

Summary Report for Individual Task
551-88N-1102
Operate the Movement Tracking System (MTS)
Status: Approved

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD1 - The materials contained in this course have been reviewed by the course developers in coordination with the Fort Lee, VA foreign disclosure authority. This course is releasable to students from all requesting foreign countries without restrictions.

Condition: In an operational environment, given a tactical wheeled vehicle, equipped with a mounted Movement Tracking System (MTS) mobile unit, DAAB 15-99-D-0014, mission traffic information, and target vehicle(s) with which to communicate.

Special Conditions: The target MTS with which to send message traffic to may either be another MTS Mobile Unit or an MTS Control Station, set up to monitor and provide traffic data.

Standard: Initialize the MTS mobile unit (to include PLGR if installed using Legacy System), enter the tactical net, send and receive digital message(s), exit the net, and power down the unit with 100% accuracy.

Special Condition: None

Safety Risk: Low

MOPP 4:

Task Statements

Cue: None

DANGER
None

WARNING
None

CAUTION
None

Remarks: None

Notes: System installation kits (A-kits) should already be installed on vehicle platform prior to start of this task.



Multiple Instances of MTS Messenger running



Multiple Instances of MTS Messenger running



Logging into Network



Logging into Network



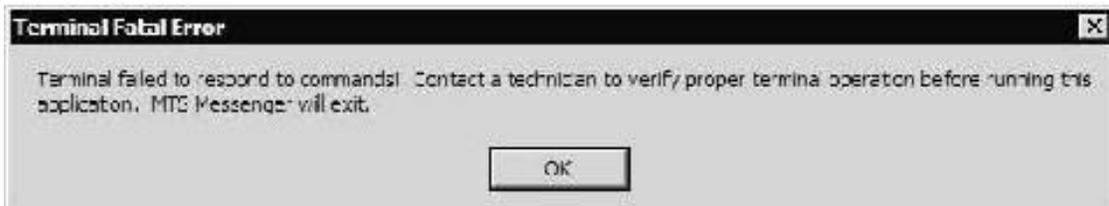
Choosing a COM port



Choosing a COM port



Response Failure error message



Response Failure error message



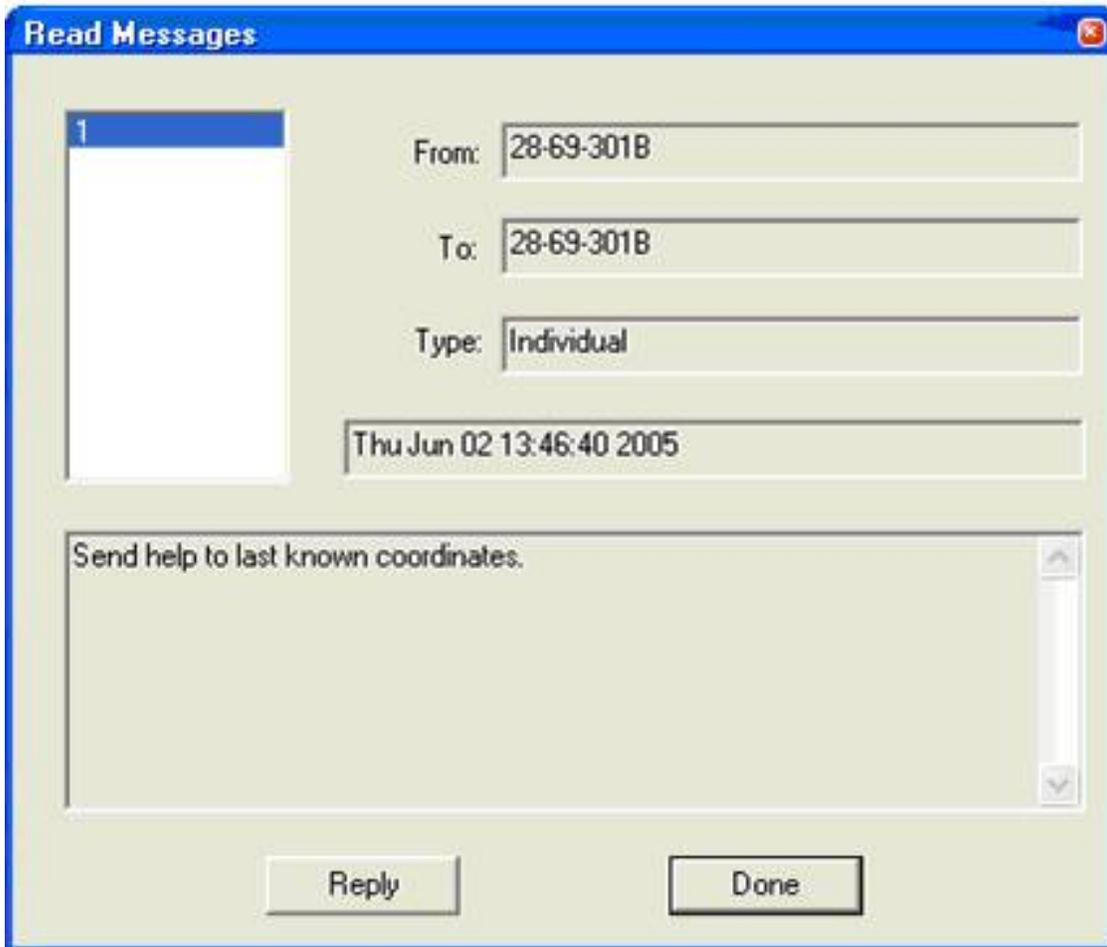
Open to Read Messages menu



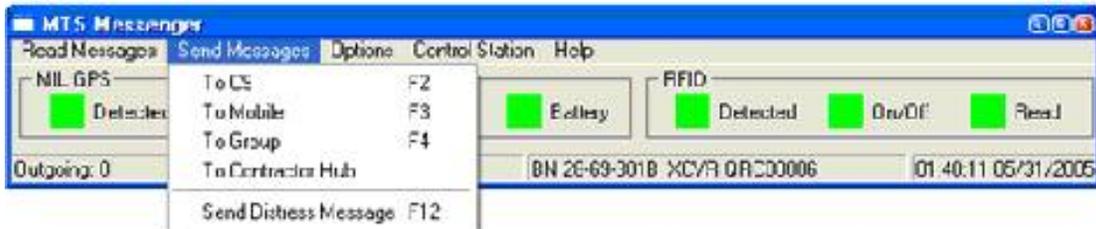
Open to Read Messages menu



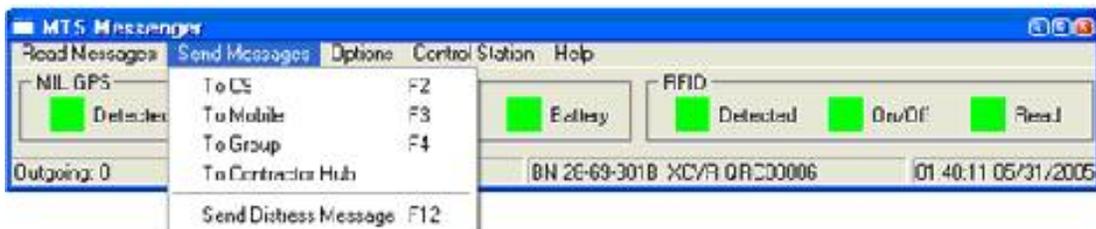
Read Messages menu



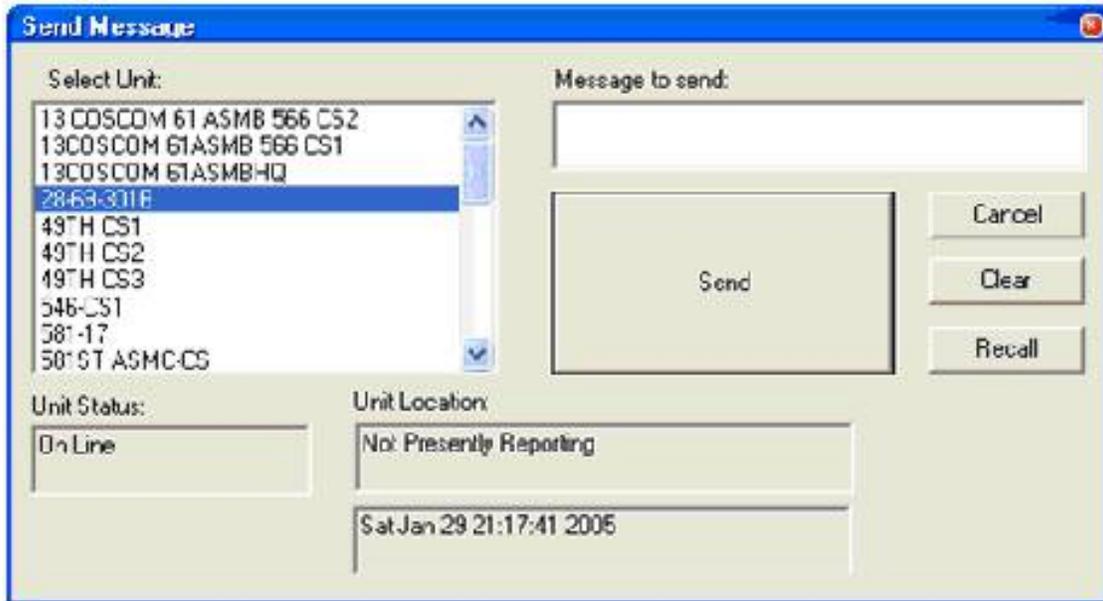
Read Messages menu



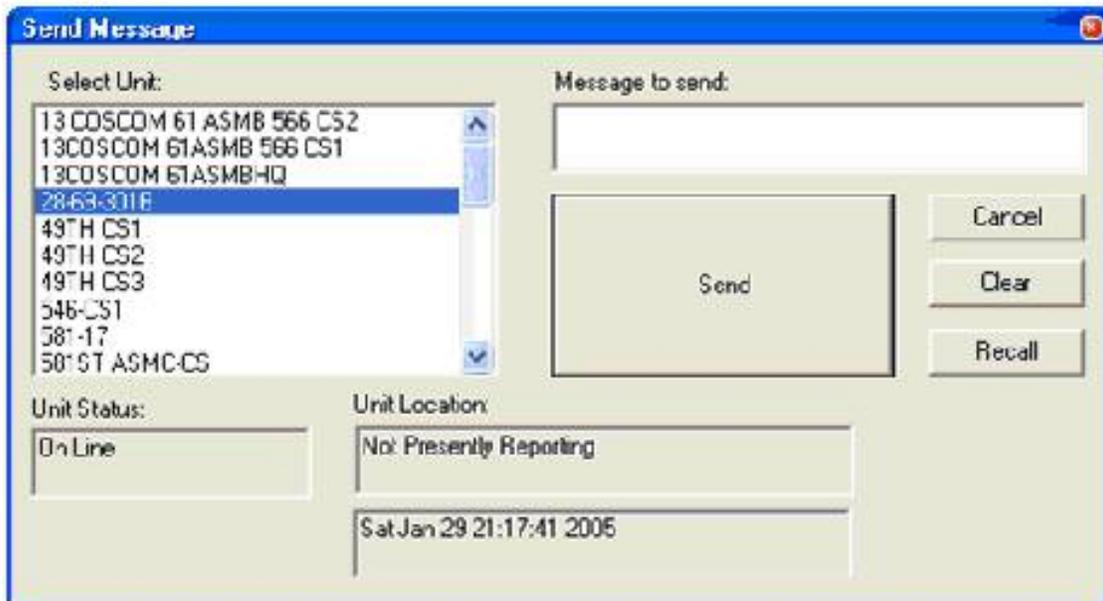
Send messages menu



Send messages menu



Choosing a recipient for sending a message



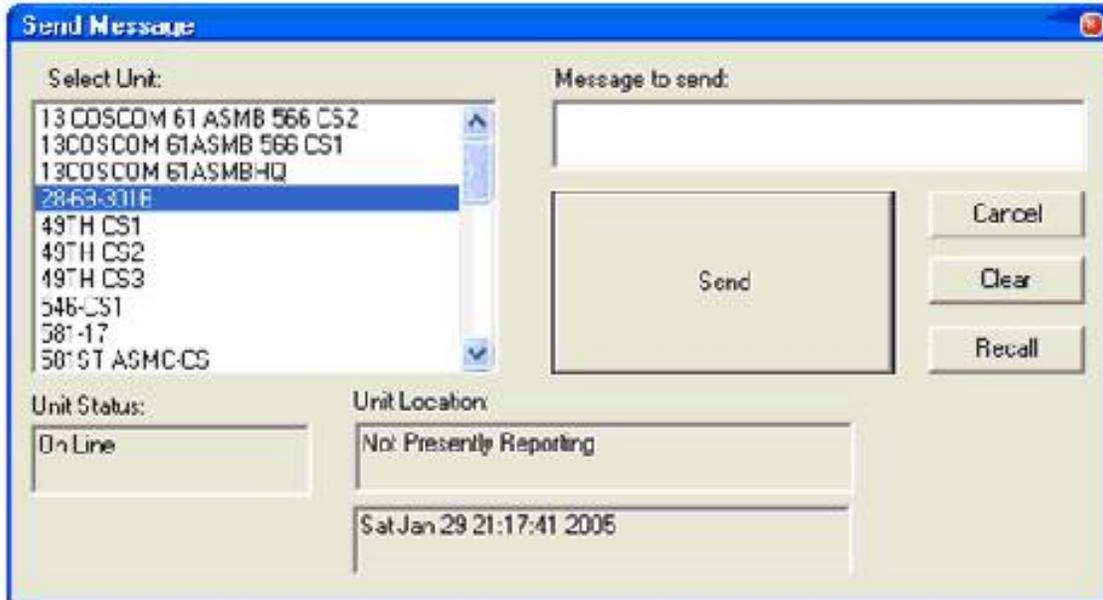
Choosing a recipient for sending a message



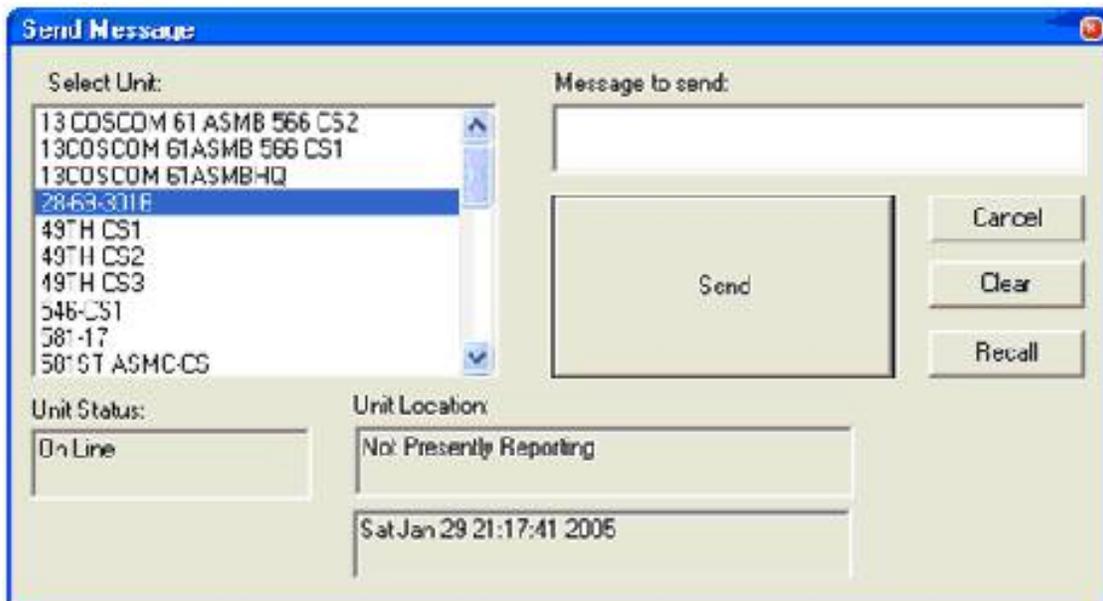
No messages received message



No messages received message



Choosing a recipient menu



Choosing a recipient menu



TracerLink Icon to open program



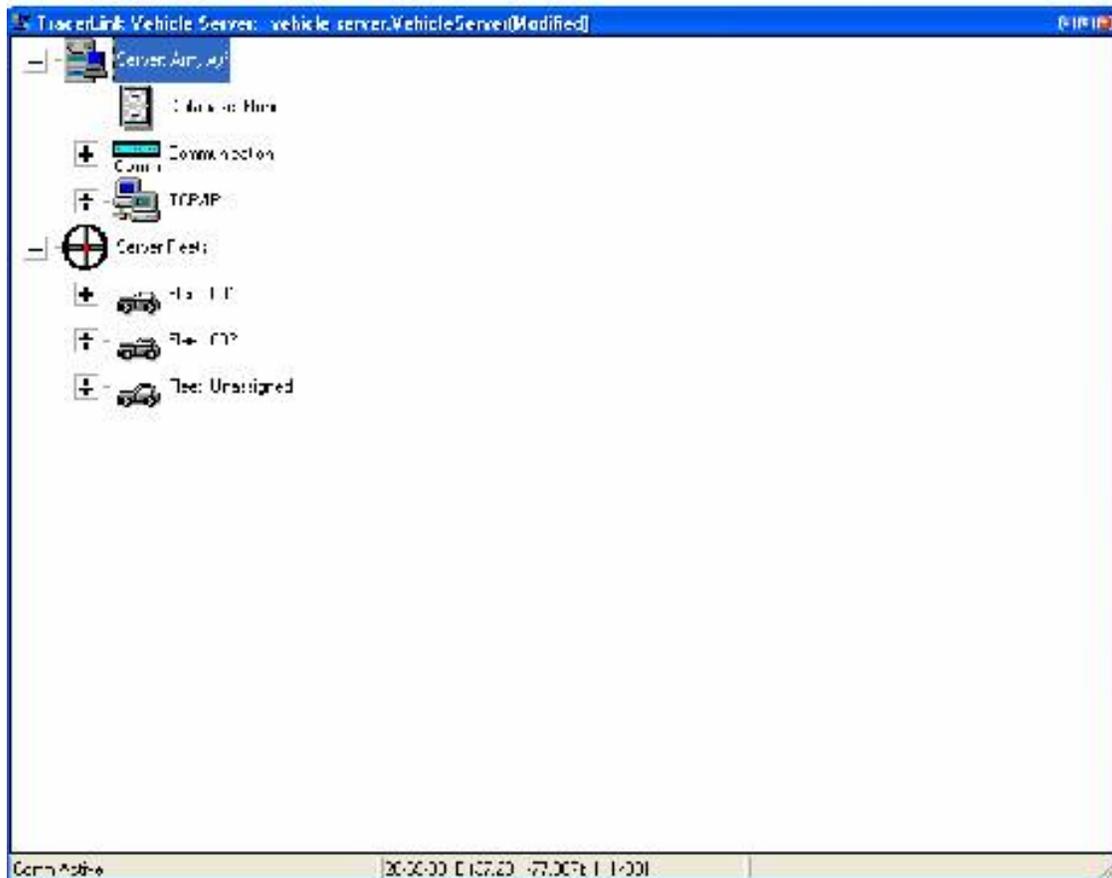
TracerLink Icon to open program

					
Control Station CS	Mobile Unit MU	CS on	MU on	CS on and reporting valid gps	MU on and reporting valid gps

TracerLink Map symbols

					
Control Station CS	Mobile Unit MU	CS on	MU on	CS on and reporting valid gps	MU on and reporting valid gps

TracerLink Map symbols

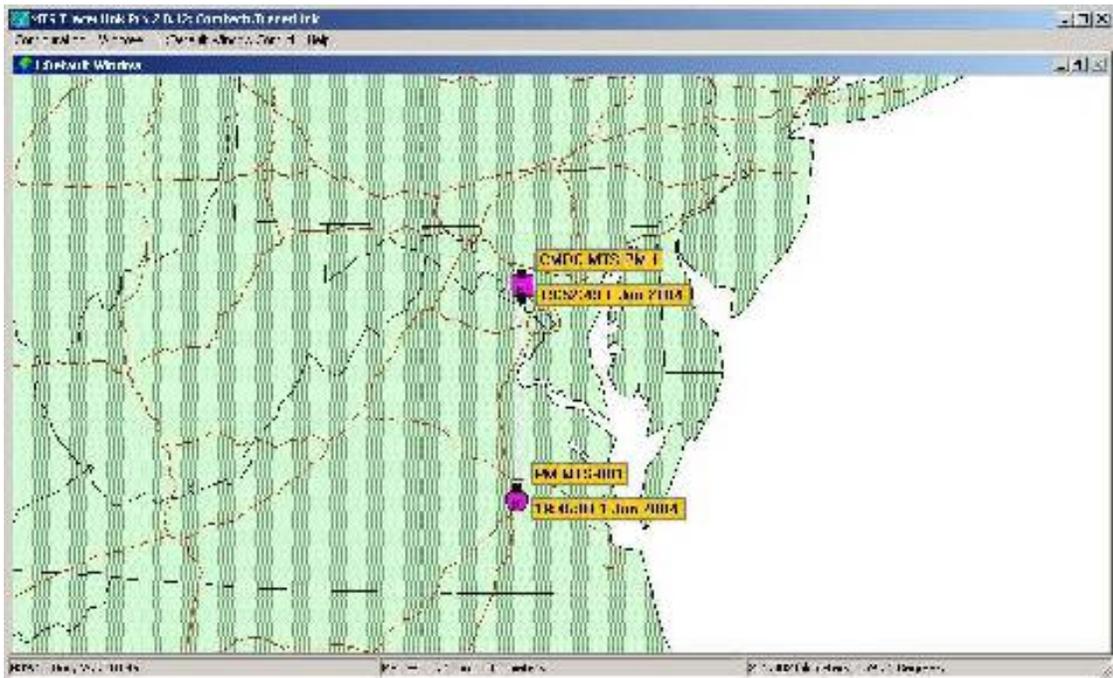




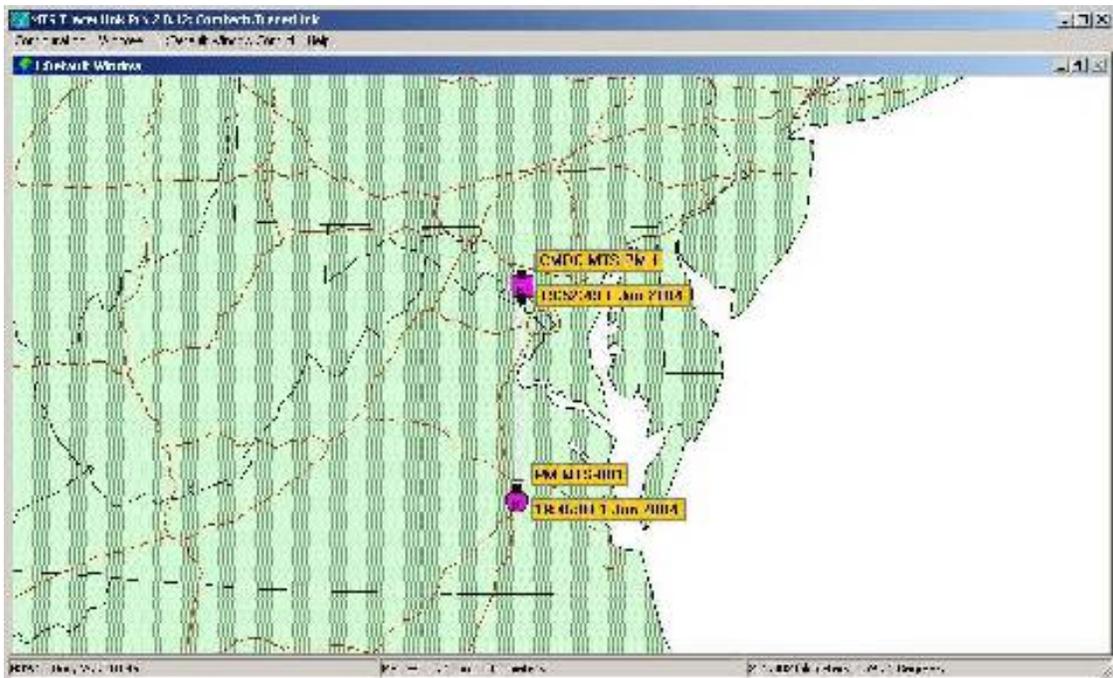
Tracerlink right click menu



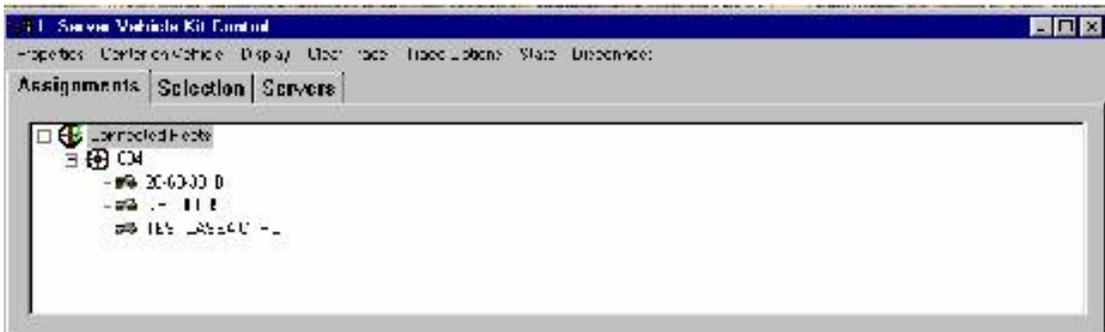
Tracerlink right click menu



Tracerlink Map Viewer



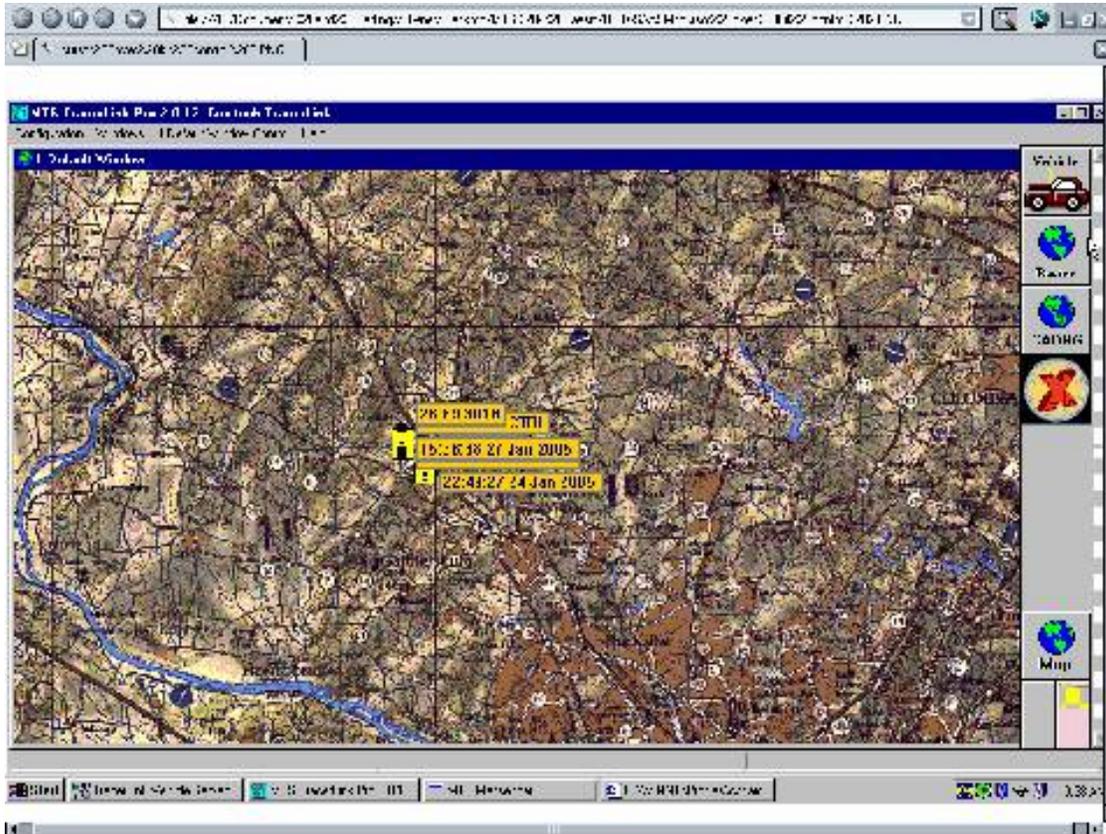
Tracerlink Map Viewer



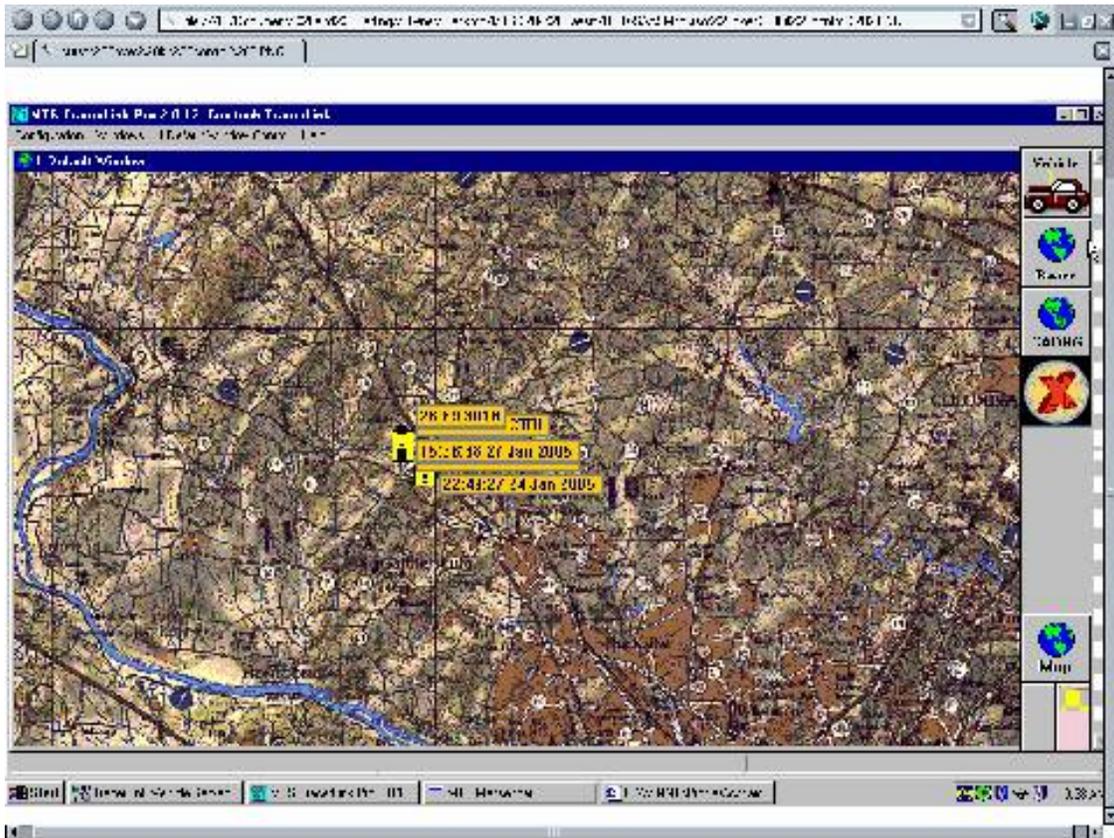
Server Vehicle Kit Control Window



Server Vehicle Kit Control Window



Server Vehicle Kit Bar Menu (on the right)



Server Vehicle Kit Bar Menu (on the right)

Performance Steps

WARNING

WARNINGS

A DRIVER SHOULD NEVER OPERATE MTS EQUIPMENT WHILE THE VEHICLE IS MOVING. ONLY A PASSENGER SHOULD OPERATE THE COMPONENTS IN A MOVING VEHICLE. DRIVER OPERATION OF THE MTS COMPUTER IN A MOVING VEHICLE COULD CAUSE AN ACCIDENT INJURING THE DRIVER AND PASSENGER(S) AS WELL AS DAMAGING THE VEHICLE.

USE OF ENGINEER TAPE (OR SOME OTHER MEDIUM) TO MARK THE EQUIPMENT'S LOCATION IS ADVISED, IF THE EQUIPMENT APPEARS TO AFFECT A SOLDIER'S NORMAL INTERACTION WITH THE VEHICLE.

THE RUGGEDIZED COMPUTER (V2) HAS A SMALL 10.5" SCREEN AND KEYBOARD. THE SCREEN CAN CAUSE EYESTRAIN IF USED FOR EXTENDED PERIODS WITHOUT BREAKS. SOLDIERS SHOULD ONLY USE THE SYSTEM WHEN NECESSARY. THE FUNCTION OF THE COMPUTER IS TO SEND OPERATIONAL MESSAGES OR VIEW MAPS AND NOT FOR PLAYING GAMES OR SENDING PERSONAL MESSAGES.

THE TERM "LOW VOLTAGE" CAN BE MISLEADING. VOLTAGE MEASURES AS LOW AS 50 VOLTS MAY CAUSE DEATH UNDER CERTAIN CONDITIONS. FAILURE TO POWER THE CONTROL STATION FROM A GROUNDED 110/220 AC OUTLET MAY RESULT IN SERIOUS INJURY (SEE SECTION ON CONTROL STATION INSTALLATION). NEVER TOUCH AN EXPOSED WIRE. IF A PIECE OF EQUIPMENT APPEARS DAMAGED, DO NOT TOUCH IT. INFORM YOUR SYSTEM ADMINISTRATOR, SUSTAINMENT AUTOMATION MAINTENANCE OFFICER (CSSAMO), OR A COMTECH FIELD SERVICE REPRESENTATIVE (FSR) IMMEDIATELY. A FSR WILL NEED TO REPAIR/REPLACE THE SYSTEM.

BE CAREFUL NOT TO HAVE FINGERS UNDER THE BRACKET WHILE ATTACHING TO THE MOUNT. HOLD TRANSCEIVER ON THE SIDES WITH FINGERS SPREAD AS IF YOU WERE HOLDING A HOT DINNER PLATE.

1. Conduct V2 configuration power on procedures.

a. Power on the V2 control box. Flip the power switch to ON in order to power up the unit. The LED light on the control box will illuminate green. The LEDs on the satellite transceiver, if connected, will also illuminate.

b. Power on the ruggedized computer.

(1) The computer will power on when the control box switch is on. Wait for the computer to load/initialize software.

(2) When prompted, press CTRL-ALT-DEL to login. If the system does not have a keyboard, users will follow this function on the virtual keyboard loaded on the tablet.

(3) A security window similar to the one below will appear. Read over the text in the window, and click OK with agreement to the terms.

(4) Enter username and password, and then click OK. The Windows desktop contains the MTS Messenger and TracerLink icons. MTS Messenger will automatically start. If it does not, start the MTS Messenger software manually by double clicking on the MTS Messenger icon.

2. Start MTS Messenger.

Note: NOTES:

Multiple instances of the MTS Messenger application should not be open at the same time. The following error message will display if the user opens MTS Messenger while it is already open and running. The user should click OK. This will close the second instance of MTS Messenger.

The computer should open MTS Messenger automatically. However, if Messenger does not start, and a Comtech Mobile Datacom Field Service Representative (FSR) is not available, follow the steps listed below.



a. To start MTS Messenger double-click the MTS Messenger icon located on the desktop.

b. Enter the bumper number (logging into the network). The bumper number can be up to 32 characters long including letters, numbers, spaces, and dashes (-).



c. If connected to a MT 2012 transceiver, the system will automatically find the COM ports. If connected to a MT 2011 transceiver, users will be asked to select the Terminal COM Port. V2 users select COM 3 (J4).



d. V2 users select COM 1 (J3). After successfully starting MTS Messenger, the standard display screen also known as the command reference will appear.

e. Ensure all status blocks are displayed at bottom of screen.

f. Wait for network registration. The bumper number and transceiver ID will appear in status block 4 at the bottom when network registration completes.

Note: The MTS Messenger status blocks, found on the bottom of the display screen, are numbered from left to right starting with block one (1).

1. Status block one (1) displays the communication between the transceiver and the computer. When the number in this queue reaches 40, restart MTS Messenger to clear the queue.

2. Status block two (2) contains the incoming messages queue, which displays the number of unread messages.

3. Status block three (3) contains MIL GPS status. A FOM (Figure of Merit) displays as "MILGPS: 1 to 5 degrees when the SAASM receives a valid GPS Fix. If the crypto keys are cleared or zeroed, a unit will still receive commercial grade GPS position, but ERROR will appear. To check FOM, simply go to the standard command reference through the Help menu. A FOM of five (5) or below will allow the MTS to report the unit's position. If using a MT2011 transceiver, GPS status: PLGR 1 – 5 displays.

4. Status block four (4) contains the bumper number (BN) and the transceiver ID (XCVR). The BN will appear after the network registration response from the ground station has been received, about 5 to 10 minutes.

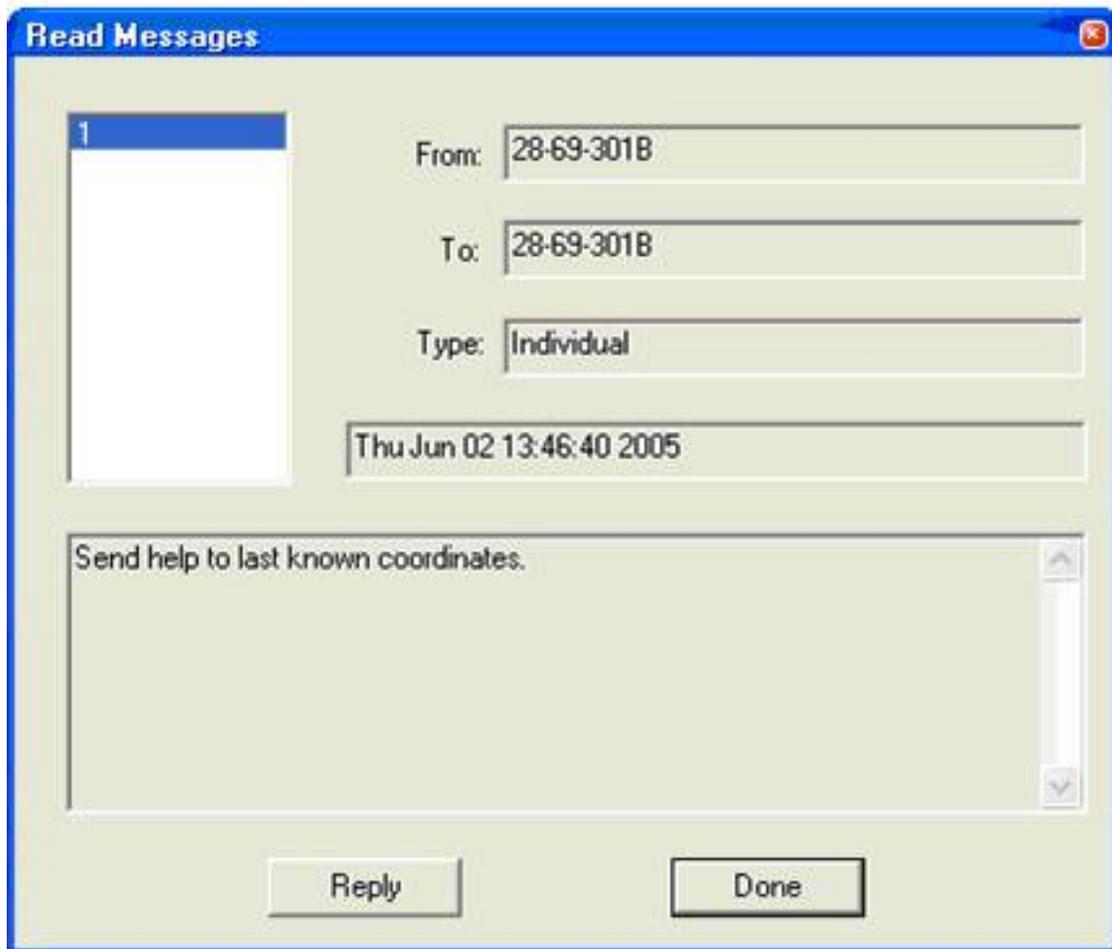
5. Status block five (5) contains the time in Universal Time Code (UTC).

g. Ensure that all three programs; MTS Messenger, TracerLink, and Map Viewer are running on the laptop for the MTS to function.

3. Read messages.

Note: When the incoming messages queue indicator in status block two (2) contains unread messages, the bottom bar will turn YELLOW until all messages are read. If the bottom bar turns RED, a distress signal has been sent out by another unit and is in the message queue.





a. Select Read Messages, then Read Current, Press F1, or press ALT and R sequentially to read messages.

b. In the Read Messages screen, click the message number you wish to read. It will default to the most recent message received. The text of the message will appear in the Message Text Field. Click the Reply button to return a message to the sender or the Done button to go back to the main window. Use the up and down arrow keys to move between messages.

Note: If you have not received messages, (for example, right after you started MTS Messenger) and you selected Read Messages, Read Current via the pull down menu, pressing F1, or by pressing the ALT and R keys sequentially, this dialog box will display.

4. Send messages.

a. To an individual unit.

(1) Select the send messages pull down menu or use the F2 or F3 function keys on the keyboard.

(2) Send message to control station (CS) select send message - to CS or press F2.

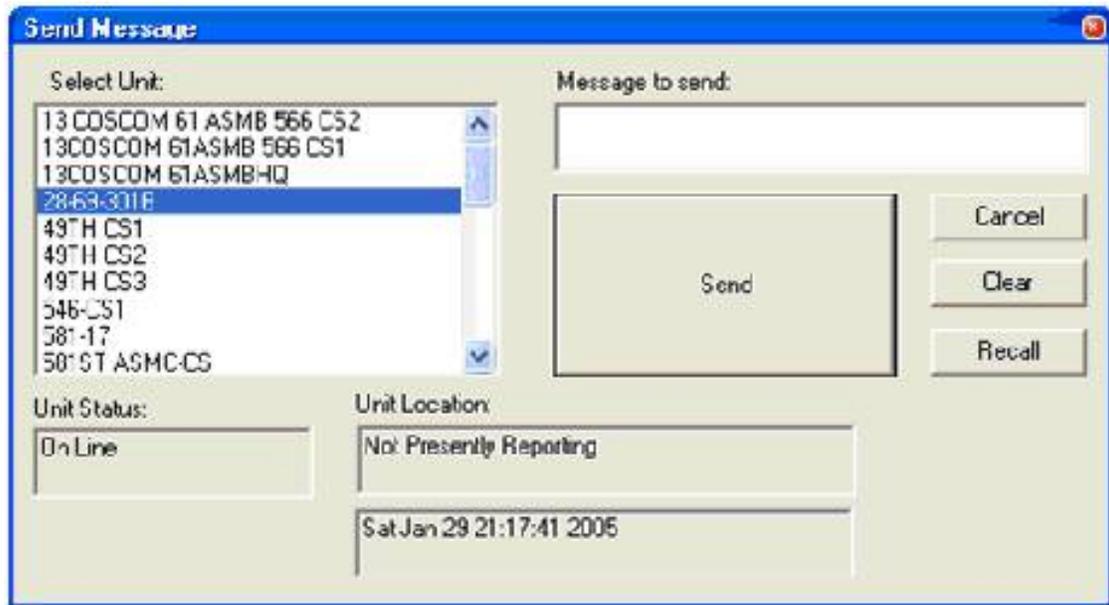
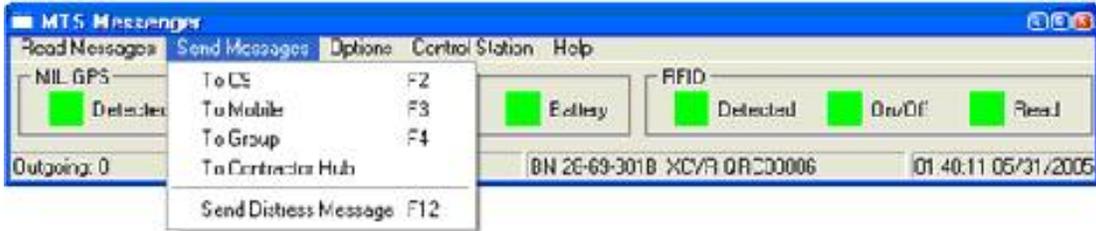
(3) Send a message to a mobile unit select send message - to mobile or press F3 Send message to a Control Station.

(4) Choose recipient for your message by choosing a unit from select unit list. Before you type a message, check the unit status field. This field will let you know if the intended recipient is on line or off line. The unit location field will indicate the position of unit.

(5) Type the message into the message text field.

(6) Press send once the message is complete. Press cancel button to return to the main window without sending. Press recall button to load the last sent message into the message box. Press clear to clear.

(7) Go to read messages - review sent messages to see if the recipient received the message (does not mean they have read it).

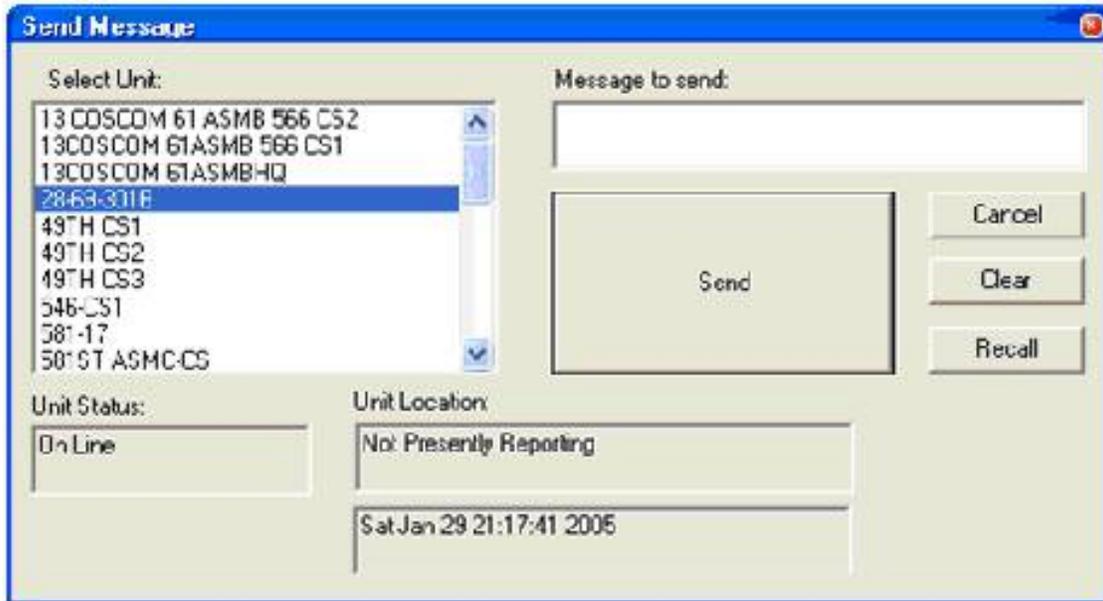


b. Send a message to all members of a control group.

(1) Select send messages - to group, or press F4 to send a message to all members of the control group, except the sender. Mobile units will only see one control group, while control stations might be members of several control groups.

(2) Enter the text in the message text field and press the send button. Pressing the recall button will load the message box with the text from the last message sent. To close the window without sending a message, press the cancel button. To erase any text in the message text field, press the clear button.

(3) After sending message, go to read messages - review sent messages to see if any group members received the message.



5. Start TracerLink program.

a. Double-click on the TracerLink icon located on the desktop to start the TracerLink application. TracerLink connects to the MTS Messenger program over a TCP/IP socket to receive position data.

Note: In order for TracerLink to function, MTS Messenger must be running.



b. Identify the following program controls and indicators.

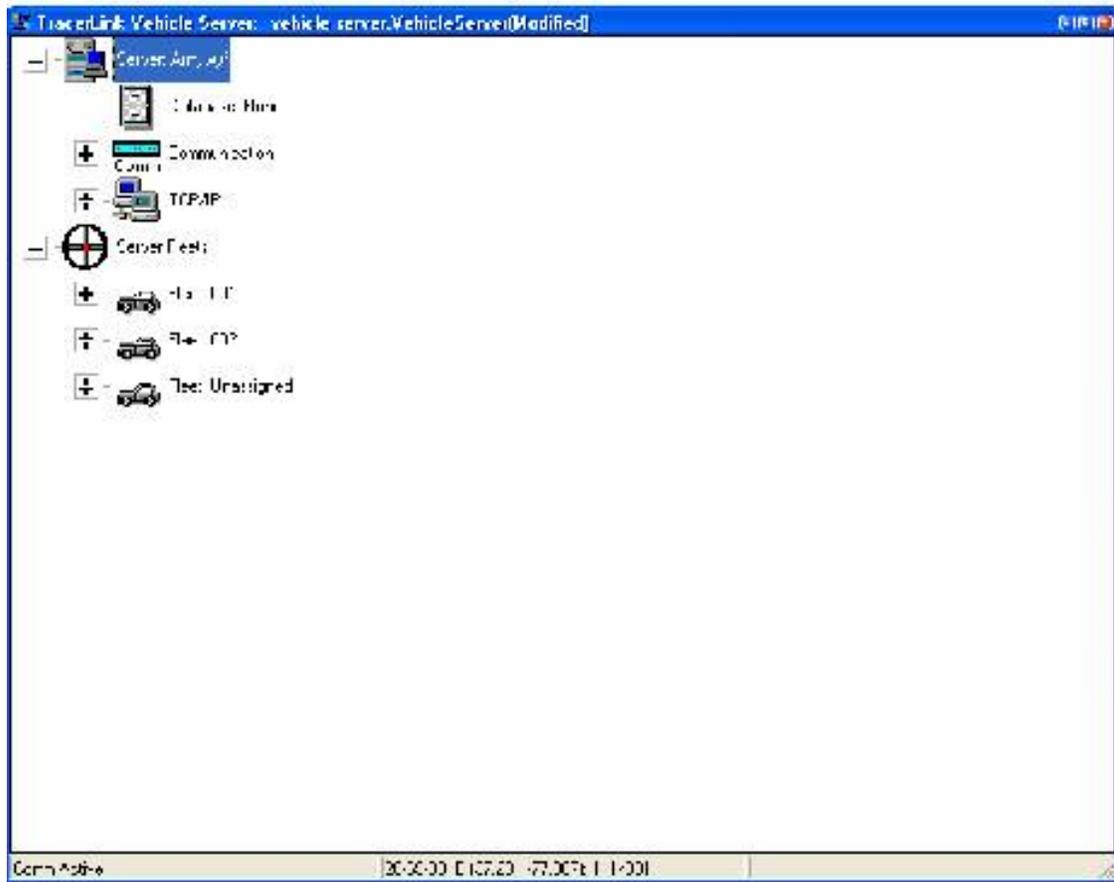
(1) Symbols.

(a) Mobile Unit. Round symbols represent mobile units. A square lug on top of the symbol indicates the unit is turned on and transmitting. No lug on top indicates the unit is turned off.

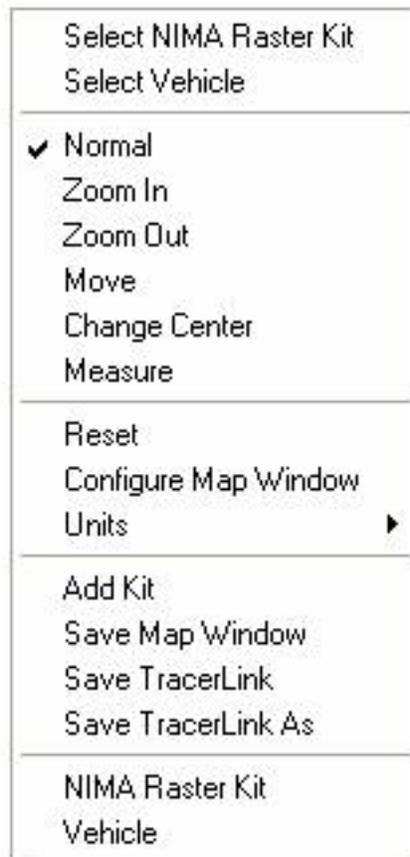
(b) Control Station. Square symbols represent control stations. A square lug on top of the symbol indicates the unit is turned on and transmitting. No lug on top indicates the unit is turned off.

Note: A square lug at the bottom of a symbol indicates the vehicle is reporting valid GPS. If a unit is powered on, but it not reporting valid GPS, then the location of the icon on the screen reflects the last known position of the vehicle, and may not reflect the current position of the vehicle.

Control Station	Mobile Unit	CS on	MU on	CS on and reporting valid gps	MU on and reporting valid gps
CS	MU				



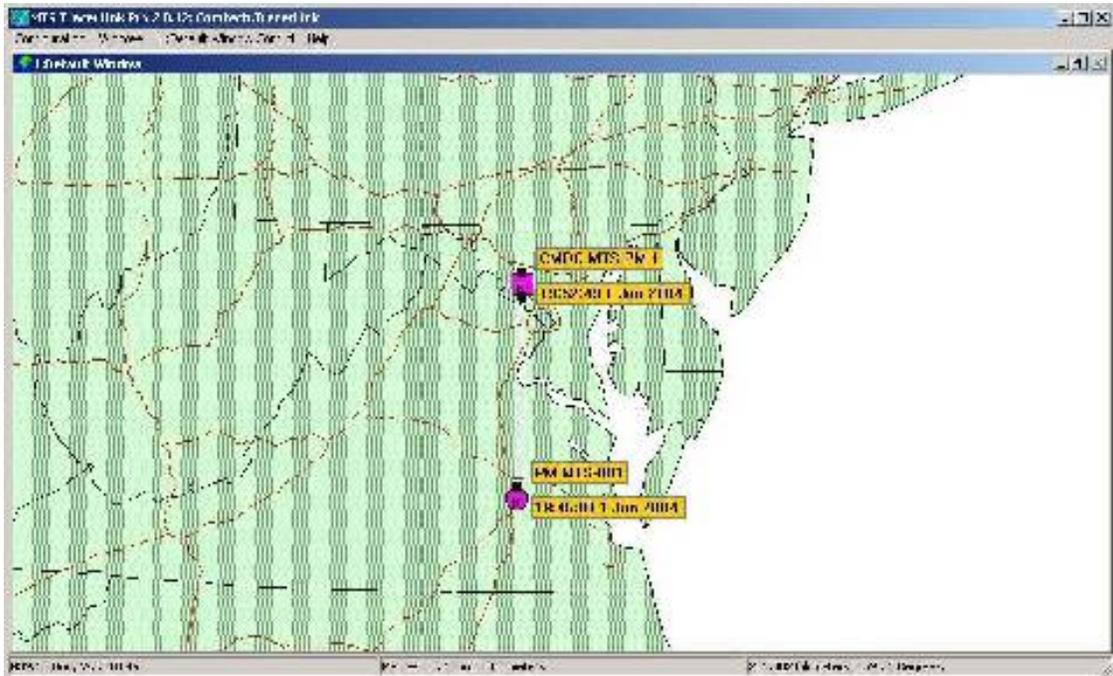
(2) Right Click Pop Up Menu. Simply right click with the mouse on the Map Viewer.



(3) Zoom the Map. To zoom, right click on the map to show the popup menu. Select Zoom In or Zoom Out. Click on the map at the point you wish to become the center of the map. The map will zoom with the point clicked becoming the new center of the map.

(4) Change Center. Right click the mouse over the map to pop up the menu, select Change Center. Click on the map and the map will move with the point clicked becoming the new center of the map.

(5) Pan a Map (Move). Right click the mouse over the map to pop up the menu, select Move. The cursor becomes a hand. Click on the map and hold down the left mouse button, then drag the map to the desired position. When you release the mouse, the map will redraw in the new position.



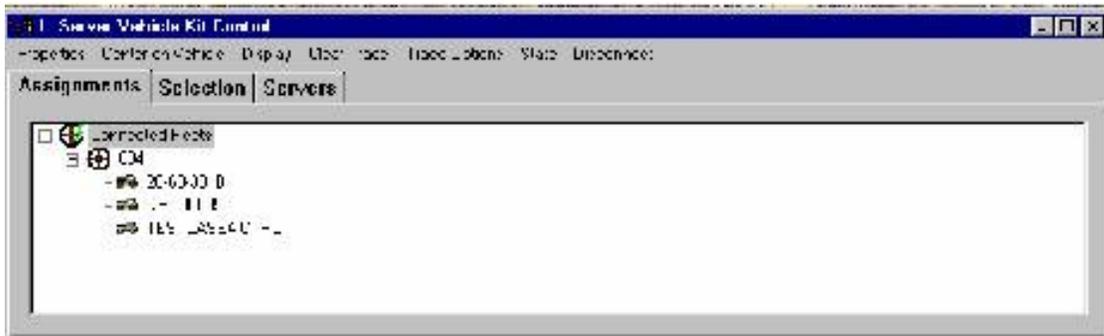
(6) Measure Distance on a Map. Right click on the map and then select Measure. Click and drag the cursor from point A to point B on the map. Before releasing the button, look at the scale display at the bottom of the map window. It displays the distance in kilometers, nautical miles, or statute miles. Once you release the mouse, the distance measurement will disappear.

(7) Reset Map to Initial View. Right click on the map and select Reset.

(8) Units-Changing Units of Measure. Right click on the map and select Unit. Select whether you want the map in Kilometers, Nautical Miles, or Statute Miles.

c. Navigate through the Server Vehicle Kit Control Window. Use the Server Vehicle Kit Control Window to trace a vehicle's route, hide a vehicle, or display a vehicle that was previously hidden, or hide/display a vehicle's name and last position report time.

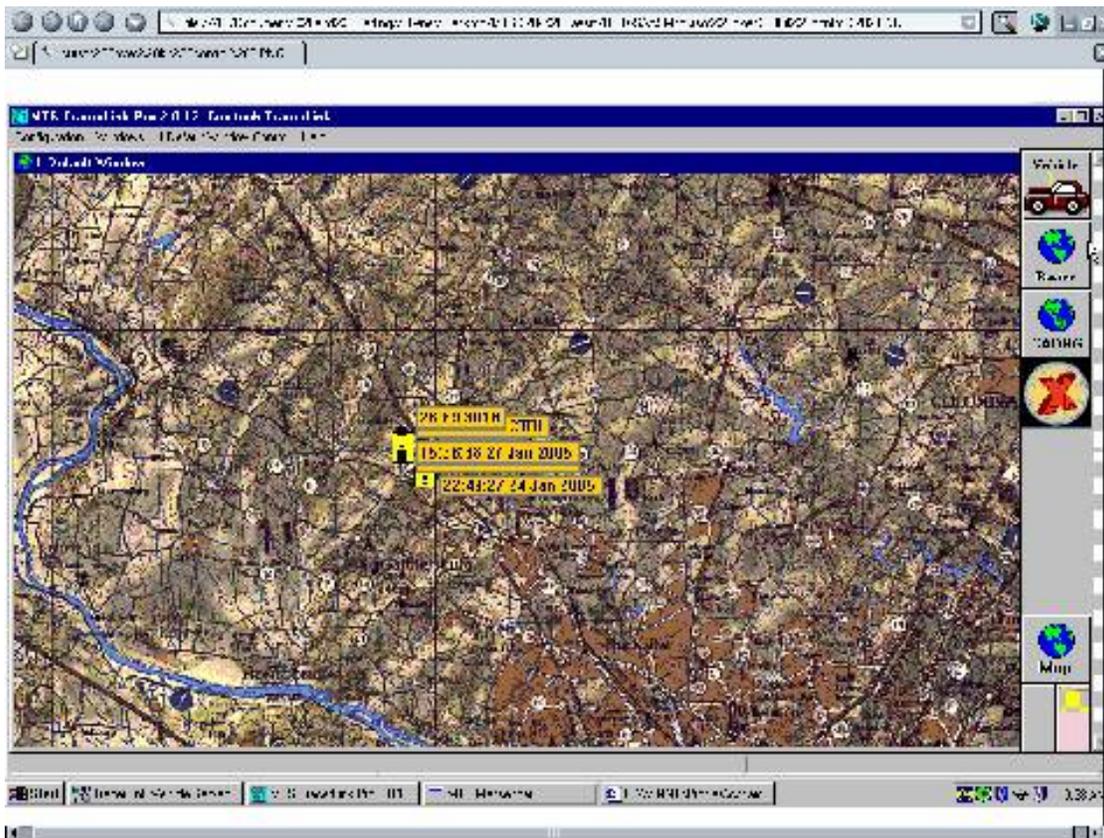
(1) Display the Server Kit Control Window.



(a) Method One. Right click the mouse and choose Select Vehicle on the popup menu. This will change your cursor into a hand with a pointed finger. Left click on the map (with the hand) whether over a vehicle's icon or over a bare spot. If you clicked over a vehicle's icon, the vehicle kit window will display the clicked vehicle(s) in the pane. If you clicked over a bare spot the window will be empty.

(b) Method Two. Slowly slide the cursor off the screen to the right side of the map. When you approach the edge of the map the Kit Bar will appear.

(2) Display information in the Server Kit Control Window.



(a) The Assignments Tab. Click on the Assignment Tab to display vehicle information in a hierarchical fleet view.

(b) The Selection Tab. Click on the Selection Tab to display vehicle information listed by vehicle.

(c) Enable Autotrack function.

- 1) Right click on the map to get the popup menu.
- 2) Choose the Select Vehicle option from the pop up window.
- 3) Click on the vehicle you wish to track. The Server Vehicle Kit Control window will open with the Selection tab containing a list of vehicles.
- 4) Right click on the vehicle you wish to track, select State - Track.

Note: If the vehicle you are tracking is off the map, use the Assignments tab instead of the Selection tab to make the change.

(d) Enable Trace function.

- 1) Right click on the map to get the popup menu.
- 2) Choose the Select Vehicle option from the popup menu.
- 3) Click on the vehicle you wish to trace. The Server Vehicle Kit Control window will open with the Selection tab containing a list of vehicles.
- 4) Right click on the vehicle you wish to trace, and then select Display - Trace.

(e) Hiding/Show and individual vehicle's name.

- 1) Right click on the map to get the popup menu.
- 2) Choose Select Vehicle.
- 3) Click on the vehicle you wish to name (un-name). The Server Vehicle Kit Control window will pop up listing the vehicles.
- 4) To turn the name on, right click on the name in the Server Vehicle Kit Control window and select Display - Name.

(f) Hide/Show entire control groups.

- 1) Right click on the map to get the popup menu.
- 2) Choose Select Vehicle.
- 3) Click on the map so that the Server Vehicle Kit Control window pops up.
- 4) Select Assignments tab. The various control groups will be listed with expandable plus boxes next to each one.
- 5) Right click on a Control Group (such as 001, 002, 003, and so forth), and select All Vehicles - Hide. If a control group is already hidden, to show it, simply select All Vehicles - Show.

(g) Display/Hide Report Time Labels for an Individual Vehicle.

- 1) Right click on the map to get the popup menu.
- 2) Choose Select Vehicle.
- 3) Click on the map with the mouse so that the Server Vehicle Kit Control window pops up.
- 4) Select the Assignments tab.
- 5) Right click on a vehicle, and select Display - Time. If the time was not previously displayed, it will be. If the time was previously displayed, it will be turned off.

(h) Display/Hide Report Time Labels for an Entire Control Group.

- 1) Right click on the map to get the popup menu.
- 2) Choose Select Vehicle.
- 3) Click on the mouse so that the Server Vehicle Kit Control window pops up.
- 4) Select the Assignments tab.
- 5) Right click on the fleet name and select All Vehicle -Time - Display or All Vehicles - Time - Hide.

(i) Center the map on a vehicle.

- 1) Right click on the map to get the popup menu.
- 2) Choose select vehicle.
- 3) Click on the map with the mouse so that the Server Vehicle Kit Control window pops up.
- 4) Select the Assignments tab.
- 5) Open the control group, right click on the vehicle you wish to find and select Center on Vehicle.

CAUTION

Improper shut down of system may result in data loss.

6. Perform power off procedures.

- a. Close all applications (MTS Messenger, TracerLink Vehicle Server, TracerLink Map Viewer).

b. Press CTRL and ESC keys at the same time or click the Start button in bottom left corner of the screen.

c. Press the U key or select the Shut Down option.

d. Press ENTER or select Shut Down and then click OK.

e. The Magnus tablet will automatically power off. Once this occurs, flip the toggle switch on the power box to off. This discontinues power going to the transceiver.

CAUTION

CAUTIONS

Failure to turn off the Power ON/OFF button on the Control Box will allow the terminal to continue operation and drain the emergency battery.

Improper shutdown of system may result in data loss.

f. If using the Legacy System and have the PLGR ON, press OFF and wait for the timer, or press the OFF button two times to power down immediately.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: Score the Soldier GO if all performance steps are passed. Score the Soldier NO-GO if any performance steps are failed. In case of a NO-GO, brief the Soldier on the deficiency, retrain the Soldier to perform the step correctly, and re-evaluate the task.

Evaluation Preparation: None

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Conducted V2 configuration power on procedures.			
2. Started MTS Messenger.			
3. Read messages.			
4. Sent messages.			
5. Started TracerLink program.			
6. Performed power off procedures.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	DAAB 15-99-D-0014	Movement Tracking System Users Manual	Yes	No

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT. All operations must conform to the Army Environmental Program, TC 3-34.489 (The Soldier and the Environment), FM 3-100.4 (Environmental Considerations in Military Operations), AR 200-1 (Environmental Protection and Enhancement), local, state, and federal environmental policies, The Clean Air Act (CAA), CAA amendments, National Ambient Air-Quality Standards (NAAQS), as well as OSHA Hazard Communication Standard for Industry, 29 CFR, part 1910. "It is the instructor's responsibility to conduct a risk assessment prior to instruction using FM 100-14 as guidance. A copy of the risk management work sheet must be present at time of instruction."

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination. Electrocution can result if equipment is operated without proper ground. Do not place equipment directly on wet ground, snow, or ice for operations.

Equipment uses power line voltage. Serious injury or death may occur on contact. Observe safety precautions when contacting power cables or performing maintenance.

Before connecting the equipment to a power source, ensure all power switches are in the off position.

If using extension cords, only use approved, heavy duty cords

The PLGR will use an external power source. The BA-5800 battery will not be used. The use of the internal in conjunction with external power can result in an explosion of the PLGR

WARNING: A driver should never operate MTS equipment while the vehicle is moving. Only a passenger should operate the components in a moving vehicle. Driver operation of the MTS computer in a moving vehicle could cause an accident injuring the driver and passenger(s) as well as damaging the vehicle.

WARNING: Use of engineer tape (or some other medium) to mark the equipment's location is advised, if the equipment appears to affect a soldier's normal interaction with the vehicle.

WARNING: The ruggedized computer (V2) has a small 10.5" screen and keyboard. The screen can cause eyestrain if used for extended periods without breaks. Soldiers should only use the system when necessary. The function of the computer is to send operational messages, view maps, and not for playing games or sending personal messages.

WARNING: The term "low voltage" can be misleading. Voltage measures as low as 50 volts may cause death under certain conditions. Failure to power the Control station from a grounded 110/220 AC outlet may result in serious injury (see section on Control station installation). Never touch an exposed wire. If a piece of equipment appears damaged, DO NOT touch it. Inform your system administrator, Combat Service Support Automation Maintenance Officer (CSSAMO), or a Comtech Field Service Representative (FSR)

Prerequisite Individual Tasks : None

Supporting Individual Tasks : None

Supported Individual Tasks : None

Supported Collective Tasks :

Task Number	Title	Proponent	Status
55-2-0016	Redirect Vehicle Operators Using Movement Tracking System (MTS)	55 - Transportation (Collective)	Approved

ICTL Data :

ICTL Title	Personnel Type	MOS Data
Transportation Management Coordinator 88N MOS ICTL	Enlisted	MOS: 88N
MOS 88N - Transportation Management Coordinator SL2	Enlisted	MOS: 88N, Skill Level: SL2
MOS 88N - Transportation Management Coordinator SL3	Enlisted	MOS: 88N, Skill Level: SL3
MOS 88N - Transportation Management Coordinator SL 4	Enlisted	MOS: 88N, Skill Level: SL1
MOS 88N - Transportation Management Coordinator SL 1	Enlisted	MOS: 88N, Skill Level: SL1