

Computer-based call recording solution for ISDN and analogue telephone lines



EyeSDN USB

Overview of EyeSDN USB-products

Innoventif's call recorder solutions consist of USB-based measuring devices and high-performance software. Connected to a PC or a laptop they form a versatile system that can be used to compile all data on existing telecommunication interfaces.

There is a range of devices on offer, depending on the type of connection you have.

There are products for ISDN lines:

- **EyeSDN USB-S0**
- **EyeSDN USB-E1**
- **EyeSDN USB-4S**
- **EyeSDN USB-4SBx**

There is a device for analogue telephone lines:

- **EyeSDN USB-A2**



Applications of EyeSDN USB devices:

- **For evidence-recording purposes:**
 - In call centers and customer relations offices,
 - In banks and insurance companies,
 - Emergency hotline centers, and
 - Telephone ordering services e.g. taxi offices.
- **Facilitating the recording of information during telephone conversations:**
 - In lawyer's offices or the offices of other freelance professionals,
 - Emergency hotline centers, and
 - In crisis and consultancy hotlines.
- **For quality assurance and optimizing your phone conversations:**
 - In telephone marketing companies,
 - In sales departments,
 - In training courses and seminars for call center employees, and
 - For everyone who has close telephone contacts with his or her clients, and whose business success depends on his or her relationship with those clients.
- **As support during installation of ISDN systems:**
 - For technicians who want a high-performance diagnostic tool to aid installation of ISDN systems for clients.



The legal regulations concerning the recording and storing of telephone conversations differ from country to country. It is therefore recommended that before employing a recording device you inform yourself of the legal position in your country on such matters or contact a lawyer experienced in this area.

Telephone Marketing

It's a situation familiar to anyone who is in close telephone contact with clients: the difficulty of noting and recording everything that's being said on the telephone in order to reconstruct the course of the conversation afterwards.

Show your clients proof of your high standards. Convince them of the quality of your call center by presenting them recordings of successful, professional telephone consultations. You create an effective monitoring system for your business and your clients can rest assured that they are in good hands.

The EyeSDN Call Recorder is also well suited for use in telephone training and in marketing seminars. Calls can be listened into in real time, creating a realistic atmosphere for the participants.



The EyeSDN USB Call Recorder systems help you to:

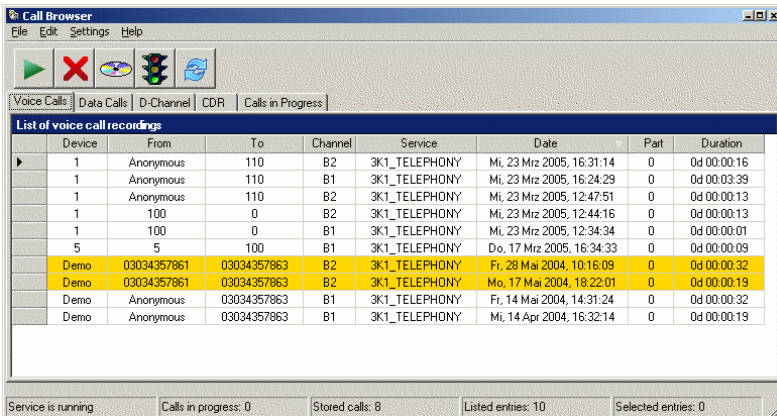
- store important telephone conversations,
- be well prepared for conversations with clients,
- document statements made during telephone calls, and
- optimise the success of your telemarketing.

Management of Recorded Calls

The EyeSDN USB device is connected to an ordinary computer and either a telephone, telephone connection or a telephone system.

Whether the telephone line is analogue or digital, the conversations you have can be recorded automatically and can be evaluated any time you wish. These calls are stored as WAV files and can be played back with an audio player.

The call-recording software "Call Browser" on the support CD enables you to manage the recorded calls easily and to access specific calls quickly.



Screenshot: Call Browser

You can connect multiple or different EyeSDN USB devices to one computer. All of the recorded data can be managed from one software. You can configure each connected EyeSDN USB monitor separately.

Device-specific settings are:

- assigning a logical name to the device,
- changing the WAV format to MP3 or GSM,
- recording only the inbound or outbound channel,
- deactivating the recording of certain data or
- defining recording rules.

Rule-based Recording and Search Functions

Routine call recording means a multitude of stored calls. In order that you can nevertheless find relevant calls quickly and easily, the “Call Browser” program offers a series of comfortable instruments for data management.

These instruments allow you to influence the call recording and data management processes on many levels.

Selective Recording

The filter dialogue allows you to determine which calls or which numbers should be recorded and stored at what times. You define the rules for recording, and these rules can be set differently for each connected device.

Recording one or both Conversing Parties

You can also define the direction in which the conversation is to be recorded. You can decide to record only the party on the incoming line, or on the outgoing line, or both.

Encrypted Recording

Telephone conversations can also be encrypted for storage, allowing only authorized personnel access to the recordings.

Content-Based Search

You have a substantial number of calls recorded and are searching for a particular call, but you can only remember certain words of the conversation and nothing else? No problem – you can search through the recorded calls for specific words using speech recognition, irrespective of the voices of the participants.

Search using Formal Criteria

A successive search of recorded calls according to telephone numbers called, time of day or date of the conversation can also be performed.

Analysis of Call-Detailed Record (CDR)

Call-oriented data are additional details that are attributed to each stored telephone call. These data can be processed and evaluated using a Calculation Programme (e.g. Excel).

The following data are recorded for each call:

- Date and time of the incoming and outgoing calls,
- Duration of the call,
- B channel number,
- Time between first ringing tone and when the call was answered, and
- The causes of interruptions for interrupted calls.



Using the call-oriented data you can assess:

- The telephone charges,
- Determine which extensions are busiest,
- Calculate the average length of the calls and
- See which numbers are called most often.

Analysis of Protocol Data

The EyeSDN USB devices record and store the whole data traffic of the ISDN B and D Channel.

Protocol Analysis

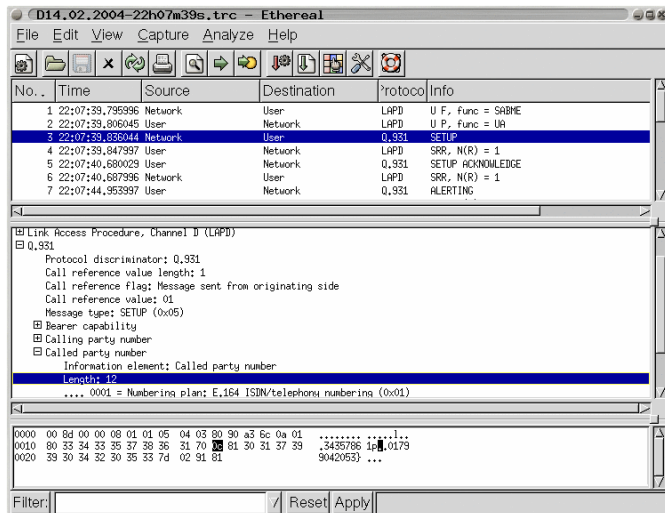
Use D Channel results to analyse the ISDN-protocol layers and find faults that are otherwise difficult to detect. For educational purposes you can utilise the device to visualise the practical operation of the network protocols.

Network Traffic Sniffer

Record and analyse all traffic running through your dial-up PPP link to provide hard evidence for computer crimes (worms, dialer) or provider malfunction. Easy diagnosis of any dial-in problems.

Company Data Protection

Many companies use up-to-date firewalls to protect themselves against digital attacks on their data from foreign sources. In so doing, however, many of them overlook the internal S0 interface and workstations that are equipped with their own ISDN cards. Only a few are aware of the volume of digital data that can slip through this S0 interface and out of the company. An EyeSDN USB-S0 allows you to keep the incoming and outgoing data under control and can thus prevent any misuse before damage is caused.



D Channel Protocol

ISDN Test and Measurement Device

The ISDN measurement devices EyeSDN USB-S0 and EyeSDN USB-E1 help you to detect faults in cabling and configuration of telecommunication equipment.

ISDN Installation

Problems that arise during the installation of telecommunication systems or ISDN devices are often due to the device configuration.

Protocol variants, connector types, the length of extension numbers, service parameters... - there are plenty of settings that can turn a routine installation into a time-consuming chore.

The portable EyeSDN USB-S0 and EyeSDN USB-E1 devices save both your time and your nerves. By using the protocol records and observing the devices' LEDs, it is easy to recognize which settings have not been made properly.

The LEDs deliver the following information:

EyeSDN USB-E1:

- LOS,
- G.704 Framing,
- Synchronisation,
- Layer 2 Activity,
- Presence of Telephone Calls

EyeSDN USB-S0:

- ISDN-Bus Power and Polarity,
- Synchronisation (Layer 1 Activity),
- TE and NT Signals and Polarity,
- Layer 2 Activity,
- Assignment of several B Channel,

Field Use

Thanks to their compact size, the EyeSDN USB-S0 and the EyeSDN USB-E1 devices are well suited to use in the field. The pocket-sized devices can be attached to any laptop and used on-site anywhere.

The Recording and Test System for ISDN30



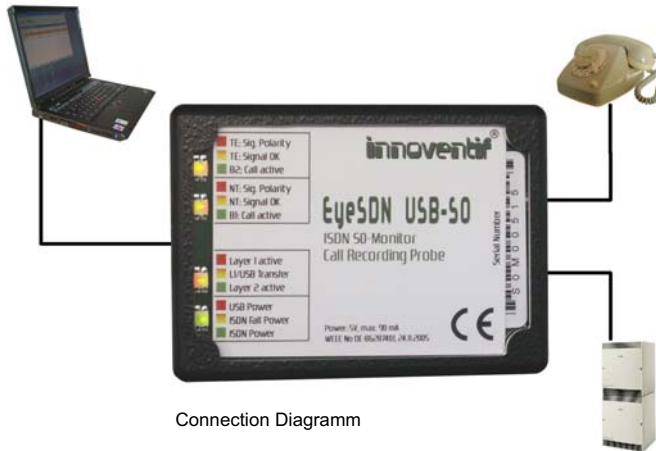
Connection Diagramm

The EyeSDN USB-E1 is the recording and test system designed for ISDN primary rate interfaces. It records the data traffic of up to 30 channels simultaneously. The calls are recorded in WAV format and can be played back using a WAV audio player.

Technical Data

E1 Interface	ITU Standard G.703/G.704
Connectors	2x RJ45 Western Modular
Tests	LOS, AIS, G.704 Framing, Protocol
Channels	2x (D, B1, B2 ... B30)
USB Version	1.1 and 2.0 (full speed)
Disk Space	16 KB/s per call and channel
WAV Formats	Stereo/Mono, A-Law, MP3, GSM
Sample Frequency	8000 Hz
Dimension	76x55x19 mm
Weight	ca. 50g
Power	< 150 mA

The Recording and Test System for ISDN2



Connection Diagramm

The EyeSDN USB-S0 is the recording device for the ISDN basic rate interface. It records all data traffic of both S0 lines simultaneously.

And thanks to both the recording of the B and D channel data and to the devices' LEDs, the EyeSDN USB-S0 is well suited as an ISDN test and measuring device with protocol evaluation.

Technical Data

S0 Interface	ITU Standard I.430
Connectors	2x RJ45 Western Modular
Tests	Polarity, Layer 1 active, Power, Protocol
Channels	2x (D, B1, B2), E, M, A, Q, S
USB Version	1.1 and 2.0 (full speed)
Disk Space	16 KB/s per call and channel
WAV Formats	Stereo/Mono, A-Law, MP3, GSM
Sample Frequency	8000 Hz
Dimension	76x55x19 mm
Weight	ca. 50g
Power	< 90 mA

The Call-Recording Box for 4x ISDN2

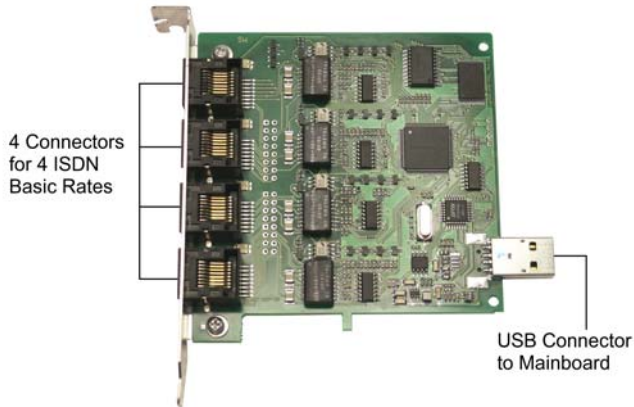


The EyeSDN USB-4SBx is an external device and will be connected to the USB socket of a PC. It records calls and protocol data of up to 4 ISDN2 interfaces simultaneously.

Technical Data

S0 Interface	ITU Standard I.430
Connectors	4x RJ45 Western Modular
Channels	8x (D, B1, B2), E, M, A, Q, S
USB Version	1.1 and 2.0 (full speed)
Disk Space	16 KB/s per call and channel
WAV Formats	Stereo/Mono, A-Law, MP3, GSM
Sample Frequency	8000 Hz
Dimension	120x102x21 mm
Weight	ca. 85g
Power	< 150 mA

The Call-Recording Card for 4x ISDN2



The EyeSDN USB-4S is the internal PC recording card for four basic rate interfaces, with which data traffic of up to 8 S0 lines can be recorded simultaneously. The card is connected using an internal mainboard USB connection, which also supplies the card with power.

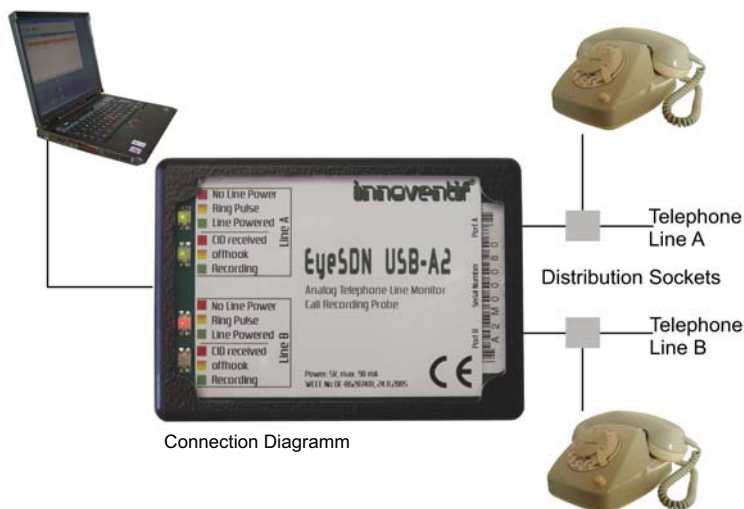
Technical Data

S0 Interface	ITU Standard I.430
Connectors	4x RJ45 Western Modular
Channels	8x (D, B1, B2), E, M, A, Q, S
USB Version	1.1 and 2.0 (full speed)
Disk Space	16 KB/s per call and channel
WAV Formats	Stereo/Mono, A-Law, MP3, GSM
Sample Frequency	8000Hz
Dimension	120x97x13 mm
Weight	ca. 70g
Power	< 150 mA

The Call-Recording Device for analogue Lines

Der EyeSDN USB-A2 is the call-recording device for analogue telephone lines. It records the telephone conversation of up to two analogue links (Line A and/or Line B) simultaneously.

The device for analogue phone lines is able to obtain the number of the party called on outbound calls and the calling party's number on inbound calls by decoding the DTMF and V.23 Modem (CLIP) signalling if present.



Connection Diagramm

Technical Data

Interface	Analogue Interface
Connector	2x RJ11 Western Modular
Tests	Power, Caller ID, Ring Pulse, offhook, Recording
USB Version	1.1 and 2.0 (full speed)
Disk Space	8 KB/s per call
WAV Formats	A-Law Mono, MP3, GSM
Dimension	76x55x19 mm
Weight	ca. 40g
Power	< 90 mA

EyeSDN USB Products and Supplies

EyeSDN USB-S0 Package:

- Recording device for ISDN2 (S0)
- Call-recording Software
- USB cable and ISDN cable
- Manual

EyeSDN USB-E1 Package:

- Recording device for ISDN30 (S2M)
- Call-recording Software
- USB cable and Cat.5 patchcable
- Manual

EyeSDN USB-A2 Package:

- Recording device for analogue telephone lines
- Call-recording Software
- USB cable and 2x analogue cables
- Manual

EyeSDN USB-4S Package:

- Recording device for 4x ISDN2 (S0)
- Call-recording Software
- USB cable and 4x ISDN cables + Y-adaptor
- Manual

EyeSDN USB-4SBx Package:

- Recording box for 4x ISDN2 (S0)
- Call-recording Software
- USB cable and 4x ISDN cables + Y-adaptor
- Manual

EyeSDN USB Products

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