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FOR THE SAFETY OF AIR NAVIGATION

EUROCONTROL

ATS-QSIG protocol analyser test system configuration guide

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Abstract

This guide has the scope of defining a step-by-step procedure for configuration of the ATS-QSIG benchmark protocol analyser for both Emulation and Monitoring Modes. When configured for Emulation mode the guide provides a guide to configuration the system to run each of the ATS-QSIG test suites.

Keywords

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1. INTRODUCTION

Eurocontrol has developed a digital signalling protocol, known as 'ATS-QSIG', to meet the ground telephone requirements of air traffic controllers in carrying out their duties of air traffic management. Eurocontrol has sponsored this protocol through the European Standardisation procedures and it has now been adopted by ECMA as their Standard ECMA 312 [1].

ATS-QSIG was developed from an existing telecom industry standard known simply as QSIG. ICAO recommends QSIG for use as a digital signalling protocol and quotes ATS-QSIG as a variant that may be used in the European Region and elsewhere.

This guide has the scope of defining a step-by-step procedure for configuration of the ATS-QSIG protocol benchmark test analyser for both Emulation and Monitoring Modes. When the tester is used in Emulation mode the guide provides the procedure in order to configure the system to run each of the ATS-QSIG test suites.

2. TEST EQUIPMENT DESCRIPTION

2.1 HP PT502 Overview

The HP PT502 is a portable protocol tester designed for testing interconnection protocols. It is able to monitor and analyse protocol implementations, simulate network and customer premises equipment (CPE), and perform conformance testing for certification and acceptance.

It can display supported protocol layers in different formats, including hex, ASCII/EBCDIC characters or decoded text. The display format can be chosen independently for each layer.

The PT502 is equipped with up to seven processors of which six are application processors and one is the Home Processor. The PT502 can be set to either monitor or emulation interface mode, but an associated monitor or emulation application program must be loaded before an application processor is operational.

A typical PT502 application software package consists of programs to perform the following functions:

MONITOR - Decode, trigger, filter, capture, record and display. The entire data stream can be displayed on the screen, captured to a RAM buffer or recorded to disk. Filters can be activated to reduce the amount of data being displayed captured or recorded. Triggers can also be set to fire when specified conditions are satisfied to pinpoint the occurrence of certain events. Data, captured to RAM or disk can be quickly searched to locate specific area of interest.

EMULATION - State machine based reference implementation of protocol which can be controlled by user commands from the keyboard, a remote terminal, or a test script. Emulation application software can be loaded that can automatically and correctly respond to the data on line. The user can force invalid behaviour to observe the reaction of the device under test (DUT).

TEST SCRIPT MANAGER - State machine implementation utilizing Interactive Test Language (ITL) and a library of protocol events for ISDN. Test scripts are prepared using the Editor on the Home Processor. Test script support provides the capability to add custom decoding of upper protocol layers. Test scripts can also be developed to automate and easily repeat test scenarios.

Some "executable conformance test suites" are available, which are based on specifications developed by TELECOM ITALIA LAB (a European QSIG test house) according to ETSI standards. The suites can be used for conformance or acceptance testing.

The PT502 has the following four basic modes of operation:

Menu Mode

Selections are made from menus or by using topics and related function keys. Related function keys are grouped in a topic bar. The function keys change as the topic box is moved.

Command Mode

The user interface is bypassed when the ESC key is pressed and all controls are entered as commands from the keyboard.

Remote Mode

Programs running on application processors are controlled remotely via the remote port. The Home processor can send or receive files from a remote terminal. The Filex program provides communication between a PT502 and any PC with Xmodem capabilities, whereas the R-FILEX program, provides file transfer capabilities between the PT502 and any unix system.

Program Mode

A test script which interacts with a monitor or emulation program controls the operation of the tester. Program mode is entered by loading an application and switching to the application processor followed by loading and running the desired test script.

The PT502 has two WAN ports (PORT 1 and PORT 2) and hence it is possible to test two data streams simultaneously.

The Home Processor manages the User/Machine Interface, Edit Buffer, Editor and file manipulation and operating system.

2.2 HP PT 502 Conformance testing

The PT 502 Protocol tester supports conformance testing by providing executable test suites and common control software which allows the test operator to:

- execute a test campaign consisting of test groups or test cases;
- execute a test campaign consisting of the test cases which satisfy the PICS;
- display the protocol data exchange while the test case executes;
- record the protocol data exchanged during a test case;
- print the protocol data exchanged during a test case;
- select the level of detailed and organization of the test report;
- store the PICS, PIXIT, and test results on a disk
- display the verdict assigned for every test case;
- re-run an individual test case;
- play back the data recording captured during the execution of a test case;
- assign a verdict to a test case manually; and
- provide operator comments for test case runs which can optionally be included within summary reports.

2.3 QSIG Conformance Analyser test suites

The HP PT502 Protocol tester will be used to execute a range of selected tests, which have the aim of proving that an ATS-QSIG implementation is compliant with the ECMA 312 ed.3 ATS-QSIG standard.

For each of the ETSI compliant conformance test suites that have to be run against on the ATS-QSIG implementation, a number of "Abstract Test Cases" (ATC) are defined. An ATC explains the stimuli sent to the PINX and the response expected from the PINX in order to pass or fail the test case. When all aspects of the ETSI specification have been covered, a series of ATCs called an "Abstract Test Suite" (ATS) is produced. These ATSs are then loaded onto the PT502 conformance tester and become "Executable Test Suites" (ETS). An Executable test suite can have as many as 1400 individual "Abstract Test Cases" to exercise the state of a protocol and deliver comprehensive stress testing.

Prior to implementing either conformance testing, it is necessary to select the relevant ETSs from a whole range of ETSs defined within the QSIG conformance analyser and run them for the respective configuration. A test report will be automatically generated by the PT502 conformance analyser indicating a pass /fail/ inconclusive result. The errors found will be described in the test report if a failed result is returned.

3. TEST EQUIPMENT DEFINITION

The following table defines the Eurocontrol test equipment and accessories that shall be employed to test the IUT (test instrument).

Table 1 – Test Equipment definition

ITEM	Number Off	Equipment name	Comment
1	1	HP PT502	QSIG tester
2	2	ECMA 253 converter modules, nominated G.703-EIA530 inserted within the ECMA 253 converter rack.	With item 1 and 3 defines complete ATS-QSIG test system.
3	1	Power Supply module inserted within the ECMA 253 converter rack.	Supplies power for up to 6 modules installed in ECMA 253 converter rack
4	2	RS449 (V.36) or V.35 to RS530 interface cable	Connects HP PT502 to ECMA 253 converter module
5	1	ATS QSIG Layer 2 test suite	Loaded on QSIG Tester's WD4 hard disk partition
6	1	ATS QSIG Layer 3 Basic call test suite	Loaded on QSIG Tester's WD4 hard disk partition
7	1	ATS QSIG Layer 3 Transit call test suite	Loaded on QSIG Tester's WD4 hard disk partition
8	1	ATS QSIG Layer 3 Generic functional protocol (mono) test suite	Loaded on QSIG Tester's WD4 hard disk partition
9	1	ATS QSIG Layer 3 Generic functional protocol (transit) test suite	Loaded on QSIG Tester's WD4 hard disk partition

3.1 Equipment photographs

3.1.1 Front view of PT502 protocol tester

3.1.2 Rear view of dual WAN port PT502 protocol tester (RS449/V.36 version)

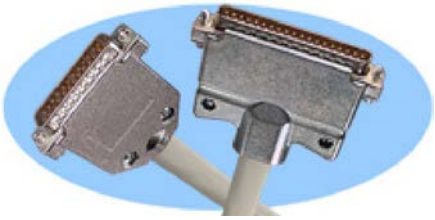
3.1.3 Rear view of dual WAN port PT502 protocol tester (V.35 version)

3.1.4 ECMA 253 interface converter

3.1.5 Front panel view of ECMA 253 interface converter

3.1.6 Rear panel view of ECMA 253 interface converter

3.1.7 RS449 (V.36) to RS530 interface cable



3.1.8 V.35 to RS530 interface cable

3.2 Conformance Test Suites

- The "Layer 2-Data Link Layer" Test Suite is defined by ETSI standards EN 300 804-1 [8] and EN 300 804-2 [9]. The ATS QSIG conformance tester shall be configured with the PIXIT statement as defined in ANNEX A and the 309 Layer 2 conformance test cases selected in ANNEX B shall be run against the test instrument.
- The "Layer 3-Network Layer" Basic Call Test Suite is defined by ETSI standards EN 300 805-1 [10] and EN 300 805-2 [11]. The ATS QSIG conformance tester shall be configured with the PICS statement as defined in ANNEX C and the PIXIT statement as defined in ANNEX D. The 130 Layer 3 conformance test cases selected in ANNEX E shall then be run against the test instrument.
- The "Layer 3-Network Layer" Transit Call Test Suite is defined by ETSI standards EN 300 805-1 [10] and EN 300 805-2 [11]. The ATS QSIG conformance tester shall be configured with the PICS statement as defined in ANNEX F and the PIXIT statement as defined in ANNEX G. The 47 Layer 3 conformance test cases selected in ANNEX H shall then be run against the test instrument.
- The "Layer 3-Generic Functional Protocol-Mono" Test Suite is defined by ETSI standards EN 300 806-1 [12] and EN 300 806-2 [13]. The ATS QSIG conformance

tester shall be configured with the PICS statement defined in ANNEX and the PIXIT statement as defined in ANNEX . The 23 Layer 3 GFP MONO conformance test cases selected in ANNEX shall be run against the test instrument.

- The "Layer 3-Generic Functional Protocol-Transit" Test Suite is defined by ETSI standards EN 300 806-1 [12] and EN 300 806-2 [13]. The ATS QSIG conformance tester shall be configured with the PICS statement defined in ANNEX L and the PIXIT statement as defined in ANNEX M. The 49 Layer 3 GFP Transit conformance test cases selected in ANNEX N shall be run against the test instrument.

3.3 STANDARDS AND SPECIFICATIONS

The ATS-QSIG implementation (IUT) will be tested for compliancy with:

- the standards as defined in ANNEX P– REFERENCES of this test specification relating to ATS QSIG (i.e. ECMA 312, ECMA 253, ECMA 264 with implementation as defined in ECMA 312, ECMA 203 with implementation as defined in ECMA 312, ECMA 225 with implementation as defined in ECMA 312, ETSI EN 300 290).
- the ETSI "Abstract Test Suite" specifications defined in ANNEX P– REFERENCES of this test specification (ETSI EN 300 804-2 [9], EN 300 805-2 [11] and EN 806-2 [13]).

3.4 CONFORMANCE TESTING

3.4.1 Physical Configuration for conformance testing using 1 WAN port

For Layer 2, Layer 3 Basic Call, Layer 3 GFP Mono call test suites connect the IUT to the QSIG tester test system as indicated in the diagram below.

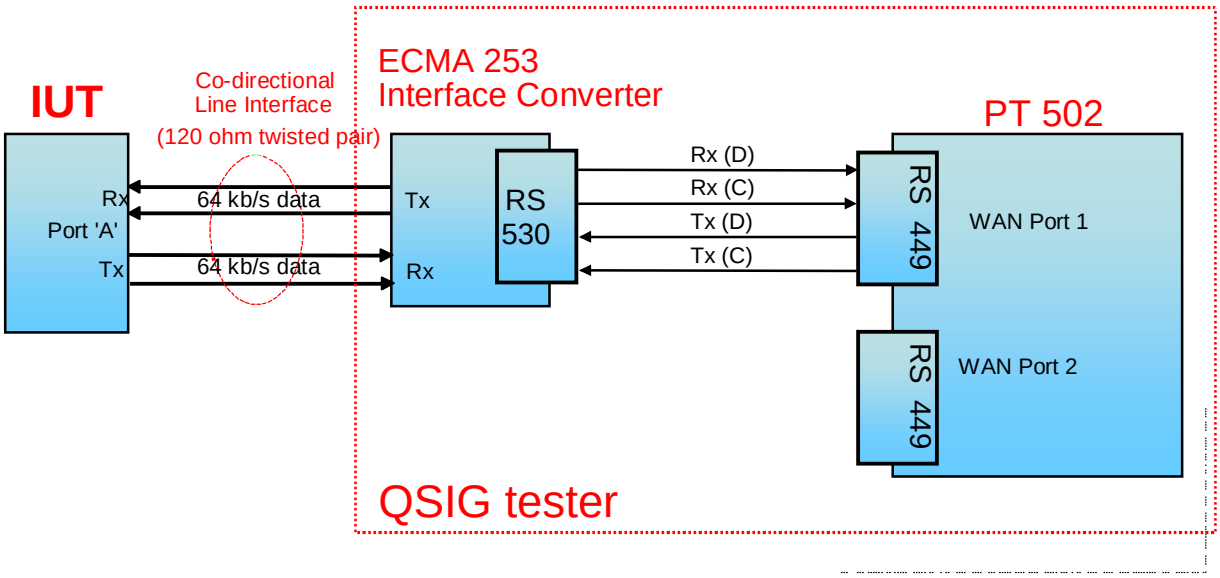


Figure 1: Physical configuration for Conformance mono port test phases

3.4.2 Physical Configuration for conformance testing using dual WAN ports

For Layer 3 Transit Call, Layer 3 GFP Transit call test suites connect the IUT to the QSIG tester test system as indicated in the diagram below:

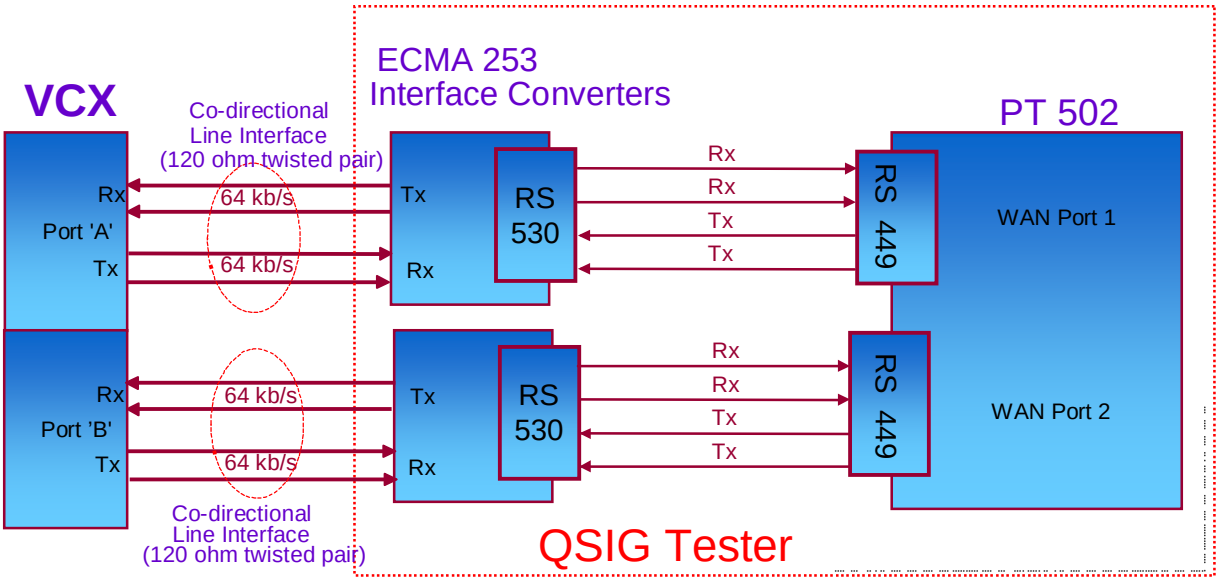


Figure 2: Physical configuration for Conformance transit test phases

3.4.3 Connection of IUT to ECMA 253 interface converters.

The IUT's G.703 port should be connected to the G.703-64kbps terminal block situated on the rear of the ECMA 253 interface converter (see Figure 3 below), such that the IUT's transmit pair is connected to the Co directional Rx(D) terminals and the IUT's receive pair is connected to the Co directional Tx(D) terminals.

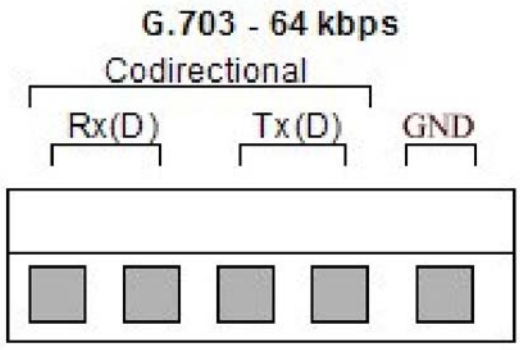


Figure 3: ECMA 253 interface converter-terminal block connections

3.4.4 Powering up the ECMA 253 converter module rack

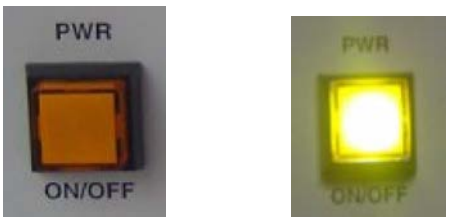
Insert the mains cable supplied into the mains inlet socket on the rear panel of the rack.

Figure 4: Rear mains power inlet, Mains ON/OFF switch and Power Lead.

Ensure that the Power Supply mains input voltage selector dial (situated below the mains power inlet) is set to 240VAC.

Switch on the rack by positioning the switch, situated above the mains inlet socket, to its ON position.

Now press the ON/OFF button positioned on the front edge of the power supply module. This should light up, implying that all modules inserted within the rack are now being powered.



3.4.5 Setting of the ECMA 253 interface converter front panel rotary switch for conformance testing

A rotary switch is situated on the front panel of the ECMA-253 interface converter. This is used to select Monitor, OFF and Emulation modes respectively.

For conformance testing ensure that the rotary switch is positioned for EMU as shown in the diagram below:

Figure 5: ECMA 253 interface converter- Rotary switch configuration for Emulation

Once the rack has been powered-up ensure that the red PWR LED on the ECMA 253 converter's front panel is alight. This indicates that the module is powered-up and is on-line.

The following table describes the meaning of the front panel LEDs while the converter module is set for Emulation mode.

Table 2: Front panel LED indications for Emulation mode

Indicator	Function
PWR	When ON indicates the module is powered-up and is ON line. This LED will only be OFF when the rack is switched-off.
TX	**Emulation mode:** When ON indicates that a valid data signal is being sent on the G-703 co-directional line together with integrated 8KHz Octet timing signal (i.e. code violations).
RX	**Emulation mode:** When ON indicates that a valid data signal is being received from the G.703 codirectional line. This data signal can be with or without octet code violations.
OCT	**Emulation mode:** When ON indicates that Timing Synchronization with the line has been achieved in the receive direction using octet violations identified within the co directional line signal.
HDLC	**Emulation mode**: When ON indicates that Timing Synchronization with the line has been achieved in the receive direction by using the layer 2 HDLC flags search method.

Note: in the case that an 8KHz octet timing signal (i.e. octet violations) are not received at the G.703 co-directional interface from the line, the ECMA 253 converter module will automatically switch to its built-in HDLC flag search algorithm.

A search of layer 2 HDLC flags is made within the full bit-64kbps stream channel. The Signalling channel also transports HDLC flags when idle. The identification of these flags indicates the position of the 16kbps Signalling channel within the full bit-stream. Once the position of the signalling channel is recognised, it is also possible to identify the position of the voice channels. It is then possible to determine the position of the first and last bits within an octet.

This implies that the ATS-QSIG conformance test system is capable of performing conformance testing on lines with or without the ability to transport the integrity of the octets (i.e. octet timing).

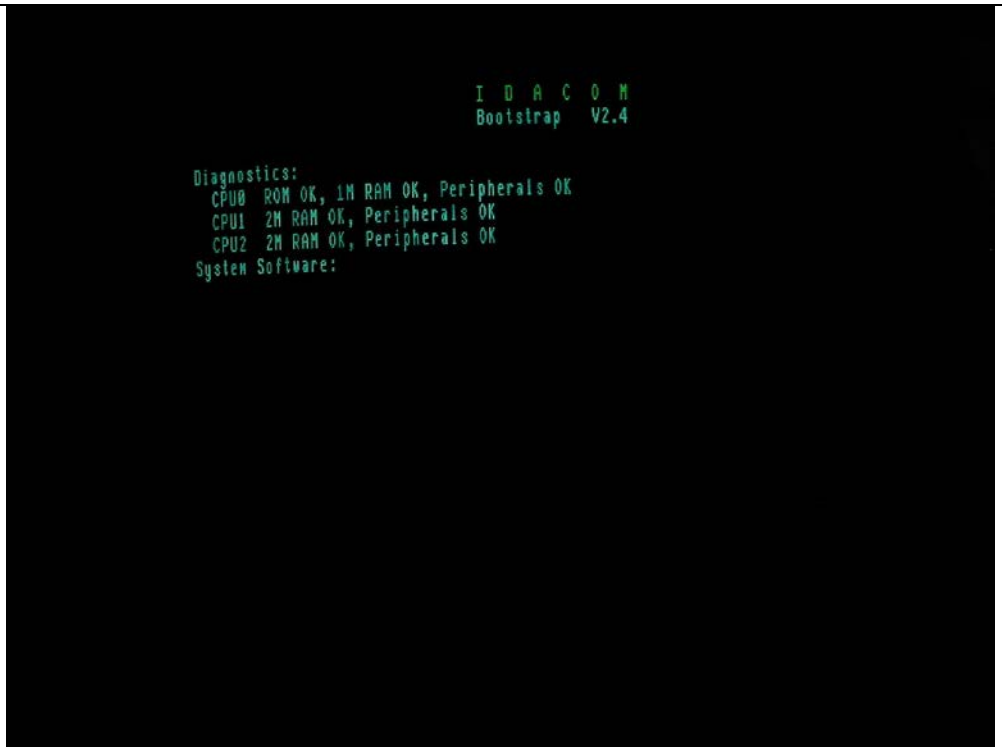
4. CONFIGURING THE PT502 FOR CONFORMANCE TESTING

4.1 Powering up the PT502 and self diagnostic phase

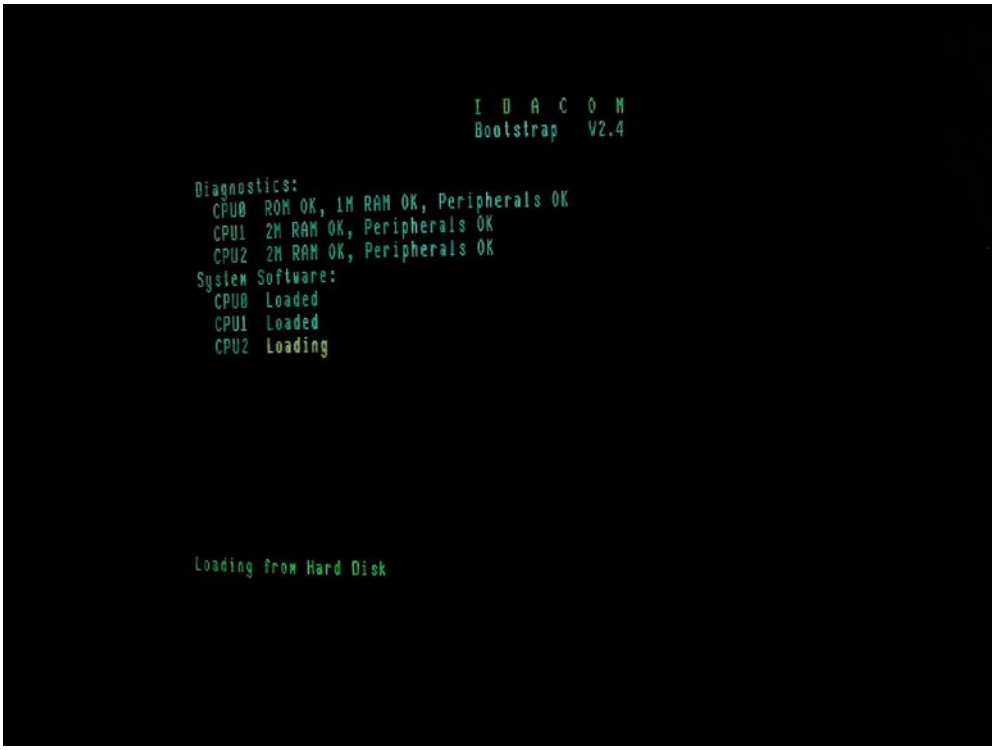
Switch on the PT502 by its ON/OFF switch positioned on the front panel (label 1/0). The instrument will enter its Diagnostic self test routines and follow information will be displayed on the screen:

Note the Bootstrap could be version 2.4, 3.x or 4.x.

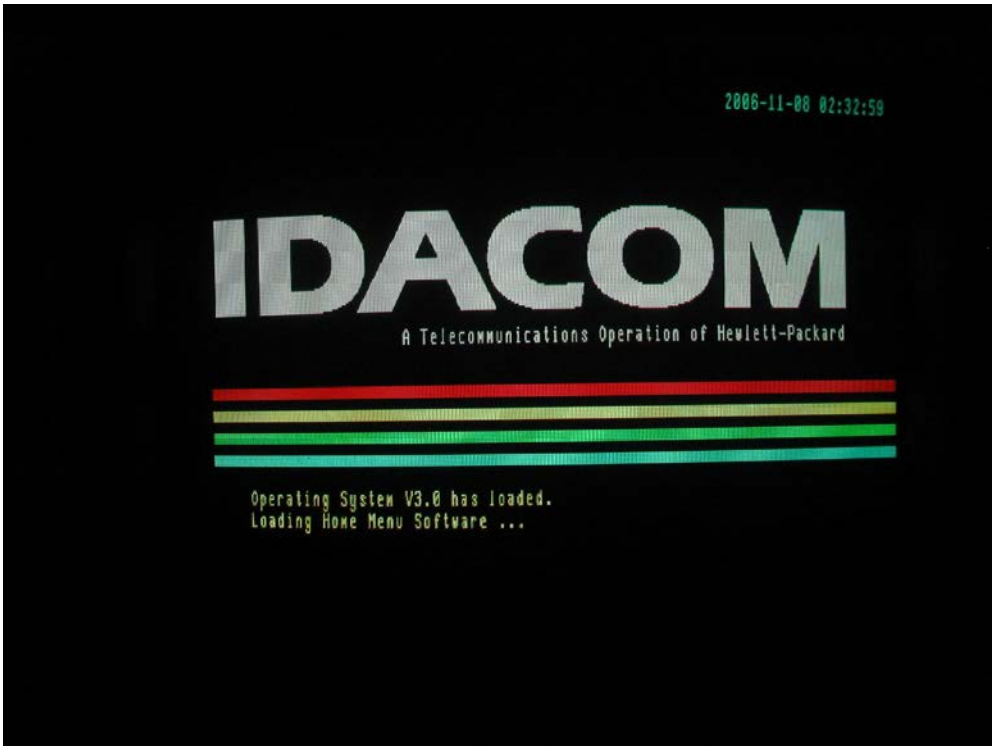
The PT502 has a CPU0 ROM with 1M of memory and CPU 1 and 2 have at least 1M of RAM. The PT502 version is indicated by the label on its back panel, which can be E4095A, E4095B or E4095C).



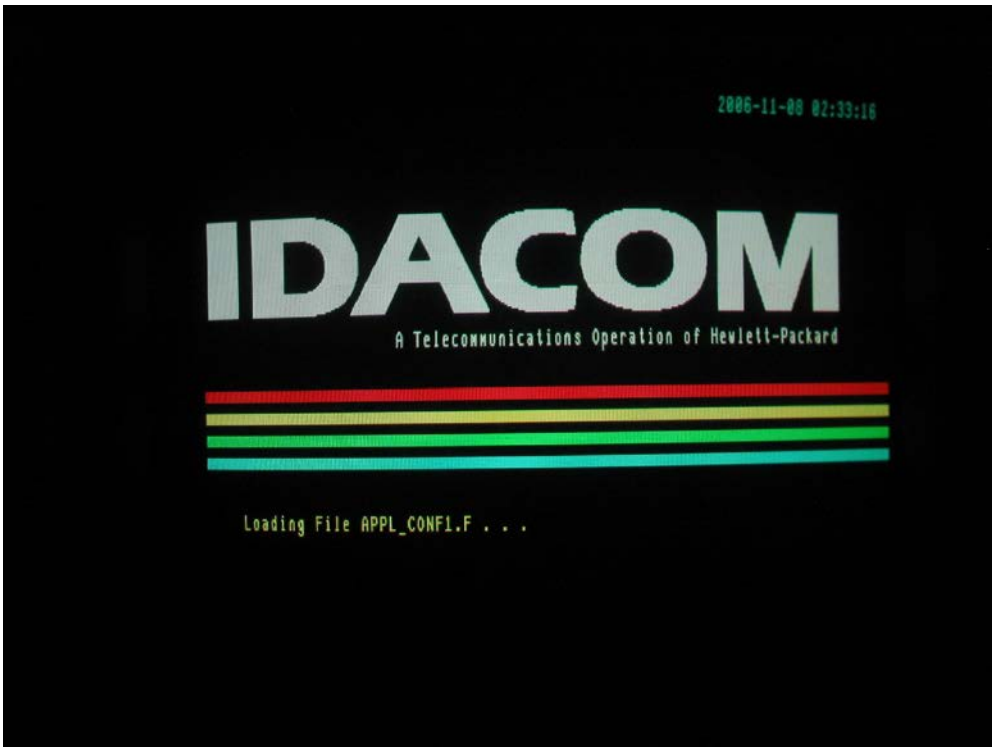
The PT502's system software is then loaded.



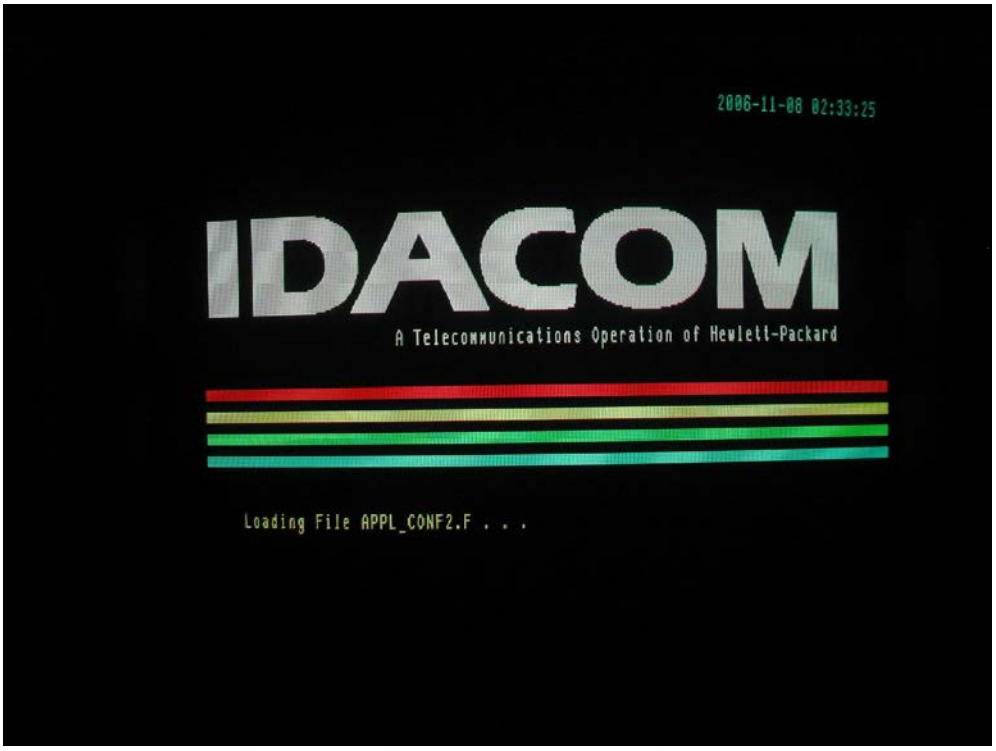
Followed by the Home menu Software



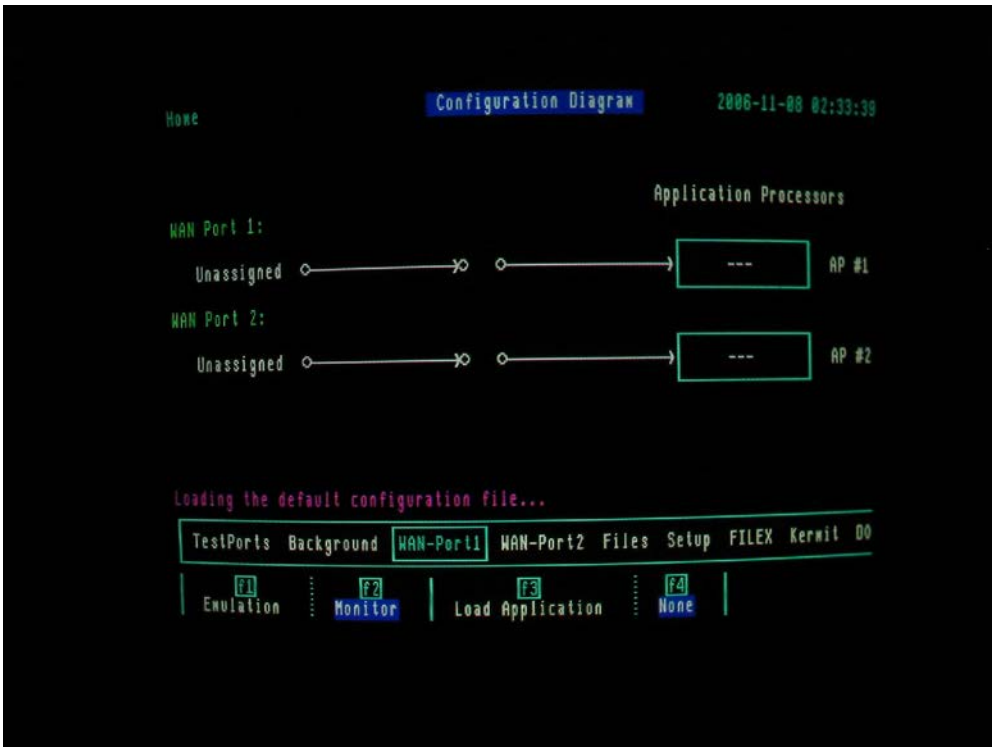
The Application Configuration software for AP1 is then loaded.



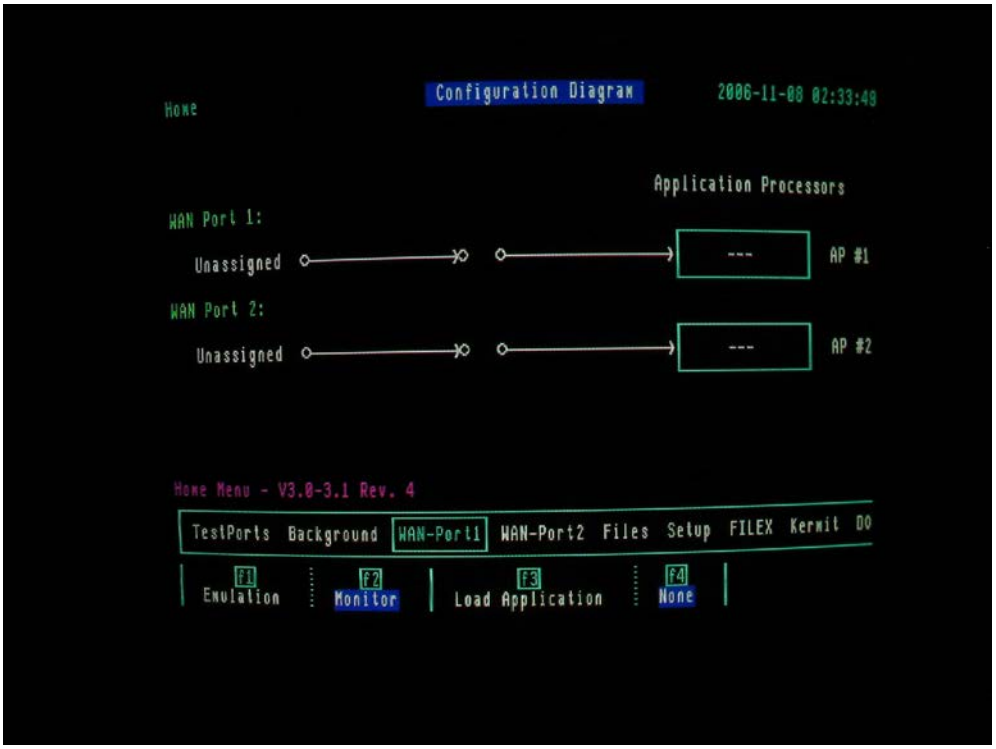
Followed by the loading of the application Configuration software for AP2.



And finally the default configuration file is loaded.



When the diagnostic and self test procedures are completed successfully, the PT502 should display the following screen, showing two WAN ports (Unassigned) and two Application Processors (Unloaded).



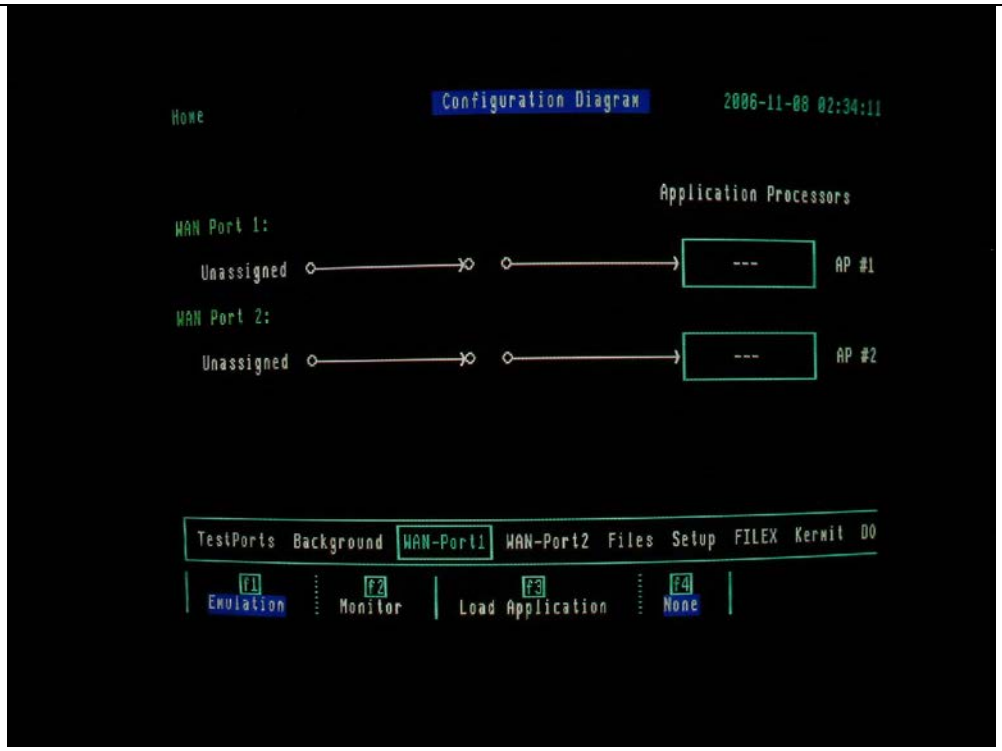
4.2 Configuring PORT 1 for Emulation mode

In order to run the ATS-QSIG conformance test suites for layer 2, layer 3 basic call only one Application Processor on the system has to be configured for EMULATION mode. In order to run the Layer 3 Transit Call Test Suite, Generic Functional Protocol test suite both Application Processors on the system have to be configured for EMULATION mode. Configure the PT502 for EMULATION mode, by executing the following steps.

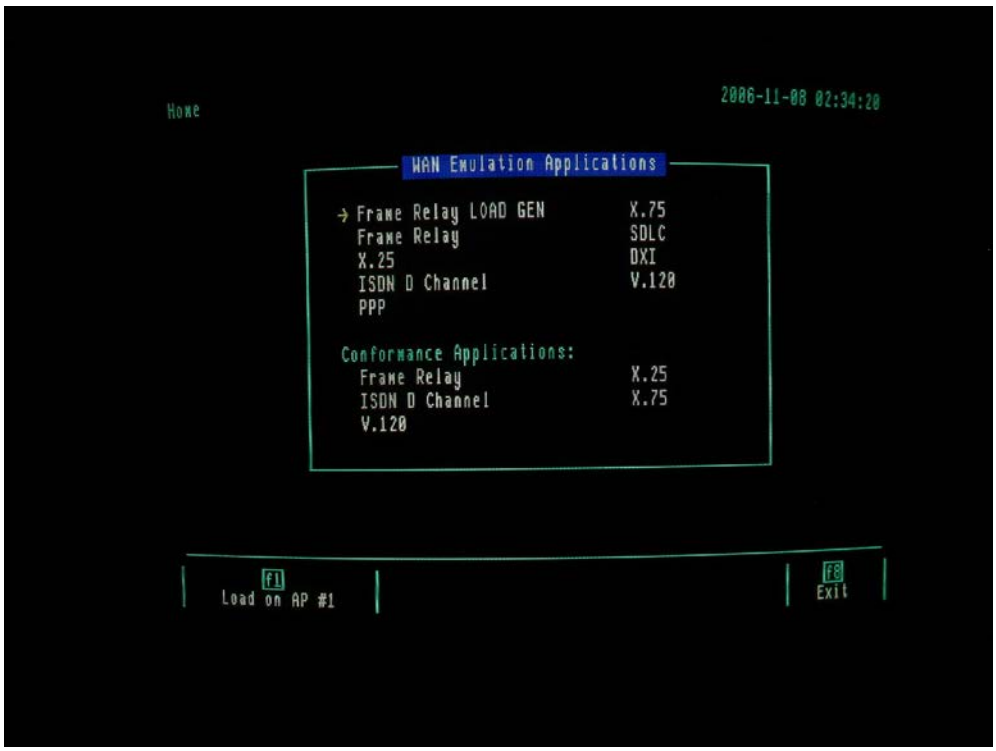
- Move the topic box to the WAN-Port1 and press *f1* to select EMULATION mode.

Note: Never switch the ECMA interface converter from Emulation to Monitor mode prior to configuring the QSIG tester for MONITOR. This can cause V.11 signal contention.

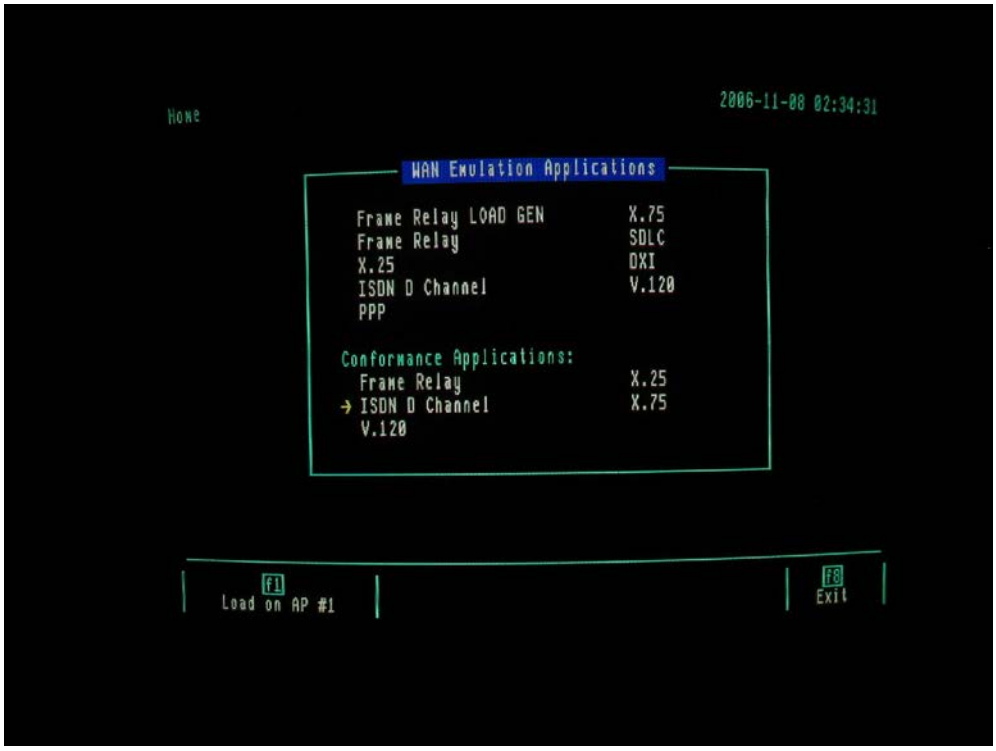
- In the case that WAN port 2 is also used, move the topic box to the WAN-Port2 and press *f1* to select EMULATION mode.



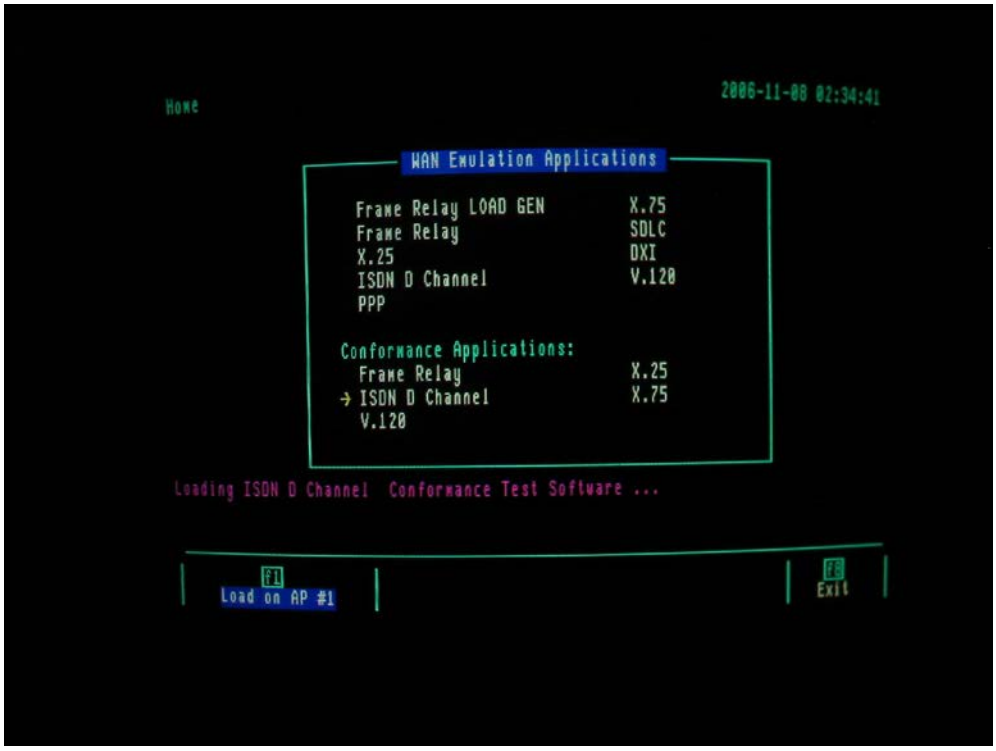
- With *f1* "Emulation" key highlighted, press *f3 "Load Application"* to display the following menu:



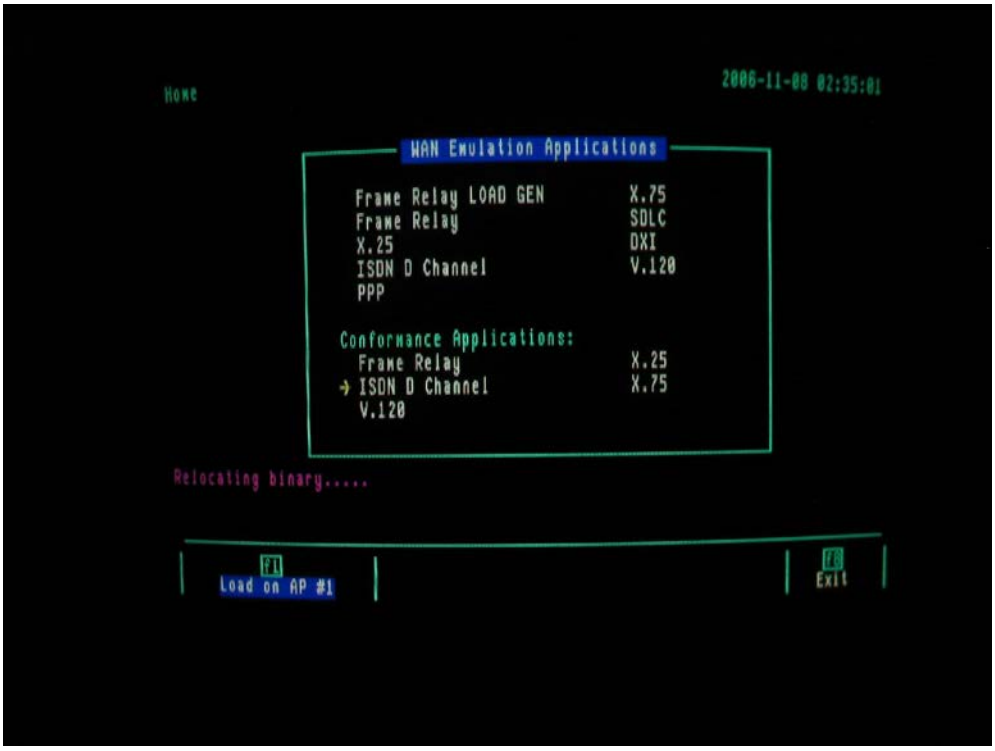
- Move the cursor to the "Conformance Applications" and select ISDN D channel as shown in the following screen.



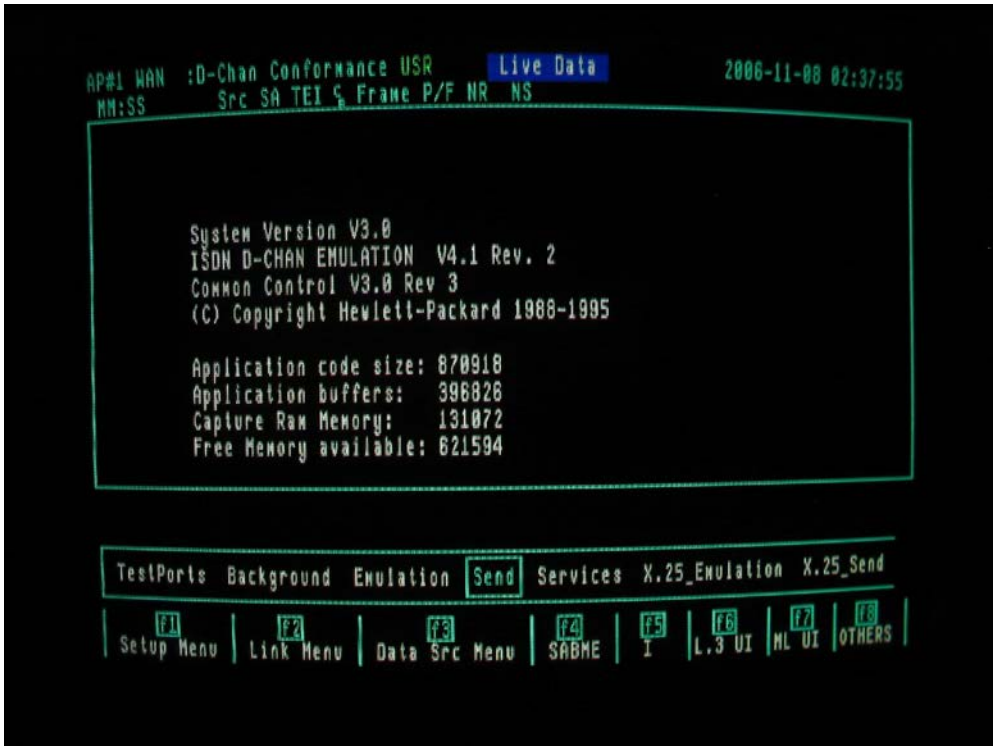
- Press the *f1* "Load on AP #1" key and the "Loading ISDN D channel Conformance test Software …" message should be displayed as shown in the figure below.



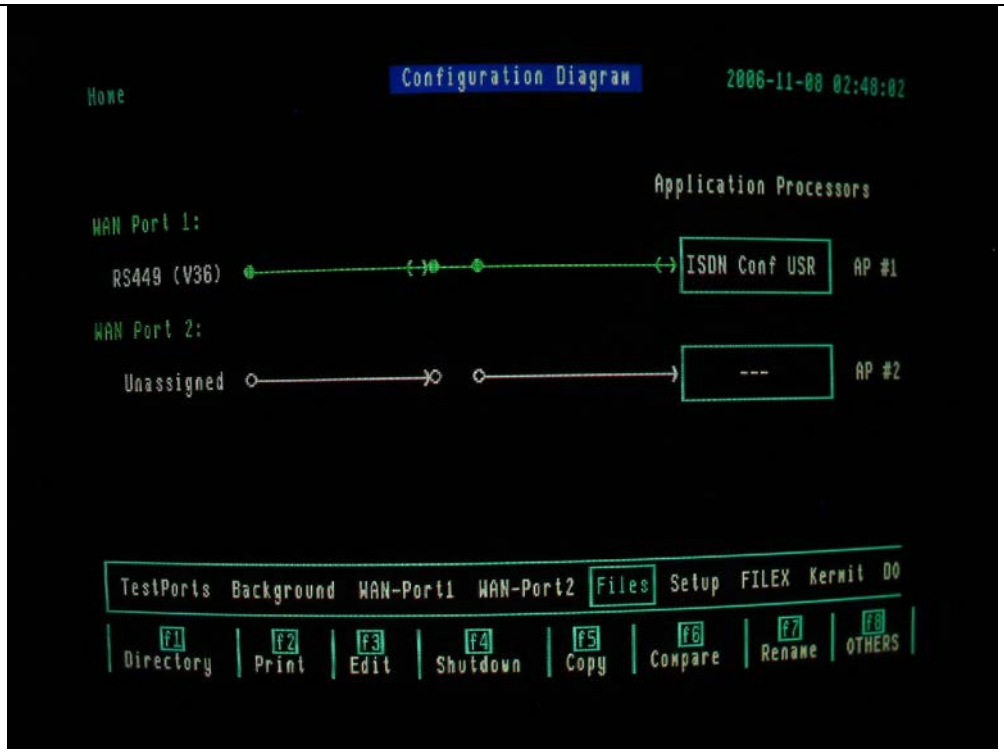
- After a short time the screen will show the "Relocating binary…" message.



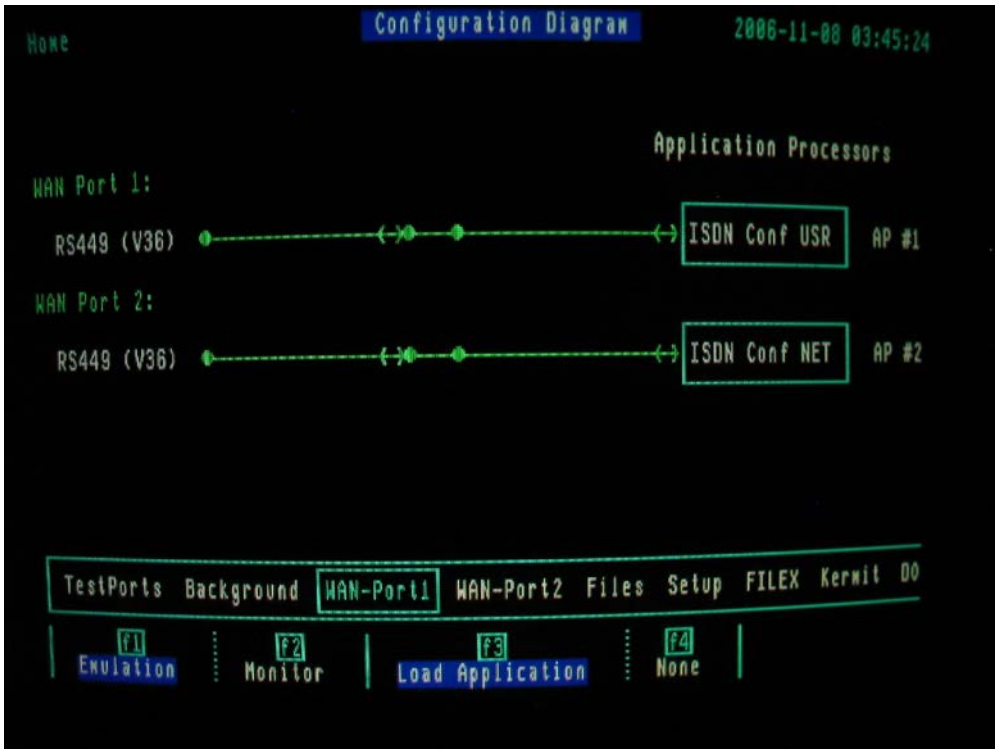
- Press f2 "Switch to AP#1"
- When the Conformance Application has been loaded the screen will appear as in the figure below. The top left hand corner indicates that this is the AP#1 WAN menu.



- To return to the HOME menu from the AP#1 or 2 Menus press the HOME key on the key board, followed by the f8 "Exit" key. The following shows the configuration diagram in the HOME menu after ISDN Conf software has been loaded onto AP#1.



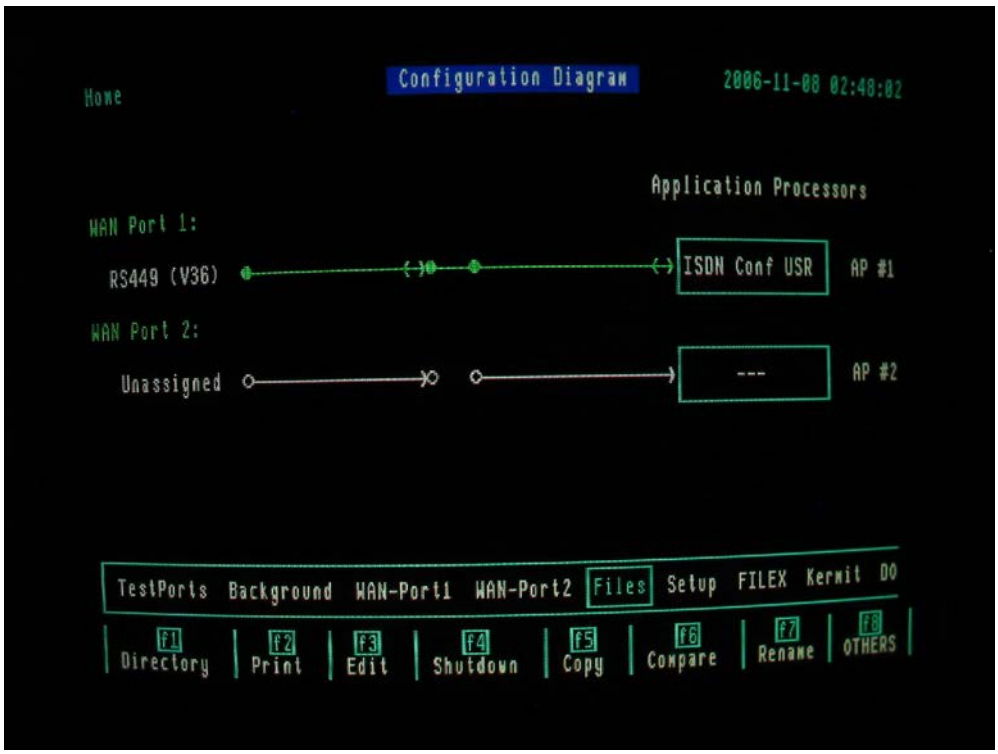
- To return to the HOME menu from the AP#1 or 2 Menus press the HOME key on the key board, followed by f8 “Exit” key. The following shows the configuration diagram in the HOME menu after ISDN Conf software has been loaded onto both AP#1 and AP#2.



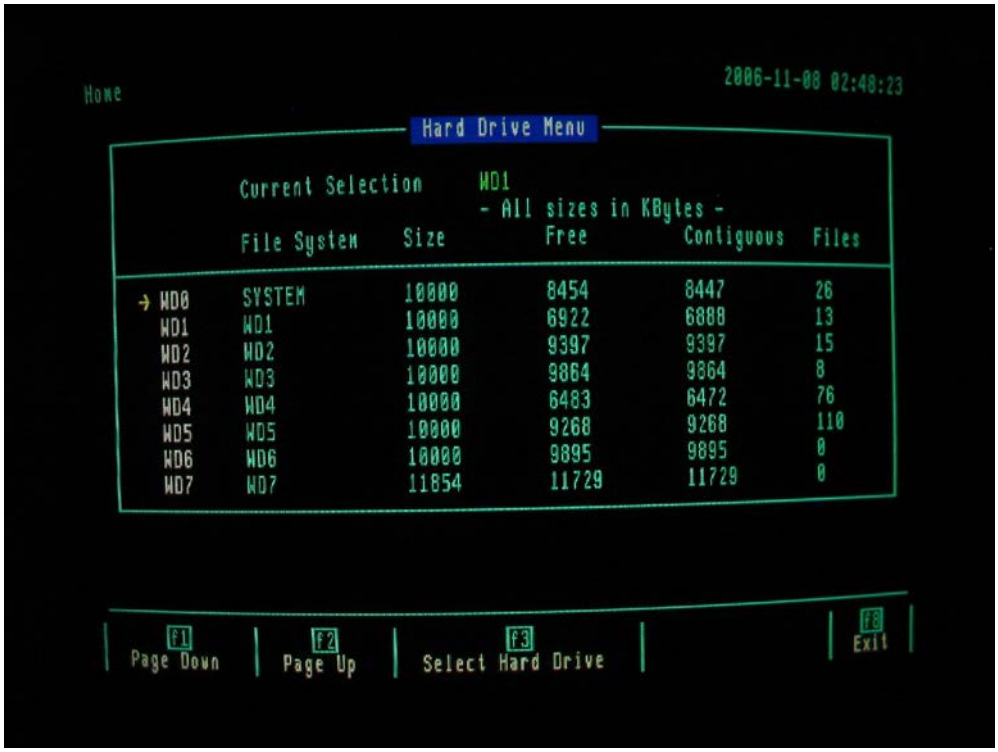
- To return to the AP#1 or 2 Menus from the HOME menu. Place topic box on WAN-PORT X, press f3 “Load Application”, then “Switch to AP1 or 2. Alternatively the TEST PORTS topic box can be used.

4.3 Hard Drive menu

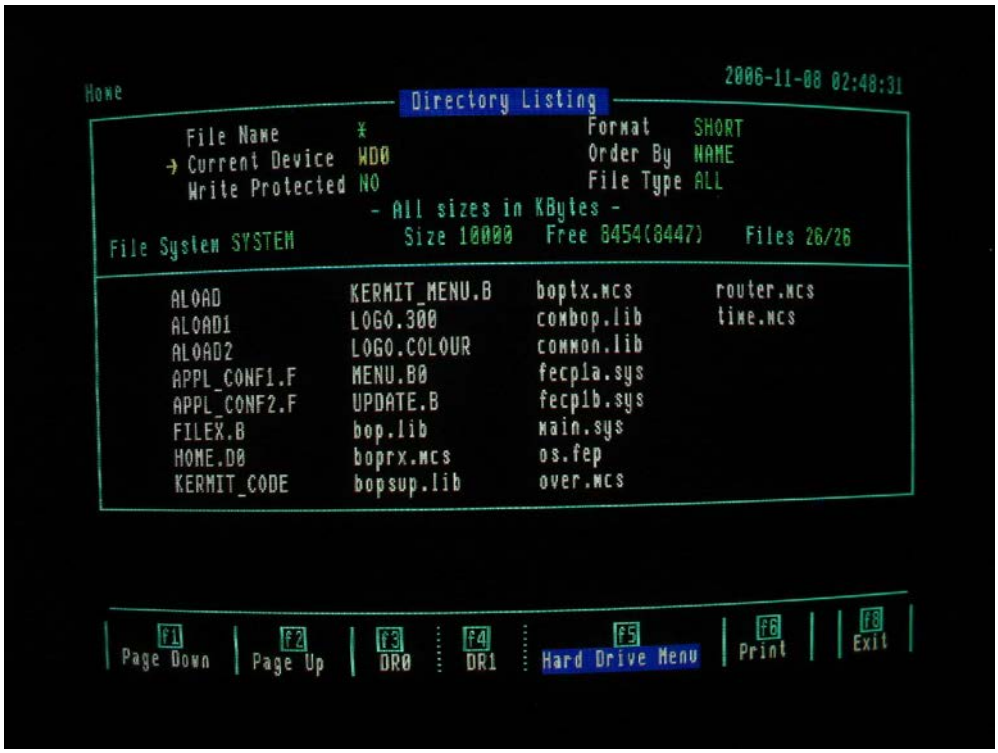
- Go to HOME menu and place the topic box on Files.



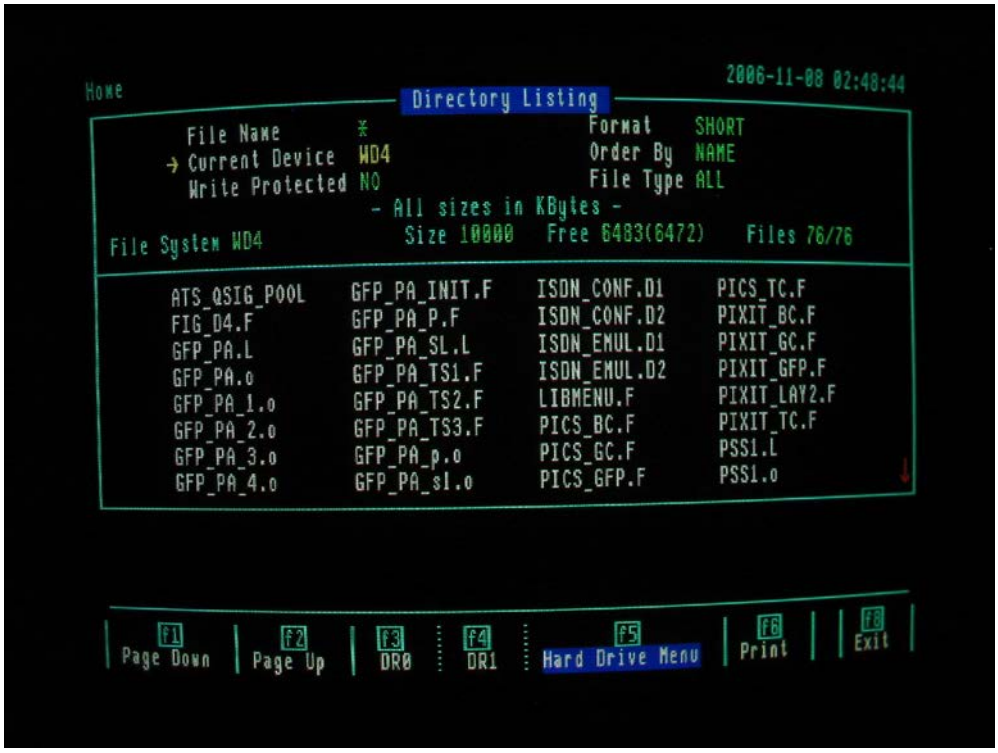
- Press the f1 “Directory” key to display a list of the Hard Drive’s partitions.
- Press the f5 “Hard Drive Menu” to display the following screen.



- Select WD0 to display the SYSTEM files.

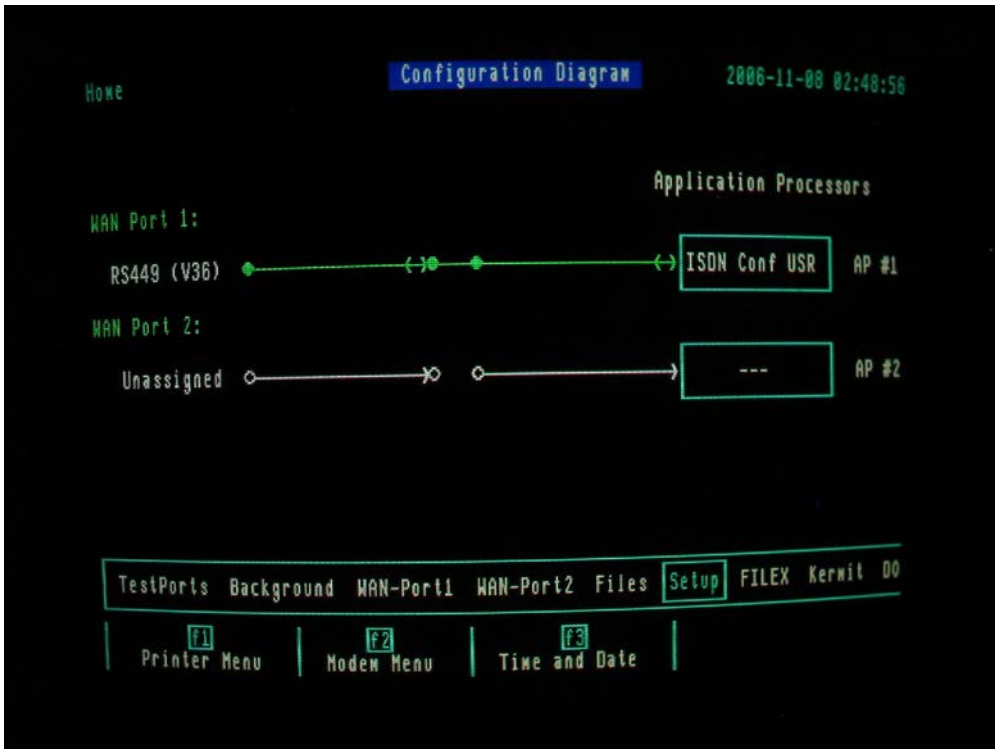


- Select WD4 to display the TEST SUITE FILES, PICS and PIXIT statements.

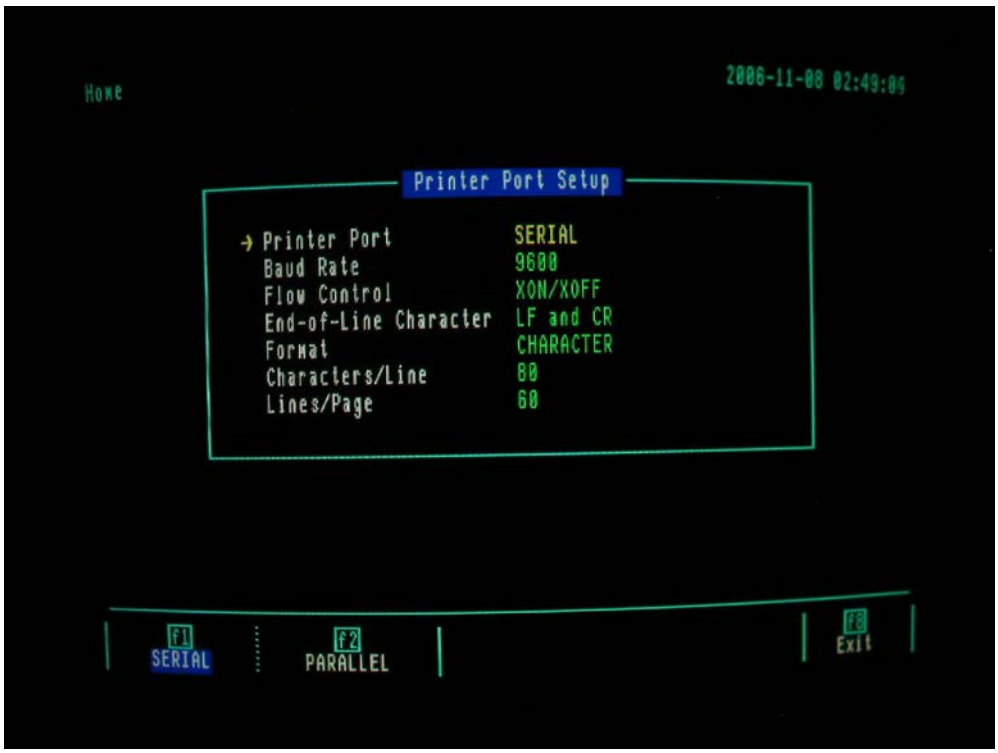


4.4 Configuring the PT502's serial printer port

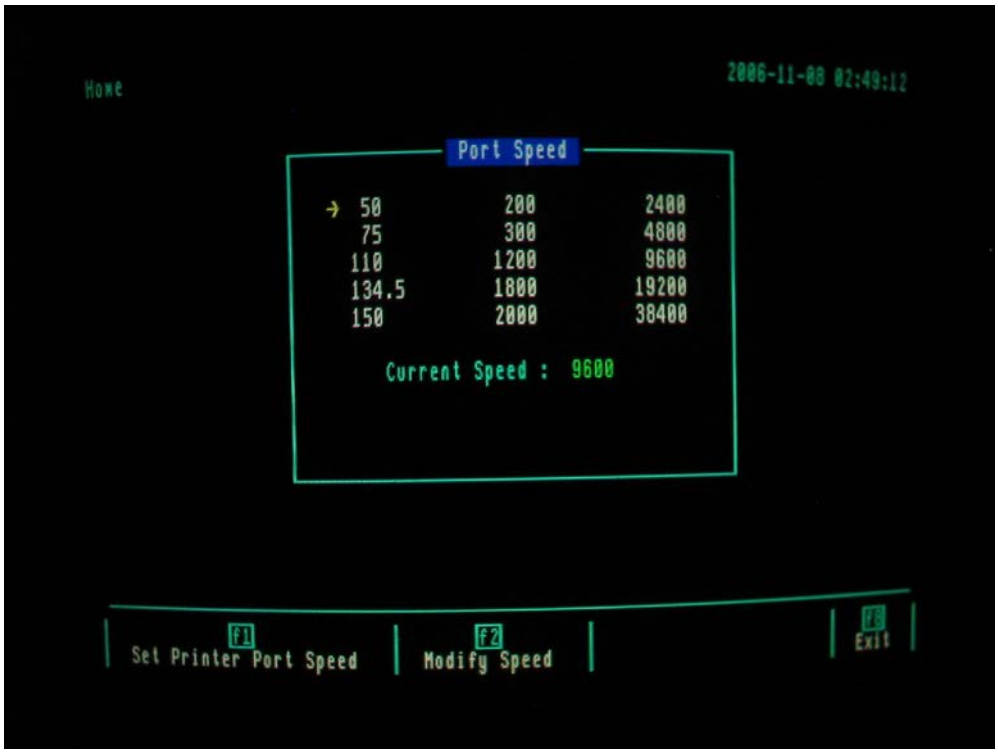
- Go to HOME menu and place the topic box on Setup.



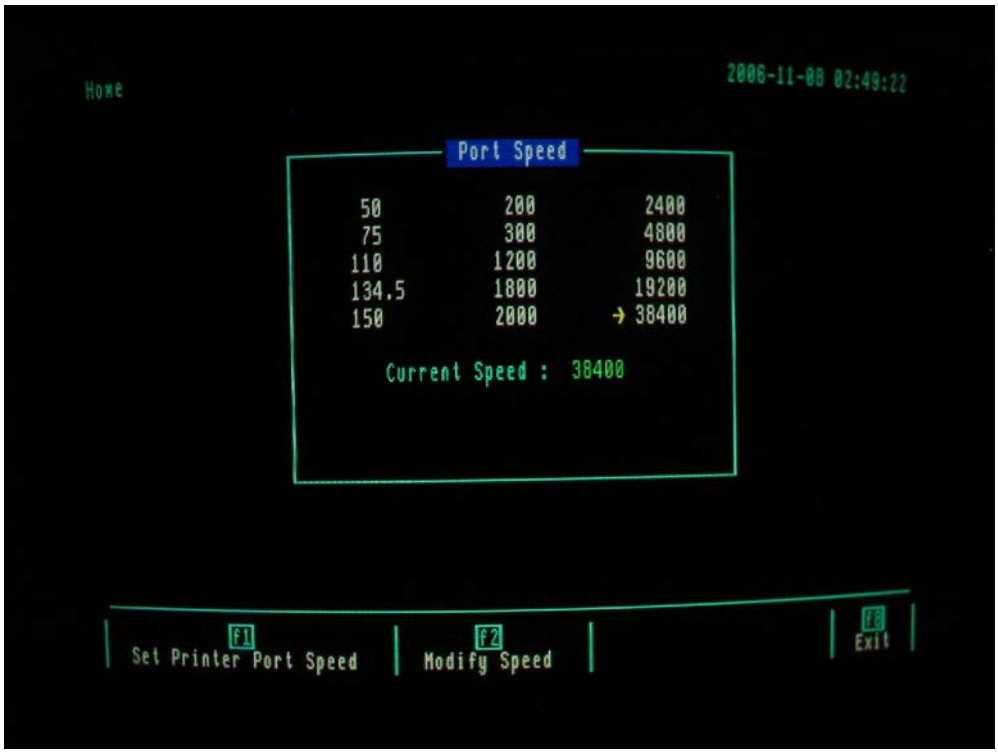
- Press the f1 "Printer Menu" to see the following screen:



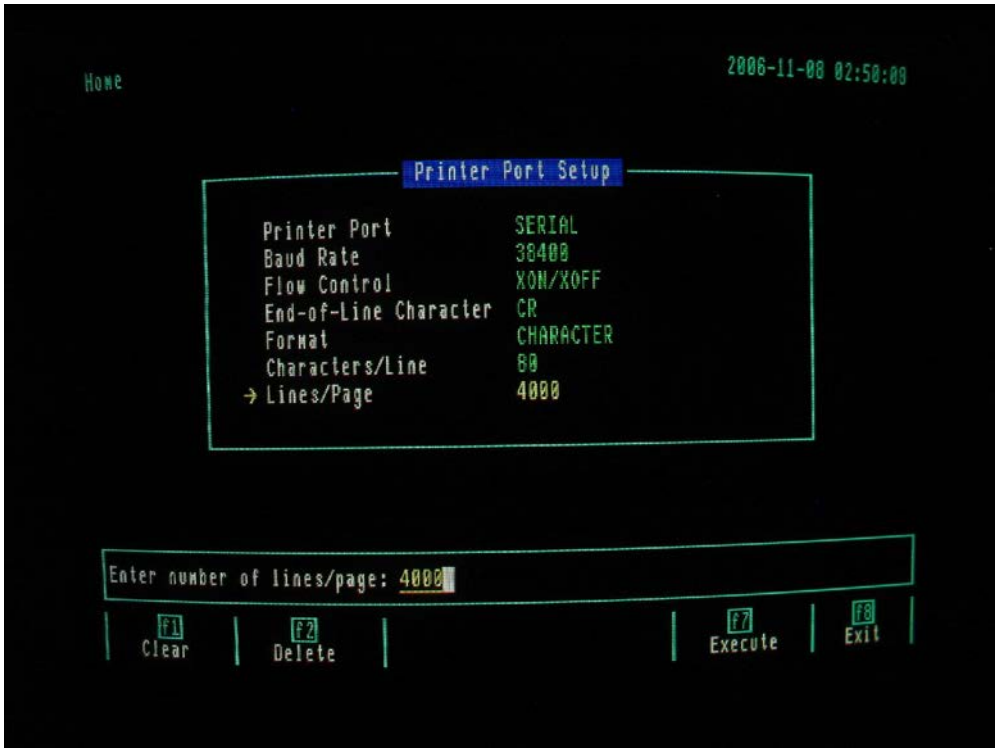
- Select the Baud Rate item to see the following screen.



- Select a Current speed of 38400.



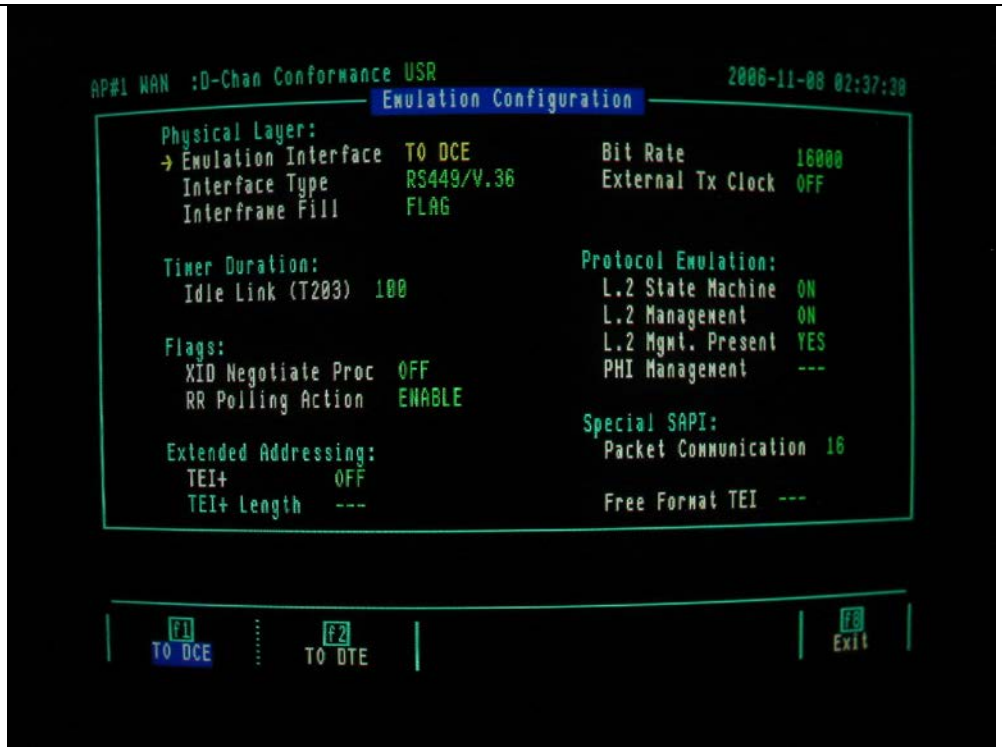
- Set the other Printer Port Setup parameters to those values shown in the following screen:



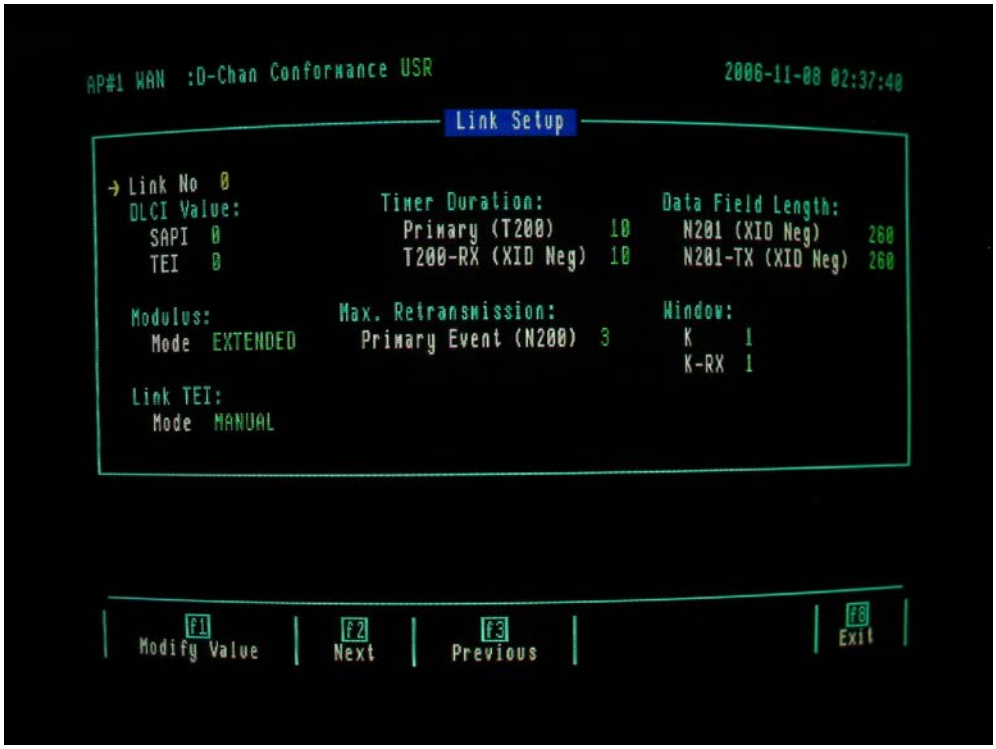
- Press the f8 Exit key.

4.5 Configuring items within AP#X menu 1

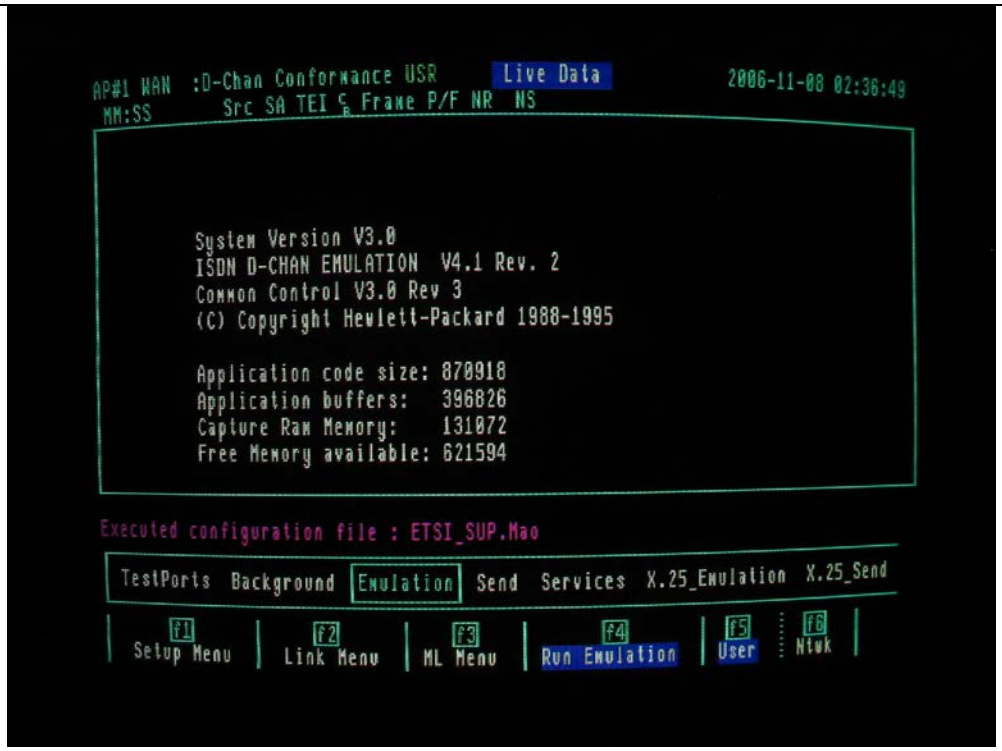
- Select the “EMULATION” topic box
- Press the *f1* “SETUP Menu” key and check that the settings are as shown in the screen below. Select the Bit rate field and select “Measure Bit” rate. The value measured should be 16000 (i.e. 16kbps).



- Press the *f8* "Exit" key to exit the EMULATION Configuration screen. Then Press the *f2* "LINK Menu" key and check that the settings are as shown in the screen below.



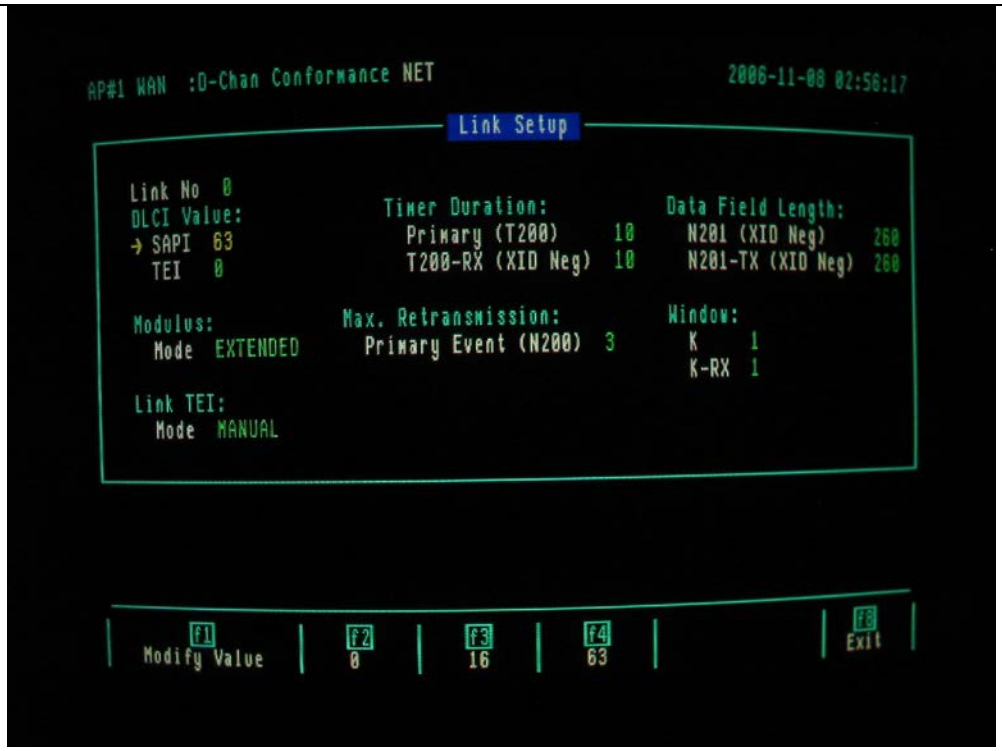
- Press the *f8* "Exit" key to exit the EMULATION Configuration screen. Ensure that the AP#1 menu has key *f4* "RUN Emulation" highlighted. Decide if the PT502 is to be configured as the User or Network side of the link. Press *f5* to highlight "User" if the PT502 is to be the User side

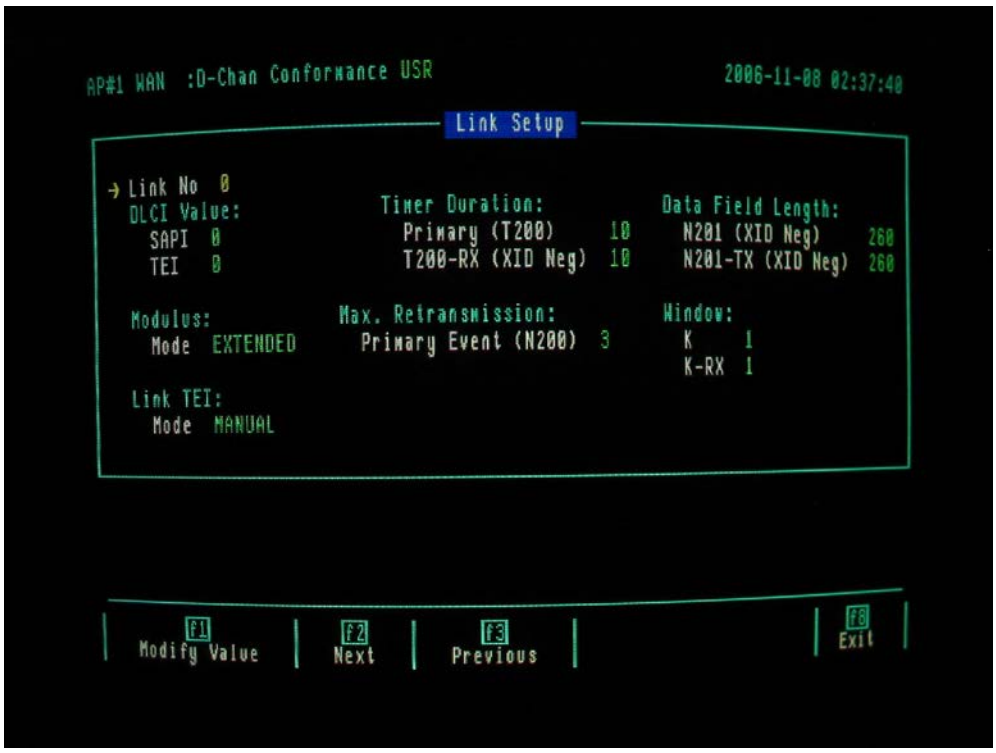


- Press *f6* to highlight "Network" if the PT502 is to be the Network side.

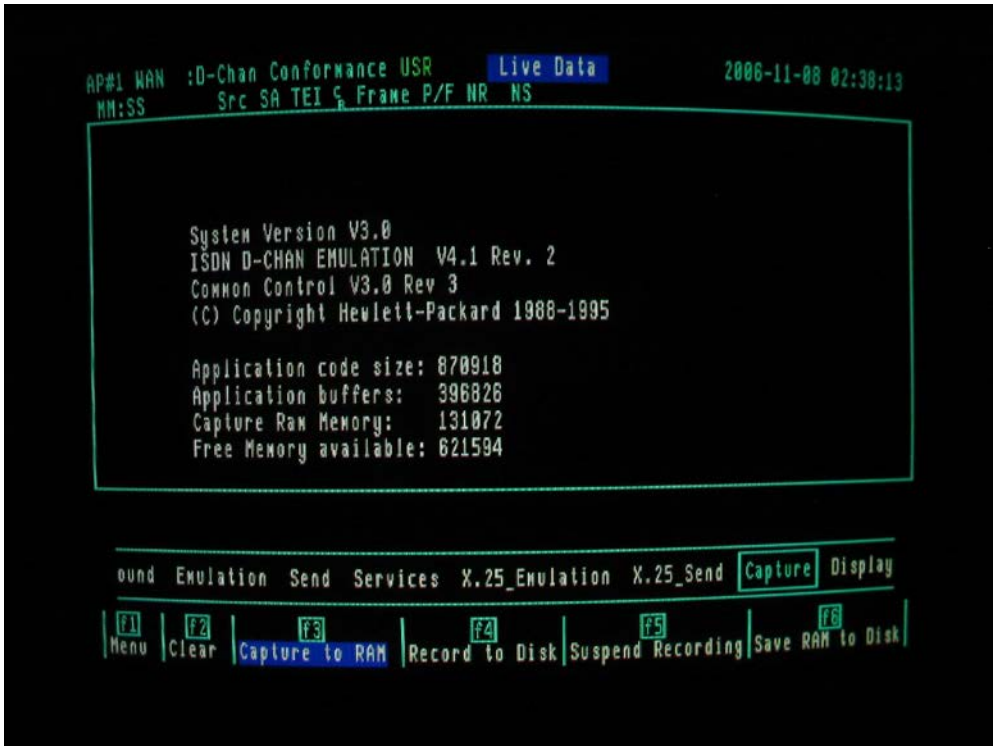
- When changing between User and Network sides or Vice versa it is always necessary to return to the "Link Setup" screen where it will be observed that the SAPI value now has a value set to 63 and the TEI has a value set to 127.

- It is necessary that the SAPI and TEI are re-configured as 0 as illustrated in the following three screens. Check also that the Link TEI mode is set MANUAL.

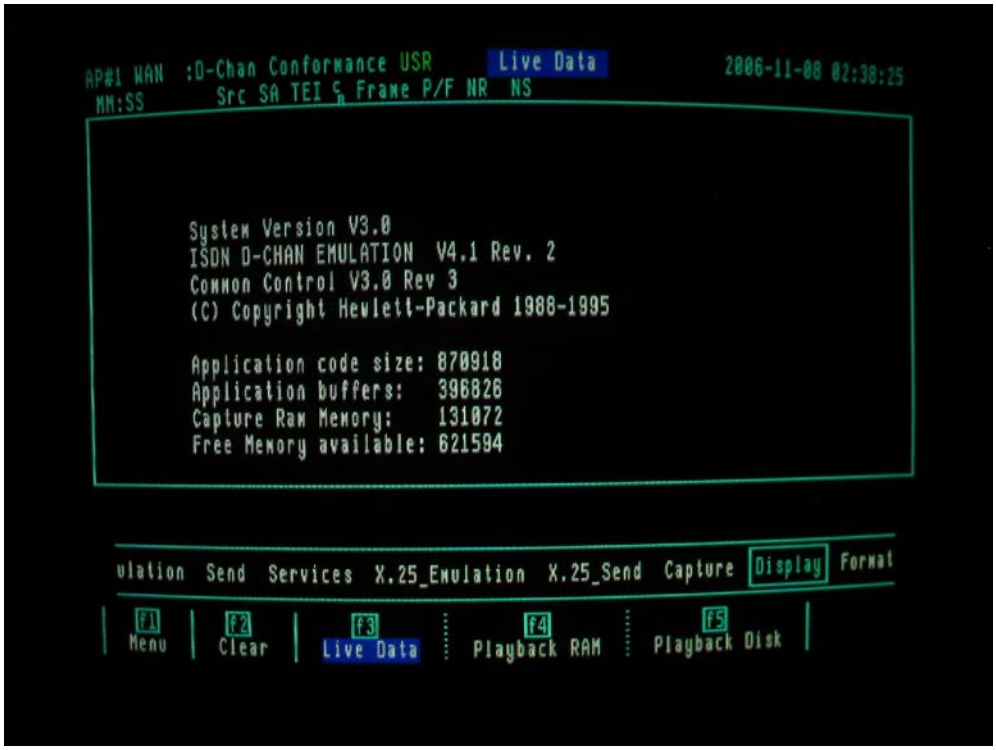

AP#1 WAN :D-Chan Conformance NET
2006-11-08 02:56:17
Link Setup
Link No 0
DLCI Value:
→ SAPI 63
TEI 0
Timer Duration:
Primary (T200) 10
T200-RX (XID Neg) 10
Data Field Length:
N201 (XID Neg) 260
N201-TX (XID Neg) 260
Modulus:
Mode EXTENDED
Max. Retransmission:
Primary Event (N200) 3
Window:
K 1
K-RX 1
Link TEI:
Mode MANUAL
f1 Modify Value
f2 0
f3 16
f4 63
f8 Exit


AP#1 WAN :D-Chan Conformance USR
2006-11-08 02:37:40
Link Setup
→ Link No 0
DLCI Value:
SAPI 0
TEI 0
Timer Duration:
Primary (T200) 10
T200-RX (XID Neg) 10
Data Field Length:
N201 (XID Neg) 260
N201-TX (XID Neg) 260
Modulus:
Mode EXTENDED
Max. Retransmission:
Primary Event (N200) 3
Window:
K 1
K-RX 1
Link TEI:
Mode MANUAL
f1 Modify Value
f2 Next
f3 Previous
f8 Exit

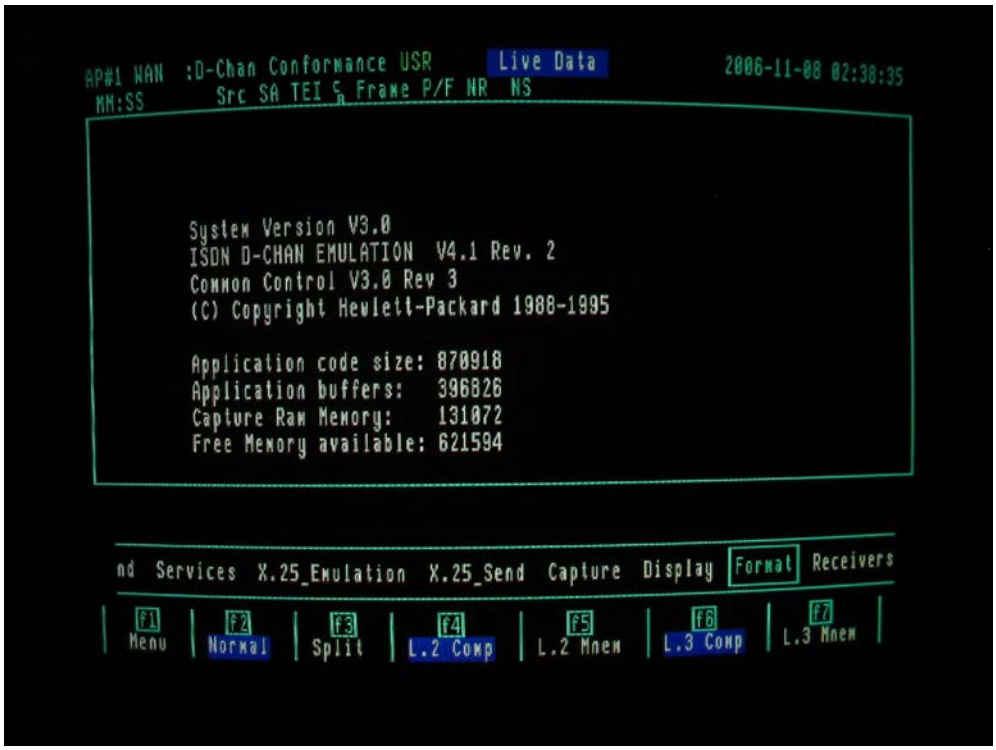
- Ensure that when the "Capture" topic box is highlighted, the *f3 "Capture to RAM"* key is highlighted.



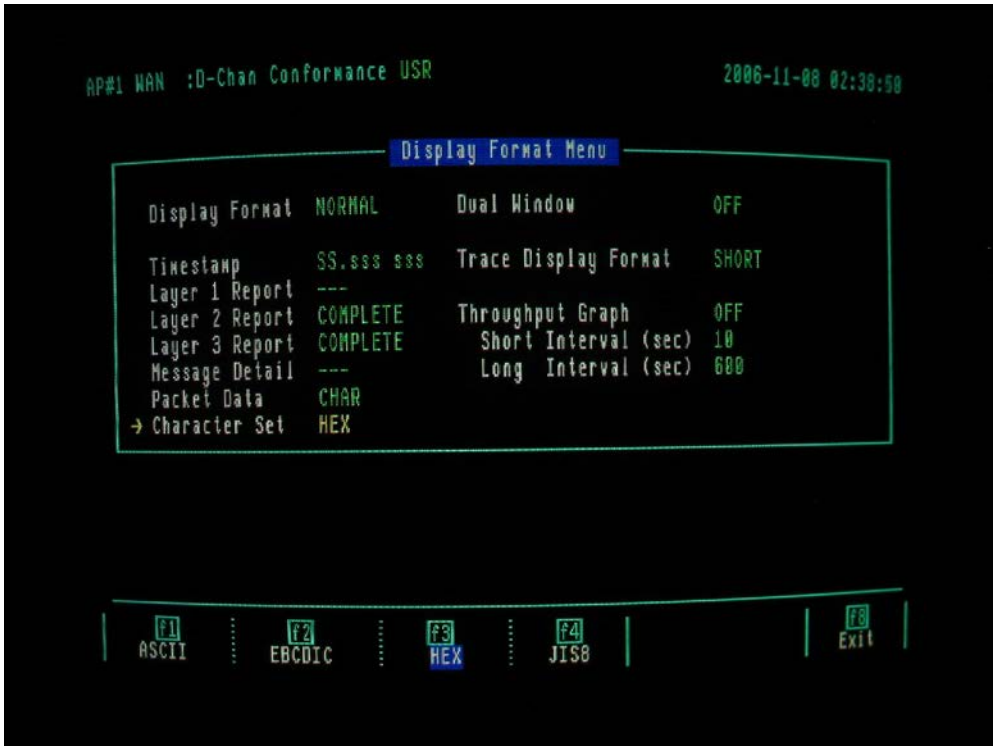
- Ensure that when the "Display" topic box is highlighted, the *f3 "Live Data"* key is highlighted.



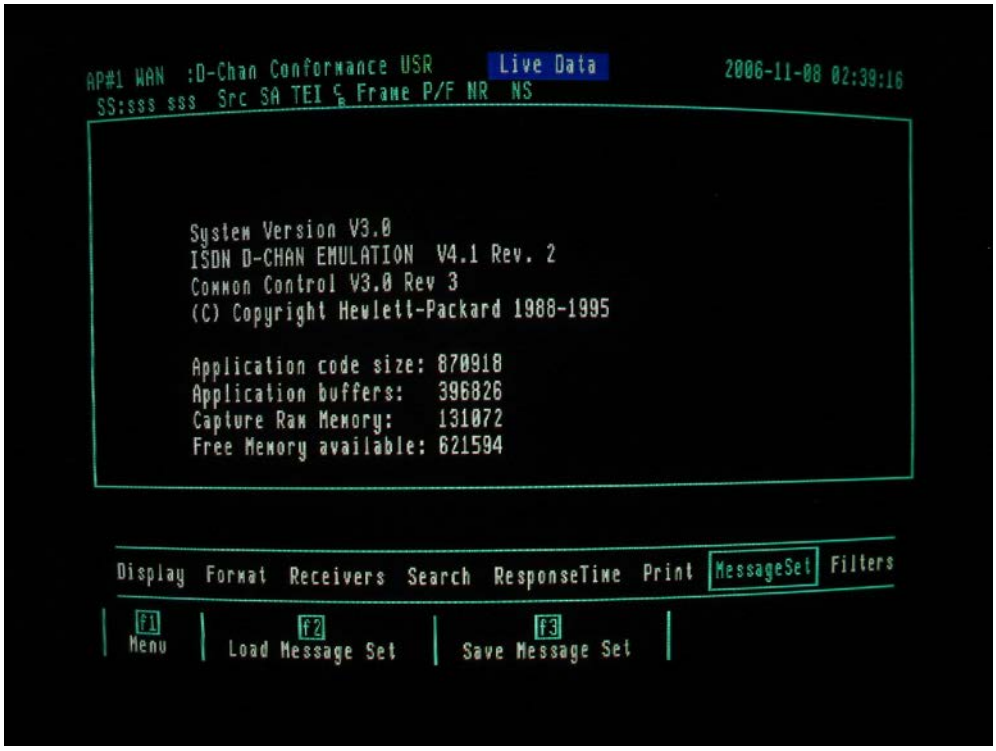
- Ensure that when the "Format" topic box is highlighted, the *f2 "Normal"* key, the *f4 "L.2 Comp" (L2 Complete) and the f6 "L.3. Comp" (Layer 3 complete)* keys are highlighted.



- Select the "Menu" topic box and ensure that the configuration is as shown in the screen below.

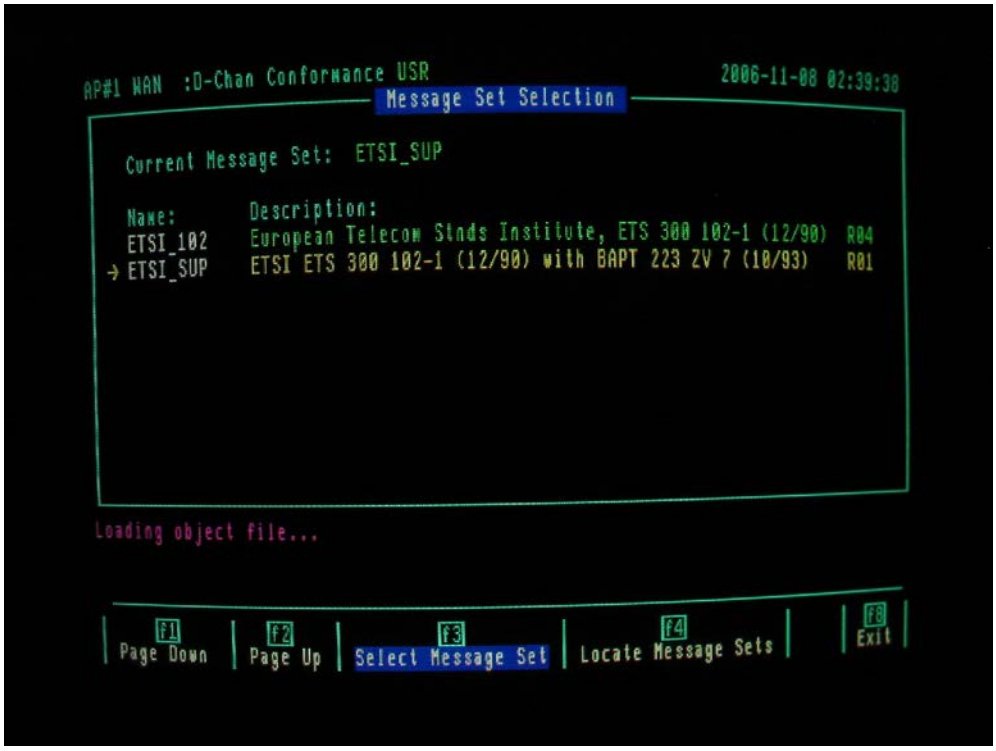


- Select the “Message Set” topic box.

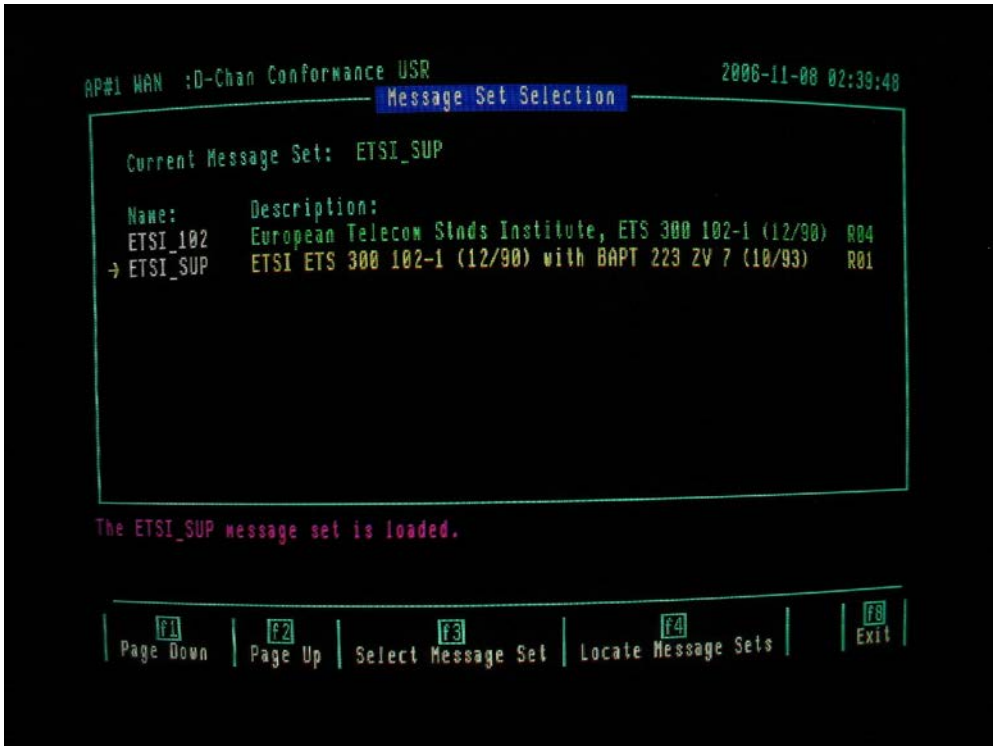


- Press the f1 “Menu” key to display a list of available message sets as shown in the following screen.

- Select the "ETSI_SUP" message set by using the cursor and then press the f3 "Select Message Set" key.

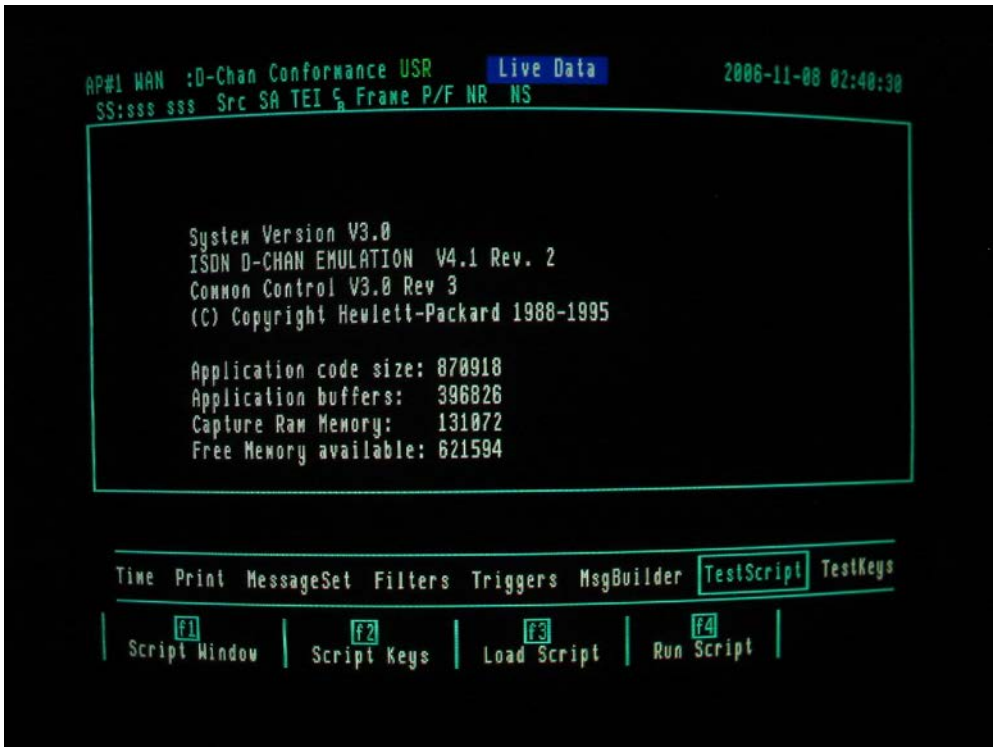


- The following message is shown when the message set is loaded.



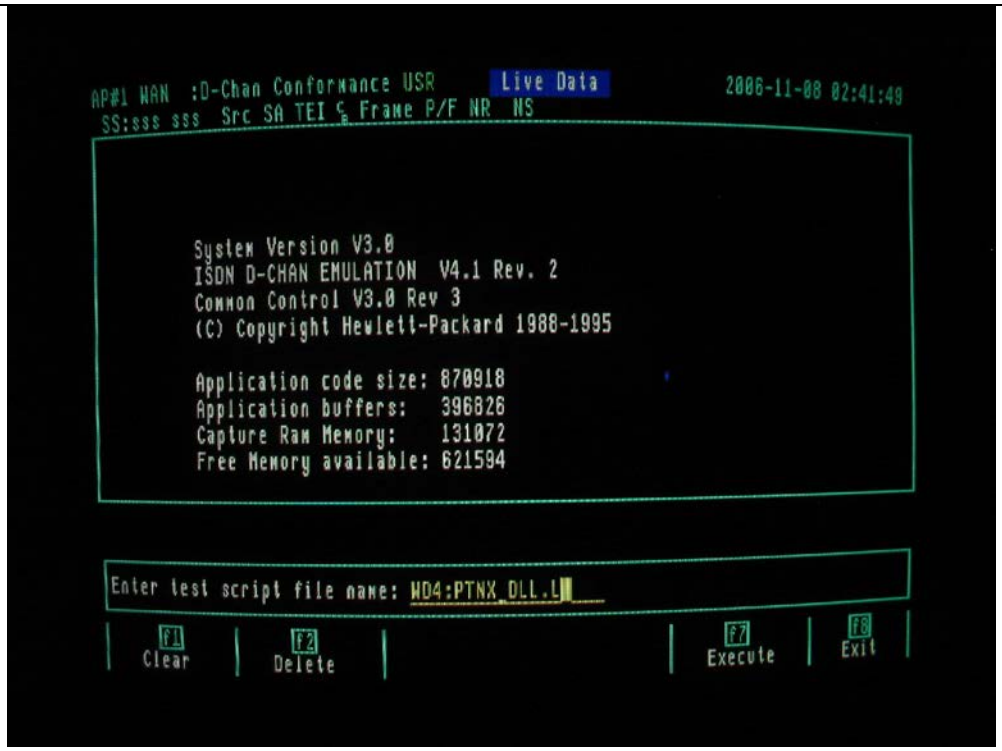
4.6 Loading the a Test Suite

- Select the “Load Script” topic box.
- Press the f3 “Load Script” key to display the field for test script entry.

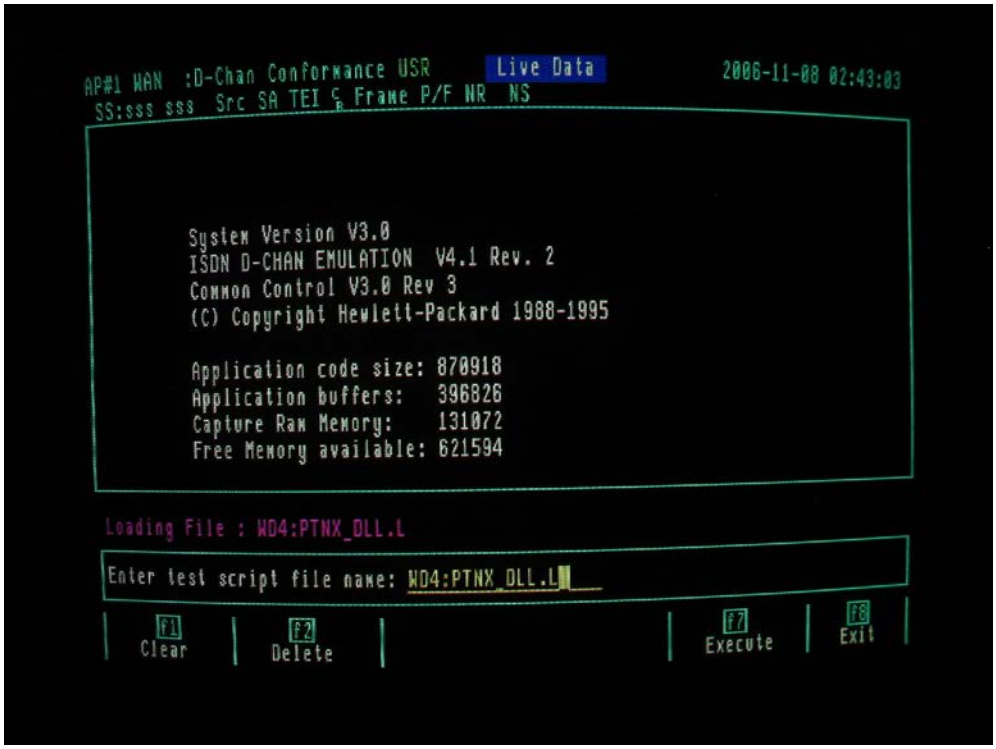


4.6.1 Loading the layer 2 Test Suite

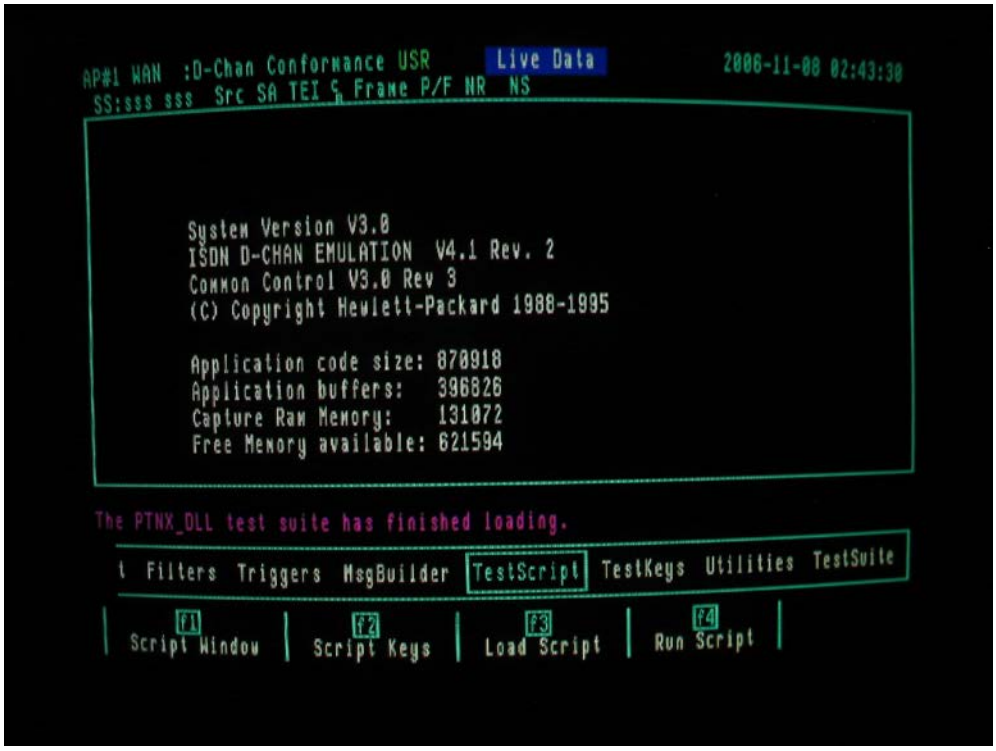
- Note only one test suite can be loaded at a time.
- To load the layer 2 test suite located on the WD4 hard disk partition type:
- WD4:PTNX_DLL.L
- Press the f7 “Execute” key to load script.



- When the Layer 2 test script is loading the following message is displayed:

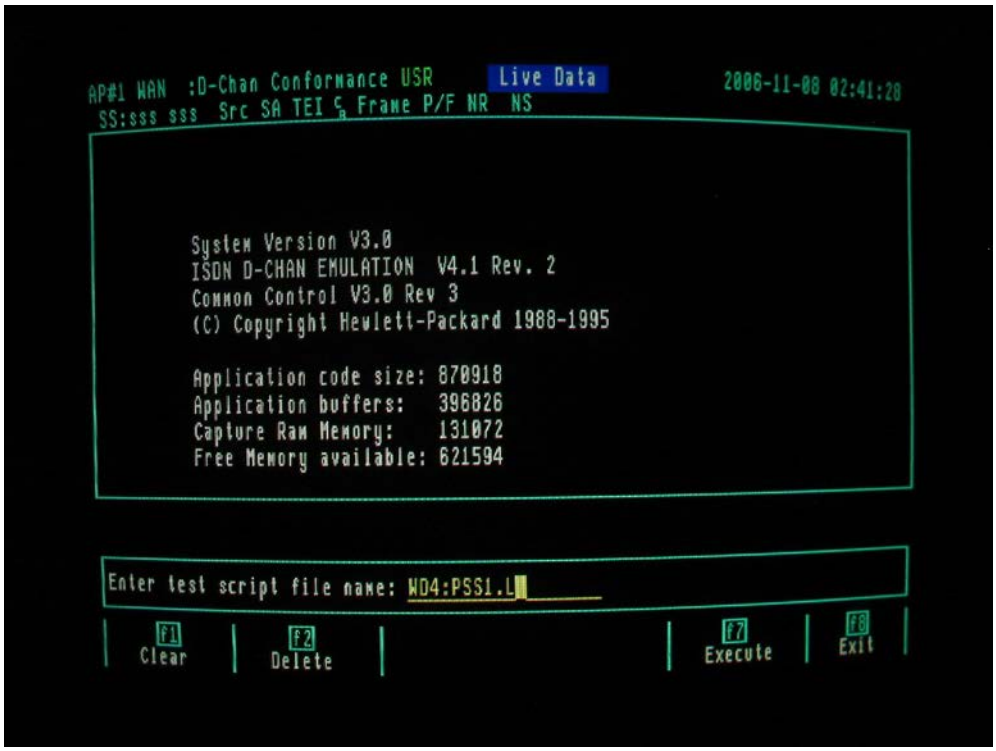


- When the Layer 2 test script has finished loading the following message is displayed:

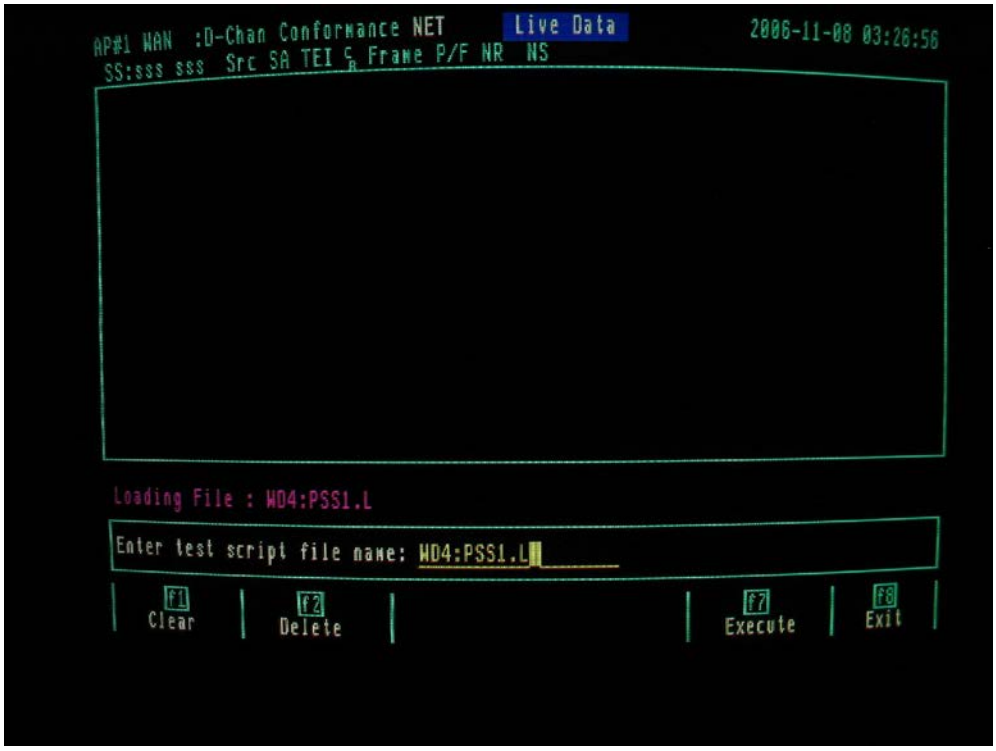


4.6.2 Loading the layer 3 Basic call Test Suite

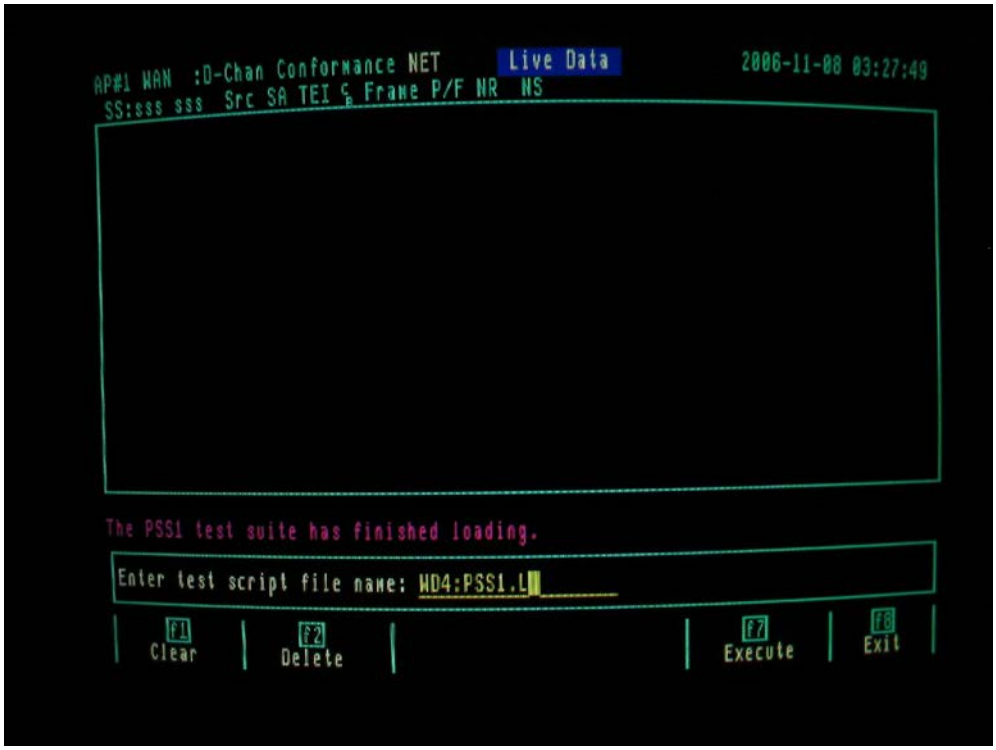
- Note only one test suite can be loaded at a time.
- To load the layer 3 Basic Call test suite located on the WD4 hard disk partition type:
- WD4:PSS1.L
- Press the f7 “Execute” key to load script.



- When the Layer 3 Basic Call test script is loading the following message is displayed:

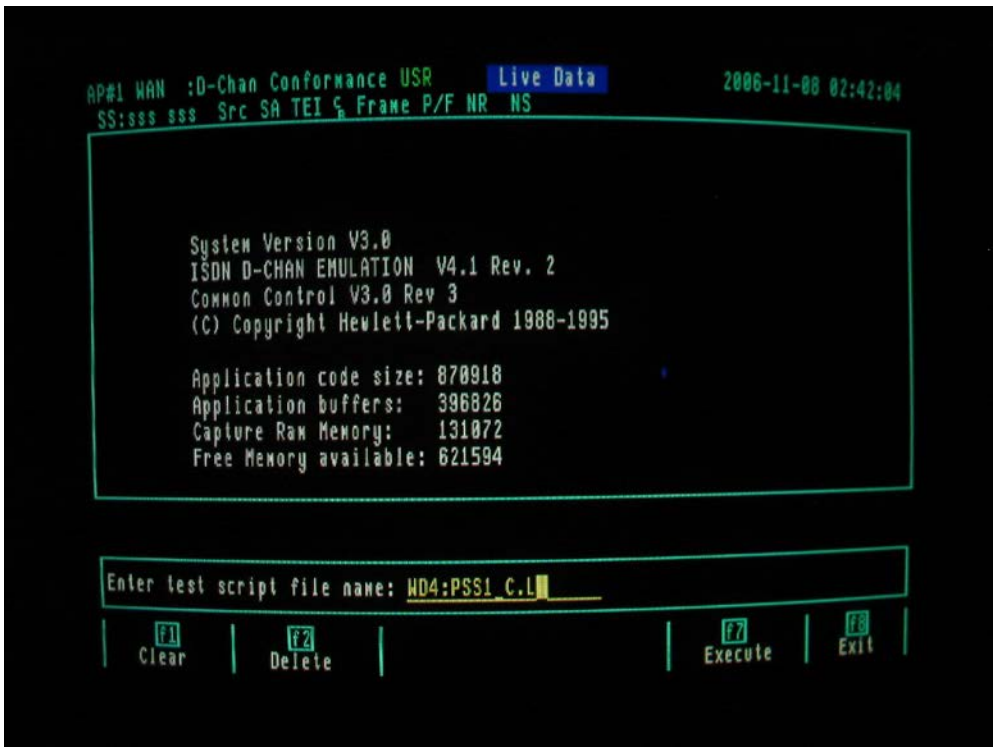


- When a layer 3 Basic Call test script has finished loading the following message is displayed:

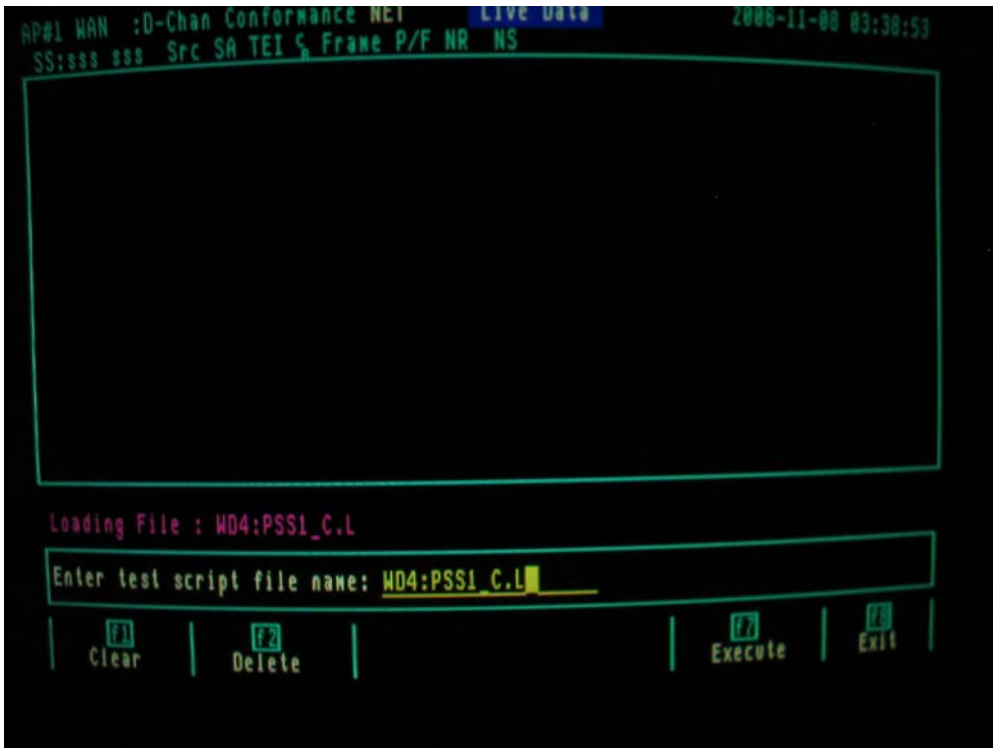


4.6.3 Loading the layer 3 Transit call Test Suite

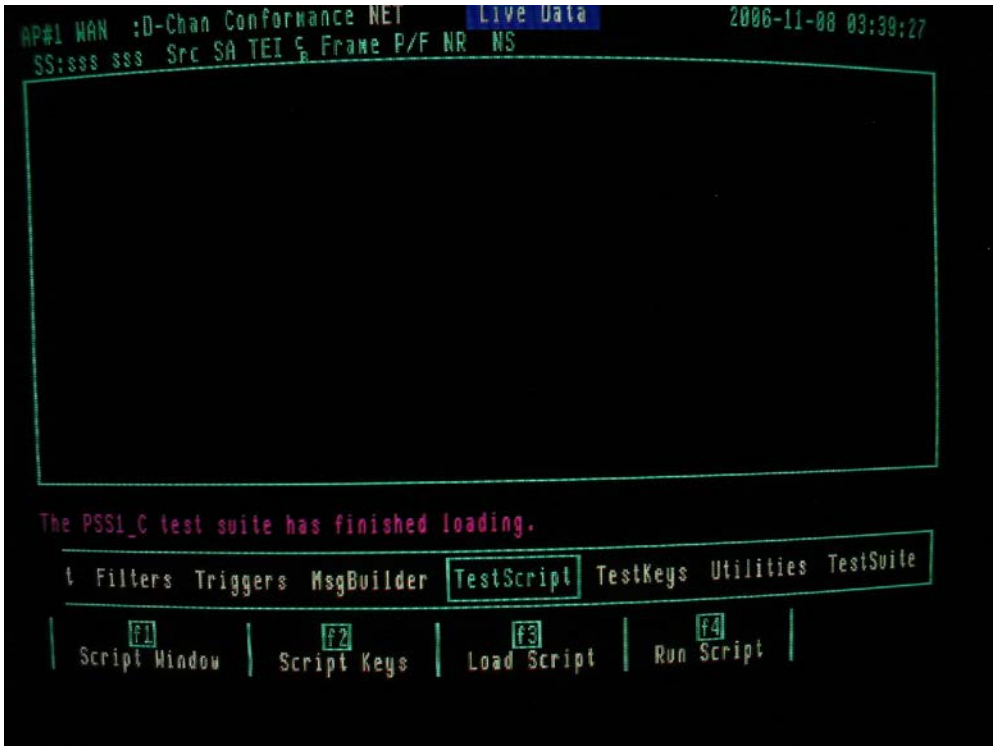
- Note only one test suite can be loaded at a time.
- To load the layer 3 Transit Call test suite located on the WD4 hard disk partition type:
- WD4:PSS1_C.L
- Press the f7 “Execute” key to load script.



- When the Layer 3 Transit Call test script is loading the following message is displayed:

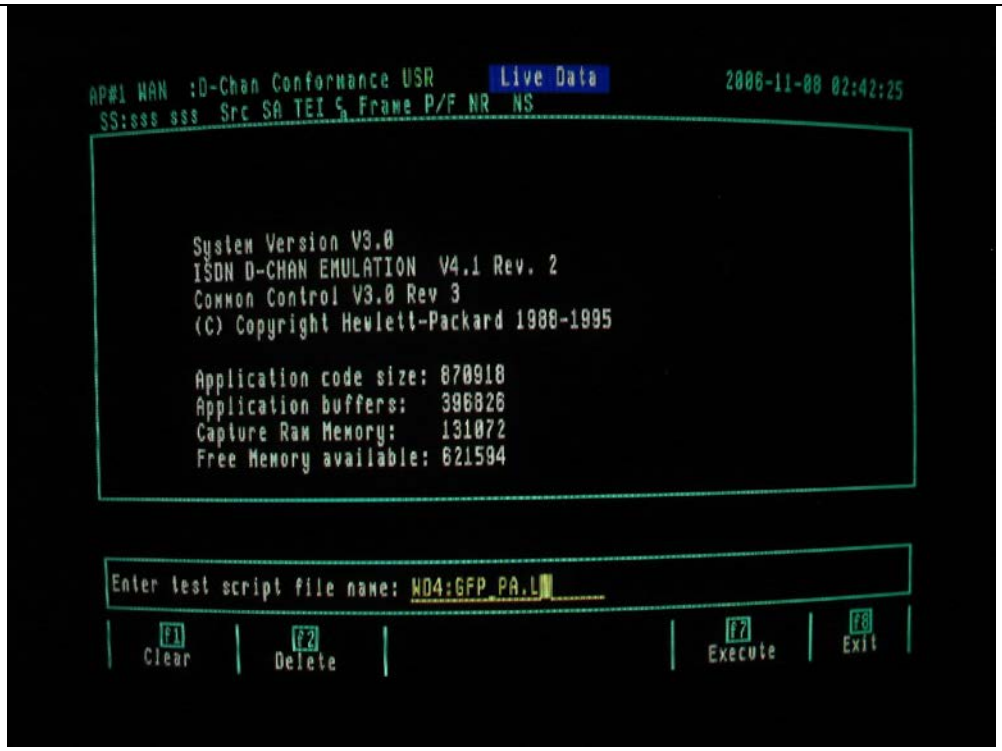


- When a layer 3 Transit Call test script has finished loading the following message is displayed:

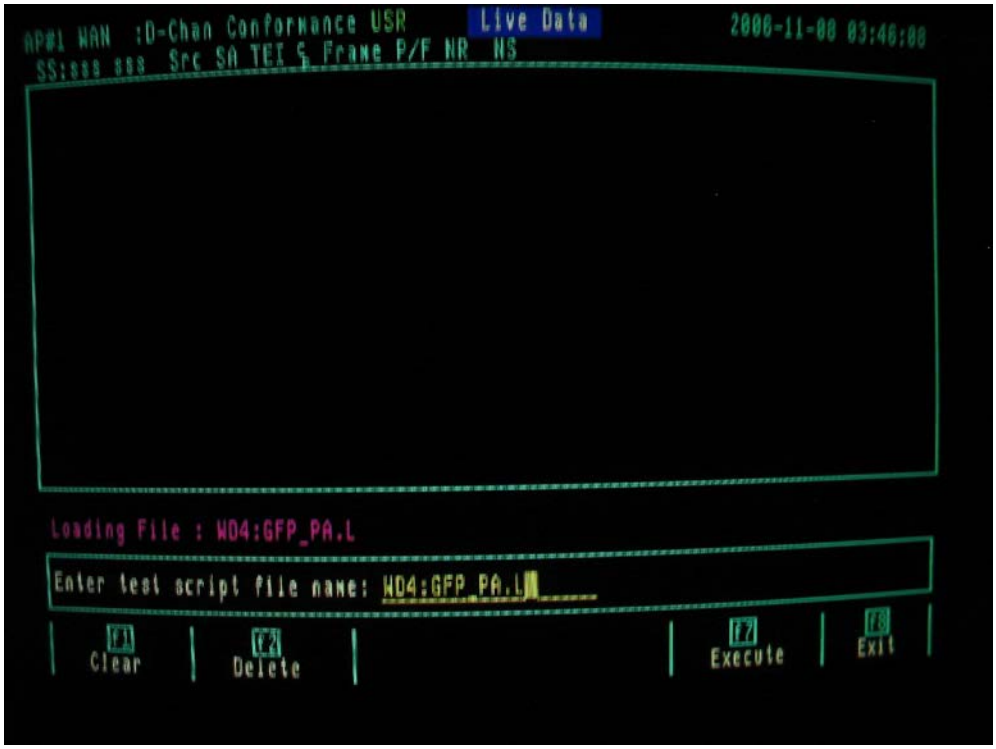


4.6.4 Loading the Generic Functional Protocol Test Suite

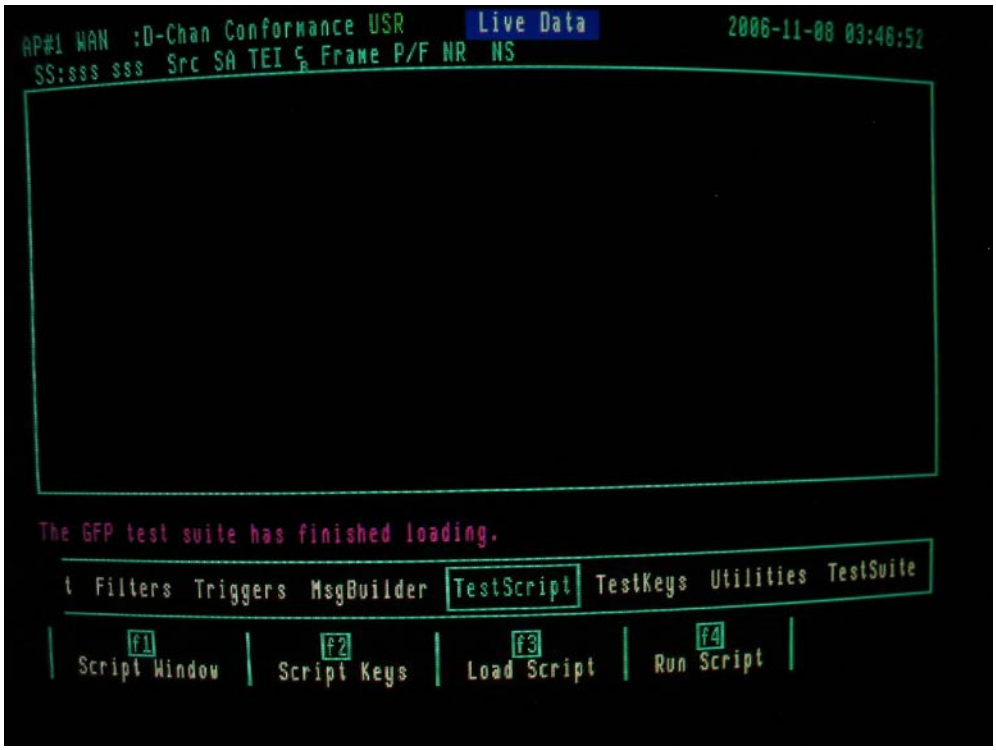
- Note only one test suite can be loaded at a time.
- To load the layer 3 Generic Functional Protocol test suite located on the WD4 hard disk partition type:
- WD4:GFP_PA.L
- Press the f7 “Execute” key to load script.
- Note that the same GFP test suite can be run in two modes: Mono and Transit.



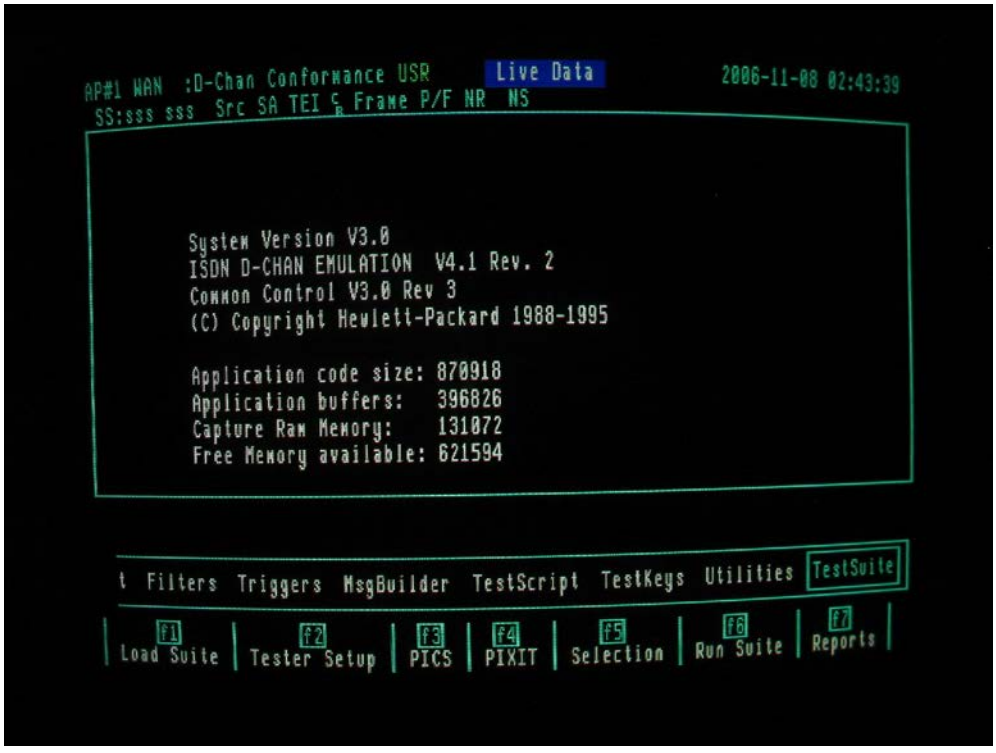
- When the Generic Functional Protocol test script is loading the following message is displayed:



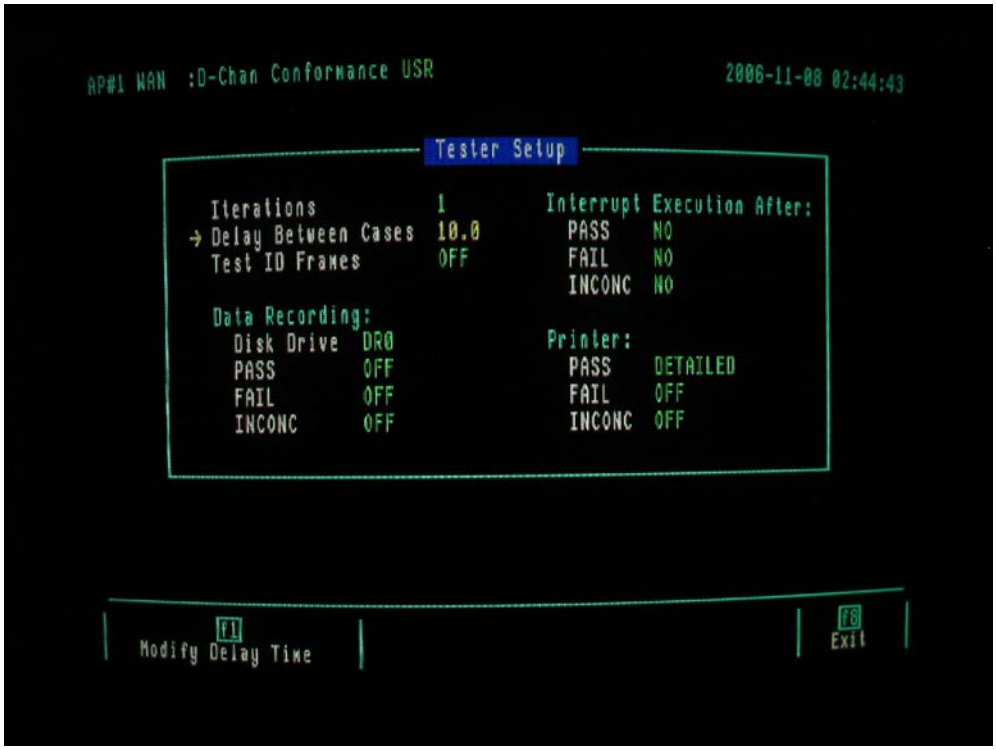
- When the Generic Functional Protocol test script has finished loading the following message is displayed:



- Once the chosen test suite has loaded select the “Test Suite” topic box.



- Press the f2 “Tester Setup” key and check that all the parameters are as shown within the screen below:



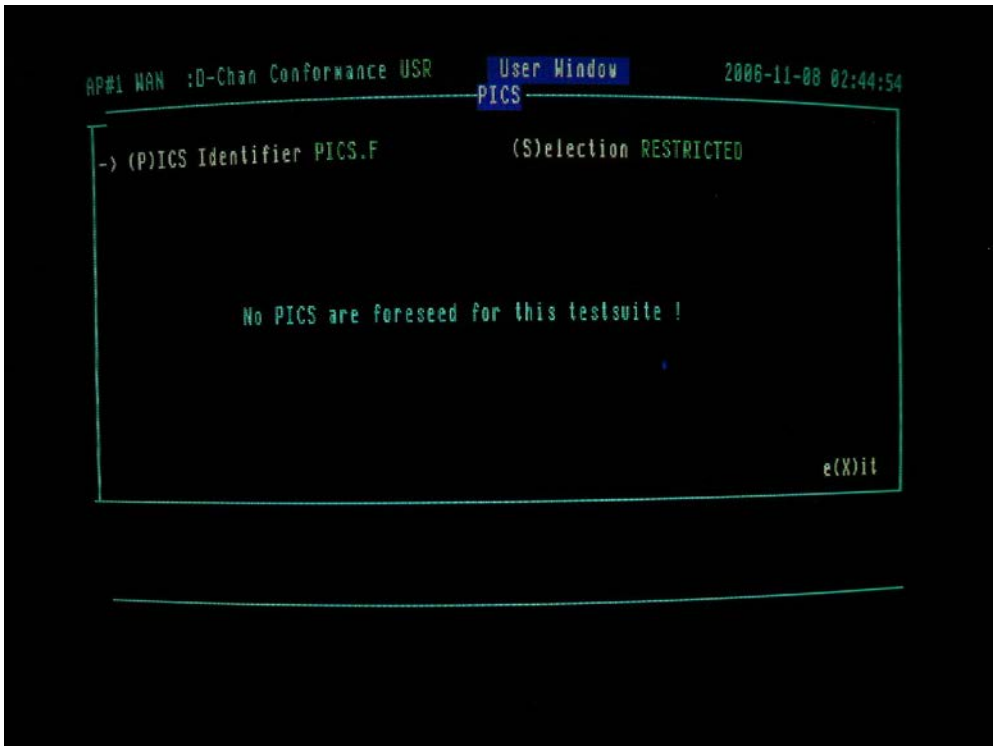
- It is necessary to disable the Data Recording on the Floppy Disk Drives DR0 and DR1 unless data recording is to be stored to floppy disk. The Disks can be formatted from the Files Topic Box in the HOME menu. Disks have to have both of their labels covered and will be formatted to the IDACOM disk format (720kbyes) instead of 1.44Mbytes.
- It is advised to connect the PT502’s serial printer port (located on its back panel), to the USB port of a PC using a USB serial cable. The Terminal emulator can be used record all test case results (PASS, FAIL and or INCONC) to a file on the PC.
- If records of Failed or Inconclusive test cases are to be output then select DETAILED for these too instead of the OFF state.
- Press the f8 “Exit” key to return to the Test Suite menu:

4.7 Loading the PICS (Protocol Implementation Conformance Statement)

- Press the f3 “PICS” key to display the PICS screen for the test suite previously loaded.

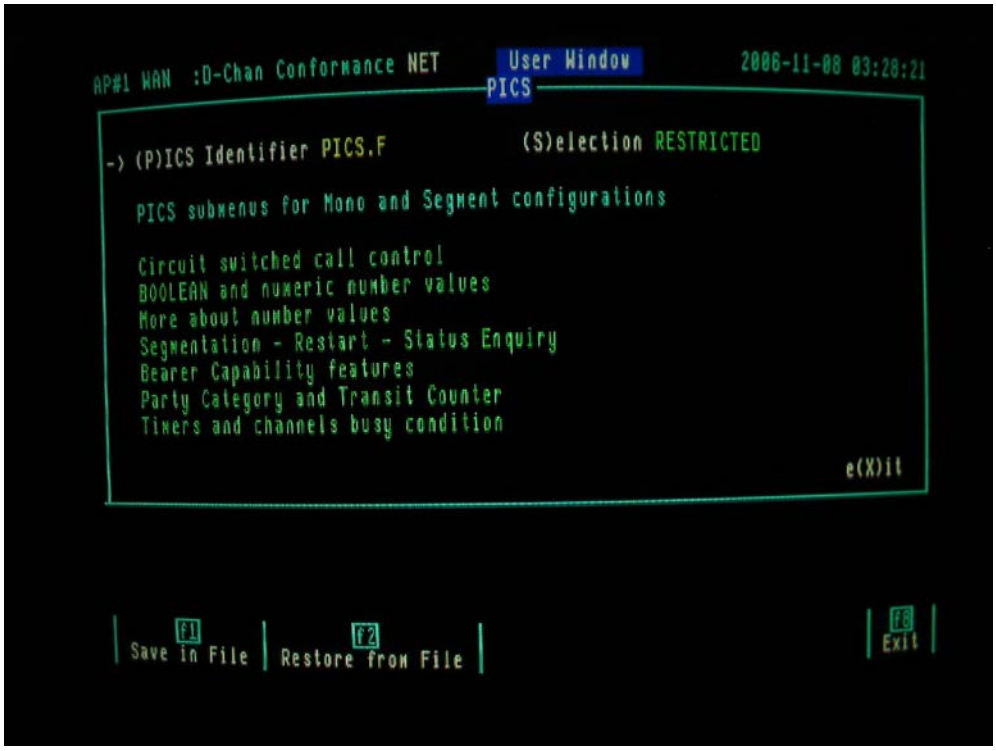
4.7.1 Loading the Layer 2 PICS

- In the case of Layer 2 “No PICS are foreseen for this test suite”. PICS do however exist for Layer 3 Basic Call, Layer 3 Transit Call and Generic Functional Protocol Test suites:

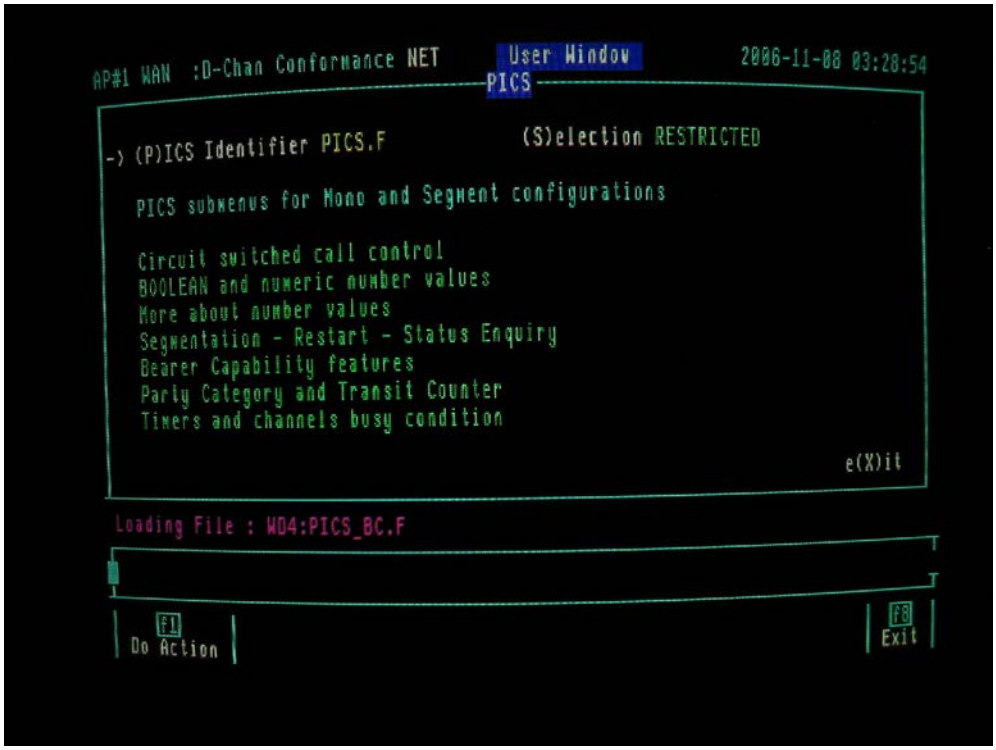


4.7.2 Loading the Layer 3 Basic Call PICS

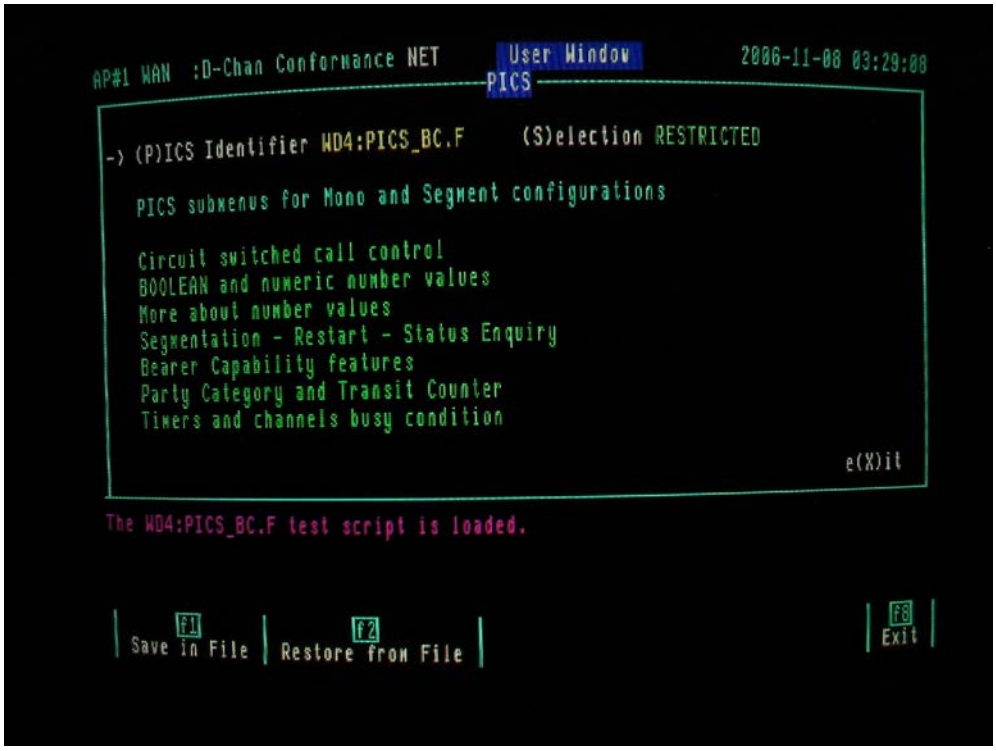
- In order to display the labels for the f1 and f2 keys, it is necessary to press the Up cursor on the keyboard once followed by pressing the down cursor also once.



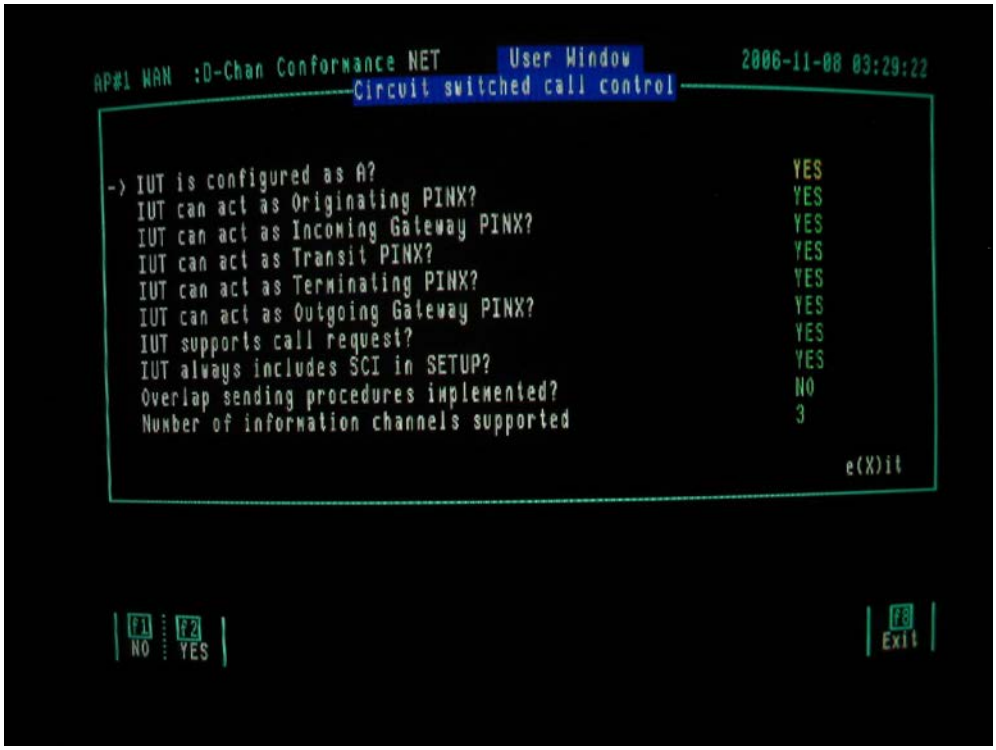
- Press the f2 “Restore from File” key to load a PICS from the WD4 hard disk partition.
- For the Layer 3 Basic Call PICS enter WD4:PICS_BC.F and then press the Enter Key on the keyboard.

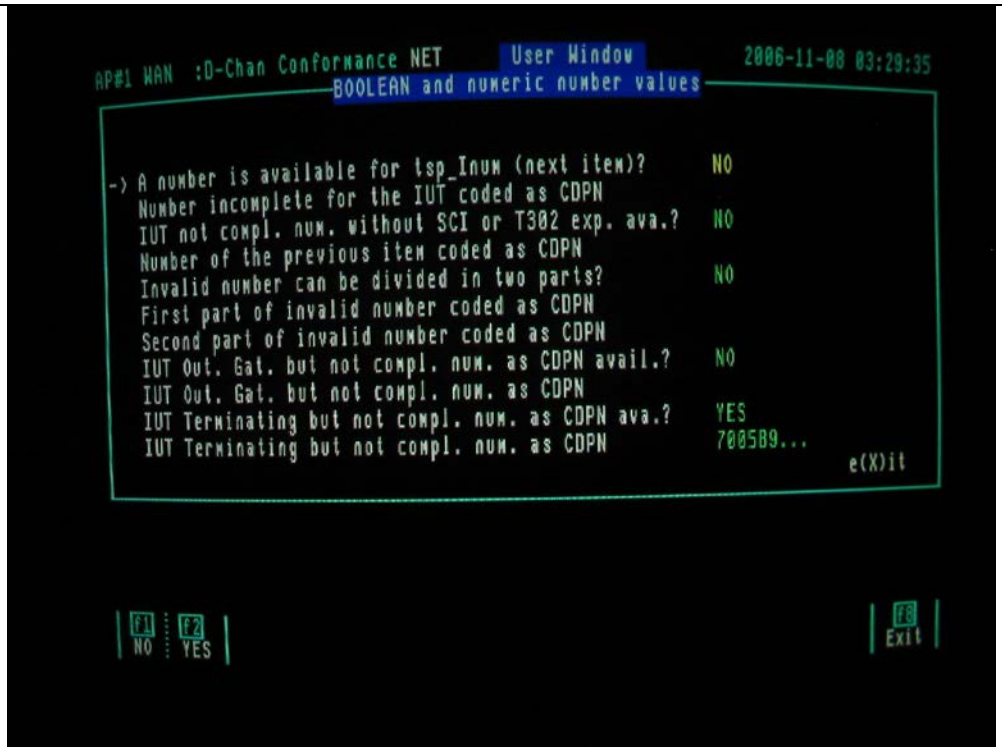


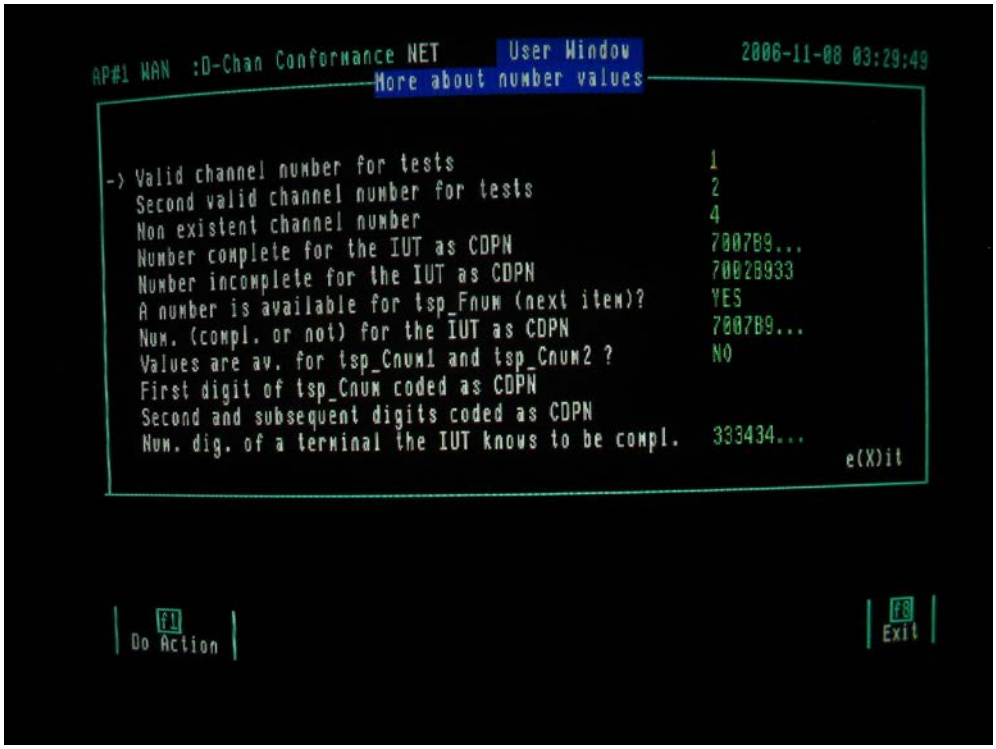
- Once the Layer 3 Basic Call PICS is loaded the following high level PICS menu is displayed:

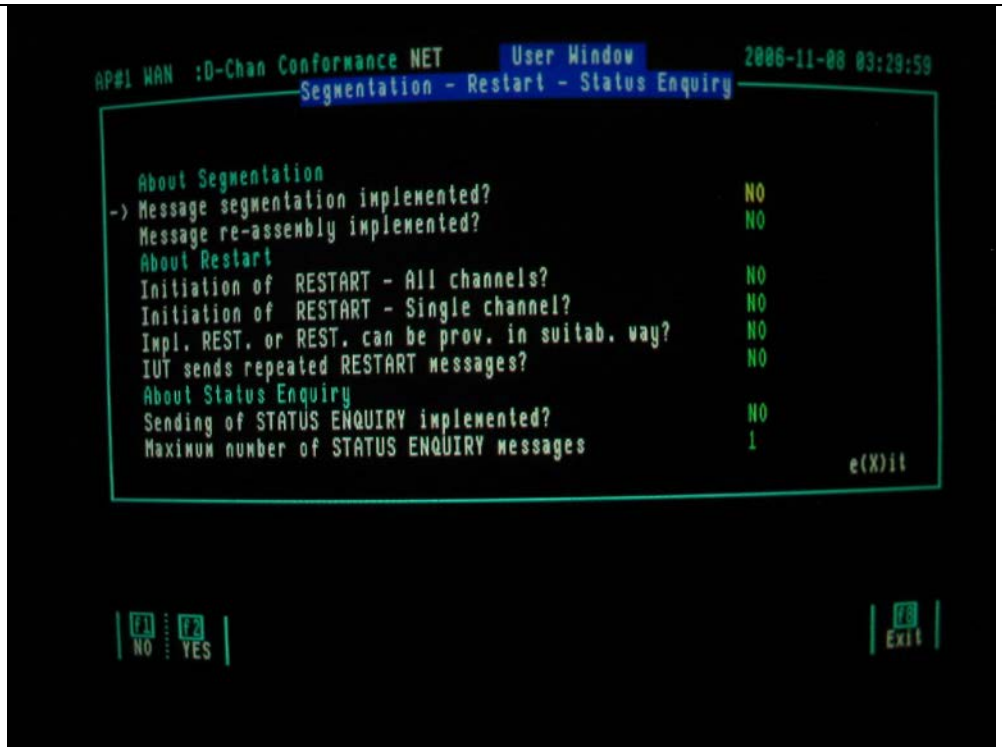


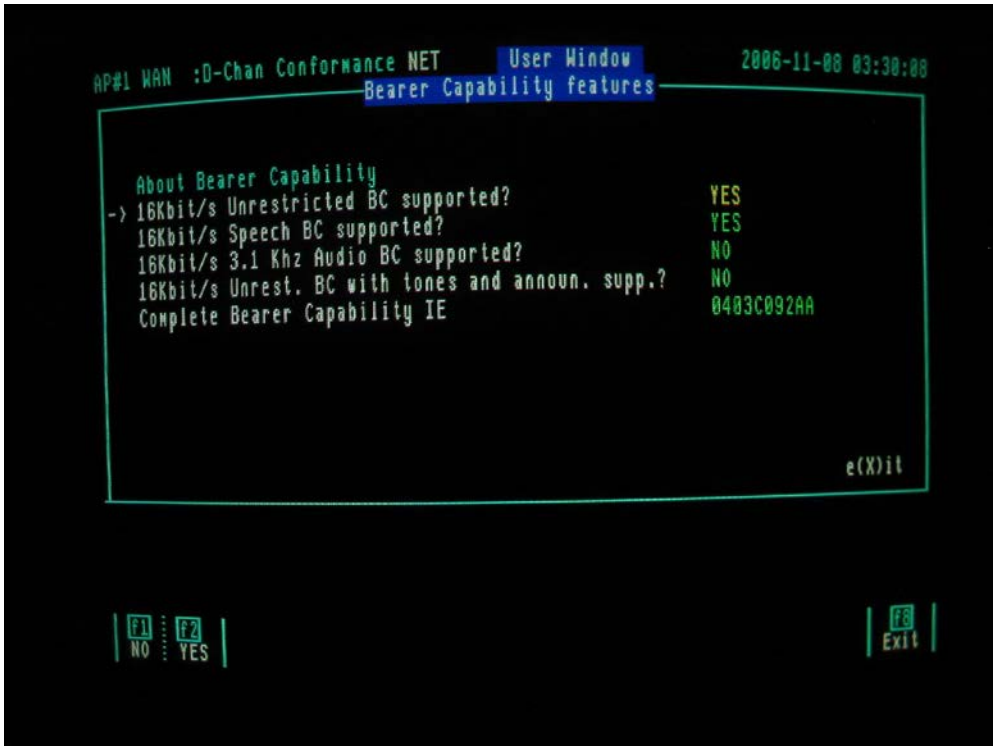
- The following screens show the Layer 3 Basic Call PICS.

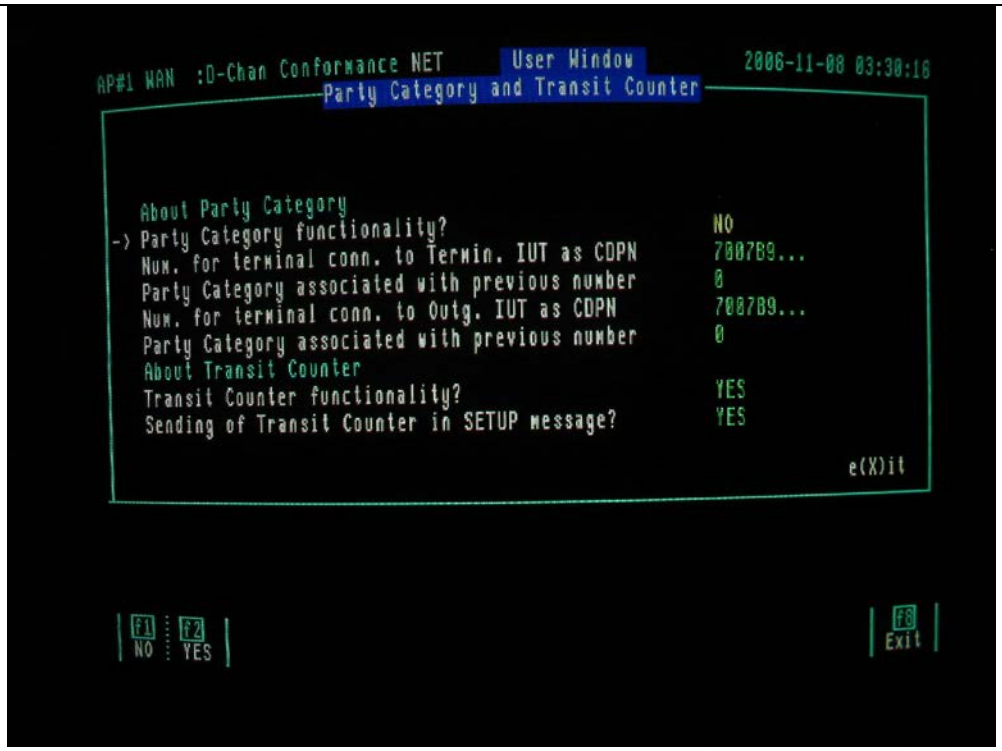


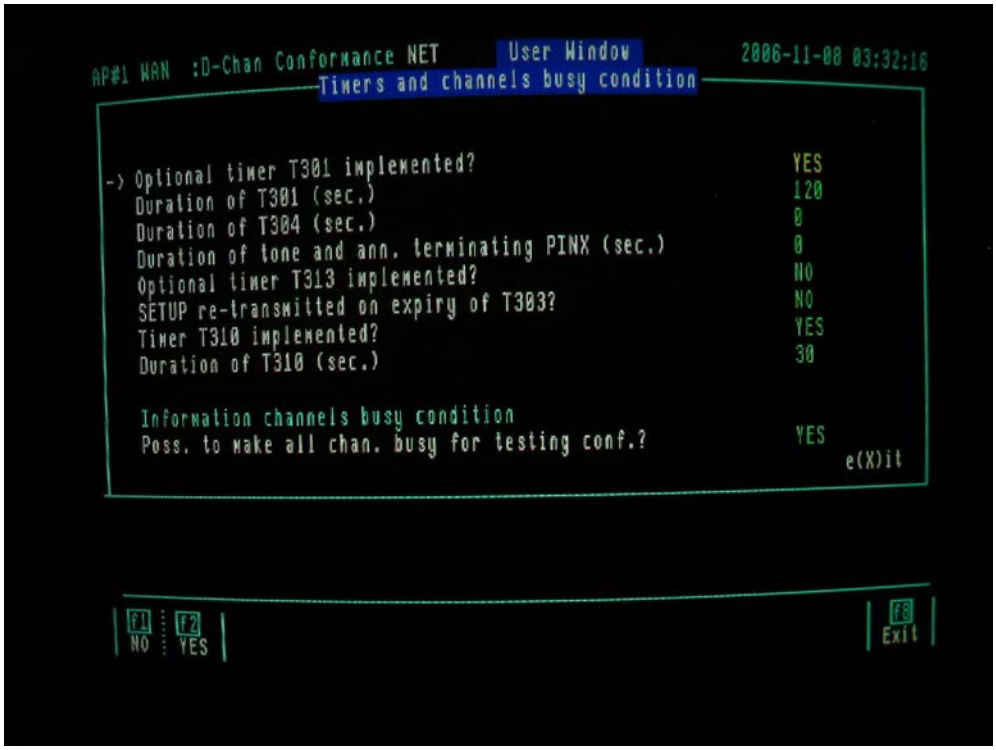

AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:29:35
BOOLEAN and numeric number values
-> A number is available for tsp_Inum (next item)? NO
Number incomplete for the IUT coded as CDPN
IUT not compl. num. without SCI or T302 exp. ava.? NO
Number of the previous item coded as CDPN
Invalid number can be divided in two parts? NO
First part of invalid number coded as CDPN
Second part of invalid number coded as CDPN
IUT Out. Gat. but not compl. num. as CDPN avail.? NO
IUT Out. Gat. but not compl. num. as CDPN
IUT Terminating but not compl. num. as CDPN ava.? YES
IUT Terminating but not compl. num. as CDPN 7005B9...
e(X)it
F1 NO
F2 YES
F8 Exit


AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:29:49
More about number values
-> Valid channel number for tests 1
Second valid channel number for tests 2
Non existent channel number 4
Number complete for the IUT as CDPN 7007B9...
Number incomplete for the IUT as CDPN 70028933
A number is available for tsp_Fnum (next item)? YES
Num. (compl. or not) for the IUT as CDPN 7007B9...
Values are av. for tsp_Cnum1 and tsp_Cnum2 ? NO
First digit of tsp_Cnum coded as CDPN
Second and subsequent digits coded as CDPN
Num. dig. of a terminal the IUT knows to be compl. 333434...
e(X)it
F1 Do Action
F8 Exit


AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:29:59
Segmentation - Restart - Status Enquiry
About Segmentation
-> Message segmentation implemented? NO
Message re-assembly implemented? NO
About Restart
Initiation of RESTART - All channels? NO
Initiation of RESTART - Single channel? NO
Impl. REST. or REST. can be prov. in suitab. way? NO
IUT sends repeated RESTART messages? NO
About Status Enquiry
Sending of STATUS ENQUIRY implemented? NO
Maximum number of STATUS ENQUIRY messages 1
e(X)it
F1 NO
F2 YES
F8 Exit

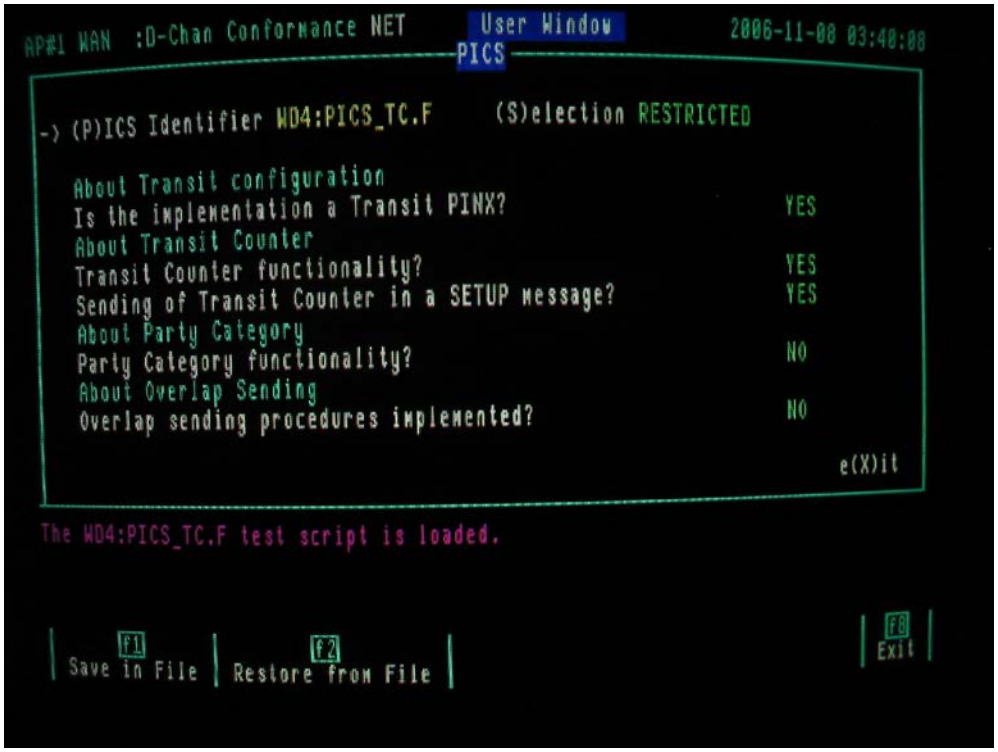

AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:30:08
Bearer Capability features
About Bearer Capability
-> 16Kbit/s Unrestricted BC supported? YES
16Kbit/s Speech BC supported? YES
16Kbit/s 3.1 Khz Audio BC supported? NO
16Kbit/s Unrest. BC with tones and announ. supp.? NO
Complete Bearer Capability IE 0403C092AA
e(X)it
F1 NO
F2 YES
F8 Exit


AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:30:16
Party Category and Transit Counter
About Party Category
-> Party Category functionality? NO
Num. for terminal conn. to Termin. IUT as CDPN 7007B9...
Party Category associated with previous number 0
Num. for terminal conn. to Outg. IUT as CDPN 7007B9...
Party Category associated with previous number 0
About Transit Counter
Transit Counter functionality? YES
Sending of Transit Counter in SETUP message? YES
e(X)it
F1 NO
F2 YES
F8 Exit


AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:32:16
Timers and channels busy condition
-> Optional timer T301 implemented? YES
Duration of T301 (sec.) 120
Duration of T304 (sec.) 0
Duration of tone and ann. terminating PINX (sec.) 0
Optional timer T313 implemented? NO
SETUP re-transmitted on expiry of T303? NO
Timer T310 implemented? YES
Duration of T310 (sec.) 30
Information channels busy condition
Poss. to make all chan. busy for testing conf.? YES
e(X)it
F1 NO
F2 YES
F8 Exit

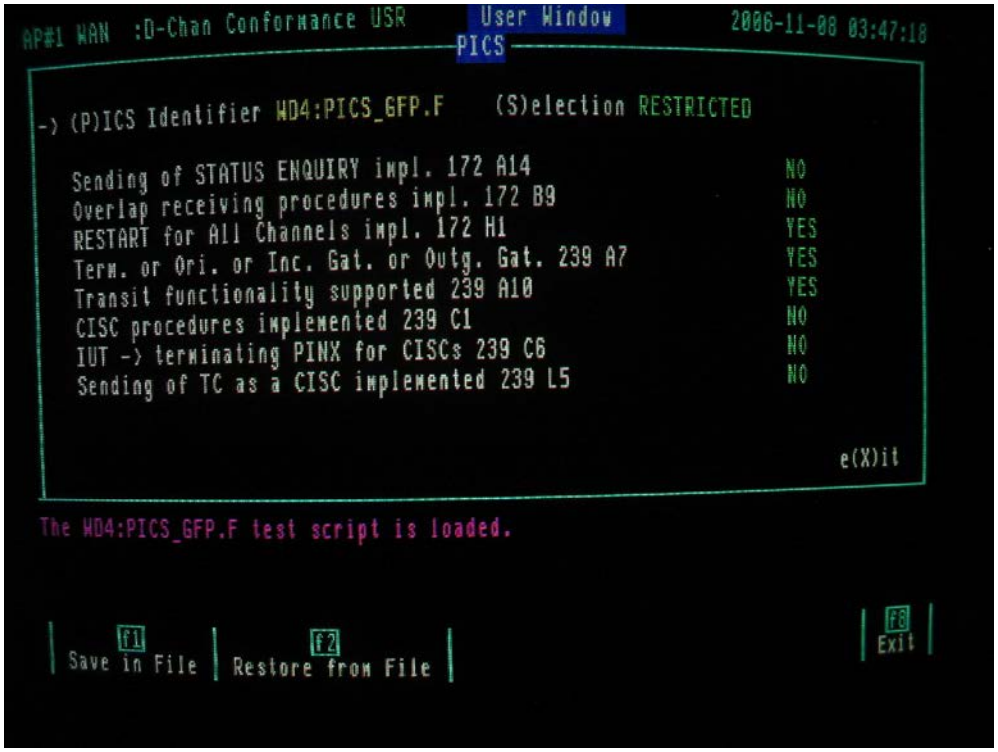
4.7.3 Loading the Layer 3 Transit Call PICS

- In order to display the labels for the f1 and f2 keys, it is necessary to press the Up cursor on the keyboard once followed by pressing the down cursor also once.
- Press the f2 “Restore from File” key to load a PICS from the WD4 hard disk partition.
- For the Layer 3 Transit Call PICS enter WD4:PICS_TC.F and then press the Enter Key on the keyboard.



4.7.4 Loading the Generic Functional Protocol (GFP) PICS

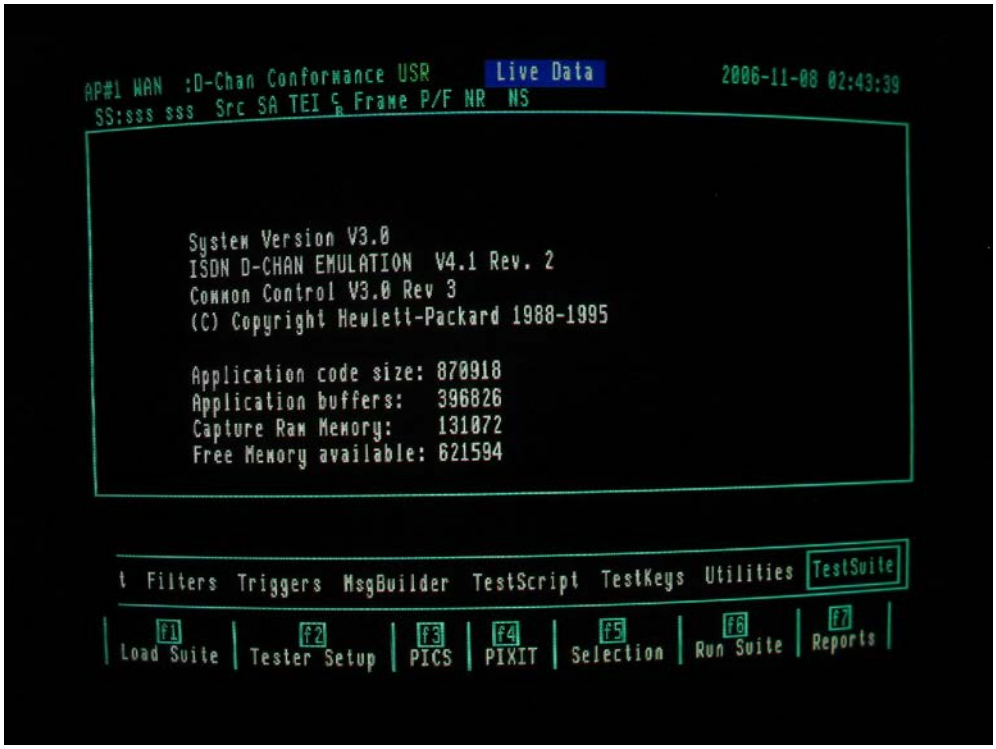
- In order to display the labels for the f1 and f2 keys, it is necessary to press the Up cursor on the keyboard once followed by pressing the down cursor also once.
- Press f2 “Restore from File” key to load a PICS from the WD4 hard disk partition.
- For the Generic Functional Protocol PICS enter WD4:PICS_GFP.F and then press the Enter Key on the keyboard.



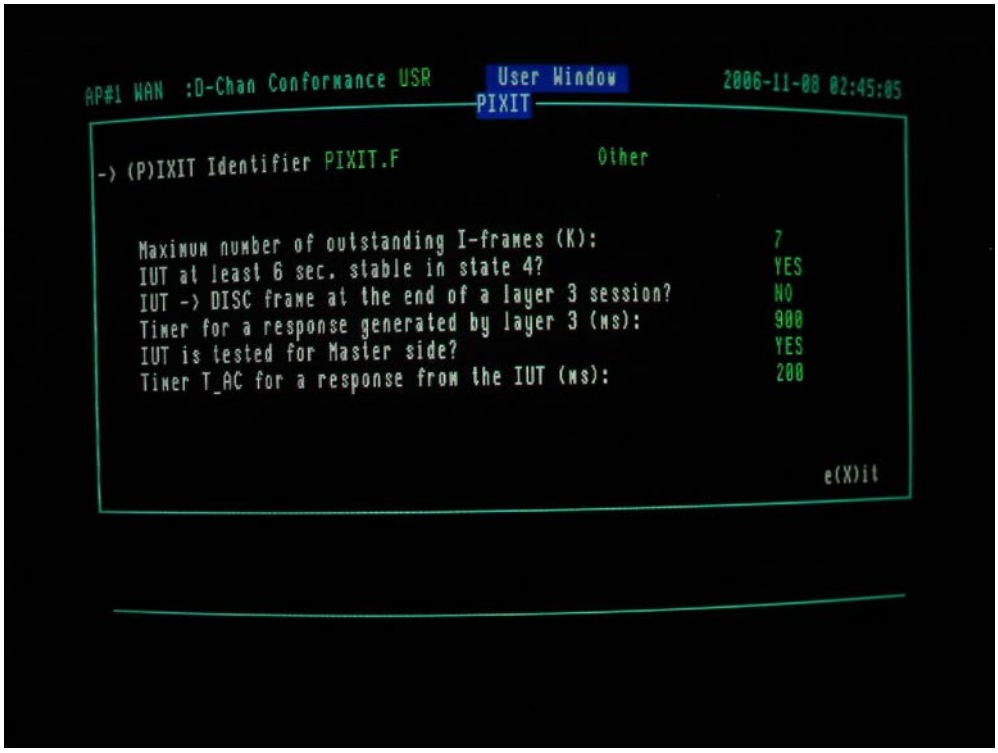
- As the Generic Functional Protocol can be run either in GFP-Mono or GFP-Transit mode.
  - Check that the PICS item “Transit functionality supported 239 A10” is set to NO when GFP Mono test suite is being run.
  - Check that the PICS item “Transit functionality supported 239 A10” is set to YES when GFP Transit test suite is being run.

4.8 Loading the PIXIT (Protocol Implementation eXtra Information Test Statement)

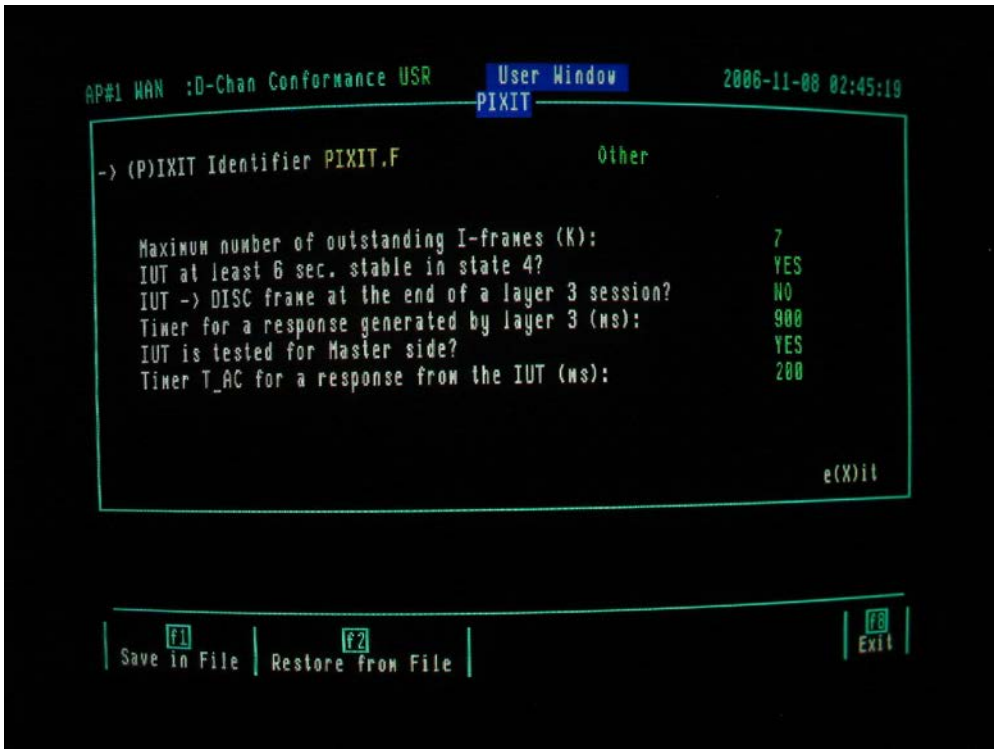
- Once the PICS for the chosen test suite has loaded select the “Test Suite” topic box.
- Press the f4 “PIXIT” key to display the PIXIT screen for the test suite previously loaded.



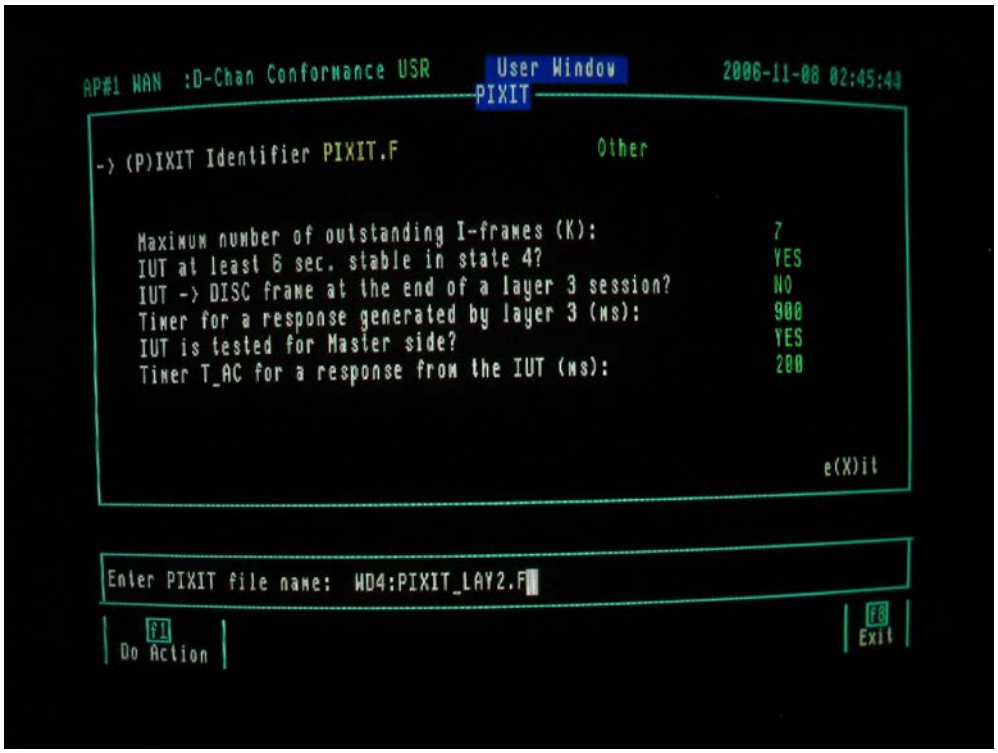
4.8.1 Loading the Layer 2 PIXIT



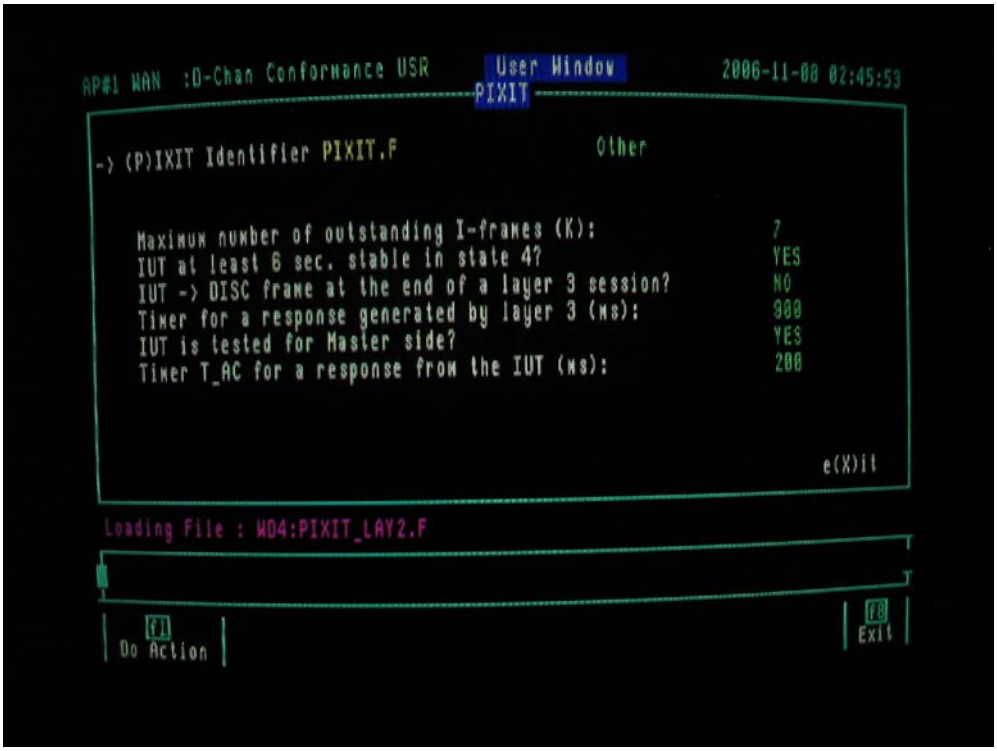
- In order to display the labels for the f1 and f2 keys, it is necessary to press the Up cursor on the keyboard once followed by pressing the down cursor also once.



- Press the f2 “Restore from file” key and enter the layer 2 PIXIT file located on WD4.
- Type WD4:PIXIT_LAY2.F and then press the Enter key.

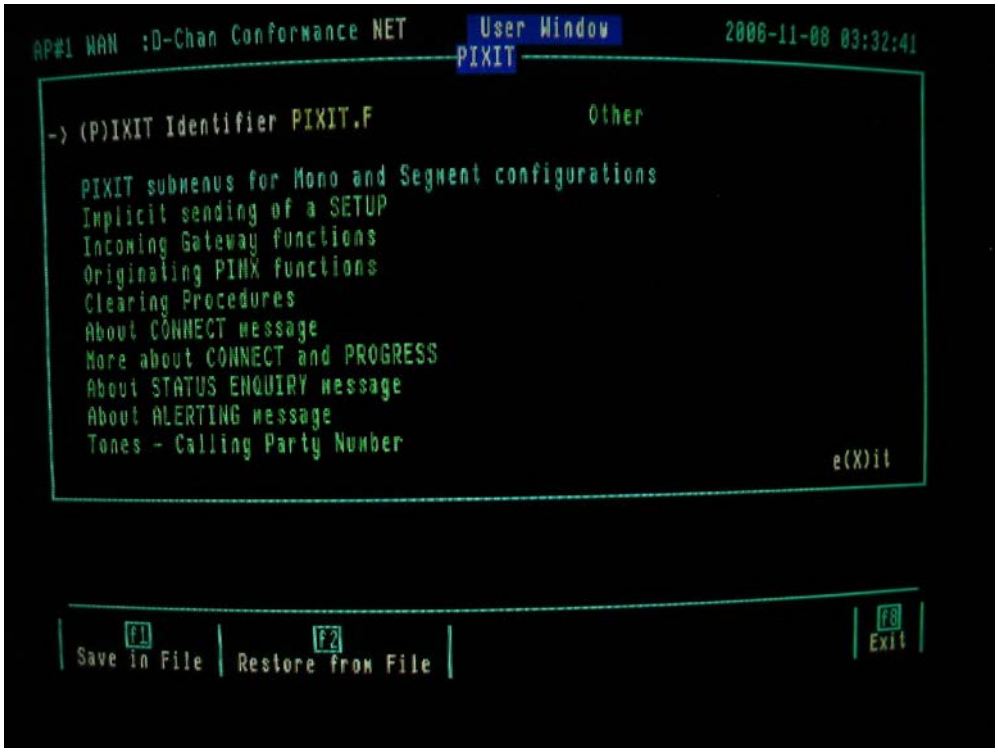


- The PIXIT file will then start loading.

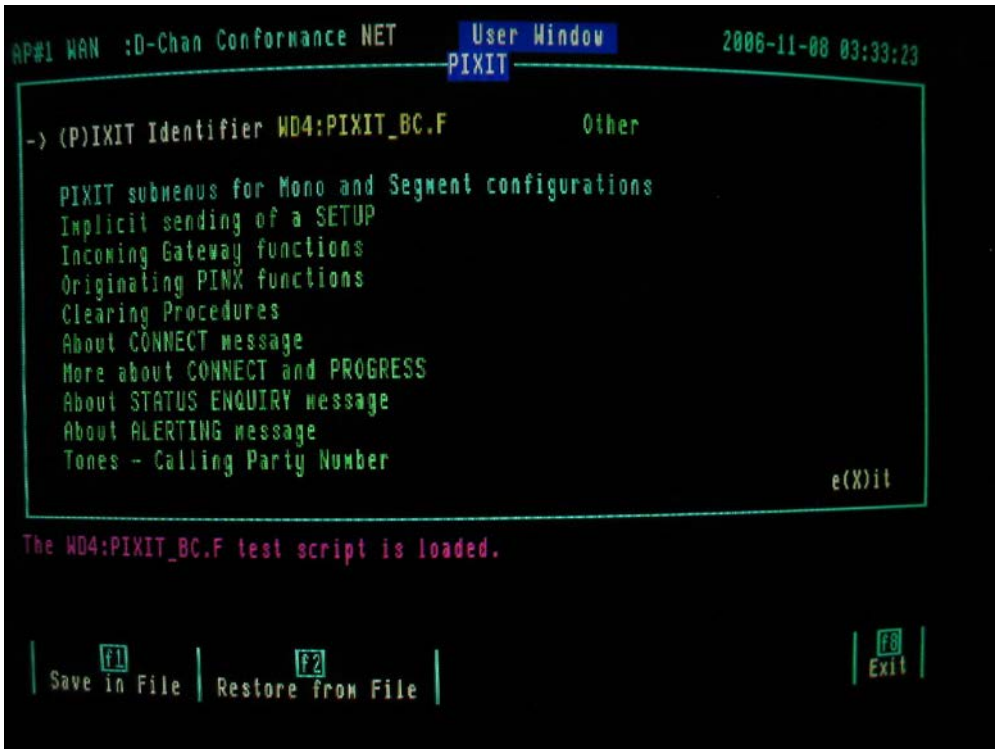


- Once loaded the Maximum number of outstanding I-frames should show 3.
- If the VCS ATS-QSIG implementation to be tested is configured as Network side, set the Item “IUT is tested for Master Side” to YES. If however the VCS ATS-QSIG implementation to be tested is configured as User, set the Item “IUT is tested for Master Side” to NO.

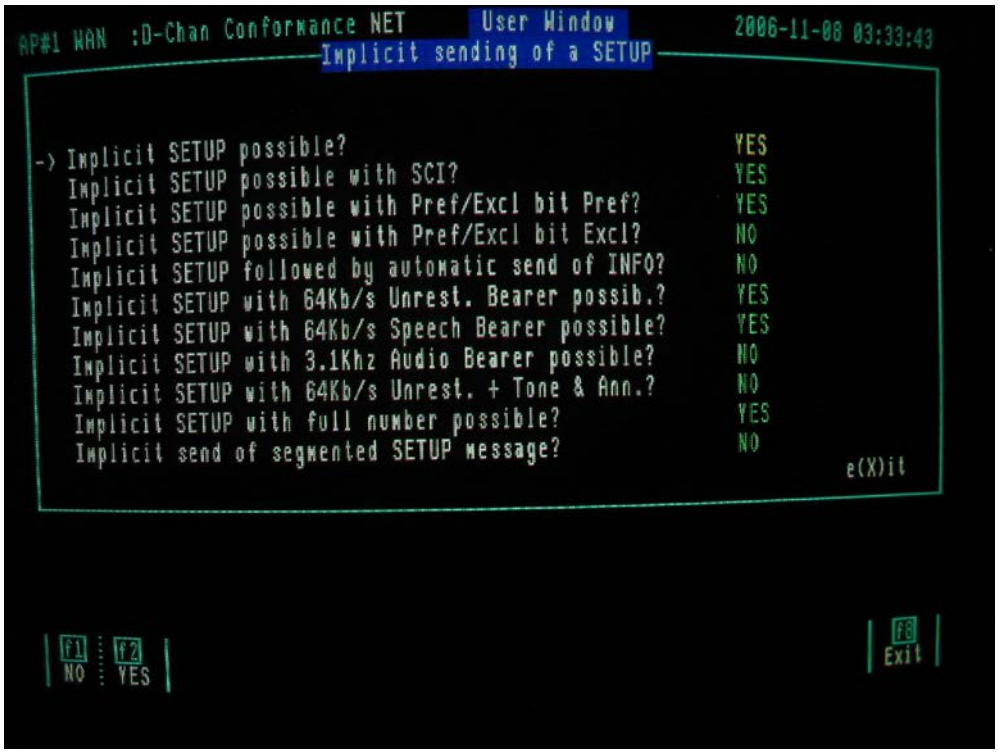
4.8.2 Loading the Layer 3 Basic Call PIXIT

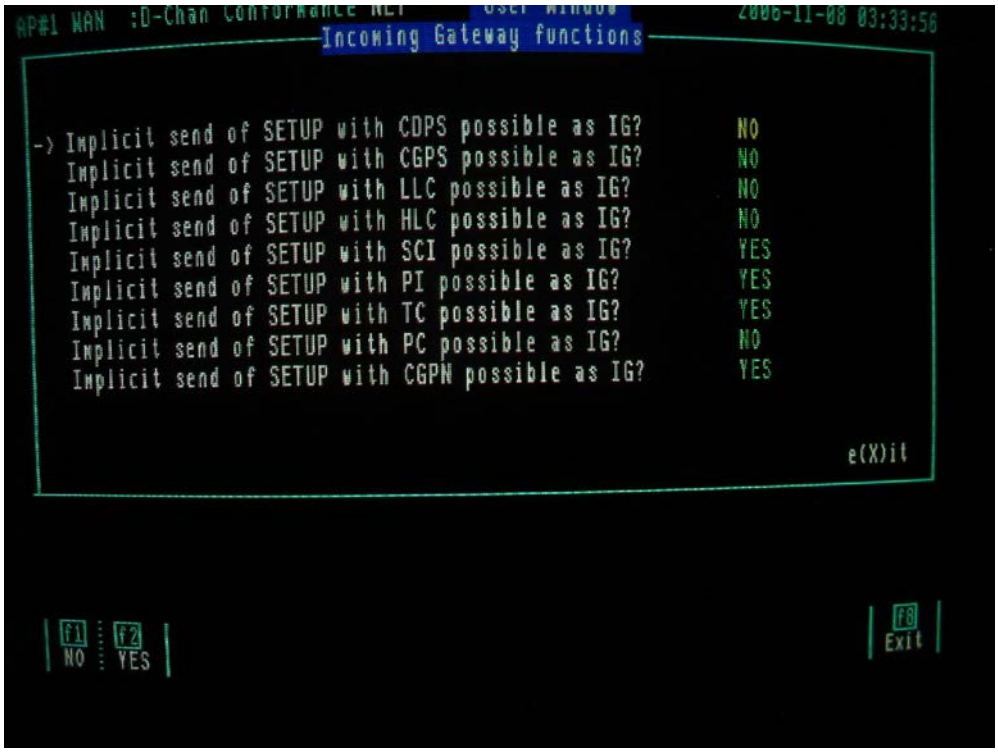


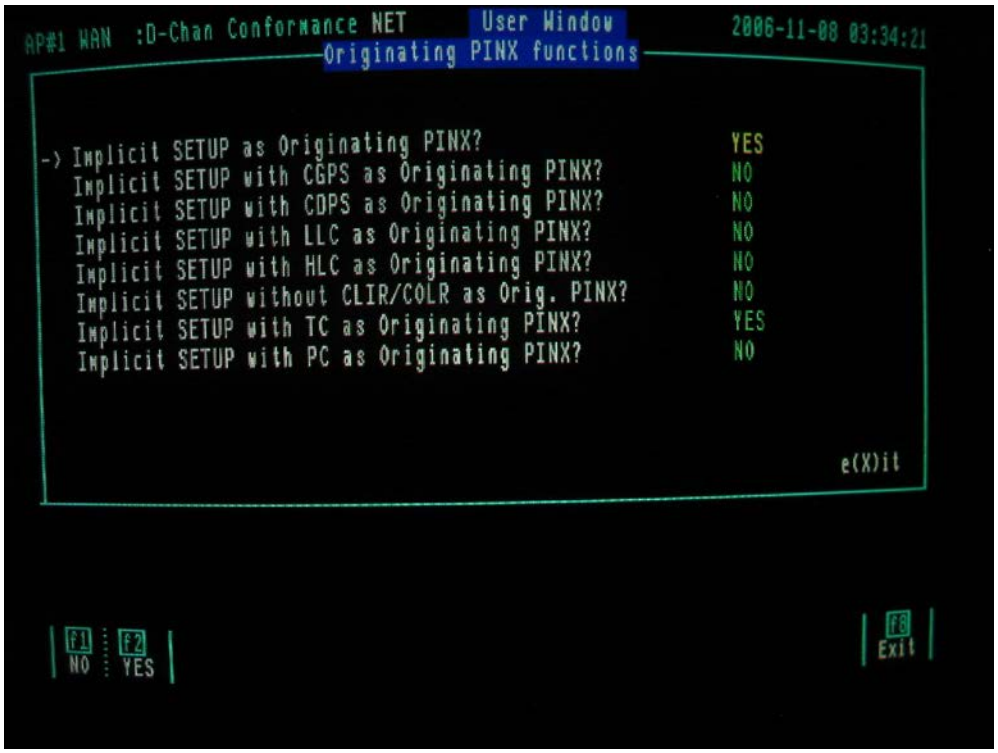
- In order to display the labels for the f1 and f2 keys, it is necessary to press the Up cursor on the keyboard once followed by pressing the down cursor also once.
- Press the f2 “Restore from file” key and enter the layer 3 Basic Call PIXIT file located on WD4.
- Type WD4:PIXIT_BC.F and then press the Enter key.

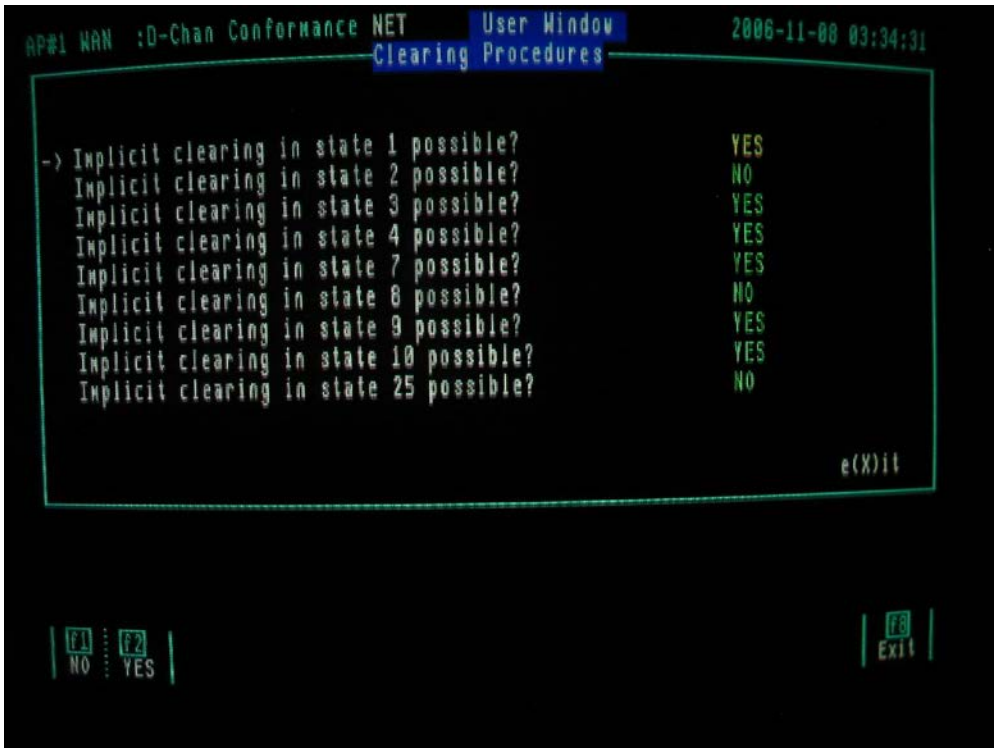


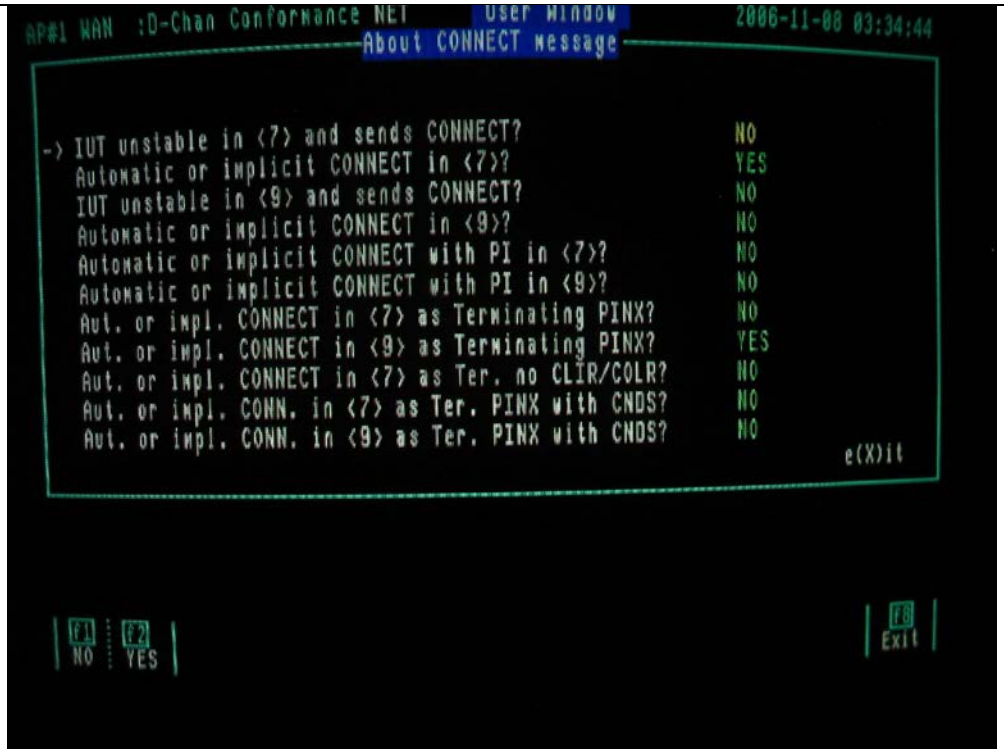
- The following screens show the layer 3 Basic Call PIXIT menus:

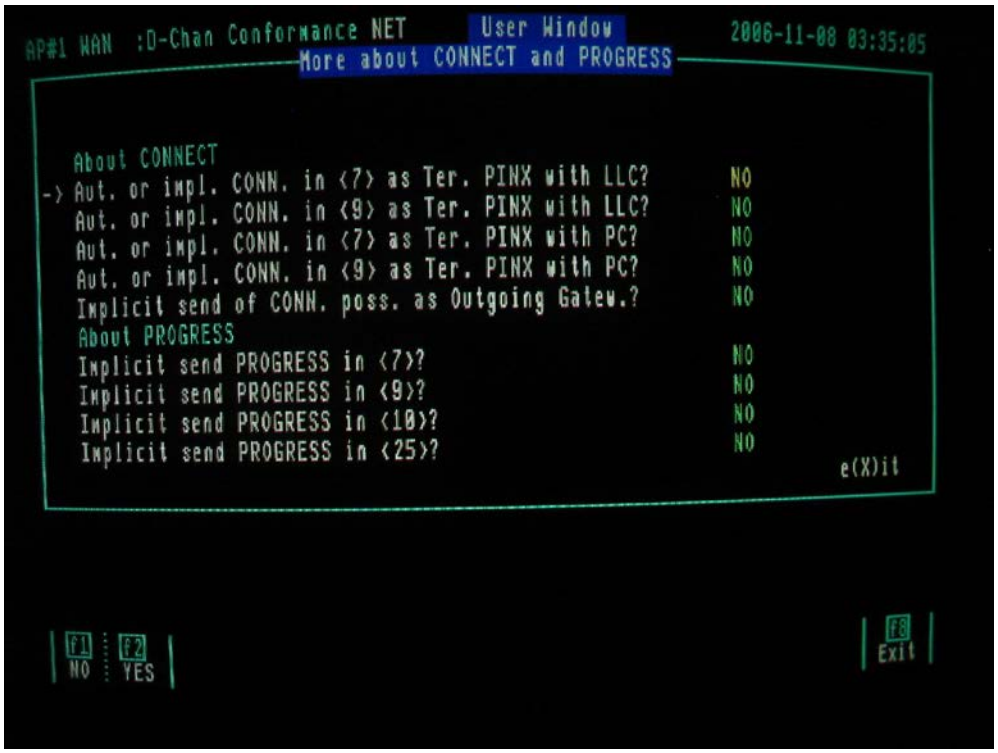


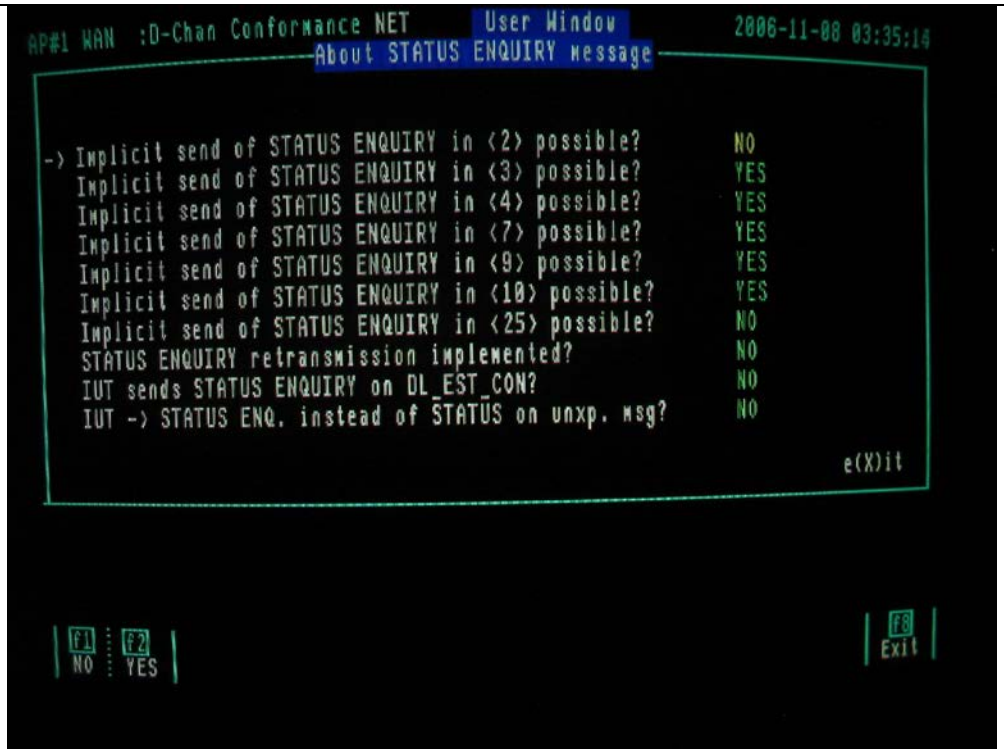


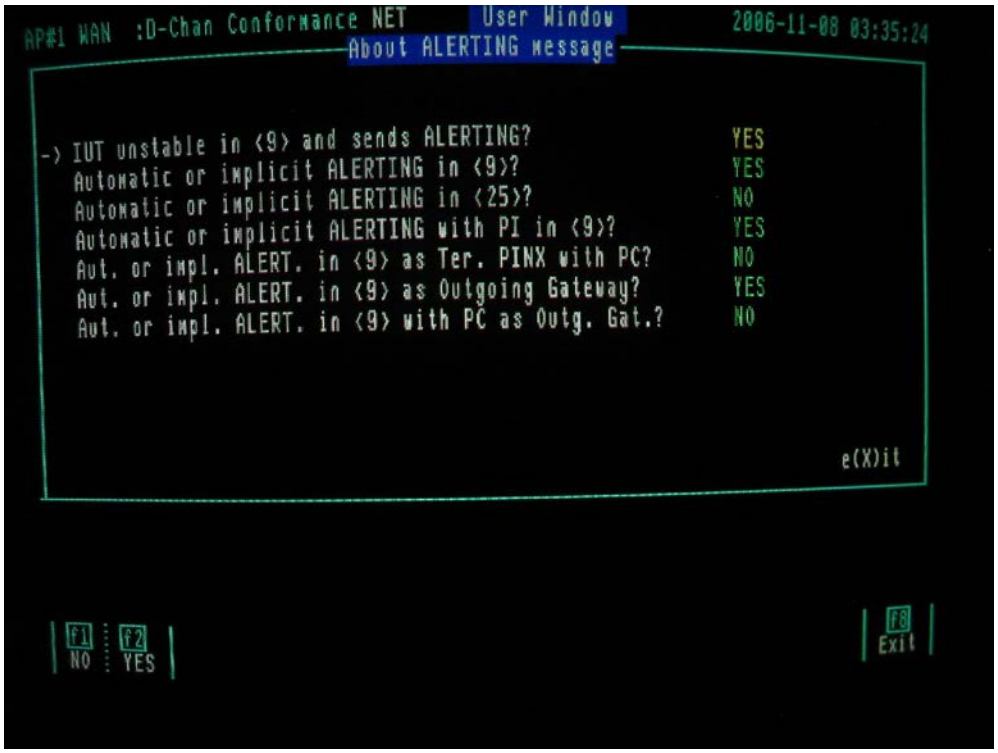

AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:34:21
Originating PINX functions
-> Implicit SETUP as Originating PINX? YES
Implicit SETUP with CGPS as Originating PINX? NO
Implicit SETUP with CDPS as Originating PINX? NO
Implicit SETUP with LLC as Originating PINX? NO
Implicit SETUP with HLC as Originating PINX? NO
Implicit SETUP without CLIR/COLR as Orig. PINX? NO
Implicit SETUP with TC as Originating PINX? YES
Implicit SETUP with PC as Originating PINX? NO
e(X)it
f1 NO
f2 YES
f8 Exit

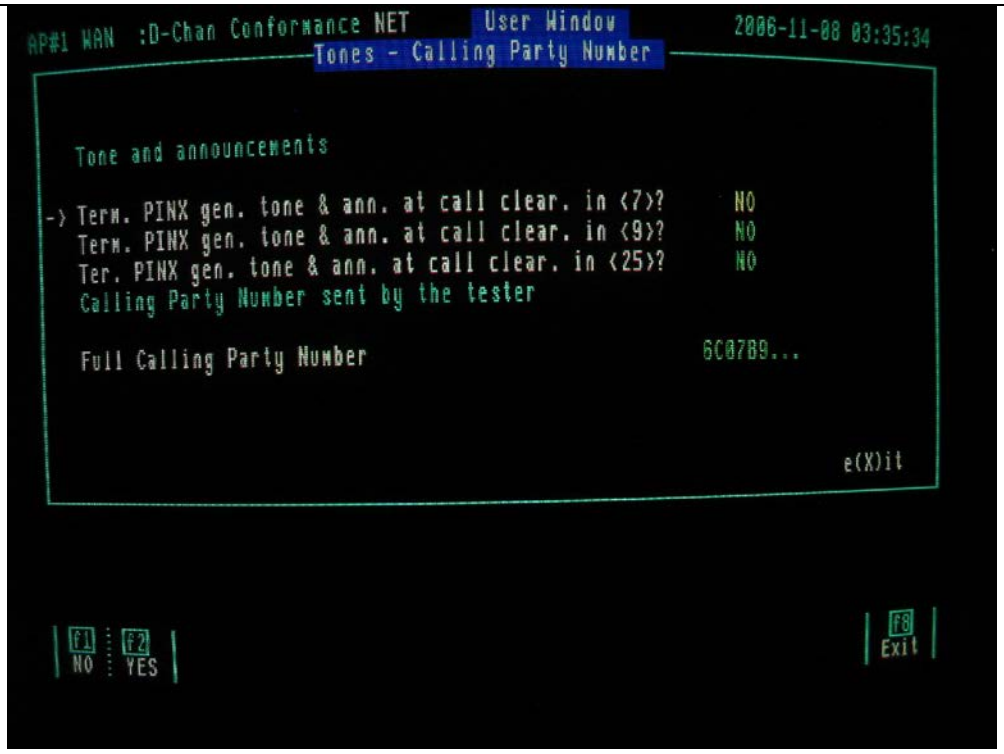

AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:34:31
Clearing Procedures
-> Implicit clearing in state 1 possible? YES
Implicit clearing in state 2 possible? NO
Implicit clearing in state 3 possible? YES
Implicit clearing in state 4 possible? YES
Implicit clearing in state 7 possible? YES
Implicit clearing in state 8 possible? NO
Implicit clearing in state 9 possible? YES
Implicit clearing in state 10 possible? YES
Implicit clearing in state 25 possible? NO
e(X)it
f1 NO
f2 YES
f8 Exit


AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:34:44
About CONNECT message
-> IUT unstable in <7> and sends CONNECT? NO
Automatic or implicit CONNECT in <7>? YES
IUT unstable in <9> and sends CONNECT? NO
Automatic or implicit CONNECT in <9>? NO
Automatic or implicit CONNECT with PI in <7>? NO
Automatic or implicit CONNECT with PI in <9>? NO
Aut. or impl. CONNECT in <7> as Terminating PINX? NO
Aut. or impl. CONNECT in <9> as Terminating PINX? YES
Aut. or impl. CONNECT in <7> as Ter. no CLIR/COLR? NO
Aut. or impl. CONN. in <7> as Ter. PINX with CNDS? NO
Aut. or impl. CONN. in <9> as Ter. PINX with CNDS? NO
e(X)it
F1 NO
F2 YES
F8 Exit


AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:35:05
More about CONNECT and PROGRESS
About CONNECT
-> Aut. or impl. CONN. in <7> as Ter. PINX with LLC? NO
Aut. or impl. CONN. in <9> as Ter. PINX with LLC? NO
Aut. or impl. CONN. in <7> as Ter. PINX with PC? NO
Aut. or impl. CONN. in <9> as Ter. PINX with PC? NO
Implicit send of CONN. poss. as Outgoing Gatew.? NO
About PROGRESS
Implicit send PROGRESS in <7>? NO
Implicit send PROGRESS in <9>? NO
Implicit send PROGRESS in <10>? NO
Implicit send PROGRESS in <25>? NO
e(X)it
F1 NO
F2 YES
F8 Exit

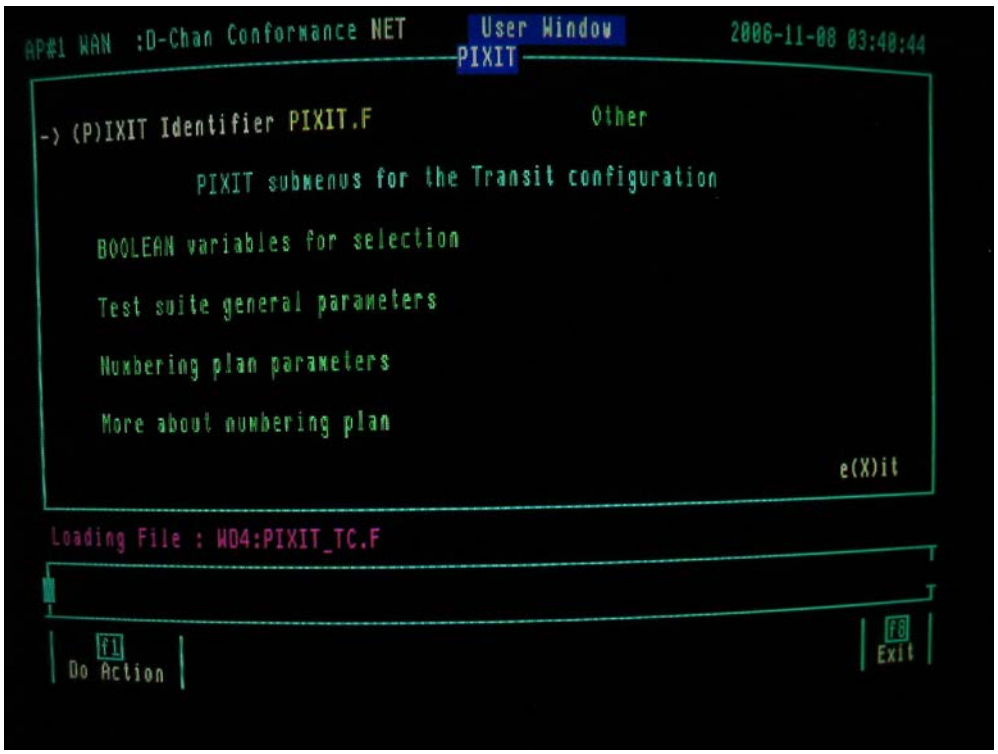

AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:35:14
About STATUS ENQUIRY message
-> Implicit send of STATUS ENQUIRY in <2> possible? NO
Implicit send of STATUS ENQUIRY in <3> possible? YES
Implicit send of STATUS ENQUIRY in <4> possible? YES
Implicit send of STATUS ENQUIRY in <7> possible? YES
Implicit send of STATUS ENQUIRY in <9> possible? YES
Implicit send of STATUS ENQUIRY in <10> possible? YES
Implicit send of STATUS ENQUIRY in <25> possible? NO
STATUS ENQUIRY retransmission implemented? NO
IUT sends STATUS ENQUIRY on DL_EST_CON? NO
IUT -> STATUS ENQ. instead of STATUS on unxp. msg? NO
e(X)it
F1 NO
F2 YES
F8 Exit


AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:35:24
About ALERTING message
-> IUT unstable in <9> and sends ALERTING? YES
Automatic or implicit ALERTING in <9>? YES
Automatic or implicit ALERTING in <25>? NO
Automatic or implicit ALERTING with PI in <9>? YES
Aut. or impl. ALERT. in <9> as Ter. PINX with PC? NO
Aut. or impl. ALERT. in <9> as Outgoing Gateway? YES
Aut. or impl. ALERT. in <9> with PC as Outg. Gat.? NO
e(X)it
F1 NO
F2 YES
F8 Exit

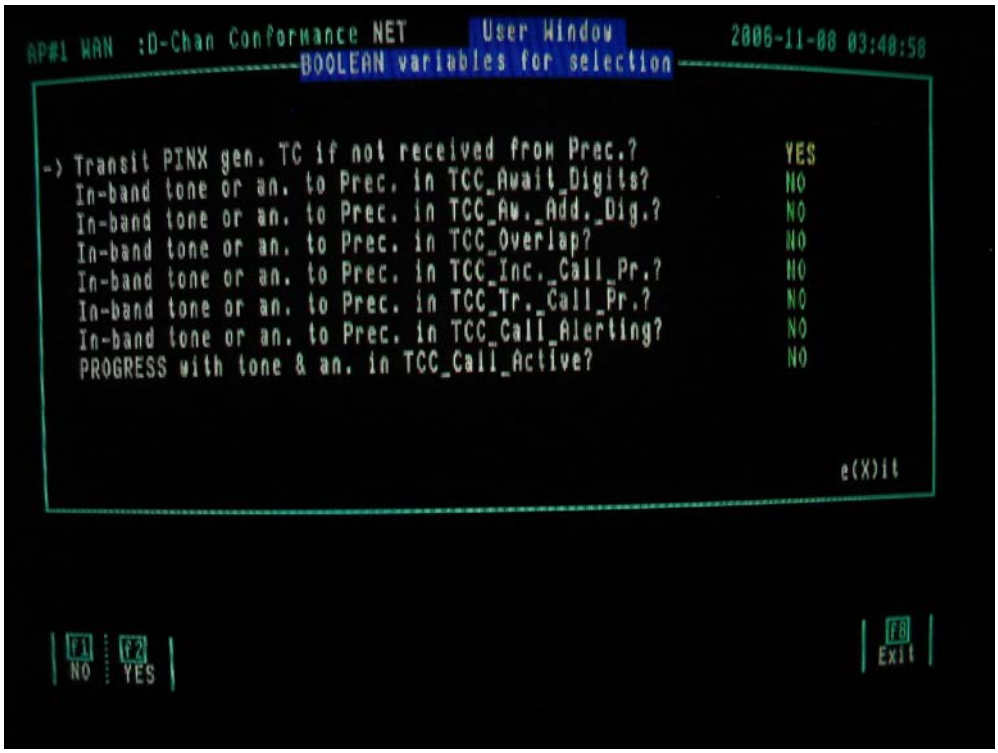


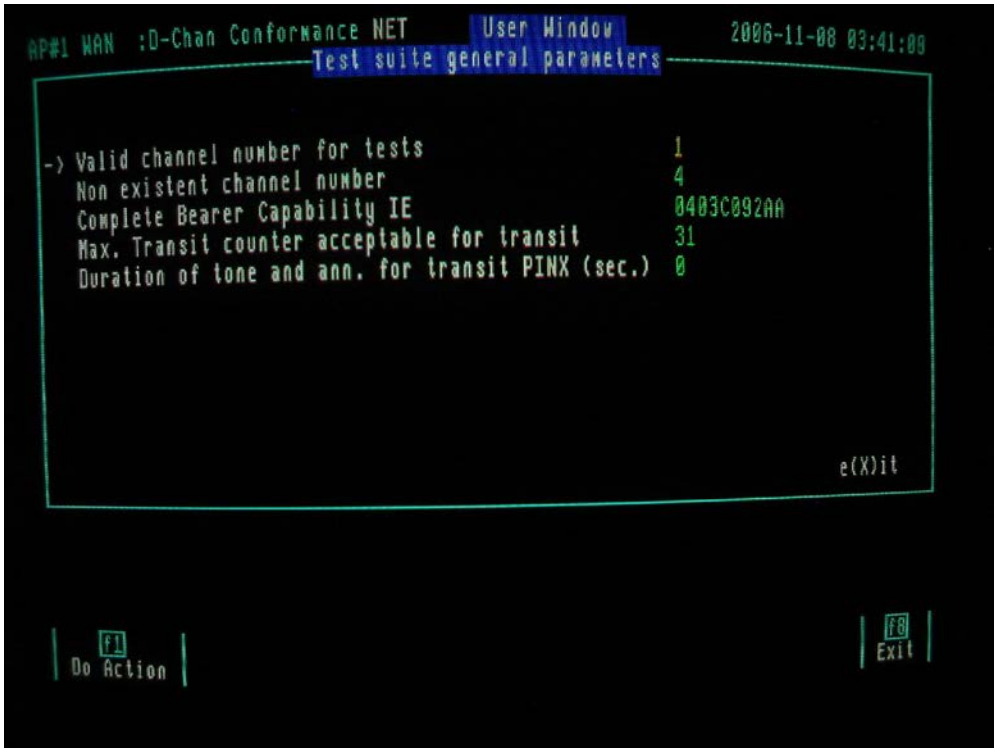
4.8.3 Loading the Layer 3 Transit Call PIXIT

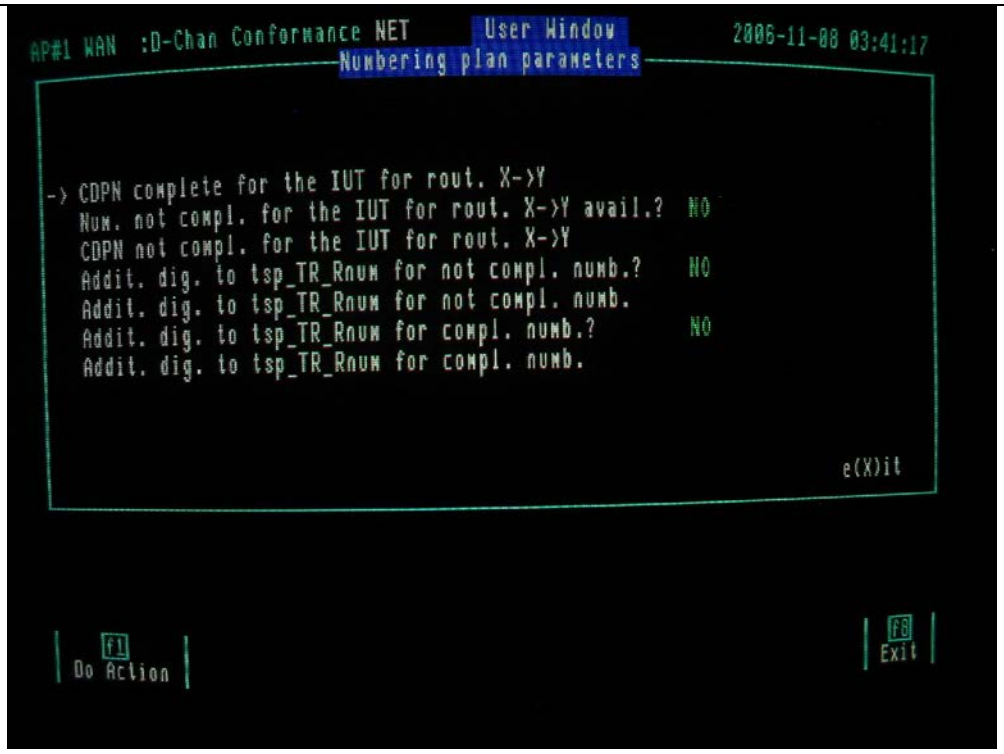
- In order to display the labels for the f1 and f2 keys, it is necessary to press the Up cursor on the keyboard once followed by pressing the Down cursor also once.
- Press the f2 “Restore from file” key and enter the layer 3 Transit Call PIXIT file located on WD4.
- Type WD4:PIXIT_TC.F and then press the Enter key.

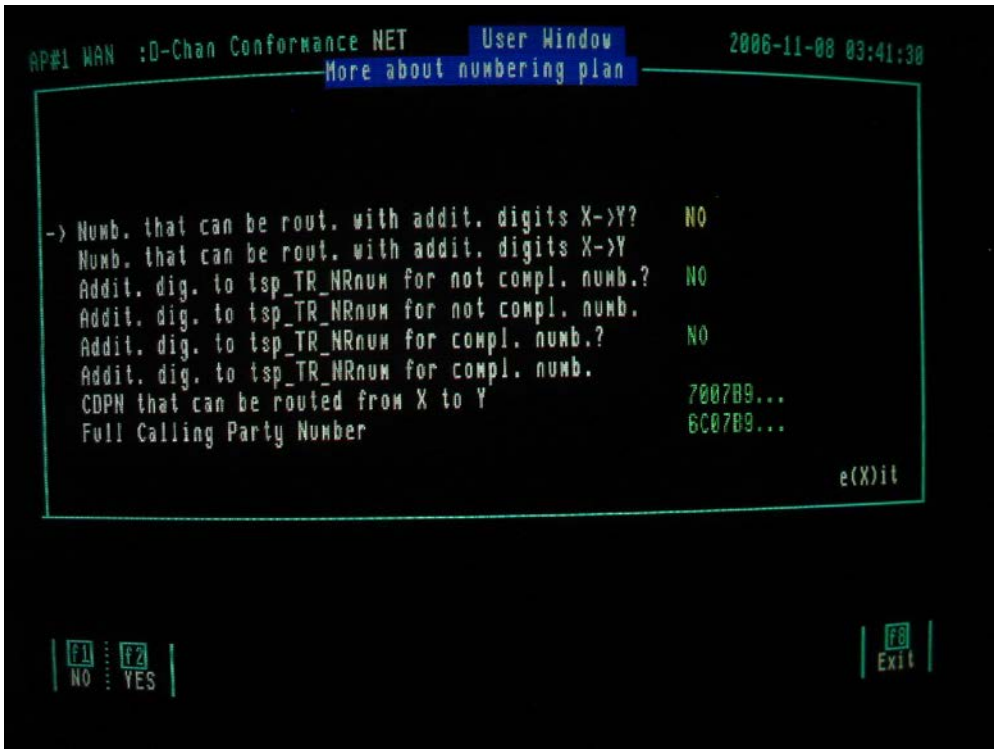


- The following screens show the layer 3 Transit Call PIXIT menus:



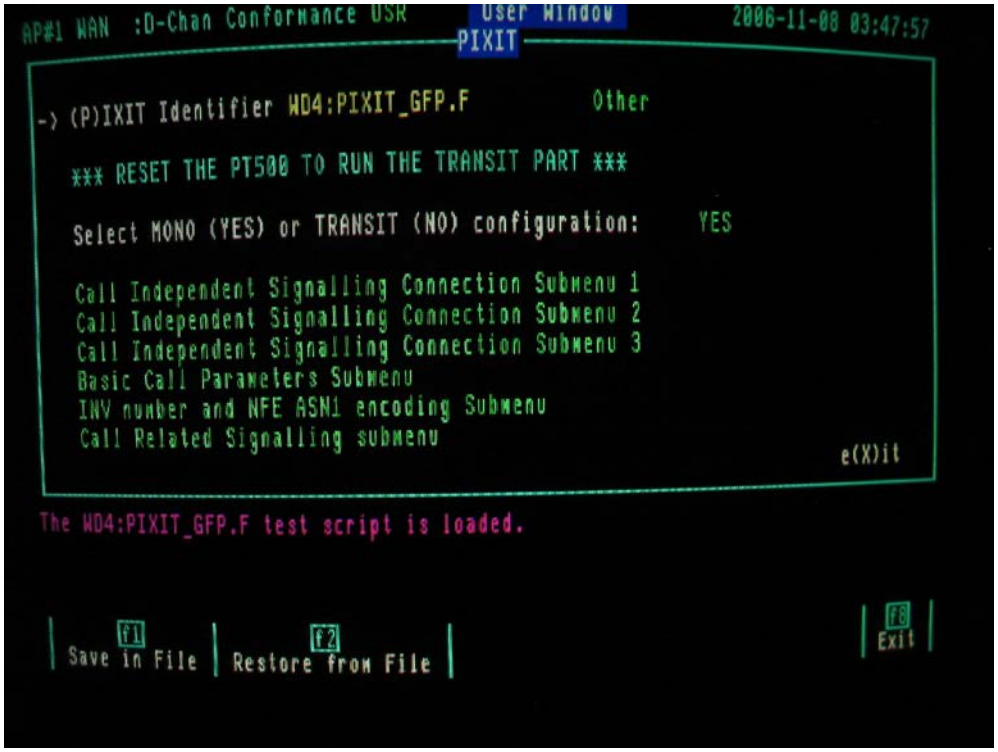



AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:41:17
Numbering plan parameters
-> CDPN complete for the IUT for rout. X->Y
Num. not compl. for the IUT for rout. X->Y avail.? NO
CDPN not compl. for the IUT for rout. X->Y
Addit. dig. to tsp_TR_Rnum for not compl. numb.? NO
Addit. dig. to tsp_TR_Rnum for not compl. numb.
Addit. dig. to tsp_TR_Rnum for compl. numb.? NO
Addit. dig. to tsp_TR_Rnum for compl. numb.
e(X)it
F1
Do Action
F8
Exit

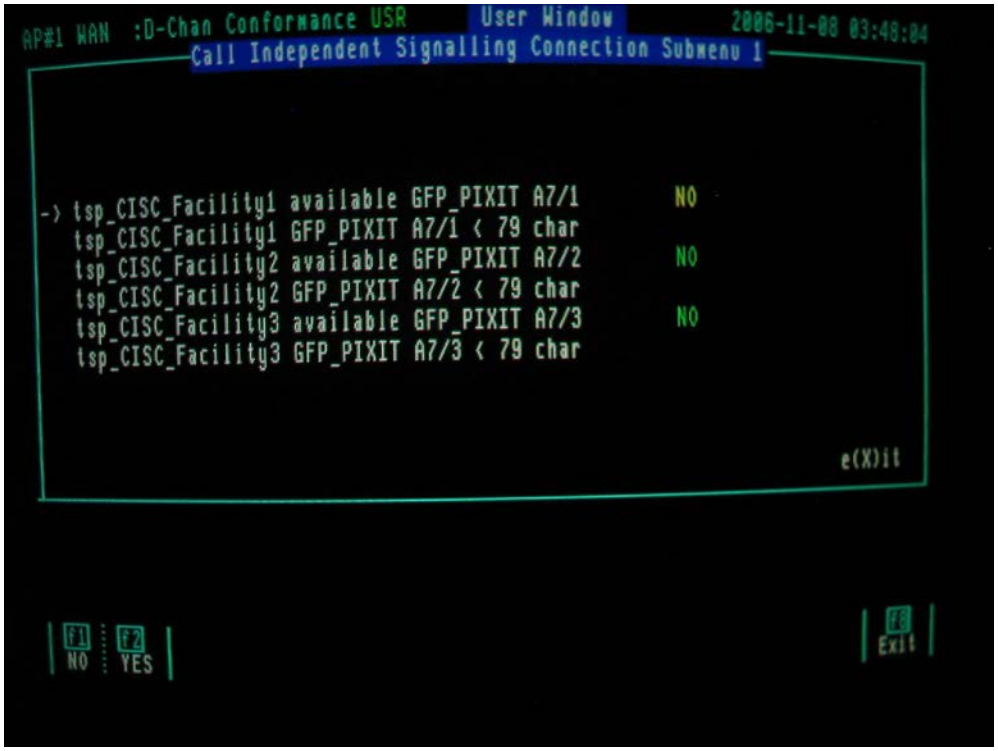

AP#1 WAN :D-Chan Conformance NET
User Window
2006-11-08 03:41:30
More about numbering plan
-> Numb. that can be rout. with addit. digits X->Y? NO
Numb. that can be rout. with addit. digits X->Y
Addit. dig. to tsp_TR_NRnum for not compl. numb.? NO
Addit. dig. to tsp_TR_NRnum for not compl. numb.
Addit. dig. to tsp_TR_NRnum for compl. numb.? NO
Addit. dig. to tsp_TR_NRnum for compl. numb.
CDPN that can be routed from X to Y 7007B9...
Full Calling Party Number 6C07B9...
e(X)it
F1
NO
F2
YES
F8
Exit

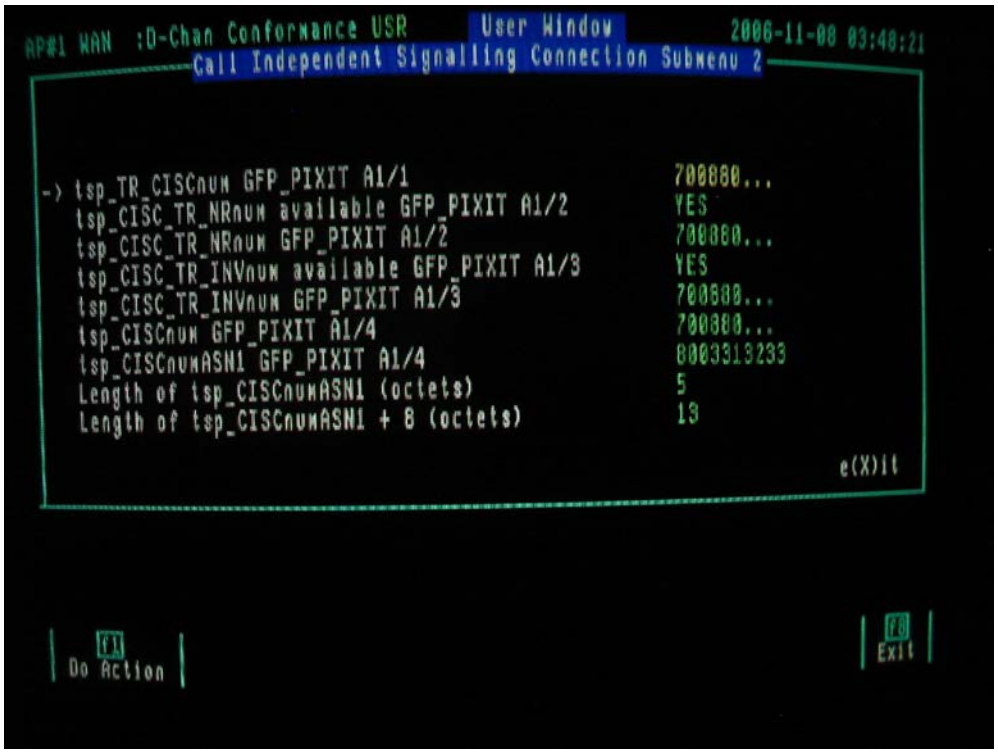
4.8.4 Loading the Generic Functional Protocol PIXIT

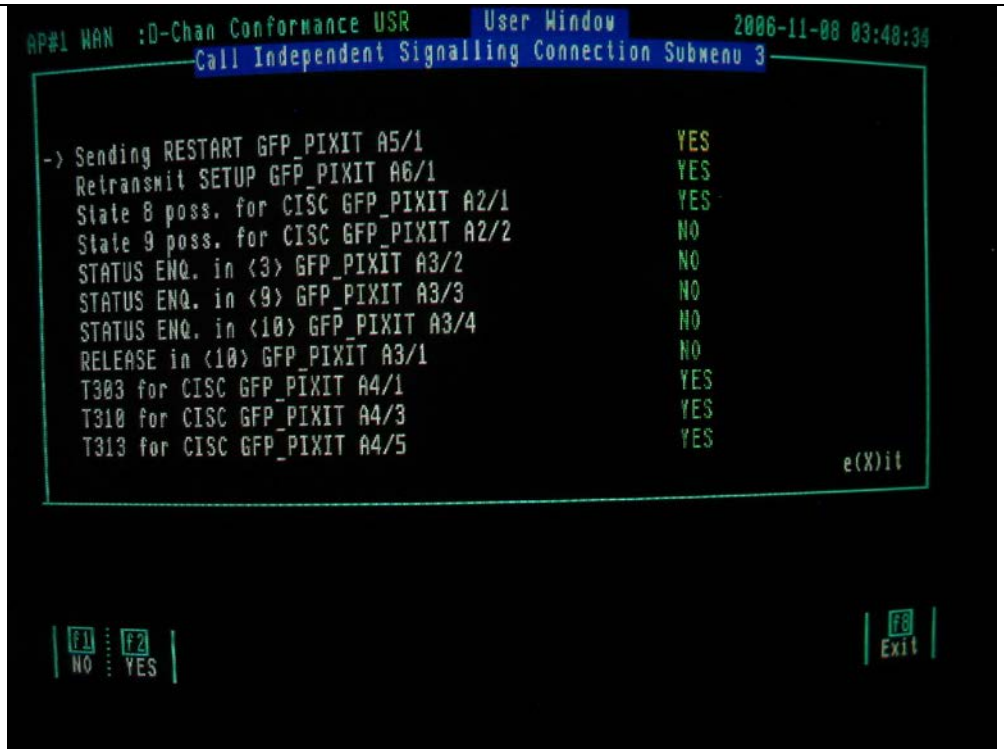
- In order to display the labels for the f1 and f2 keys, it is necessary to press the Up cursor on the keyboard once followed by pressing the Down cursor also once.
- Press the f2 “Restore from file” key and enter the Generic Functional Protocol PIXIT file located on WD4.
- Type WD4:PIXIT_GFP.F and then press the Enter key.
- As the Generic Functional Protocol can be run either in GFP-Mono or GFP-Transit mode.
    - Check that the PIXIT item “Select MONO (YES) or TRANSIT (NO) configuration” is set to YES when GFP Mono test suite is being run.
    - Check that the PIXIT item “Select MONO (YES) or TRANSIT (NO) configuration” is set to NO when GFP Transit test suite is being run.

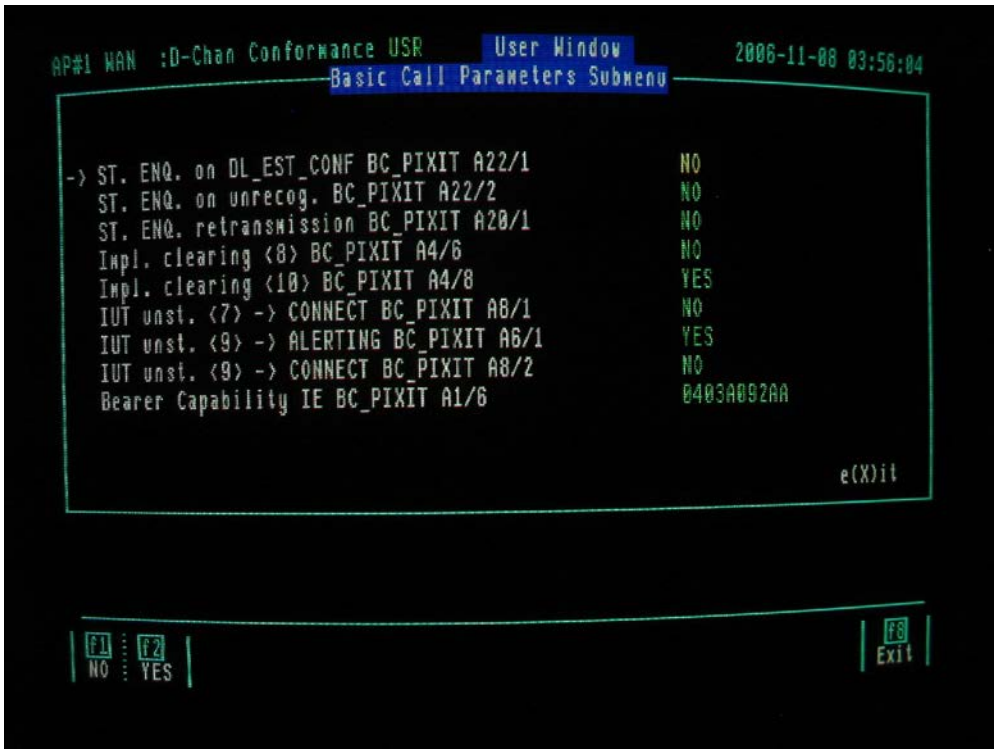


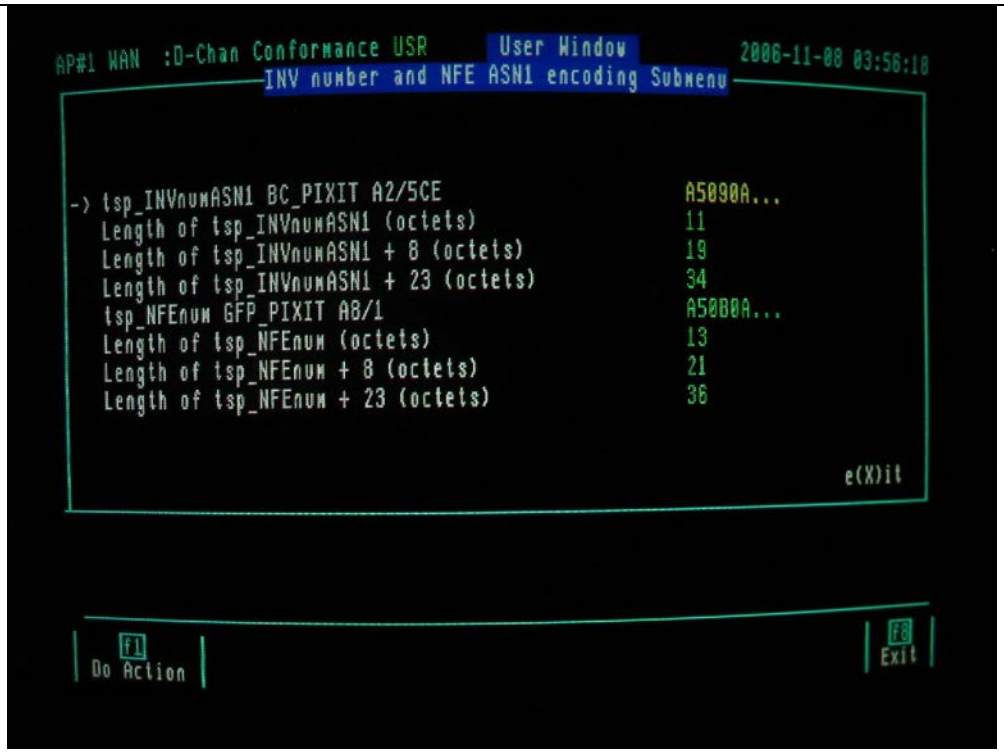
- The following screens show the Generic Functional Protocol PIXIT menus:

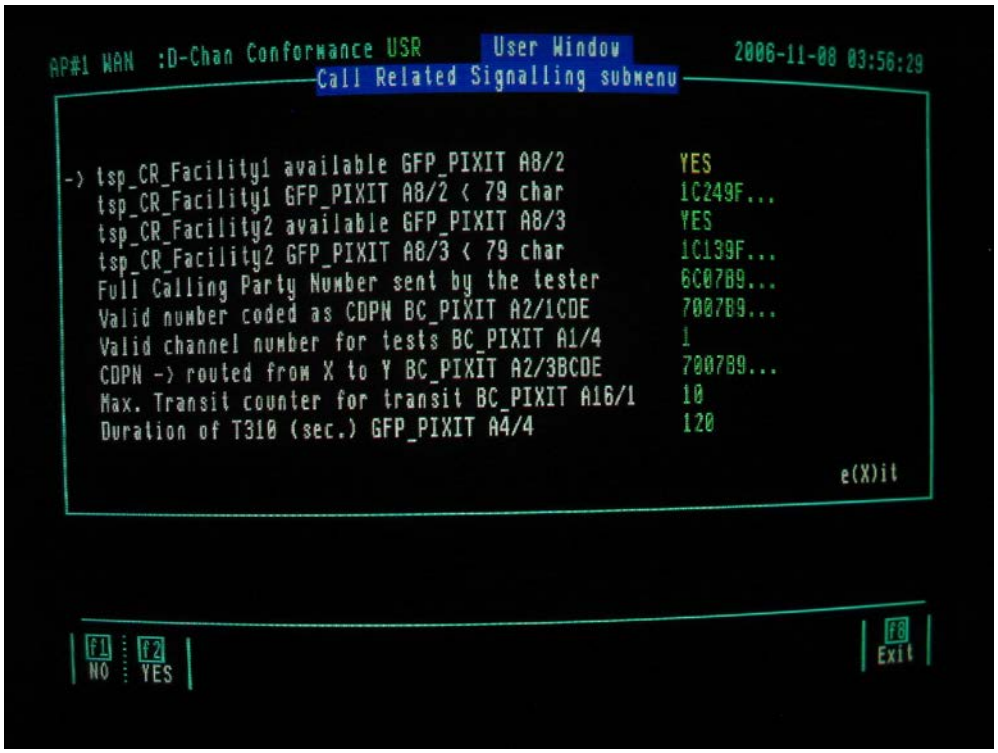


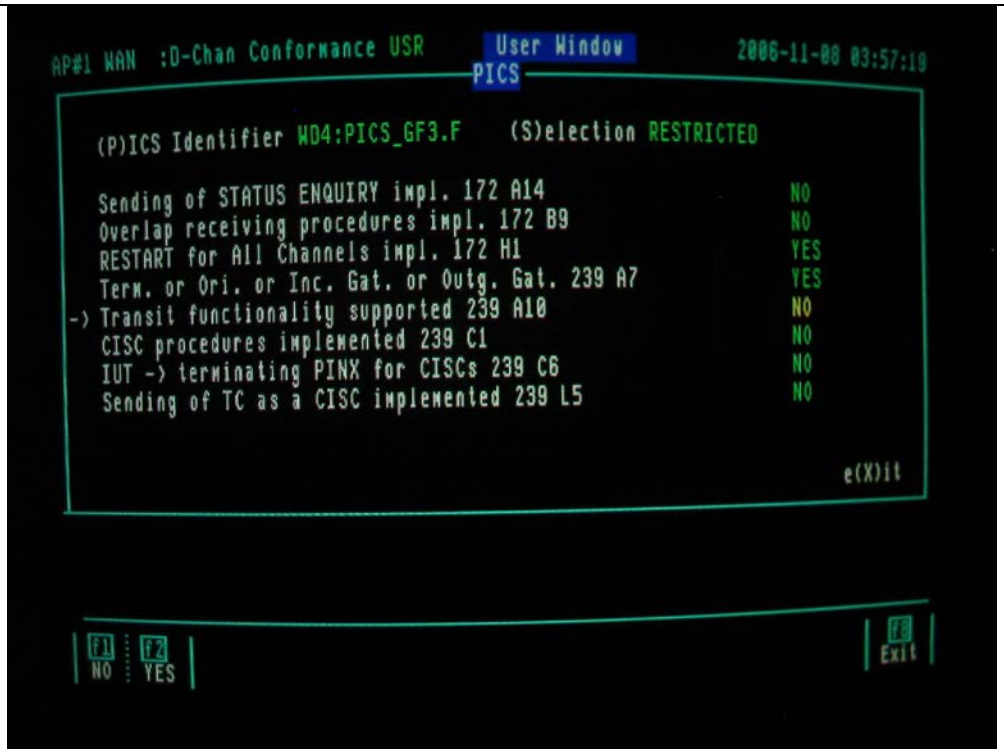



AP#1 WAN :D-Chan Conformance USR
User Window
2006-11-08 03:48:34
Call Independent Signalling Connection Submenu 3
-> Sending RESTART GFP_PIXIT A5/1 YES
Retransmit SETUP GFP_PIXIT A6/1 YES
State 8 poss. for CISC GFP_PIXIT A2/1 YES
State 9 poss. for CISC GFP_PIXIT A2/2 NO
STATUS ENQ. in <3> GFP_PIXIT A3/2 NO
STATUS ENQ. in <9> GFP_PIXIT A3/3 NO
STATUS ENQ. in <10> GFP_PIXIT A3/4 NO
RELEASE in <10> GFP_PIXIT A3/1 NO
T303 for CISC GFP_PIXIT A4/1 YES
T310 for CISC GFP_PIXIT A4/3 YES
T313 for CISC GFP_PIXIT A4/5 YES
e(X)it
F1 NO
F2 YES
F8 Exit


AP#1 WAN :D-Chan Conformance USR
User Window
2006-11-08 03:56:04
Basic Call Parameters Submenu
-> ST. ENQ. on DL_EST_CONF BC_PIXIT A22/1 NO
ST. ENQ. on unrecog. BC_PIXIT A22/2 NO
ST. ENQ. retransmission BC_PIXIT A20/1 NO
Impl. clearing <8> BC_PIXIT A4/6 NO
Impl. clearing <10> BC_PIXIT A4/8 YES
IUT unst. <7> -> CONNECT BC_PIXIT A8/1 NO
IUT unst. <9> -> ALERTING BC_PIXIT A6/1 YES
IUT unst. <9> -> CONNECT BC_PIXIT A8/2 NO
Bearer Capability IE BC_PIXIT A1/6 0403A092AA
e(X)it
F1 NO
F2 YES
F8 Exit

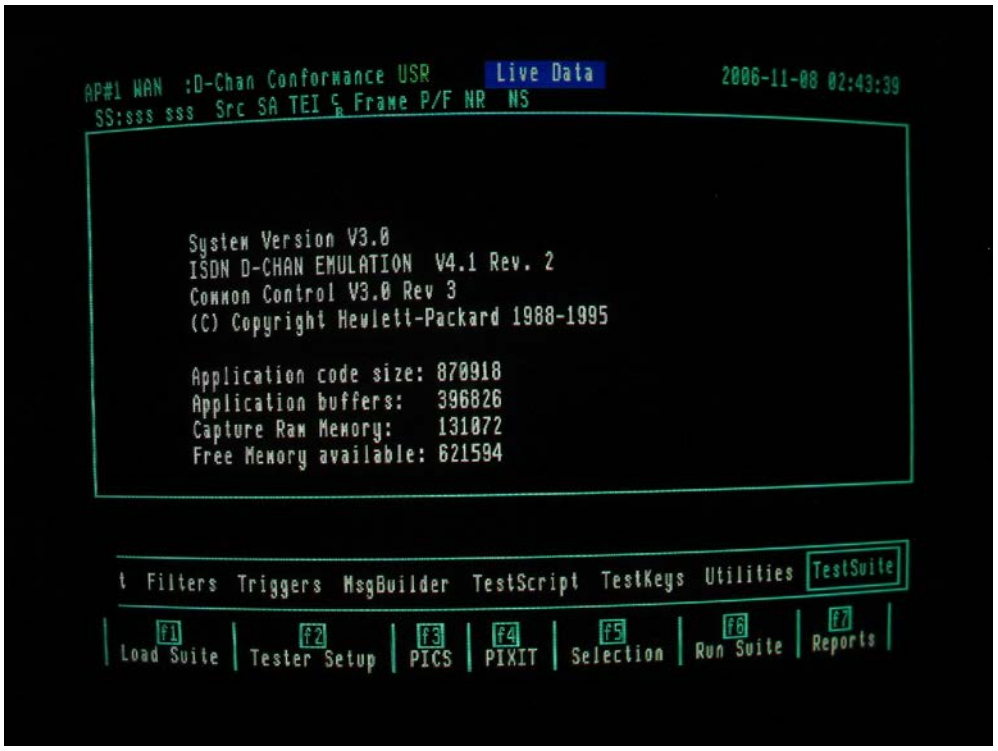

AP#1 WAN :D-Chan Conformance USR
User Window
2006-11-08 03:56:18
INV number and NFE ASN1 encoding Submenu
-> tsp_INVnumASN1 BC_PIXIT A2/5CE A5090A...
Length of tsp_INVnumASN1 (octets) 11
Length of tsp_INVnumASN1 + 8 (octets) 19
Length of tsp_INVnumASN1 + 23 (octets) 34
tsp_NFEnum GFP_PIXIT A8/1 A50B0A...
Length of tsp_NFEnum (octets) 13
Length of tsp_NFEnum + 8 (octets) 21
Length of tsp_NFEnum + 23 (octets) 36
e(X)it
f1 Do Action
f8 Exit


AP#1 WAN :D-Chan Conformance USR
User Window
2006-11-08 03:56:29
Call Related Signalling submenu
-> tsp_CR_Facility1 available GFP_PIXIT A8/2 YES
tsp_CR_Facility1 GFP_PIXIT A8/2 < 79 char 1C243F...
tsp_CR_Facility2 available GFP_PIXIT A8/3 YES
tsp_CR_Facility2 GFP_PIXIT A8/3 < 79 char 1C139F...
Full Calling Party Number sent by the tester 6C0789...
Valid number coded as CDPN BC_PIXIT A2/1CDE 700789...
Valid channel number for tests BC_PIXIT A1/4 1
CDPN -> routed from X to Y BC_PIXIT A2/3BCDE 700789...
Max. Transit counter for transit BC_PIXIT A16/1 10
Duration of T310 (sec.) GFP_PIXIT A4/4 120
e(X)it
f1 NO
f2 YES
f8 Exit



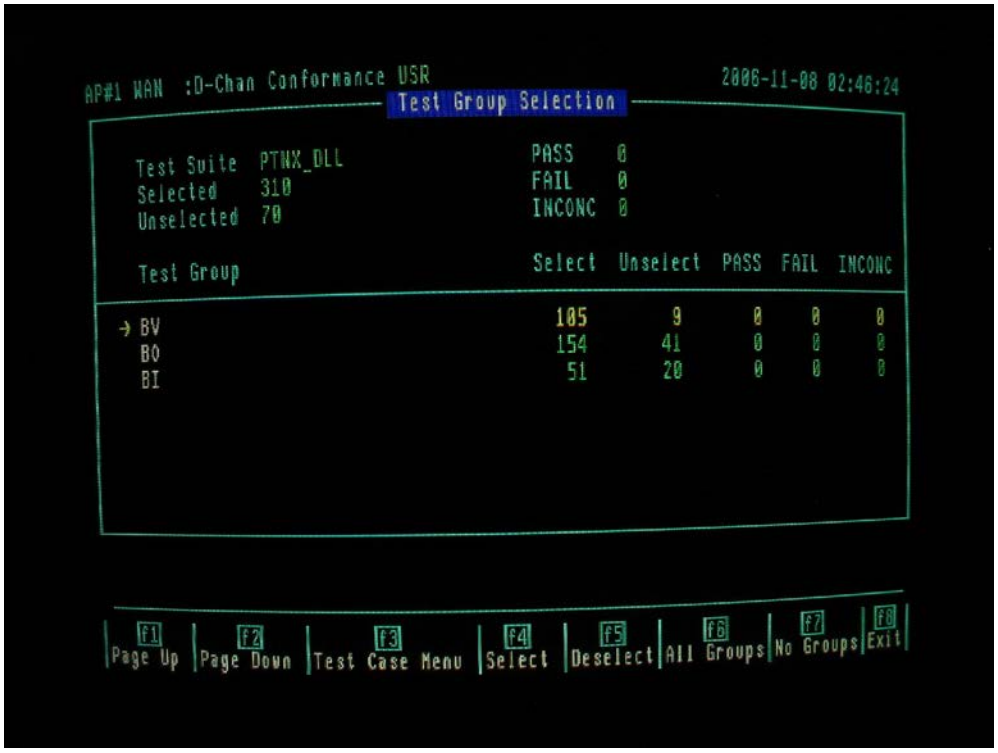
4.9 Selection of test cases from the test suites

- Once the PIXIT for the chosen test suite has loaded select the “Test Suite” topic box.
- Press the f5 “SELECTION” key to display the test case selection screen for the test suite previously loaded.

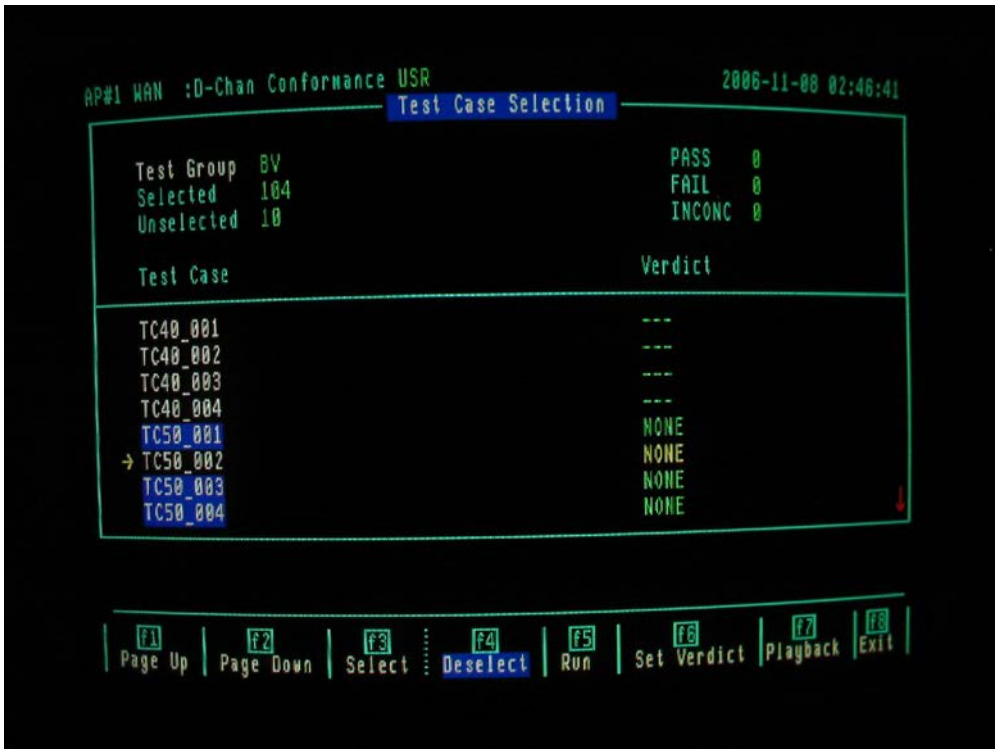


4.9.1 Layer 2 Test Case selection

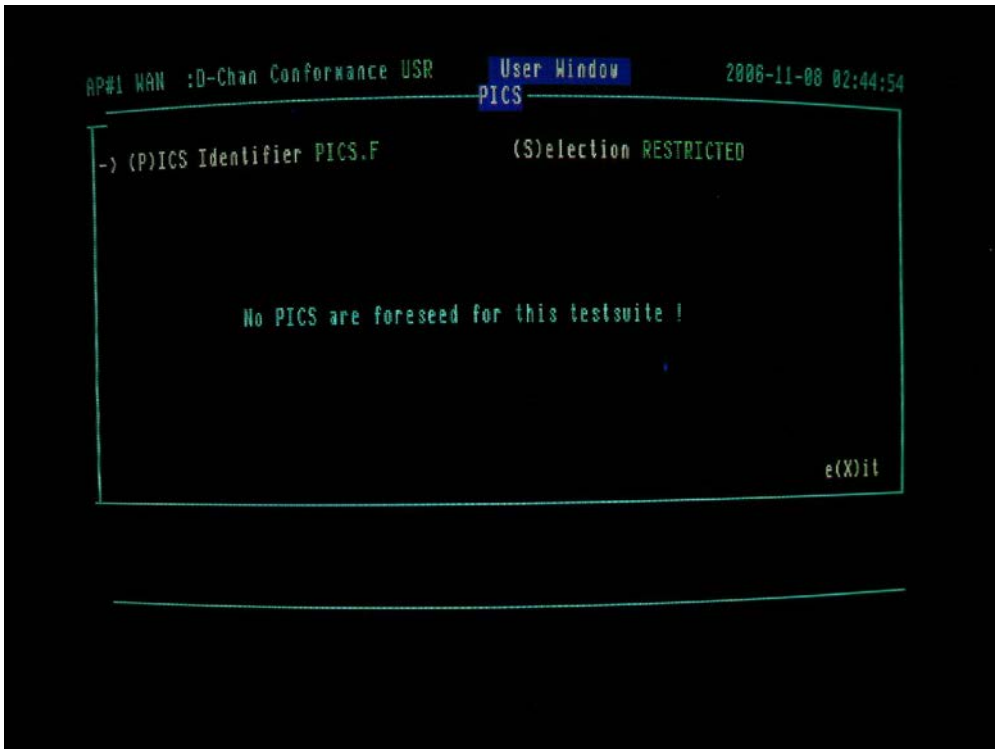
- The following screen shows the layer 2 test case menu.
- There are 3 test case groups nominated BV (Valid Behaviour), BO (Opportune Behaviour) and BI (Invalid Behaviour Tests).
- In order to select all tests appropriate to the defined layer 2 PICS and PIXIT statements, Press f7 “No groups” key followed by the f6 “All groups”.
- This should result in 310 Selected test cases and 70 Unselected test cases (For IUT as Network side) or 309 Selected test cases and 71 Unselected test cases (For IUT as User Side).



- Note that test TC51_002 is invalid and should be deselected, while test TC50_002 is infact valid and should be selected.



In order to select a Test Case that is not automatically selected by the PICS, it is necessary to return to the PICS statement and change the (S)election from RESTRICTED to UNRESTRICTED. In total there should be 310 test cases selected for the layer 2 test suite.

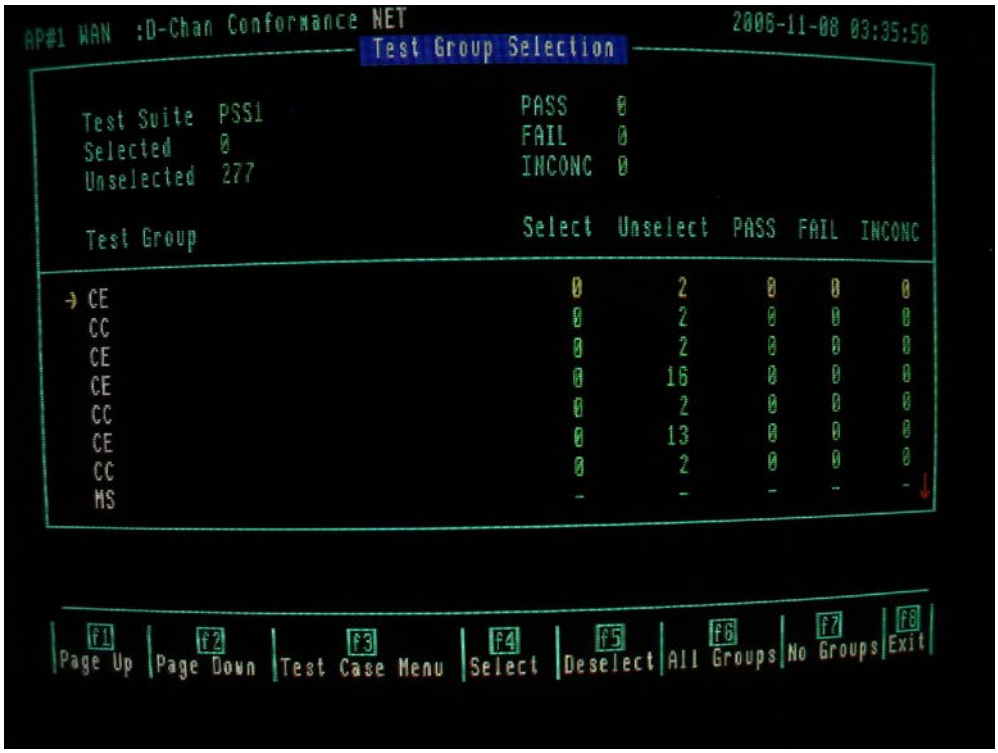


- It is also possible to select only individual test groups by pressing f7 “No groups” key to ensure that no test cases are selected and then use the f4 “Select” key to select the desired group.

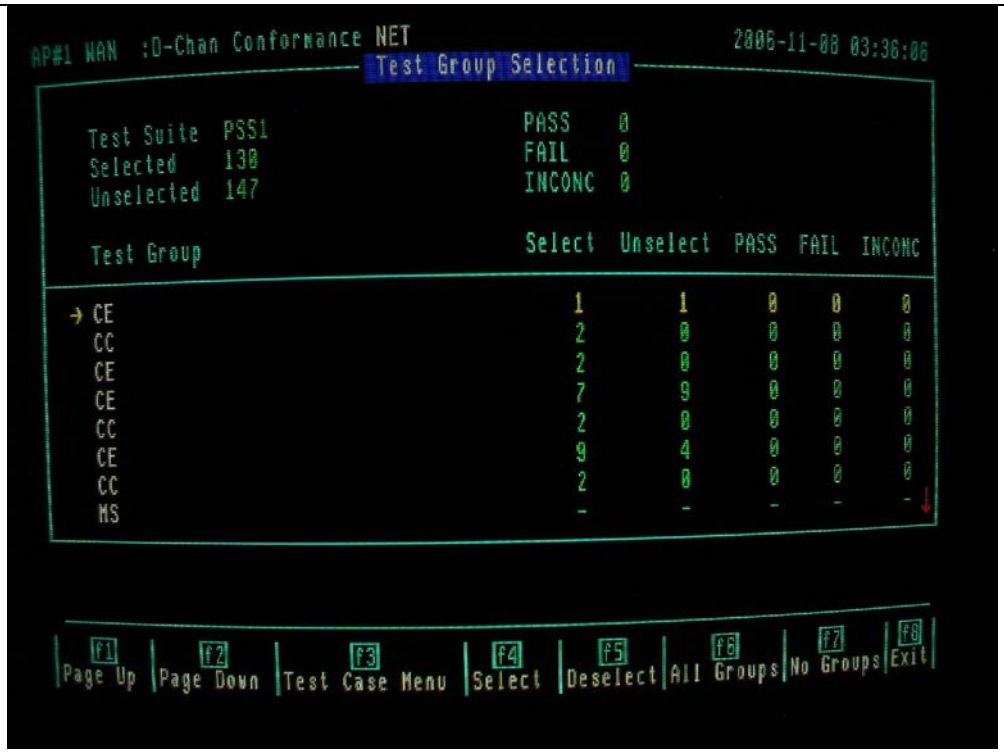
- By pressing the f3 “Test Case Menu” key, the individual test cases within the group are listed. It is then possible to select individual test cases.

4.9.2 Layer 3 Basic Call Test Case selection

- The following screen shows the layer 3 Basic Call test case menu.
- The list of test groups is displayed.

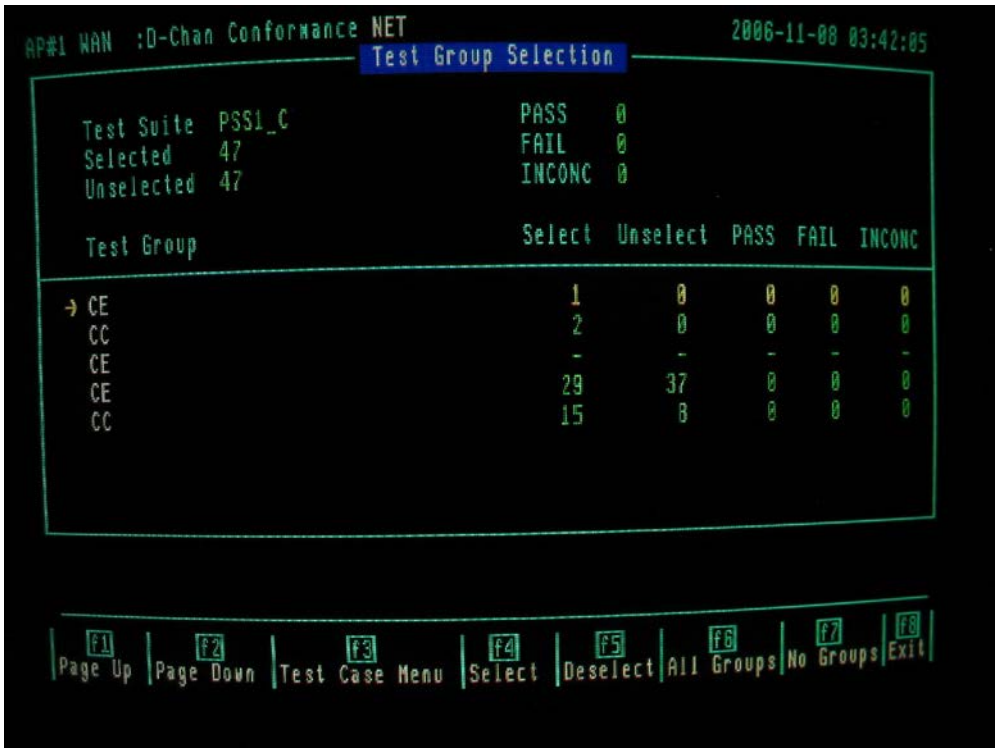


- In order to select all tests appropriate to the defined layer3 BC PICS and PIXIT statements, Press f7 “No groups” key followed by the f6 “All groups” key.
- This should result in 130 selected tests and 147 Unselected tests.
- It is also possible to select only individual test groups by pressing f7 “No groups” key to ensure that no test cases are selected and then use the f4 “Select” key to select the desired group.
- By pressing the f3 “Test Case Menu” key, the individual test cases within the group are listed. It is then possible to select individual test cases.


AP#1 WAN :D-Chan Conformance NET
2006-11-08 03:36:06
Test Group Selection
Test Suite PSS1
Selected 130
Unselected 147
PASS 0
FAIL 0
INCONC 0
Test Group
Select Unselect PASS FAIL INCONC
→ CE 1 1 0 0 0
CC 2 0 0 0 0
CE 2 0 0 0 0
CE 7 9 0 0 0
CC 2 0 0 0 0
CE 9 4 0 0 0
CC 2 0 0 0 0
MS - - - - -
F1 Page Up
F2 Page Down
F3 Test Case Menu
F4 Select
F5 Deselect
F6 All Groups
F7 No Groups
F8 Exit

4.9.3 Layer 3 Transit Call Test Case selection

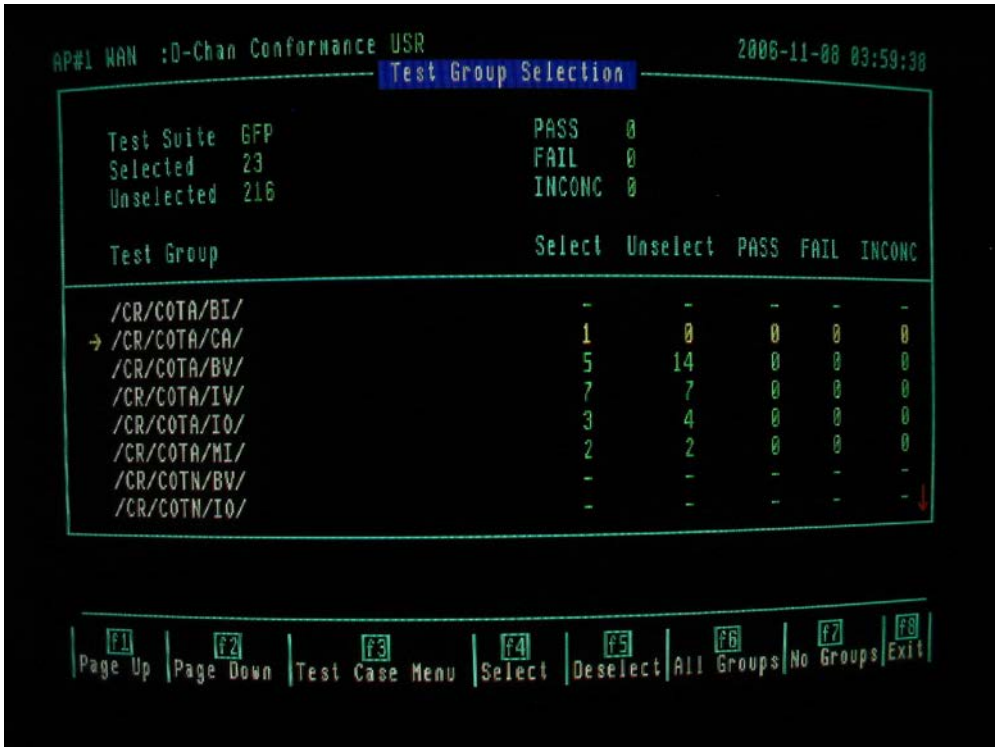
- The following screen shows the layer 3 Transit Call test case menu.
- The list of test groups is displayed.



- In order to select all tests appropriate to the defined layer3 TC PICS and PIXIT statements, Press f7 “No groups” key followed by the f6 “All groups” key.
- This should result in 47 selected tests and 47 Unselected tests.
- It is also possible to select only individual test groups by pressing f7 “No groups” key to ensure that no test cases are selected and then use the f4 “Select” key to select the desired group.
- By pressing the f3 “Test Case Menu” key, the individual test cases within the group are listed. It is then possible to select individual test cases.

4.9.4 Generic Functional Protocol (Mono Configuration) Test Case selection

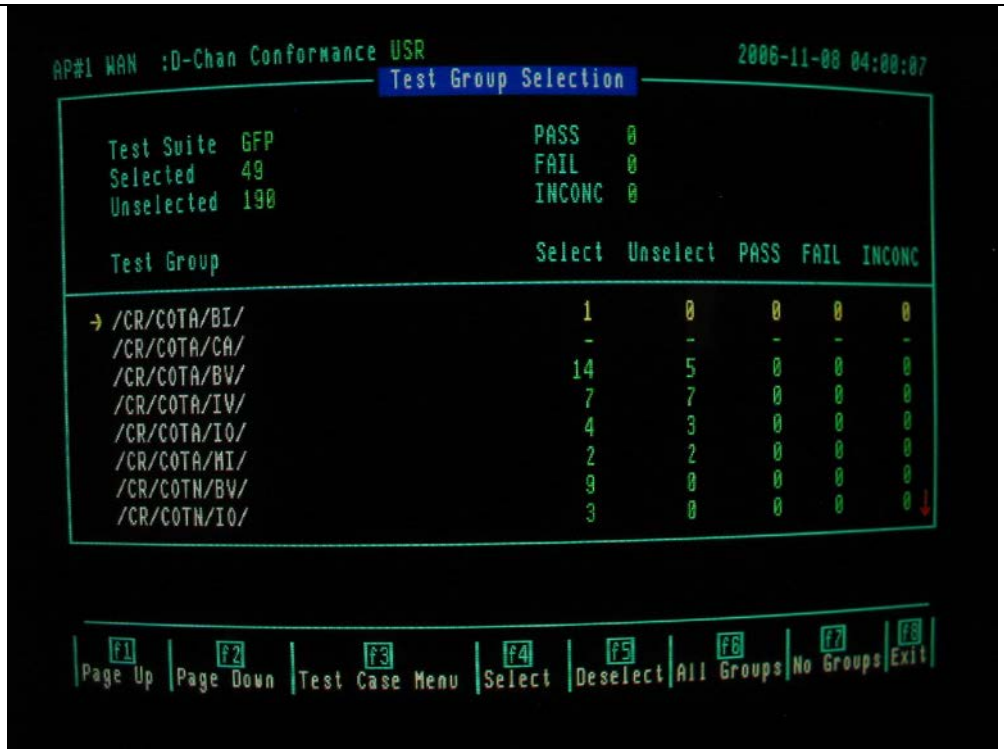
- The following screen shows the Generic Functional Protocol –MONO Configuration test case menu.
- The list of test groups is displayed.



- In order to select all tests appropriate to the defined GFP-Mono PICS and PIXIT statements, Press f7 “No groups” key followed by the f6 “All groups” key.
- This should result in 23 selected tests and 216 Unselected tests.
- It is also possible to select only individual test groups by pressing f7 “No groups” key to ensure that no test cases are selected and then use the f4 “Select” key to select the desired group.
- By pressing the f3 “Test Case Menu” key, the individual test cases within the group are listed. It is then possible to select individual test cases.

4.9.5 Generic Functional Protocol (Transit Configuration) Test Case selection

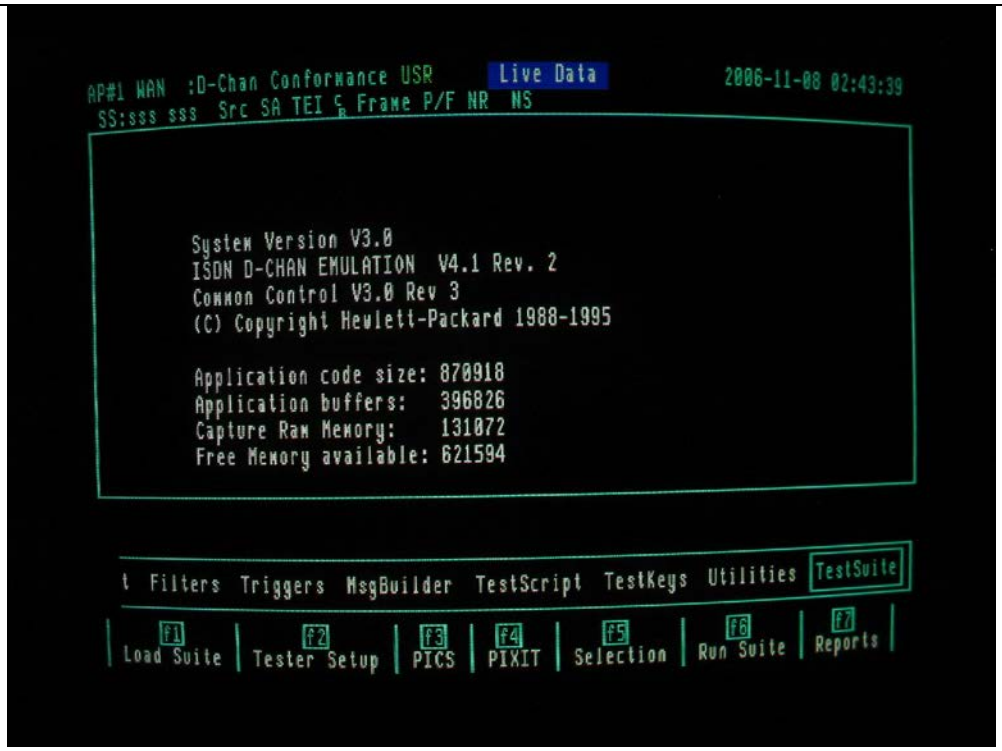
- The following screen shows the Generic Functional Protocol –TRANSIT Configuration test case menu.
- The list of test groups is displayed.



- In order to select all tests appropriate to the defined GFP-Transit PICS and PIXIT statements, Press f7 “No groups” key followed by the f6 “All groups” key.
- This should result in 49 selected tests and 190 Unselected tests.
- It is also possible to select only individual test groups by pressing f7 “No groups” key to ensure that no test cases are selected and then use the f4 “Select” key to select the desired group.
- By pressing the f3 “Test Case Menu” key, the individual test cases within the group are listed. It is then possible to select individual test cases.

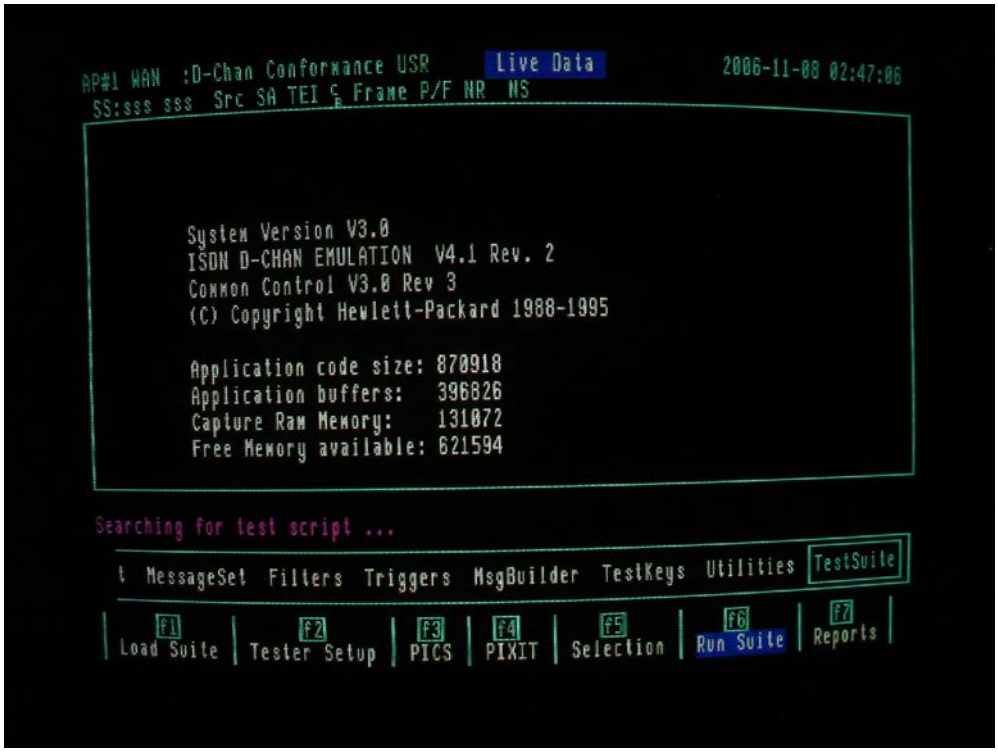
4.10 Running the loaded test suite

- Once the test cases for the chosen test suite have been selected, select the “Test Suite” topic box.
- Press the f6 “RUN SUITE” key to run the selected test suite.

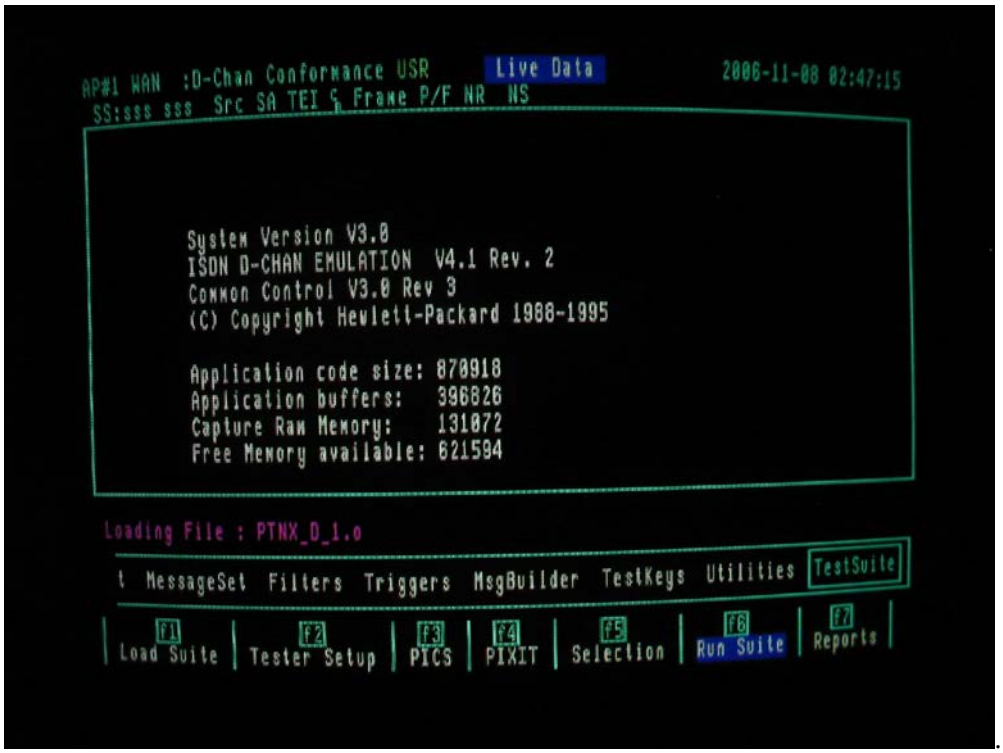


4.10.1 Running the layer 2 test suite

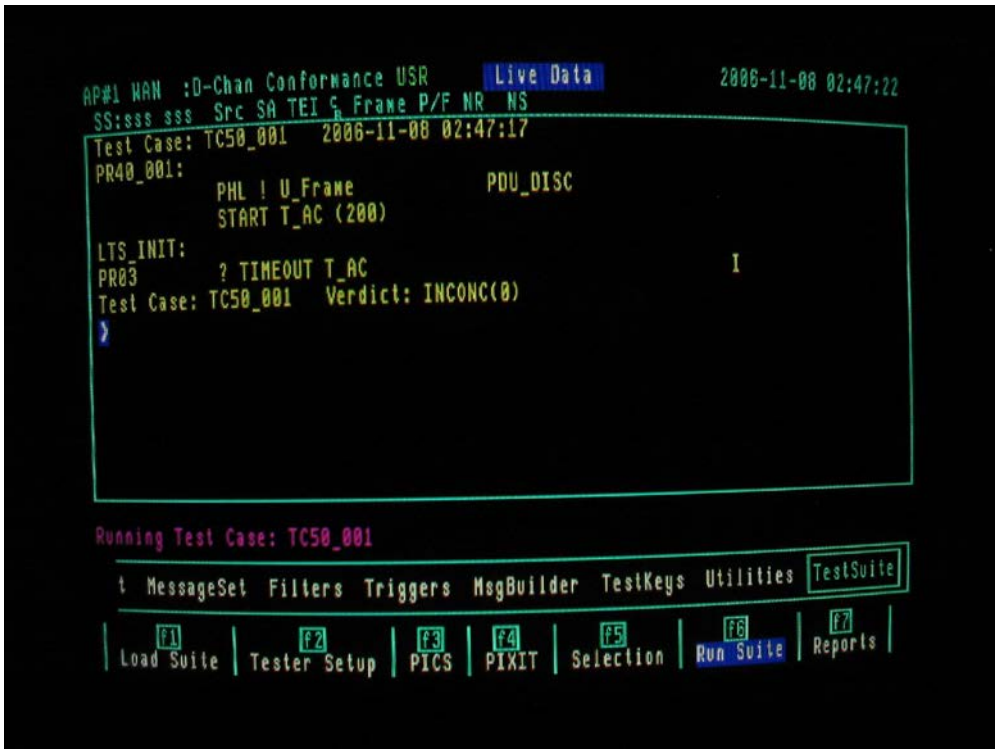
- The PT502 will start by searching for the appropriate test script.



- Load the appropriate test script.



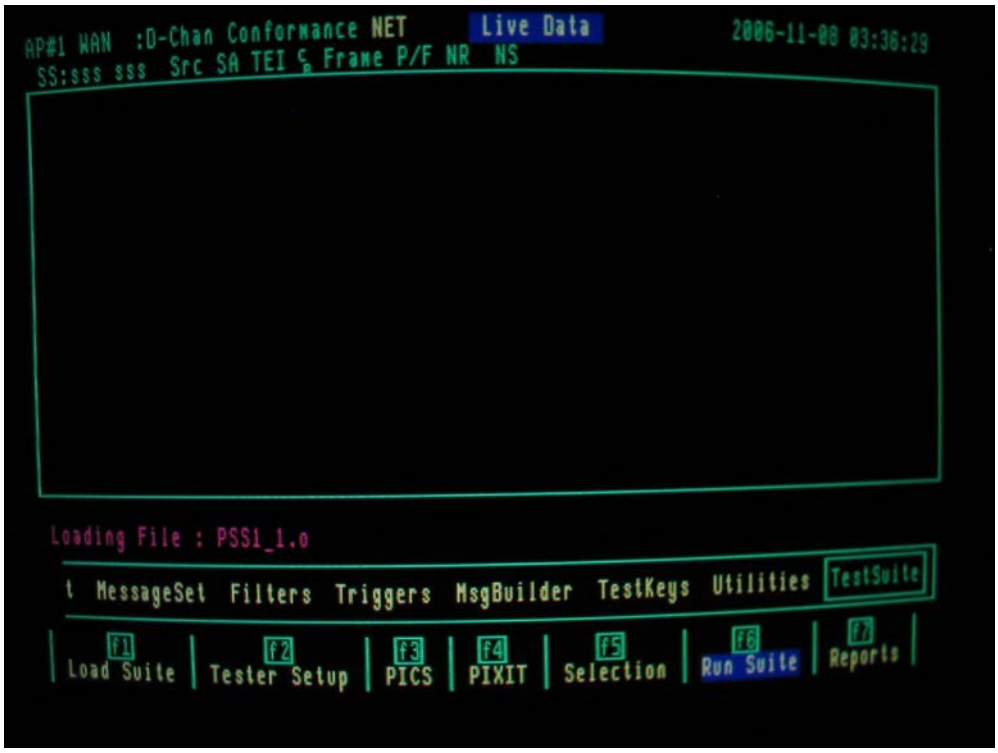
- Execute the test suite.



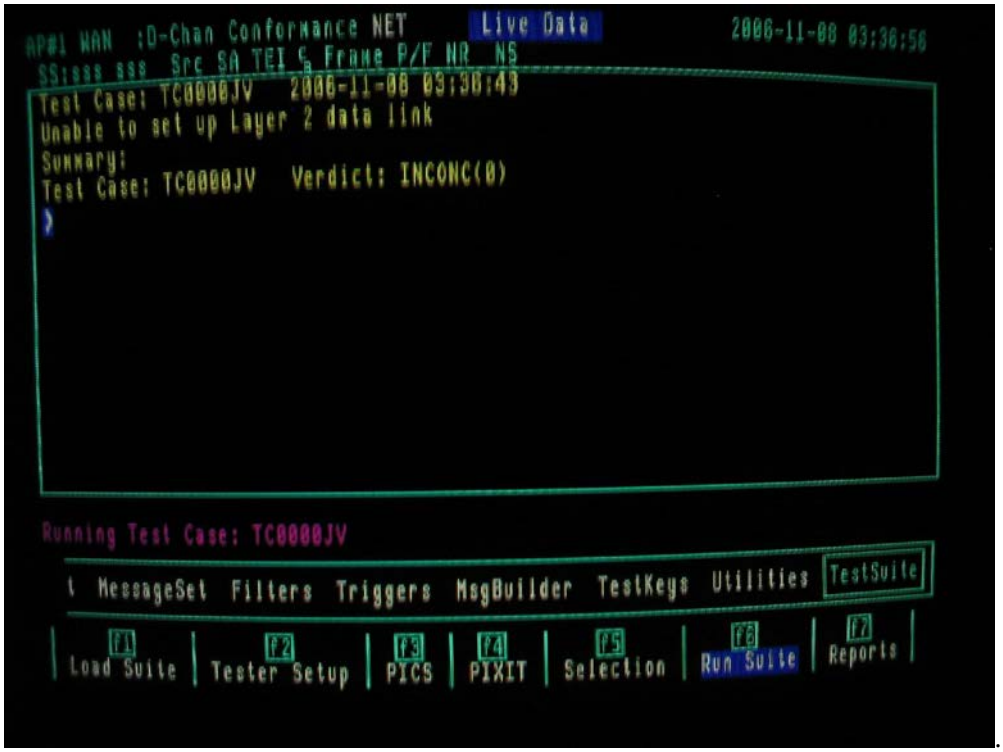
- By pressing f5 on completion of the test suite, the number of Test PASSES, FAILS and INCONCLUSIVE results can be seen.
- In order to repeat only FAIL and INCONC tests for example, it is necessary to Press f7 “No groups” key followed by the f6 “All groups” key, followed by the keys labelled FAIL and INCONC. The test suite can then be run again.

4.10.2 Running the layer 3 Basic Call test suite

- The PT502 will start by searching for the appropriate test script.



- Load the appropriate test script.



- By pressing f5 on completion of the test suite, the number of Test PASSES, FAILS and INCONCLUSIVE results can be seen.
- In order to repeat only FAIL and INCONC tests for example, it is necessary to Press f7 “No groups” key followed by the f6 “All groups” key, followed by the keys labelled FAIL and INCONC. The test suite can then be run again.

4.10.3 Running the layer 3 Transit Call test suite

- The same procedure exists as described in 4.10.2 for layer 3 basic call.

4.10.4 Running the Generic Functional Protocol test suite

- The same procedure exists as described 4.10.2 for layer 3 basic call.

5. MONITOR TESTING

5.1.1 Physical Configuration for monitoring testing using 1 WAN port

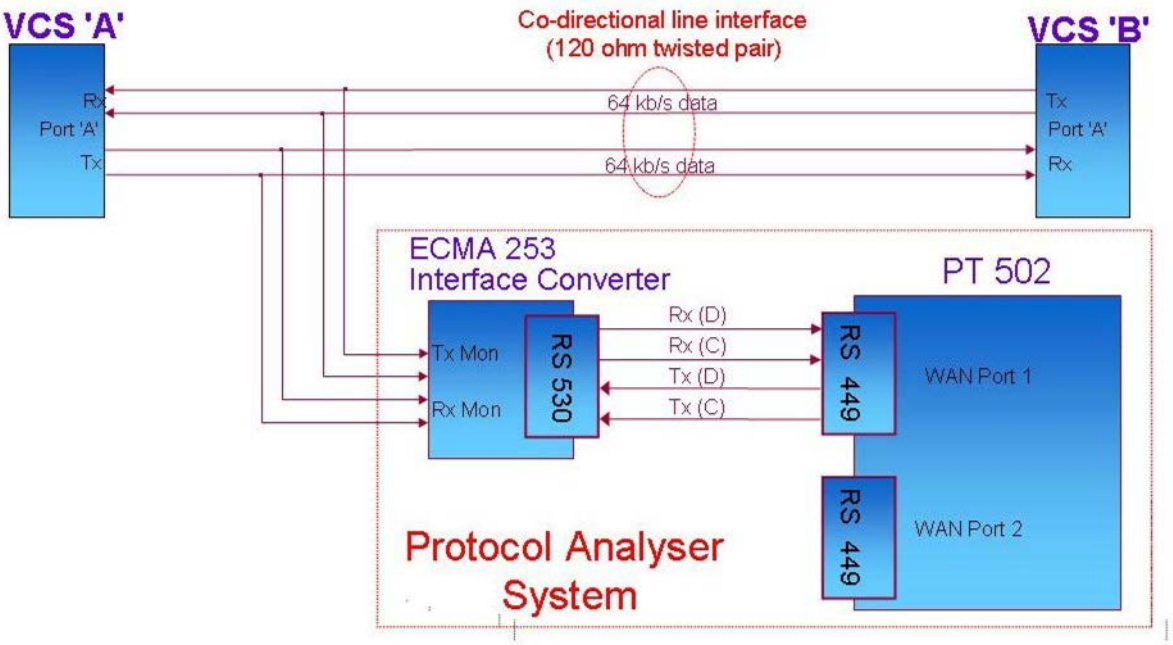


Figure 6: Physical configuration for Monitoring a single link between VCS’s

5.1.2 Physical Configuration for monitoring testing using dual WAN ports

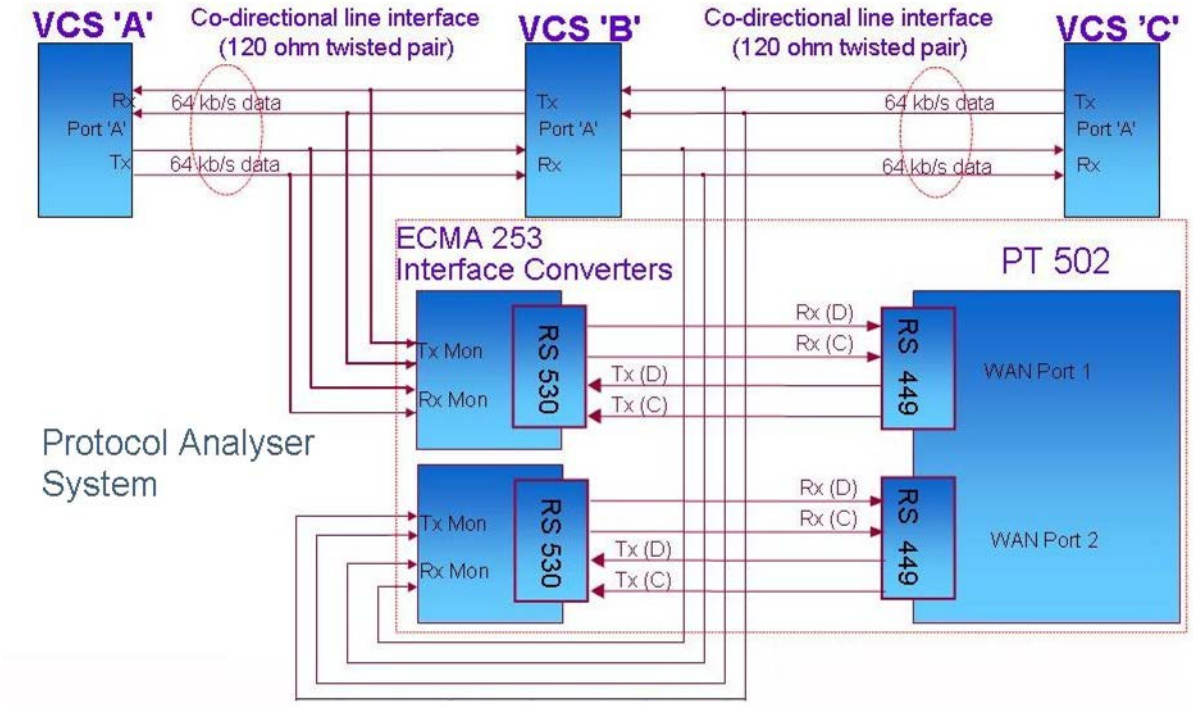


Figure 7: Physical configuration for Monitoring dual links for transit interoperability

5.1.3 Connection of IUT to ECMA 253 interface converters.

The IUT's G.703 port should be connected to the G.703-64kbps terminal block situated on the rear of the ECMA 253 interface converter (see Figure 7 below), such that the IUT's transmit pair is connected to the Co directional Rx(D) terminals and the IUT's receive pair is connected to the Co directional Tx(D) terminals. When configured for monitor mode, both Rx and Tx ports on the converter become inputs.

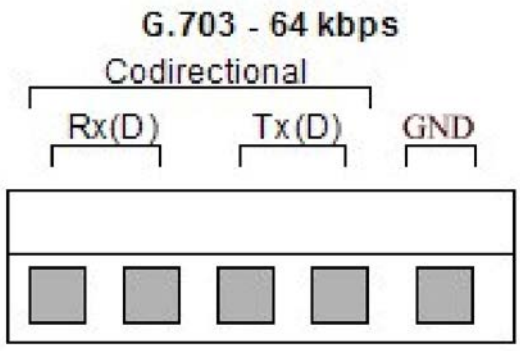


Figure 8: ECMA 253 interface converter-terminal block connections

5.1.4 Setting of the ECMA 253 interface converter front panel rotary switch for monitoring testing

A rotary switch is situated on the front panel of the ECMA-253 interface converter. This is used to select Monitor, OFF and Emulation modes respectively.

For interoperability testing ensure that the rotary switch is positioned for MON as shown in the diagram below:

Figure 9: ECMA 253 interface converter-Rotary switch configuration for Monitor

Once the rack has been powered-up ensure that the red PWR LED on the ECMA 253 converter's front panel is alight. This indicates that the module is powered-up and is on-line.

The following table describes the meaning of the front panel LEDs while the converter module is set for Monitor mode.

Table 3: Front panel LED indications for Monitor mode

Indicator	Function
PWR	When ON indicates the module is powered-up and is ON line. This LED will only be OFF when the rack is switched-off.
TX	**Monitor mode:** When ON indicates that a valid data signal has been detected on the line in one direction.
RX	**Monitor mode:** When ON indicates that a valid data signal has been detected on the line in one direction.
OCT	**Monitor mode:** When ON indicates that Timing Synchronization with the line has been achieved in one direction of the codirectional line through the identification of octet violations.
HDLC	**Monitor mode:** When ON indicates that Timing Synchronization with the line has been achieved in one direction of the codirectional line through layer 2 HDLC flags search method.

Note: in the case that an 8KHz octet timing signal (i.e. octet violations) are not received at the G.703 co-directional interface from the line, the ECMA 253 converter module will automatically switch to its built-in HDLC flag search algorithm.

A search of layer 2 HDLC flags is made within the full bit-64kbps stream channel. The Signalling channel also transports HDLC flags when idle. The identification of these flags indicates the position of the 16kbps Signalling channel within the full bit-stream. Once the position of the signalling channel is recognised, it is also possible to identify the position of the

voice channels. It is then possible to determine the position of the first and last bits within an octet.

This implies that the ATS-QSIG conformance test system can monitoring on lines with or without the ability to transport the integrity of the octets (i.e. octet timing).

While in monitor mode it is possible that both the OCTET and HDLC front panel LED indicators are ON simultaneously due to octet violations being present in only one direction of the co-directional line, while the opposite direction contains flags only.

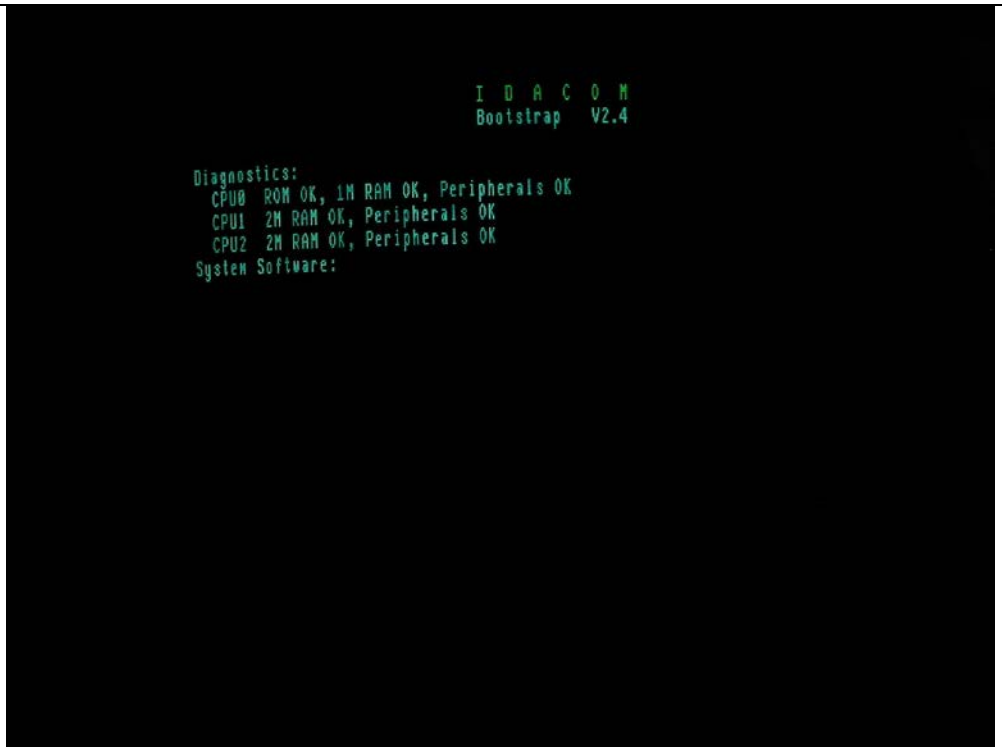
6. CONFIGURING THE PT502 FOR MONITOR TESTING

6.1 Powering up the PT502 and self diagnostic phase

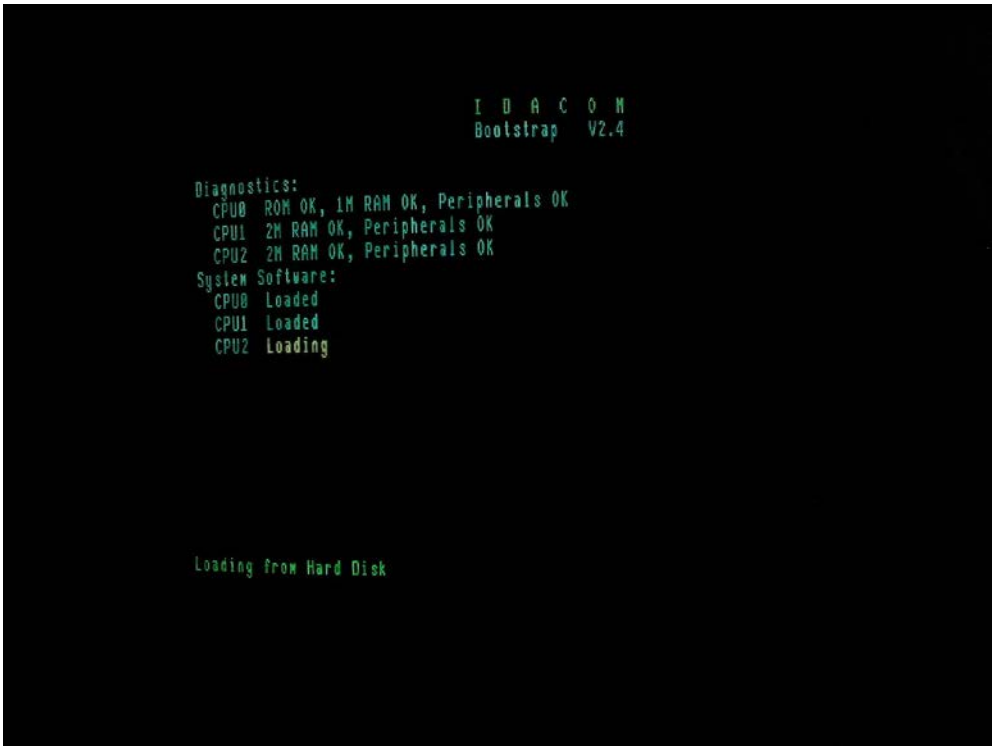
Switch on the PT502 by its ON/OFF switch positioned on the front panel (label 1/0). The instrument will enter its Diagnostic self test routines and follow information will be displayed on the screen:

Note the Bootstrap could be version 2.4, 3.x or 4.x.

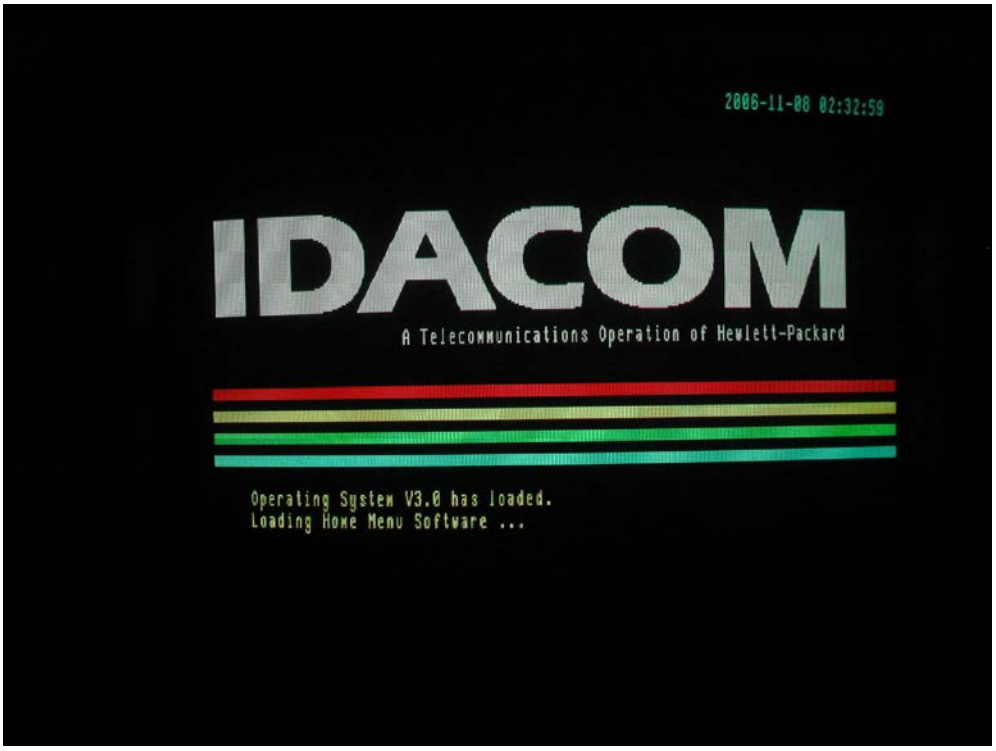
The PT502 always has a CPU0 ROM with at least 1M of memory, while CPU 1 and 2 always have at least 1M of RAM. The PT502 version is indicated by the label on its back panel. This can be E4095A, E4095B or E4096C.



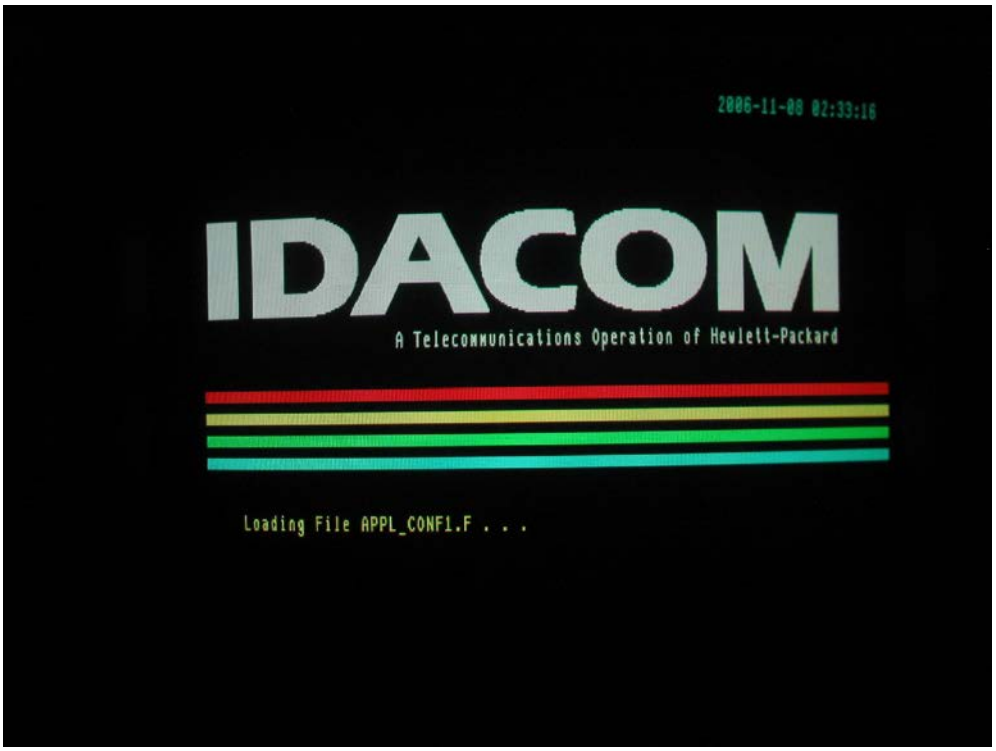
The PT502's system software is then loaded.



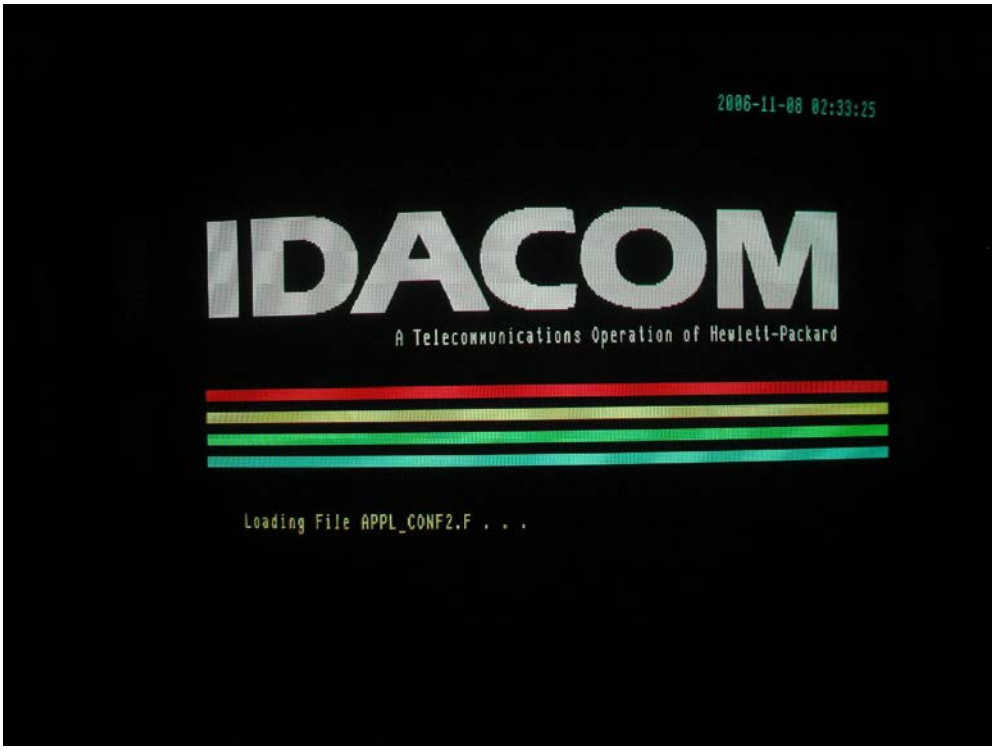
Followed by the Home menu Software



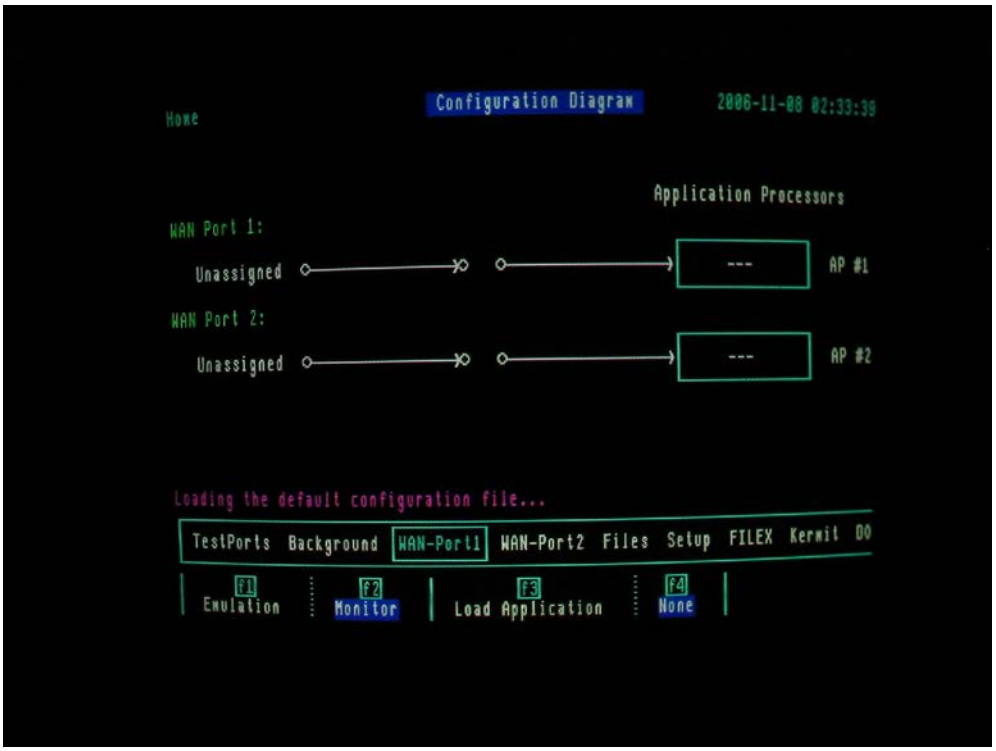
The Application Configuration software for AP1 is then loaded.



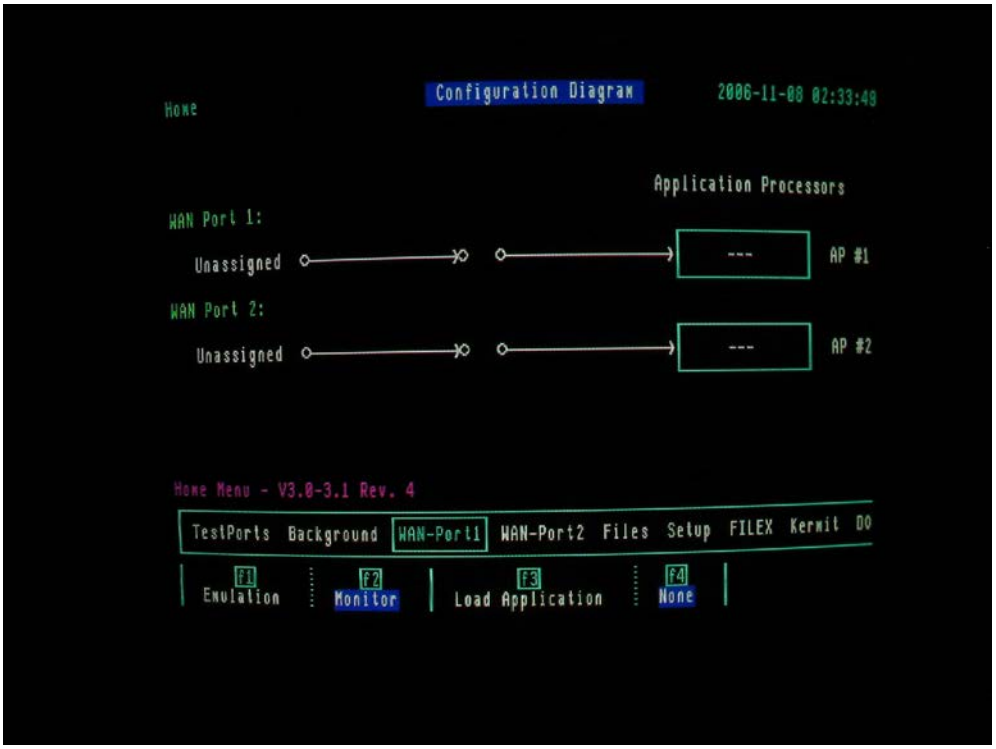
Followed by the application Configuration software for AP2 being loaded.



And finally the default configuration file is loaded.



When the diagnostic and self test procedures are complete successfully, the PT502 should display the following screen, showing two WAN ports (Unassigned) and two Application Processors (Unloaded).



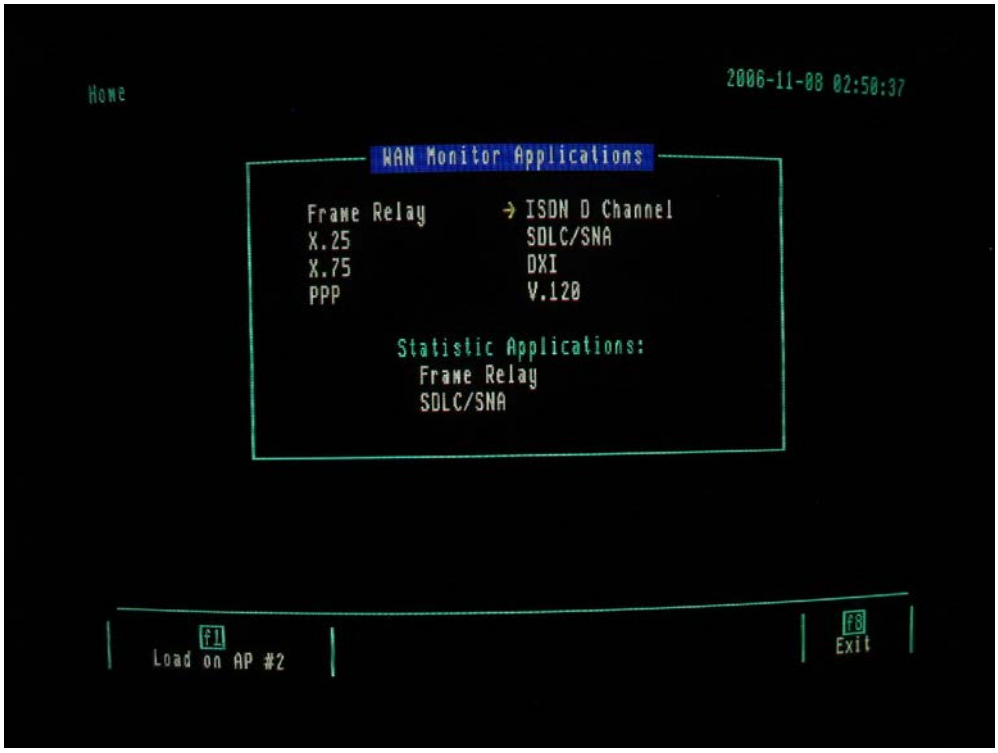
6.2 Configuring PORT 1 or PORT 2 for Monitor mode

Configure the PT502 for MONITOR mode, by executing the following steps.

- Move the topic box to the WAN-Port1 or to WAN-Port 2 (as appropriate) and press *f2* to select MONITOR mode.

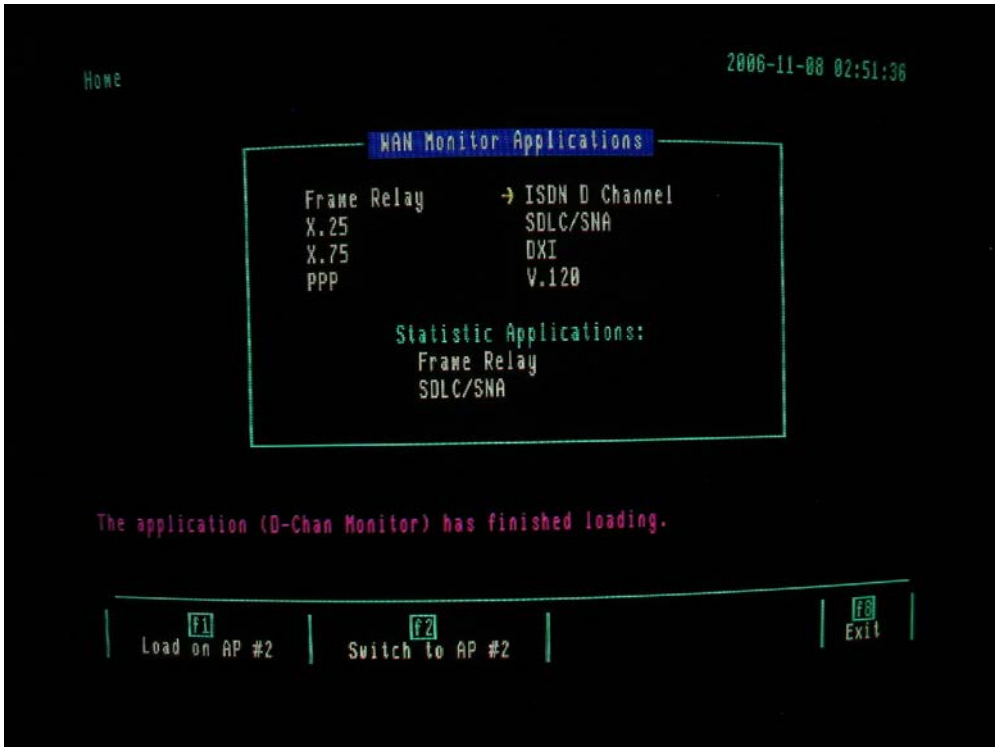
Note: Never switch the ECMA interface converter from Emulation to Monitor mode prior to configuring the QSIG tester for MONITOR. This can cause V.11 signal contention.

- With *f2* "Monitor" key highlighted, press *f3 "Load Application"* to display the following menu.
- Select ISDN D channel as shown in the following screen.

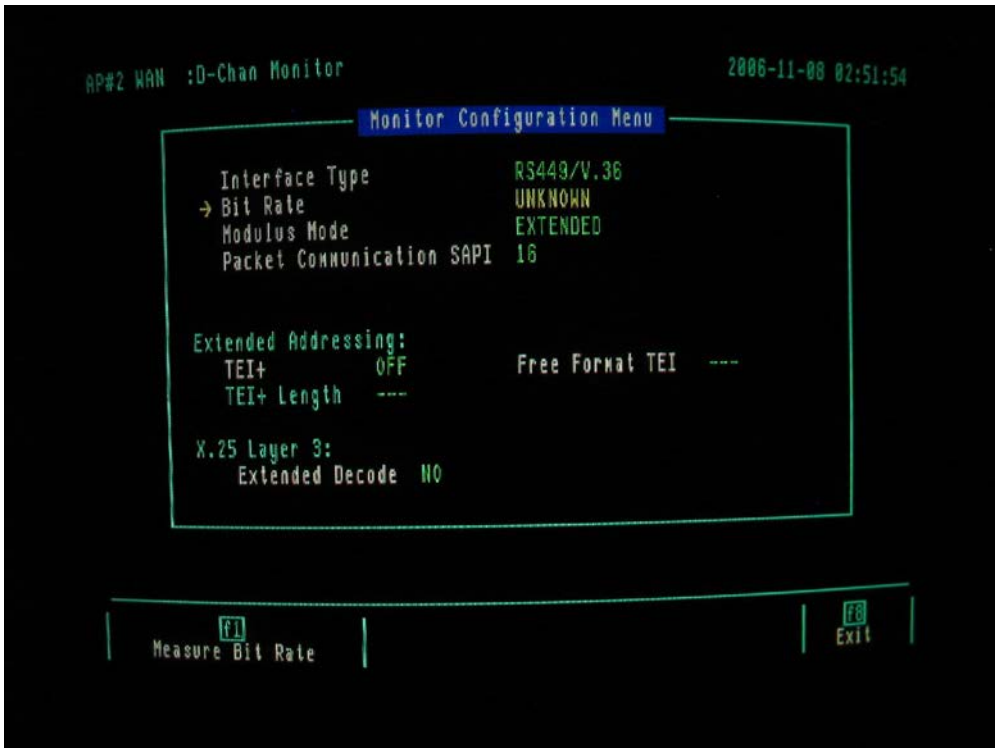


- Press the *f1* "Load on AP #1" key or "Load on AP #2" key (as appropriate) and the "Loading ISDN D channel Monitor …" message should be displayed as shown the screen below.

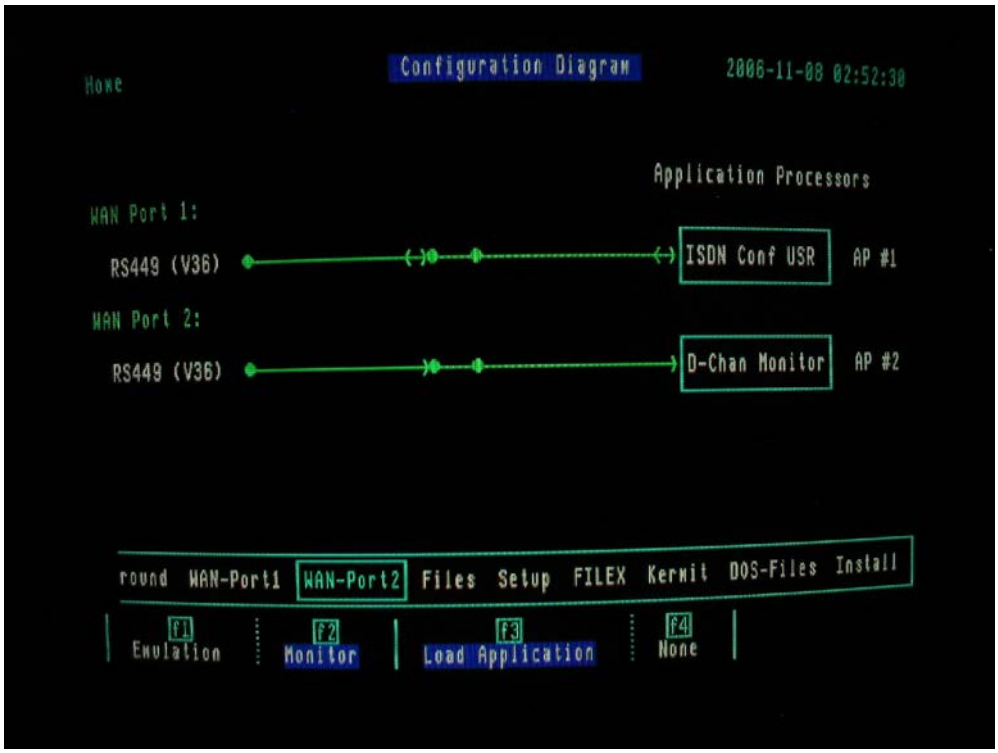
- When the application has finished loading the following message appears.



- Press the f2 “Switch to AP #1” key or f2 “Switch to AP #2” key as appropriate.
- Select the Monitor topic box and Monitor Configuration menu to display the following screen.
- Select the Bit Rate field and press f1 “Measure Bit rate”. This should be displayed as 16000 (i.e. 16kbps) and implies the system is correctly synchronized to the line in monitor mode.



- Return to the Home menu to check that the Monitor Application can be loaded on the chosen Application Processor as shown in the screen below.



- Return to the AP #1 or AP # 2 menu (as appropriate) by selecting the "Test Ports" topic box while in the Home menu.

- While in the AP #1 or AP # 2 menu (as appropriate) select the “Live Data” mode to monitor in real time all activity on the line.
- The display will show all layer 2 frames and layer 3 messages exchanged between IUTs connected to the line.
- By selecting the Format key, it is possible to display Layer 3 messages with or without their Information Element contents.
- By selecting the Filter key it is possible to filter out layer 2 frames for Display, RAM or DISK by disactivating all layer 2 frames except layer 2 information frames. In this way only layer 3 messages will be displayed.

ANNEX A

PIXIT DEFINITION FOR ATS-QSIG LAYER 2 CONFIGURATION (PIXIT_LAY2)

Maximum number of Outstanding I-frames (K):	3
IUT at least 6 sec. stable in state 4 ?	NO
IUT -> DISC frame at the end of a layer 3 session ?	NO
Timer for a response generated by layer 3 (ms)	900
IUT is tested for Master side ?	No (Note 1)
Time T_AC for a response from the IUT (ms)	200

Note 1: Test Suite should be run twice. When IUT is tested for the Master side (i.e.YES), the PT502 should be configured as "Network", and when the IUT is not tested for the Master side (i.e. No), the PT502 should be configured as "User".

Within the main PIXIT menu, go to the "other" field and press function key F1 to display the following TTCN logging list:

TTCN TRACE LOGGING:

Display the summary traces only ?	NO
Display the Behaviour traces ?	YES
Display the Send constraints ?	NO
Display the Receive constraints ?	NO
Display the Receive don't match ?	NO

Answering YES to all these questions will give you a detailed report on the screen. Otherwise just answer YES to Behaviour traces.

Note 2: Some layer 2 timer tests need the "Display the Behaviour traces" to be set to NO in order to give a more precise timer measurement.

ANNEX B

PROTOCOL CONFORMANCE TEST REPORT (PCTR) FOR LAYER 2 (PTNX_DLL.L)

No.	ATS Reference	Selected?	Verdict (Pass/Fail/ Inconc)	Observations
1	TC40_001	Not relevant to ATS-QSIG		
2	TC40_002	Not relevant to ATS-QSIG		
3	TC40_003	Not relevant to ATS-QSIG		
4	TC40_004	Not relevant to ATS-QSIG		
5	TC50_001	Yes		
6	TC50_002	Yes		
7	TC50_003	Yes		
8	TC50_004	Yes		
9	TC50_005	Yes		
10	TC51_001	Yes		
11	TC51_002	Not relevant to ATS-QSIG		
12	TC51_003	Yes		
13	TC51_004	Yes		
14	TC60_001	Not relevant to ATS-QSIG		
15	TC60_002	Not relevant to ATS-QSIG		
16	TC60_003	Not relevant to ATS-QSIG		
17	TC60_005	Not relevant to ATS-QSIG		
18	TC70_001	Yes		
19	TC70_002	Yes		
20	TC70_003	Yes		
21	TC70_004	Yes		
22	TC70_005	Yes		
23	TC70_006	Yes		
24	TC70_007	Yes		
25	TC70_008	Yes		
26	TC70_009	Yes		
27	TC70_010	Yes		
28	TC70_011	Yes		
29	TC70_012	Yes		
30	TC70_013	Yes		
31	TC70_014	Yes		
32	TC70_015	Yes		
33	TC70_016	Yes		
34	TC70_017	Yes		
35	TC70_018	Yes		
36	TC70_019	Yes		
37	TC70_020	Yes		
38	TC70_021	Yes		
39	TC70_022	Yes		
40	TC70_023	Yes		
41	TC70_024	Yes		
42	TC70_025	Yes		
43	TC70_026	Yes		
44	TC70_027	Yes		
45	TC70_028	Yes		
46	TC70_029	Yes		

No.	ATS Reference	Selected?	Verdict (Pass/Fail/ Inconc)	Observations
47	TC70_030	Yes		
48	TC70_031	Yes		
49	TC71_001	Yes		
50	TC71_002	Yes		
51	TC74_001	Yes		
52	TC74_002	Yes		
53	TC74_003	Yes		
54	TC74_004	Yes		
55	TC74_005	Yes		
56	TC74_006	Yes		
57	TC74_007	Yes		
58	TC74_008	Yes		
59	TC74_009	Yes		
60	TC74_010	Yes		
61	TC74_011	Yes		
62	TC74_012	Yes		
63	TC74_013	Yes		
64	TC74_014	Yes		
65	TC74_015	Yes		
66	TC74_016	Yes		
67	TC74_017	Yes		
68	TC74_018	Yes		
69	TC74_019	Yes		
70	TC74_020	Yes		
71	TC74_021	Yes		
72	TC74_022	Yes		
73	TC74_023	Yes		
74	TC74_024	Yes		
75	TC74_025	Yes		
76	TC74_026	Yes		
77	TC75_001	Yes		
78	TC75_002	Yes		
79	TC80_001	Yes		
80	TC80_002	Yes		
81	TC80_003	Yes		
82	TC80_004	Yes		
83	TC80_005	Yes		
84	TC80_006	Yes		
85	TC80_007	Yes		
86	TC80_008	Yes		
87	TC80_009	Yes		
88	TC80_010	Yes		
89	TC80_011	Yes		
90	TC80_012	Yes		
91	TC80_013	Yes		
92	TC80_014	Yes		

No.	ATS Reference	Selected?	Verdict (Pass/Fail/ Inconc)	Observations
93	TC80_015	Yes		
94	TC81_001	Yes		
95	TC81_002	Yes		
96	TC84_001	Yes		
97	TC84_002	Yes		
98	TC84_003	Yes		
99	TC84_004	Yes		
100	TC84_005	Yes		
101	TC84_006	Yes		
102	TC84_007	Yes		
103	TC84_008	Yes		
104	TC84_009	Yes		
105	TC84_010	Yes		
106	TC84_011	Yes		
107	TC84_012	Yes		
108	TC84_013	Yes		
109	TC84_014	Yes		
110	TC84_015	Yes		
111	TC84_016	Yes		
112	TC85_001	Yes		
113	TC85_002	Yes		
114	TC40_301	Not relevant to ATS-QSIG		
115	TC40_302	Not relevant to ATS-QSIG		
116	TC40_303	Not relevant to ATS-QSIG		
117	TC40_304	Not relevant to ATS-QSIG		
118	TC40_305	Not relevant to ATS-QSIG		
119	TC40_306	Not relevant to ATS-QSIG		
120	TC40_307	Not relevant to ATS-QSIG		
121	TC40_308	Not relevant to ATS-QSIG		
122	TC40_309	Not relevant to ATS-QSIG		
123	TC40_310	Not relevant to ATS-QSIG		
124	TC40_311	Not relevant to ATS-QSIG		
125	TC40_312	Not relevant to ATS-QSIG		
126	TC40_313	Not relevant to ATS-QSIG		
127	TC40_314	Not relevant to ATS-QSIG		
128	TC40_315	Not relevant to ATS-QSIG		
129	TC40_316	Not relevant to ATS-QSIG		
130	TC40_317	Not relevant to ATS-QSIG		
131	TC40_318	Not relevant to ATS-QSIG		
132	TC40_319	Not relevant to ATS-QSIG		
133	TC40_320	Not relevant to ATS-QSIG		
134	TC50_301	Yes		
135	TC50_302	Yes		
136	TC50_303	Yes		
137	TC50_304	Yes		
138	TC50_305	Yes		

No.	ATS Reference	Selected?	Verdict (Pass/Fail/ Inconc)	Observations
139	TC50_306	Yes		
140	TC50_307	Yes		
141	TC50_308	Yes		
142	TC50_309	Yes		
143	TC50_310	Yes		
144	TC50_311	Yes		
145	TC50_312	Yes		
146	TC50_313	Yes		
147	TC50_314	Yes		
148	TC50_315	Yes		
149	TC50_316	Yes		
150	TC50_317	Yes		
151	TC50_318	Yes		
152	TC50_319	Yes		
153	TC50_320	Yes		
154	TC50_321	Yes		
155	TC60_301	Not relevant to ATS-QSIG		
156	TC60_302	Not relevant to ATS-QSIG		
157	TC60_303	Not relevant to ATS-QSIG		
158	TC60_304	Not relevant to ATS-QSIG		
159	TC60_305	Not relevant to ATS-QSIG		
160	TC60_306	Not relevant to ATS-QSIG		
161	TC60_307	Not relevant to ATS-QSIG		
162	TC60_308	Not relevant to ATS-QSIG		
163	TC60_309	Not relevant to ATS-QSIG		
164	TC60_310	Not relevant to ATS-QSIG		
165	TC60_311	Not relevant to ATS-QSIG		
166	TC60_312	Not relevant to ATS-QSIG		
167	TC60_313	Not relevant to ATS-QSIG		
168	TC60_314	Not relevant to ATS-QSIG		
169	TC60_315	Not relevant to ATS-QSIG		
170	TC60_316	Not relevant to ATS-QSIG		
171	TC60_317	Not relevant to ATS-QSIG		
172	TC60_318	Not relevant to ATS-QSIG		
173	TC60_319	Not relevant to ATS-QSIG		
174	TC60_320	Not relevant to ATS-QSIG		
175	TC60_321	Not relevant to ATS-QSIG		
176	TC70_301	Yes		
177	TC70_302	Yes		
178	TC70_303	Yes		
179	TC70_304	Yes		
180	TC70_305	Yes		
181	TC70_306	Yes		
182	TC70_307	Yes		
183	TC70_308	Yes		
184	TC70_309	Yes		

No.	ATS Reference	Selected?	Verdict (Pass/Fail/ Inconc)	Observations
185	TC70_310	Yes		
186	TC70_311	Yes		
187	TC70_312	Yes		
188	TC70_313	Yes		
189	TC70_314	Yes		
190	TC70_315	Yes		
191	TC70_316	Yes		
192	TC70_317	Yes		
193	TC70_318	Yes		
194	TC70_319	Yes		
195	TC70_320	Yes		
196	TC70_321	Yes		
197	TC70_322	Yes		
198	TC70_323	Yes		
199	TC70_324	Yes		
200	TC70_325	Yes		
201	TC70_326	Yes		
202	TC70_327	Yes		
203	TC70_328	Yes		
204	TC70_329	Yes		
205	TC70_330	Yes		
206	TC70_331	Yes		
207	TC70_332	Yes		
208	TC70_333	Yes		
209	TC70_334	Yes		
210	TC70_335	Yes		
211	TC71_301	Yes		
212	TC71_302	Yes		
213	TC74_301	Yes		
214	TC74_302	Yes		
215	TC74_303	Yes		
216	TC74_304	Yes		
217	TC74_305	Yes		
218	TC74_306	Yes		
219	TC74_307	Yes		
220	TC74_308	Yes		
221	TC74_309	Yes		
222	TC74_310	Yes		
223	TC74_311	Yes		
224	TC74_312	Yes		
225	TC74_313	Yes		
226	TC74_314	Yes		
227	TC74_315	Yes		
228	TC74_316	Yes		
229	TC74_317	Yes		
230	TC74_318	Yes		

No.	ATS Reference	Selected?	Verdict (Pass/Fail/ Inconc)	Observations
231	TC74_319	Yes		
232	TC74_320	Yes		
233	TC74_321	Yes		
234	TC74_322	Yes		
235	TC74_323	Yes		
236	TC74_324	Yes		
237	TC74_325	Yes		
238	TC74_326	Yes		
239	TC74_327	Yes		
240	TC74_328	Yes		
241	TC74_329	Yes		
242	TC74_330	Yes		
243	TC74_331	Yes		
244	TC74_332	Yes		
245	TC74_333	Yes		
246	TC74_334	Yes		
247	TC75_301	Yes		
248	TC75_302	Yes		
249	TC80_301	Yes		
250	TC80_302	Yes		
251	TC80_303	Yes		
252	TC80_304	Yes		
253	TC80_305	Yes		
254	TC80_306	Yes		
255	TC80_307	Yes		
256	TC80_308	Yes		
257	TC80_309	Yes		
258	TC80_310	Yes		
259	TC80_311	Yes		
260	TC80_312	Yes		
261	TC80_313	Yes		
262	TC80_314	Yes		
263	TC80_315	Yes		
264	TC80_316	Yes		
265	TC80_317	Yes		
266	TC80_318	Yes		
267	TC80_319	Yes		
268	TC80_320	Yes		
269	TC80_321	Yes		
270	TC80_322	Yes		
271	TC80_323	Yes		
272	TC80_324	Yes		
273	TC80_325	Yes		
274	TC80_326	Yes		
275	TC80_327	Yes		
276	TC80_328	Yes		

No.	ATS Reference	Selected?	Verdict (Pass/Fail/ Inconc)	Observations
277	TC81_301	Yes		
278	TC81_302	Yes		
279	TC84_301	Yes		
280	TC84_302	Yes		
281	TC84_303	Yes		
282	TC84_304	Yes		
283	TC84_305	Yes		
284	TC84_306	Yes		
285	TC84_307	Yes		
286	TC84_308	Yes		
287	TC84_309	Yes		
288	TC84_310	Yes		
289	TC84_311	Yes		
290	TC84_312	Yes		
291	TC84_313	Yes		
292	TC84_314	Yes		
293	TC84_315	Yes		
294	TC84_316	Yes		
295	TC84_317	Yes		
296	TC84_318	Yes		
297	TC84_319	Yes		
298	TC84_320	Yes		
299	TC84_321	Yes		
300	TC84_322	Yes		
301	TC84_323	Yes		
302	TC84_324	Yes		
303	TC84_325	Yes		
304	TC84_326	Yes		
305	TC84_327	Yes		
306	TC84_328	Yes		
307	TC85_301	Yes		
308	TC85_302	Yes		
309	TC40_601	Not relevant to ATS-QSIG		
310	TC40_602	Not relevant to ATS-QSIG		
311	TC40_603	Not relevant to ATS-QSIG		
312	TC40_604	Not relevant to ATS-QSIG		
313	TC40_605	Not relevant to ATS-QSIG		
314	TC40_606	Not relevant to ATS-QSIG		
315	TC40_607	Not relevant to ATS-QSIG		
316	TC40_608	Not relevant to ATS-QSIG		
317	TC40_609	Not relevant to ATS-QSIG		
318	TC40_610	Not relevant to ATS-QSIG		
319	TC40_611	Not relevant to ATS-QSIG		
320	TC50_601	Yes		
321	TC50_602	Yes		
322	TC50_603	Yes		

No.	ATS Reference	Selected?	Verdict (Pass/Fail/ Inconc)	Observations
323	TC50_604	Yes		
324	TC50_605	Yes		
325	TC50_606	Yes		
326	TC50_607	Yes		
327	TC50_608	Yes		
328	TC50_609	Yes		
329	TC60_601	Not relevant to ATS-QSIG		
330	TC60_602	Not relevant to ATS-QSIG		
331	TC60_603	Not relevant to ATS-QSIG		
332	TC60_604	Not relevant to ATS-QSIG		
333	TC60_605	Not relevant to ATS-QSIG		
334	TC60_606	Not relevant to ATS-QSIG		
335	TC60_607	Not relevant to ATS-QSIG		
336	TC60_608	Not relevant to ATS-QSIG		
337	TC60_609	Not relevant to ATS-QSIG		
338	TC70_601	Yes		
339	TC70_602	Yes		
340	TC70_603	Yes		
341	TC70_604	Yes		
342	TC70_605	Yes		
343	TC70_606	Yes		
344	TC70_607	Yes		
345	TC70_608	Yes		
346	TC70_609	Yes		
347	TC70_610	Yes		
348	TC70_611	Yes		
349	TC70_612	Yes		
350	TC74_601	Yes		
351	TC74_602	Yes		
352	TC74_603	Yes		
353	TC74_604	Yes		
354	TC74_605	Yes		
355	TC74_606	Yes		
356	TC74_607	Yes		
357	TC74_608	Yes		
358	TC74_609	Yes		
359	TC74_610	Yes		
360	TC80_601	Yes		
361	TC80_602	Yes		
362	TC80_603	Yes		
363	TC80_604	Yes		
364	TC80_605	Yes		
365	TC80_606	Yes		
366	TC80_607	Yes		
367	TC80_608	Yes		
368	TC80_609	Yes		

No.	ATS Reference	Selected?	Verdict (Pass/Fail/ Inconc)	Observations
369	TC80_610	Yes		
370	TC84_601	Yes		
371	TC84_602	Yes		
372	TC84_603	Yes		
373	TC84_604	Yes		
374	TC84_605	Yes		
375	TC84_606	Yes		
376	TC84_607	Yes		
377	TC84_608	Yes		
378	TC84_609	Yes		
379	TC84_610	Yes		

	SELECT	UNSELECT	PASS	FAIL	INCONC
BV	104	10			
BO	154	41			
BI	51	20			
TOTAL	309	71			

ANNEX C

PICS DEFINITION FOR ATS-QSIG BASIC CALL MONO CONFIGURATION (PICS_BC.F)

Circuit switched call control

IUT is configured as A ?	YES (See Note 1)
IUT can act as Originating PINX ?	YES
IUT can act as Incoming Gateway PINX ?	YES
IUT can act as Transit PINX ?	YES
IUT can act as Terminating PINX ?	YES
IUT can act as Outgoing Gateway PINX ?	YES
IUT supports call request ?	YES
IUT always includes SCI in SETUP ?	YES
Overlap sending procedures implemented ?	NO
Number of information channels supported ?	3

BOOLEAN and numeric number values (see Note 2)

A number is available for tsp_Inum ?	NO
Number incomplete for the IUT coded as CDPN ?	-
IUT not compl. num. without SCI or T302 exp. ava.?	NO
Number of the previous items coded as CDPN	-
Invalid number can be divided in two parts ?	YES
First part of invalid number coded as CDPN	7005893**N**3**P**3**Q**3**R**
Second part of invalid number coded as CDPN	7003893**S**3**T**
IUT Outg. Gat. but not compl. num. avail. as CDPN ?	YES
IUT Outg. Gat. but not compl. num. as CDPN ?	7004893**U**3**V**3**W**
IUT terminating but not compl. num as CDPN ava. ?	YES
IUT terminating but not compl. num as CDPN	7005893**U**3**V**3**W**3**X**

More about number values

Valid channel number for tests	1
Second valid channel number for tests	2
Non existent channel number	4
Number complete for the IUT as CDPN	7007893**U**3**V**3**W**3**X**3**Y**3**Z**
Number incomplete for the IUT as CDPN	7002893**U**
A number is available for tsp_Fnum ?	YES
Num. (Compl. Or not) for the IUT as CDPN	7007893**U**3**V**3**W**3**X**3**Y**3**Z**
Values are av. For tsp_Cnum1 and tsp_Cnum2 ?	NO
First digit of tsp_Cnum coded as CDPN	
Second and subsequent digits coded as CDPN	
Num Dig. of a terminal the IUT knows to be compl.	3**G**3**H**3**J**3**K**3**L**3**M**

Note 2: An invalid number is defined above as NPQRST. This should be a number that is not programmed within the VCX. The Called Party Number (CDPN) is defined above as UVWXYZ. This should be a valid CWP test number programmed within the VCX. The Calling Party Number (CGPN) is defined above as GHJKLM. The VCX should be programmed to accept calls from and make calls to this number through the ATS-QSIG interface card X within the VCX. The PT502 tester will be connected to the ATS-QSIG interface card X within the VCX shall have the same number.

Segmentation - Restart - Status Enquiry

About Segmentation

Message segmentation implemented ?	NO
Message re-assembly implemented ?	NO

About Restart

Initiation of RESTART - All channels ?	NO
Initiation of RESTART - Single channel ?	NO
Impl. REST. or REST. Can be prov. in suitab. way ?	NO
IUT send repeated RESTART messages ?	NO

About Status Enquiry

Sending of STATUS ENQUIRY implemented ?	NO
Maximum number of STATUS ENQUIRY messages	1

Bearer Capability features

16kbit/s Unrestricted BC supported ?	YES
16kbit/s Speech BC supported ?	YES
16kbit/s 3.1KHz Audio BC supported ?	NO
16kbit/s Unrest. BC with tones and announ. supp. ?	NO
Complete Bearer Capability IE	0403A092AA (for Speech)

Party Category and Transit Counter

About Party Category

Party Category functionality ?	NO
Num. for terminal conn. to Termin.IUT as CDPN	7007893**U**3**V**3**W**3**X**3**Y**3**Z**
Party Category associated with previous number	n/a
Number for terminal conn. to Outg. IUT as CDPN	7007893**U**3**V**3**W**3**X**3**Y**3**Z**
Party Category associated with previous number	n/a

About Transit Counter

Transit Counter functionality ?	YES
Sending of Transit Counter in SETUP message	YES

Timers and channel busy condition

Optional timer T301 implemented ?	YES
Duration of T301 (sec.)	40
Duration of T304 (sec.)	0
Duration of tone and ann. Terminating PINX (sec.)	0
Optional timer T313 implemented ?	NO
SETUP re-transmitted on expiry of T303 ?	NO
Timer T310 Implemented ?	YES
Duration of T310 (sec)	30

Information channels bust condition

Possible to make all channels busy for testing conf. ?	YES

ANNEX D

PIXIT DEFINITION FOR ATS-QSIG BASIC CALL MONO CONFIGURATION (PIXIT_BC.F)

PIXIT submenu for Mono and Segment configurations

Implicit sending of a SETUP (submenu)

Implicit SETUP possible ?	YES
Implicit SETUP possible with SCI ?	YES
Implicit SETUP possible with Pref/Excl bit Pref?	YES
Implicit SETUP possible with Pref/Excl bit Excl?	NO
Implicit SETUP followed by automatic send of INFO ?	NO
Implicit SETUP with 16kbit/s Unrest. Bearer possib. ?	YES
Implicit SETUP with 16kbit/s Speech Bearer possible. ?	YES
Implicit SETUP with 3.1khz Audio Bearer possible. ?	NO
Implicit SETUP with 64kbit/s Unrest. +Tone & Ann. ?	NO
Implicit SETUP with full number possible ?	YES
Implicit send of segmented SETUP message?	NO

Incoming gateway functions (submenu)

Implicit send of SETUP with CDPS possible as IG?	NO
Implicit send of SETUP with CGPS possible as IG?	NO
Implicit send of SETUP with LLC possible as IG?	NO
Implicit send of SETUP with HLC possible as IG?	NO
Implicit send of SETUP with SCI possible as IG?	YES
Implicit send of SETUP with PI possible as IG?	YES
Implicit send of SETUP with TC possible as IG?	YES
Implicit send of SETUP with PC possible as IG?	NO
Implicit send of SETUP with CGPN possible as IG?	YES

Originating PINX functions (submenu)

Implicit SETUP as Originating PINX ?	YES
Implicit SETUP with CGPS as Originating PINX ?	NO
Implicit SETUP with CDPS as Originating PINX ?	NO
Implicit SETUP with LLC as Originating PINX ?	NO
Implicit SETUP with HLC as Originating PINX ?	NO
Implicit SETUP with CLIR/COLR as Originating PINX ?	NO
Implicit SETUP with TC as Originating PINX?	YES
Implicit SETUP with PC as Originating PINX?	NO

Clearing Procedures (submenu)

Implicit clearing in state 1 possible ?	YES
Implicit clearing in state 2 possible ?	NO
Implicit clearing in state 3 possible ?	YES
Implicit clearing in state 4 possible ?	YES
Implicit clearing in state 7 possible ?	YES
Implicit clearing in state 8 possible ?	NO
Implicit clearing in state 9 possible ?	YES
Implicit clearing in state 10 possible ?	YES
Implicit clearing in state 25 possible ?	NO

About CONNECT message (submenu)

IUT unstable in <7> and sends CONNECT ?	NO
Automatic or implicit CONNECT in <7> ?	YES
IUT unstable in <9> and sends CONNECT ?	NO
Automatic or implicit CONNECT in <9> ?	NO
Automatic or implicit CONNECT with PI in <7>?	NO
Automatic or implicit CONNECT with PI in <9> ?	NO
Aut. or impl. CONNECT in <7> as Terminating PINX ?	NO
Aut. or impl. CONNECT in <9> as Terminating PINX ?	YES
Aut. or impl. CONNECT in <7> as Ter. No CLIR/COLR ?	NO
Aut. or impl. CONN. in <7> as Ter. PINX with CNDS ?	NO
Aut. Or impl.CONN. in <9> as Ter. PINX with CNDS ?	NO

More about CONNECT and PROGRESS (submenu)

About CONNECT

Aut. Or impl. CONN. in <7> as Ter. PINX with LLC ?	NO
Aut. Or impl. CONN. in <9> as Ter. PINX with LLC ?	NO
Aut. Or impl. CONN. in <7> as Ter. PINX with PC ?	NO
Aut. Or impl. CONN. in <9> as Ter. PINX with PC ?	NO
Implicit send of CONN. poss. As Outgoing Gatew. ?	NO

About PROGRESS

Implicit send PROGRESS in <7> ?	NO
Implicit send PROGRESS in <9> ?	NO
Implicit send PROGRESS in <10> ?	NO
Implicit send PROGRESS in <25> ?	NO

About STATUS ENQUIRY message (submenu)

Implicit send of STATUS ENQUIRY in <2> possible ?	NO
Implicit send of STATUS ENQUIRY in <3> possible ?	YES
Implicit send of STATUS ENQUIRY in <4> possible ?	YES
Implicit send of STATUS ENQUIRY in <7> possible ?	YES
Implicit send of STATUS ENQUIRY in <9> possible ?	YES
Implicit send of STATUS ENQUIRY in <10> possible ?	YES
Implicit send of STATUS ENQUIRY in <25> possible ?	NO
STATUS ENQUIRY retransmission implemented ?	NO
IUT sends STATUS ENQUIRY on DL_EST_CON ?	NO
IUT -> STATUS ENQ. Instead of STATUS on unexp. msg ?	NO

About ALERTING message (submenu)

IUT unstable in <9> and sends ALERTING ?	YES
Automatic or implicit ALERTING in <9> ?	YES
Automatic or implicit ALERTING in <25> ?	NO
Automatic or implicit ALERTING with PI in <9> ?	YES
Aut. or impl. ALERT. in <9> as Ter PINX with PC ?	NO
Aut. or impl. ALERT. in <9> as Outgoing Gateway ?	YES
Aut. or impl. ALERT. in <9> with PC as Outg. Gat. ?	NO

Tone and announcements (submenu)

Term. PINX gen. tone & ann. at call clear in <7>	NO
Term. PINX gen. tone & ann. at call clear in <9>	NO
Term. PINX gen. tone & ann. at call clear in <25>	NO

Calling Party Number sent by the tester

Full Calling Party Number	6C07893**G**3**H**3**J**3**K**3**L**3**M**

Note 1: The Calling Party Number (CGPN) is defined above as GHJKLM. The VCX should be programmed to accept calls from and make calls to this number through ATS-QSIG interface card X within the VCX. The PT502 tester will be connected to the ATS-QSIG interface card X within the VCX shall have the same number.

Within the main PIXIT menu, go to the “other” field and press function key F1 to display the following TTCN logging list:

TTCN TRACE LOGGING:

Display the summary traces only ?	NO
Display the Behaviour traces ?	YES
Display the Send constraints ?	NO
Display the Receive constraints ?	NO
Display the Receive don’t match ?	NO

Answering YES to all these questions will give you a detailed report on the screen. Otherwise just answer YES to Behaviour traces.

ANNEX E

PROTOCOL CONFORMANCE TEST REPORT (PCTR) FOR LAYER 3 BASIC CALL MONO CONFIGURATION (PSS1.L)

No.	ATS Reference	Selected and run?	Verdict (Pass/Fail/ Inconc)	Observations
1	TC0000JU	Not relevant to ATS-QSIG		
2	TC0000JV	Yes		
3	TC0001DI	Yes		
4	TC0001DJ	Yes		
5	TC0010AJ	Yes		
6	TC0010AK	Yes		
7	TC0100AA	Yes		
8	TC0100AE	Not relevant to ATS-QSIG		
9	TC0100BF	Not relevant to ATS-QSIG		
10	TC0100BH	Not relevant to ATS-QSIG		
11	TC0100BJ	Yes		
12	TC0100BK	Not relevant to ATS-QSIG		
13	TC0100BL	Yes		
14	TC0100BN	Yes		
15	TC0100BO	Yes		
16	TC0100BV	Not relevant to ATS-QSIG		
17	TC0100JI	Not relevant to ATS-QSIG		
18	TC0100JK	Not relevant to ATS-QSIG		
19	TC0100JM	Not relevant to ATS-QSIG		
20	TC0100JO	Yes		
21	TC0100JS	Yes		
22	TC0100KC	Not relevant to ATS-QSIG		
23	TC0101CS	Yes		
24	TC0101CW	Yes		
25	TC0110AB	Yes		
26	TC0110AC	Yes		
27	TC0110AD	Yes		
28	TC0110AL	Yes		
29	TC0110AM	Yes		
30	TC0110BS	Not relevant to ATS-QSIG		
31	TC0110CB	Not relevant to ATS-QSIG		
32	TC0110JD	Yes		
33	TC0110XD	Not relevant to ATS-QSIG		
34	TC0110XE	Yes		
35	TC0110XF	Not relevant to ATS-QSIG		
36	TC0110XG	Yes		
37	TC0110YG	Not relevant to ATS-QSIG		
38	TC0111CQ	Yes		
39	TC0111CX	Yes		
40	TC0112EL	Not relevant to ATS-QSIG		
41	TC0112ES	Not relevant to ATS-QSIG		
42	TC0112ET	Not relevant to ATS-QSIG		
43	TC0112EU	Not relevant to ATS-QSIG		
44	TC0112FM	Not relevant to ATS-QSIG		
45	TC0113IG	Yes		

No.	ATS Reference	Selected and run?	Verdict (Pass/Fail/ Inconc)	Observations
46	TC0113ST	Yes		
47	TC0113SZ	Not relevant to ATS-QSIG		
48	TC0114TF	Yes		
49	TC0200BB	Not relevant to ATS-QSIG		
50	TC0200BC	Yes		
51	TC0200BD	Yes		
52	TC0200BX	Not relevant to ATS-QSIG		
53	TC0200JG	Yes		
54	TC0200JL	Not relevant to ATS-QSIG		
55	TC0200JP	Yes		
56	TC0200JW	Not relevant to ATS-QSIG		
57	TC0200JY	Yes		
58	TC0200JZ	Not relevant to ATS-QSIG		
59	TC0200KA	Not relevant to ATS-QSIG		
60	TC0200KB	Yes		
61	TC0200XC	Not relevant to ATS-QSIG		
62	TC0201CG	Not relevant to ATS-QSIG		
63	TC0201CI	Yes		
64	TC0201CL	Yes		
65	TC0201CN	Yes		
66	TC0201CP	Not relevant to ATS-QSIG		
67	TC0201CU	Yes		
68	TC0201DK	Yes		
69	TC0201XL	Not relevant to ATS-QSIG		
70	TC0201XM	Yes		
71	TC0201XN	Yes		
72	TC0203SB	Yes		
73	TC0203SC	Yes		
74	TC0203SD	Yes		
75	TC0203SE	Not relevant to ATS-QSIG		
76	TC0203SF	Yes		
77	TC0203SG	Yes		
78	TC0203SH	Yes		
79	TC0203SI	Not relevant to ATS-QSIG		
80	TC0203SJ	Yes		
81	TC0203SK	Not relevant to ATS-QSIG		
82	TC0203SL	Yes		
83	TC0203SN	Yes		
84	TC0203SO	Not relevant to ATS-QSIG		
85	TC0204TC	Not relevant to ATS-QSIG		
86	TC0210AI	Yes		
87	TC0210AZ	Yes		
88	TC0210BG	Not relevant to ATS-QSIG		
89	TC0210BT	Yes		
90	TC0210BU	Yes		
91	TC0210BW	Not relevant to ATS-QSIG		

No.	ATS Reference	Selected and run?	Verdict (Pass/Fail/ Inconc)	Observations
92	TC0210BY	Not relevant to ATS-QSIG		
93	TC0210BZ	Yes		
94	TC0210CA	Yes		
95	TC0210CC	Not relevant to ATS-QSIG		
96	TC0210CD	Not relevant to ATS-QSIG		
97	TC0210CE	Yes		
98	TC0210JE	Yes		
99	TC0210JR	Not relevant to ATS-QSIG		
100	TC0210KM	Not relevant to ATS-QSIG		
101	TC0210KN	Not relevant to ATS-QSIG		
102	TC0210KP	Not relevant to ATS-QSIG		
103	TC0210KQ	Not relevant to ATS-QSIG		
104	TC0210KR	Not relevant to ATS-QSIG		
105	TC0210KS	Not relevant to ATS-QSIG		
106	TC0210KT	Not relevant to ATS-QSIG		
107	TC0211CF	Yes		
108	TC0211CH	Not relevant to ATS-QSIG		
109	TC0211CJ	Not relevant to ATS-QSIG		
110	TC0211CK	Not relevant to ATS-QSIG		
111	TC0211CM	Yes		
112	TC0211CO	Not relevant to ATS-QSIG		
113	TC0211DL	Yes		
114	TC0212EM	Not relevant to ATS-QSIG		
115	TC0212EN	Not relevant to ATS-QSIG		
116	TC0212EO	Not relevant to ATS-QSIG		
117	TC0212EP	Not relevant to ATS-QSIG		
118	TC0212EQ	Not relevant to ATS-QSIG		
119	TC0212ER	Not relevant to ATS-QSIG		
120	TC0212YE	Not relevant to ATS-QSIG		
121	TC0213EB	Not relevant to ATS-QSIG		
122	TC0213EC	Not relevant to ATS-QSIG		
123	TC0213ED	Not relevant to ATS-QSIG		
124	TC0213EF	Not relevant to ATS-QSIG		
125	TC0213EG	Not relevant to ATS-QSIG		
126	TC0213EH	Not relevant to ATS-QSIG		
127	TC0213EI	Not relevant to ATS-QSIG		
128	TC0213EK	Not relevant to ATS-QSIG		
129	TC0213SA	Yes		
130	TC0213SP	Not relevant to ATS-QSIG		
131	TC0213SQ	Yes		
132	TC0213SR	Not relevant to ATS-QSIG		
133	TC0213SS	Not relevant to ATS-QSIG		
134	TC0213SU	Not relevant to ATS-QSIG		
135	TC0213SV	Not relevant to ATS-QSIG		
136	TC0213SX	Not relevant to ATS-QSIG		
137	TC0213SY	Not relevant to ATS-QSIG		

No.	ATS Reference	Selected and run?	Verdict (Pass/Fail/ Inconc)	Observations
138	TC0213WA	Not relevant to ATS-QSIG		
139	TC0213WB	Not relevant to ATS-QSIG		
140	TC0213WC	Not relevant to ATS-QSIG		
141	TC0214TH	Yes		
142	TC0214TJ	Not relevant to ATS-QSIG		
143	TC0214TL	Not relevant to ATS-QSIG		
144	TC0300AV	Yes		
145	TC0301HJ	Yes		
146	TC0301HK	Yes		
147	TC0301HR	Not relevant to ATS-QSIG		
148	TC0301HS	Not relevant to ATS-QSIG		
149	TC0301XP	Yes		
150	TC0301XR	Yes		
151	TC0302FG	Not relevant to ATS-QSIG		
152	TC0302FH	Not relevant to ATS-QSIG		
153	TC0302FJ	Not relevant to ATS-QSIG		
154	TC0302FL	Not relevant to ATS-QSIG		
155	TC0310FQ	Yes		
156	TC0310FR	Yes		
157	TC0310FT	Yes		
158	TC0310FU	Yes		
159	TC0310GD	Yes		
160	TC0310GE	Yes		
161	TC0310GM	Yes		
162	TC0310GO	Yes		
163	TC0310GQ	Not relevant to ATS-QSIG		
164	TC0310GS	Yes		
165	TC0310GZ	Yes		
166	TC0310HE	Yes		
167	TC0310HF	Not relevant to ATS-QSIG		
168	TC0310HU	Not relevant to ATS-QSIG		
169	TC0310HV	Not relevant to ATS-QSIG		
170	TC0310HW	Not relevant to ATS-QSIG		
171	TC0310XX	Yes		
172	TC0311FO	Yes		
173	TC0311FX	Yes		
174	TC0311GP	Yes		
175	TC0311GT	Not relevant to ATS-QSIG		
176	TC0311GU	Yes		
177	TC0311GV	Yes		
178	TC0311GW	Not relevant to ATS-QSIG		
179	TC0311GX	Yes		
180	TC0311HB	Yes		
181	TC0311HC	Yes		
182	TC0311HD	Not relevant to ATS-QSIG		
183	TC0311HH	Yes		

No.	ATS Reference	Selected and run?	Verdict (Pass/Fail/ Inconc)	Observations
184	TC0311HI	Not relevant to ATS-QSIG		
185	TC0311HL	Not relevant to ATS-QSIG		
186	TC0311HN	Yes		
187	TC0311HO	Yes		
188	TC0311HP	Yes		
189	TC0311XO	Yes		
190	TC0311XQ	Yes		
191	TC0312EV	Not relevant to ATS-QSIG		
192	TC0312EX	Not relevant to ATS-QSIG		
193	TC0312EY	Not relevant to ATS-QSIG		
194	TC0312FI	Not relevant to ATS-QSIG		
195	TC0312FK	Not relevant to ATS-QSIG		
196	TC0312YF	Not relevant to ATS-QSIG		
197	TC0314GN	Yes		
198	TC0314HA	Yes		
199	TC0400AX	Yes		
200	TC0400GA	Not relevant to ATS-QSIG		
201	TC0400GB	Yes		
202	TC0400GG	Not relevant to ATS-QSIG		
203	TC0400HX	Not relevant to ATS-QSIG		
204	TC0401FY	Yes		
205	TC0401FZ	Yes		
206	TC0401GH	Yes		
207	TC0401GI	Yes		
208	TC0401GJ	Yes		
209	TC0401XT	Yes		
210	TC0402FA	Not relevant to ATS-QSIG		
211	TC0402FC	Not relevant to ATS-QSIG		
212	TC0402FE	Not relevant to ATS-QSIG		
213	TC0402FF	Not relevant to ATS-QSIG		
214	TC0410AY	Yes		
215	TC0410IA	Yes		
216	TC0410IB	Not relevant to ATS-QSIG		
217	TC0410IC	Yes		
218	TC0410YA	Yes		
219	TC0410YB	Yes		
220	TC0410YC	Yes		
221	TC0411FV	Yes		
222	TC0411FW	Yes		
223	TC0412EW	Not relevant to ATS-QSIG		
224	TC0412EZ	Not relevant to ATS-QSIG		
225	TC0412FB	Not relevant to ATS-QSIG		
226	TC0412FD	Not relevant to ATS-QSIG		
227	TC0414GC	Yes		
228	TC0500AG	Not relevant to ATS-QSIG		
229	TC0501CY	Yes		

No.	ATS Reference	Selected and run?	Verdict (Pass/Fail/ Inconc)	Observations
230	TC0501CZ	Yes		
231	TC0502FN	Not relevant to ATS-QSIG		
232	TC0510AF	Not relevant to ATS-QSIG		
233	TC0510AH	Not relevant to ATS-QSIG		
234	TC0510BI	Not relevant to ATS-QSIG		
235	TC0510BM	Yes		
236	TC0510BP	Yes		
237	TC0510JJ	Not relevant to ATS-QSIG		
238	TC0510KD	Not relevant to ATS-QSIG		
239	TC0511CV	Yes		
240	TC0514TB	Not relevant to ATS-QSIG		
241	TC1110AN	Yes		
242	TC1110AP	Not relevant to ATS-QSIG		
243	TC1110AQ	Not relevant to ATS-QSIG		
244	TC1110AR	Not relevant to ATS-QSIG		
245	TC1110AS	Not relevant to ATS-QSIG		
246	TC1110AT	Yes		
247	TC1110AU	Not relevant to ATS-QSIG		
248	TC1110AO	Not relevant to ATS-QSIG		
249	TC2000JB	Yes		
250	TC2210JC	Yes		
251	TC2210JT	Not relevant to ATS-QSIG		
252	TC2210KE	Not relevant to ATS-QSIG		
253	TC2210KG	Not relevant to ATS-QSIG		
254	TC2210KH	Not relevant to ATS-QSIG		
255	TC2210KI	Not relevant to ATS-QSIG		
256	TC2210KJ	Not relevant to ATS-QSIG		
257	TC2210KK	Not relevant to ATS-QSIG		
258	TC2210KL	Not relevant to ATS-QSIG		
259	TC2210XJ	Not relevant to ATS-QSIG		
260	TC2210XK	Not relevant to ATS-QSIG		
261	TC2211KU	Not relevant to ATS-QSIG		
262	TC2211KW	Not relevant to ATS-QSIG		
263	TC2211KX	Not relevant to ATS-QSIG		
264	TC4200VC	Yes		
265	TC4210EA	Not relevant to ATS-QSIG		
266	TC4210VB	Not relevant to ATS-QSIG		
267	TC4210VD	Not relevant to ATS-QSIG		
268	TC5000UA	Yes		
269	TC5200UB	Yes		
270	TC5210UC	Yes		
271	TC5210UD	Not relevant to ATS-QSIG		
272	TC5210UE	Not relevant to ATS-QSIG		
273	TC5210UF	Not relevant to ATS-QSIG		
274	TC5210UG	Not relevant to ATS-QSIG		
275	TC5210UH	Yes		

No.	ATS Reference	Selected and run?	Verdict (Pass/Fail/ Inconc)	Observations
276	TC521OUI	Not relevant to ATS-QSIG		
277	TC5210UJ	Yes		

Number of:	IUT configured as A
Test Cases:	277
Relevant Test Cases selected:	128
Test Cases unselected:	149
PASS results:	
FAIL results:	
Inconclusive results	

ANNEX F

PICS DEFINITION FOR ATS-QSIG BASIC CALL TRANSIT CONFIGURATION (PICS_TC.F)

About Transit configuration	
Is the implementation a Transit PINX ?	YES
About Transit Counter	
Transit Counter functionality ?	YES
Sending of Transit Counter in a SETUP message ?	YES
About Party Category	
Party Category functionality ?	NO
About Overlap Sending	
Overlap sending procedures implemented ?	NO

ANNEX G

PIXIT DEFINITION FOR ATS-QSIG BASIC CALL TRANSIT CONFIGURATION (PIXIT_TC.F)

PIXIT submenu for the Transit configuration

BOOLEAN variables for selection

Transit PINX gen. TC if not received from Prec. ?	YES
In-band tone or an. to Prec. in TCC_Await_Digits ?	NO
In-band tone or an. to Prec. in TCC_Aw._Add_Digits ?	NO
In-band tone or an. to Prec. in TCC_Overlap ?	NO
In-band tone or an. to Prec. in TCC_Inc._Call_Pr. ?	NO
In-band tone or an. to Prec. in TCC_Tr._Call_Pr. ?	NO
In-band tone or an. to Prec. in TCC_Call_Alerting ?	NO
PROGRESS with tone & an. in TCC_Call_Active ?	NO

Test Suite general parameters

Valid channel number for tests	1
Non existent channel number	4
Complete Bearer Capability IE	0403A092AA
Max. Transit Counter acceptable for transit	10
Duration of tone and ann. for transit PINX (sec.)	0

Numbering Plan parameters

CDPN complete for the IUT for rout. X->Y	-
Num. not compl. for the IUT for rout. X->Y avail.?	NO
CDPN not compl. for the IUT for rout. X->Y ?	-
Addit. dig. to tsp_TR_Rnum for not compl. numb ?	NO
Addit. dig. to tsp_TR_Rnum for not compl. numb	
Addit. dig. to tsp_TR_Rnum for compl. numb ?	NO
Addit. dig. to tsp_TR_Rnum for compl. numb	

More about numbering plan (See Note 1)

Numb. that can be rout. with addit.digits X->Y ?	NO
Numb. that can be rout. with addit. digits X->Y	n/a
Addit. dig. to tsp_TR_Rnum for not compl. numb ?	NO
Addit. dig. to tsp_TR_Rnum for not compl. numb	n/a
Addit. dig. to tsp_TR_Rnum for compl. numb ?	NO
Addit. dig. to tsp_TR_Rnum for compl. numb	n/a
CDPN that can be routed from X to Y	7007893**a**3**b**3**c**3**d**3**e**3**f**

Full Calling Party Number 6C07893**G**3**H**3**J**3**K**3**L**3**M**
(see Note 2)

Note 1: The CDPN is defined above as abcdef. The VCX should be programmed to accept calls from and make calls to this number through ATS-QSIG interface card Y within the VCX. Calls made from the PT502 tester will be routed by the VCX from ATS-QSIG interface card X to ATS-QSIG interface card Y.

Note 2: The Calling Party Number (CGPN) is defined above as GHJKLM. The VCX should be programmed to accept calls from and make calls to this number through one of the ATS-QSIG interface cards within the VCX. . The PT502 tester will be connected to the ATS-QSIG interface card within the VCX shall have the same number.

ANNEX H

PROTOCOL CONFORMANCE TEST REPORT (PCTR) FOR LAYER 3 BASIC CALL TRANSIT CONFIGURATION (PSS1_C.L)

The layer 3 Transit Call test suite to be run against the ATS-QSIG implementation. A total of 47 test cases should be selected by PICS and PIXIT statements within the Eurocontrol conformance tester as being relevant to ATS-QSIG layer 3 Transit Call protocol. The test cases are defined in document EN 300 805-1.

No.	ATS Reference	Selected and run?	Verdict (Pass/Fail/ Inconc)	Observations
1	TC3000LA	Yes		
2	TC3111NK	Yes		
3	TC3111NW	Yes		
4	TC3200LH	Not relevant to ATS-QSIG		
5	TC3200LJ	Not relevant to ATS-QSIG		
6	TC3210LB	Yes		
7	TC3210LC	Yes		
8	TC3210LE	Not relevant to ATS-QSIG		
9	TC3210LF	Not relevant to ATS-QSIG		
10	TC3210LG	Not relevant to ATS-QSIG		
11	TC3210LI	Not relevant to ATS-QSIG		
12	TC3210LK	Not relevant to ATS-QSIG		
13	TC3210LL	Not relevant to ATS-QSIG		
14	TC3210LM	Not relevant to ATS-QSIG		
15	TC3210LN	Not relevant to ATS-QSIG		
16	TC3210LP	Not relevant to ATS-QSIG		
17	TC3210LQ	Not relevant to ATS-QSIG		
18	TC3210LR	Not relevant to ATS-QSIG		
19	TC3210LS	Not relevant to ATS-QSIG		
20	TC3210LT	Not relevant to ATS-QSIG		
21	TC3210LU	Yes		
22	TC3210LV	Yes		
23	TC3210LW	Yes		
24	TC3210LX	Not relevant to ATS-QSIG		
25	TC3210LY	Yes		
26	TC3210LZ	Not relevant to ATS-QSIG		
27	TC3210MA	Not relevant to ATS-QSIG		
28	TC3210MB	Yes		
29	TC3210MC	Not relevant to ATS-QSIG		

No.	ATS Reference	Selected and run?	Verdict (Pass/Fail/ Inconc)	Observations
30	TC3210MD	Yes		
31	TC3210ME	Not relevant to ATS-QSIG		
32	TC3210MF	Yes		
33	TC3210MG	Yes		
34	TC3210MH	Yes		
35	TC3210MJ	Yes		
36	TC3210ML	Yes		
37	TC3210ON	Yes		
38	TC3210OP	Yes		
39	TC3210OS	Yes		
40	TC3210OU	Not relevant to ATS-QSIG		
41	TC3210OV	Yes		
42	TC3210OW	Yes		
43	TC3210OX	Yes		
44	TC3210OY	Not relevant to ATS-QSIG		
45	TC3210OZ	Not relevant to ATS-QSIG		
46	TC3210PA	Yes		
47	TC3210PB	Yes		
48	TC3210PC	Yes		
49	TC3210PD	Not relevant to ATS-QSIG		
50	TC3210PE	Not relevant to ATS-QSIG		
51	TC3210PF	Yes		
52	TC3210PG	Yes		
53	TC3210PH	Yes		
54	TC3210PI	Not relevant to ATS-QSIG		
55	TC3210PJ	Not relevant to ATS-QSIG		
56	TC3210PK	Not relevant to ATS-QSIG		
57	TC3210PL	Not relevant to ATS-QSIG		
58	TC3210PM	Not relevant to ATS-QSIG		
59	TC3210PY	Not relevant to ATS-QSIG		
60	TC3210PZ	Not relevant to ATS-QSIG		
61	TC3210QA	Not relevant to ATS-QSIG		
62	TC3210QB	Not relevant to ATS-QSIG		
63	TC3210QC	Not relevant to ATS-QSIG		

No.	ATS Reference	Selected and run?	Verdict (Pass/Fail/ Inconc)	Observations
64	TC3210QD	Not relevant to ATS-QSIG		
65	TC3210QE	Not relevant to ATS-QSIG		
66	TC3210QI	Yes		
67	TC3210QJ	Yes		
68	TC3210QK	Yes		
69	TC3210QL	Yes		
70	TC3210RL	Not relevant to ATS-QSIG		
71	TC3210RM	Not relevant to ATS-QSIG		
72	TC3211NB	Not relevant to ATS-QSIG		
73	TC3211NC	Not relevant to ATS-QSIG		
74	TC3211ND	Not relevant to ATS-QSIG		
75	TC3211NE	Yes		
76	TC3211NF	Not relevant to ATS-QSIG		
77	TC3211NG	Yes		
78	TC3211NH	Not relevant to ATS-QSIG		
79	TC3211NI	Yes		
80	TC3211NJ	Yes		
81	TC3211NL	Not relevant to ATS-QSIG		
82	TC3211NM	Yes		
83	TC3211NN	Yes		
84	TC3211NO	Yes		
85	TC3211NP	Not relevant to ATS-QSIG		
86	TC3211NQ	Yes		
87	TC3211NR	Yes		
88	TC3211NS	Yes		
89	TC3211NV	Yes		
90	TC3211NX	Yes		
91	TC3211NY	Yes		
92	TC3211NZ	Yes		
93	TC3211OA	Yes		
94	TC3211OC	Not relevant to ATS-QSIG		

Layer 3 Transit call test suite result summary

Number of:	
Test Cases:	94
Relevant Test Cases selected:	47
Test Cases unselected:	47
Test Case Pass results:	
Test Case Fail results:	
Test Case Inconclusive results	

ANNEX I

PICS DEFINITION FOR ATS-QSIG GENERIC FUNCTIONAL PROTOCOL (GFP) FOR MONO CONFIGURATION (PICS_GFP)

PICS & PIXIT menu on PT500 for test suite GFP		(Mono Configuration)	
PICS ref. ETS 300 239 2nd edition (1995) Annex A, 300 172 3rd Annex A -- PIXIT ref. ETS 300 806-2 (1998) Annex A			
PICS menu			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
Sending of STATUS ENQUIRY impl. 172 A14	PC_BC_A14	172 A14	N
Overlap receiving procedures impl. 172 B9	PC_BC_B9	172 B9	N
RESTART for All Channels impl. 172 H1	PC_BC_H1	172 H1	Y
Term. Or Ori. or Inc. Gat. or Outg. Gat. 239 A7	PC_GFP_A7	239 A7	Y
Transit functionality supported 239 A10	PC_GFP_A10	239 A10	N
CISC procedures implemented 239 C1	PC_GFP_C1	239 C1	N
IUT -> terminating PINX for CISCs 239 C6	PC_GFP_C6	239 C6	N
Sending of TC as a CISC implemented 239 L5	PC_GFP_L5	239 L5	N

ANNEX J

PIXIT DEFINITION FOR ATS-QSIG GENERIC FUNCTIONAL PROTOCOL (GFP) FOR MONO CONFIGURATION (PIXIT_GFP)

PICS & PIXIT menu on PT500 for test suite GFP		(Mono Configuration)	
PICS ref. ETS 300 239 2nd edition (1995) Annex A, 300 172 3rd Annex A -- PIXIT ref. ETS 300 806-2 (1998) Annex A			
PIXIT menu			
Call Independent Signalling Connection Submenu 1			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
tsp_CISC_Facility1 available GFP_PIXIT A7/1	CO_CISC_Facility1	A7/1	
tsp_CISC_Facility1 GFP_PIXIT A7/1 < 79 char	tsp_CISC_Facility1	A7/1	
tsp_CISC_Facility2 available GFP_PIXIT A7/2	CO_CISC_Facility2	A7/2	
tsp_CISC_Facility2 GFP_PIXIT A7/2 < 79 char	tsp_CISC_Facility2	A7/2	
tsp_CISC_Facility3 available GFP_PIXIT A7/3	CO_CISC_Facility3	A7/3	
tsp_CISC_Facility3 GFP_PIXIT A7/3 < 79 char	tsp_CISC_Facility3	A7/3	
Call Independent Signalling Connection Submenu 2			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
tsp_TR_CISCnum GFP_PIXIT A1/1	tsp_TR_CISCnum	A1/1	
tsp_CISC_TR_NRnum available GFP_PIXIT A1/2	CO_CISC_TR_NRnum	A1/2	
tsp_CISC_TR_NRnum GFP_PIXIT A1/2	tsp_CISC_TR_NRnum	A1/2	
tsp_CISC_TR_INVnum available GFP_PIXIT A1/3	CO_CISC_TR_INVnum	A1/3	
tsp_CISC_TR_INVnum GFP_PIXIT A1/3	tsp_CISC_TR_INVnum	A1/3	
tsp_CISCnum GFP_PIXIT A1/4	tsp_CISCnum	A1/4	
tsp_CISCnumASN1 GFP_PIXIT A1/4	tsp_CISCnumASN1	A1/4	
Length of tsp_CISCnumASN1 (octets)	PX_CISCnumASN1_length		
Length of tsp_CISCnumASN1 + 8 (octets)	PX_CISCnumASN1_length_tot2		
Call Independent Signalling Connection Submenu 3			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
Sending RESTART GFP_PIXIT A5/1	PX_CISC_REST	A5/1	
Retransmit SETUP GFP_PIXIT A6/1	PX_CISC_SET_RETR	A6/1	
State 8 poss. for CISC GFP_PIXIT A2/1	PX_CISC_S8	A2/1	
State 9 poss. for CISC GFP_PIXIT A2/2	PX_CISC_S9	A2/2	
STATUS ENQ. in <3> GFP_PIXIT A3/2	PX_CISC_S3_iSTQ	A3/2	
STATUS ENQ. in <9> GFP_PIXIT A3/3	PX_CISC_S9_iSTQ	A3/3	
STATUS ENQ. in <10> GFP_PIXIT A3/4	PX_CISC_S10_iSTQ	A3/4	
RELEASE in <10> GFP_PIXIT A3/1	PX_CISC_S10_iREL	A3/1	
T303 for CISC GFP_PIXIT A4/1	PX_CISC_T303	A4/1	
T310 for CISC GFP_PIXIT A4/3	PX_CISC_T310	A4/3	

T313 for CISC GFP_PIXIT A4/5	PX_CISC_T313	A4/5	
Basic Call Parameters Submenu			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
ST. ENQ. on DL_EST_CONF BC_PIXIT A22/1	PX_STQ_onDLestCON	A22/1	N
ST. ENQ. on unrecog. BC_PIXIT A22/2	PX_STQ_onUNREC	A22/2	N
ST. ENQ. retransmission BC_PIXIT A20/1	PX_STQ_retr	A20/1	N
Impl. Clearing <8> BC_PIXIT A4/6	PX_S8_iCLEAR	A4/6	N
Impl. Clearing <10> BC_PIXIT A4/8	PX_S10_iCLEAR	A4/8	Y
IUT unst. <7> -> CONNECT BC_PIXIT A8/1	PX_UN_S7_CON	A8/1	N
IUT unst. <9> -> ALERTING BC_PIXIT A6/1	PX_UN_S9_ALE	A6/1	Y
IUT unst. <9> -> CONNECT BC_PIXIT A8/2	PX_UN_S9_CON	A8/2	N
Bearer Capability IE BC_PIXIT A1/6	tsp_Bcap	A1/6	0403A092AA
INV number and NFE ASN1 encoding Submenu			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
tsp_INVnumASN1 BC_PIXIT A2/5CE	tsp_INVnumASN1	A2/5CE	
A5090A0103120433323431			
Length of tsp_INVnumASN1 (octets)	PX_INVnumASN1_length		11
Length of tsp_INVnumASN1 + 8 (octets)	PX_INVnumASN1_length_tot2		19
Length of tsp_INVnumASN1 + 23 (octets)	PX_INVnumASN1_length_tot1		34
tsp_NFEnum GFP_PIXIT A8/1	tsp_NFEnum	A8/1	
A50B0A01031206333439353031			
Length of tsp_NFEnum (octets)	PX_NFEnum_length		13
Length of tsp_NFEnum + 8 (octets)	PX_NFEnum_length_tot2		21
Length of tsp_NFEnum + 23 (octets)	PX_NFEnum_length_tot1		36
Call Related Signalling submenu			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
tsp_CR_Facility1 available GFP_PIXIT A8/2	CO_CR_Facility1	A8/2	Y
tsp_CR_Facility1 GFP_PIXIT A8/2 < 79 char	tsp_CR_Facility1	A8/2	
1C1A9FAA0D800101820101A3058003313233A10802010102012C0500			
tsp_CR_Facility2 available GFP_PIXIT A8/3	CO_CR_Facility2	A8/3	Y
tsp_CR_Facility2 GFP_PIXIT A8/3 < 79 char	tsp_CR_Facility2	A8/3	
1C139FAA06800101820101A10802010102012C0500			
Valid number coded as CDPN BC_PIXIT A2/1CDE	tsp_Cnum	A2/1CDE	700789333439353031
Valid channel number for tests BC_PIXIT A1/4	tsp_Echnum	A1/4	1
CDPN -> routed from X to Y BC_PIXIT A2/3BCDE	tsp_TR_Fnum	A2/3BCDE	700789333339323232
Max. Transit counter for transit BC_PIXIT A16/1	tsp_TR_Tclimit	A16/1	10
Duration of T310 (sec.) GFP_PIXIT A4/4	tsp_T310	A4/4	120

ANNEX K

PROTOCOL CONFORMANCE TEST REPORT (PCTR) FOR LAYER 3 GENERIC FUNCTIONAL PROTOCOL MONO CONFIGURATION (GFP_PA.L)

No.	ATS Reference	Selected and Run for Mono?	Verdict	Observations
1	TC2009E	Yes		
2	TC2010E	Yes		
3	TC2013e	Yes		
4	TC2019E	Yes		
5	TC2022E	Yes		
6	TC2023E	Yes		
7	TC2030e	Yes		
8	TC2031e	Yes		
9	TC2052E	Not relevant to ATS-QSIG		
10	TC2053E	Not relevant to ATS-QSIG		
11	TC2055E	Not relevant to ATS-QSIG		
12	TC2060E	Not relevant to ATS-QSIG		
13	TC2061E	Not relevant to ATS-QSIG		
14	TC2063E	Not relevant to ATS-QSIG		
15	TC2064E	Not relevant to ATS-QSIG		
16	TC2065E	Not relevant to ATS-QSIG		
17	TC2066E	Not relevant to ATS-QSIG		
18	TC2075e	Not relevant to ATS-QSIG		
19	TC2081E	Not relevant to ATS-QSIG		
20	TC2083E	Not relevant to ATS-QSIG		
21	TC2084E	Not relevant to ATS-QSIG		
22	TC2089E	Not relevant to ATS-QSIG		
23	TC2091E	Not relevant to ATS-QSIG		
24	TC2093E	Not relevant to ATS-QSIG		
25	TC2094E	Not relevant to ATS-QSIG		
26	TC2099E	Not relevant to ATS-QSIG		
27	TC2102E	Not relevant to ATS-QSIG		
28	TC2103E	Not relevant to ATS-QSIG		
29	TC2105E	Not relevant to ATS-QSIG		
30	TC2110E	Not relevant to ATS-QSIG		
31	TC2113E	Not relevant to ATS-QSIG		
32	TC2114E	Not relevant to ATS-QSIG		
33	TC2115E	Not relevant to ATS-QSIG		
34	TC2117E	Not relevant to ATS-QSIG		
35	TC2118E	Not relevant to ATS-QSIG		
36	TC2119E	Not relevant to ATS-QSIG		
37	TC2121E	Not relevant to ATS-QSIG		
38	TC2123E	Not relevant to ATS-QSIG		
39	TC2124E	Not relevant to ATS-QSIG		
40	TC2126E	Not relevant to ATS-QSIG		
41	TC2129E	Not relevant to ATS-QSIG		
42	TC2131E	Not relevant to ATS-QSIG		
43	TC2132E	Not relevant to ATS-QSIG		

No.	ATS Reference	Selected and Run for Mono?	Verdict	Observations
44	TC2133E	Not relevant to ATS-QSIG		
45	TC2136E	Not relevant to ATS-QSIG		
46	TC2137E	Not relevant to ATS-QSIG		
47	TC2142E	Not relevant to ATS-QSIG		
48	TC2143E	Not relevant to ATS-QSIG		
49	TC2158E	Not relevant to ATS-QSIG		
50	TC2161e	Not relevant to ATS-QSIG		
51	TC2163e	Not relevant to ATS-QSIG		
52	TC2186E	Yes		
53	TC2187E	Yes		
54	TC2188E	Yes		
55	TC2192E	Yes		
56	TC2200E	Yes		
57	TC2201E	Not relevant to ATS-QSIG		
58	TC2211E	Yes		
59	TC2212E	Not relevant to ATS-QSIG		
60	TC2215E	Not relevant to ATS-QSIG		
61	TC2219E	Not relevant to ATS-QSIG		
62	TC2220E	Not relevant to ATS-QSIG		
63	TC2221E	Not relevant to ATS-QSIG		
64	TC2237e	Not relevant to ATS-QSIG		
65	TC2238e	Not relevant to ATS-QSIG		
66	TC2250E	Not relevant to ATS-QSIG		
67	TC2252E	Yes		
68	TC3007e	Yes		
69	TC3008e	Yes		
70	TC3009e	Yes		
71	TC3010e	Yes		
72	TC3011e	Yes		
73	TC3012e	Yes		
74	TC3019E	Yes		
75	TC3020E	Yes		
76	TC3033e	Not relevant to ATS-QSIG		
77	TC3044E	Not relevant to ATS-QSIG		
78	TC3054e	Not relevant to ATS-QSIG		
79	TC3056e	Not relevant to ATS-QSIG		
80	TC3057e	Not relevant to ATS-QSIG		
81	TC3058e	Not relevant to ATS-QSIG		
82	TC3059e	Not relevant to ATS-QSIG		
83	TC3060e	Not relevant to ATS-QSIG		

Mono-configuration

Number of:	
Test Cases:	239
Relevant Test Cases selected:	23
Test Cases unselected:	216
Test Case Pass results:	
Test Case Fail results:	
Test Case Inconclusive results	

ANNEX L

PICS DEFINITION FOR ATS-QSIG GENERIC FUNCTIONAL PROTOCOL (GFP) FOR TRANSIT CONFIGURATION (PICS_GFP)

PICS menu on PT500 for test suite GFP		(Transit Configuration)	
PICS ref. ETS 300 239 2nd edition (1995) Annex A, 300 172 3rd Annex A -- PIXIT ref. ETS 300 806-2 (1998) Annex A			
PICS menu			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
Sending of STATUS ENQUIRY impl. 172 A14	PC_BC_A14	172 A14	N
Overlap receiving procedures impl. 172 B9	PC_BC_B9	172 B9	N
RESTART for All Channels impl. 172 H1	PC_BC_H1	172 H1	Y
Term. or Ori. or Inc. Gat. or Outg. Gat. 239 A7	PC_GFP_A7	239 A7	Y
Transit functionality supported 239 A10	PC_GFP_A10	239 A10	Y
CISC procedures implemented 239 C1	PC_GFP_C1	239 C1	N
IUT -> terminating PINX for CISCs 239 C6	PC_GFP_C6	239 C6	N
Sending of TC as a CISC implemented 239 L5	PC_GFP_L5	239 L5	N

ANNEX M

PIXIT DEFINITION FOR ATS-QSIG GENERIC FUNCTIONAL PROTOCOL (GFP) FOR TRANSIT CONFIGURATION (PIXIT_GFP)

PIXIT menu on PT500 for test suite GFP		(Transit Configuration)	
PICS ref. ETS 300 239 2nd edition (1995) Annex A, 300 172 3rd Annex A -- PIXIT ref. ETS 300 806-2 (1998) Annex A			
PIXIT menu			
Call Independent Signalling Connection Submenu 1			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
tsp_CISC_Facility1 available GFP_PIXIT A7/1	CO_CISC_Facility1	A7/1	
tsp_CISC_Facility1 GFP_PIXIT A7/1 < 79 char	tsp_CISC_Facility1	A7/1	
tsp_CISC_Facility2 available GFP_PIXIT A7/2	CO_CISC_Facility2	A7/2	
tsp_CISC_Facility2 GFP_PIXIT A7/2 < 79 char	tsp_CISC_Facility2	A7/2	
tsp_CISC_Facility3 available GFP_PIXIT A7/3	CO_CISC_Facility3	A7/3	
tsp_CISC_Facility3 GFP_PIXIT A7/3 < 79 char	tsp_CISC_Facility3	A7/3	
Call Independent Signalling Connection Submenu 2			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
tsp_TR_CISCnum GFP_PIXIT A1/1	tsp_TR_CISCnum	A1/1	
tsp_CISC_TR_NRnum available GFP_PIXIT A1/2	CO_CISC_TR_NRnum	A1/2	
tsp_CISC_TR_NRnum GFP_PIXIT A1/2	tsp_CISC_TR_NRnum	A1/2	
tsp_CISC_TR_INVnum available GFP_PIXIT A1/3	CO_CISC_TR_INVnum	A1/3	
tsp_CISC_TR_INVnum GFP_PIXIT A1/3	tsp_CISC_TR_INVnum	A1/3	
tsp_CISCnum GFP_PIXIT A1/4	tsp_CISCnum	A1/4	
tsp_CISCnumASN1 GFP_PIXIT A1/4	tsp_CISCnumASN1	A1/4	
Length of tsp_CISCnumASN1 (octets)	PX_CISCnumASN1_length		
Length of tsp_CISCnumASN1 + 8 (octets)	PX_CISCnumASN1_length_tot2		
Call Independent Signalling Connection Submenu 3			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
Sending RESTART GFP_PIXIT A5/1	PX_CISC_REST	A5/1	
Retransmit SETUP GFP_PIXIT A6/1	PX_CISC_SET_RETR	A6/1	
State 8 poss. for CISC GFP_PIXIT A2/1	PX_CISC_S8	A2/1	
State 9 poss. for CISC GFP_PIXIT A2/2	PX_CISC_S9	A2/2	
STATUS ENQ. in <3> GFP_PIXIT A3/2	PX_CISC_S3_iSTQ	A3/2	
STATUS ENQ. in <9> GFP_PIXIT A3/3	PX_CISC_S9_iSTQ	A3/3	
STATUS ENQ. in <10> GFP_PIXIT A3/4	PX_CISC_S10_iSTQ	A3/4	
RELEASE in <10> GFP_PIXIT A3/1	PX_CISC_S10_iREL	A3/1	
T303 for CISC GFP_PIXIT A4/1	PX_CISC_T303	A4/1	
T310 for CISC GFP_PIXIT A4/3	PX_CISC_T310	A4/3	
T313 for CISC GFP_PIXIT A4/5	PX_CISC_T313	A4/5	

Basic Call Parameters Submenu			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
ST. ENQ. on DL_EST_CONF BC_PIXIT A22/1	PX_STQ_onDLestCON	A22/1	N
ST. ENQ. on unrecog. BC_PIXIT A22/2	PX_STQ_onUNREC	A22/2	N
ST. ENQ. retransmission BC_PIXIT A20/1	PX_STQ_retr	A20/1	N
Impl. Clearing <8> BC_PIXIT A4/6	PX_S8_iCLEAR	A4/6	N
Impl. Clearing <10> BC_PIXIT A4/8	PX_S10_iCLEAR	A4/8	Y
IUT unst. <7> -> CONNECT BC_PIXIT A8/1	PX_UN_S7_CON	A8/1	N
IUT unst. <9> -> ALERTING BC_PIXIT A6/1	PX_UN_S9_ALE	A6/1	Y
IUT unst. <9> -> CONNECT BC_PIXIT A8/2	PX_UN_S9_CON	A8/2	N
Bearer Capability IE BC_PIXIT A1/6	tsp_Bcap	A1/6	0403A092AA
INV number and NFE ASN1 encoding Submenu			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
tsp_INVnumASN1 BC_PIXIT A2/5CE	tsp_INVnumASN1	A2/5CE	
A5090A0103120433323431			
Length of tsp_INVnumASN1 (octets)	PX_INVnumASN1_length		11
Length of tsp_INVnumASN1 + 8 (octets)	PX_INVnumASN1_length_tot2		19
Length of tsp_INVnumASN1 + 23 (octets)	PX_INVnumASN1_length_tot1		34
tsp_NFEnum GFP_PIXIT A8/1	tsp_NFEnum	A8/1	
A50B0A01031206333439353031			
Length of tsp_NFEnum (octets)	PX_NFEnum_length		13
Length of tsp_NFEnum + 8 (octets)	PX_NFEnum_length_tot2		21
Length of tsp_NFEnum + 23 (octets)	PX_NFEnum_length_tot1		36
Call Related Signalling submenu			
Definition	**Parameter**	**PICS & PIXIT ref.**	**Y/N/V**
tsp_CR_Facility1 available GFP_PIXIT A8/2	CO_CR_Facility1	A8/2	Y
tsp_CR_Facility1 GFP_PIXIT A8/2 < 79 char	tsp_CR_Facility1	A8/2	
1C1A9FAA0D800101820101A3058003313233A10802010102012C0500			
tsp_CR_Facility2 available GFP_PIXIT A8/3	CO_CR_Facility2	A8/3	Y
tsp_CR_Facility2 GFP_PIXIT A8/3 < 79 char	tsp_CR_Facility2	A8/3	
1C139FAA06800101820101A10802010102012C0500			
Valid number coded as CDPN BC_PIXIT A2/1CDE	tsp_Cnum	A2/1CDE	700789333439353031
Valid channel number for tests BC_PIXIT A1/4	tsp_Echnum	A1/4	1
CDPN -> routed from X to Y BC_PIXIT A2/3BCDE	tsp_TR_Fnum	A2/3BCDE	700789333339323232
Max. Transit counter for transit BC_PIXIT A16/1	tsp_TR_Tclimit	A16/1	10
Duration of T310 (sec.) GFP_PIXIT A4/4	tsp_T310	A4/4	120

ANNEX N

PROTOCOL CONFORMANCE TEST REPORT (PCTR) FOR LAYER 3 GENERIC FUNCTIONAL PROTOCOL TRANSIT CONFIGURATION (GFP_PA.L)

The layer 3 Generic Functional Protocol test suite configured for its Transit configuration and run against the ATS-QSIG implementation. A total of 49 test cases are selected by PICS and PIXIT statements within the Eurocontrol conformance tester as being relevant to ATS-QSIG GFP Transit Call protocol. The test cases are defined in document EN 300 806-1.

No.	ATS Reference	Selected and Run for Transit?	Verdict (Pass/Fail / Inconc)	Observations
1	TC1068t	Yes		
2	TC1069t	Yes		
3	TC1070t	Yes		
4	TC1071t	Yes		
5	TC1075t	Not relevant to ATS-QSIG		
6	TC2008t	Yes		
7	TC2009T	Yes		
8	TC2010T	Yes		
9	TC2019T	Yes		
10	TC2021t	Yes		
11	TC2022T	Yes		
12	TC2023T	Yes		
13	TC2041t	Yes		
14	TC2043t	Not relevant to ATS-QSIG		
15	TC2045b	Not relevant to ATS-QSIG		
16	TC2046t	Not relevant to ATS-QSIG		
17	TC2047t	Not relevant to ATS-QSIG		
18	TC2048t	Not relevant to ATS-QSIG		
19	TC2050t	Not relevant to ATS-QSIG		
20	TC2051t	Not relevant to ATS-QSIG		
21	TC2052T	Not relevant to ATS-QSIG		
22	TC2053T	Not relevant to ATS-QSIG		
23	TC2055T	Not relevant to ATS-QSIG		
24	TC2059t	Not relevant to ATS-QSIG		
25	TC2060T	Not relevant to ATS-QSIG		
26	TC2061T	Not relevant to ATS-QSIG		
27	TC2062t	Not relevant to ATS-QSIG		
28	TC2063T	Not relevant to ATS-QSIG		
29	TC2064T	Not relevant to ATS-QSIG		
30	TC2065T	Not relevant to ATS-QSIG		
31	TC2066T	Not relevant to ATS-QSIG		
32	TC2072t	Not relevant to ATS-QSIG		
33	TC2079b	Not relevant to ATS-QSIG		
34	TC2080t	Not relevant to ATS-QSIG		
35	TC2081T	Not relevant to ATS-QSIG		
36	TC2082t	Not relevant to ATS-QSIG		
37	TC2083T	Not relevant to ATS-QSIG		
38	TC2084T	Not relevant to ATS-QSIG		
39	TC2085t	Not relevant to ATS-QSIG		
40	TC2086b	Not relevant to ATS-QSIG		

No.	ATS Reference	Selected and Run for Transit?	Verdict (Pass/Fail / Inconc)	Observations
41	TC2087t	Not relevant to ATS-QSIG		
42	TC2088t	Not relevant to ATS-QSIG		
43	TC2089T	Not relevant to ATS-QSIG		
44	TC2090b	Not relevant to ATS-QSIG		
45	TC2092t	Not relevant to ATS-QSIG		
46	TC2093T	Not relevant to ATS-QSIG		
47	TC2094T	Not relevant to ATS-QSIG		
48	TC2095b	Not relevant to ATS-QSIG		
49	TC2096t	Not relevant to ATS-QSIG		
50	TC2097t	Not relevant to ATS-QSIG		
51	TC2098t	Not relevant to ATS-QSIG		
52	TC2099T	Not relevant to ATS-QSIG		
53	TC2100b	Not relevant to ATS-QSIG		
54	TC2101t	Not relevant to ATS-QSIG		
55	TC2102T	Not relevant to ATS-QSIG		
56	TC2103T	Not relevant to ATS-QSIG		
57	TC2104t	Not relevant to ATS-QSIG		
58	TC2105T	Not relevant to ATS-QSIG		
59	TC2106t	Not relevant to ATS-QSIG		
60	TC2107t	Not relevant to ATS-QSIG		
61	TC2110T	Not relevant to ATS-QSIG		
62	TC2111t	Not relevant to ATS-QSIG		
63	TC2112t	Not relevant to ATS-QSIG		
64	TC2113T	Not relevant to ATS-QSIG		
65	TC2114T	Not relevant to ATS-QSIG		
66	TC2115T	Not relevant to ATS-QSIG		
67	TC2116t	Not relevant to ATS-QSIG		
68	TC2117T	Not relevant to ATS-QSIG		
69	TC2118T	Not relevant to ATS-QSIG		
70	TC2119T	Not relevant to ATS-QSIG		
71	TC2120t	Not relevant to ATS-QSIG		
72	TC2121T	Not relevant to ATS-QSIG		
73	TC2122t	Not relevant to ATS-QSIG		
74	TC2123T	Not relevant to ATS-QSIG		
75	TC2124T	Not relevant to ATS-QSIG		
76	TC2125t	Not relevant to ATS-QSIG		
77	TC2126T	Not relevant to ATS-QSIG		
78	TC2127t	Not relevant to ATS-QSIG		
79	TC2128t	Not relevant to ATS-QSIG		
80	TC2129T	Not relevant to ATS-QSIG		
81	TC2130t	Not relevant to ATS-QSIG		
82	TC2131T	Not relevant to ATS-QSIG		
83	TC2132T	Not relevant to ATS-QSIG		
84	TC2133T	Not relevant to ATS-QSIG		
85	TC2134t	Not relevant to ATS-QSIG		

No.	ATS Reference	Selected and Run for Transit?	Verdict (Pass/Fail / Inconc)	Observations
86	TC2135t	Not relevant to ATS-QSIG		
87	TC2136T	Not relevant to ATS-QSIG		
88	TC2137T	Not relevant to ATS-QSIG		
89	TC2142T	Not relevant to ATS-QSIG		
90	TC2143T	Not relevant to ATS-QSIG		
91	TC2147t	Not relevant to ATS-QSIG		
92	TC2148t	Not relevant to ATS-QSIG		
93	TC2149t	Not relevant to ATS-QSIG		
94	TC2150t	Not relevant to ATS-QSIG		
95	TC2151t	Not relevant to ATS-QSIG		
96	TC2154t	Not relevant to ATS-QSIG		
97	TC2155t	Not relevant to ATS-QSIG		
98	TC2158T	Not relevant to ATS-QSIG		
99	TC2161e	Not relevant to ATS-QSIG		
100	TC2163e	Not relevant to ATS-QSIG		
101	TC2176t	Yes		
102	TC2177t	Yes		
103	TC2178t	Yes		
104	TC2186T	Yes		
105	TC2187T	Yes		
106	TC2188T	Yes		
107	TC2189t	Yes		
108	TC2190t	Yes		
109	TC2191t	Yes		
110	TC2192T	Yes		
111	TC2200T	Yes		
112	TC2201T	Not relevant to ATS-QSIG		
113	TC2211T	Yes		
114	TC2212T	Not relevant to ATS-QSIG		
115	TC2214t	Not relevant to ATS-QSIG		
116	TC2215T	Not relevant to ATS-QSIG		
117	TC2219T	Not relevant to ATS-QSIG		
118	TC2220T	Not relevant to ATS-QSIG		
119	TC2221T	Not relevant to ATS-QSIG		
120	TC2250T	Not relevant to ATS-QSIG		
121	TC2252T	Yes		
122	TC2253t	Yes		
123	TC3001t	Yes		
124	TC3002t	Yes		
125	TC3003t	Yes		
126	TC3004t	Yes		
127	TC3005t	Yes		
128	TC3006t	Yes		
129	TC3013t	Yes		
130	TC3016t	Yes		

No.	ATS Reference	Selected and Run for Transit?	Verdict (Pass/Fail / Inconc)	Observations
131	TC3017t	Yes		
132	TC3019T	Yes		
133	TC3020T	Yes		
134	TC3022t	Not relevant to ATS-QSIG		
135	TC3023t	Not relevant to ATS-QSIG		
136	TC3024t	Not relevant to ATS-QSIG		
137	TC3025t	Not relevant to ATS-QSIG		
138	TC3026t	Not relevant to ATS-QSIG		
139	TC3027t	Not relevant to ATS-QSIG		
140	TC3028t	Not relevant to ATS-QSIG		
141	TC3029t	Not relevant to ATS-QSIG		
142	TC3032t	Not relevant to ATS-QSIG		
143	TC3035t	Yes		
144	TC3036t	Yes		
145	TC3037t	Yes		
146	TC3038t	Yes		
147	TC3039t	Yes		
148	TC3040t	Yes		
149	TC3041t	Yes		
150	TC3042t	Yes		
151	TC3043t	Yes		
152	TC3044T	Not relevant to ATS-QSIG		
153	TC3045t	Not relevant to ATS-QSIG		
154	TC3046t	Not relevant to ATS-QSIG		
155	TC3047t	Not relevant to ATS-QSIG		
156	TC3048t	Not relevant to ATS-QSIG		
157	TC3049t	Not relevant to ATS-QSIG		
158	TC3050t	Not relevant to ATS-QSIG		
159	TC3051t	Not relevant to ATS-QSIG		
160	TC3052t	Not relevant to ATS-QSIG		
161	TC3053t	Not relevant to ATS-QSIG		
162	TC3069t	Yes		
163	TC3070t	Yes		
164	TC3071t	Yes		
165	TC3072t	Not relevant to ATS-QSIG		
166	TC3073t	Not relevant to ATS-QSIG		

GFP Test suite - Transit-configuration result summary

Number of:	
Test Cases:	239
Relevant Test Cases selected:	49
Test Cases unselected:	190
Test Case Pass results:	
Test Case Fail results:	
Test Case Inconclusive results	

ANNEX P– REFERENCES

For the purposes of this document, the following references apply:

1 ECMA-312 ed.3/EN 301-846: Private Integrated Services Network (PISN) – Profile Standard for use of PSS1 (QSIG) in Air Traffic Services Networks.

2 ECMA-264 ed.3: Private Integrated Services Network (PISN) – Inter Exchange Signalling Protocol - Call Priority Interruption and Call Priority Interruption Protection Supplementary Services (International Standard ISO/IEC 15992)

3 ECMA-203 ed.4: Private Integrated Services Network (PISN) - Inter-Exchange Signalling Protocol - Call Intrusion Supplementary Service (International Standard ISO/IEC 14846)

4 ECMA-225 ed.2: Private Integrated Services Network (PISN) – Inter-Exchange Signalling Protocol - Transit Counter -Additional Network Feature (International Standard ISO/IEC 15056)

5 ITU-T Recommendation G.703: "General aspects of digital transmission systems- Terminal equipments physical/electrical characteristics of hierarchical digital interfaces". (1998)

6 ITU-T Recommendation G.728: "Coding of speech at 16kbit/s using low-delay code excited linear prediction (LD-CELP)" (1992)

7 Eurocontrol: Technical requirements specification for an ATS-QSIG test instrument; (2004)

8 ETSI standard EN 300 804-1: Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Circuit mode basic services; Data Link Layer (DLL); Part 1: Test Suite Structure and Test Purposes (TSS & TP) (1998)

9 ETSI standard EN 300 804-2: Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Circuit mode basic services; Data Link Layer (DLL); Part 2: Abstract Test Suite (ATS) specification (1998)

10 ETSI standard EN 300 805-1: Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Circuit mode basic services; Network Layer (NL); Part 1: Test Suite Structure and Test Purposes (TSS & TP) (1998)

11 ETSI standard EN 300 805-2: Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Circuit mode basic services; Network Layer (NL); Part 2: Abstract Test Suite (ATS) specification (1998)

12 ETSI standard EN 300 806-1: Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Generic Functional Protocol from the support of supplementary services; Part 1: Test Suite Structure and Test Purposes (TSS & TP) (1998)

13 ETSI standard EN 300 806-2: Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Generic Functional Protocol from the support of supplementary services; Part 2: Abstract Test Suite (ATS) specification (1998)

14 ECMA 253: Private Integrated Services Network (PISN) - Mapping Functions for the Employment of 64 kbit/s Circuit Mode Connections with 16 kbit/s Sub-Multiplexing (International Standard ISO/IEC 17310)

15 ETSI standard EN 300 290: Business TeleCommunications (BTC); 64 kbit/s digital unrestricted leased line with octet integrity (D64U); Terminal equipment interface (1994)

16 ETSI standard EN 300 290 Amd.1: Business TeleCommunications (BTC); 64 kbit/s digital unrestricted leased line with octet integrity (D64U); Terminal equipment interface (1995)

ANNEX Q– ABBREVIATIONS

For the purposes of this document, the following abbreviations apply:

AGVN	ATS Ground Voice Network
AIS	Alarm Indication Sequence (all 1's)
ANSP	Air Navigation Service Provider
ATC	Air Traffic Control
ATS	Air Traffic Services
ATS QSIG	Q-reference point signalling (PSS1)
CICL	Call Intrusion Capability Level
CIPL	Call Intrusion Protection Level
CPICL	Call Priority Interruption Capability Level
CPIPL	Call Priority Interruption Protection Level
CWP	Controller Working Position
DA	Direct Access
ECMA	An international industry association dedicated to the standardisation of information and communication systems
EN	European Norme
ETSI	European Telecommunications Standards Institute
GW	Gateway
IA	Instantaneous Access
ICCVC	Instantaneous Controller-Controller Voice Communication
IDA	Indirect Access
ITU-T	International Telecommunication Union Telecommunication Standardization Sector
LD-CELP	Low Delay-Code Excited Linear Prediction
MFC	Multi Frequency Compelled
MOS	Mean Opinion Score
QSIG	Q-reference point SIGnalling system (PSS1)
PSS1	Private Signalling System No. 1 (QSIG)
PSTN	Public Switched Telephone Network
QoS	Quality of Service
QSIG	Signalling at the "Q" reference point
SC	Simultaneous Calls
SDH	Synchronous Digital Hierarchy
SS	Supplementary Service
VCX	Voice Communication System