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MILES 2000 After Action Review System (MARS)

USER'S MANUAL

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Revision Date : 15 March 1998

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USER'S MANUAL

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TD 63-6920-704-10

USER'S MANUAL

MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM (MILES 2000)

MILES 2000 AFTER ACTION REVIEW SYSTEM (MARS)

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ACRONYMS LIST

BIT	Built-In-Test
CD/TDTD	Controller Device/Training Data Transfer Device
CSWS	Crew Served Weapon System
CVS	Combat Vehicle System
DPCU	Data Processing Control Unit (same as IWSC)
ITS	Independent Target System
IWS	Individual Weapons System
IWSC	Individual Weapons System Control Unit
MARS	MILES After-Action Review System
MILES	Multiple Integrated Laser Engagement System
MTID	MILES Target Interface Device
PC	Personal Computer
Pk	Probability of Kill
SWS	Surrogate Weapon System
SQL	Software Query Language

HOW TO USE THIS MANUAL

INTRODUCTION.

This manual contains operation instructions for the Multiple Integrated Laser Engagement System (MILES 2000), MILES After-Action Review System (MARS).

MANUAL DESCRIPTION.

This manual is divided into four chapters. Chapters are further divided, as necessary, into sections. The chapter descriptions are provided in the following subparagraphs.

Chapter 1 is an introduction that provides general information, equipment description and data.

Chapter 2 provides installation procedures for both software and hardware.

Chapter 3 provides operating instructions and some operational theory.

Chapter 4 provides maintenance and troubleshooting procedures.

CHAPTER 1

INTRODUCTION

SECTION I. GENERAL INFORMATION

1.1 SCOPE.

The MARS software, hosted on a Personal Computer (PC), generates reports from the engagement data collected by the vehicle, target, manworn, or dismounted TOW systems. This data is collected in the field into one or more Controller Device/Training Data Transfer Devices (CD/TDTD), and then transferred into a PC hosting MILES After-Action Review System (MARS). MARS is developed entirely within the commercial database software Microsoft ACCESS, a Software Query Language (SQL)-compatible database program. The Development Tool kit version of Access is used to support generation of stand-alone executable software intended for field installation.

1.2 DOWNLOADING DATA TO DATABASE.

Downloading CD/TDTD data into the database is accomplished within the database application itself. The user starts the application within the Windows operating system environment and is presented with a log-in screen that enforces the MARS security system. After log-in, a main screen is presented that identifies various choices, dependent upon the user's security access level. The highest security level, Level 1, includes the following:

- The ability to customize Probability of Kill (Pk) data for any vehicle, target, manworn, or dismounted TOW system.
- The ability to customize the default ammunition loads, ammo types, and MILES code fired, and number of codes for any vehicle or dismounted TOW system.
- The ability to download event data from the CD/TDTD that has been transferred there from any vehicle, target, manworn, or dismounted TOW system.
- The ability to generate standard reports based on the downloaded event data, by exercise, and the ability to generate a report of the custom configuration data currently stored in the MARS.
- The ability to perform prescribed database maintenance operations, such as deleting or archiving event data sets, or restoring previously archived event data sets. The system also can export the events associated with a specific exercise to an alternate file format, allowing the user to customize reported data.
- The ability to administer the MARS security system, i.e., assign user-specific passwords and access levels.

The second security level (Level 2), typical of most field users, is limited to the performance of items 2, 3, and 4 minimizing any risk of inadvertent data loss or system reconfiguration.

1.3 DISPLAY SCREEN OPTIONS.

The download events screen offers the user the choice to either download a CD/TDTD, return to the main screen or the report display screen.

The report display screen lists the standard reports that are available for display, including all Events, Lethality Events, BIT Events, and Administrative Events. Output data is sorted by Player ID and Event Time. The user can select the desired report or transfer to the main screen. Each standard report can be viewed on-screen or, after display, printed using any connected printer.

Customization of the database software is inherently provided with the database application itself. The user can modify any or all of the database screens and functions. The program can then be recompiled and debugged interactively. Upon satisfactory update, the compiled application can be copied and installed on as many personal computers as desired.

CHAPTER 2

INSTALLATION

SECTION I. SYSTEM REQUIREMENTS

2.1 SYSTEM REQUIREMENTS.

The MARS system has the following equipment requirements:

- Pentium 75 MHz or faster PC-compatible processor.
- 16 MB of main memory.
- Approximately 20 MB of free hard-disk space (128 MB recommended).
- A mouse or other equivalent pointing device.
- SVGA (640x480 minimum resolution) monitor capability.
- A free serial port tied to COM port 1.
- A 3.5-inch disk drive.

The PC must be running Microsoft Windows 3.1 or 3.11 for Workgroups. Because MARS was developed under Microsoft Access, it should be capable of being run under Windows 95, but MARS has not been validated with that operating system.

The host PC for MARS should be connected to a printer via the parallel port or a local network.

SECTION II. INSTALLATION

2.2 SOFTWARE INSTALLATION.

MARS software is capable of being run under Microsoft Access without modification or special-purpose installation. However, it is desirable for database-security purposes that MARS be installed in the field as a stand-alone application, without Microsoft Access hosted on the target platform. This document presumes that MARS will be installed as a stand-alone database application.

MARS is provided as a stand-alone application on a set of numbered disks. (Refer to Table 2-1.) A complete set of these files is required to install MARS as a stand-alone version on a PC without Access. Sets of these diskettes can be distributed on a royalty-free basis; however, the user must be aware that certain files contained therein are proprietary property of Microsoft corporation, and cannot be modified or changed in any way, nor can they be distributed for purposes other than originally intended.

Table 2-1. Software Installation

STEP 1:	Insert disk 1 in 3.5 inch drive.
STEP 2:	Open File Manager and select **Run** from the **File** selection.
STEP 3:	Enter **a:\setup.exe**.
STEP 4:	Select **OK**.
STEP 5:	Select or name the directory to which MARS will be installed. Select **OK**.
STEP 6:	Click on the button with **computer**.
STEP 7:	Select **OK**.
STEP 8:	Insert disk 2 and select **OK**.
STEP 9:	Insert disk 3 and select **OK**.
STEP 10:	Insert disk 4 and select **OK**.

2.3 HARDWARE INSTALLATION.

MARS is supplied with one (1) 9-pin serial interface cable and the CD/TDTD MARS Interface Box. This is designed to interface to both the PC and the CD/TDTD. (See Figures 2-1and 2-2.) Connect the serial interface cable female end to the RS-232 port on the rear of the PC, and the male end to the 9-pin connector on the Interface Box. Position the Optical Port to the optics of the CD/TDTD, ensuring that the notch is fitted correctly, prior to uploading or downloading any data. The Optical Port has been designed so that the CD/TDTD and the Interface Box can be laid on a flat surface while connected.

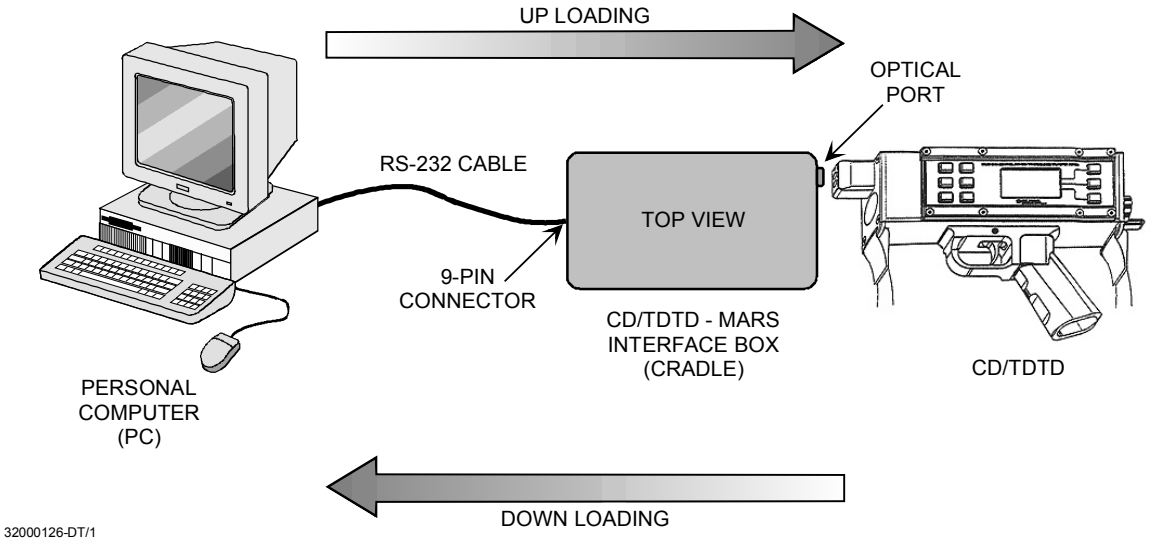

Figure 2-1 Uploading/Downloading Configuration

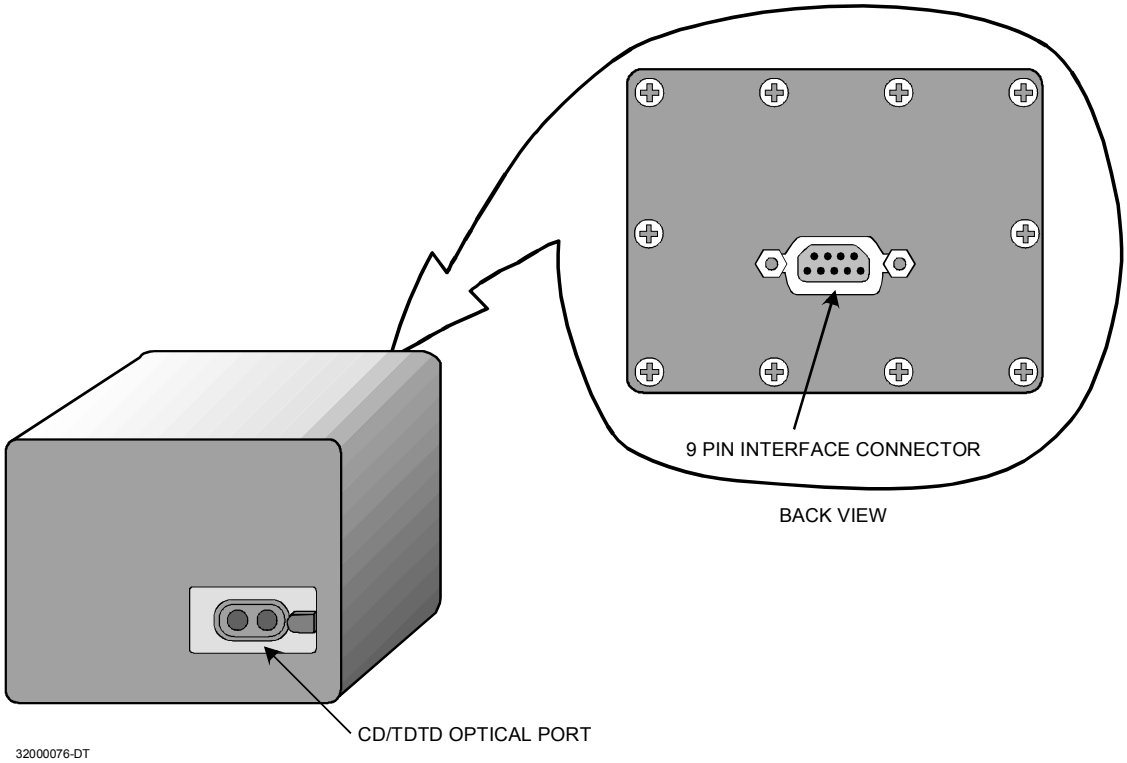

Figure 2-2. CD/TDTD — MARS Interface Box (Cradle)

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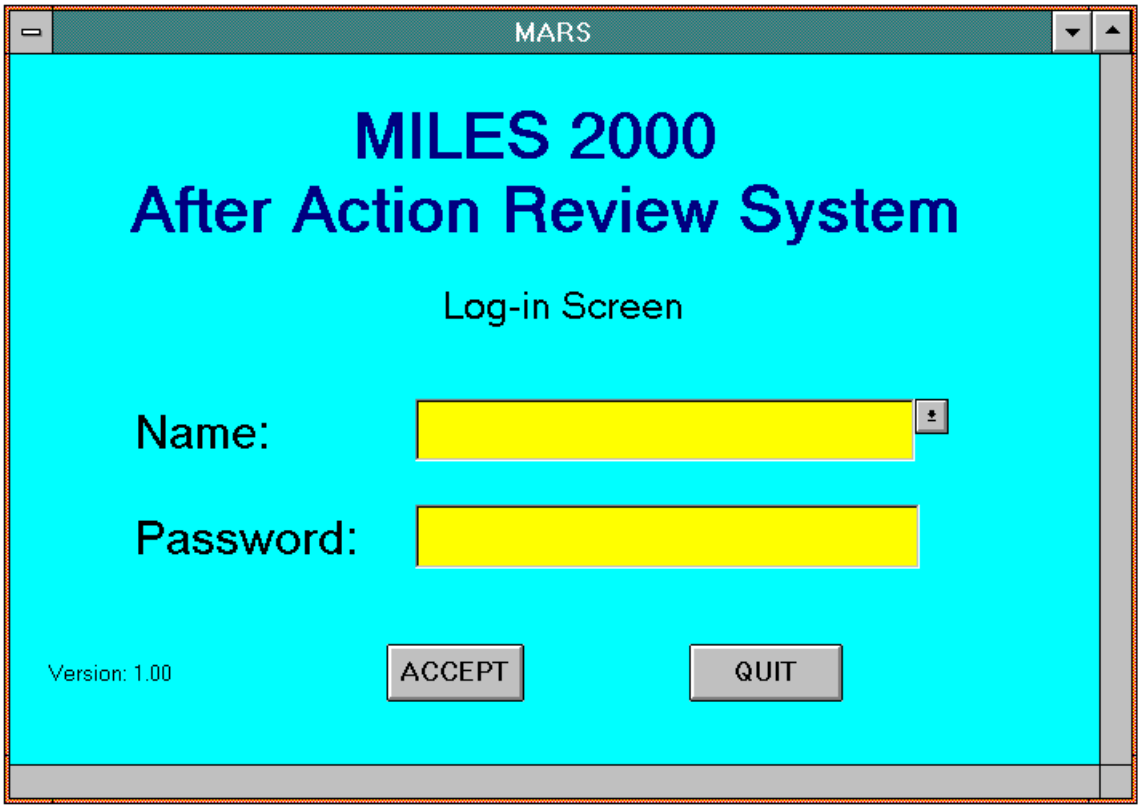
CHAPTER 3

OPERATION

SECTION I. LOG-IN

3.1 LOG-IN PROCEDURES.

Select the MARS Program Manager's group that was created during the MARS installation process. (See Chapter 2.) Double-click on this Program Manager's group to open it, then double-click on the MARS icon. The **MARS Log-in Screen** is displayed.



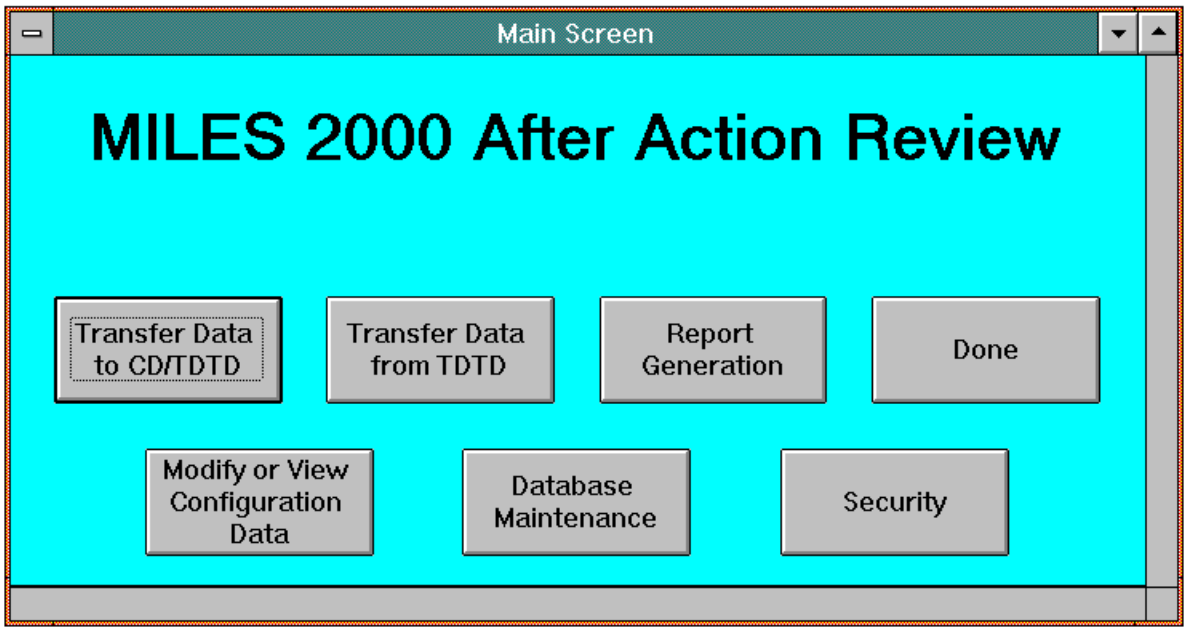
3.2 USER NAMES AND PASSWORDS.

3.2.1 Establishing User Names and Passwords. Using the mouse, select the **Accept** button. MARS will display a reminder to enter user names, passwords and access levels. Enter applicable data. Select the **Add User** button. Upon completion of this step, the user will be returned to the **Log-in Screen**.

3.2.2 <u>User Names/Passwords Already Established</u>. Enter user name and password. Select the **Accept** button (or press **Enter** twice). Observe the Log-in Successful advisory shown below.

NOTE** Name and password are unique throughout the database, and if an error occurs, the user will have to acknowledge the error and then press the **Esc**ape button.

Select **OK** (or press **Enter**). Observe the **Main Screen** is displayed.

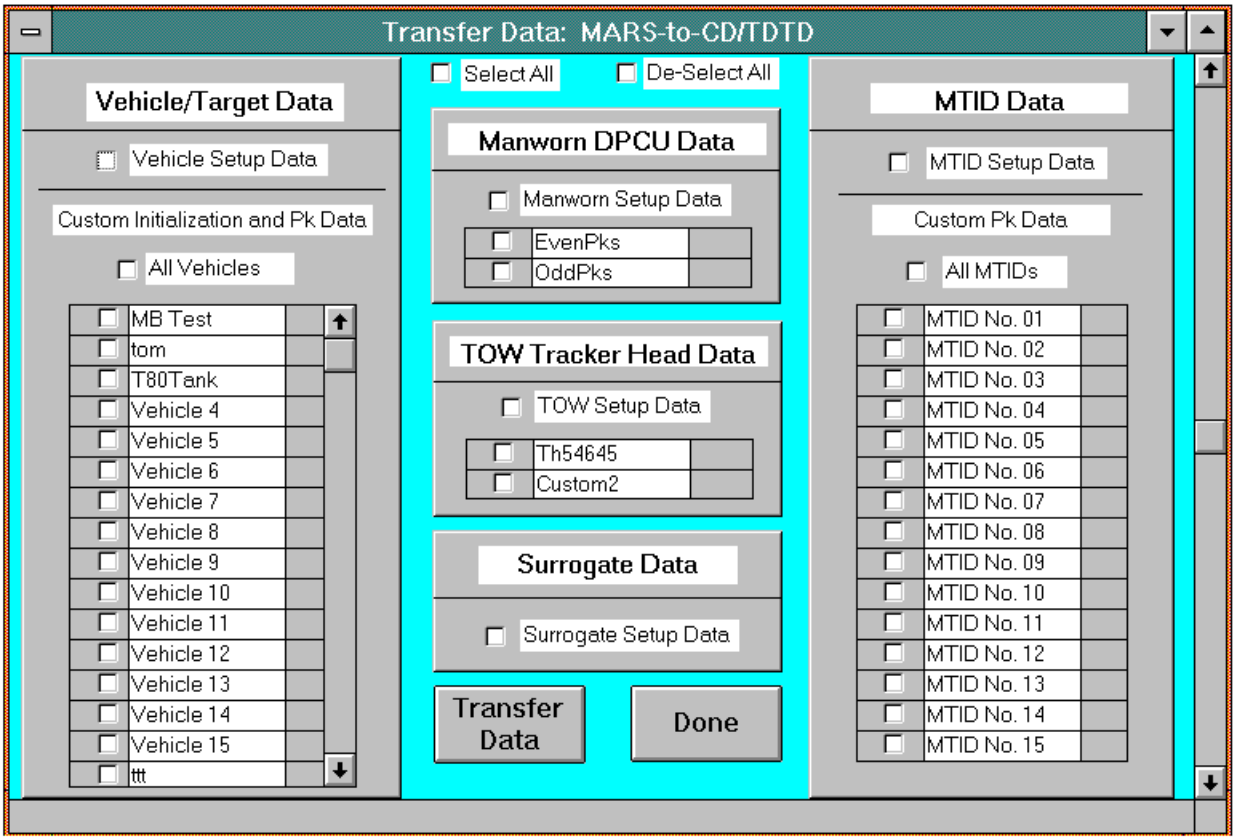


SECTION II. OPERATIONAL SCREENS AND OPERATIONAL THEORY

3.3 MAIN SCREEN OPTIONS.

3.3.1 Transfer Data to CD/TDTD. Uploading data is the process of transferring data for a particular exercise to the CD/TDTD from the MARS. Allows user to select Surrogate Setup Data or any number of or all Vehicle/Target Data, Manworn IWSC Data, TOW Tracker Head Data, or MTID Data to download to the CD/TDTD. The system Administrator also is provided the capability to select all or de-select all of the above. (See Figure 2-1.)

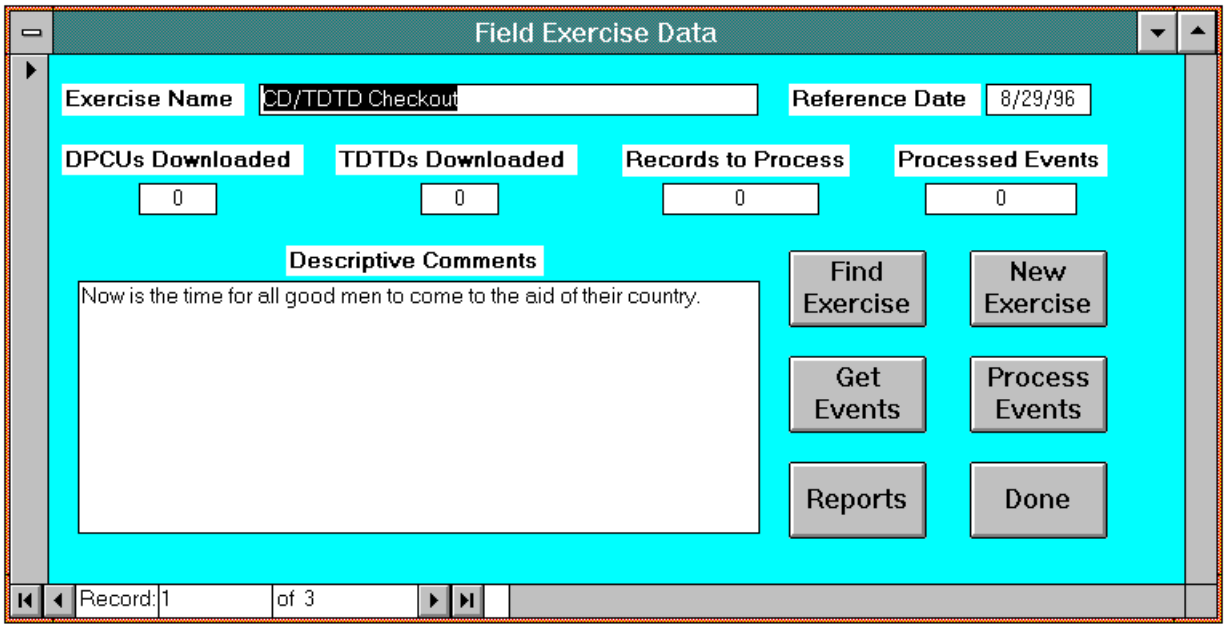
a. **Main Screen** consists of multiple data sets that may be transferred and two (2) function buttons - **Transfer Data** and **Done**.



1) **Transfer Data** button when selected, allows transfer of data to a CD/TDTD. The "Data Transfer in Progress" advisory should be observed. Upon completion of data transfer, the "Data Transfer was Successful" is displayed.

2) **Done.** When this button is selected, the user will be returned to the main screen.

3.3.2 <u>Transfer Data from CD/TDTD</u>. Downloading data is the process of transferring data for a particular exercise from the CD/TDTD to the MARS. One or more CD/TDTDs can be downloaded per exercise. Each CD/TDTD can contain the data from one or more control units. Each control unit contains one or more records. Each record can contain up to five (5) events. The user defines a new exercise prior to downloading CD/TDTD data by assigning an exercise name and any descriptive comments. Contains six (6) function buttons.

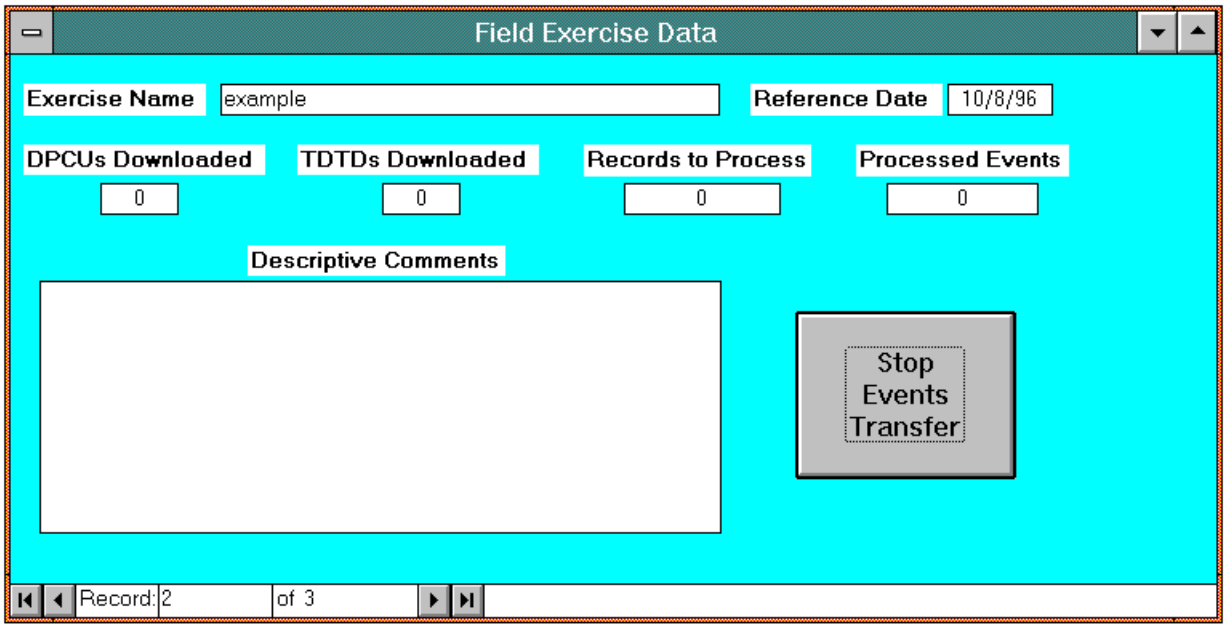


NOTE** Be sure to connect the CD/TDTD to the Optical Port before attempting data transfer. (See Figure 2-1.)

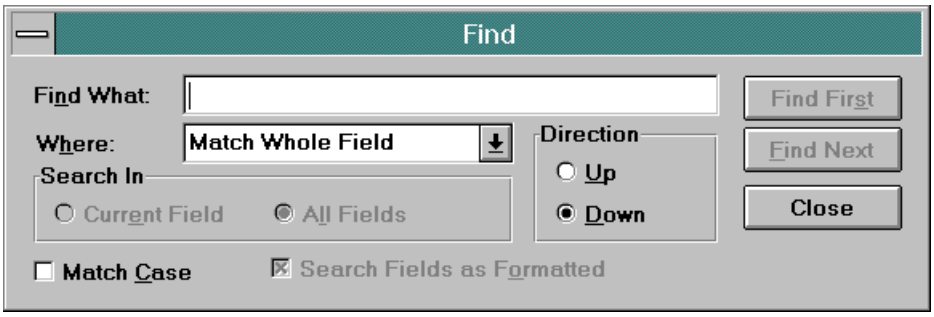
a. **<u>New Exercise</u>**. Select the **New Exercise** button. Observe the numeric fields are set to zero (0). The **Exercise Name** is "New" by default, and the **Descriptive Comments** area is blank. Enter the exercise name and any descriptive comments dealing with the exercise (optional). Select **Get Events** button.

NOTE** The default name must be changed prior to downloading any events. Once events have been downloaded into an exercise, the exercise name must never be changed or the events will be permanently misplaced with the database.

b. **<u>Get Events</u>.** Select the **Get Events** button. Observe that the **Stop Events Transfer** button is displayed until selected. The CD/TDTD will acknowledge completion of data transfer with a single beep and for the following windows to increment: DPCUs Download, TDTDs Downloaded, Records to Process, and Processed Events. If the **User Status Request** advisory appears, select the **Yes** button to continue with the download attempt or select the **No** button to terminate the download attempt. To stop the transfer at any time and return to the **Field Exercise Data** screen, select the **Stop Events Transfer** button.



c. **Find Events**. Select the **Find Events** button and observe the **Find Events** screen is displayed. Enter the exercise name(s) in the **Find What** field. Select the **Where** ("Any Part of Field, Match Whole Field, Start of Field") option from the pull down menu. Select the direction from the current position on the list of "Where" to look (**UP** or **DOWN**). If the name of the exercise is case sensitive, select **Match Case**. Select **Find First** to find first occurrence of the exercise name. Select **Find Next** to find the next occurrence of the exercise name. Elect the **Close** button to return to the **Field Exercise Data** screen.



d. **Process Events**. Select the **Process Events** button. The database will then process all the events that have not yet been processed, including those associated with other exercises. Processing events generally takes from a few seconds to approximately 60 seconds. When complete, the **Events Processing Complete** advisory appears. Select **OK**.

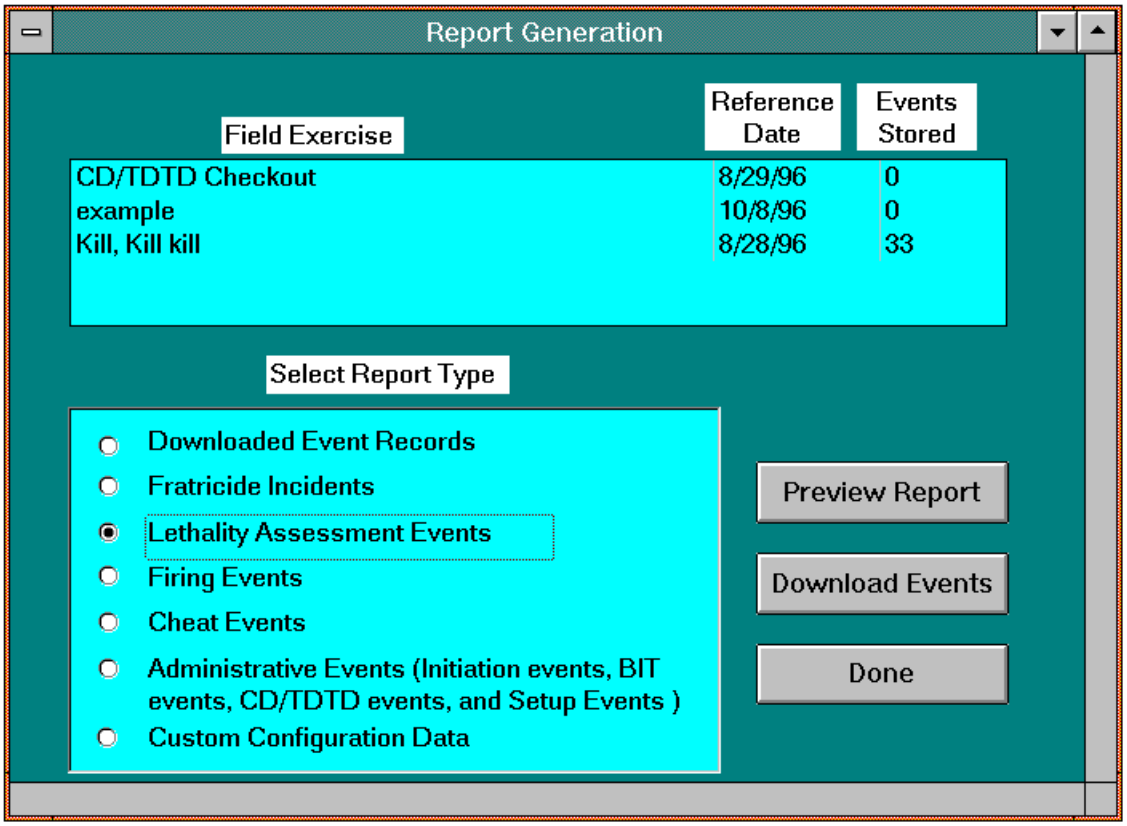
CAUTION**

Do not press any buttons until the database finishes event processing.

e. **Reports**. Select the **Reports** button and observe that the **Report Generation** screen is displayed. (See Chapter 3, Section II, 3.3.3, Report Generation for further details.)

3.3.3 **Report Generation**. Allows the user to select, by highlighting, the particular **Field Exercise** to report. There are seven (7) different reports to choose from:

- Downloaded Event Records
- Fratricide Incidents
- Lethality Assessment Events
- Firing Events
- Cheat Events
- Administrative Events (Initiation Events, BIT Events, CD/TDTD Events, and Setup Events)
- Custom Configuration Data



a. **Preview Report**. Allows the user to preview a report for a selected event. The events/reports that can be previewed/downloaded are as follows:

- Download Processed Events
- Fratricide Events
- Lethality Events
- Firing Events
- Cheat Events
- Admin Events: Setup
- Admin Events: Initiation
- Admin Events: CD/TDTD
- Admin Events: BIT
- Configuration Data Report Selection

Report: Downloaded Processed Events

Cubic Defense Systems MILES 2000 After Action Review Report

21-Oct-96

Standard Report #1: MILES 2000 Downloaded Events Listing

Field Exercise: ttttttt

Host PID	Date	Time	Event Type	Event Description	Attacker PID	Ammo Remaining	Impact zone or Platform Type or Ammo Type	Turret Position or Ammo Type
2641	200306	14:06:53.46	Modify PID	N/A	0	N/A	N/A	N/A
2641	200306	14:07:04.07	Administrative Kill	Universal Kill	0	N/A	N/A	N/A
2641	200306	14:07:10.02	Reset	N/A	0	N/A	N/A	N/A
2641	200306	14:07:16.75	Events Download	N/A	0	N/A	N/A	N/A
2641	200306	14:07:16.85	Events Download	N/A	0	N/A	N/A	N/A
2641	200306	14:07:26.65	Events Download	N/A	0	N/A	N/A	N/A
2641	200306	14:33:47.05	Events Download	N/A	0	N/A	N/A	N/A
2641	200306	14:40:08.52	Events Download	N/A	0	N/A	N/A	N/A
2911	200306	14:03:43.14	Modify PID	N/A	0	N/A	N/A	N/A

Page: 1

Report: Fratricide Events

Cubic Defense Systems MILES 2000 After Action Review Report

21-Oct-96

Standard Report #2: MILES 2000 Fratricide Events

Field Exercise: ttttttt

Host PID	Date	Time	Attacker PID	Event	Weapon	Ammo Type	Impact Zone	Turret Position
3888	960828	17:31:47.47	0	Miss	Universal Kill	A	N/A	N/A
4678	960828	17:35:14.54	0	Miss	Heavy Weapon Miss	A	N/A	N/A

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Report: Lethality Events

Cubic Defense Systems MILES 2000 After Action Review Report 21-Oct-96

Standard Report #3: MILES 2000 Lethality Events

Field Exercise: ttttttt

Host PID	Date	Time	Attacker PID	Event Type	Weapon Type	Ammo Type	Impact Zone	Turret Position
2912	960904	14:34:53.47	1	Hit	120MM	A	N/A	N/A
2912	960904	14:34:56.01	1	Hit	120MM	A	N/A	N/A
2912	960904	14:34:57.44	1	Hit	120MM	A	N/A	N/A
2912	960904	14:34:58.53	1	Catastrophic Kill	120MM	A	N/A	N/A
2912	960904	14:35:13.87	1	Catastrophic Kill	Artillery	A	N/A	N/A
2912	960904	14:35:19.54	1	Hit	Artillery	A	N/A	N/A

Page: 1

Report: Firing Events

Cubic Defense Systems MILES 2000 After Action Review Repor 21-Oct-96

Standard Report #4: MILES 2000 Firing Events

Field Exercise:

Host PID	Date	Time	Firing Event	Weapon Fired	Ammo Type	Ammo Remaining

Page: 1

Report: Cheat Events

Cubic Defense Systems MILES 2000 After Action Review Report 21-Oct-96

Standard Report #5: MILES 2000 Cheat Events

Field Exercise: ttttttt

Host PID	Date	Time	Event Description	Cheat Kill Description
2912	960904	15:12:02.11	Cheat Kill	Power source tampering

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Report: Administrative Events: Setup Events

Cubic Defense Systems MILES 2000 After Action Review Report 21-Oct-96

Standard Report #6: MILES 2000 Administrative Events **Part 1. Setup Events**

Field Exercise: ttttttt

Host PID	Date	Time	Event Type	Item Simulated	Platform Type	Ammo Type	Ammo Remaining
2912	200306	14:03:14.81	Power On	N/A	N/A	N/A	N/A
2912	960206	14:14:09.22	Power On	N/A	N/A	N/A	N/A
2912	960206	14:14:34.62	Power On	N/A	N/A	N/A	N/A
2912	960207	11:21:34.55	Controller Mode Off	N/A (35)	N/A	N/A	789
2912	960207	11:21:34.55	Controller Mode Off	N/A (35)	N/A	N/A	789
2912	960207	11:21:34.55	Controller Mode Off	N/A (35)	N/A	N/A	789
2912	960207	11:21:34.55	Controller Mode Off	N/A (35)	N/A	N/A	789
2912	960207	11:21:36.97	Controller Mode Off	N/A (35)	N/A	N/A	789
2912	960207	11:21:36.97	Controller Mode Off	N/A (35)	N/A	N/A	789
2912	960207	11:21:36.97	Controller Mode Off	N/A (35)	N/A	N/A	789
2912	960207	11:21:36.97	Controller Mode Off	N/A (35)	N/A	N/A	789

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Report: Administrative Events: Initiation Events

Cubic Defense Systems MILES 2000 After Action Review Report 21-Oct-96

Standard Report #6: MILES 2000 Administrative Events **Part 2. Initiation Events**

Field Exercise: ttttttt

Host PID	Date	Time	Event Descriptions
2912	960206	14:16:00.33	Events Marker
2912	960207	11:26:03.12	Events Marker
2912	960207	11:28:12.84	Events Marker
2912	960207	11:31:29.02	Events Marker
2912	960207	11:35:20.81	Events Marker
2912	960904	14:31:45.19	Power Off
2912	960904	14:44:09.09	Events Marker
2912	960904	15:05:48.30	Power Off
2912	960904	15:08:34.67	Power Off
2912	960904	15:12:44.91	Events Marker
4678	960828	17:32:46.47	Events Marker

Page: 1

Report: Administrative Events: CD/TDTD Events

Cubic Defense Systems MILES 2000 After Action Review Repor 21-Oct-96

Standard Report #6: MILES 2000 Administrative Events **Part 3. CD/TDTD Events**

Field Exercise: ttttttt

Host PID	Date	Time	Event Description
2641	200306	14:06:53.46	Modify PID
2641	200306	14:07:04.07	Administrative Kill
2641	200306	14:07:10.02	Reset
2641	200306	14:07:16.75	Events Download
2641	200306	14:07:16.85	Events Download
2641	200306	14:07:26.65	Events Download
2641	200306	14:33:47.05	Events Download
2641	200306	14:40:08.52	Events Download
2911	200306	14:03:43.14	Modify PID
2911	200306	14:03:52.80	Events Download
2912	200306	14:01:42.56	Events Download
2912	200306	14:03:31.70	Reset
2912	960204	14:28:25.00	Time Synch
[illegible]	[illegible]	[illegible]	[illegible]

Page: 1

Report: Administrative Events: BIT Events

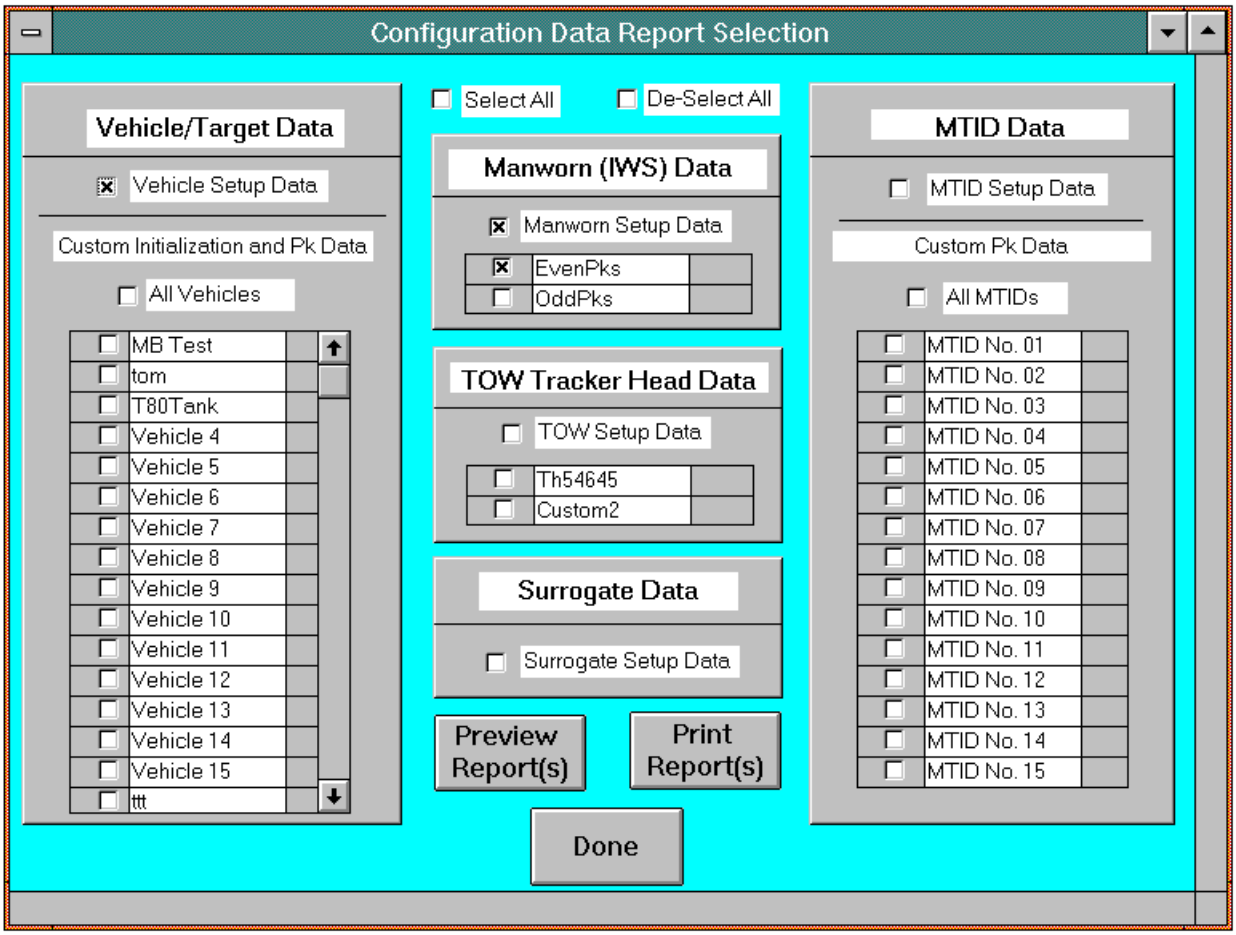
Cubic Defense Systems MILES 2000 After Action Review Repor 21-Oct-96

Standard Report #6: MILES 2000 Administrative Events **Part 4. BIT Events**

Field Exercise: ttttttt

Host PID	Date	Time	Event	BIT Event Description
2912	960206	14:13:38.23	Low Battery	N/A
2912	960904	14:31:55.70	BIT Fail	IWS Console Detector/Amplifier Fail
2912	960904	15:05:13.26	Low Battery	N/A
2912	960904	15:05:57.05	BIT Fail	IWS Console Detector/Amplifier Fail
2912	960904	15:06:24.05	Low Battery	N/A
2912	960904	15:12:09.58	BIT Fail	IWS Console Detector/Amplifier Fail

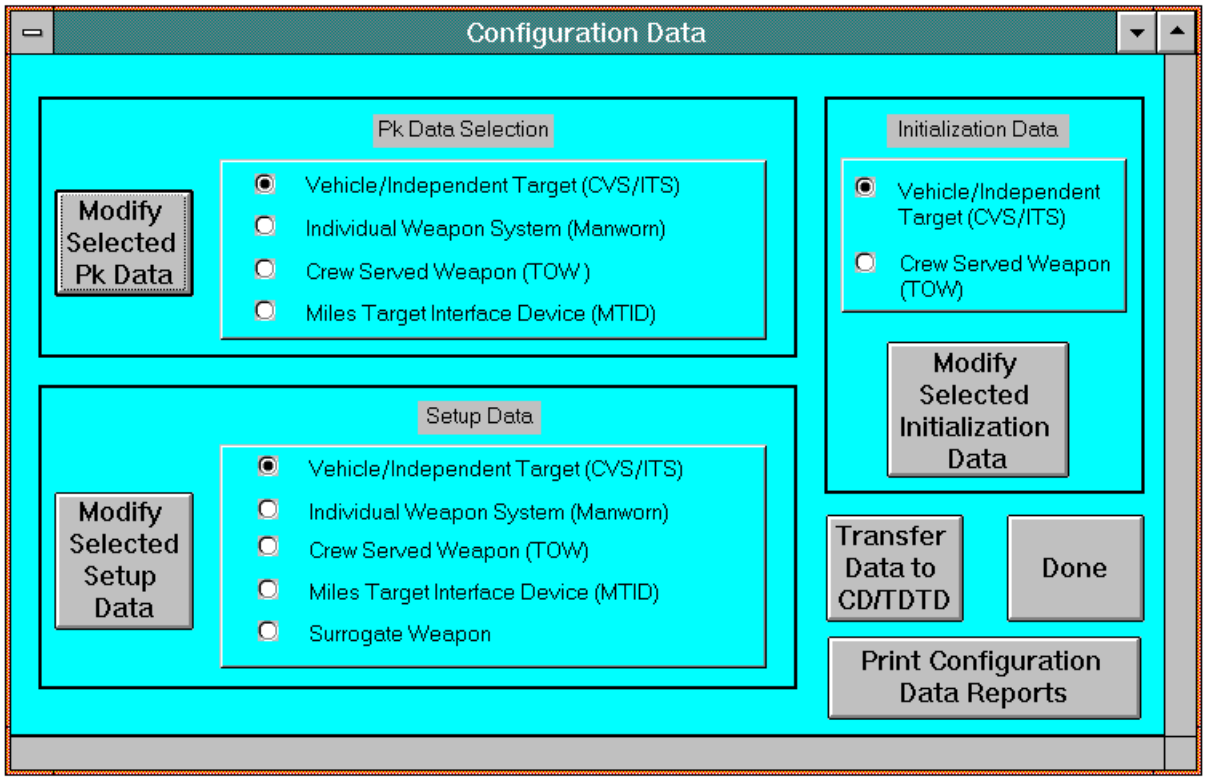
Page: 1



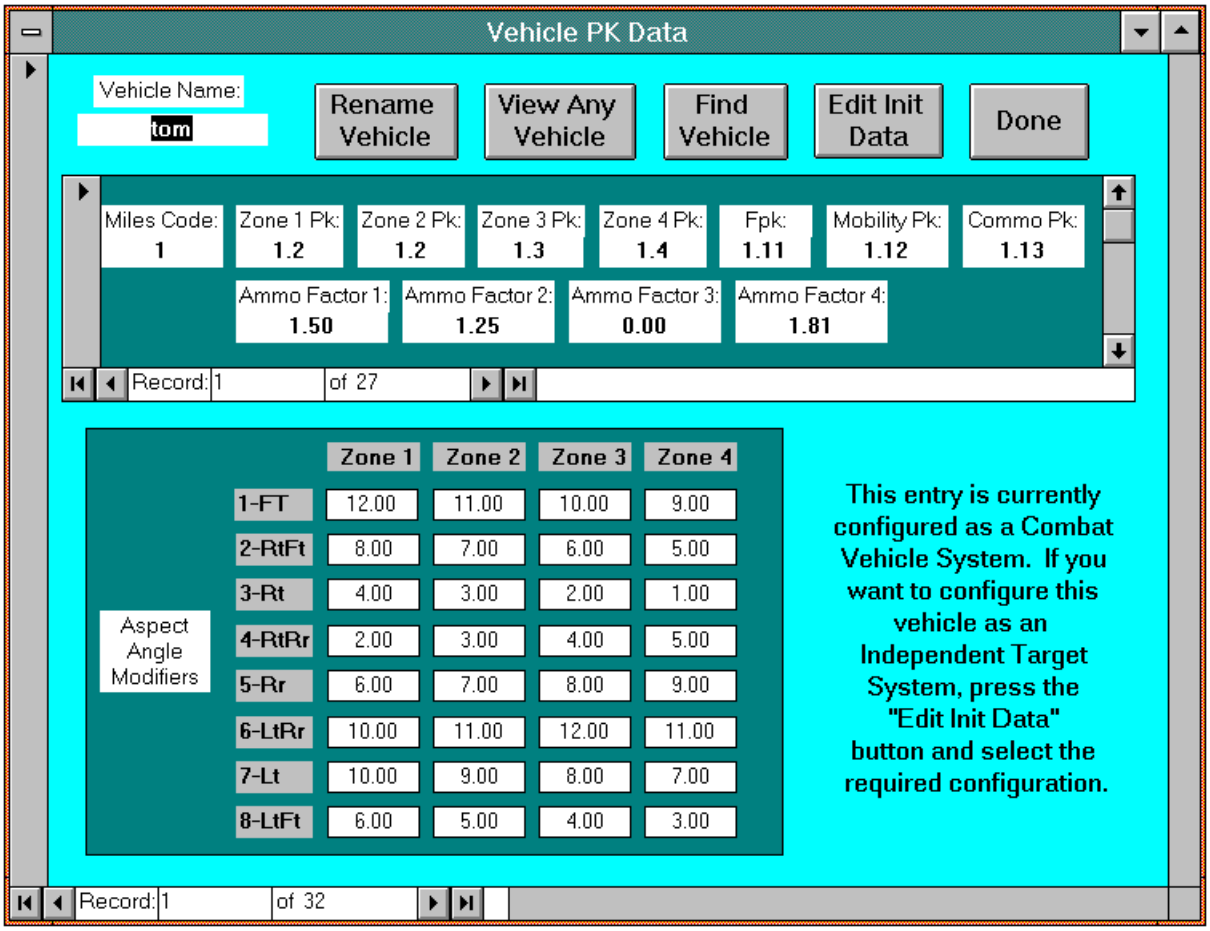
b. **Download Events**. Refer to paragraph 3.3.2, Transfer Data from CD/TDTD, when selecting **Download Events**.

c. Done. Select **Done** to return to the **Main Screen**.

3.3.4 Modify/View Configuration Data. The Pk Values, Setup Data, and Initialization Data of the control units can be changed by entering new values in the fields on the various display screens. If an invalid value is entered, an error message is displayed. After clearing the error message on the screen, press the **Esc**ape button to restore the field to the previous valid value. Upon selecting the **Modify or View Configuration Data,** observe that **the Configuration Data** screen appears and contains six (6) function buttons.

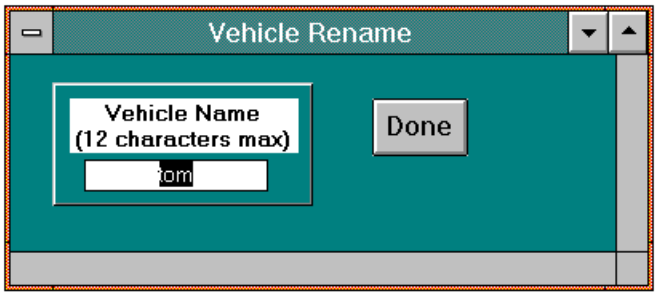


a. **Modify Selected Pk Data.** Under Pk **Data Selection** (previous figure), select the device for which the Pk data will be modified, then select the **Modify Selected Pk Data** button. Observe that the **Vehicle Pk Data** screen is displayed.



1) **Vehicle/Independent Target (CVS/ITS)**. Contains five (5) function buttons.

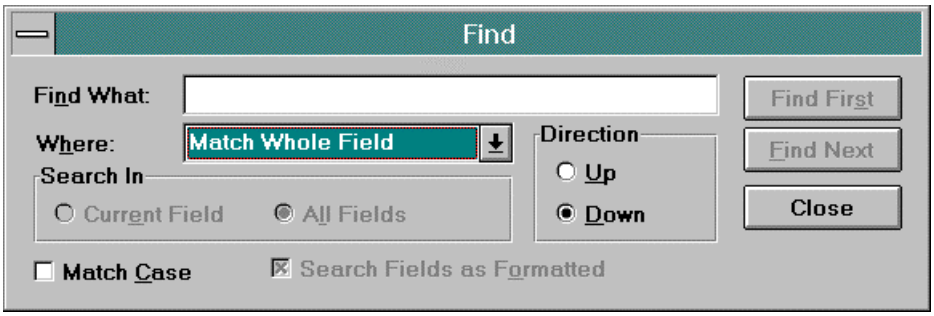
a) **Rename Vehicle.** Ensure that the **Vehicle Rename** screen appears. Enter the new name consisting of 12 or less characters; select the **Done** button.



NOTE** The arrows on all of the form/subform screens perform the same function. "Left" pointing arrows (l< & <) equal down/descending order; the "right" pointing arrows (> & >l) equal up/ascending order. Those arrows with a line take the user from 1 to 27 (or 32) and vice versa without stopping at any other record.

b) **View Any Vehicle**. Displays two (2) selectors, the MILES Code records **1-27** and the Pk table records **1-32**. The System Administrator can scroll through the list of vehicles and change the Pk values for each MILES Code.

c) **Find Vehicle.** Enter the vehicle name in the **Find What** field. Follow the procedures laid out in paragraph 3.3.2.c. Select the **Close** button to return to the **Vehicle Pk Data** screen.



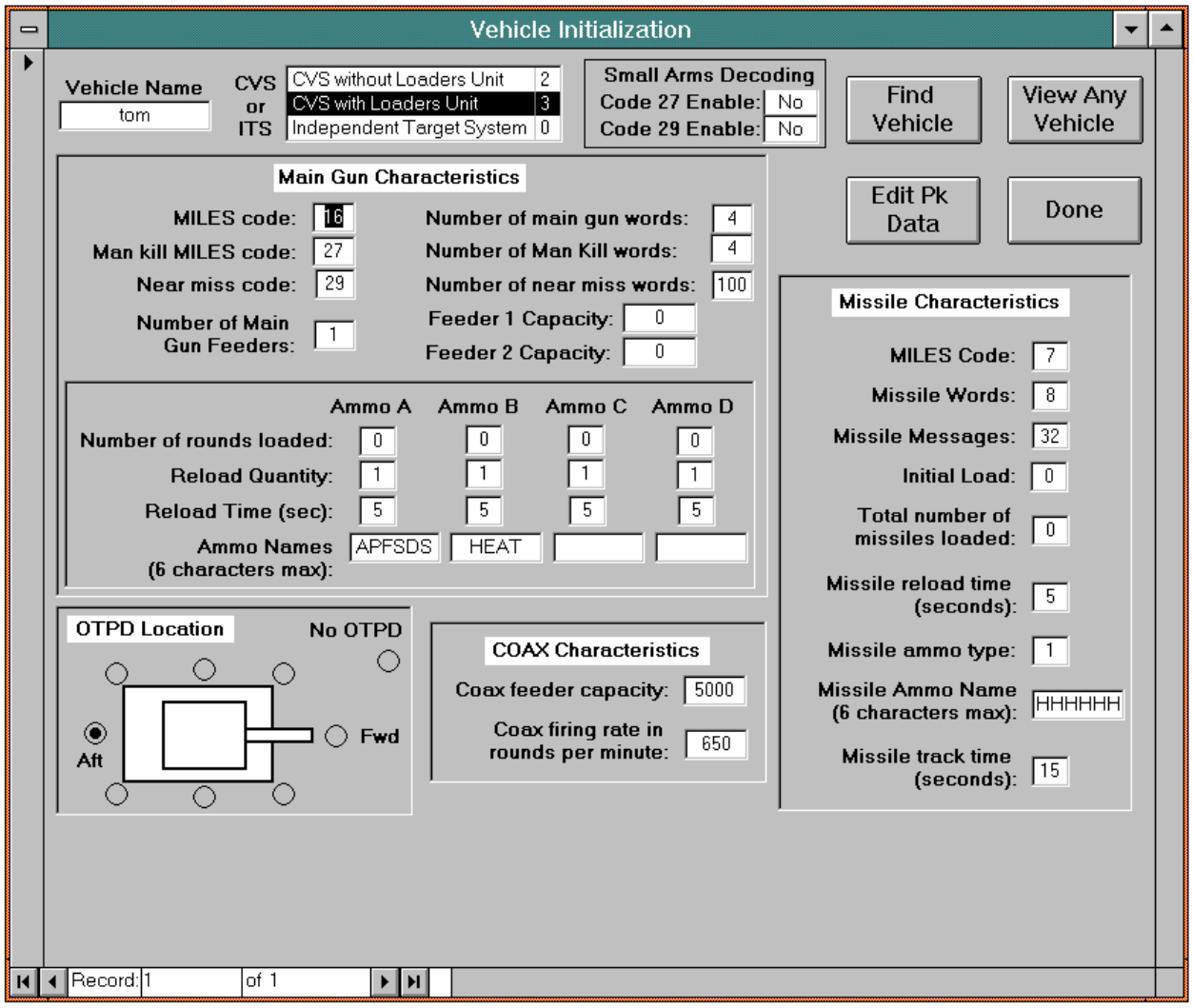
MILES Code	Definition
00	Universal Kill (Admin)
01	Maverick
02	Hellfire
03	Sagger
04	Mortar
05	Mine
06	Weapon X
07	TOW
08	Dragon
09	Javelin
10	M21 Antitank
11	Claymore
12	105 MM
13	152 MM
14	2.75 Rocket
15	AT4
16	120 MM
17	90 MM
18	Artillery

MILES Code	Definition
19	Grenade
20	SMAW
21	30 MM
22	25 MM
23	20 MM Chain
24	Machine Gun
25	Chaparral
26	Stinger
27	Small Arms
28	Heavy WPN Near Miss
29	Light WPN Near Miss
30	Resurrect
31	Spare
32	IFS
33	SA-14 **
34	ZSU-23/4 RAD **
35	Utility
36	Reset
**Denotes	Russian WPN

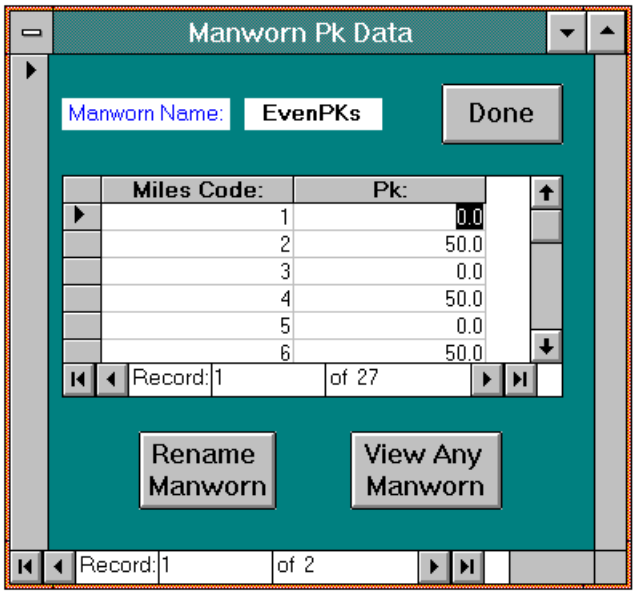
d) **Edit Initiation Data**. Upon selection of this option, the **Vehicle Initialization** screen is displayed with a record selector value of **1 of 1**. Allows the user to change the vehicle initial data values with the following exceptions:

- Coax Characteristics
- Feeder Capacity 1 and 2
- Main gun number of rounds loaded (maximum value is 255, values > 255 produce a nonspecific error message)

Find Vehicle button returns the user to the **Find** screen; **Edit Pk Data** button returns to **Vehicle Pk** Data screen; **Done** button returns to the **Configuration Data** screen.



2) **Individual Weapons System (IWS) (Manworn).** Allows the user/System Administrator to initialize the IWS. When selected, the **Manworn Pk Data** screen is displayed with the record selector for the form displaying **1 of 1** (located on the bottom of the screen), and the record selector for the subform displaying **1 of 27**. Allows the System Administrator to change the Pk value for each MILES Code.

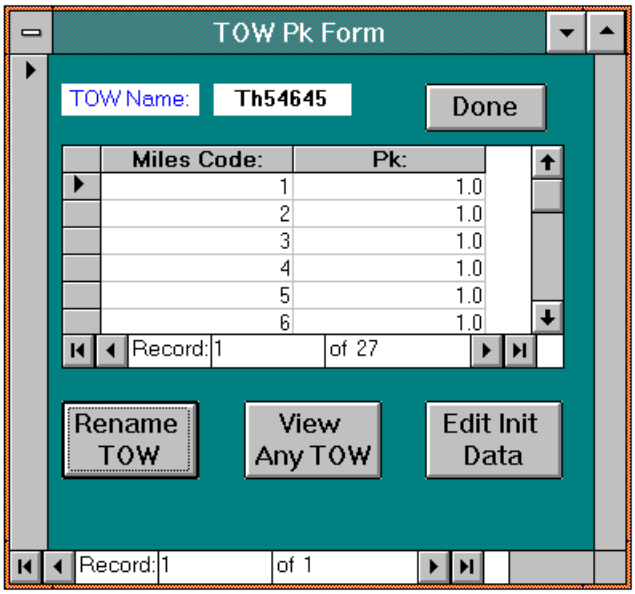


a) **Rename Manworn**. Ensure that the **Manworn Rename** screen appears. Enter the new name consisting of seven (7) or less characters; select the **Done** button.

b) **View Any Manworn**. Allows the system Administrator to select one of two custom Pk data sets in order to change the Pk value for each MILES Code.

c) **Done**. Returns the user to the **Configuration Data** screen.

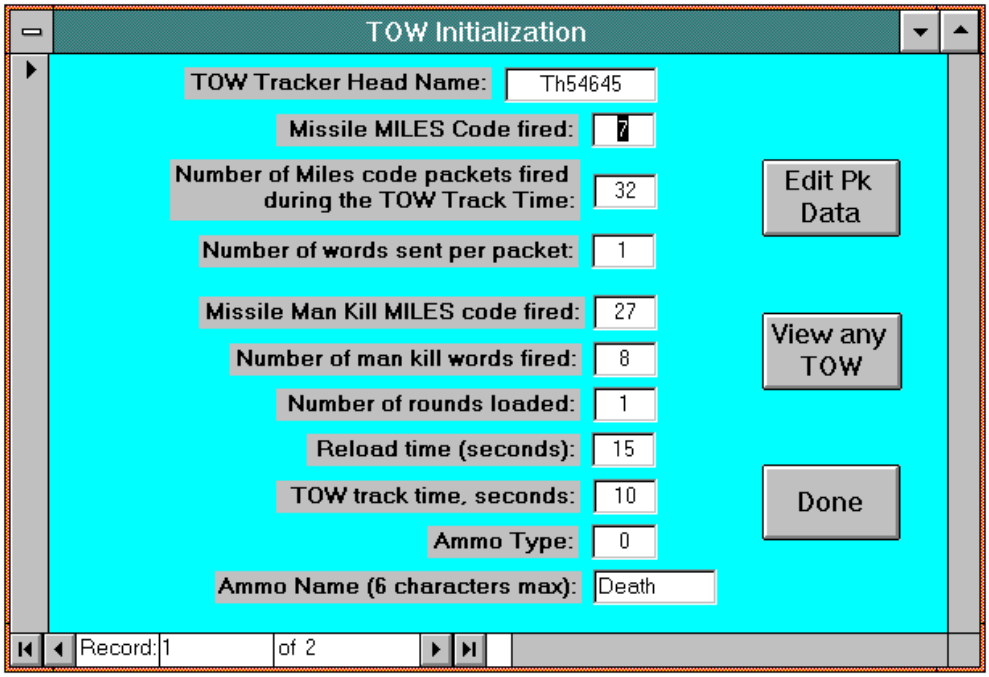
3) **Crew Served Weapon (TOW)**. Allows the user/System Administrator to initialize the TOW. When selected, the **TOW Pk Data** screen is displayed with the record selector for the form displaying **1 of 1** (located on the bottom of the screen), and the record selector for the subform displaying **1 of 27**. Allows the system Administrator to change the Pk value for each MILES Code.



a) **Rename TOW.** Ensure that the **TOW Rename** screen appears. Enter the new name consisting of seven (7) or less characters; select the **Done** button.

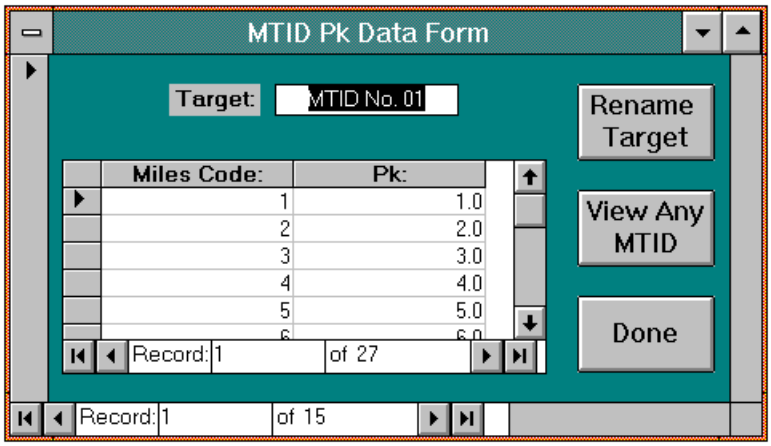
b) **View Any TOW.** Allows the System Administrator to select one of two custom Pk data sets in order to change the Pk value for each MILES Code.

c) **Edit Init Data**. Upon selection of this option, **the TOW Initialization** screen is displayed with a record selector value of **1 of 1**. Allows the user to change the TOW initial data values. **Edit Pk Data** button returns to **TOW Pk Data** screen; **View Any Vehicle** button allows the user to select one of two custom data sets; **Done** button returns to the **Configuration Data** screen.

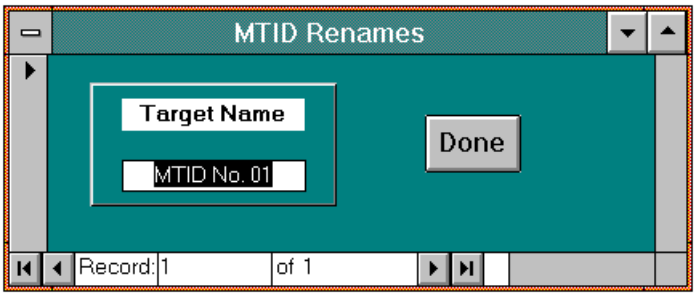


d) **Done**. Returns the user to the **Configuration Data** screen.

4) **MILES Target Interface Device (MTID)**. Allows the user/System Administrator to initialize the MTID. When selected the **MTID Pk Data** screen is displayed with the record selector for the form displaying **1 of 1** (located on the bottom of the screen) and the record selector for the subform displaying **1 of 27**. Allows the System Administrator to change the Pk value for each MILES Code.



a) **Rename Target**. Ensure that the **MTID Rename** screen appears. Enter the new name consisting of 13 or less characters; select the **Done** button.

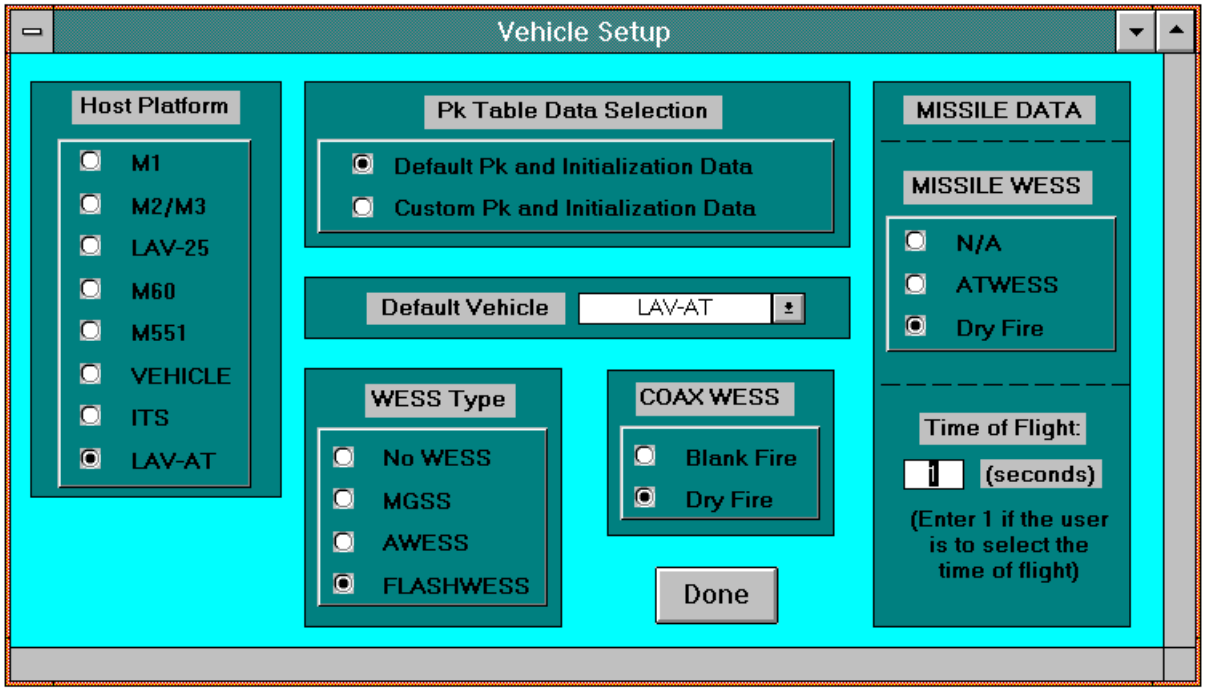


b) **View Any MTID**. Allows the System Administrator to select one of 15 custom Pk data sets in order to change the Pk value for each MILES Code.

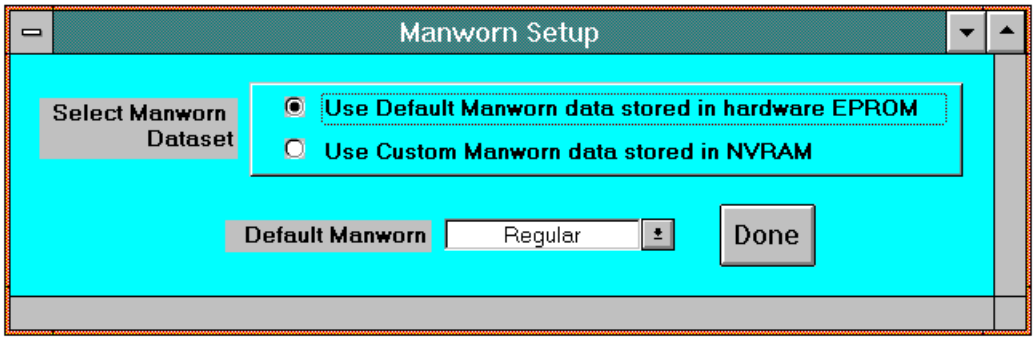
c) **Done**. Returns the user to the **Configuration Data** screen.

b. **Modify Selected Setup Data**. Allows the user to modify setup data for CVS/ITS, IWS, CSWS (TOW), MTID, and Surrogate Weapon (SWS). Observe that the **Vehicle Setup** screen is displayed.

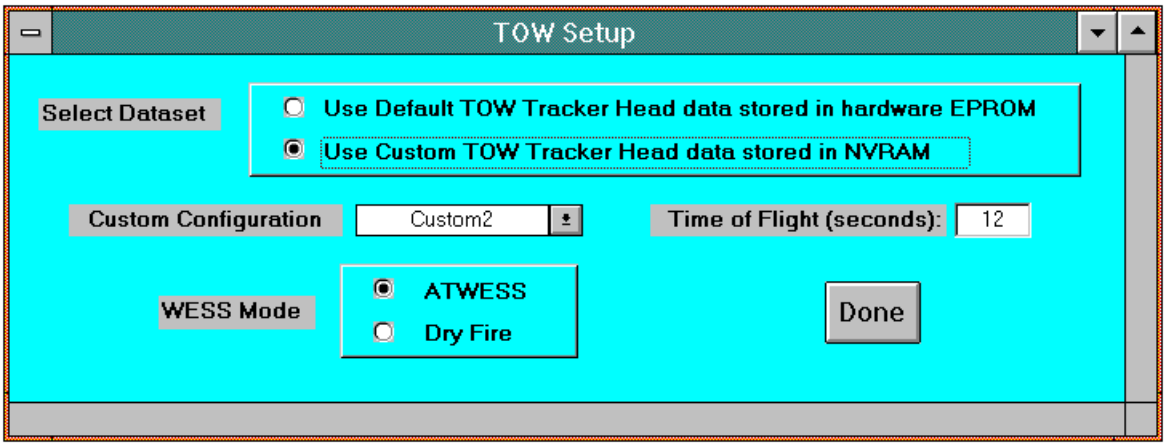
1) **Vehicle/Independent Target (CVS/ITS)**. Observe the **Vehicle Setup** screen is displayed. Select the Host Platform, Pk Table Data, WESS Type, Default Vehicle, COAX WESS, and Missile Data to be used for vehicle setup from this screen. When setup is complete, select the **Done** button and return to the **Configuration Data** screen.



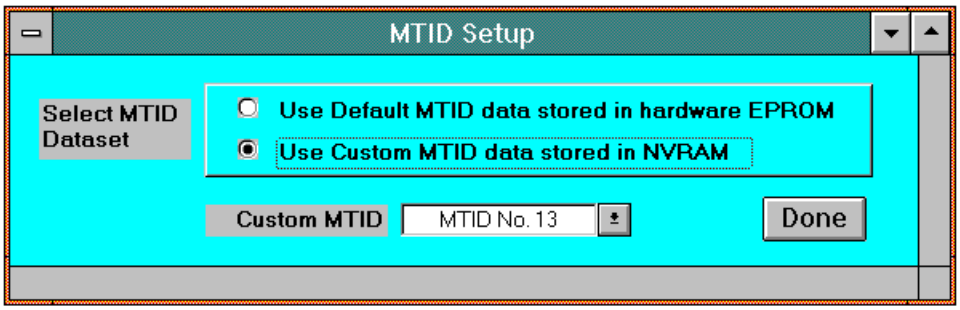
2) **<u>Individual Weapons System (IWS) (Manworn)</u>.** Observe that the **Manworn Setup** screen is displayed. Select either the default data set or the custom data set to be used for the manworn setup. When setup is complete, select the **Done** button and return to the **Configuration Data** screen.



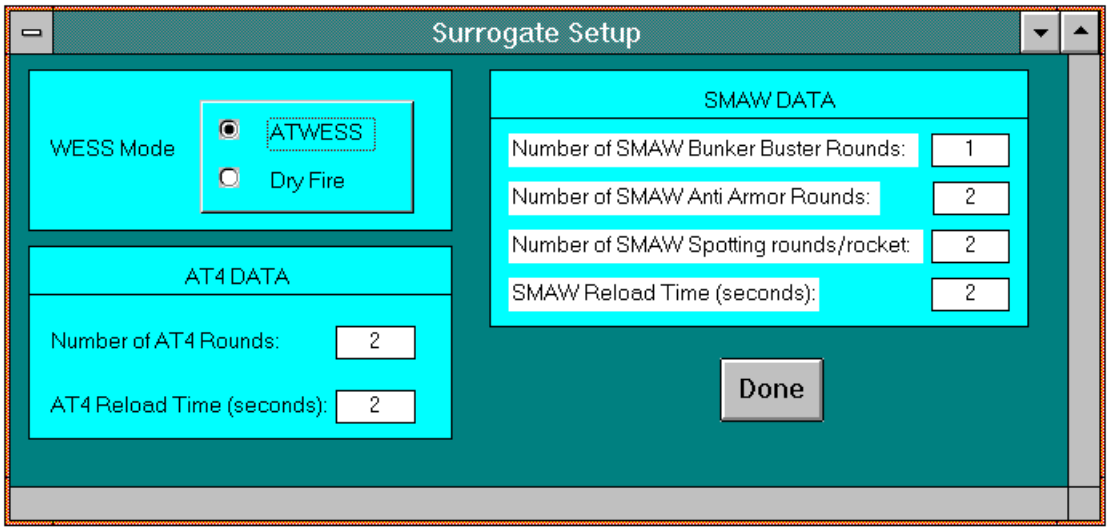
3) **<u>Crew Served Weapon (TOW)</u>**. Observe the **TOW Setup** screen is displayed. Select either the default data set or the custom data set to be used for the TOW setup. Select the WESS Mode and Time of Flight. When setup is complete, select the **Done** button and return to the **Configuration Data** screen.



4) **<u>MILES Target Interface Device (MTID)</u>**. Observe the **MTID Setup** screen is displayed. Select either the default data set or the custom data set to be used for the MTID setup. When setup is complete, select the **Done** button and return to the **Configuration Data** screen.



5) **<u>Surrogate Weapon System (SWS)</u>**. Observe the **Surrogate Setup** screen is displayed. Select the WESS Mode of **ATWESS** or **Dry Fire**. Change the AT4 DATA and SMAW DATA fields from the default values as desired. When setup is complete, select the **Done** button and return to the **Configuration Data** screen.



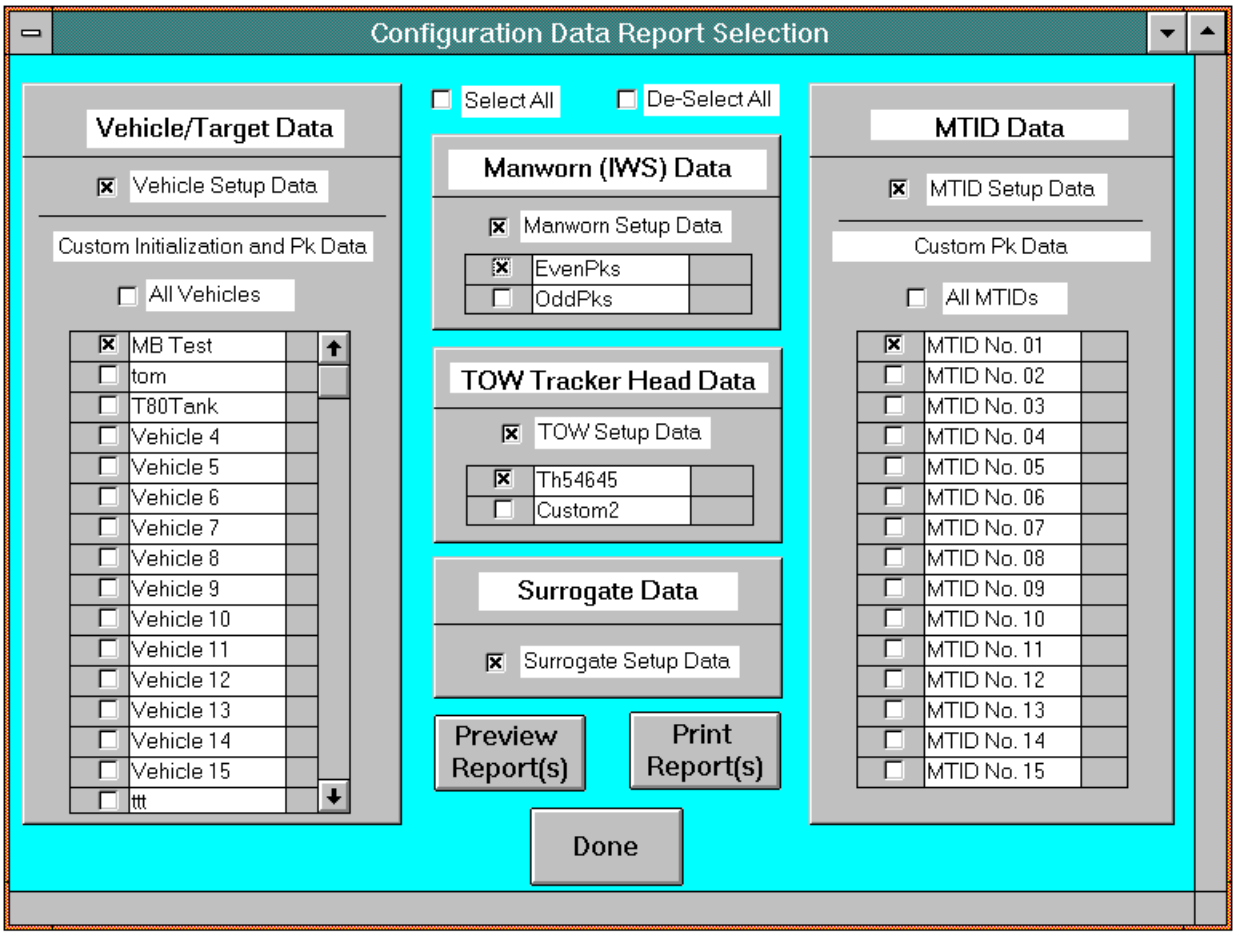
c. **Modify Select Initialization Data**. Allows the user to modify initial data when selected.

1) **Vehicle/Independent Target (CVS/ITS)**. Refer to paragraph 3.3.4.a.1d and corresponding Figure.

a) **Crew Served Weapon (TOW)**. Refer to paragraph 3.3.4.a.3c and corresponding Figure.

d. **Transfer Data to CD/TDTD**. Refer to paragraph 3.3.1 and corresponding Figure. This option also allows the user to update data in order to add details.

e. **Print Configuration Data Reports**. Observe that the **Configuration Data Report Selection** screen is displayed upon selection. Select the report(s) to be generated by placing an **X** in the square next to the report name. Select either **Preview Report(s)**, **Print Report(s)** or **Done** = buttons.



1) **Preview Report(s)**. Displays the selected report(s).

2) **Print Report(s)**. Produces a hard copy of the selected report(s).

3) **Done**. Returns to the **Configuration Data Report Selection** screen.

Report: Manworn Setup

Cubic Defense Systems MILES 2000 After Action Review Report 22-Oct-96

Manworn Setup Data

Select Manworn Dataset

- ○ Use Default Manworn data stored in hardware EPROM
- ◉ Use Custom Manworn data stored in NVRAM

Custom Manworn: EvenPKs

Page: 1

Report: Manworn Pk Data

Cubic Defense Systems MILES 2000 After Action Review Report 22-Oct-96

Manworn Pk Table Data

Manworn: EvenPKs

Code	Zone 1
1	0.0
2	50.0
3	0.0
4	50.0
5	0.0
6	50.0
7	0.0
8	50.0
9	0.0

Page: 1

Report: Vehicle Setup

Cubic Defense Systems MILES 2000 After Action Review Report 22-Oct-96

Vehicle Setup Data

Host Platform
- ○ M1
- ○ M2/M3
- ○ LAV-25
- ○ M60
- ○ M551
- ○ VEHICLE
- ○ ITS
- ◉ LAV-AT

Pk Table Data Selection
- ◉ Default Pk and Initialization Data
- ○ Custom Pk and Initialization Data

Default Vehicle: LAV-AT

WESS Type
- ○ No WESS
- ○ MGSS
- ○ AWESS
- ◉ FLASHWESS

COAX WESS
- ○ Blank Fire
- ◉ Dry Fire

MISSILE DATA

MISSILE WESS
- ○ N/A
- ○ ATWESS
- ◉ Dry Fire

Time of Flight: 1 (seconds)

(Enter 1 if the user is to select the time of flight)

Page: 1

Report: ITS Pk Data

Cubic Defense Systems MILES 2000 After Action Review Report 22-Oct-96

Independent Target System Pk Table Data

Vehicle: MB Test

Code	Zone Pk	Mobility	Ammo 1	Ammo 2	Ammo 3	Ammo 4
1	1.0	6.00	8.00	9.00	10.00	11.00
2	100.0	1.00	1.00	1.00	1.00	1.00
3	100.0	1.00	1.00	1.00	1.00	1.00
4	100.0	1.00	1.00	1.00	1.00	1.00
5	100.0	1.00	1.00	1.00	1.00	1.00
6	100.0	1.00	1.00	1.00	1.00	1.00
7	100.0	1.00	1.00	1.00	1.00	1.00
8	100.0	1.00	1.00	1.00	1.00	1.00
9	100.0	1.00	1.00	1.00	1.00	1.00
10	100.0	1.00	1.00	1.00	1.00	1.00
11	100.0	1.00	1.00	1.00	1.00	1.00

Page: 1

Report: TOW Pk Data

Cubic Defense Systems MILES 2000 After Action Review Report 22-Oct-96

TOW Initialization and Pk Table Data

TOW Name: Th54645

Pk Data

Code	Zone 1
1	1.0
2	1.0
3	1.0
4	1.0
5	1.0
6	1.0
7	1.0

Page: 1

Report: TOW Setup

Cubic Defense Systems MILES 2000 After Action Review Report 22-Oct-96

TOW Setup Data

Select Dataset
- ○ Use Default TOW Tracker Head data stored in hardware EPROM
- ◉ Use Custom TOW Tracker Head data stored in NVRAM

Custom Configuration: Custom2

Time of Flight (seconds): 1

WESS Mode
- ◉ ATWESS
- ○ Dry Fire

Page: 1

Report: Surrogate Setup

Cubic Defense Systems MILES 2000 After Action Review Report 22-Oct-96

Surrogate Setup Data

WESS Mode
- (•) ATWESS
- ( ) Dry Fire

AT4 DATA

Number of AT4 Rounds:	255
AT4 Reload Time (seconds):	255

SMAW DATA

Number of SMAW Bunker Buster Rounds:	255
Number of SMAW Anti Armor Rounds:	255
Number of SMAW Spotting rounds/rocket:	255
SMAW Reload Time (seconds):	255

Page: 1

Report: MTID Pk Data

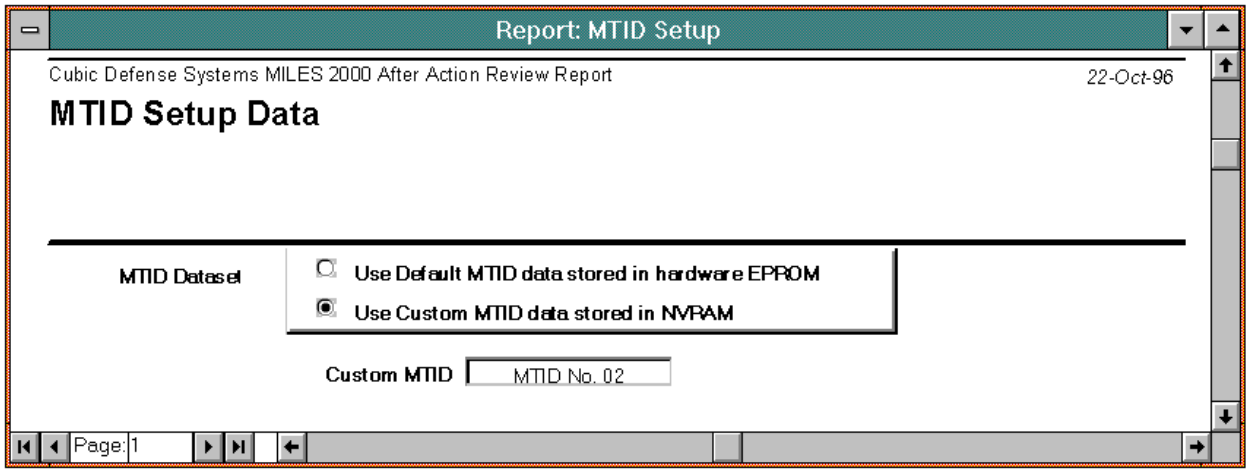
Cubic Defense Systems MILES 2000 After Action Review Report 22-Oct-96

MTID Pk Table Data

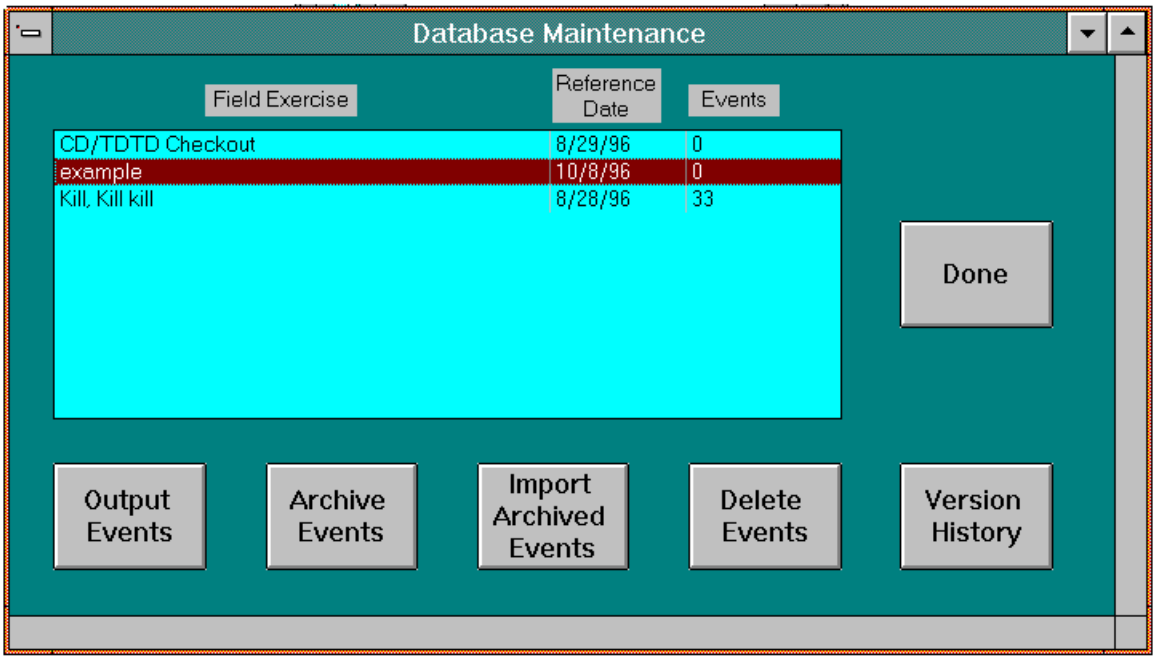
Target: MTID No. 01

Code	Zone 1
1	1.0
2	2.0
3	3.0
4	4.0
5	5.0
6	6.0
7	7.0
8	8.0
9	9.0

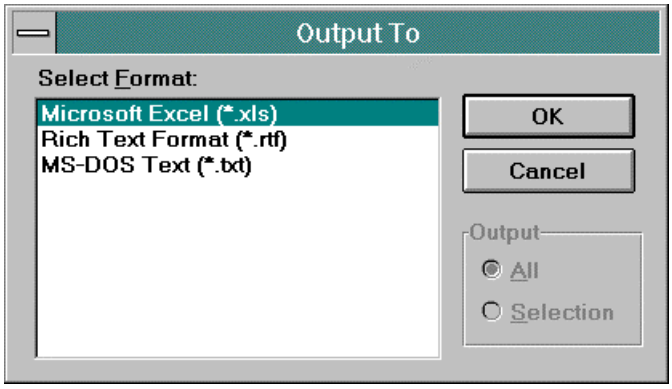
Page: 1

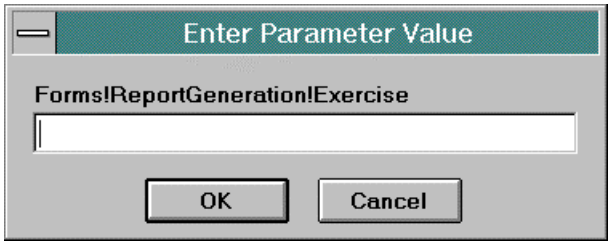


3.3.5 **<u>Database Maintenance</u>**. Available to the System Administrator only for management of the database. Contains six (6) function buttons.



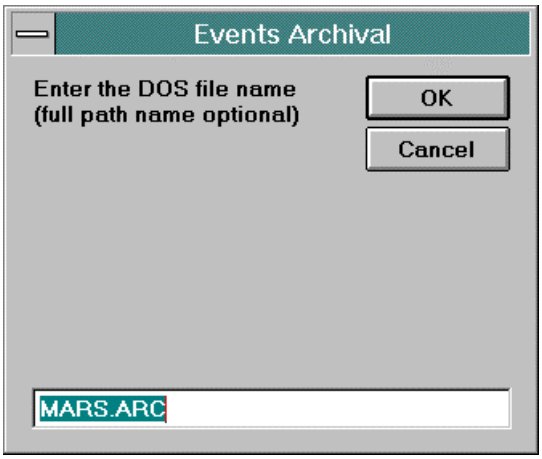
a. **<u>Output Events</u>**. Observe that the **Output To** screen is displayed upon selection of the **Output Events** button. Select the type of format to be used, then select the **OK** button. Observe that the **Output To** screen requires that a file name be specified in order to write data in that format/file. Enter the file name and select the **OK** button. The file is automatically sent to the hard drive in the specified format, i.e., Excel (.xls).


Output To
Select Format:
Microsoft Excel (*.xls)
Rich Text Format (*.rtf)
MS-DOS Text (*.txt)
OK
Cancel
Output
All
Selection


Enter Parameter Value
Forms!ReportGeneration!Exercise
OK
Cancel

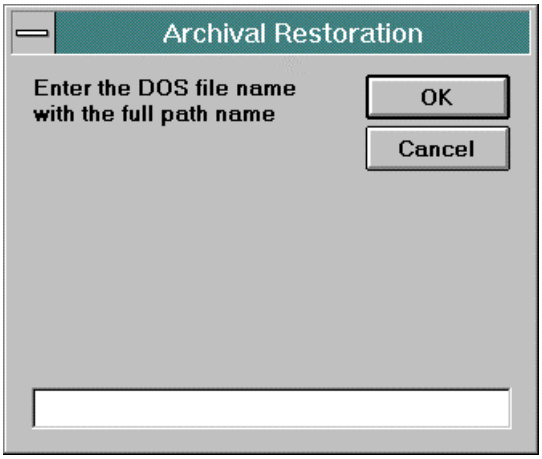
b. **Archive Events**. Observe that the **Event Data Archival Status** screen is displayed upon selection of the **Archive Events** button.

1) **Events Archival - "Yes."** Upon selection of the **Yes** button, observe the **Events Archival** screen. Select the **OK** button and observe the **Archival Successful** Advisory is displayed. Select the **OK** button and observe the archived exercise is no longer displayed on the **Database Maintenance** screen.

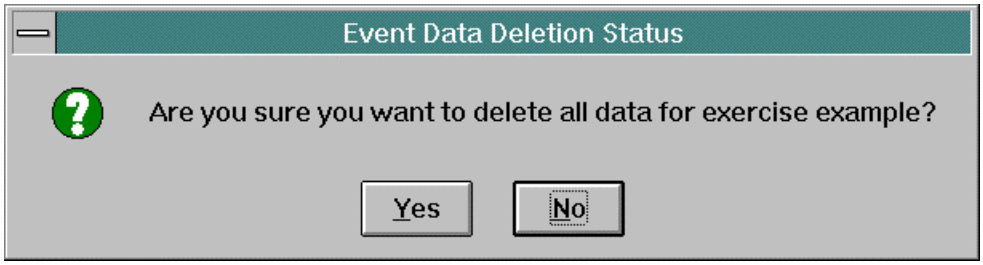


2) **Events Archival - "No."** Upon selection of the **No** button, observe the **Archive Status** screen.

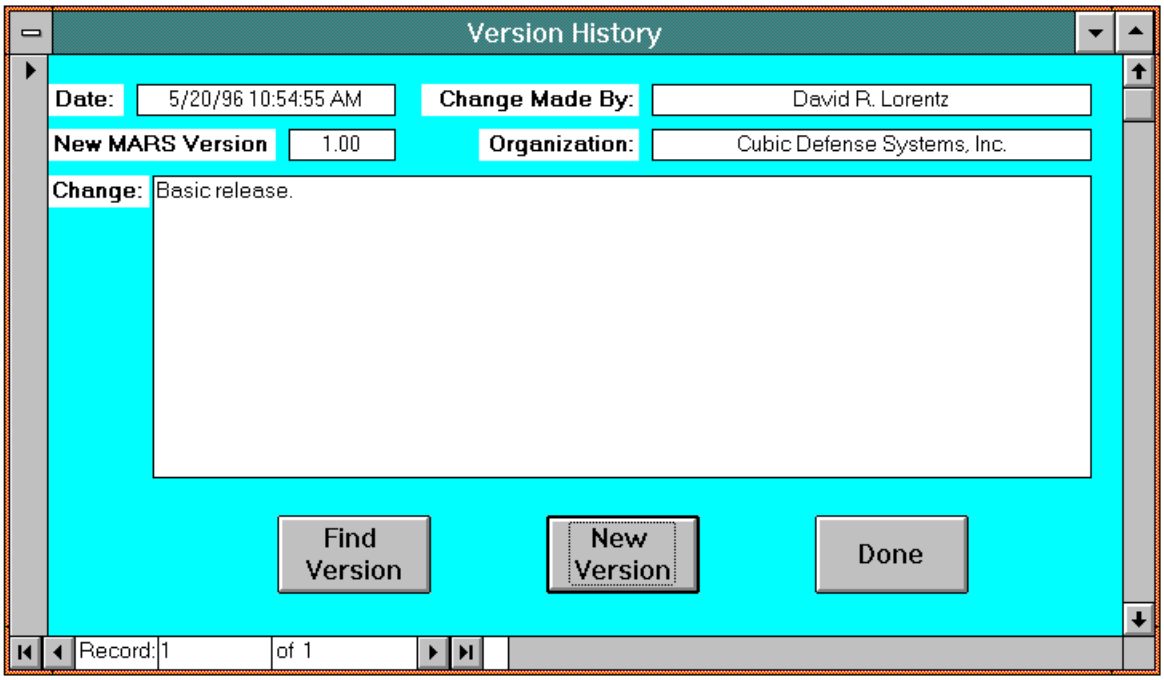
c. **Import Archived Events**. Observe that the **Event Data Archive Restoration** screen is displayed when the **Import Archived Events** button is selected. Select the **Yes** button and observe that the **Archival Restoration** screen is displayed. Select the **OK** button after entering the file name to be restored. Observe the **Restoration Successful** Advisory is displayed. Select the **OK** button and observe the restored file is displayed on **the Database Maintenance** screen.



d. **Delete Events**. Observe that **Event Data Deletion Status** Advisory/screen is displayed when the **Delete Events** button is selected. Select the **Yes** button and observe the deleted exercise is removed from the **Database Maintenance** screen.



e. **Version History**. Observe that the **Version History** screen is displayed and contains the current version information. Contains three (3) function buttons.



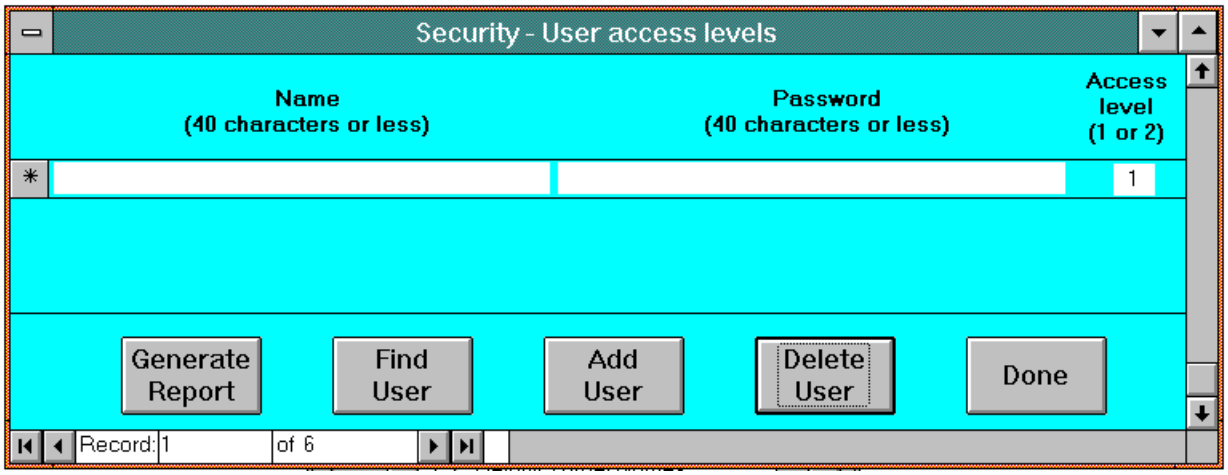
1) **Find Version**. Enter the version in the **Find What** field. Follow the procedures laid out in paragraph 3.3.2.c. Select the **Close** button to return to the **Version History** screen.

2) **New Version**. Observe that the **Version History** screen is displayed with only the **Date** field filled in. Enter the appropriate data in the fields and select **Done** when finished.

CAUTION SYSTEM ADMINISTRATORS**
This button is used only if the source code is changed!

3) **Done**. Returns user to the **Database Maintenance** screen.

3.3.6. Security. MARS Security allows the System Administrator to add other users including passwords and access level to the list of users, find or search for a particular user(s) or pass-word(s), delete users from the list of users, generate a report (list) of current users, and exit when done. When a user first logs on MARS, they are assigned by default Access Level 1 - System Administrator. There can be more than one System Administrator. The System Administrator can assign personnel as either System Administrators or simply users.

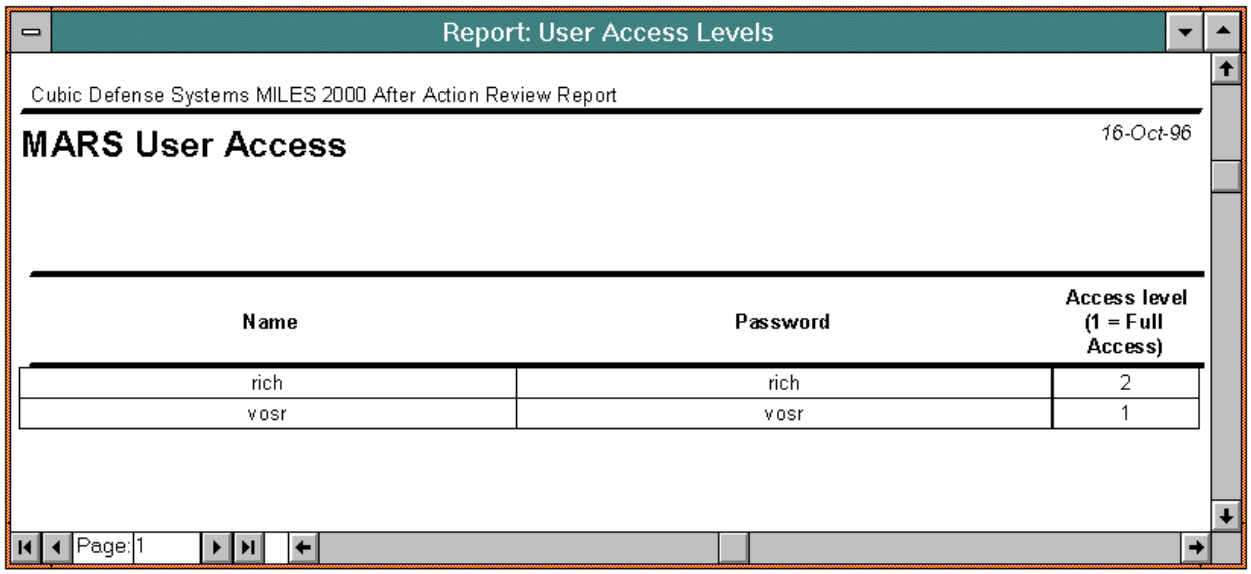


a. **Add User**. Enter name in the **Name** field (above figure), then enter password in the **Password** field, and assign Access Level 2 unless the user will be a System Administrator. Select the **Add User** button.

b. **Find User**. Enter the name or password to search for in the **Find What** field. Follow the procedures laid out in paragraph 3.3.2.c.

c. **Delete User**. Select the user to delete, then select the **Delete User** button. Observe the advisory states "You've just deleted 1 record(s)." Select the OK button to save changes or the **Cancel** button to undo the changes." Selecting the **Cancel** button displays a canceled action advisory. Select **OK** to return to the **Security-User Access Levels** screen. Select the **Help** button to display an explanation of the **OK** and **Cancel** buttons.

d. **Generate Report**. Displays a list of all the current users. Select the **Print** option on the **File** pull down menu to get a hard copy of the report.



Name	Password	Access level (1 = Full Access)
rich	rich	2
vosr	vosr	1

CHAPTER 4

INTRODUCTION

SECTION I. CORRECTIVE MAINTENANCE

4.1 TROUBLESHOOTING.

MARS has been designed, tested, and validated to provide trouble free service. This section provides a general guide for possible errors and suggested corrective action. (Refer to Table 4-1.) It is recommended that the event data for an exercise be backed up and stored separately from the MARS host PC to prevent loss of data.

Table 4-1. Troubleshooting

PROBLEM	RECOMMENDED ACTION
MARS installation fails.	Verify sufficient disk space to install and execute MARS. Attempt to reinstall if disk space is adequate. Verify target disk/directory is not write protected. If installation is still unsuccessful, obtain a second copy of the disks and attempt to install again.
MARS will not execute	Verify sufficient RAM exists in PC.
MARS crashes.	Reboot PC and attempt to perform operation again. If the crash occurs while attempting to transfer serial data, verify that the host PC uses a Pentium 75 MHz or faster processor. Refer to maintenance agent if problem persists.
MARS will not transfer data to or from the CD/TDTD, but otherwise works fine.	Verify that the serial interface cable between the PC and the CD/TDTD - MARS Interface Box (Cradle) and the Optical Port on the CD/TDTD are secure and that the PC serial port is connected to COM1. Verify that the CD/TDTD is securely mated with the Optical Port of the CD/TDTD - MARS Interface Box (Cradle). Verify that the CD/TDTD is on.

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ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO.*	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON *(Exact wording of recommended change must be given)*

* *Reference to line numbers within the paragraph or subparagraph.*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

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