Chapter 7

Evaluation Software

7 Evaluation Software

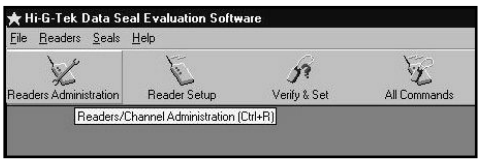
7.1. Software installation.

Check to see if there has been any prior installation of the software. If a previous installation was detected, it must be removed before installing the new version. This may be done by clicking the UNINSTALL.EXE file on the CD-ROM.

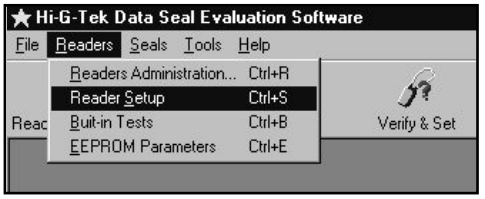
To install the software, insert the CD-ROM disk into your system's CD-ROM drive. Click on the install icon and follow setup instructions that appear on the seen

7.2. Communication Setup - Readers Administration.

The Readers Administration screen may be accessed by clicking on the Readers menu button on the top of the screen. and then on Readers Administration.

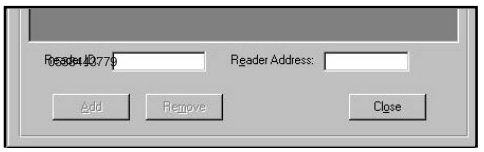


Alternatively, click on the Readers Administration icon or type Ctrl+R.



7.2.1. Defining the readers connected.

Reader ID and Reader Address are used to add/remove readers. The readers may be connected using either RS232 or RS485.



RS232 communication allows the connection of a single reader to a PC. As only one user is connected, there is no necessity to define a specific reader address.

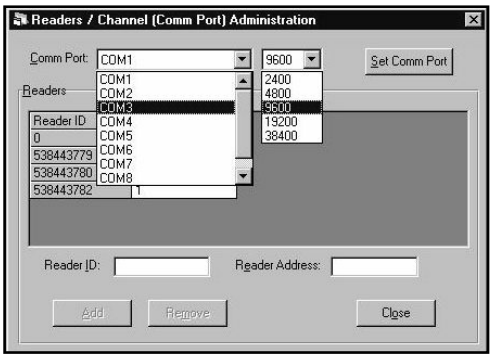
The Reader ID is located on the back of the Reader, in barcode

and numeric format. To add a Reader, insert the Reader ID and click on the ADD button. To remove a Reader, use the mouse to mark it and click on the REMOVE button.

RS485 communication allows several readers to be connected to a single PC. Prior to configuration, the User must decide on the placement of the readers and in accordance with the layout decide upon a specific Reader Address for each reader.

7.2.2. Setting up the communication channel.

In the **Readers/Channel (CommPort) Administration** box, click on the Com. Port drop down list to define your communication port.
Click on the Baud Rate drop down menu list to the right of the Com. Port drop down list to define Baud Rate. Once you have made your selection, click on the Set Comm Port button.



NOTE: The Baud Rate is determined by the PC's capabilities; the Reader itself can work at any of the Baud Rates defined in the drop down list.

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7.3. Readers Setup

To start the Reader Setup, press on the ”Reader Setup” icon (Item 1 in Figure 7.1) or select “Readers” and “Reader Setup as shown in Figure No. 7.2.

Two groups of parameters are operated from that screen: MCU Setup and RF Modem Setup.

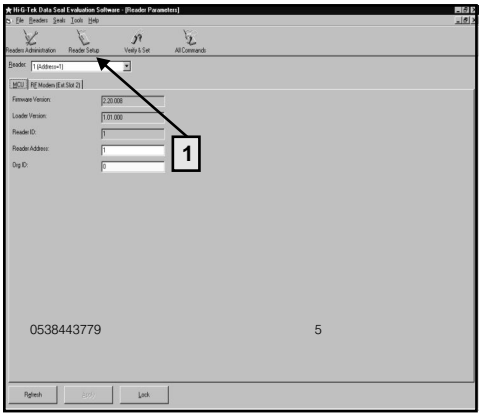

Fig. 7.1

7.3.1. MCU Setup

Firmware Version, Loader Version, and Reader ID are Read-Only parameters of the MCU Setup screen (Figure 7.1.) Reader Address is the only parameter that can be modified.

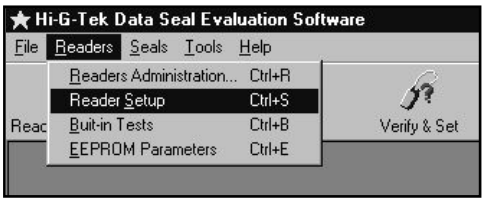

Fig. 7.2

7.3.2. RF Modem Setup

The first parameter, Firmware Version is a Read-Only parameter. All other parameters can be modified at any time.

To get the existing parameters in the DataReader, select the appropriate Reader in the “Reader” box (Item 1 in Figure 7.3). Click on the “Refresh” button if the parameters are not updated automatically

After writing the new parameters, for both the MCU and RF Modem, click on the “Apply” button.

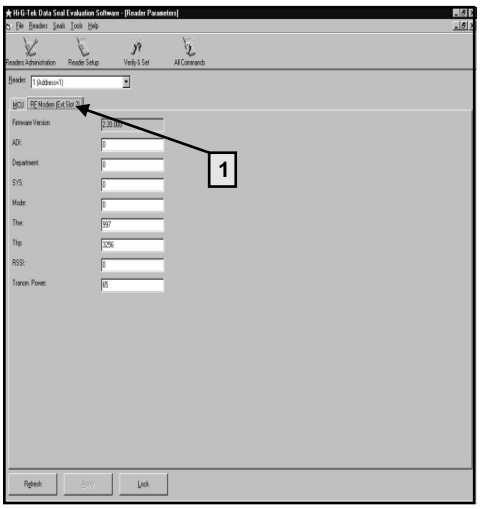

Fig. 7.3

7.4. Built-In Test

In order to perform the test, click on “Readers” and then “Built-In” Test as shown in Figure 7.4. The “Test” window will open (Figure No. 7.5).

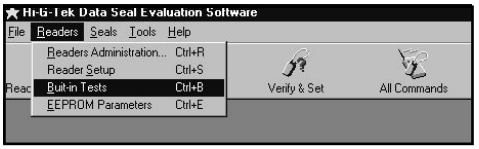

Fig. 7.4

Begin the process by selecting the DataReader to be tested at the box marked as Item 1 in Figure 7.5.
To get the results of the last test, press on the “Get Current Reader Status” bar. To run a new test, press on the “Execute Built-In Test” bar and the new results will be displayed.

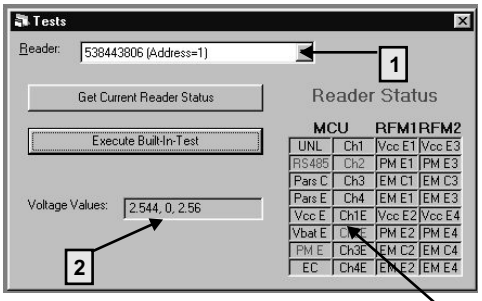

Fig. 7.5

The “Voltage Values” displayed (Item 2 in Figure 7.5) are the actual values measured in the DataReader: The first value (2.544) represents the MCU, the second (0) represents the RF Modem 1 (not installed) and the third value (2.56) represents RF Modem 2.

A detailed explanation of the abbreviations in this window (Item 3 in Figure 7.5) is provided hereunder:

7.5. Login-Password Setup, Password Change

When the program is started for the first time after installation of the Evaluation Software, it will open at the lowest level of authorization. A password is not required at this time.

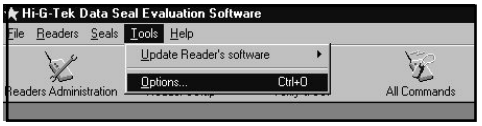

Fig. 7.6

To allow only authorized access using a password, click on "Tools" as shown in Figure 7.6. The "Options" (Figure 7.7) will open.

The "Options" window is used for changing the User, Administrator or Distributor passwords. Following Setup of the Evaluation software, the passwords are:
For User: *user*
For Administrator: *admin*

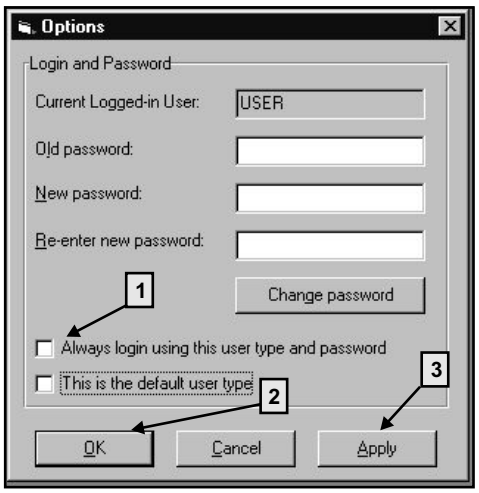

Fig. 7.7

In order to change the password for any of the three levels of authorization, key the appropriate information in the boxes and press on the "Change Password" button. If you wish to change the password of a certain user (User or Administrator), you must login as that user.

Fig. 7.8

If you wish to access the Evaluation Software without going through the "Login" window (Figure 7.8), check the box titled "Always login using this user type of Password" (Item 1 in Figure 7.7).

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If you wish the “Login” window to come up each time the Evaluation Software is activated Password Protection) clear the checkbox titled ”Always Login Using this user type and password”. If this box is checked, the “Login “ window will not come up when opening the Evaluation Software. You will, however, always login as the user type you selected. If the lower checkbox (Item 2 in Figure 7.7) is checked, the “Login” window will come up with the selected user type as a default.

7.6. Download DataReader Software Utility

7.6.1. MCU Software Update

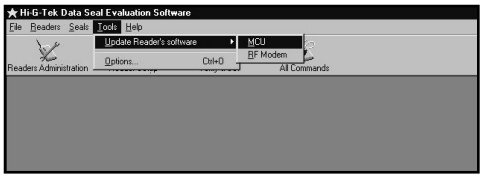


Fig. 7.9

The DataReader's MCU Software update procedure is initiated from the "Hi-G-Tek DataSeal Evaluation Software" screen.

Select "Tools" in the main menu and "Update Reader's Software" and mark "MCU" as shown in Figure 7.9

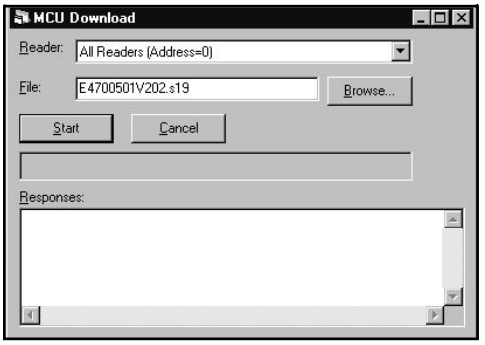


Fig. 7.10

When the "MCU Download" window comes up, select the DataReader to get the software update. The update can be performed to one DataReader, chained in the system at a time.

If only one reader is connected you may choose the "All Readers (Address=0)" as shown in Figure 7.10.. If more than one reader is chained, the address of the specific reader needs to be selected. Press on the "Browse" button and mark the file containing the software update. When the target reader and the file to be downloaded are presented in the window (as shown in Figure 7.10), press on the "Start" button to execute the download process.

Note: In the event that communication between the PC and the DataReader is not established within 10 seconds a message will come up as shown in Figure 7.11.

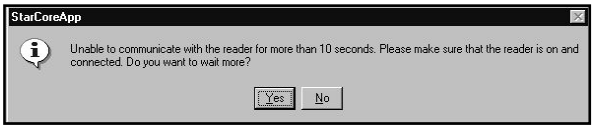


Fig. 7.11

7.6.2. RF Modem Software Update

The **DataReader's** RF Modem Software update procedure is initiated from the ”Hi-G-Tek DataSeal Evaluation Software” screen.

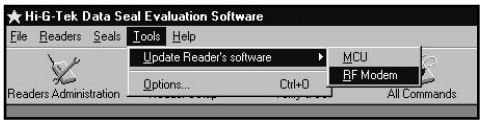


Fig. 7.12

Select “Tools” in the main menu and “Update Reader's Software” and mark “RF Modem” as shown in Figure 7.12.

When the “Device Download Utility” window comes up, select the DataReader which will get the software update. The update can be performed to one DataReader chained in the system at a time.

Fig. 7.13

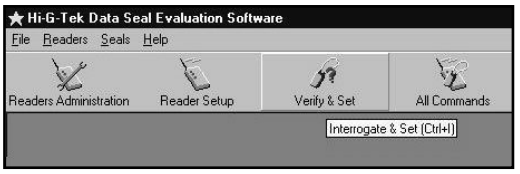
If only one reader is connected you may choose the “All Readers (Address=0)” as shown in Figure 7.10. If more than one reader is chained, the address of the specific reader needs to be selected (as shown in figure 7.13).

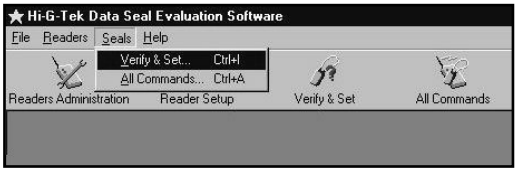
Press on the “Browse” button and mark the file containing the software update. Press on the “Browse” button and mark the file containing the software update. Select “Device” in the DataReader targeted for update: The RF Modem is at location 2.

When the target reader, the file to be downloaded and the location of the RF Modem are presented in the window (as shown in Figure 7.13), press on the “Start” button to execute the download process.

7.7. Performing Verify and Set Cycles

Access the Verify and Set menu by clicking on the Seals menu button on the top of the screen, and then on Verify and Set. Alternatively, click on the Verify and Set icon or type Ctrl+I.



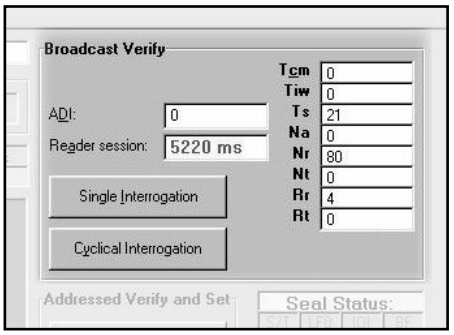


7.7.1 Selecting the Reader.

A specific Reader must be selected prior to the initialization of a COMMAND session.
To select a Reader, click on the Reader drop-down list and select the appropriate Reader from the list.

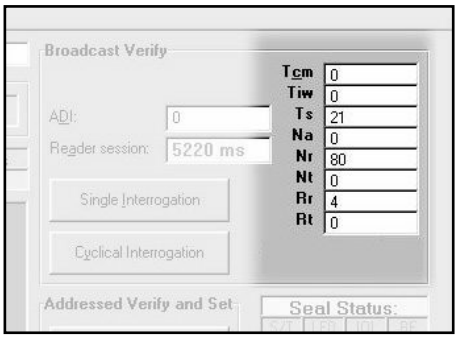
7.7.2 Broadcast Sessions.

In Broadcast Verify mode, the reader sends interrogation messages to all the seals.



7.7.2.1 Setting Sessions Parameters

All numbers are represented as decimal digit values. The Tcm and Na parameters are not in use, and their value is 0. An explanation of the parameters follows below.



Tcm - Time Calibration Message; this parameter is not currently in use, and should be set to 0. Parameter size=1 byte.

Tiw - Time Interlace Window; this parameter sets the time between the BMM (Broadcast Master Message) and the first reply slot. Minimum value=0, maximum value=16000. Parameter size=2 bytes.

Ts - Time slot; Size of reply slot. Unit size=1.024 ms. This parameter has 4 values which variate according to the amount of data received. These values are 21, 41, 63, 82. Other values will cause a deviation. Parameter size=1 byte.

Na - Number Assigned; Currently not in use. Value should be 0. Parameter size=1 byte.

Nr - Number Random; Number of random slots. Only a number from the statistical table may be entered. Parameter size=1 byte.

Nt - Number Tamper; Number of reply slots for the tamper message. Only a number from the statistical table may be entered.

Rr - Random Retry; The number of times the seal will send a transmission. To be set at the User's discretion. Only a number from the statistical table may be entered.

Rt - Retry Tamper; The number of times the seal will send a tamper message. To be set at the User's discretion. Only a number from the statistical table may be entered.

Nr, Nt, Rr & Rt Statistical Table

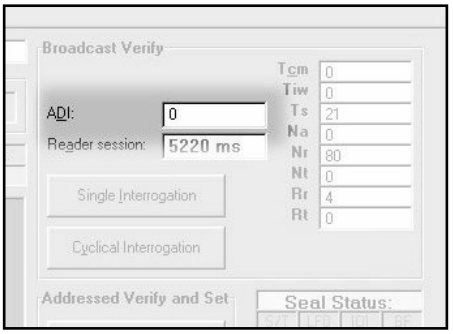
Max # Seals	Min # Sessions	# Window																						
		30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250
2	1	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2
	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	1	-	9	6	5	5	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3
	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	1	-	-	-	-	10	6	6	6	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4
	2	-	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	1	-	-	-	-	-	-	-	8	7	7	6	6	6	6	5	5	5	5	5	4	4	4	4
	2	-	-	5	4	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	1	-	-	-	-	-	-	-	-	-	-	8	8	8	6	6	6	6	6	5	5	5	5	5
	2	-	-	-	5	4	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2
7	1	-	-	-	-	-	-	-	-	-	-	-	-	9	8	8	7	6	6	6	6	6	6	5
	2	-	-	-	-	5	5	4	4	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2
8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	8	6	7	9	6	6	6
	2	-	-	-	-	-	-	5	5	4	4	3	3	3	3	3	3	3	2	3	3	2	2	2
9	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	9	9	9	8	8
	2	-	-	-	-	-	-	-	6	5	4	4	4	3	3	3	3	3	3	3	-	3	3	3
10	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	9	9
	2	-	-	-	-	-	-	-	-	7	5	5	5	4	4	4	4	3	3	3	3	3	3	3
12	2	-	-	-	-	-	-	-	-	-	-	7	6	5	5	4	4	4	4	4	3	3	3	3
	3	-	-	-	-	-	-	4	4	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2
14	2	-	-	-	-	-	-	-	-	-	-	-	-	-	9	7	5	5	4	4	4	4	4	4
	3	-	-	-	-	-	-	-	-	5	4	3	3	3	3	3	2	2	2	2	2	2	2	2
16	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	5	5	5	4	4	4
	3	-	-	-	-	-	-	-	-	-	-	4	4	3	3	3	3	3	3	3	2	2	2	2
18	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	7	6	5
	3	-	-	-	-	-	-	-	-	-	-	6	4	4	4	3	3	3	3	3	3	2	2	
20	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	6	
	3	-	-	-	-	-	-	-	-	-	-	-	-	5	4	4	4	3	3	3	3	3	2	
25	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	4	3	3	3	3	
	4	-	-	-	-	-	-	-	-	-	-	-	-	4	3	3	3	2	2	2	2	2	2	
30	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	3	3	3	3	2	
35	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	3	3
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	2	2	2	2	2

Nr & Nt

Rr & Rt

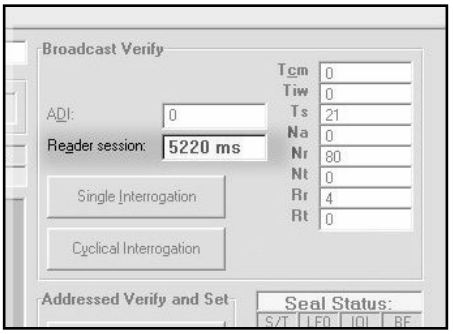
7.7.2.2 ADI Definition

ADI is the Seal Group Identification. Each seal can have an internal ID number. ADI defines the seals by group. All numbers on this screen are registered in decimal value. The ADI ranges from a minimum value of 0 to a maximum value of 64000. If the number entered in the ADI text box is "0", all seals respond. If a specific number is entered, the seals respond according to their grouping. See paragraph TBD.



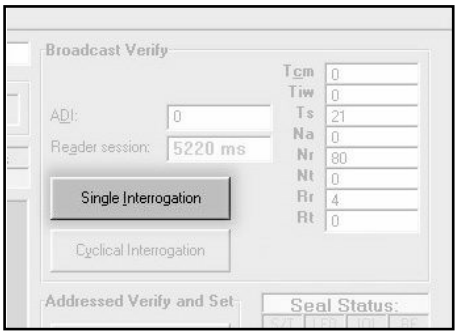
7.7.2.3. Reader Session

The Reader Session button, located directly beneath the ADI window box, defines actual session time. The system automatically defines session time after the User clicks on either the Single or Cyclical Interrogation buttons.

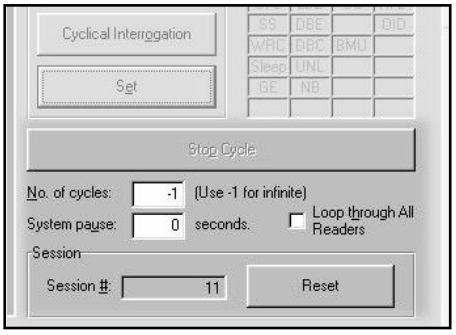


7.7.2.4 Single Session.

Single Interrogation is one reader session of all seals answering to a specific definition. This means that several results may be obtained. Click on the Single Interrogation button for a single reader session. Results of the session appear in a table to the left of the button (See section 4.2.6.)



7.7.2.5 Multiple Sessions

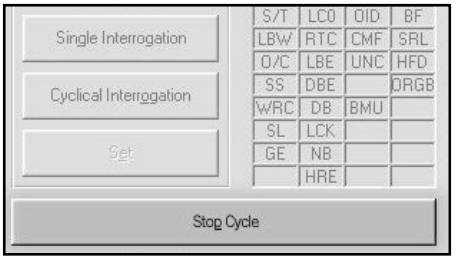


Multiple Sessions mode differs from Single Sessions mode in that the User can define the number of cycles of interrogation (up to infinite). The User can also define the waiting period between each session.

Number of Cycles: Clicking on the Broadcast Verify Cyclical Interrogation button when there is a positive number in the Number of Cycles window box will cause the system to perform that number of sessions. When Number of Cycles is defined as -1, clicking on the Cyclical Interrogation button will cause the system to perform an unlimited number of sessions.
System Pause: This option allows the User to define a pause between reader sessions.
Loop Through All Readers: When this option is selected, the System Pause acts as a delay between the various readers.

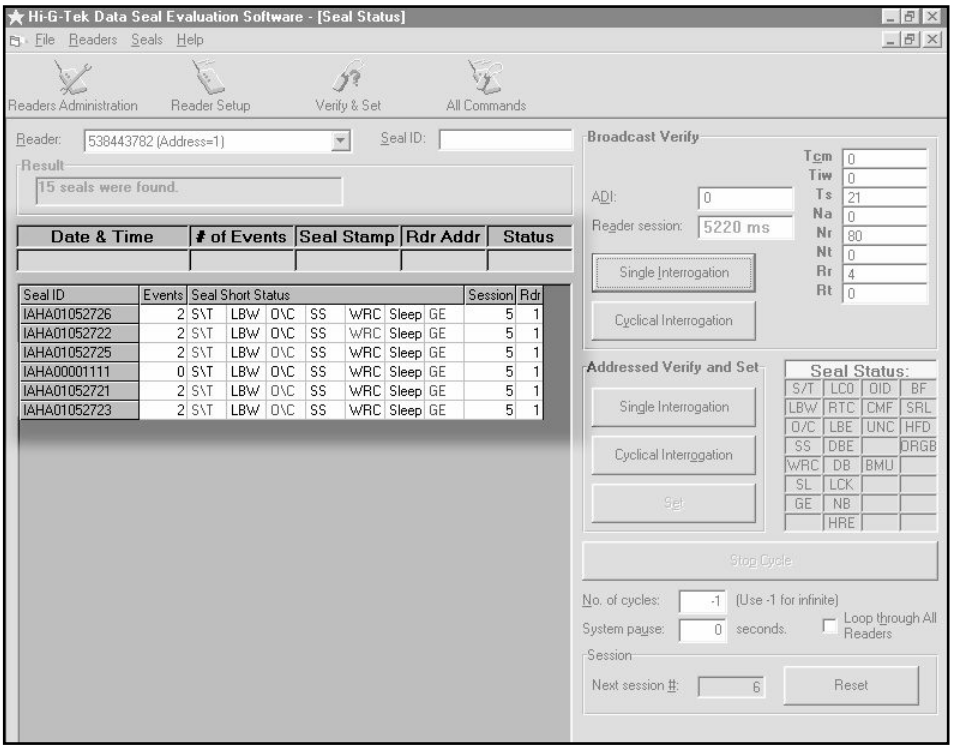
NOTE: When the Loop Through All Readers option is selected, the value in the No. of Cycles window box must be greater than the number of readers defined.

Session # and Reset: The Session # window box shows the sequential number of the next session. Clicking on the Reset button resets this counter.



The cyclical interogation can be stopped at any time by clicking on the Stop Cycle button. Results of the interrogation appear in a table to the left of the button (See section 4.2.6.)

7.7.2.6 _Reading the Results



Results of the single and cyclical interrogations appear in tables to the left of the interrogation buttons. The information in the table includes the seal ID, the number of events detected, seal stamp, seal short status, the session number which is the number of the session in cyclical interrogation mode and the reader number, the number of the reader being interrogated.

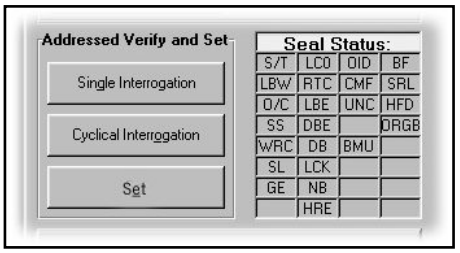
Results are accumulated and can be stored to disk or printed by clicking on the FILE menu button located on the upper left portion of the screen.

Generally, items marked in red indicate errors. Items in red appearing in the Seal Short Status field indicate warnings or error status, while those appearing in gray are normal.

NOTE: To sort the interrogation results by Seal ID number, click on the Seal ID column header . To sort by session number, click on the Session column header.

7.7.3 Addressed Verify Sessions

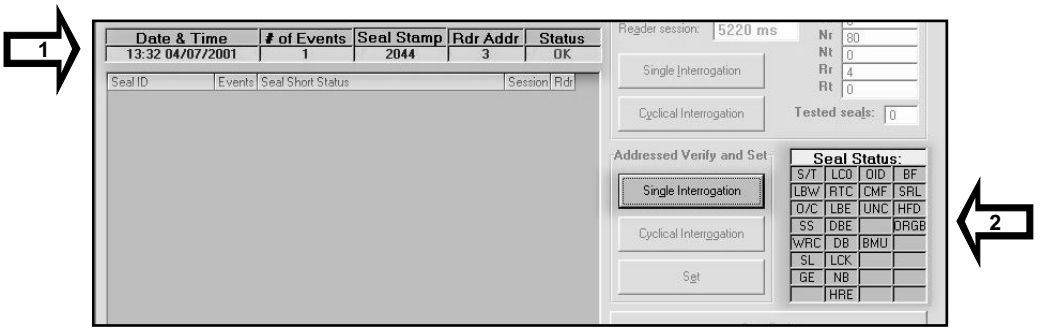
The Addressed Verify Sessions differ from the Broadcast Verify sessions in that the reader sends interrogation messages to a specified seal. All parameter definitions described in section 4.2. are relevant here as well.



7.7.3.1 Single Session

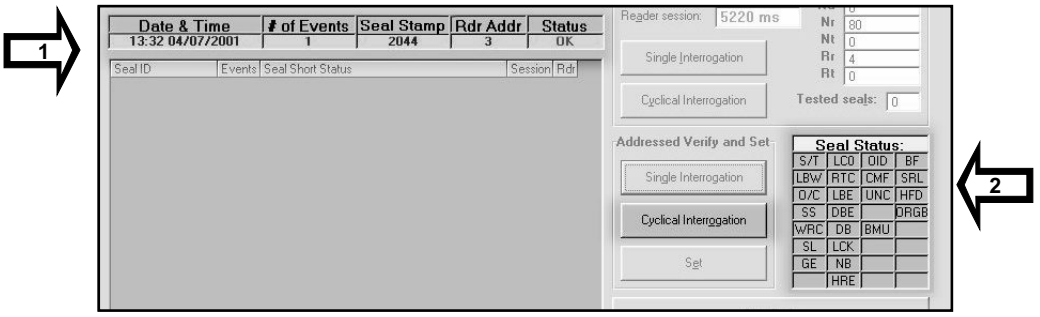
To initiate an Address Verify Session, enter Reader and Seal ID data in the relevant windows in the upper portion of the screen and click on the required mode of interrogation (single or cyclical). To enter Seal ID automatically, click on the required seal ID that appears in the result table of a broadcast session.

For a single interrogation, click on the Single interrogation button. Results are displayed in the table to the left of the button (1) and in the Seal Status table (2) to the right of the button. Items appearing in red in the Seal Status table indicate error status. Items appearing in black indicate normal status.



7.7.3.2. Multiple Sessions

Multiple Sessions mode differs from Single Sessions mode in that the User can define the number of cycles of interrogation (up to infinite). Results are displayed in the table to the left of the button (1) and in the Seal Status table (2) to the right of the button. Items appearing in red in the Seal Status table indicate error status. Items appearing in black indicate normal status.



Number of Cycles: Clicking on the Addressed Verify and Set Interrogation button when there is a positive number in the Number of Cycles window box will cause the system to perform that number of sessions. When Number of Cycles is defined as -1, clicking on the Cyclical Interrogation button will cause the system to perform an unlimited number of sessions.

System Pause: This option allows the User to define a pause between reader sessions.

Loop Through All Readers: When this option is selected, the System Pause acts as a delay between the various readers.

NOTE: When the *Loop Through All Readers* option is selected, the value in the No. of Cycles window box must be greater than the number of readers interrogated.

Session # and Reset: The Session # and Reset options are not operational in multiple session mode. The system will stop, however,If a number has been entered in the Number of Cycles field.

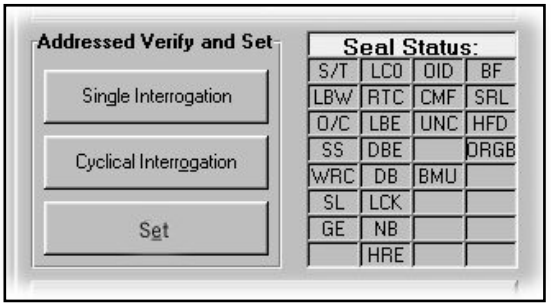
The cyclical interogation can be stopped at any time by clicking on the Stop Cycle button. Results of the interrogation are displayed in the Seal Status table at the right of the button, and in the table to the left of the button.

7.7.3.3. Reading the Results

After interrogation the following results are received:

a) In the main information table:
Date and Time, Number of Events, Seal Stamp, Reader Address and Seal Status.

b) In the Seal Status Table to the right of the buttons. Status events with detected errors are marked in red. Events marked in black are normal.

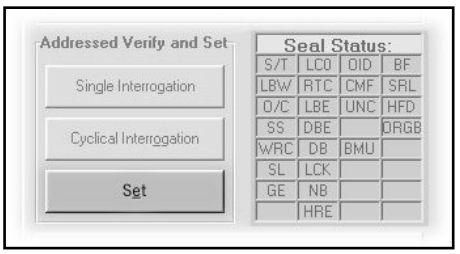


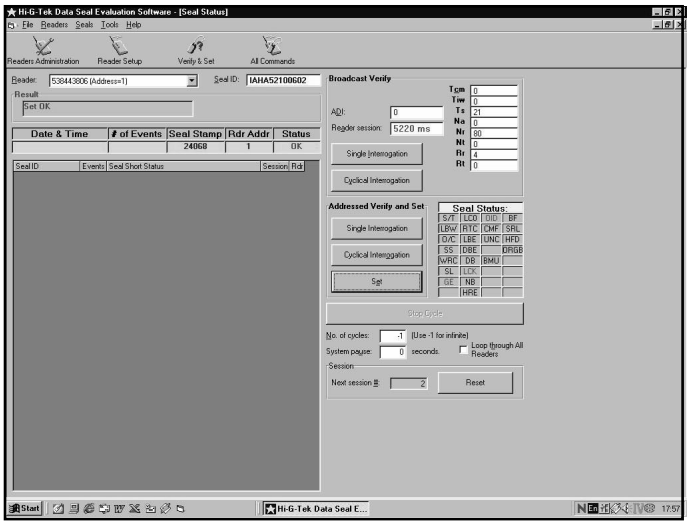
S/T - Set or tamper
LBW - Low battery warning
O/C - Open/close
SS - Suspended set
WRC - Wire change
SL - Deep sleep mode
GE - General Error
LCO - Life counter = 0
RTC - Real time clock error
LBE - Low bat error
DBE - Data base error
DBC - Data base corrupted
LCK - Locked
NB - New battery
IOD - Illegal org ID
CMF - Command failure

UNC - Unrecognized Command
BMU - Burst Mode Unsynchronic
BF - Buffer Full
SRL - Scroll Event
HFD - High frequency disabled
ORGB - Org ID disabled

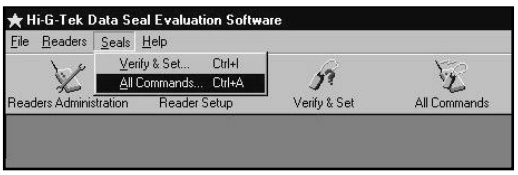
7.7.4 SET Sessions

A SET sesion is used to reset and arm a seal. A SET session can only be applied to a pre-defined seal. To initiate a SET Session, ensure that Seal Wire has been connected. Enter Reader and Seal ID data in the relevant windows in the upper portion of the screen and click on the SET button. Any change in the seal status will dispay a TAMP message.



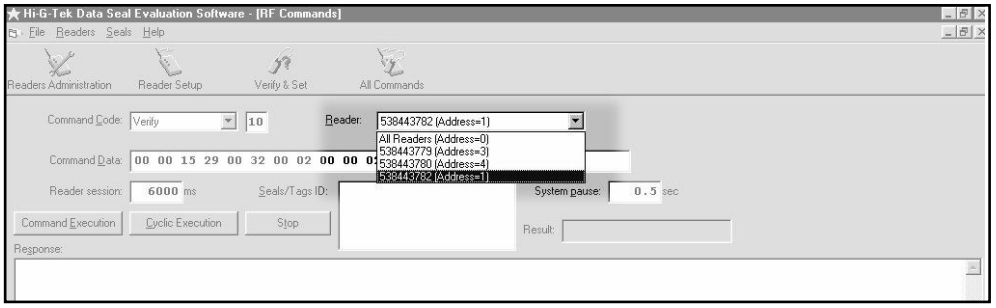


7.8. Performing General Commands Cycles.



The main function of the General Commands Cycles is to get acquainted with the system. Access the General Commands screen by clicking on ALL COMMANDS located in the Seal drop down menu. Alternatively, click on the ALL COMMANDS icon or type CNTRL+A.

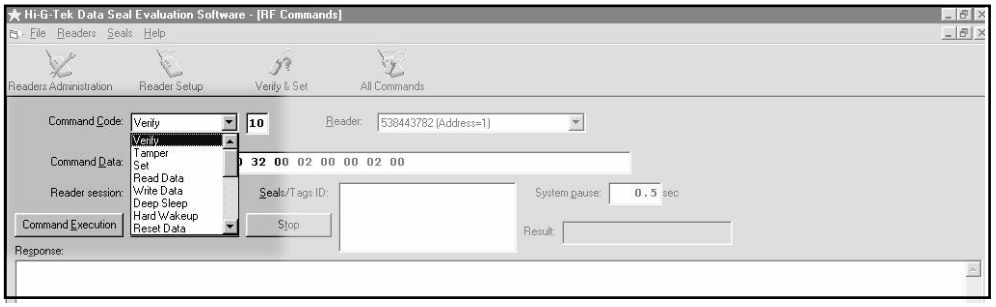
7.8.1. Selecting a Reader



Select a reader by clicking on the reader drop down list. Click on the appropriate reader to select it.

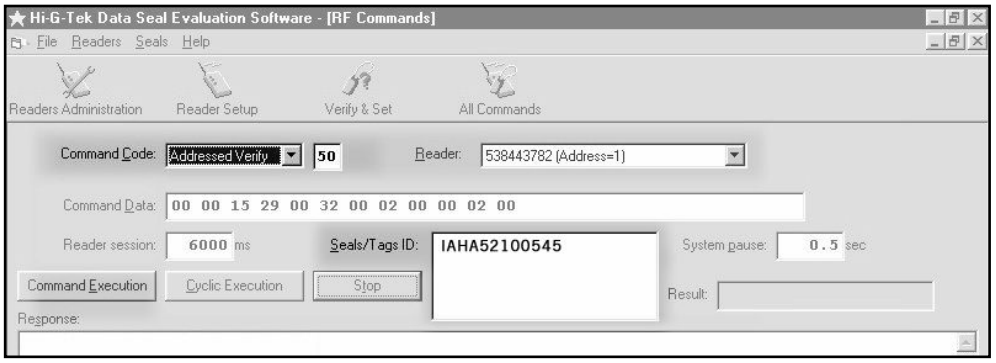
NOTE: Parameters appearing in the Command Data window may be changed by the User according to the data in the statistical table.

7.8.2. Selecting a Command



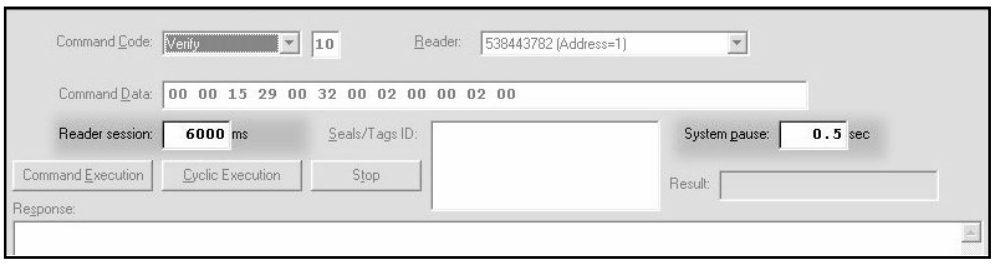
Select a command by clicking on the Command Code drop down list, and then by clicking on the appropriate command. Parameters of the selected command appear in the Command Data window below. The number appearing in the fiels to the right of the Command Code field is the OPCODE>

7.8.3. Defining Seals



A seal is defined by typing seal ID in the Seals/Tags ID window. The Seal ID number can be found in numeric and barcode format on the seal.

7.8.4. Setting the System Session Duration

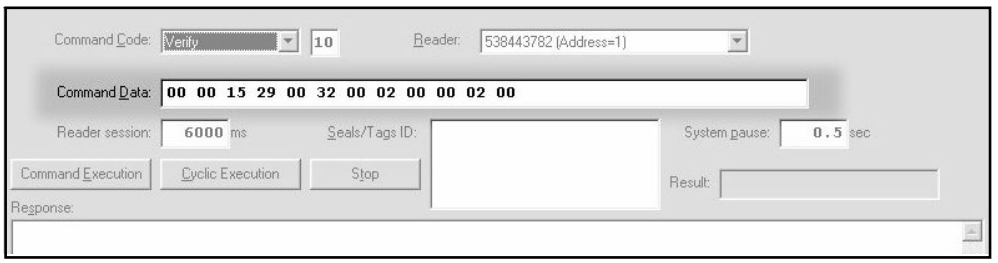


System session duration is automatically set by the system upon initiation. This may be changed by the User in accordance with specific requirements.

System pause is the pause between sessions when the system is in cyclic mode. This may also be set by the user.

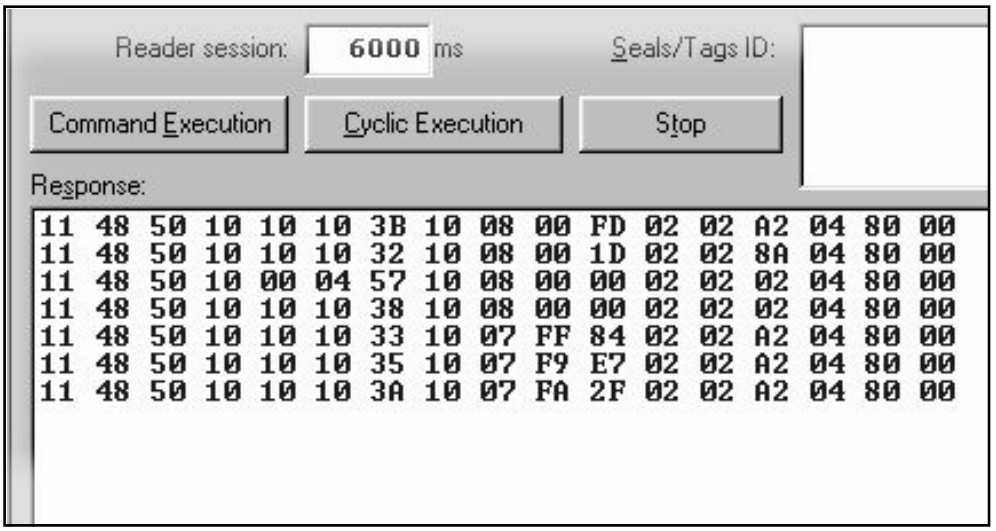
NOTE: Time settings differ according to parameters of the chosen command. If the parameters are changed, the User should try to initiate a session using the default settings. If a Command Fail message is received, the time should be increased. For details regarding calculation of time setting, see paragraph 5.10.

7.8.5. Setting the Command Parameters



Command parameters are initially determined by the system, and appear in HEX format in the Command Data window box after a Command Code has been selected. If necessary, parameters may be changed in accordance with the User's requirements.

7.8.6. Single or Continuous Settings



Similar to Single and Cyclic Interrogation, Command Execution and Cyclic Execution perform single and cyclic execution of the chosen command. Results appear in the box below the buttons.

To stop a Cyclic Execution session, click on the Stop button.

7.8.7 Commands

Clicking on one of the commands in the Command Code drop down list initializes that command's Command Screen. Following is a description of the commands:

7.8.7.1. Verify Command

The VERIFY command is used to seek all the seals located in the area that answer the following conditions:
- ORG ID
- ADI
- Department

An explanation of the command parameters can be found in chapter 5.

The significant parameters which accompany the command in the following example are: (*A prior requisite is that the Tiw has been reset*)

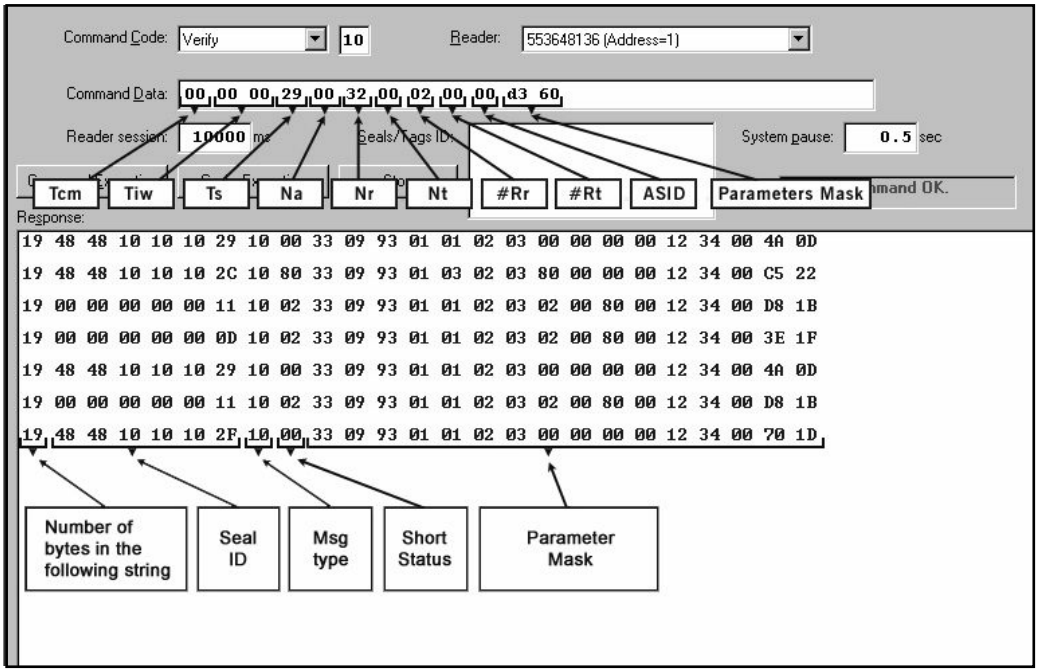
- Number of windows: NR=32 hex
- Size of seal transmission window: Ts=29 hex
- Number of seal re-transmissions: Rr=02 hex

Parameters required for reading are:

- Short Status
- Date & Time
- Number of Events
- Version of Firmware
- Long Status
- Seal Stamp

Table 5.4 in chapter 5 defines the Bit mask required for these parameters. Bit Mask=d360 hex.

The initial response string always includes information regarding Number of Bytes, Seal ID and Message Type. A seal may receive a number of identical responses depending on the number of re-transmissions (Rr) defined and the results of conflicts with other seals..



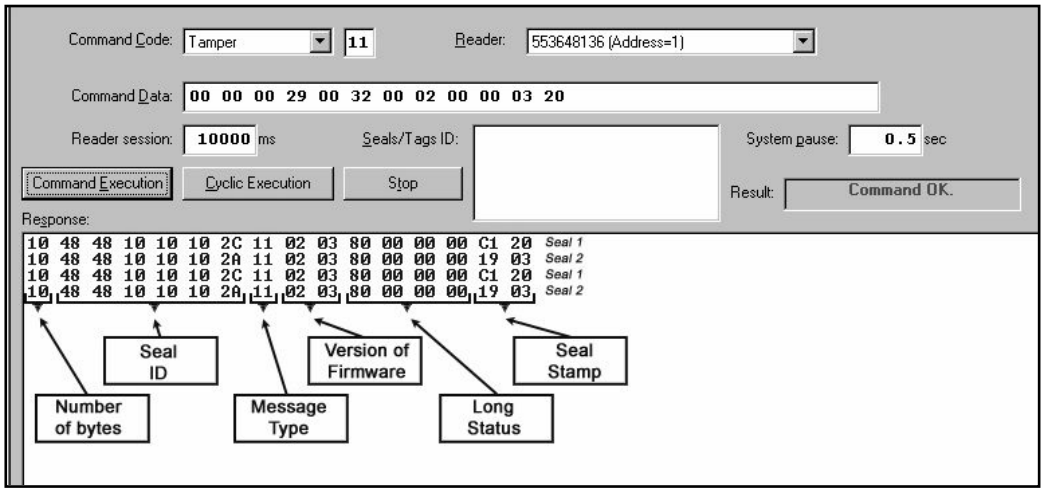
Explanation of Results:

- Number of Bytes=19
- Seal ID=48481010102f
- MSGT=10
- Short Status=00 hex
- Date & Time=33099301 hex
- Number of Events=01 hex
- Version of Firmware=0203 hex
- Long Status=00000000 hex
- Org_ID=123400
- Seal Stamp=701d hex

NOTE: If the Global Parameter is activated, Reader access to some of the parameters will be blocked (see section 5.4).

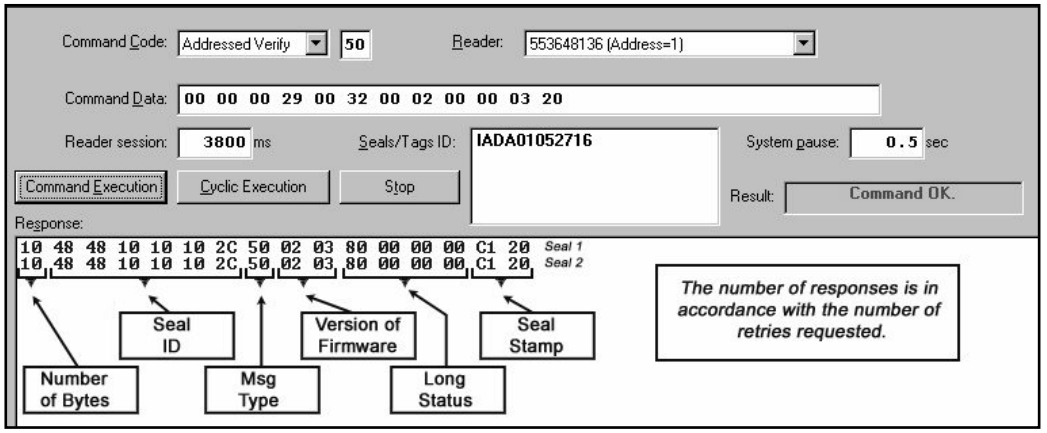
7.8.7.2. Tamper Command

The TAMPER command is used to find all seals in the Reader's range which indicate a TAMPER status. Command definition and method of execution are identical to those of the VERIFY command described in section 7.8.7.1.



7.8.7.3. Addressed Verify

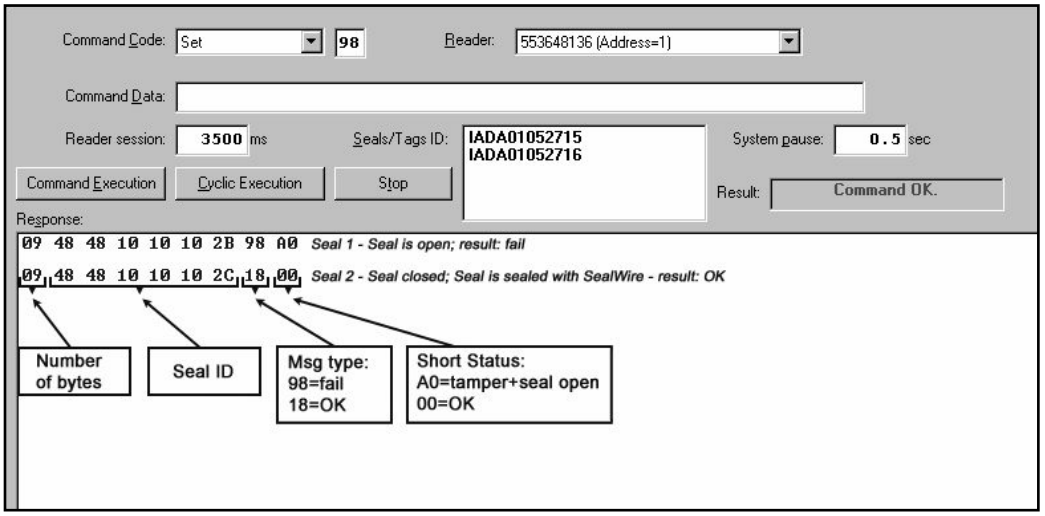
The ADDRESSED VERIFY command is a VERIFY command for a specific seal. In order to affect this command, the Seal ID must be entered into the required field. All other parameters are identical to those of the VERIFY command described in section 7.8.7.1.



7.8.7.4. SET

The SET command is used to arm or set one or several seals. Up to eight seals can be set in a single session. The SET command cannot be activated if the Seal Wire is not connected to the seal

Seal status will be indicated as closed (OK) or open (FAIL). An example of this can be seen in the RESPONSE window of the illustration below: The first row indicates an open seal and TAMPER status, and therefore a FAIL result, while the second row indicates a closed seal, status OK.

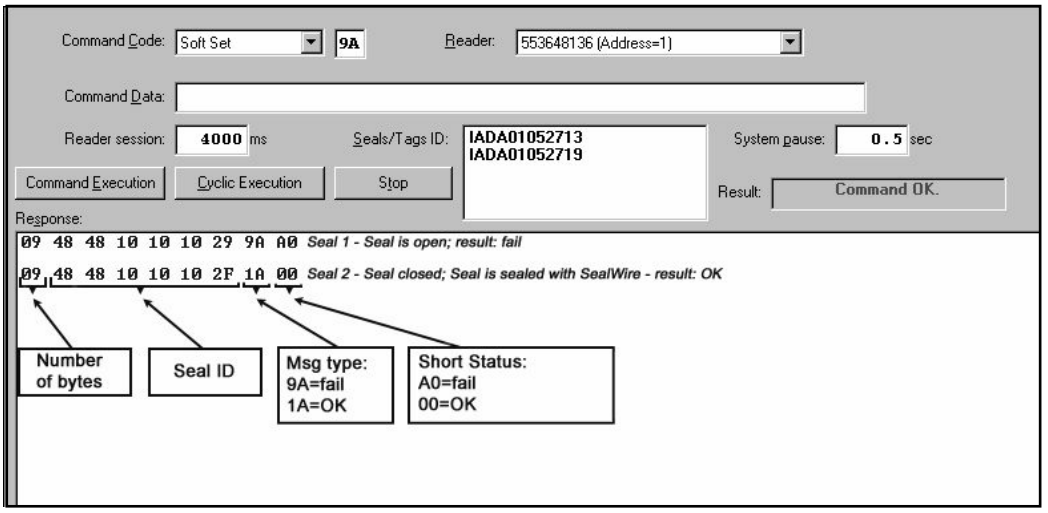


Initiation of the SET command deletes all events stored in the EVENTS MEMORY. An additional explanation of this feature can be found in the Hi-G-TEK DataTerminal user manual.

7.8.7.5. Soft SET

Similar to the SET command, the SOFT SET command is used to arm or set one or several seals. Up to eight seals can be set in a single session. The SOFT SET command cannot be activated if the Seal Wire is not connected to the seal.

Seal status will be indicated as closed (OK) or open (FAIL). An example of this can be seen in the RESPONSE window of the illustration below: The first row indicates an open seal and TAMPER status, and therefore a FAIL result, while the second row indicates a closed seal, status OK.

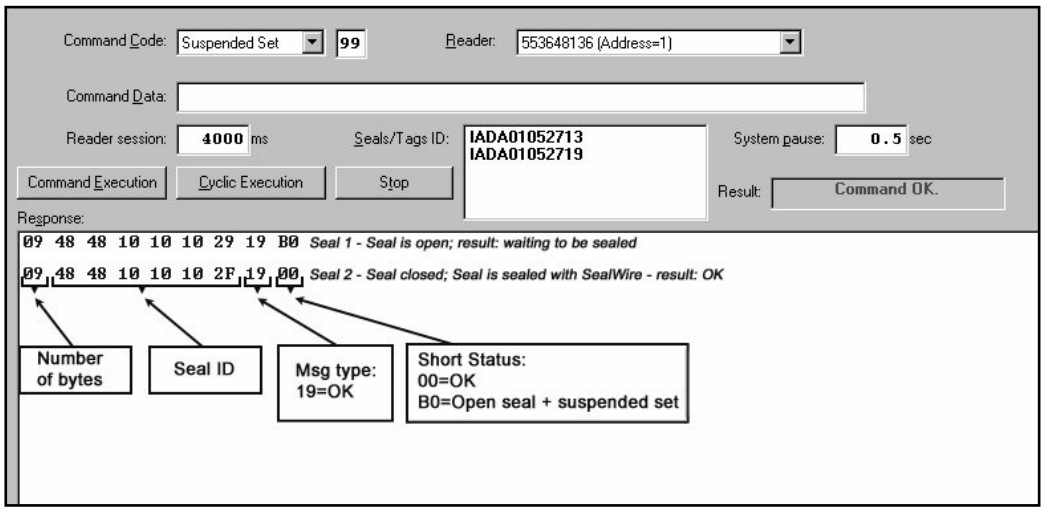


The main difference between the SOFT SET and SET commands is that the SOFT SET command does not delete previous events stored in the EVENTS MEMORY.

7.8.7.6. Suspended SET

Similar to the SET and SOFT SET commands, SUSPENDED SET is used to arm or set one or several seals. Up to eight seals can be set in a single session. The SUSPENDED SET command can only be initiated if the SealWire has not been connected to the seal.

Seal status will be indicated as closed (OK) or open + suspended set. An example of this can be seen in the RESPONSE window of the illustration below: The first row indicates an open seal that has not been sealed with Seal Wire. The status shows the seal is open + suspended set, waiting to be sealed.
The second row indicates a closed seal, status OK.
In the event of a FAIL status response, the message type response is "99".

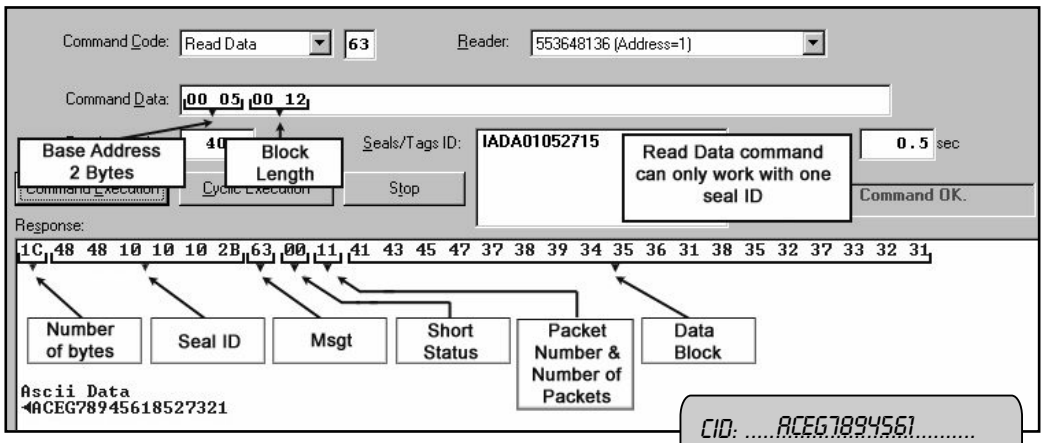


7.8.7.7. Read Data

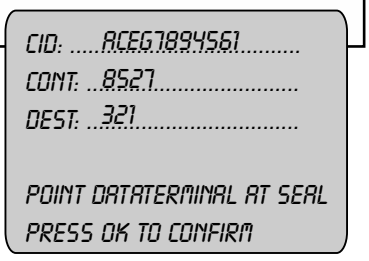
The READ DATA command allows the Reader to retrieve data from a single seal located in the User Data area.

There are two separate storage areas in each seal, ranging from address 00 to address 53. The first area, from address 00 to 53, is used to store data used by the DataTerminal. The data-rangecan also be used by the HF system (both reading and writing). Data stored from address 54 to 2K is defined as a free high frequency area.

The illustration below demonstrates the reading of an 18 byte block, starting at address 5. This is shown in comparison to the same DataTerminal user data. The response is shown in both hex and ASCII formats. The largest block size that can be read in one session is 67 bytes.
In the event of a FAIL status response, the message type response is "E3".



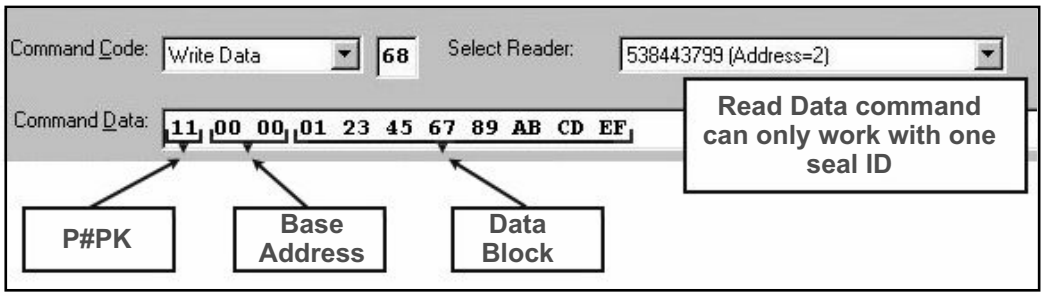
The hex and ASCII data in the Response window appears on the DataTerminal screen as follows:

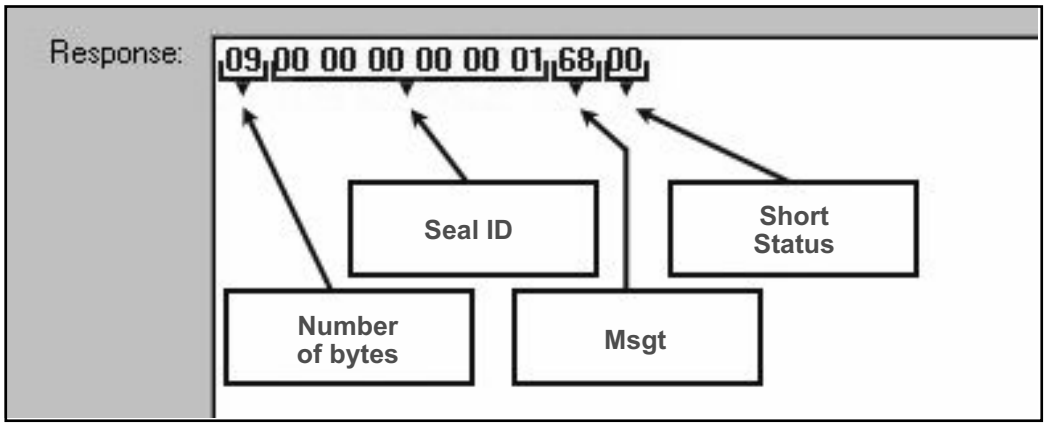


7.8.7.8. Write Data

The WRITE DATA command allows the User to write text in the entire data area. This command can only work with one seal at a time.

There are two separate storage areas in each seal, ranging from address 00 to address 53. The first area, from address 00 to 53, is used to store data used by the DataTerminal. The data-range can also be used by the HF system (reading and writing). Data stored in address 54 to 2K is defined as a free high frequency area. Maximum block size for a single session is 67 bytes.

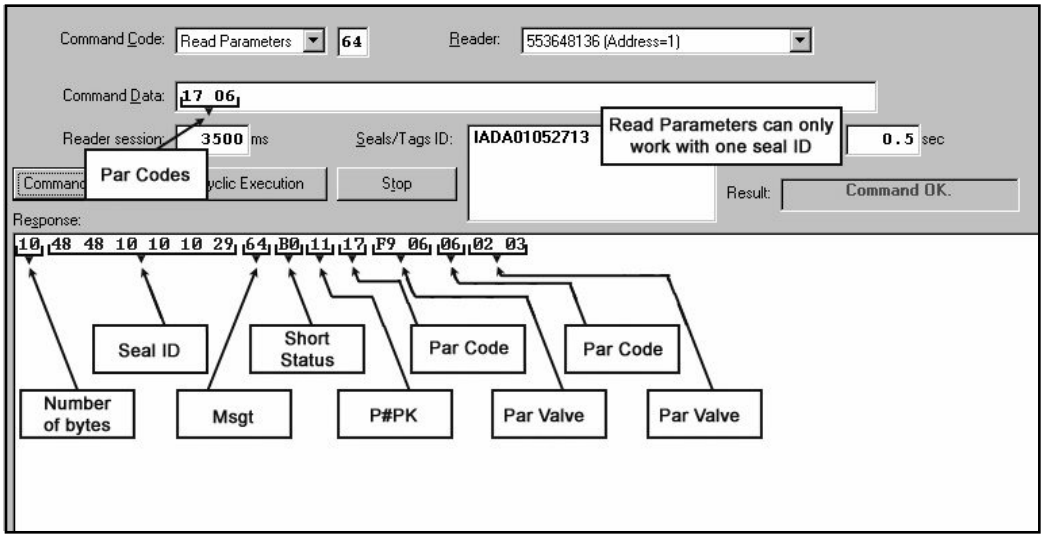




In the event of a FAIL status response, the message type response is "E8".

7.8.7.9. Read Parameter

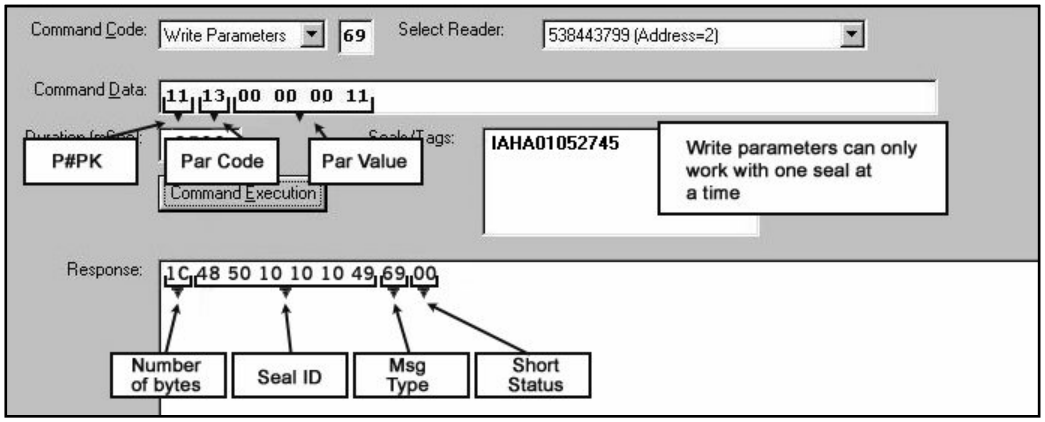
The READ PARAMETER command enables the User to read parameters from a single seal (see table 5.4).



7.8.7.10. Write Parameter

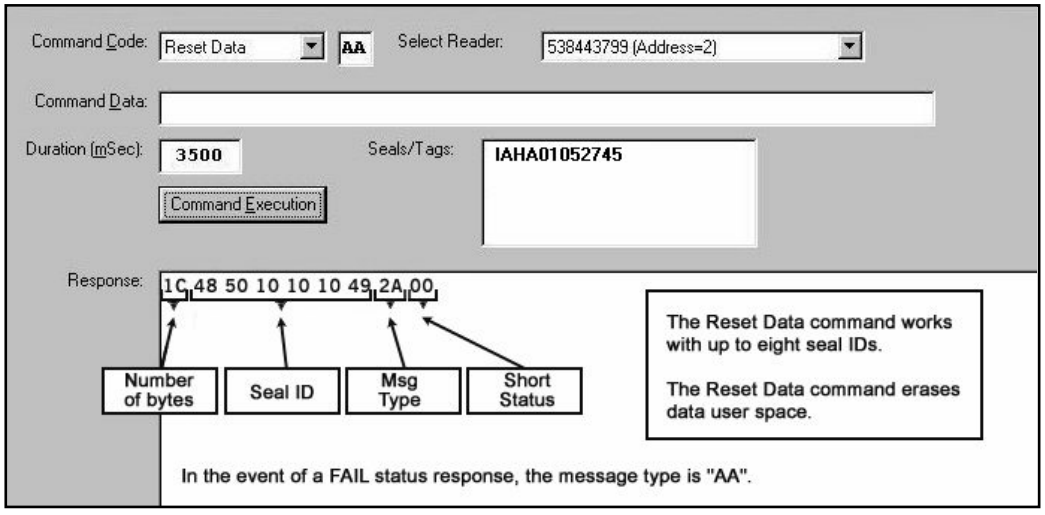
The WRITE PARAMETER command enables the User to update some of the seal parameters (see table 5.4).

The screen below illustrates an update of the ADI parameter. In the event of a FAIL status response, the message type response is "E9".



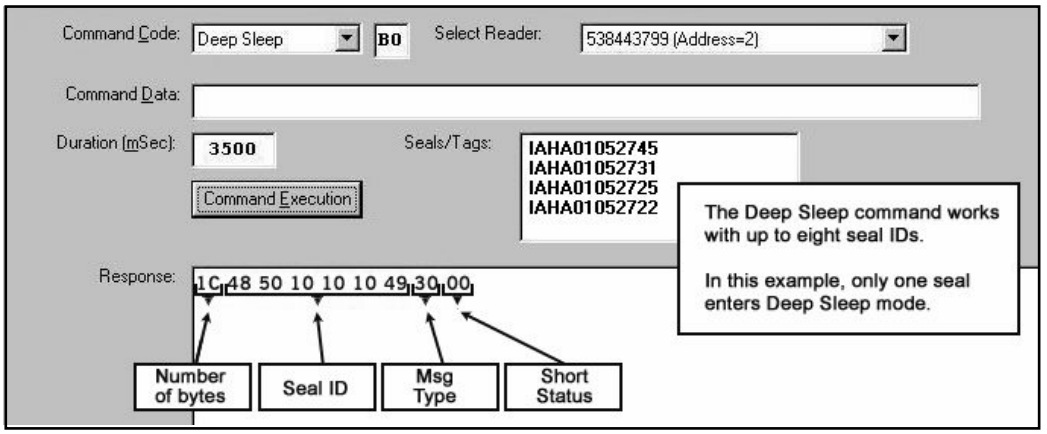
7.8.7.11. Reset Data

The RESET DATA command allows the User to reset all USER DATA from address 00 to address 2K.



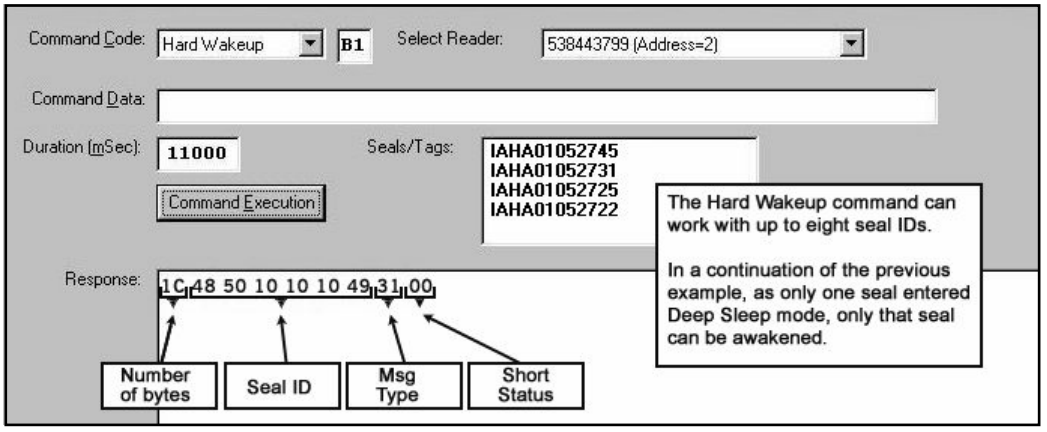
7.8.7.12. Deep Sleep

This command sends the seal into DEEP SLEEP mode. Prior to initialization of the command, seal IDs must be defined. This command can work with up to eight seals.



7.8.7.13. Hard Wakeup

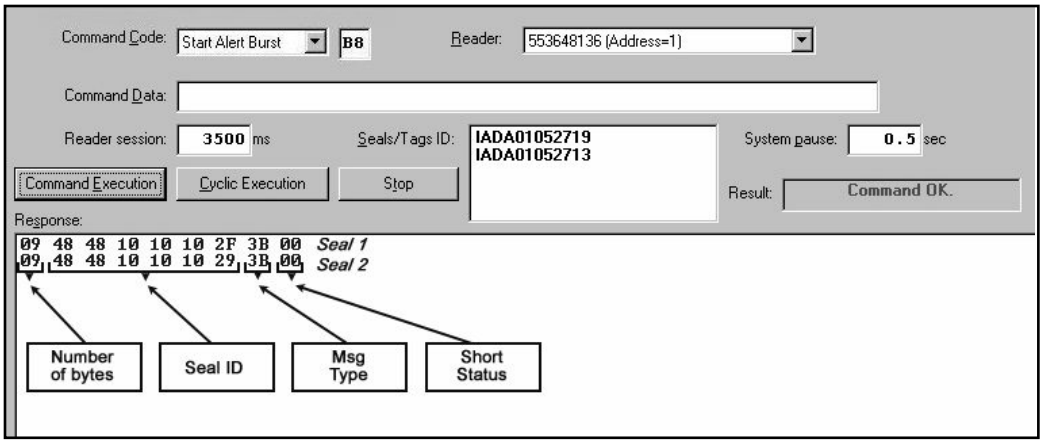
The purpose of this command is to bring seals in DEEP SLEEP mode back to regular operating mode. Only seals that are on the seal ID list and are in DEEP SLEEP mode will be affected. This command can work with up to eight seals at at time.



7.8.7.14. Start Alert Burst

The START ALERT BURST command transforms the seal from its current operating mode to a burst mode of operation. In Alert Burst operating mode, whenever a seal is opened a transmission detailing the opened seal ID is automatically sent.

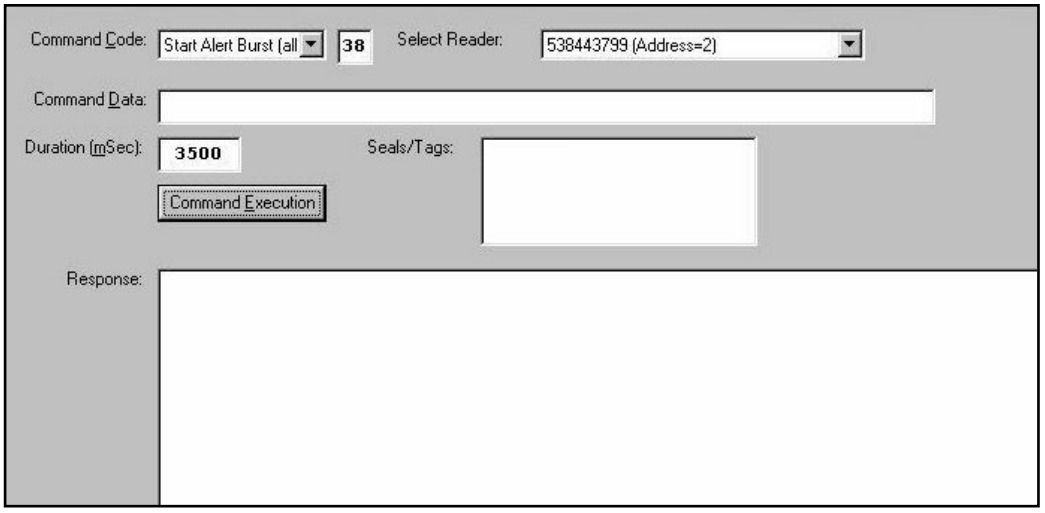
The START ALERT BURST command can work with up to eight seals. The number of transmissions and the pause between each transmission is predetermined (see table 5.4). The ACK command, detailed in section 7.8.7.18, can be used to stop a burst transmission.



7.8.7.15. Start Alert Burst (all)

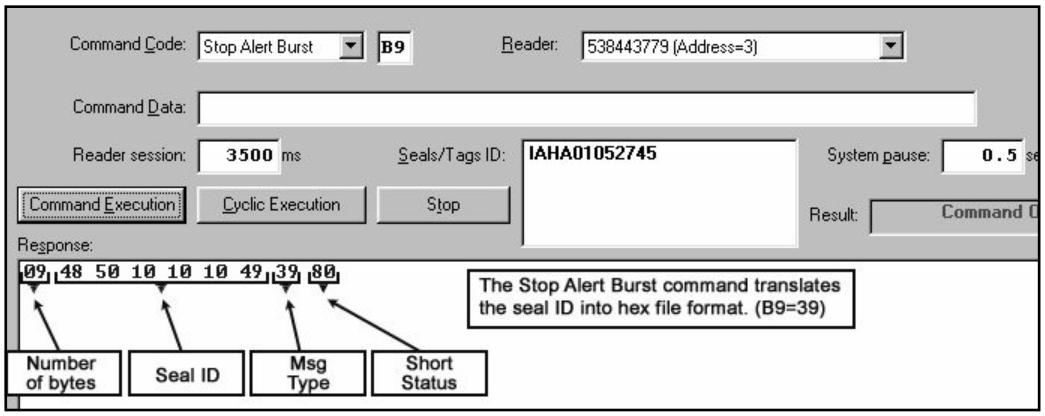
Similar to the START ALERT BURST command, the START ALERT BURST (ALL) transforms the seal from its current operating mode to a burst mode of operation. The difference between the two is that in the case of START ALERT BURST (ALL), all seals in the area will be transferred to this mode of operation.

No response is received in the RESPONSE window when the the START ALERT BURST (ALL) command operates in Broadcast mode.



7.8.7.16. Stop Alert Burst

The STOP ALERT BURST command stops the seal from working in Alert Burst mode and returns it to the regular mode of operation.



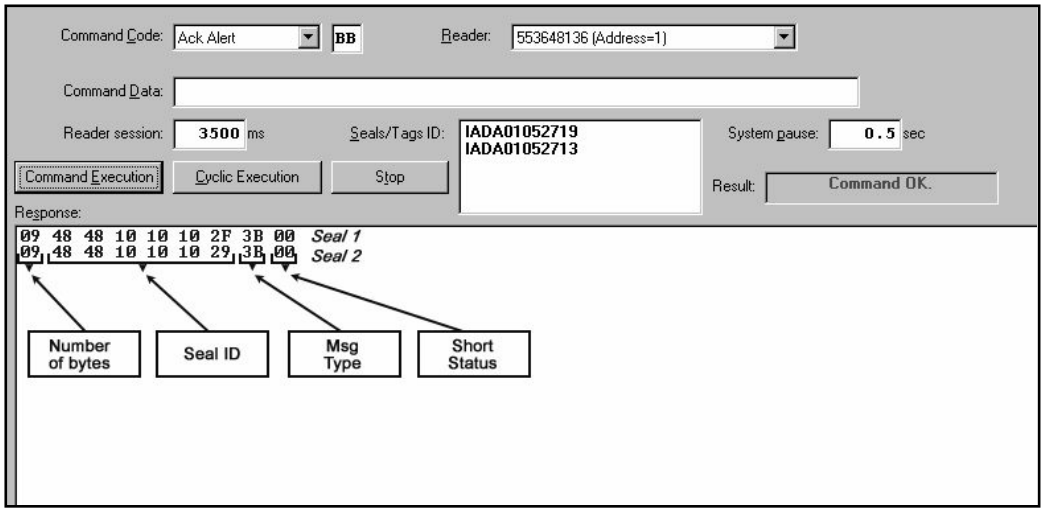
7.8.7.17. Stop Alert Burst (all)

The STOP ALERT BURST (ALL) command differs from the STOP ALERT BURST command only in that it applies to all the seals located in the Reader's vicinity. When the command is transmitted in Broadcast mode, no reply is received in the Response window.

7.8.7.18. Ack Alert

The ACK ALERT command confirms to the seal that its message has been received. After receiving an ACK ALERT command the seal stops transmitting until a new TAMP EVENT is detected.

The ACK ALERT command can work with up to eight seals at a time.



7.8.7.19. Read Events

The READ EVENTS command is used to read all events stored in the EVENTS MEMORY.

As is illustrated in the sample screen below, the Command Data field contains two numbers. The first defines the first event to be read, the second number defines the total number of events to be read.

The response is recorded in both hex and text formats. (See table 5.8. for a list of appropriate events.)

The READ EVENTS command is compatible with two event types: short events (8 bytes) and long events (16 bytes). In the sample screen illustration below, events 1 and 5 are long events. All the rest are short events.