EyeSDN USB-E1

call recording device for ISDN primary rate interface (ISDN30, S2M, PRI)

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1. Technical Data

E1 Interface	ITU Standard G.703/G.704
Connector	2x RJ45, Western Modular
Weight	ca. 50g
Dimensions	76x55x19mm
Power	<150 mA
Tests	LOS, AIS, G.704-Framing, Protocol
Channel	2x (D, B1, B2, B3.......B30)
USB	1.1 and 2.0 (full speed)
USB Socket	USB Type B
LED	4x red/green
Disk space (non-compressed WAV files)	16 KB/s per call and channel
WAV-Formats	A-Law Mono/Stereo, MP3, GSM
Sample Frequency	8000 Hz
Operating Systems	Windows 2000, Windows XP, Windows Server 2003, Windows Vista
Processor Clock per device	2 GHz
Disk Space Software	max 145 MB (depends on installation)
Connection to Telephone System	Point to Point
Device package includes	EyeSDN USB-E1 device, call recording software, manual, USB and ISDN cable

2. LEDs Indicators

ISDN Test and Measurement Device

LEDs	Tests and Errors detected
USB	software active, data transfer, USB error
Status	layer 1, layer 2, layer 3
NT-Signal	LOS, AIS, G.704-Framing
TE-Signal	LOS, AIS, G.704-Framing

3. Usage scenarios

Call Recording
Recording your phone calls offers the possibility to evaluate your conversations retrospectively. Also you can extract import information after the call.

Show your clients proof of your high standards. Convince them of the quality of your call centre by presenting them recordings of successful, professional telephone consultations.

The call centre supervisor can listen in on current calls and perform an on-the-spot evaluation by giving personal, one-to-one support to call centre employees using recorded calls to isolate their weaker points and optimize their interpersonal skills.

All of the 30 B-channels can be recorded by this device at the same time.

ISDN Test and Measurement Device
The EyeSDN USB-E1 device assists you in the detection of ISDN wiring problems. The device can detect errors in the physical layer by providing information about LOS, AIS and G.704-framing.

Protocol Analysis
Network administrators can use the EyeSDN USB-E1 to find misconfiguration of telecommunication switches or terminal endpoints.

For educational purposes you can utilise the device to visualise the practical operation of the network protocols.

Malicious network use can be detected and proven by analysing the trace files generated by the device.

Collection of Call Related Data
The EyeSDN USB-E1 device collects call detailed record (CDR) data for calculation of charge information or measurement of service quality parameters (e.g. number of calls, time from ring to answer or engaged parties). The collected data can be exported to a comma separated list for further processing (e.g. in Excel).

Integration with OEM Software
The open and documented socket interface makes it easy for third parties to use the call recording service in their applications. So the EyeSDN USB-E1 represents a low cost measurement probe for ISDN interface.

4. Call Recording Software
The EyeSDN USB-E1 device records calls and stores these on the hard disk of the connected computer. This process begins automatically as soon as the computer has been started.

The amount of stored call data depends on the respective hard disk and the size of the circular buffer. The size of the circular buffer indicates how much disk space will be used

for call recording. This parameter is individually adjustable. If storage space has reached this size limit old files will be automatically deleted when new ones are stored.

Using the software "Call Browser" you can easily manage the recorded and stored data.

You can sort the list by a specific column in ascending or descending order. The stored calls to be displayed can be selected using a filter expression (post filter). Certain calls can also be deleted or archived.

Either the device records and stores all calls or you determine in advance which calls should or should not be stored (pre-filter).

The calls can be recorded in encrypted format. Only people who know the keyword for decryption have an access to the WAV files.

It is possible to listen to active calls discreetly.

If the computer connected to the EyeSDN USB-E1 is part of a network you can run the Call Browser on a remote computer via an exported share.

5. Protocol Analysis
The EyeSDN USB-E1 is a flexible measurement probe. The HDLC-frames of the D and B channel will be extracted from the bit stream and will be stored in a trace file for a later analysis.

You can use the software Wireshark to decode these communication protocols. So it is possible to interpret Q.921 and Q.931 framing as well as TCP/IP/PPP based data sessions.

If you have trouble with ISDN data calls this device helps you to analyse the PPP-traffic and to find dial-in or other connection problems.