

8 UH8 Yj JW7 cf dcf U]cb



Software Quick Start Manual

For

Board Products

Version 1.0
February 1999

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*****327'Y kdw' Rreg.'Dqj go kc."P['33938 "
*****3/: 22/FFE/7979"853/789/7822

*****tgt xlegB ff e/y gd0qo ""y y (ff e/y gd0qo

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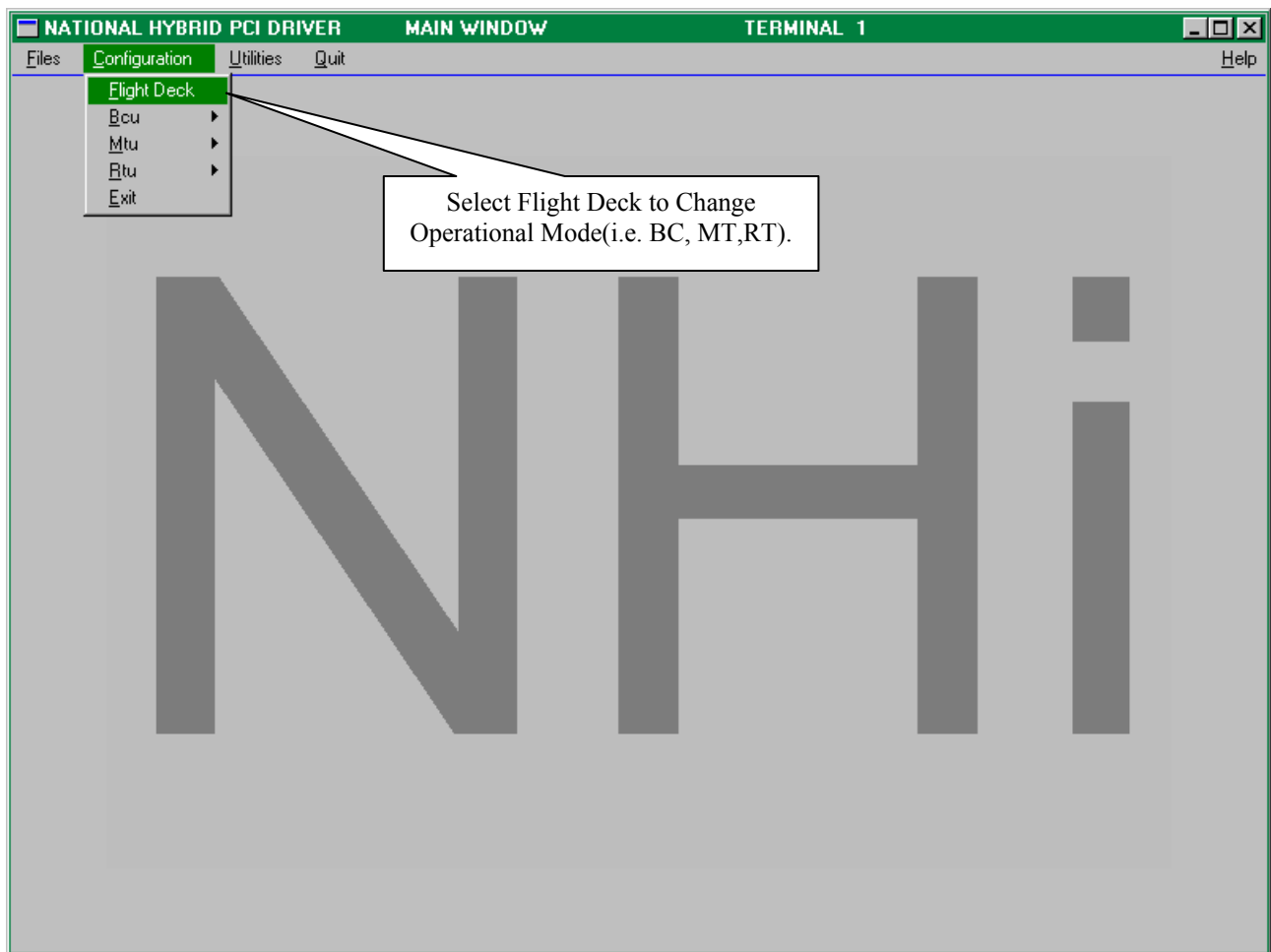
NHi BOARD SOFTWARE QUICK START

This document provides a Quick Start for users of NHi board software. A Quick Start is illustrated for each of the three modes of operation(i.e. BC, RT and MT).

The built-in HELP can then be used for further explanations of the software.

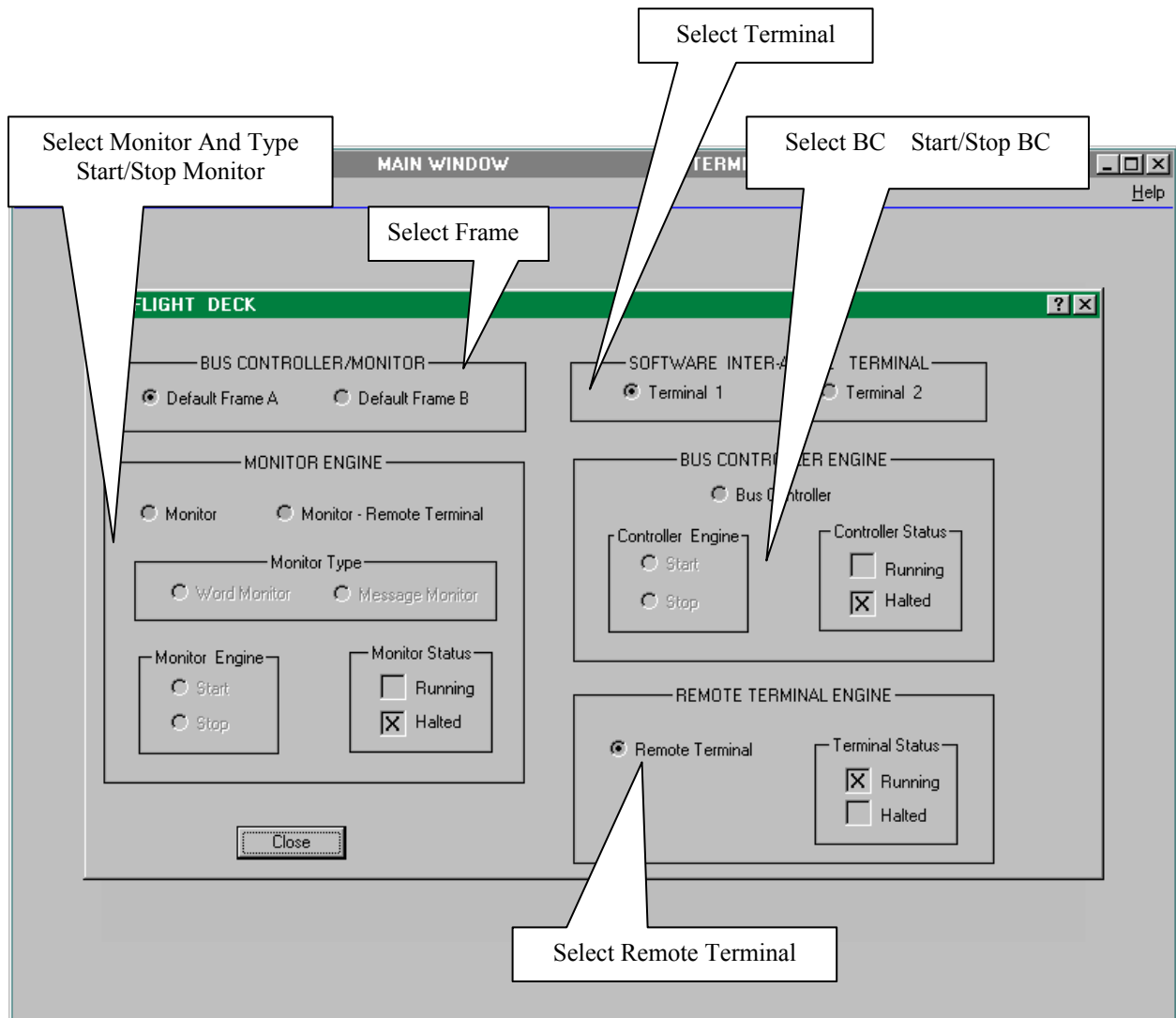
This document assumes the user has some knowledge of the NHi-15XXX parts on the board. The appropriate manual should be at hand.

MAIN MENU



FLIGHT DECK CONFIGURATION

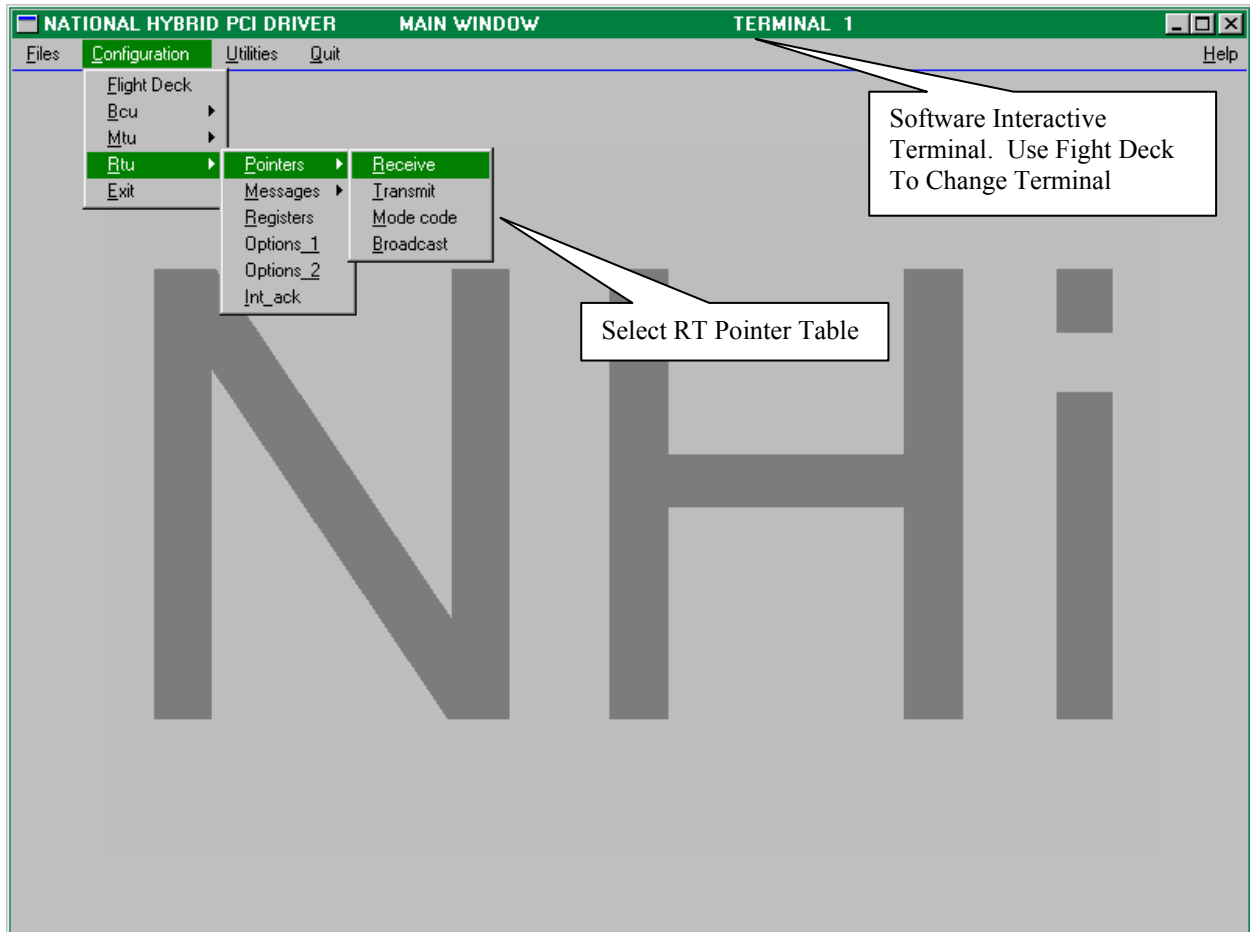
Use the Flight Deck to configure the board operation. Remote Terminal is the default mode.



REMOTE TERMINAL QUICK START

When the software boots up, it initializes the board and puts it into the RT mode. Use the following Remote Terminal Mode Screen-Shots as a road map.

MAIN MENU



REMOTE TERMINAL POINTER TABLE

RTU RECEIVE POINTERS

Note: All Numbers

Sub Address	Interrupt Enabled	Time Tag Enabled	Time Tag Transmitt	Data Table Address	Pointer Value
00	No	No	N/A	0020	0040
01	Yes	Yes	N/A	00C8	C190
02	Yes	Yes	N/A	00F0	C1E0
03	Yes	Yes	N/A	0118	C230
04	Yes	Yes	N/A	0140	C280
05	Yes	Yes	N/A	0168	C2D0
06	Yes	Yes	N/A	0190	C320
07	Yes	Yes	N/A	01B8	C370
08	Yes	Yes	N/A	01E0	C3C0
09	Yes	Yes	N/A	0208	C410

Change Pointer Table Address

Pointer Table Address: 0040

Save Pointer Table Address

Modify Pointer

Interrupt Request

Time Tag

Transmit Time Tag

Data Table Address: []

Save Pointer

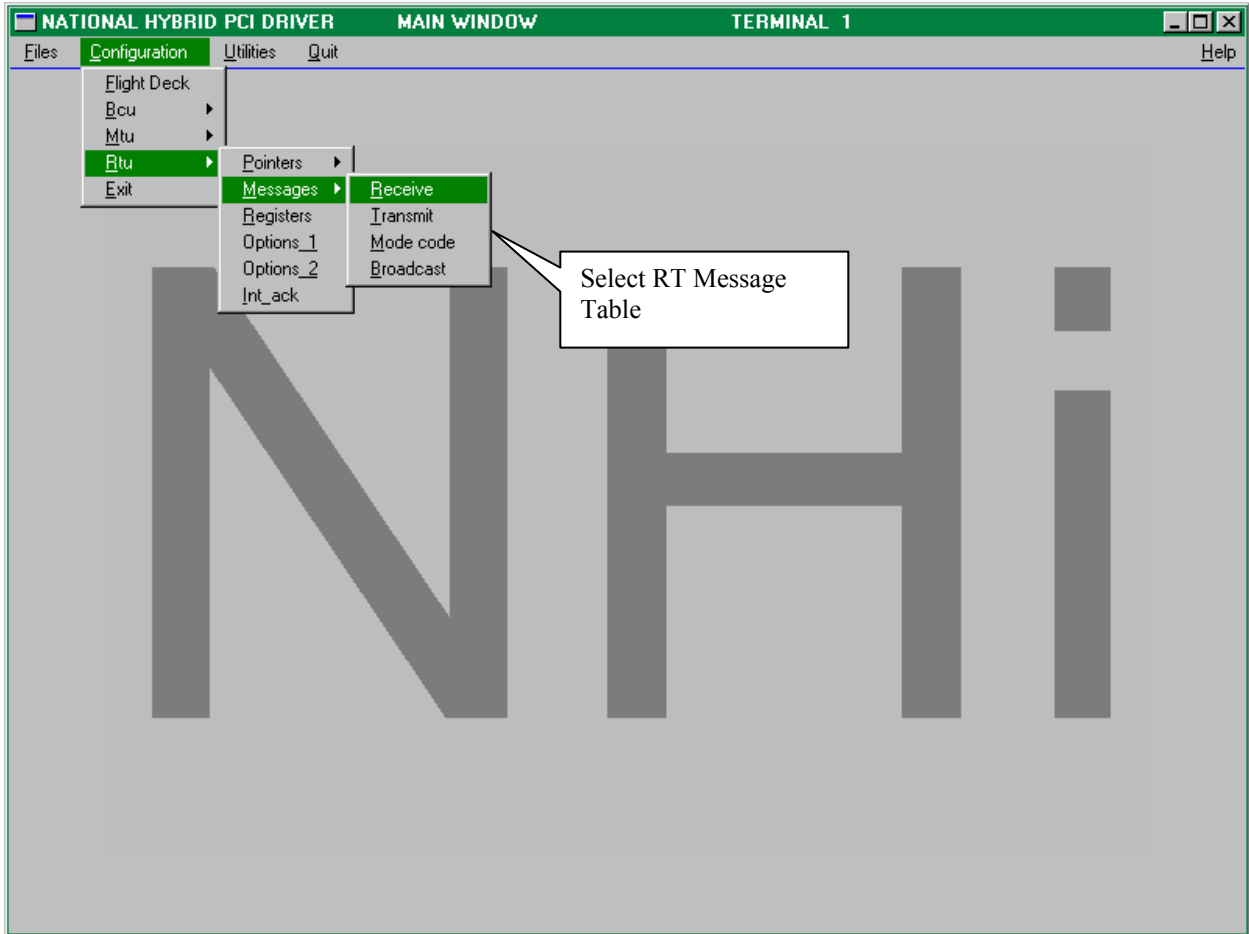
Goto Data Tables

Close

Callouts:

- Select Pointer To Modify. (points to row 02)
- Select New Table (points to 0040)
- Modify Pointer Characteristics. (points to checkboxes)
- Transfer to Message Table (points to Goto Data Tables)

MAIN MENU

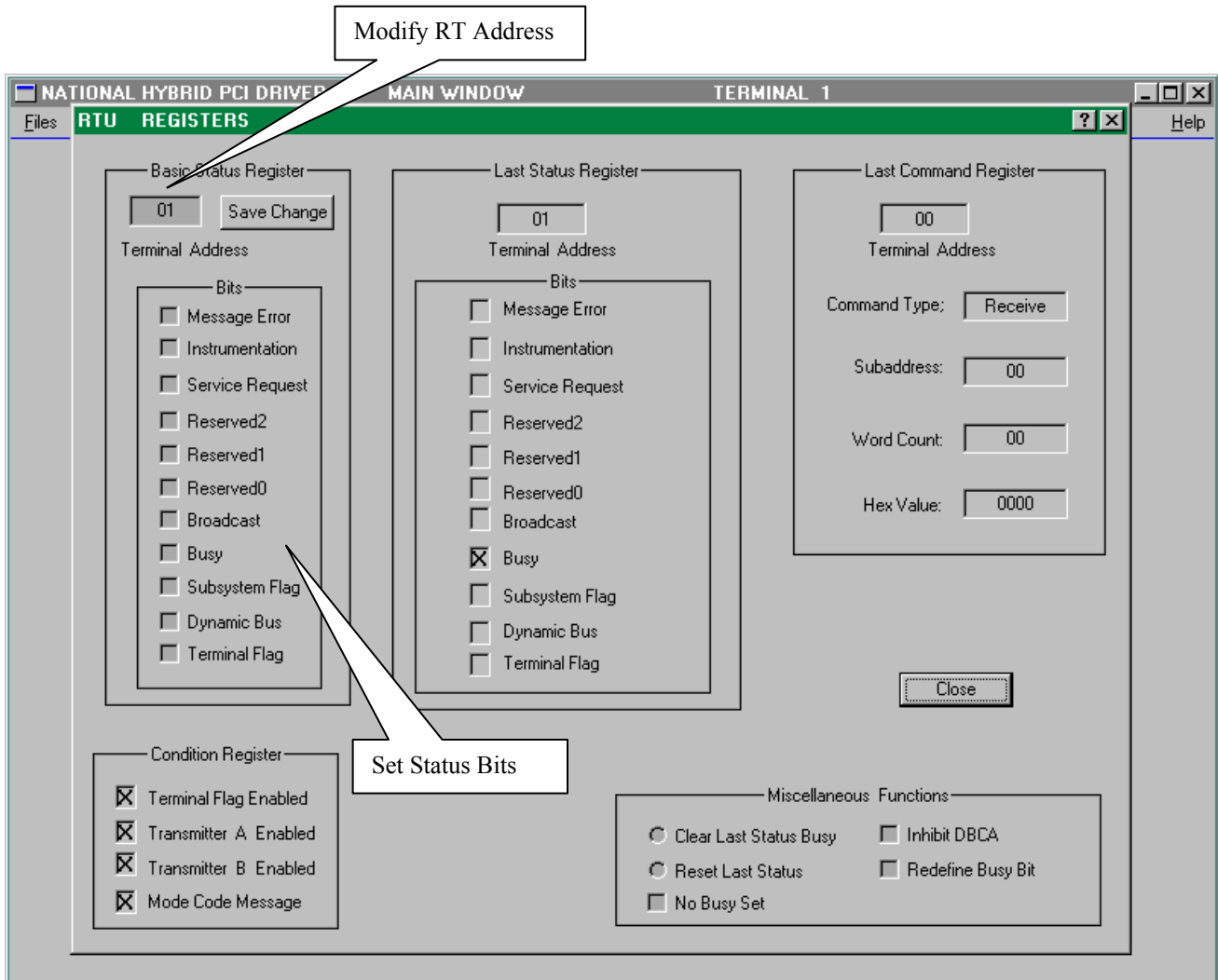


REMOTE TERMINAL MESSAGE TABLE

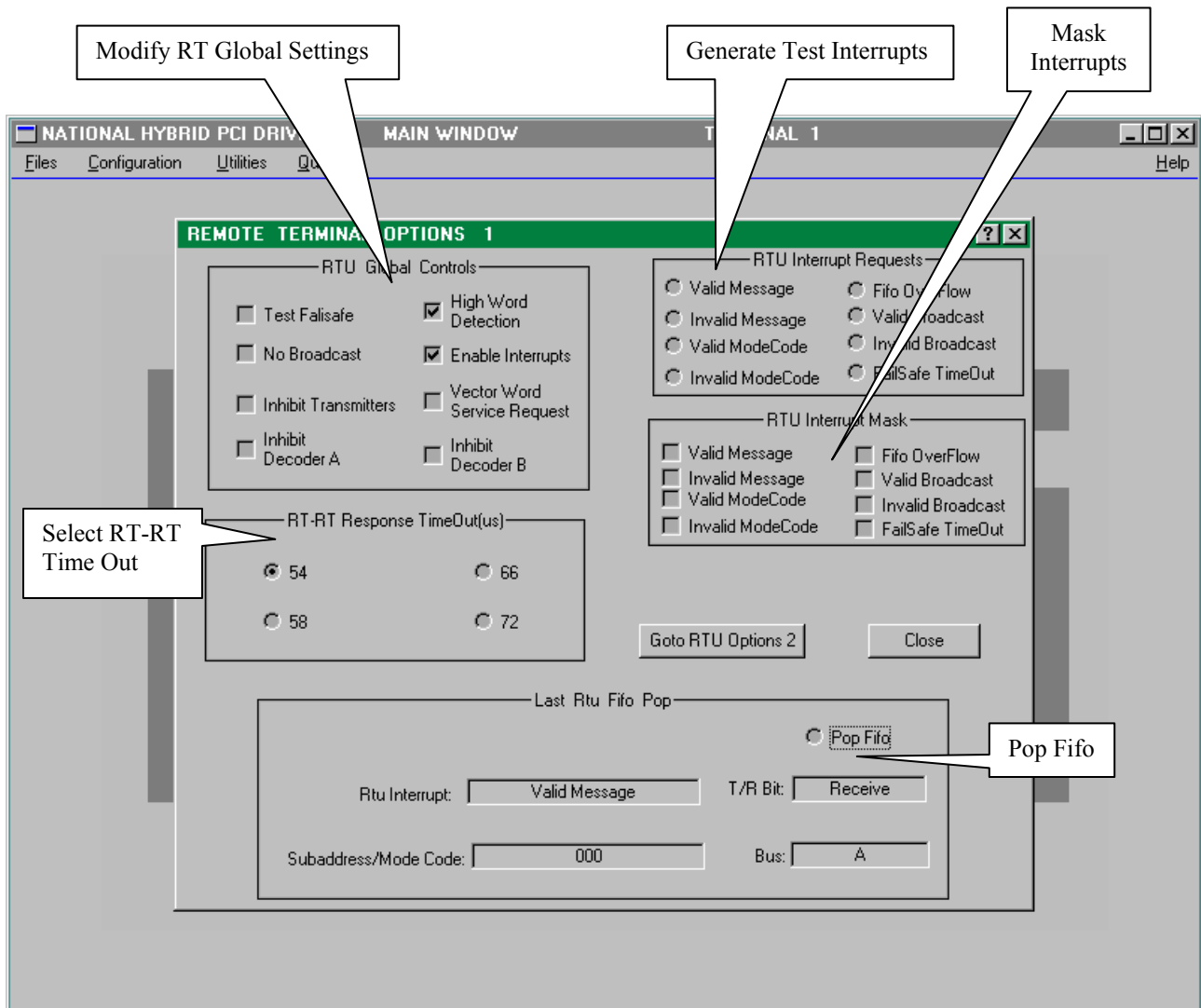
The screenshot displays the 'RTU TRANSMIT MESSAGES' dialog box within the 'NATIONAL HYBRID PCI DRIVER' application. The interface is divided into several sections:

- Select Subaddress:** A list of subaddresses from 00 to 0E, with 0A selected. A callout 'Select Subaddress' points to this list.
- Selected Subaddress:** A text field containing '0A'.
- Pointer Word:** A table with columns: Interrupt Enabled, Time Tag Enabled, Time Tag Transmit, Data Table Address, and Pointer Value. The row for subaddress 0A shows: Yes, Yes, No, 0708, CE10. A callout 'Switch To RT Pointer Table' points to the 'Goto Pointer Table' button.
- Data Table Tag Word:** A table with columns: Broadcast, Locked, Errors, and Data Overwritten. The row for subaddress 0A shows: No, No, No, No.
- Modifiable:** Checkboxes for 'UpDated' and 'SSF Enable'.
- Word Count:** A text field containing '20'.
- Time Tag Value:** A text field containing '0002031646' with 'Decimal Time' below it.
- Data Word Table:** A list of data words from 01 to 0E, with 04 (001A) selected. A callout 'Select Data Word To Modify' points to this list.
- Modify Data:** A section with 'Word #' (04) and '001A' text fields, and a 'Save Data' button. A callout 'Modify and Save Word' points to this section.

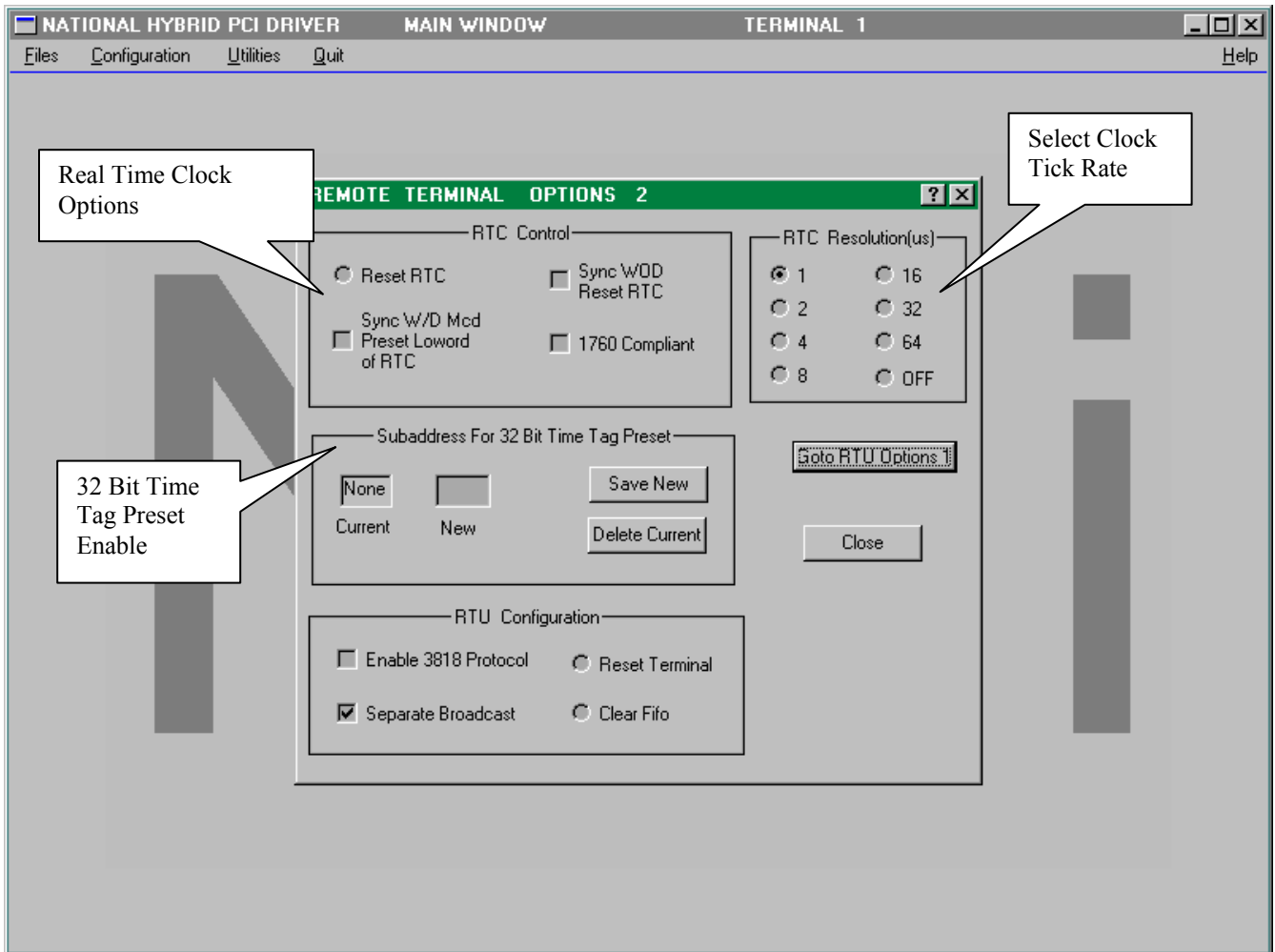
REMOTE TERMINAL REGISTERS AND MISCELLANEOUS FUNCTIONS



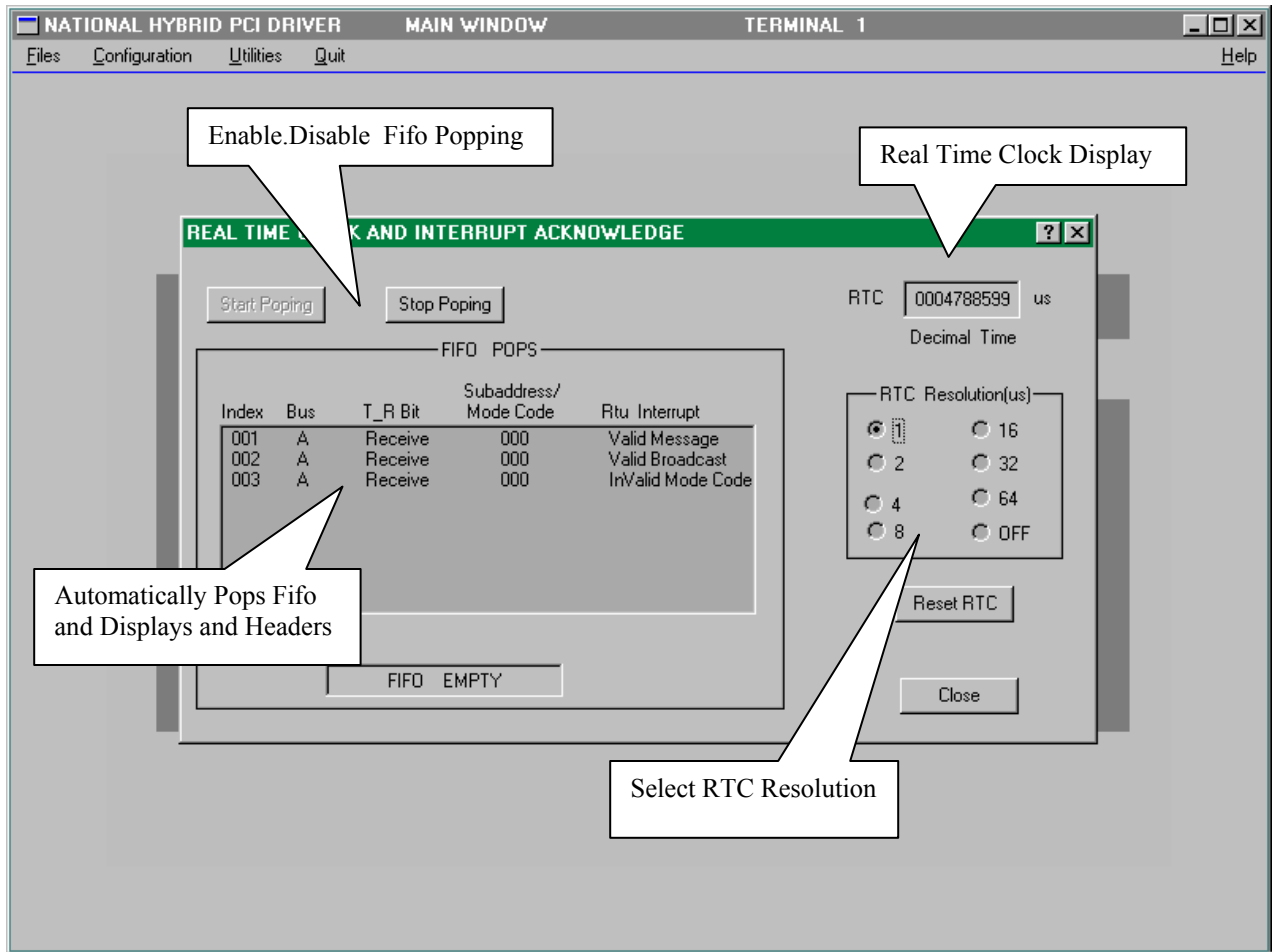
REMOTE TERMINAL OPTIONS 1 MENU



REMOTE TERMINAL OPTIONS 2 MENU



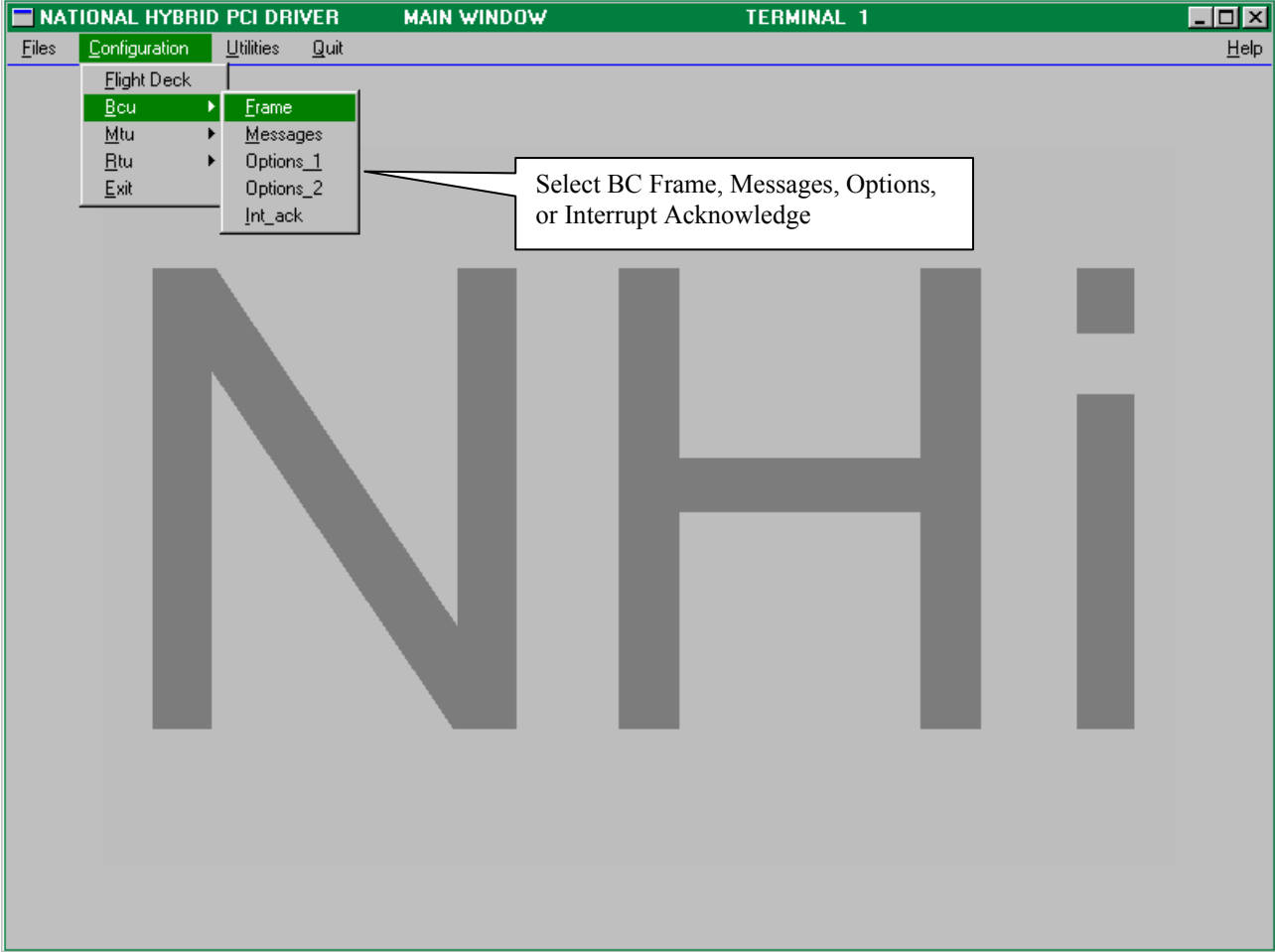
REMOTE TERMINAL INTERRUPT ACKNOWLEDGE AND RTC DISPLAY



BUS CONTROLLER QUICK START

Use the following Bus Controller Mode Screen-Shots as a road map.

MAIN MENU



BUS CONTROLLER FRAMES AND MESSAGE POINTERS

The screenshot displays the 'NATIONAL HYBRID PCI DRIVER' software interface. The main window is titled 'MAIN WINDOW' and 'TERMINAL 1'. The central panel is titled 'BUS CONTROLLER FRAMES AND MESSAGE POINTERS'.

Message Table: A table with 9 columns and 7 rows. The first row is highlighted in green. The columns represent message pointers, and the rows represent message addresses.

Address	2000	2328	235A	238C	23BE	23F0	2005	2006	2007
2008	2008	2009	200A	200B	200C	200D	200E	200F	
2010	2010	2011	2012	2013	2014	2015	2016	2017	
2018	2018	2019	201A	201B	201C	201D	201E	201F	
2020	2020	2021	2022	2023	2024				

Frame Select: Radio buttons for 'Frame A' (selected) and 'Frame B'.

Message Table Setup: Input fields for 'Address' (2000) and 'Length' (0025), with a 'Save Table' button.

Frame Gap: Input field for '0000' with a multiplier of 'x 64us'.

Modify Message Pointers: A row of input fields for pointers: 2000, 2328, 235A, 238C, 23BE, 23F0, 2005, 2006, 2007. Below them are indices 0 through 7. A 'Save Pointers' button is on the right.

Annotations:

- 'Select Pointers to be modified' points to the first row of the Message Table.
- 'Change Frame' points to the Frame Select radio buttons.
- 'Change Frame Parameters' points to the Message Table Setup fields.
- 'End Of Frame Gap' points to the Frame Gap input field.
- 'Modify pointer Locations' points to the pointer input fields.
- 'Save New Pointers' points to the Save Pointers button.
- 'Message 2 Is Cued on Message Table Display If 2 Is Clicked.' points to the index '2' below the pointer fields.

BUS CONTROLLER MESSAGE DISPLAY

Use this display to configure messages and analyze response.

The screenshot shows the 'BUS CONTROLLER MESSAGES' application window. It features several configuration panels and a message list. Callouts point to specific elements:

- Change Frame:** Points to the 'Frame Select' section with radio buttons for 'Frame A' and 'Frame B'.
- Set InterMessage Gap:** Points to the 'Message Configuration' section, specifically the 'Gap' field set to '000'.
- Configure Message Command Word:** Points to the 'Command Word' section, showing fields for Address (02), SubAddress (03), and WordCount (07).
- Explode Status Word Details:** Points to the 'Status Word' section, specifically the 'Details' button next to the value '235F'.
- Select Message:** Points to the 'Message Pointers' list, where index '001' and pointer '235A' are highlighted.
- Modify Data Word:** Points to the 'Modify Data Word' section, showing index '03' and data '2362'.
- Select Data Word:** Points to the 'Message Data Words' table, where index '03' and data '2362' are highlighted.

Index	Pointer
000	2328
001	235A
002	238C
003	23BE
004	23F0
005	2005
006	2006
007	2007
008	2008
009	2009

Index	Data
01	2360
02	2361
03	2362
04	2363
05	2364
06	2365
07	2366

BUS CONTROLLER MESSAGE DISPLAY WITH STATUS WORD DETAILS

Exploded Status Word Details

The screenshot displays the NATIONAL HYBRID PCI DRIVER MAIN WINDOW. The primary focus is the BUS CONTROLLER MESSAGES section, which includes a table of message pointers and a detailed view of a selected message's status word.

Message Pointers Table:

Index	Pointer
000	2328
001	235A
002	238C
003	23BE
004	23F0

Status Word Details:

Terminal Address: 04

Bits Set:

- Message Error
- Instrumentation
- Service Request
- Reserved_2
- Reserved_1
- Reserved_0
- Broadcast
- Busy
- SubSystem Flag
- Dynamic Bus
- Terminal Flag

Message Configuration:

- Gap: 000 us
- Bus A (Selected)
- RT-RT Transfer
- Stop-On-Status_Set
- Stop-On-Error
- Interrupt-On-Eom
- No Op

Status Set Capture:

- Message Error
- Busy
- SubSystem Flag
- Service Request
- Tf-Rsvd-Inst
- BroadCast
- Xor BroadCast
- Capture BroadCast

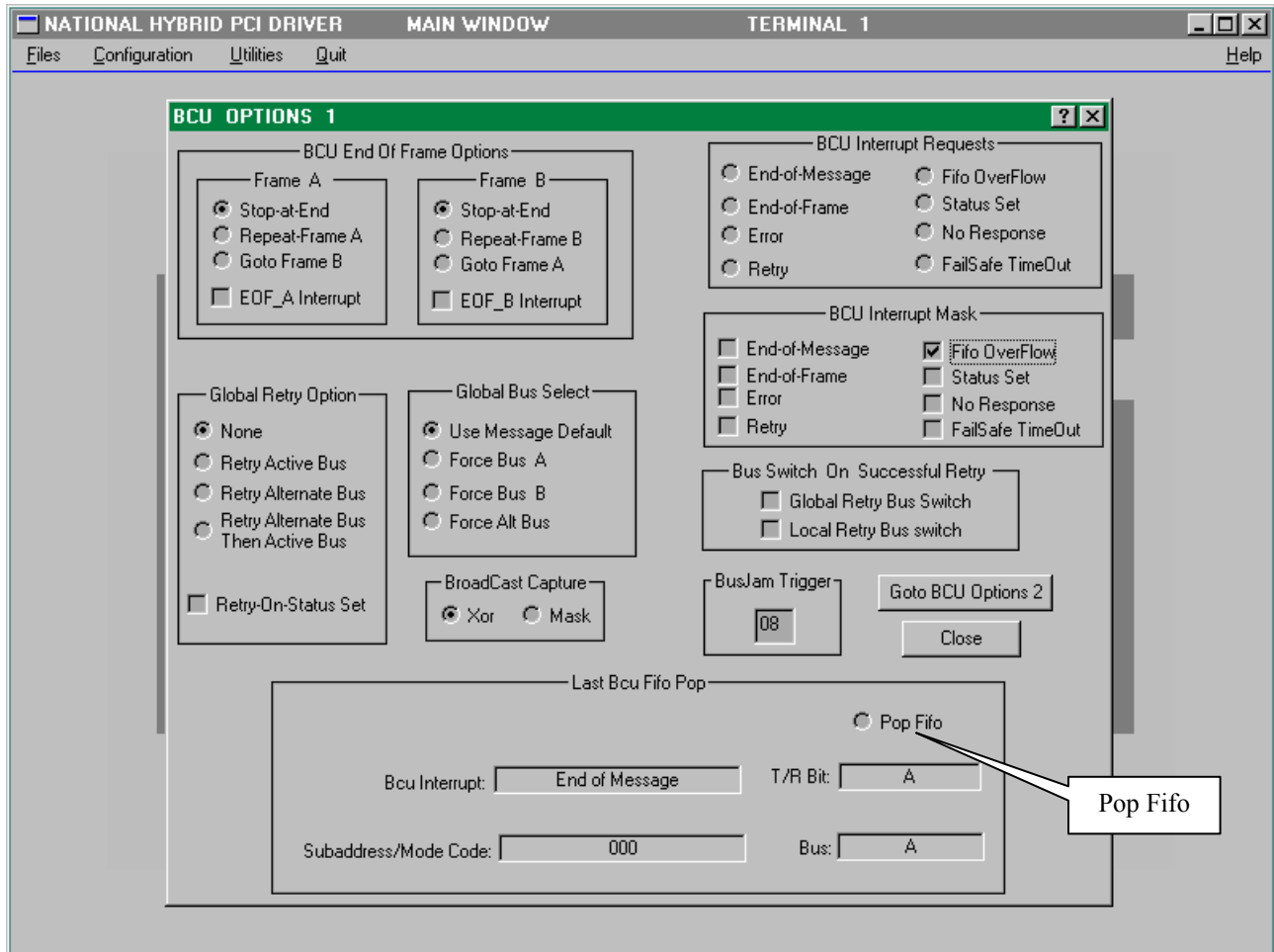
Local Retry Options:

- None (Selected)
- Retry Active Bus
- Retry Alternate Bus
- Retry Alternate Bus Then Active Bus

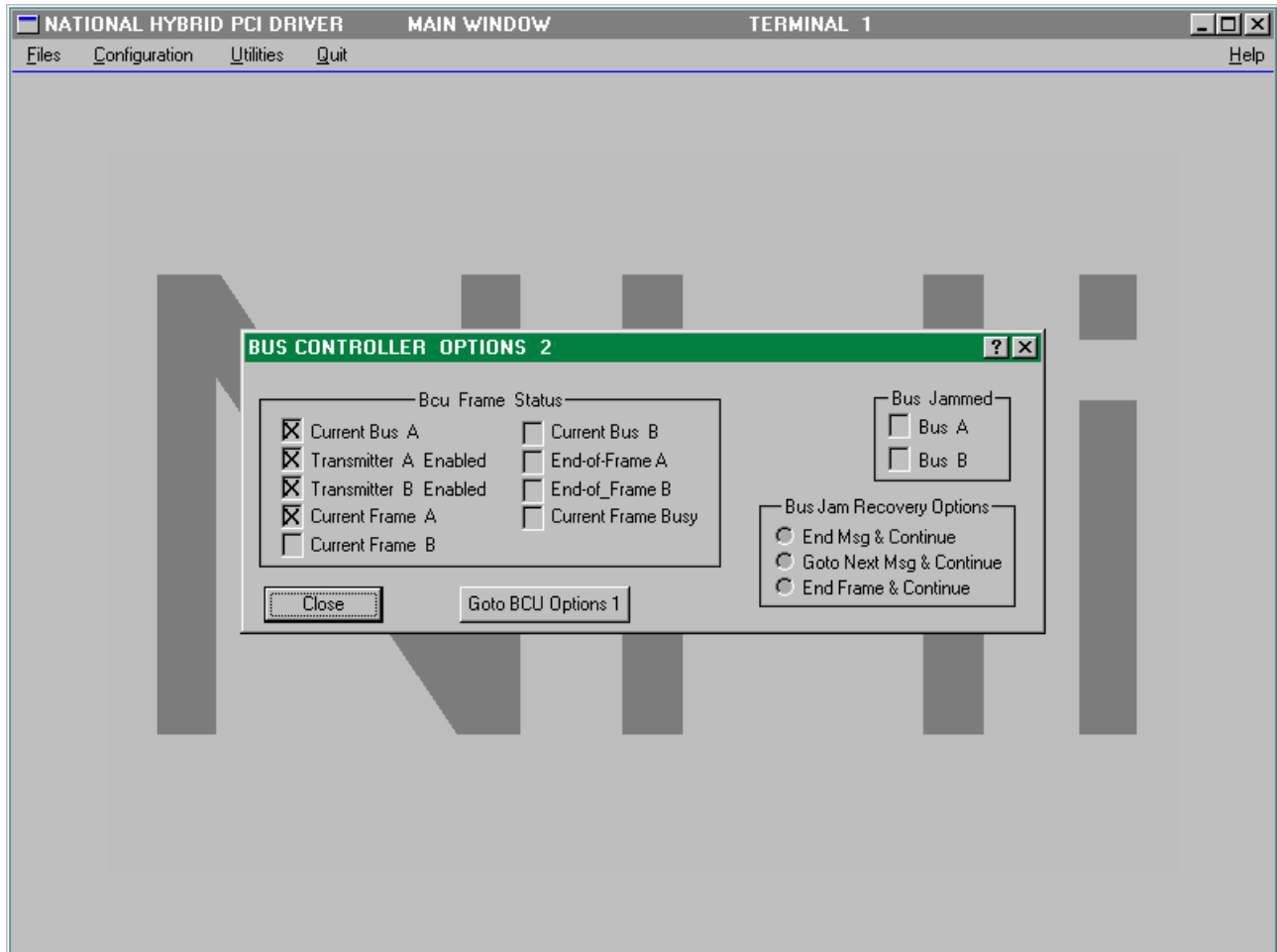
Message Data Words Table:

Index	Data
01	2360
02	2361
03	2362
04	2363
05	2364
06	2365
07	2366

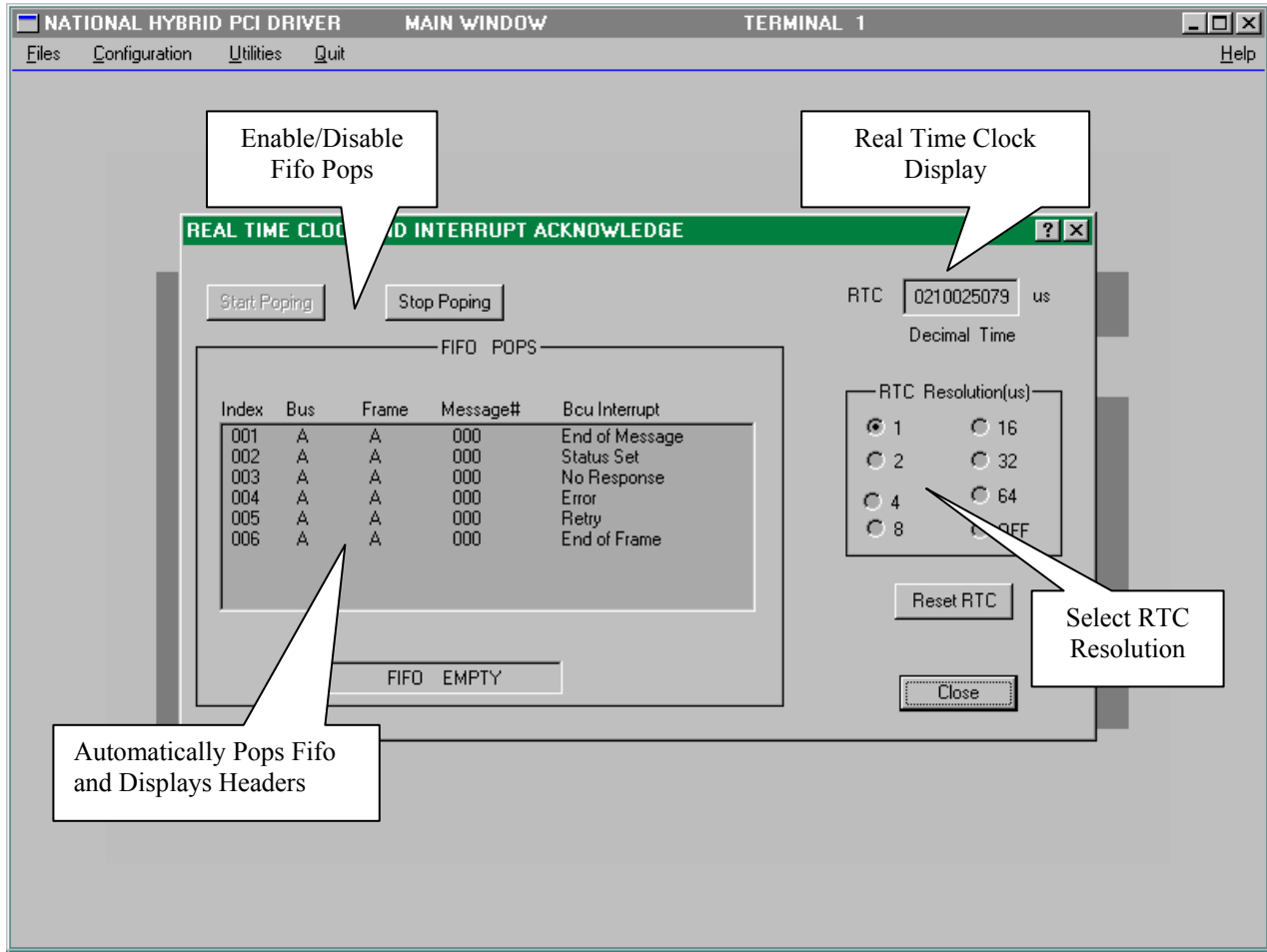
BUS CONTROLLER OPTIONS 1 DISPLAY



BUS CONTROLLER OPTIONS 2 DISPLAY



BUS CONTROLLER INTERRUPT ACKNOWLEDGE AND RTC DISPLAY



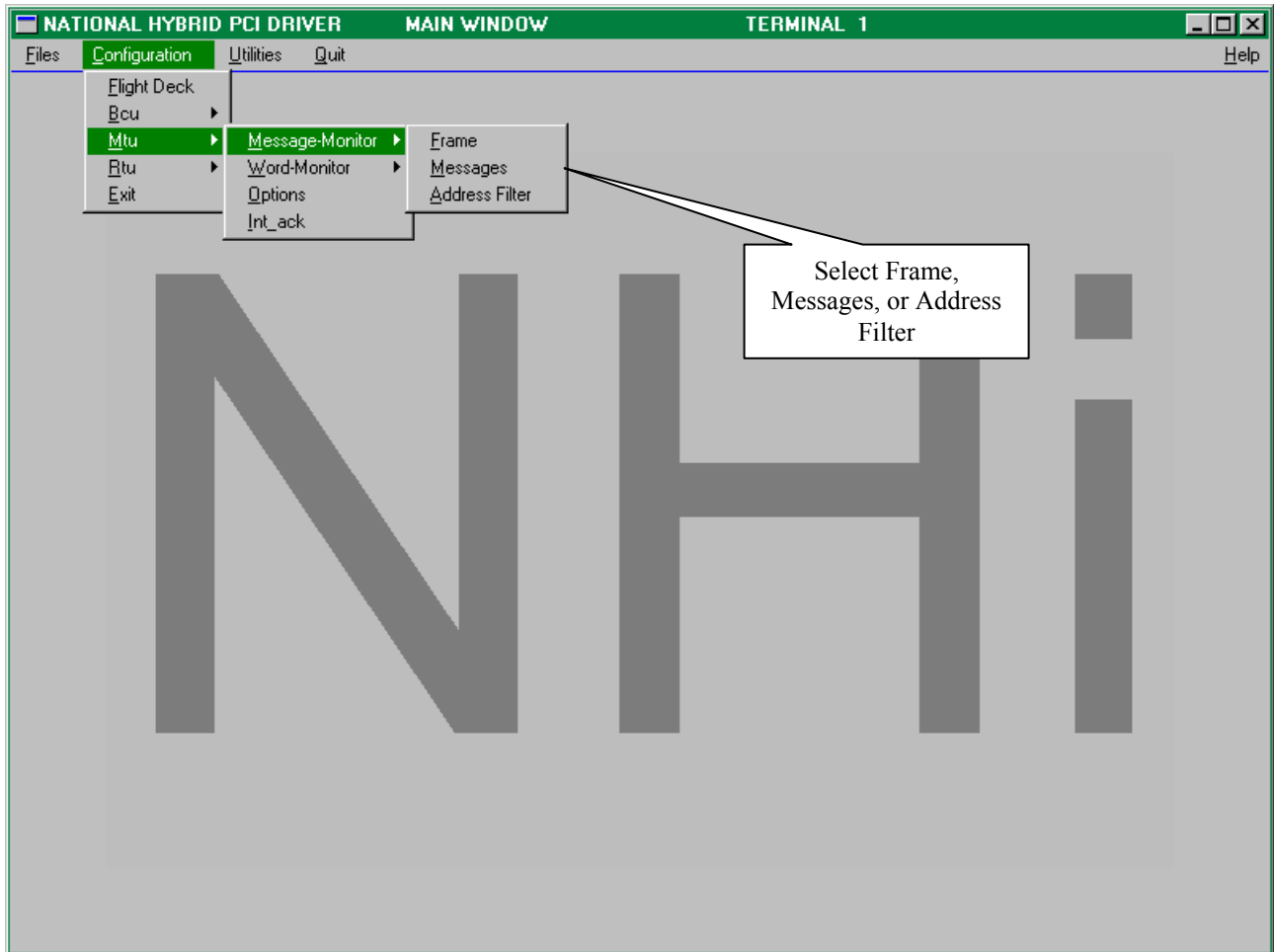
After configuring the frames and messages, go to the Flight Deck and enable the BC mode and start the Bus Controller. The BC will go off line automatically after all the messages in the frame have been processed if the Stop-At-End-Of Frame option is selected.

The BC will remain on line if the Repeat-Frame option is selected. Use the Stop button on the Flight Deck to take the BC off line.

MESSAGE MONITOR QUICK START

Use the following Message Monitor Mode Screen-Shots as a road map.

MAIN MENU



MESSAGE MONITOR FRAMES AND MESSAGE POINTERS

The screenshot shows a software window titled "MESSAGE MONITOR FRAMES AND MESSAGE POINTERS" with a menu bar (Files, Configuration, Utilities, Quit) and a Help button. The main area contains a "Pointer Table" with the following data:

Address	Message Pointers							
2000	2328	235A	238C	23BE	23F0	2005	2006	2007
2008	2008	2009	200A	200B	200C	200D	200E	200F
2010	2010	2011	2012	2013	2014			

Below the table are buttons for "Select Pointer Row" and "Clear Pointers". To the right is a "Frame Select" section with radio buttons for "Frame A" (selected) and "Frame B". Below that is a "Message Table Setup" section with input fields for "Address" (2000) and "Length" (0015), and a "Save Table" button. At the bottom, there is an "Initial Pointer" field containing "2328", and buttons for "All Values in Hex" and "Close".

Callouts provide the following instructions:

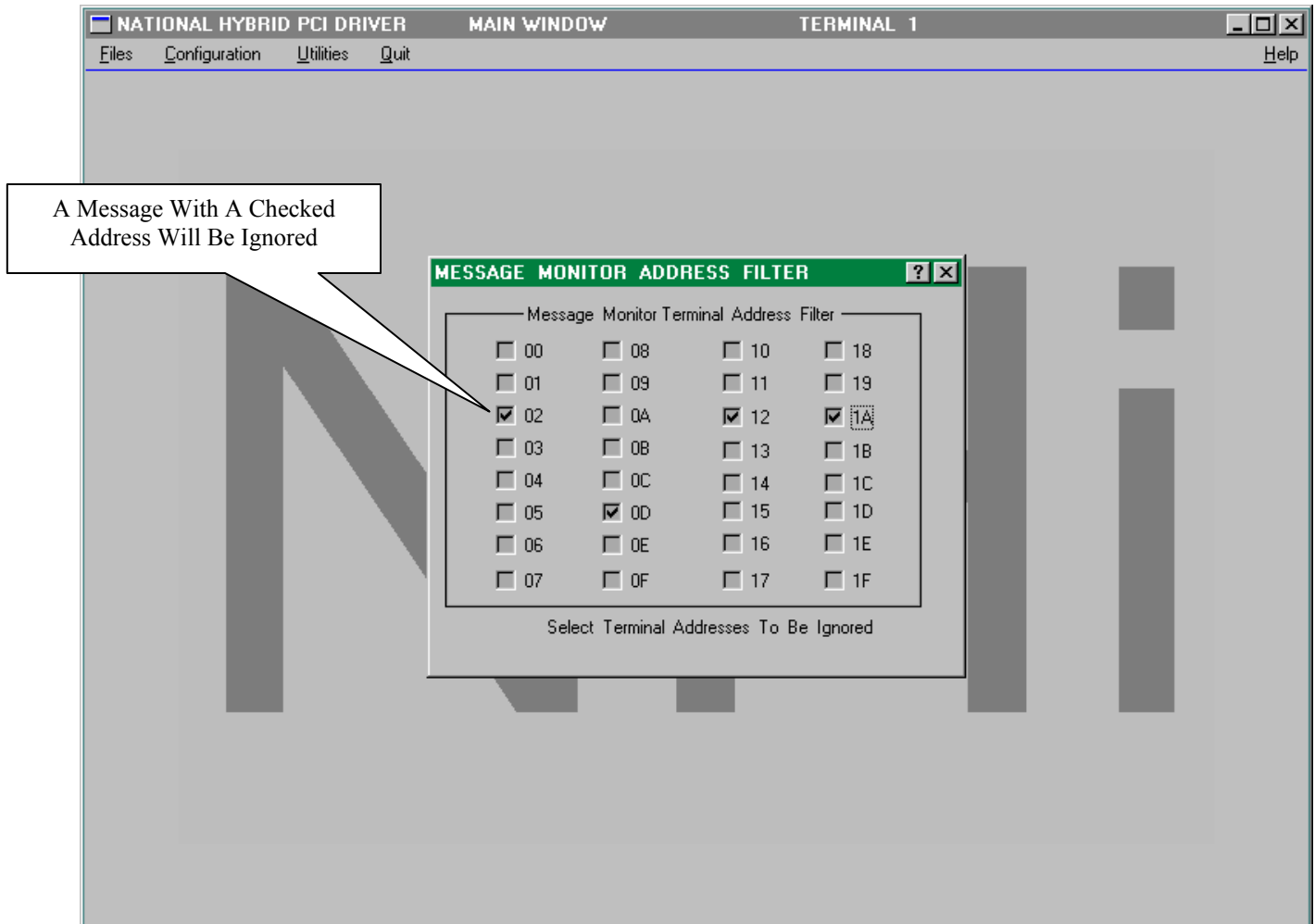
- "Select Row of Pointers And Automatically Switch to Message Table Display." (points to the table)
- "Change Frame" (points to the Frame Select section)
- "Clear All Pointers Except Initial Pointer" (points to the Clear Pointers button)
- "Define Initial Pointer" (points to the Initial Pointer field)
- "Change Frame Parameters" (points to the Message Table Setup section)

MESSAGE MONITOR MESSAGE DISPLAY

The screenshot shows the MESSAGE MONITOR MESSAGE DISPLAY window. It is divided into several sections:

- Left Panel:** Contains a 'Select Frame' section with radio buttons for 'Frame A' and 'Frame B' (selected). Below it is a 'Message Pointers' table with 'Index' and 'Pointer' columns. The first row (000) is highlighted in green, with a callout 'Select Message' pointing to it. Below the table are 'Total Message' (020) and 'Goto Message Pointer' fields.
- Command Word Section:** Shows 'Receive' (checked) and 'Transmit' (unchecked) options. Fields for Address (01), SubAddress (01), and WordCount (05) are present. A summary box displays 'C01 R 01 05' and '0825'. A callout 'Command/Status Word' points to this section.
- RT-RT 2nd Command Word Section:** Shows 'Receive' (unchecked) and 'Transmit' (checked) options. Fields for Address (03), SubAddress (02), and WordCount (05) are present. A summary box displays 'C03 T 02 05' and '1C45'. A callout 'RT-RT 2nd Command/Status Word' points to this section.
- Message Analysis Section:** Contains checkboxes for 'End-Of-Message' (checked), 'Bus B' (checked), 'OverLap' (unchecked), 'Start-of-Message' (unchecked), 'Sync Error' (unchecked), 'Data Error' (unchecked), 'Bus A' (unchecked), 'Command 2 Error' (unchecked), 'Command Error' (unchecked), and 'RT-RT Transfer' (checked).
- Right Panel:** Shows 'Status Word' (S01 0 01 05) and '2nd Status Word' (S03 1 02 05) sections, each with a 'Details' button. A 'Time Tag Value us' field shows '0322048819' and 'Decimal Time'. Below is an 'Index Data' table showing 'No Data'. At the bottom, a 'Message Length' field shows '05' words. A callout 'Total Words in Message Includes: TagWord, Two Time Tag Words, Command/Status Word(s) and Data Words' points to this section.

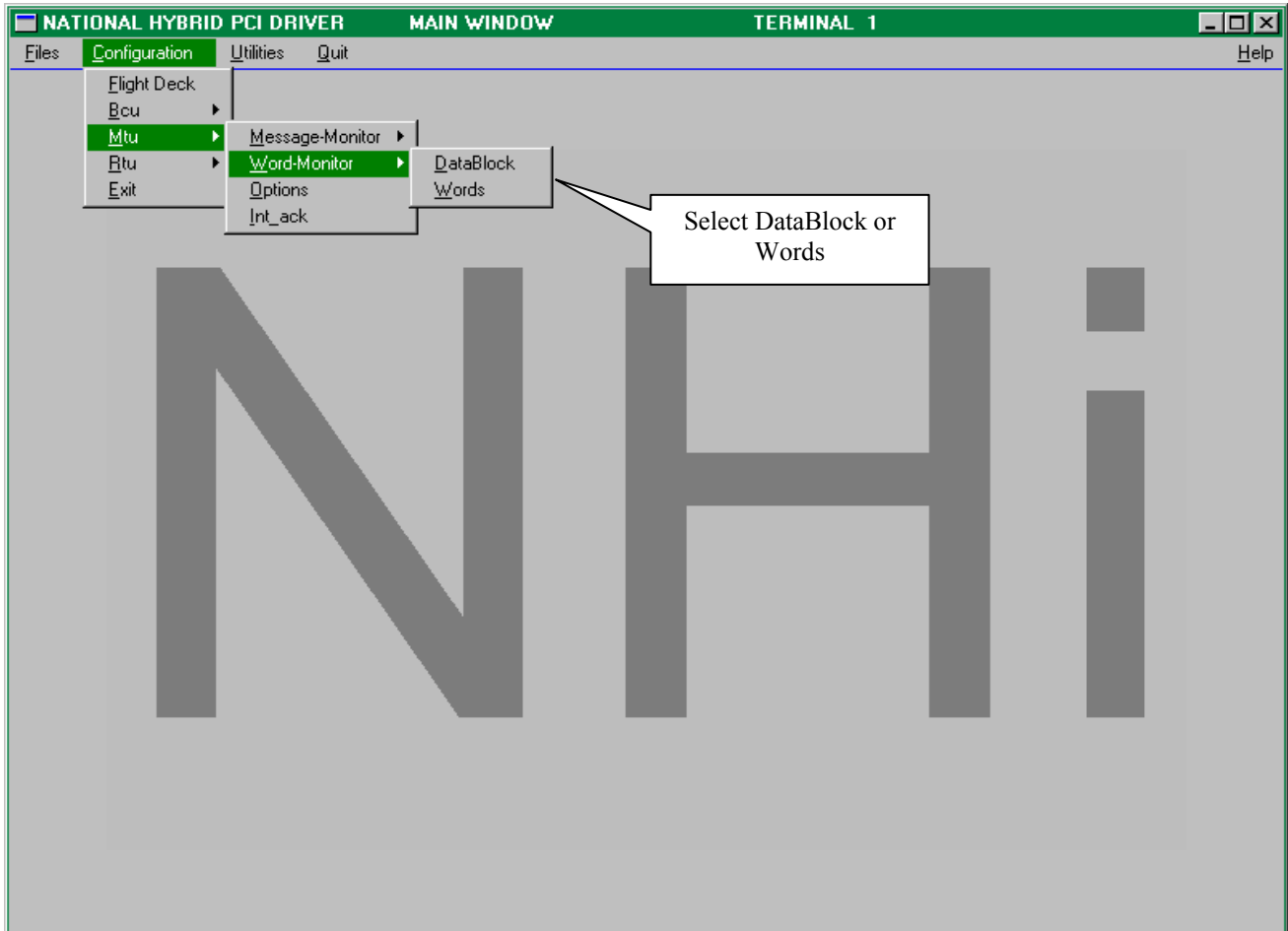
MESSAGE MONITOR ADDRESS FILTER



WORD MONITOR QUICK START

Use the following Word Monitor Mode Screen-Shots as a road map.

MAIN MENU



WORD MONITOR DATA BLOCK CONFIGURATION

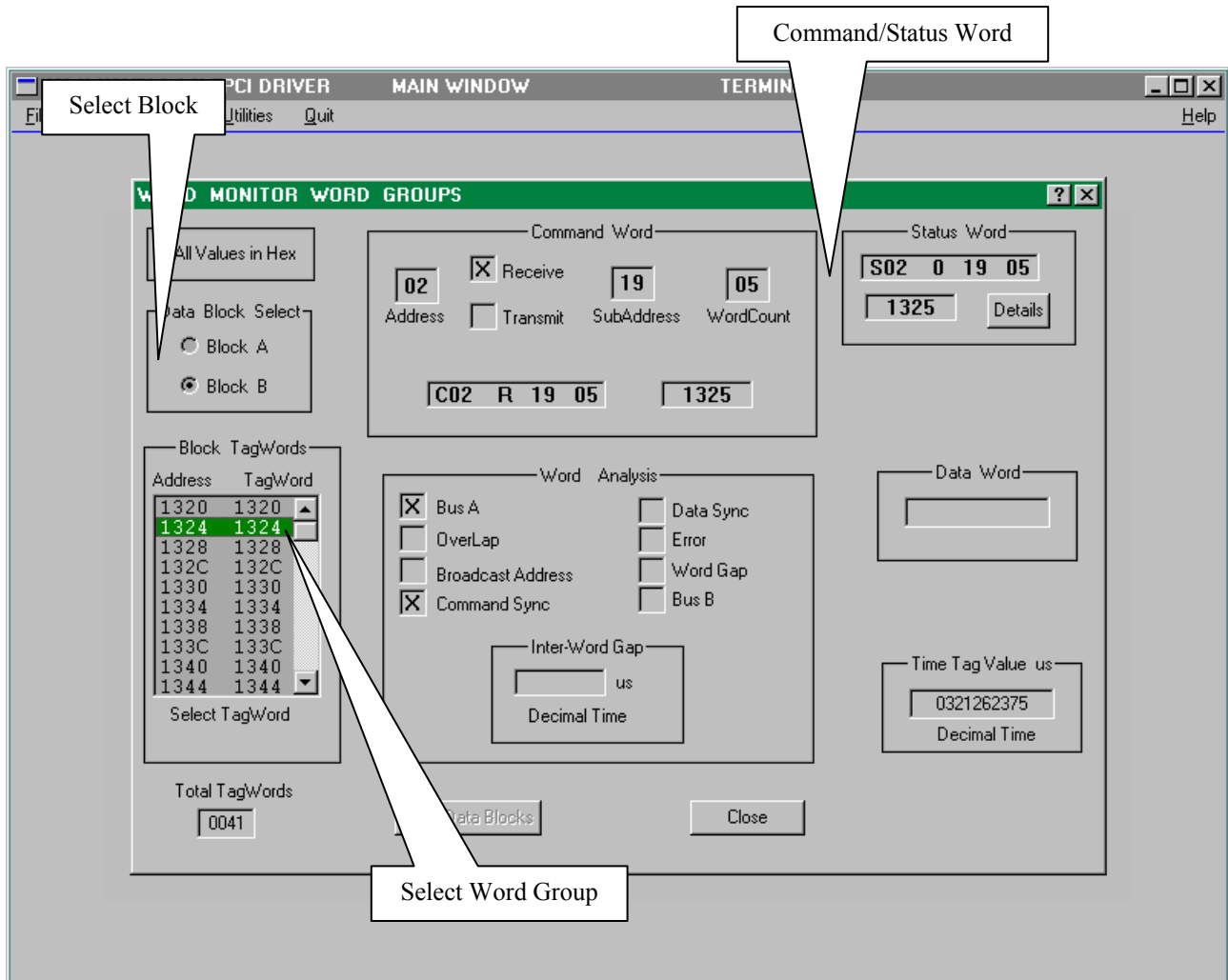
The screenshot shows a software interface titled "WORD MONITOR DATA BLOCKS" with a menu bar (Files, Configuration, Utilities, Quit) and a terminal window (TERMINAL 1) on the right. The main configuration area includes:

- Data Block A Memory Location:** Start Location: 2000, End Location: 2015.
- Data Block B Memory Location:** Start Location: 1320, End Location: 1420.
- Transfer To Data Words:** Goto Block A Words, Goto Block B Words.
- Reset Block Data To 0:** Reset Block A, Reset Block B.
- Data Word Time Tag Option:** Don't TimeTag Data Words, Time Tag Data Words.

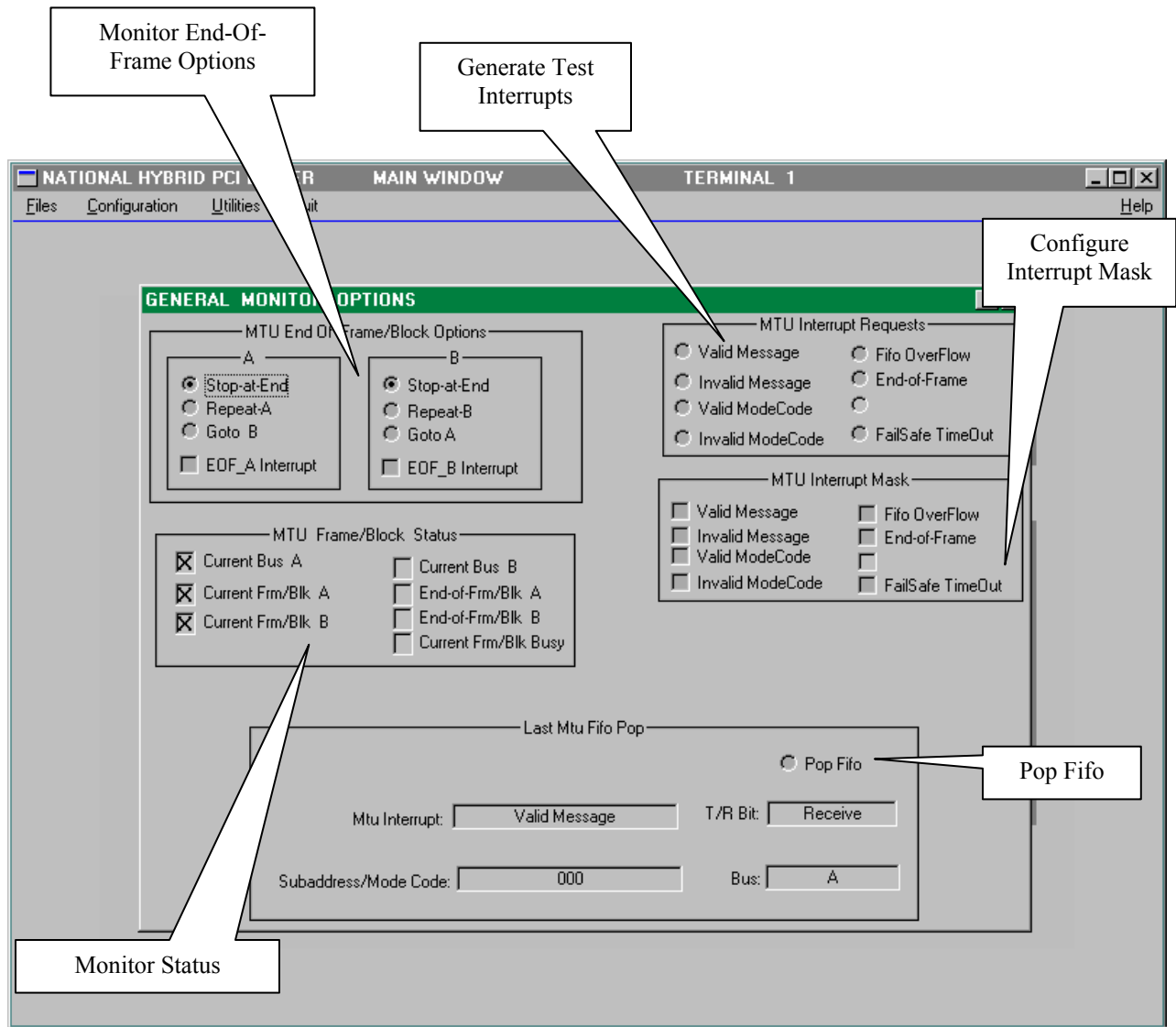
Callouts provide the following instructions:

- Configure Data Block Parameters:** Points to the memory location input fields.
- Display Words In Block:** Points to the "Goto Block A Words" and "Goto Block B Words" buttons.
- Clear Block Memory:** Points to the "Reset Block A" and "Reset Block B" buttons.
- This Choice Saves Ram Space:** Points to the "Don't TimeTag Data Words" radio button.
- Select Time Tag Option:** Points to the "Time Tag Data Words" radio button.

WORD MONITOR WORD STORAGE



GENERAL MONITOR OPTIONS



After defining the frames and blocks, go to the Flight Deck and select the monitor type and start the monitor. The MT will go off line automatically after all the messages in the frame have been processed if the Stop-At-End-Of Frame option is selected.

The MT will remain on line if the Repeat-Frame option is selected. Use the Stop button on the Flight Deck to take the MT off line.



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