status</b>	Check in caused by subscriber unit equipment fault.
<b>Alarm</b>	Alarm event transmission.
<b>Status</b>	Status transmission.
<b>Unit Check In</b>	Scheduled transmission of status.
<b>Data</b>	All information sent by unit or central station.
<b>Host Parm Upload</b>	Central station request for parameter information.
<b>Fault Code</b>	Fault at subscriber unit (see fault code list in the AES•IntelliNet Central Station manual.
<b>Test</b>	Poll of subscriber unit.
<b>Zone Restoral</b>	Report of return to normal status.
<b>Zone Data</b>	Non-alarm zone data from subscriber unit.
<b>Vehicle Location Sys</b>	GPS system information.
<b>ASCII Data</b>	Text message.
<b>Data Confirmation</b>	Message confirmation in case of multiple repeaters.
<b>Route Failed</b>	Transmission through designated route not possible.
<b>Subscriber Poll</b>	Test of subscriber unit.
<b>Subscriber Poll + Routing</b>	Test of subscriber unit with routing trace.
<b>Subscriber Tx Off</b>	Subscriber unit disabled.
<b>Subscriber Tx On</b>	Subscriber unit enabled.
<b>Subscriber Reset</b>	Subscriber unit hardware reset.
<b>Subscriber Requests PBU</b>	Central station request for parameter block information from subscriber unit.
<b>Subscriber Parms Upload</b>	Subscriber unit delivers parameter block information to central station.
<b>Subscriber Trace On</b>	Subscriber traces all routes.
<b>Subscriber Trace Off</b>	Subscriber does not trace routes.
<b>Alarm Retransmission</b>	Forwards alarm directly to another location in the system



## ON- SCREEN WARNING MESSAGES

The following are messages that may appear on the screen while Net77 is running. They are displayed at the base of the screen and are typically highlighted in red.

A Warning Tone usually accompanies a Warning Message. To SILENCE WARNING TONE that accompanies an error condition, PUSH F3 key. A "Chirp" tone will continue to sound approximately every 30 seconds until condition clears.

<u>Screen Message</u>	<u>Description</u>
<b>Radio Transceiver Tamper Fault</b>	Cover of 7730 was removed, cable cut / tamper
<b>Error No Target ID</b>	No ID was entered, cannot execute function
<b>Central Receiver in Standby</b>	Central Receiver connected to Net77 is in Standby / NOT Active
<b>Radio Transceiver Fault</b>	7730 radio transceiver problem
<b>ERROR-Check Central Receiver --- Comm Watchdog Timeout</b>	Central Receiver has a problem; may have already restored
<b>Timed Out Writing to Port (DSR False)</b>	Central Receiver not responding, cable may be disconnected
<b>Timed Out Reading Port (no Chars)</b>	Central Receiver not responding, cable may be disconnected
<b>Error-Check Central Receiver-Serial Cable</b>	Check Cable

## PRINTER MESSAGES :

### Structure:

<Day/Date> <Time> <year>, <Event Type> <Description>

### Error Messages:

#### **ERROR -- Event not Reported to Automation -- nnnua nnnn A 000**

This message appears if Net77 software is unable to send an alarm event to the automation software; digits at end of message is the data that could not be sent.

#### **Radio Transceiver Fault**

Indicates a problem with the 7730 transceiver.

#### **Radio Transceiver Tamper Fault**

Indicates a tamper problem with the 7730 transceiver or cables between 7701 and 7730.

#### **Central Receiver in Standby Mode**

Indicates that 7701 Receiver has been set to Standby mode, is NOT Active and cannot respond to network traffic.

#### **Multiple Central Stations Detected**

Indicates that more than one central station is operating on the same network (i.e. same frequency, same cypher / dealer code). This is SERIOUS fault - Be sure that ONLY ONE 7701 Receiver is ACTIVE.

#### **ERROR - No Acknowledge from Automation Computer**

Indicates problem with automation software, or trouble with the link between 7700 / Net 77 and the automation computer and software.

## Automation Output Signals (Radionics 6500 Compatible)

### AES Net77 Software, Version 1.48

#### INTERFACE FORMAT :

COM1  
DSR/DTR Connection Hardware Handshake  
Version 1.51 or later: 1200 bps, 7 Data bits, Odd Parity, 1 or 2 Stop Bits  
Software ACK/NAK  
No Link Test Messages

#### SUBSCRIBER REPORTING CODES :

<u>Signal</u>	<u>Meaning</u>
"A nnn"	Alarm Signal Zone n (Radionics 6500 numeral structure)
"R nnn"	Restoral Zone n (Radionics 6500 numeral structure)
"A 000"	Automatic Supervisory Check-In
"Y 80n"	Diagnostic Fault Code n - See list
"SA 00n"	Prior Alarm zone still active during Status report
"SA 80n"	Prior Diagnostic Fault Code during Status report
" T 901"	Watchdog or Pushbutton Reset
" T 902"	Power-On Reset
"ST 901"	Watchdog Reset reported during check-in
"ST 902"	Power-On Reset reported during check-in
" T 904"	AC Fail, received from "E" type subscriber

#### RECEIVER REPORTING CODES :

<u>Signal</u>	<u>Meaning</u>
"Y 80n"	Diagnostic Fault Code n - See List
"X 11"	Lowbatt
"X 12"	Lowbatt Restore
"X 13"	AC Fault (Not sent at this time)
"X 14"	AC Restore (Not sent at this time)
"X 810"	Standby Mode
"X 811"	Primary Mode
"X 812"	Multiple Central Controllers active detected
"X 20"	Printer Offline (Not sent at this time)
"X 19"	Printer Online (Not sent at this time)

**Automation Output Signals, *continued*****FAULT CODES :**

<u>Fault Code</u>	<u>Description</u>
0	No Faults - Unit OK
1	Low Battery - Voltage is less than 11.0V
2	Ram Data Error - Reprogram unit
3	Ram Chip Internal Battery Bad (U11)
4	Reserved
5	Modem Chip Failed (U9)
6	Timing Error
7	Ram Chip Failure (U11)
8	Modem Loopback Failed (U9)

## Configuration File

Many of the parameters that define the Net77 software are contained in a separate file named Net7k.cfg, found in the c:\AES subdirectory. This file defines Communications Port Settings and enables certain program capabilities. DO NOT delete or edit this file without the express support of an AES authorized technician. The contents of the file are listed here for reference.

```
; NET-7000 CONFIGURATION FILE
; VERSION x.xx

; Note: This configuration file is like a form. It is critical
;       that this form be complete and accurate.
;
; 1. Number of PC Communication Ports used in this system 1 or 2
2

; 2. Local Event Monitoring (Y/N) ?
Y

; 3. **** Central Station PC Comm Port COM1, or COM2 Comm Parms ****
;     Port number:  COM1 or COM2
;     Baud Rate:   1200, 2400, 4800, 9600 etc.
;     Parity bit:  (O)dd, (E)ven, or (N)one
;     Stopbits:   1, or 2
;     Use COM#,4800,N,8,1 for Central Station Settings
;     Note do not change
COM2,4800,N,8,1

; 4. Optional Serial Port (Local Event Monitoring etc.)
;     Settings same as Item 2 above.
;     Note: Must set the Number of PC Ports Item Nm 1 to 2.
COM1,1200,O,7,2

; 5. Radionics 6500 Line Card Number (01..FF)
2

; 6. Number of Event Retries without a Positive Acknowledgment
3

; 7. Time to wait between Event Retries in [Seconds]
;     This is the time the system waits before re-sending
;     an event packet. Increase this time if the monitoring system
;     is slow to respond with ACK/NAK.
;     Note: The Packet Positive Acknowledgment signal is an ASCII
;           ACK character.
1

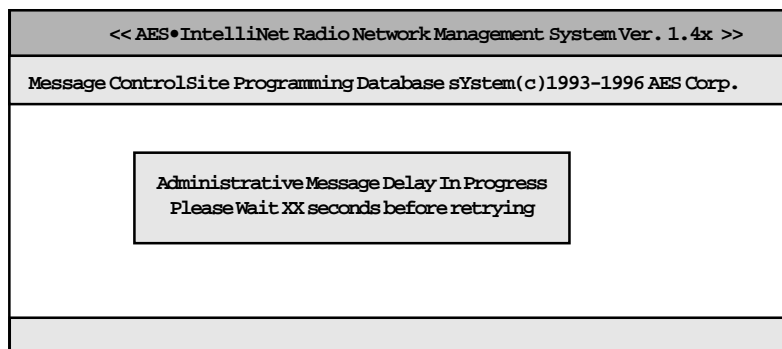
; 8. ***** [USDI/VLS Information] *****
;     Enter the Path and file name of the USDI or GPS/VLS file below
;
c:\tc\aes143\streets.dat

;
;
; 9. Enter the path and file name for the temporary file
;     Note: if possible us the same path as the file above.
c:\tc\aes143$tmp$.tmp

; 10.
;     Enter USDI/VLS Output Format
;     0 = No Output
;     1 = Kynas — Streets VLS
;     2 = ArcView VLS
;     3 = USDI
0
```

## Delayed Sending of "Administrative" Radio Traffic

"Administrative" functions under the "Message", "ControlSite" or "Programming" groups are limited to a single outbound transmission per 90 second period. This feature limits the amount of noncritical air traffic in the network to maximize the amount of "air time" available for critical alarm messages.



**How it works:** If you use any function in the "Message", "ControlSite" or "Programming" groups, you are not allowed to use these functions again for a period of 90 seconds.

For example, you query a subscriber unit using the "Get Route Table" function under the Message group. You must wait 90 seconds before using any message generating function (such as "Get Route Table" on another subscriber unit). If you attempt it sooner, a "Pop Up" message appears (see illustration), notifying you that the activity is not allowed. The "Pop Up" also shows the amount of time you must wait before sending another outbound packet.

**Note:** The "Database" and "System" function groups are not affected by this limiting function (they do not generate any radio traffic).