

part number 96-100387A

DATATEST 5B

Guided Tour



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1) INTRODUCTION

The DATATEST 5B GUIDED TOUR is designed to provide a brief overview of the Datatest 5B. The DT5B is a portable datacommunications test set that combines a wide variety of testing capabilities, such as protocol analysis, data line monitoring, BERT, programmable network simulation, terminal emulation, remote control and full interface breakout.

The guided tour provides you with a number of simple examples, which demonstrate commonly used testing capabilities of the DT5B. Each section provides a brief overview of the application and details of how to set up and run a test.

Included with the guided tour documentation and the DT5B is a 3.5" disk labelled 'DT5B GUIDED TOUR'. The disk contains a number of sample tests and results which are used in the various examples. The different examples have been set up so that you can either run the tests on active networks or review the results of previous tests. The only equipment that is absolutely necessary for walking through the guided tour is a DT5B and the guided tour disk. We estimate that the tour should take approximately 1 hour to complete.

The guided tour is not intended to be a comprehensive guide to all of the testing capabilities of the DT5B. The Datatest 5B Operators Manual outlines these in much greater detail. Documented Program Libraries are available in disk form for the SNA and X.25 application packs, which provide additional testing capabilities.

2) GETTING STARTED

The Datatest 5B comes equipped with an RS232/V.24 Physical Interface Module (PIM), General Link Test (GLT) and State Programming application packs, a softpack carrying case, Operators Manual and two 3.5" disks. The cables and patch cords are stored in the lid of the DT5B or the side pouch of the carrying case. The DT5B may also be equipped with SNA or X.25 application packs or additional PIM's for V.35 or X.21 interfaces

The following procedure should be followed when setting up the DT5B. Through out this document **BOLD** face words are used to highlight particular actions that should be taken.

- 1) **Make sure that the DT5B is powered off. Connect the RS232 PIM** to the rear of the DT5B, using the colored ribbon cable with the keyed connectors. On the RS232 PIM verify that the RS232/MIL-188 switch is in the RS232 position.
- 2) **Plug the GLT application pack into the DT5B.** The app pack plugs into the left hand slot on the front of the DT5B. Always be sure to power off the DT5B before removing or installing application packs.
- 3) After installing the RS232 PIM and GLT application pack, **power on the DT5B.**
- 4) **Adjust the angle of the DT5B display** to the desired viewing position. The angle can be adjusted using the biege plastic release button, which is located on the left hand side of the display support. The contrast can be adjusted using the keyboard contrast keys.
- 5) **Insert the 'DT5B GUIDED TOUR' disk** into the disk drive. Always be sure to eject the disk before powering the DT5B off. Failure to do so may damage the contents of the disk.

We recommend that you follow the TOUR in the sequence outlined in the Table of Contents. Section 9 of the guided tour provides additional information regarding the use of 3.5" disks.

3) AUTOCONFIGURE & DATALINE MONITORING

A) DESCRIPTION

The Datatest 5B can be used to monitor Asynchronous, Synchronous and BOP circuits (HDLC/SDLC) at speeds up to 64 Kbps full duplex. In autoconfigure mode, the DT5B automatically determines the speed, protocol, code level and parity.

B) SETTING UP THE TEST

- Follow the steps outlined in the 'GETTING STARTED' section. If you do not have access to a live circuit for monitoring purposes, please skip ahead to Section 3D - REVIEWING PREVIOUS RESULTS
- Use the RS232 cable to **connect the RS232 PIM to the circuit** you want to monitor.
- **Press the CAPTUR** function key from the main menu.

From the CAPTURE MENU use the cursor keys to **select** the 64K RAM buffer. (After selecting a set up parameter, using the left and right cursor keys, you must press the down cursor or enter key to select the value):

CAPT: RAM DISK

This will set up the DT5B to capture data to the 64K capture buffer rather than directly to disk. Section 6) of this tour goes through an example of capturing data directly to disk.

- **Press the PREV** function key to return to the main menu.
- **Press the AUTO** function key to start the test running

The DT5B will automatically determine the speed and protocol of the circuit being monitored. If there is no data or clocks present on the interface you will receive a 'NO DATA' prompt.

C) SAMPLE RESULTS

As the DT5B determines the various parameters, they will be periodically updated on the display. The first line parameters to be determined are typically the interface clock rates. The process of determining all the parameters takes 3 to 30 seconds to complete.

```
CONFIGURATION DONE          AUTO CONFIGURE MENU          16:20:07
BOTH: ASYNC  EBCDIC  BOP          02/25/87
SYNC : 232 hex
PAR'Y: NONE  EVEN  ODD  SPACE
      MARK
BCC  : NONE  CPE16  CCITT  LRC
CLOCK: INT   EXT
TXSPD: 2400
RXSPD: 2400
CODE  : ASCII  EBCDIC  EBCD  BAUDOT

      HALT  |  PREV
```

After the DT5B has determined the speed and protocol, you will automatically be transferred to the MONITOR RUNNING screen where you can then view the incoming data. The line set up parameters are summarized on the first two lines of the data display. The monitor mode set up parameters are automatically updated, after the DT5B has determined the line parameters.

```
MONITOR HALTED
MON-BOTH-LINE-EBCDIC-N-SYNC2-EXT- 2400  #TRAP: 13:19:51
TIMER: 11/07/87
RD:HEX=32 BIN=0010010 BLK#01
THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG 1234567890 DE
THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG 1234567890 DE
THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG 1234567
890 DE THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG
7890 DE THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG
1234567820 DE THE QUICK BROWN FOX JUMPS OVER THE LA
1234567820 DE THE QUICK BROWN FOX JUMPS OVER THE L
ZY DOG 1234567890 DE THE QUICK BROWN FOX JUMPS OVER
AZY DOG 1234567890 DE THE QUICK BROWN FOX JUMPS OVE
HEX | TAG | STATE | FRAME | MORE | RUN | PREV
```

- To return to the MAIN MENU, **press** the **HALT** function key and then **press** the **PREV** function key **twice**.

D) REVIEWING PREVIOUS RESULTS

The GUIDED TOUR disk contains 3 sample data buffers that you can review.

- From the MAIN MENU **press** the **MON** function key to select monitor mode.

```

MON-                               MONITOR MODE SETUP                               12:52:43
                                     11/12/87
MONTR: DTE      DCE      BOTH      CLOCK: INT      EXT
SOURC: LINE    BUFFER
PROTO: ASYNC    SYNC     BOP      BINARY  RXSPD: 2400
SYNC: 3232 hex  CODE: ASCII  EBCDIC  EBCD  BAUDOT
OUTSY: ON      OFF
OUTCR: FF      hex
PAR'Y: NONE    EVEN     ODD      SPACE  HIGH: NO   STRING CHAR
      MARK
      BCC: NO    YES     USER      SUPPR: NO   CHAR
XPRNT: NO     YES
SYNC:  DPLY  HLITE  SUPPR
      TRAP  TIMER  LOAD  SAVE  REVIEW  PUN  PREV

```

- From the MONITOR MODE SETUP MENU **press** the **LOAD** function key.

```

Load from disk:                     LOAD MENU                               20:06:23
                                     11/12/87
FILE : BOP-----
SETUP: NO      YES
RESUL: NO      YES
BUFFR: NO      YES
USER : NO      YES
      EXEC  SAVE  PREV

```

- Enter** the name of the file that you want to review. Three files are available for review:

BOP <-- Contains sample BOP (SDLC) data
 BISYNC <-- Contains sample Bisync Data
 ASYNC <-- Contains sample Async Data

- Make sure that you have selected **SETUP** and **BUFFER** to be loaded. When all the fields have been set up, **press** the **EXEC** function key. The loading will take about 30 seconds to complete.
- Press** the **PREV** function key to return to to the MONITOR SETUP MENU
- Press** the **REVIEW** function key to begin reviewing the data

To access the statistics, **press** the **STATS** function key. Particularly when monitoring a circuit over an extended period of time, the statistics can help you isolate protocol related problems.

```

STATS HALTED                                #TRAP:      08:41:13
MON-BOTH-LINE-EBCDIC-N-SYNC2-EXT-2400     TIMER:      11/20/87

      DTE                                     DCE

CHARC =          550                         CHARC =          1035
PARITY =           0                         PARITY =           0
BCC =             0                         BCC =             0
FRMERR =          0                         FRMERR =          0
ABORT =           0                         ABORT =           0
SYNLOS =          0                         SYNLOS =           0

DATA | FRAME | PRINT | RUN | PREV

```

FRAME DISPLAY

The data stored in the buffer can also be viewed in a decoded format. The decode is only available for bit oriented protocols, such as HDLC or SDLC. To access this information, **press** the **FRAME** function key.

```

MONITOR HALTED                               #TRAP:      13:42:19
MON-BOTH-BUFR-EBCDIC-N-BOPZ -EXT-2400     TIMER:      11/07/87

      D T E                                     D C E
ADDR CTRL P/F NR NS I ADDR CTRL P/F NR NS I
00 DA/NSA 1 0 0 0 * 00 SNRM 1 0 0 0
00 RR 1 0 0 0 * 00 RR 1 0 0 0
00 INFO 1 1 0 0 * 00 INFO 0 0 0 0
000 RRR 1 1 0 0 * 000 RRR 1 1 0 0
000 RRR 1 1 0 0 * 000 RRR 1 1 0 0
000 RRR 1 1 0 0 * 000 RRR 1 1 0 0
00 RRR 1 1 0 0 * 00 RRR 1 1 0 0

DATA | STATS | PRINT | TAG | RUN | PREV

```

The DT5B provides you with a complete frame level decode. The DT5B decodes each frame and summarizes the frame type, address, poll/final bit status, sequence number counters and good/bad BCC indication. The '*' is used to indicate which side of the line came first.

Please note that the DATA, STATS and FRAME displays are all available, simultaneously, when monitoring an active circuit. If you want to examine the data stored in the ASYNC or BISYNC files, **press** the **PREV** function key and repeat the LOAD procedure as described on page 7 with the above file names.

The X.25 and SNA application packs provide additional statistics and decoding capabilities, which are described later in the tour.

F) RERUNNING A TEST ON PREVIOUSLY CAPTURED DATA

The DT5B can also rerun tests on previously captured data. You may, for example, set up a trap to find a particular event within the buffer.

- In the MONITOR MODE SETUP menu **select** the following
SOURC: LINE BUFFER
- If you want to set up a trap, press the TRAP function key and this will take you to the MONITOR MODE TRAP MENU. Use the cursor keys to setup the trap.
- **Press** the **RUN** function key and the DT5B will begin replaying the data
- To return to the MAIN MENU, **press** the **HALT** function key and then **press** the **PREV** function key **twice**.

4) BERT TESTING

A) DESCRIPTION

While running a BERT test the DT5B automatically provides you with a large number of statistics, such as the number of bit errors and error free seconds. These counters can be used to help pinpoint the exact nature of the problem on a particular circuit. Error logging capabilities allow you determine exactly when a problem occurred. (This feature requires the use of an external printer, so it will not be covered in the TOUR).

B) SETTING UP THE TEST

- For the sake of simplicity, this example has been set up so that no external equipment is required. Use the white 3-way jumper cables to **patch +V** to **DTR** and **RTS** on the RS232 interface module. (Red LED's will illuminate) Use one of the gray 2-way jumper cables to **patch TD** to **RD**. The RS232 interface module will be used to loop the data back to the DT5B.
- From the main menu **press** the **GLT** function key to enter the General Link Test application pack. **Press** the **BERT** function key to select the BERT set up menu.

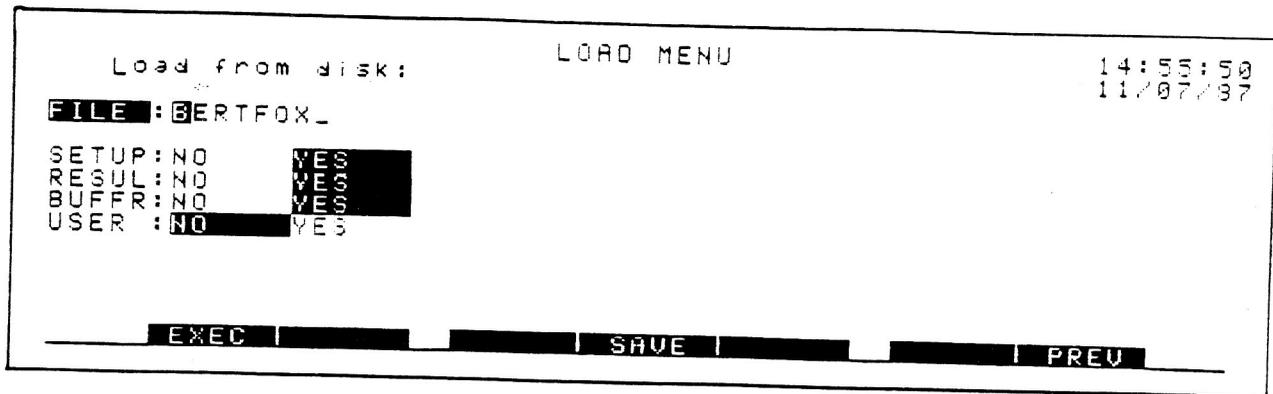
```
BERT-                                     14:28:57
                                           11/07/87
SELECT TEST MESSAGE      T/OUT:10__ SEC.
TYPE : 83      511      2047      4095  SIMPLX: NO  YES
      ALT1-0 FOX  USER          COUNT SYNC LOST
                                           ERROR: NO  YES

B.SIZ:1000
DURAT: CONT BLOCK MINUTE          AUTOPR: NO  TIME  ERROR
                                           CYCLE:30 MINUTE(S)
                                           RESET COUNTR AFTER
                                           PRINT: NO  YES

SETUP | LIBR ?Y | LOAD | SAVE | REVIEW | RUN | PREV
```

Rather than setting up all the parameters manually, you can load them from disk.

- To load the BERT test set up, **press** the **LOAD** function key from the BERT MENU



- Make sure that you have selected the SETUP and BUFFER to be loaded. When all fields have been selected, **press** the **EXEC** function key.
- **Press** the **PREV** function key to return to the BERT MENU and then **press** the **RUN** function key. Note that both a data display and BERT statistics are available.
- If you want to run a test on an active circuit you will probably have to change some of the set up parameters, such as the speed or clocking. The DT5B Operator's Manual describes the various set up parameters in detail.

C) INTERPRETATION OF RESULTS

When running, the red and green LED's should be flashing on the TD and RD pins of the RS232 interface. If you have not patched the interface correctly, you should receive status messages such as 'DTR MARKING'. At the beginning of the test the DT5B will also display a 'SYNCRONIZING ON INCOMING DATA' message.

- **Press** the **INS-ER** key to insert single bit errors. The statistics should reflect a single bit error being received.
- **Remove the patch cable between TD and RD.** The DT5B will count a SYNC LOSS and a number of SYNC LOSS SECONDS. This indicates that there has been a major interruption on the link. Reconnect the patch cable and the DT5B will again begin counting bits received.

5) TERMINAL EMULATION

A) DESCRIPTION

The Datatest 5B can be used as a 'dumb' asynchronous terminal, thus eliminating the need to carry a separate terminal into the field. Terminal emulation capabilities are becoming increasingly important, as many network devices must be 'soft configured' through auxiliary ports rather than by setting 'dip' switches.

The DT5B can be set up to operate in either full duplex or half duplex mode at speeds up to 9600 bps. The buffered review mode allows for 50 row by 80 column support. This is particularly useful when communicating with host devices that send data in a full screen format.

B) SETTING UP THE TEST

This example does not require access to any external devices. If you want to connect the DT5B to a host device, the set up parameters will probably have to be modified.

- If you have just finished running a BERT test, some of the interface LED's (E.G. DSR) will still be illuminated. Go back to the MAIN MENU and **press** the **AUTO** function key. All of the LED's should now be off. **Press** the **HALT** key and then the **PREV** function key, to return to the MAIN MENU
- **Connect the RS232 cable** between the **EmCRT port** and the **RS232 Interface module**. (The EmCRT port is located on the left hand side of the unit. Of the two side ports, it is the one that is closest to the rear of the unit). The RS232 interface module will be used to loop the outbound data back to the DT5B.
- Use a gray 2 way jumper to **patch TD to RD**
- From the MAIN MENU **press** the **UTIL** function key, to enter into the utilities mode
- **Press** the **EmCRT** function key to bring up the EMULATE CRT SETUP MENU. Set up the parameters to match the following:

- The cursor keys can be used to move the 'display window' within the buffer. If you **press** the **RIGHT** cursor key **followed by** the **HOME** key this will shift the window all the way to the right hand side of the buffer (i.e. columns 20 through 80 will appear on the display). To page towards the top of the display buffer **press** the **UP** cursor key **followed by** the **HOME** key.

If you press any of the cursor keys, it will move the display window by 1 character. The previously pressed cursor key determines the action of the HOME key

- **Press** the **EXIT** function key, to exit from REVIEW mode. You can go back into review mode at any time by pressing the REVIEW function key. When you are in review mode and type in any characters on the keyboard, or if a host device sends you any additional data, you will automatically be exited from review mode.
- **Remove the patch cables** from the RS232 PIM after you have finished with terminal emulation mode.
- To return to the MAIN MENU, **press** the **PREV** function key **twice**.

For more information regarding Terminal Emulation Capabilities, please refer to the DT5B Operator's Manual.

The DT5B will automatically determine the speed and protocol of the circuit being monitored and then begin capturing the data directly to disk.

- Let the test run for a few minutes, and then **press** the **HALT** key. The DT5B will display an 'accessing disk' message as it copies the last of the data that it has queued up to disk. Section 3 describes the use of the cursor keys and dataline monitoring in greater detail.

The data that has been stored to disk will be kept indefinitely, unless you run another test, or erase the file.

- **Eject the disk, and power off the DT5.** Power the unit back on and insert the guided tour disk.
- From the MAIN MENU **press** the **MON** function key. If you then **press** the **REVIEW** key, you will again be reviewing the same data that was previously captured to disk.

The DT5B can also rerun tests on data previously captured into the CAPTURE. file. Section 9 of the TOUR describes the various file types in more detail as well as disk housekeeping utilities.

- When you have finished reviewing the data **press** the **PREV** function key twice to return to the MAIN MENU. **Press** the **CAPTURE** function key and then reset the capture medium back to the 64K Ram buffer.

CAPTUR: RAM DISK

Press the **DOWN** cursor key and then **press** the **PREV** function key to return to the MAIN MENU. This will help avoid any confusion, when completing the remainder of the guided tour.

7) MONITORING AN X.25 CIRCUIT

A) DESCRIPTION

The X.25 application pack for the DT5B provides enhanced testing capabilities for troubleshooting problems in X.25 packet switched networks. The X.25 pack supports both monitoring and emulation capabilities. The DT5B provides a full decode of the data at the frame and packet levels, at speeds up to 64 Kbps. In addition, the DT5B collects a large number of frame level, packet level and logical channel statistics when monitoring X.25 circuits. These statistics can be used for isolating protocol related problems or monitoring network activity. The trapping capability allows you to look for specific events at both the frame and packet levels.

A comprehensive library of X.25 application programs is available, which allows you to interactively test networks and PAD's. These tests are beyond the scope of the TOUR.

B) SETTING UP THE TEST

- **Eject** the Guided Tour **Disk**
- **Power off** the DT5B
- Remove the GLT application pack and **install** the **X.25** application pack
- **Power on** the DT5B and **insert** the Guided Tour **Disk**
- From the Main Menu, **press** the **X.25** function key, and then **press** the **MON** function key. The Guided Tour Disk contains some sample data that can be reviewed. If you want to run a test on an active circuit, you will have to connect the RS232 PIM to the circuit that you wish to monitor and then press the RUN function key.
- In the X.25 MONITOR MODE SETUP MENU **press** the **LOAD** function key. Key in the following parameters:

- **Press** the **MORE** function key followed by the **DECODE** function key. You can now move through the buffer frame by frame using the left and right cursor keys. On the third line of the display, the frame and packet level parameters corresponding to the frame underneath the cursor are displayed. **Press** the **NORMAL** function key to exit from decode mode

FRAME AND PACKET LEVEL DISPLAYS

The X.25 application pack also provides separate Frame (Level 2) and Packet (Level 3) decode displays.

- **Press** the **FRAME** function key to access the frame level information and the **PACKET** function key to access the packet level information.

```

X.25 FRAME HALTED                               #TRAP: 12:33:55
MON-LINE    HOLD-NRZ    ASCII                    11/12/87
                                                    BLK#000

```

O T E										O C E									
ADDR	CTRL	P/F	NR	NS	I	ADDR	CTRL	P/F	NR	NS	I								
** 01	38M	0			0	01	UA	0			0								
** 01	INF	0	0	0	0	01	UM	0			0								
01	38M	0			0	01	UA	0			0								
01	INF	0	0	0	0	** 03	INF	0	0	0	0								
01	INF	0	1	1	0	** 01	RRF	0	1	2	0								
01	INF	0	2	2	0	** 03	RRF	0	2	2	1								
						** 01	RRF	0	3	3	1								

DATA | PACKET | TAG | MORE | RUN | PREV

```

X.25 PACKET HALTED                               #TRAP: 12:35:35
MON-LINE    HOLD-NRZ    ASCII                    11/12/87
                                                    BLK#000

```

O T E										O C E									
LCN	TYPE	ODM	PR	PS	I	LCN	TYPE	ODM	PR	PS	I								
**0000	RST	00			0	000	RST	07	00		0								
**0000	RST	00			0														
**0001	CAL	36700177			0	**002	CAL	36700177			0								
**0002	CAL				0	001	CAL				0								
**0001	DAT		0	0	0	002	DAT		0	0	0								
**0001	DAT		1	1	0	001	RR		1	1	0								
**0002	DAT		2	2	0	002	DAT		0	1	1								
						001	RR		2	2	1								

DATA | FRAME | TAG | MORE | RUN | PREV

In the packet level decode display, the third line of the display is used to show the actual packet level data contained within the information frames.

STATISTICS DISPLAYS

When monitoring a circuit, the DT5B automatically keeps track of a large number of frame level, packet level and logical channel statistics.

- The various statistics displays can be accessed by pressing the **L-STAT**, **F-STAT** or **P-STAT** function keys

```

X.25 L-STAT HALTED                               #TRAP: 12:37:39
MON-LINE HOLC-NRZ ASCII                          11/12/87
-----
DTE LCN 001 COUNTERS [addr: 36700177] DCE
PACKET == 29 PACKET == 29
DATA == 20 DATA == 20
REJ == 0 REJ == 0
RESET == 0 RESET == 0
CALL == 1 CALL == 1
INVALID == 0 INVALID == 0
CHAR == 318 CHAR == 318
CHA/PKT == 11 CHA/PKT == 11
SEGMENT == 20 SEGMENT == 20
CHA/SEG == 11 CHA/SEG == 11
-----
PREV-CH | NXT-CH | F-STAT | P-STAT | MORE | RUN | PREV
  
```

```

X.25 F-STAT HALTED                               #TRAP: 12:39:13
MON-LINE HOLC-NRZ ASCII                          11/12/87
-----
DTE FRAME LEVEL COUNTERS DCE
FRAME == 121 FRAME == 121
INFO == 99 INFO == 99
REJ == 0 REJ == 0
SABM == 0 SABM == 0
SARM/DM == 1 SARM/DM == 1
INVALID == 0 INVALID == 0
BAD == 0 BAD == 0
ABORT == 0 ABORT == 0
-----
DATA | L-STAT | IP-STAT | MORE | RUN | PREV
  
```

```

X.25 P-STAT HALTED                               #TRAP: 12:40:49
MON-LINE HOLC-NRZ ASCII                          11/12/87
-----
DTE PACKET LEVEL COUNTERS DCE
PACKET == 59 PACKET == 59
DATA == 20 DATA == 20
REJ == 0 REJ == 0
RESET == 0 RESET == 0
CALL == 1 CALL == 1
INVALID == 0 INVALID == 0
CHAR == 318 CHAR == 318
CHA/PKT == 11 CHA/PKT == 11
SEGMENT == 20 SEGMENT == 20
CHA/SEG == 11 CHA/SEG == 11
-----
DATA | L-STAT | F-STAT | MORE | RUN | PREV
  
```

D) RERUNNING A TEST ON PREVIOUSLY CAPTURED DATA

The DT5B can also rerun tests on previously captured data. You may for example set up a trap to find a particular event within the buffer.

- In the X.25 MONITOR MODE SETUP menu select the following

SOURC: LINE BUFFER

- If you want to set up a trap press the TRAP function key and this will take you to the X.25 MODE TRAP MENU
- **Press** the **RUN** function key and the DT5B will begin replaying the contents of the Ram buffer.

8) MONITORING AN SNA NETWORK

A) DESCRIPTION

The SNA application pack for the DT5B provides enhanced testing capabilities for troubleshooting problems in SNA networks. The SNA pack supports both monitoring and emulation capabilities. Decoding capabilities are supported at speeds up to 64 Kbps. Statistics, such as the number of negative responses, are automatically collected and can be used to help to isolate network problems.

The SNA application pack also supports selective filter capabilities. Receiver Ready (RR) frames can be filtered out or the traffic to/from a particular Physical Unit (PU) or Logical Unit (LU) can be captured.

A comprehensive library of SNA application programs is also available, which allows you to interactively test Cluster Control Units and FEP's. These tests are beyond the scope of the TOUR.

B) SETTING UP THE TEST

- **Eject** the Guided Tour **Disk**
- **Power off** the DT5B
- Remove the X.25 application pack and **install** the **SNA** application pack
- **Power on** the DT5B and **insert** the Guided Tour **Disk**
- From the Main Menu, **press** the **SNA** function key, and then **press** the **MON** function key. The Guided Tour Disk contains some sample data that can be reviewed. If you want to run a test on an active circuit, you will have to connect the RS232 PIM to the circuit that you wish to monitor.
- From the SNA MONITOR MODE SETUP MENU **press** the **LOAD** function key. Key in the following parameters:

```

Load from disk:          LOAD MENU          12:28:10
                               11/08/87
FILE :SNA-----
SETUP:NO                 YES
RESUL:NO                 YES
BUFFER:NO                YES
USER:NO                  YES

EXEC | SAVE | PREV

```

- Make sure that you have selected BUFFER and RESULTS to be loaded. When all the fields have been set up, **press** the EXEC function key.
- **Press** the PREV function key and then **press** the REVIEW function key

C) INTERPRETATION OF RESULTS

When monitoring an SNA circuit the DT5B provides you with 3 different types of displays as well as statistics. The following sample printouts have been taken from the 'SNA' data file

DATA DISPLAY

The data display shows the line data in a time correlated manner.

```

SNA DATA HALTED          #TRAP:          12:30:04
MON-BUFFER SOLC-NRZ      EBCDIC          11/08/87
-----
RO:HEX=40 BIN=01000000   BLK#007
-----
NHR @U J ER @          U B1 ER @          U H2 ER @ S S M S E B n n 5 G 4 B - G - PF1 FMD (LU#xx)
-----
USR#x) *C0 G - PF2 ALU (LU#xx, TYPEX) *E G - PF3 OLU (LU#xx) *G - G
-----
-KEY IN PARAMETER(S), THEN PRESS PF KEY * G - A * 4 ER @ U B1 ER @          U B1 ER @
S S M S E B n n K G          U J ER @          U J ER @
J ER @          U J ER @
U J ER @          U J ER @          U J ER @          U J ER @          U J ER @          U J ER @          U J ER @          U J ER @          U J ER @          U J ER @
-----
HEX | SOLC | SNA | STATS | MORE | RUN | PREV

```


headers and the data contained within the Request unit. A more detailed summary of the various SNA layer parameters can be found in the DT5B SNA Operator's Manual.

STATISTICS DISPLAY

When monitoring a circuit, the DT5B automatically keeps track of a number of statistics such as the number of selective rejects and bad block check characters. These statistics are automatically collected each time you run a test.

- **Press** the **STATS** function key to examine the SNA statistics.

SNA STATS HALTED				#TRAP:		12:45:45						
MON-BUFFER		SDLC-NRZ	EBCDIC			11/08/87						
DTE		SNA COUNTERSU			DCE							
-RSP	=	0		-RSP	=	0						
REJ	=	00		SREJ	=	00						
SREJ	=	00		SREJ	=	00						
BADBCC	=	00		BADBCC	=	00						
ABORTS	=	0		ABORTS	=	00						
<table border="1" style="width:100%; text-align:center;"> <tr> <td>DATA</td> <td>SDLC</td> <td>SNA</td> <td>PRINT</td> <td>RUN</td> <td>PREV</td> </tr> </table>							DATA	SDLC	SNA	PRINT	RUN	PREV
DATA	SDLC	SNA	PRINT	RUN	PREV							

D) RERUNNING A TEST ON PREVIOUSLY CAPTURED DATA

The DT5B can also rerun tests on previously captured data. You may, for example, set up a trap to find a particular event within the buffer.

- In the SNA MONITOR MODE SETUP menu select the following
SOURC: LINE BUFFER
- If you want to set up a trap press the TRAP function key. This will take you to the SNA MODE TRAP MENU
- **Press** the **RUN** function key and the DT5B will begin replaying the contents of the Ram buffer.

9) DISK HOUSEKEEPING UTILITIES

The Guided Tour disk contains a number of files which have been used in the preceding examples. The facilities required to copy files, obtain directory information, and format disks can be found in the LIBRARY utility. Most of the functions found within the Library are self explanatory.

- From the main menu **press** the **LIBR'Y** function key

```

LIBRARY FUNCTIONS                                23:19:16
Press "DIR" for directory information           11/08/87
DEVIC:DISK USER
FILE :*.BFR----- (Search for this name)

(Wildcard is an asterisk, *)
(Example: The following will list all programs:)
(Type FILE :*.PRG then press DIR)

DIR | EDIT | COPY | ERASE | FORMAT | MORE | PREV

```

- The DIR utility allows you to obtain directory information for user messages and disks. The Library utility supports the 'wildcards' which make it possible to obtain selective directory information.
- Make sure that you have selected DISK and entered *.BFR for the file name. **Press** the **DIR** function key to obtain the disk directory information.

```

LIBRARY FUNCTIONS                                23:38:25
Press ENTER to retain filename under highlight 11/08/87
          TOUR
FILENAME EXT      LENGTH      TYPE      DATE      TIME
-----
CAPTURE  BFR      131072
RERUN    BFR      262144
BOP      BFR      3542
BERTFOX  BFR      4096
SNA      BFR      3542
BISYNC   BFR      19624
ASYNCR   BFR      3542
          11/08/87  23:21:20
FREE SPACE =1024512 bytes
DEVICE | EDIT | COPY | ERASE | FORMAT | MORE | PREV

```

Each file name that appears in the directory also contains an extension name (E.G. .BFR) There are a number of different extension names which correspond to different file types:

.SET --> Set up file
.BFR --> File containing previously saved line data
.RES --> File containing previously saved results/statistics
.USR --> File containing user messages
.PRG --> Program file

You can obtain a directory of all the files stored on the disk by entering a blank file extension name instead of *.BFR. In addition to the various different file types, there are 4 special files that are created when a disk is formatted:

CAPTURE.BFR, CAPTURE.PTR, RERUN.BFR and RERUN.PTR

The above files are used when capturing data directly to disk. The size of the CAPTURE file can be 128K, 256K, 512K or 1024K bytes.

The DT5B supports data capture to the 64 K RAM buffer or directly to the disk CAPTURE.BFR file. If you have captured the data to RAM you can save it at the end of the test by using the SAVE utility. This was the method used to create the Guided Tour disk. You can also save a portion (up to 64 Kbytes) of the data stored in CAPTURE.BFR to a new file name using the SAVE utility.

One key point to remember is that the DT5B 'remembers' whether the previous test that was run used the RAM buffer or the disk CAPTURE buffer. The contents of the RAM buffer are lost if you power the unit off, while those stored in the CAPTURE file are stored indefinitely. If you have just run a series of tests capturing data to RAM, and then decide that you want to review the data that was previously captured directly to disk, simply do the following

- In the CAPTURE MENU **select DISK capture**
- Go to the MONITOR MODE SETUP MENU and **press the LOAD** function key.

```
Load from disk:          LOAD MENU          00:10:29
                          11/09/87
FILE : CAPTURE_
SETUP : NO █████ YES
RESUL : NO █████ YES
BUFFER : NO █████ YES
USER  : NO █████ YES

EXEC | █████ | █████ | SAVE | █████ | █████ | PREV
```

- Enter the above parameters and then **PRESS** the **EXEC** function key.
- **Press** the **PREV** function key to return to the MONITOR SETUP MENU. **Press** the **REVIEW** function key to begin reviewing the data stored in the CAPTURE.BFR file.

The other library utilities such as COPY, ERASE and FORMAT are described in the DT5B Operator's Manual.

This concludes the DT5B Guided Tour. We hope that you found it interesting and informative. If you have any questions please refer to the DT5B Operator's Manual, or contact your nearest NAVTEL representative.

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