ECode ™ *UNIFIED MONITORING SYSTEM*

UMS Series IIa

SYSTEM OPERATIONS MANUAL

Publication 04000-00001

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Issue Date	Comment	Revision
April 20, 1998	Original Release	XA

1 System Overview

This operator's manual is designed to provide operating instructions and information for the user of the E-Code UMS Series IIa security system. This manual assumes the operator has personal computer *Windows* operating skills.

The UMS Series IIa System is designed to provide an activity record of tagged objects moving through a detection area under the system's surveillance (typically a doorway or corridor). The System continually monitors the detection area and when a tag is discovered in the area, the system records the event by taking video pictures of the detection area and recording the event in a computer file. In addition to the video picture, each event record includes date and time, event location and, when available, the tag identity. Under operator control, the event record can be retrieved, viewed and/or printed as a permanent record on a standard color printer attached to the system.

This instruction book includes:

- ◆ the functional description of the major system components.
- ◆ the pictorial layout of each user control screen with an explanation of specific screen elements and how they are used.
- ◆ how to start the Unified Monitoring System (UMS) application.
- ◆ how to retrieve and handle data acquired by the system.
- ◆ a description of system found operating errors with explanations.
- ◆ recommended preventative maintenance and a system troubleshooting guide.
- ◆ the name and phone number contacts for service, parts, help and information.
- ◆ the system warranty.

2.1 Host Computer .

The host computer is a *Gateway 2000* 300 MHz *Pentium* processor workstation with the *Windows NT* operating system. A video camera card has been added to the host computer to connect the video components of the UMS Series IIa System. The UMS IIa application software used with this system has been developed specifically for this function.

2.2 Uninterruptable Power Supply (UPS)

The UPS is a commercial power supply that provides 117 VAC power to the host computer and Central Control Units. The UPS has a battery power voltage source that allows it continue powering the computer and controllers for a limited period of time after the primary power has failed. The UPS has a secondary benefit of supplying clean power (electrical noise free) to the host computer making it less susceptible to brownouts and electrical noise contamination.

2.3 Printer

A desktop color printer is an optional feature that can be supplied with the system.

2.4 Surveillance Camera

Video surveillance cameras used with the UMS Series IIa System are commercially available general feature black and white cameras. Each camera attaches to the system by means of a video interface card that has been added to the host computer. Each camera is on at all times during normal operations; however, the system operator selects the camera image to be displayed on the control panel. During the system installation, each camera is matched with a Central Control Unit antenna as part of the detection area definition.

2.5 Central Control Unit

The Central Control Unit is a microprocessor controlled device that is the center of the detection hardware. The controller directs the scan and reply functions of the antenna array as well as processes the received data for the host computer. The controller communicates with the host computer using a high-speed serial communication link.

The Central Control Unit has a radio frequency transmit channel that connects to the transmitter antenna taps. The Central Control Unit also has a radio frequency receiver channel which connects to the receiver antenna taps. The Central Control Unit manages the scan and receive functions of the antennas under its control using a multi-conductor digital cable attached to each antenna tap.

3 Starting the System

The system is started when power is applied and the Personal Computer boots up to the Windows NT Icon screen.

If the UMS IIa software is not loaded on the computer, Place the CD-ROM in the CD drive and using MS-Explorer, select Setup on the CD-ROM. The system will load the UMS IIa software on the hard disk. When the software is loaded, remove the CD-ROM from the CD drive and store it in a safe place.

On the Windows NT Icon Screen:
Select: Start
Select: Programs
Select: Postoffice

This starts the UMS Series IIa System program and presents the primary screen, UMS Event Log, to the operator in standard *Windows NT* format.

scanning the detection area. As long as the tag is in the detection area, event records are recorded.

Using the pull-down menu in the Video Control Panel, the operator can select:

3.1.1.1 *Off*
This turns off the host system camera display on the UMS Event Log screen only; the cameras are still accessible by the system for normal surveillance and recording operation.

3.1.1.2 *Camera 1, 2, or 3*
The operator can select the view from either camera 1, camera 2, or camera 3 to be shown continuously on the camera display of the UMS Event Log screen.

3.1.1.3 *Auto Select*
The Auto Select function automatically switches the display on the UMS Event Log screen between each camera, displaying each camera's view for five seconds.

3.1.1.4 *View Images*
View Images selection allows the operator to select an event in the event log and, with a single click, view the video image for that event. This makes it convenient to rapidly select one after the other events to locate a specific event.

3.1.2 Alarm Indicators
The UMS Series IIa System operates with one or two Central Control Unit units. The green indicator labeled Control Unit 1 corresponds to the Central Control Unit number 1. Control Unit 2 indicator corresponds to the Central Control Unit number 2. When any antenna under the control or the Central Control Unit detects a tag, the corresponding indicator changes from green to flashing red accompanied by an audible alarm. When the operator clicks on the flashing indicator, it returns to its normal green and turns off the audible alarm.

3.1.3 Event Log
Each event the system records is stored on the host computer's hard disk. A list of stored events is presented on this screen. The last event recorded by the system is at the top of the list, which pushes a prior event off the bottom of the display into the scroll bar. Detailed information as well as the ability to print each event is available in the View Event Screen. To get to the View Event Screen (Figure 3), double click the mouse with the cursor on the desired event line in the UMS Event Log Screen. If the event has scrolled off the bottom of

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3.1.3.3   *Tag ID*
The Tag ID is the tag identity that triggered the event. Since the system uses frequency spectrum tags, the frequency scan index number (0-255) to which the tag responded is recorded as the tag ID.

3.1.3.4   *Antenna No*
The Antenna Number is the receive antenna identity (0-15) on the Central Control Unit that captured the event.

3.1.3.5   *Event time*
The Event Time is the date and time the event was stored in the system memory as read from the host computer's real-time clock.

3.1.3.6   *Image File*
This is the full path name of the record in which the event video image and associated information is stored.

3.1.3.7   *Print*
After an event has been selected, click the Print key to print the picture and event data currently shown on the screen. The system prints the event on the printer connected to the host computer's printer port.

3.1.3.8   *Close*
Click the Close key to close the current picture on the screen. Closing this screen takes the operator back to the Event Log screen where another event can be selected and viewed and/or printed.

3.1.4   Delete
Delete is used to delete a record in the event log. The operator clicks on and highlights the event(s) to be deleted and then clicks the Delete key. The event record indicator in the Event Log and the Event File record are both deleted from the system memory. If the operator clicks and drags the cursor over several events, the system highlights the selected events and deletes them all when the Delete key is clicked.

Caution: When an event is deleted from the system memory, it cannot be recovered. Before deleting an event, double verify that it is no longer needed.

3.1.5   File and Ums Pull Down Menus
The File pull down menu provides access to the system setup parameters. These screens are used by qualified service personnel during the system installation and startup and must be avoided during normal operations. Contact the service organization listed in the warranty (section 8) of this manual if these screens and/or files need to be modified.

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3.2 Main Setup Window

The main setup window is shown in figure 5. This screen is selected by the "**Open Setup Window...**" menu item. This screen contains system configuration parameters that define how the system operates. This **is not** a user configurable parameter and should not be changed during normal operations.

Caution: Changing the Main Setup may cause the system to operate incorrectly or not at all. The Main Setup parameters are configured during the system installation and should only be changed by qualified service personnel.
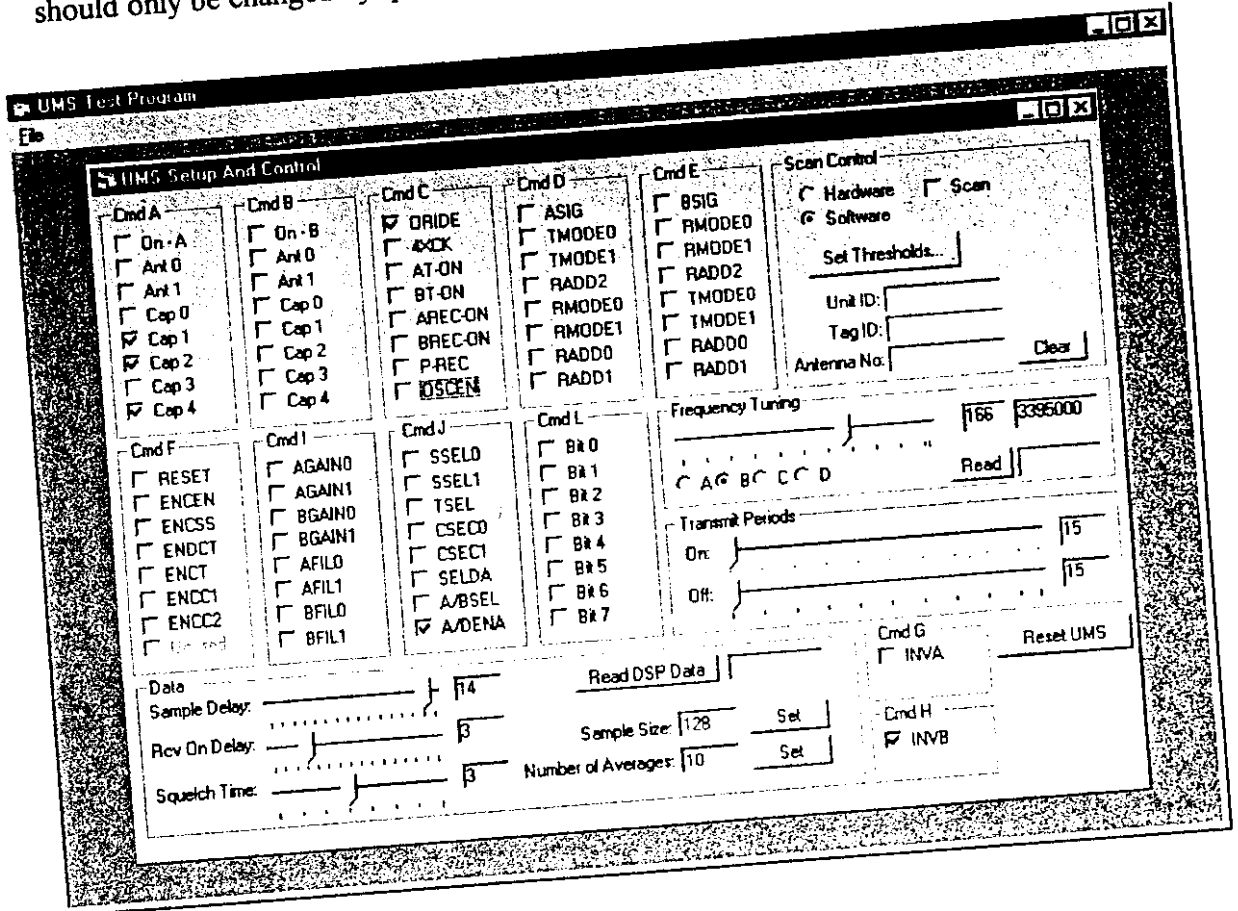
Figure 5. Test Main Setup Screen

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3.2.2 Data Plotter Window

Selecting the "Open Data Plotter Window" selection under the File menu accesses the Data Plotter window (Figure 7). The Data Plotter window is a test program used for antenna optimization. This **is not** a user configurable parameter and should not be changed during normal operations.

Caution: Changing the Data Plotter may cause the system to operate incorrectly or not at all. The Data plotter parameters are configured during the system installation and should only be changed by qualified service personnel.
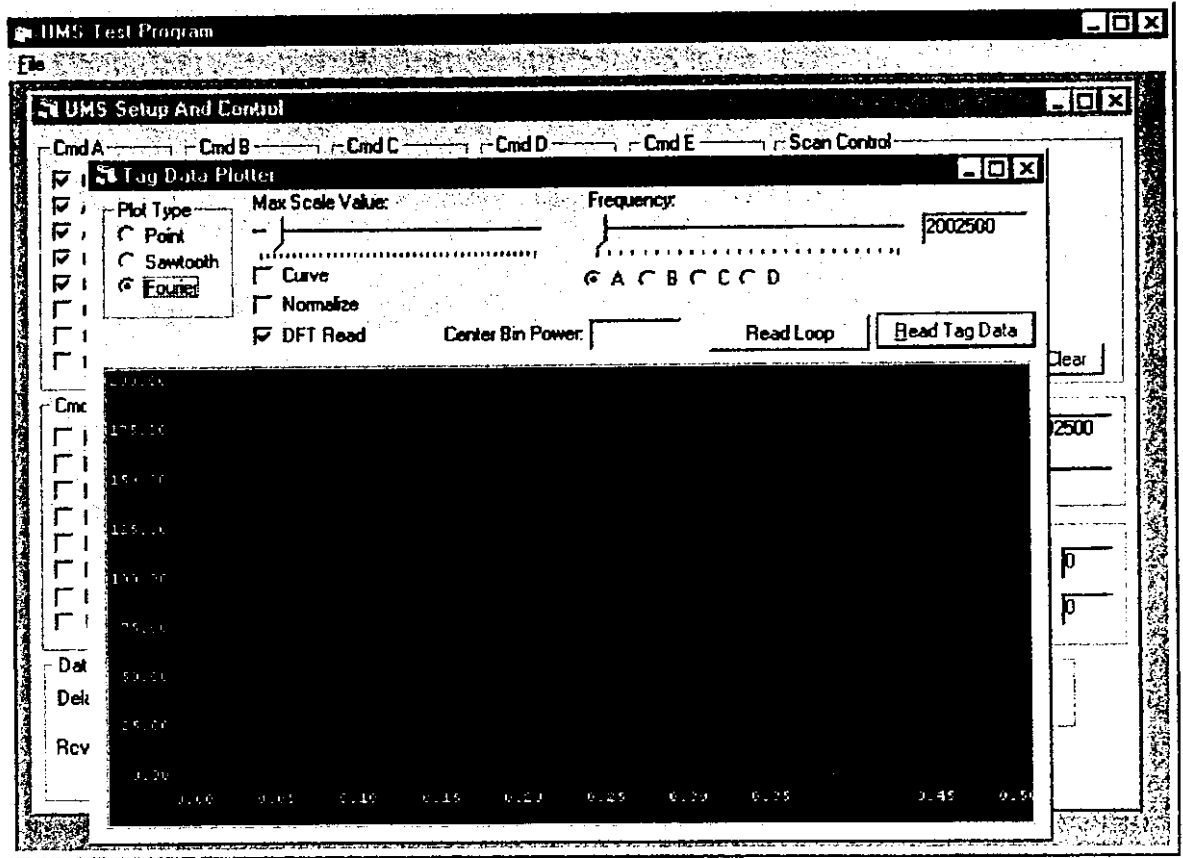

Figure 7 Data Plotter Window

3.2.4   System Calibration Screen

The System Calibration screen (Figure 9) allows the system to tune the antenna for the best reception at all the scan frequencies in the band being used. Because each antenna's electrical environment is different (number, mass and shape of metallic objects within its area of operation), it is necessary to calibrate each antenna within the system during installation. This **is not** a user configurable parameter and should not be changed during normal operations.

Caution: Changing the System Calibrate screen of the system may cause the system to operate incorrectly or not at all. The System Calibrate parameters are configured during the system installation and should only be changed by qualified service personnel.
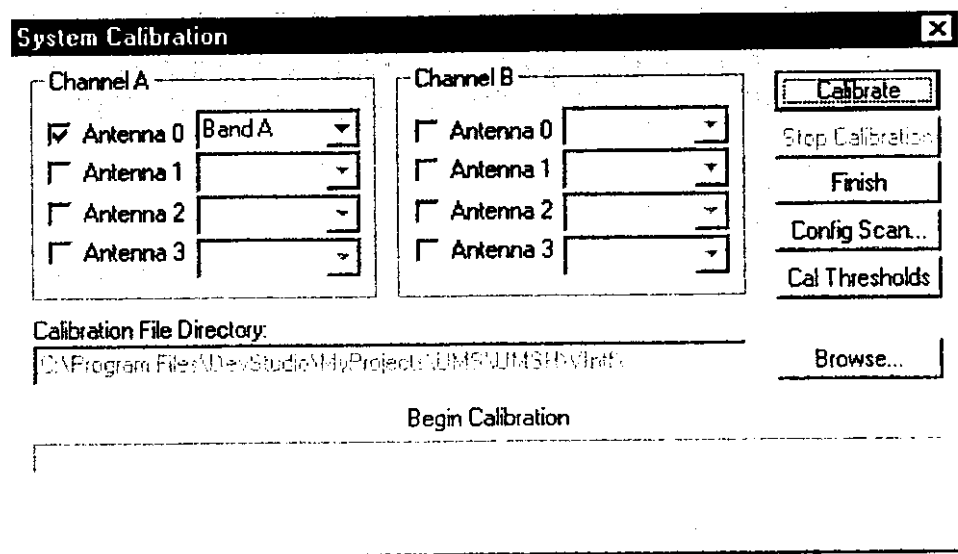

Figure 9   System Calibration Screen

4 Backup

The operator can copy the Events file to a removable diskette. Place a clean disk in the computer's "A" drive. Using *Windows Explorer* on the "C" drive, locate the "Events.MDB" file. Copy the "Events.MDB" file to the "A" drive.

5 Preventative Maintenance

On a periodic basis, the system operator should exercise all the detection elements of the system to verify performance. Since the system is used to detect illicit activity within the facility, this procedure should be as casual and unobtrusive as possible to minimize the possibility of discovery of the security function of the system.

1) Record the latest event number in the system as well as the current time before initiating this procedure.
2) With a sample tag concealed on your person, walk through each detection area.
3) After the walkthrough, record the latest event number in the system as well as the current time of day. Recording the beginning and ending event numbers of the preventative maintenance procedure in a journal precludes these as suspicious events.
4) Verify that each receive antenna in the facility generated at least one event during the walkthrough.
5) Verify that a discernable video image was recorded of each event.

On a periodic basis, verify the UPS has at least one inch, preferably more, of air space on both sides and top of the unit to dissipate heat.

The UPS has an automatic self-test that checks the system battery every two weeks. If the test indicates a faulty battery the unit will light a fail indicator and sound an audible alarm. Contact the service organization listed in the warranty (section 8) of this manual to have the UPS serviced.

If not controlled, airborne dust will eventually cover (pulled in by the cooling fan) the inside of the computer preventing proper circulation which will overheat the computer. On a periodic basis, dust the furniture and room and vacuum or sweep the floor in the host computer room to control airborne dust.

6 Troubleshooting

Should the system fail to operate correctly, it can be turned off and restarted which will reconfigure the default parameters in the system to the original setup state. This must be done a predetermined manner that agrees with the Windows NT operating system procedure.

1. Using the "X" in the upper right hand corner of the screen, close the application until the *Windows NT* Icon screen is reached.
2. Click the "Start" button in the lower left corner of the Icon screen.

8   Warranty

· ONE-YEAR LIMITED WARRANTY
E-Code UMS Series IIa System

E-Code warrants these products against defects in materials or workmanship, for a period of one (1) year, from the date of shipment (FOB) at the E-Code factory. The warranty card at the bottom of this warranty form must be completed and returned at the time of purchase to validate this limited warranty. During this 1-year warranty period E-Code will repair or replace, free of charge, any part of the product, which its examination shall disclose to be defective in workmanship or material.

HOW TO OBTAIN WARRANTY SERVICE:
For warranty service call 1-888-240-6988 and ask for the Customer Service Department, or write to the address below. Systems or Modules returned to E-Code, under this warranty must be shipped to the following address postpaid, marked with the Return Material Authorization (RMA) number. Please do not return parts to E-Code without having obtained an RMA number or without providing this number ON THE OUTSIDE of the shipper.

E-Code Customer Service Dept., 113 West Hoover Ave., Suite 101, Mesa, AZ 85210

WARRANTY LIMITATIONS:
This limited warranty does not apply unless the system is utilized as indicated in the Installation, Operation and Service Manual nor does it apply in the case of damage to the system due to misuse; abuse; alteration; improper handling, installation, operation or service; or conditions beyond its specifications. In no event will E-Code be liable for incidental or consequential damages resulting from a defective system or improper installation, operation or service.

THIS LIMITED WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER EXPRESSED OR IMPLIED WARRANTY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND ANY OTHER OBLIGATION ON E-CODE. THIS LIMITED WARRANTY IS NOT VALID UNLESS THE PRODUCT IS PURCHASED FROM E-CODE, OR AN AUTHORIZED E-CODE DEALER/DISTRIBUTOR. There is no warranty which extends beyond the description on the face hereof, and no person, representative or firm is authorized to commit E-Code to further liability or obligation.

YOUR RIGHTS UNDER STATE LAW: This limited warranty gives you specific legal rights. You may also have additional rights under the laws of your state.

E-Code

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