OVERVIEW

With D2001™, Aethra® intends to answer the problems which occur working on ISDN Basic Rate lines. Thanks to its using simplicity due to a very intuitive GUI (Graphic User Interface), D2001™ makes extremely easy installing and troubleshooting operations also for ones who have little knowledge about ISDN lines.

Its advanced design, the protective holster and the compact and ergonomic structure, allow an optimal use of the device in every type operation.

The D2001™ presents a graphic interface common to the whole test equipments family of new generation made by Aethra® so, it is possible the use of the entire equipment range as the navigation procedures through the various menu remain unchanged. That easy navigation, is also due to the bright, back-lit and high resolution display and to the zoom feature which allows to highlight all the useful information.

The features PREDEFINED TESTS and HISTORY, allow respectively the management of personalized test setup and to recall the results of each test performed. This simplify hugely the technician daily tasks by avoiding possible setup errors or subsequent analysis of the results obtained.

All the information necessary to verify the line status and the possible presence of troubles on the line, is now within a button’s reach, thanks to the immediate access to Smart Status™ feature.

The access to such a feature is always available also during the test in progress, allowing so to have always under control monitoring over layer 1, 2 and 3, alarms, errors, channel configurations and the test settings, as well as the device status itself.

FEATURES AT A GLANCE

- ISDN lines trouble-shooter essential for installing operations
- Predefined test set-ups to save time on site
- Possibility to save test results for later analysis
- ETSI Euro-ISDN standard network interfaces 2B1Q and 4B3T (different ordering codes)
- Onboard multi protocol analysis including full frames decoding
- Includes PC108 for Windows™ software for powerful analysis and remote management
- Onboard multi language GUI
- In field upgradable firmware
The device captures and decodes both in real time and off-line the main communication protocols over D channel. The onboard decoding allows to analyze traces directly at the user’s site. The advanced analysis through the PC software issued with the device, helps to solve also more complex problems regarding ISDN.

The feature is available both as high impedance monitor and simulator.

- D channel monitor
- E-DSS1,1TR6,X.25,VN4,Q.SIG,DASS2, DPNSS, CorNet
- Capturing filters
- Statistics information
- Communication protocol monitor and audio in NT1 mode

**MONITOR**

**X.25**

D2001™ is able to realize an X.25/X.31 connection over D channel and verify the quality of the line. The statistics help to check out the real band of the connection and possible net congestion problems.

- D channel X.25/X.31 support
- DTE and DCE simulation
- Programmable transmission throughput
- Variable data packet length
- Traffic statistics

**MAKE A CALL**

Using the multi-functional make a call test, it is possible to verify the correct operation of the several supplementary services supplied by provider, such as AOC, CF, CLI, 3PTY and all the other common ones. People who work with PABX will find very useful the possibility to generate more calls simultaneously with several numbers and profiles: making the devices setting up faster and very functional.

In order to solve the problems concerning data connection such as video-conferencing, the test makes available the round trip delay of B channel in milliseconds. Integrated microphone and loudspeaker, allow to use the device also as a normal ISDN or POTS™ telephone.

- ETSI supplementary services check and support
- B channel round trip delay
- Multiple profiles (Speech, Data, Fax,…)
- B channel connected to incorporated microphone and loudspeaker or external handset
- ISDN and POTS simulation

**GENERATE TRAFFIC**

This traffic simulation permits to verify the call management capabilities on behalf of the user system (PABX) or of the net. The simulated load, may be programmed by quantity of calls to perform and duration time.

Up to 999 failures are stored reporting causes and times.

- Programmable time between calls
- Maximum 65000 test cycles
- Settable minimum call duration
- Test cycles on connection or B channel notification

**AUTOMATIC TESTS**

This test is used to verify immediately and automatically the ISDN line under measurement. If not otherwise specified, the device automatically generates a series of calls toward a remote user or in autocall mode and verifies the complete status of the line. With the possibility to set up and save a personalized test sequence, the control of several line typologies is easier and more immediate.

- It is possible to set a complete automatic test or set manually layers or services to verify
- Physical layer settings control
- Layer 2 configuration
- Availability status of the several bearer services, teleservices and supplementary services
- Availability check of single B channels
- TEI detection for X.25(X.31) service

**BER**

D2001™ performs quality tests (Bit Error Rate) over ISDN and Leased lines and provides results valuation according to G.821 standard

- G.821
- Multi test pattern
- Test modes End-to-End and Selfcall
- 2B mode
- Bearing physical layer quality test
- Multiple measurement cycles

**MISCELLANEOUS**

The device owns a powerful automatic answering feature to incoming calls. The technician can set such feature in order to be able to filtering acceptable incoming calls, performing a loop over data or a call back toward the calling user.

The device can completely substitutes the NT1, providing the phantom power over S/T Bus so as to verify the user’s terminal (TE)™ correct working.

- Loopbox
- Call back
- Feed power from S/T-Bus or U-Bus
- S/T-Bus wiring test
- NT™ Simulation

1 PC108 for Windows™
2 TT2001
3 AB2001N
TECHNICAL SPECIFICATIONS

TELECOM INTERFACES

- **Basic Rate Access**
  - S/T: ITU-T (CCITT) Rec.I.430, ETS 300 012
  - U: ITU-T (CCITT) Rec.I.430, ETS 300 012 2B1Q (D2001-Q) or 4B3T (D2001-T) TS 102 080
  - **Only one module at a time is available from the factory.**

PROTOCOLS SUPPORTED

- **Simulation mode**
  - EDSS-1, Q.SIG, 1TR6, TN1R6®, VN4, X.25 over D channel, CorNet®-N, -T
- **Monitor mode**
  - EDSS-1, Q.SIG, 1TR6, TN1R6®, VN4, X.25, CorNet®-N, -T
- **Other protocols available by PC**

OPERATING MODES AVAILABLE

- BRI TE-S
- BRI MON-S
- BRI NT-S TT2001 Option
- BRI NT-U
- BRI NT1 TT2001 Option
- BRI S /T-Bus wiring test WT2001 Option
- POTS TE AB2001N Option
- POTS MON AB2001N Option

SMART STATUS™

- **Physical layer**
  - All physical layers relevant information
- **ISDN line**
  - Status ISDN layers 1, 2 and 3 clearly displayed
- **B channels**
  - All B channel relevant information

BACKGROUND MONITOR

- **Modes**
  - High impedance and during simulation
- **Complete protocol analysis on-board**
- **Programmable filters**
  - Independent filters capture and displaying
- **Statistics information**
- **Analysis of results stored into PC**
  - PC108 for Windows™

ADVANCED LOOP-BOX FEATURES

AUTOMATIC ACCESS TEST

- Fully automated Access test
- Supplementary services automatic test
- Programmable test sequence

BIT ERROR RATE TEST

- **Pseudo-Random bit sequences**
  - User definable 2^11-1, 2^15-1, 2^23-1, 16 bits octet
- **Error Injection**
  - User selectable, manual, automatic, single

GENERATE TRAFFIC

- **Number of cycles**
  - Up to 65535
- **Number of parallel calls**
  - Up to 2

X.25 OVER D CHANNEL

- **Modes**
  - DTE, DCE

HISTORY AND PREDEFINED TESTS FEATURES

- Saving and recalling of 10 different setup and results for each kind of test

CONNECTORS

- **S/T Basic Access interface**
  - RJ45 (ISO 8877)
- **U Basic Access interface**
  - RJ45 (ISO 8877)
- **RS232**
  - Mini - DIN 4 (ISO 4902)
- **Handset**
  - 4 wires RJ9
- **Power input**
  - External AC/DC adapter 4 wires

SIMULATION MODES
### ENVIRONMENTAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Weight, with battery</th>
<th>≈ 500 gr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions, with holster (mm)</td>
<td>100 (w) x 180 (l) x 50 (d)</td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>Battery Type</td>
<td>Rechargeable, Ni-MH.</td>
</tr>
<tr>
<td></td>
<td>Battery life</td>
<td>≈ 6 hours, @ 25°C, LCD back-lit off, without power from S/T-Bus or U-Bus</td>
</tr>
<tr>
<td></td>
<td>External AC/DC adapter</td>
<td>115/230Vac ±10% @ 50/60Hz</td>
</tr>
</tbody>
</table>

### TEMPERATURE

| Storage/Transport | -40°C to +70°C |
| Operating, nominal | -5°C to +45°C |
| Operating, limits | -10°C to +55°C |
| Humidity, non-condensing | ≤ 93% RH @ 40°C |
| | ≤ 70% RH @ 55°C |
| User’s Safety Aspects | EN 61010-1, EN 60950, EN 41003 |
| EMC Aspects | EN 55022, EN 55024, EN 61000-3-2 / -3-3 |
| CE Marking | Class B (residential devices) |

### MISCELLANEOUS

| LCD display | 320x200 Graphic display wide bright and back-lit, with Zoom function |
| Internal microphone & loudspeaker |
| Upgradable firmware |

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