



# NETBRICKS-Analyzer

## Data Sheet

### V5-Analyzer, ISDN-Analyzer, X25-Analyzer

a single software tool designed, marketed and supported by **NETBRICKS**, provides a graphical user interface, easy-to-use and native Windows® (Windows 95/98/NT4/2000/XP) for analyzing all signaling protocols of a **V5**, **ISDN** or **X25** network.

**NETBRICKS-Analyzer** software can be used in the following mode:

- **On-line monitoring:** for a *real-time analysis* with any frame capture hardware that communicates with the **Analyzer** via the standard TCP/IP Socket networking API. The **Analyzer** software can be used in on-line mode to record events and frames to a file from E1 Links and Communication Channels.

Scalability : the **V5-Analyzer** supports V5.1 and complete V5.2 configuration i.e. 48 communication channels over 16 E1.

Remote access capabilities : the **Analyzer** and the frame capture driver can run in the same PC or the **Analyzer** can communicate to the capture hardware over a TCP/IP Local Area Network (LAN) or via a Dial-Up Networking connection.

Configurable: hardware configuration provisioning can be done by the **Analyzer** via the standard TCP/IP Socket communication API in order to define the link and time slot ID to capture.

- **Off-line analysis:** for a *post-processing analysis* of a previously recorded traffic files. The **Analyzer** software can be used in off-line mode to analyze a traffic trace file in various levels of details and coding formats.

Both mode provides tools to do trouble-shooting of the different protocols implementations and to measure the performance and efficiency of a **V5 network**: V5-Analyzer for the V5 Local exchange to Access Networks communications, and ISDN-Analyzer for monitoring connections from LE to other telecom networks.

## Specifications

- The real-time analysis instantly displays decoded messages but any time you can freeze the display and scroll the flow of messages received (history buffer). Push the play button to resume the real-time mode. The file recording is not affected by this intervention.
- The NETBRICKS *Analyzer* can be used to handle binary traffic flow storage file on the hard disk up to 4 gigabytes! in both on-line and off-line mode. From big storage files use Filter options to separate the traffic of any particular communication channel to a new file.
- Filter options include screening of traffic Source, Layer 1 events, Layer 2 frames and envelope address, Layer 3 messages and address. Filters options can be applied independently on the display window, the history buffer or the recorded file.
- Analyze the real-time traffic or a previously recorded traffic in a multi-window environment: open a new window with the same data but in another level of detail (Layer 1, 2, 3) and/or coding format (Hex, Short, Identified, Identified + value, Complete message) and the *Analyzer* automatically lets you scroll the data synchronously in both windows.
- Use the color table to separate the different communication channel and/or their different protocol layers.
- Check quickly which link is active by looking at the LED display board.
- Ability to get notified or to trigger different kind of actions, such as recording or filtering traffic, when specific data you are looking for has arrived. Trigger a signal to the V5 frame capture hardware to do trouble-shooting of the V5 protocol implementation.
- Export a selected area of decoded messages to an ASCII file.
- Easy plug and play installation and extensive Windows help files for user interfaces and protocols make you directly operational.
- Statistics information about the traffic, real-time or from a file is collected, counting the events for each protocol layer.
- Easy management of recorded traffic files: write a description about the file content and save it inside the recorded file.
- Measure the performance of your network: the *Traffic Monitor* panel, shows the user-defined events throughput for each protocol layer.

## A wide range of applications

Using **NETBRICKS-Analyzer** means **saving research and development cost, shortening time in network installation** and enjoying a high level of protocol analysis flexibility and product support.

## TECHNICAL FEATURES

### Supported protocols:

#### V5-Analyzer:

- V5.1 according to ETS 300 324-1
  - Both LAPV5-EF with frame relay and LAPV5-DL protocols.
  - PSTN Signaling Protocol and layer 3 multiplexing (PSTN).
  - Control Protocol (CONTROL).
- V5.2 according to ETS 300 347-1
  - Link Control Protocol (LINK).
  - Bearer Channel Control Protocol (BCC).
  - Protection Protocol (PROTECTION).

#### ISDN-Analyzer:

- LAPD link layer, ITU-T Q.921
- ISDN Network layer, ITU-T Q.931

#### SS7-Analyzer:

- SS7 MTP signaling link, ITU-T Q.703

#### X25-Analyzer:

- ITU-T X25 with LAPB(8) or LAPD

### NETBRICKS Analyzer user interface

There are the following menus and their respective items:

- File
  - Open Capture
  - Save as...(binary)
  - Save as...(ASCII)
  - Load Configuration
  - Save Configuration
  - Load Filter
  - Save Filter
  - Exit
- Monitor
  - Connection
  - Disconnection
- Markers
  - Goto Marker1
  - Goto Marker2
  - Set Marker1
  - Set Marker2
- Tools
  - Triggers
  - Statistics
  - Traffic Monitor
- Setup
  - Protocol selection
  - Configuration

- Start Recording
  - Stop Recording
  - Pause
  - Play
  - Stop (Play & Record)
  - Display Led panel
  - Display Status bar
- Edit
  - Comments
- Search
  - Find
  - Next
  - Previous
- Filters
  - Display modes
  - Save Settings on Exit
  - Save Settings Now
- Window
  - New window
- Help
  - On-line Help
  - V5 Protocol guide
  - How to use help
  - Register
  - About...

## NETBRICKS-Analyzer screenshots

The screenshot displays the NETBRICKS V5 Analyzer interface. The main window shows a protocol analysis of a frame received on the A16\_LE channel at 03:04.3000. The analysis is structured as follows:

MM:SS.mmmm	Channel name	L	EF	DLCI	CR	Frame	P/F	N(R)	N(S)
03:04.3000	A16_LE	L1							
		L2	BCC	8178	1	INFO	0	3	3
		L3	PD=V5	BCC	ADD=(0004)LE,4		ALLOC		

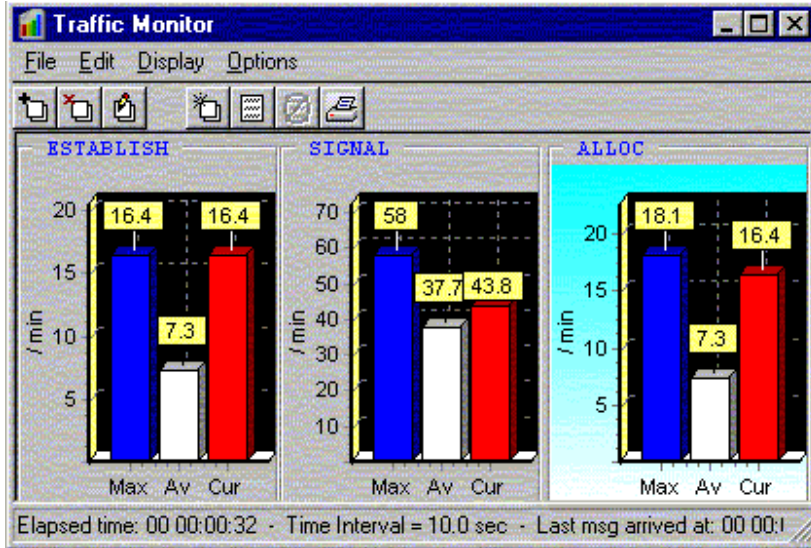
The detailed frame structure is shown below:

```

0 01001000 Protocol Discriminator : 72
1 -0000000 BCC reference number (high) : 0
0----- Source identification : 0
2 --000100 BCC reference number (low) : 4
00----- BCC spare : 00 is default
3 00100000 Message Type : 32
          USER_PORT_ID
0 01000000 Information Element name : User Port Identification
1 00000010 Information Element length : 2
2 00000001 User port ID Value : 1
3 00001011 User port ID Value (lower) : 11
          V5_TS_ID
0 01000010 Information Element name : V5-Time Slot Identification
1 00000010 Information Element length : 2
2 00000001 V5 2048 kbit/s link Identifier : 1
3 ---00100 V5 Time Slot Number : 4
--0----- Override : Override not requested
00----- Spare : 00 is default
  
```

At the bottom of the window, the status bar shows:

- Record file: D:\V5 ana\MonIII\Sources\monitor3.cap
- Configuration: C:\Program Files\NETBRICKS\Analyze
- Messages filtered: 0/300
- Current record number: 177



**Frame acquisition configuration**

Source Capture Server settings

Server Settings

IP Address: 192.115.8.63 Port Address: 3663

Server Scan

Scan Ports 3663 to 3663

Start Stop

IP Address	Host name	Port
192.115.8.2	SERVEUR	3663
192.115.8.63	Local	3663

Cancel OK

**NETBRICKS ISDN Analyser - D:\W5 ana\ISDN-TEST\CALL\_RCV2.cap**

File Edit Search Markers Tools Setup Windows Help

MM:SS.mmmm Channel name L EF DLCI CR Frame P/F N(R) N(S)

51:56.6500 DevId0.A16\_AN L1 Frame received

```

          L2 ISDN      SIG/0      0      INFO      0      2      1
          L3 PD=ISDN   CALL REF=512  SETUP
0 00001000 Protocol Discriminator      : 8
1 00000010 Call reference length        : 2
2 0----- Call reference flag          : Origination side
  -0000010 Call reference value         : 2
3 00000000 Call reference value         : 0
4 00000101 Message Type                : 5
          BEARER CAPABILITY
0 00000100 Information Element name      : Bearer Capability
1 00000011 Information Element length    : 3
2 -00----- Coding Standard             : CCITT standard
  ---00000 Transfer Capability          : Speech
  1----- Extension bit                 : Octet is not continued
3 -00----- Transfer Mode              : Circuit mode
  ---10000 Transfer Rate                : 64 kbits/s
  1----- Extension bit                 : Octet is not continued
4 -01----- layer 1 identification      : 1
  ---00011 User information Layer 1 protocol : CCITT G.711 A-law
  1----- Extension bit                 : Octet is not continued
          CALLED_NB
0 01110000 Information Element name            : Called party number
1 00001001 Information Element length    : 9
2 -000---- Type of number               : Unknown

```

2494551 Messages filtered : 0/4275

