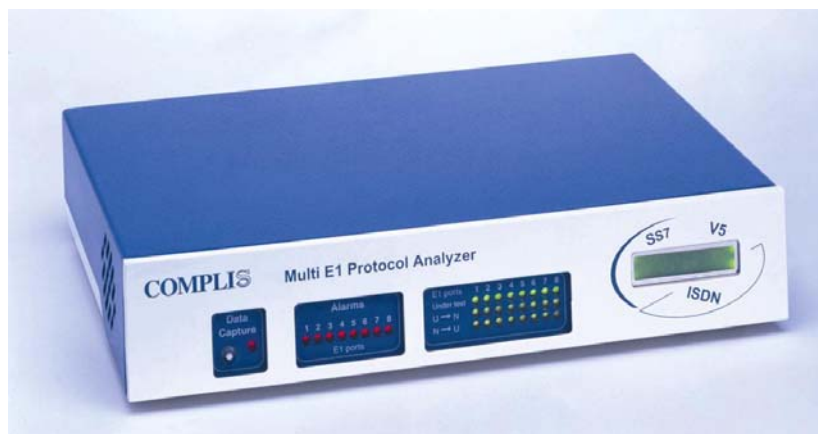


# COMPLIS

## *Multi E1 protocol Analyzer for ISDN, SS#7, V5.X and GSM interfaces*



**COMPLIS** is a Multiport and Multiprotocol analyzer designed for the installation, maintenance and troubleshooting of telecommunication networks and equipment.

**COMPLIS** is a powerful tool for signaling analysis on PCM system based on the European standard E1. Its **eight timeslots** analysis facility makes **COMPLIS** a powerful and versatile tool for **ISDN, SS#7, V5 and GSM** networks maintenance.

Thanks to its integrated Ethernet interface and its **TCP/IP** compliance **COMPLIS** can be let everywhere without any PC and interrogated from a remote site.

### Applications

- Installation, maintenance and troubleshooting of **ISDN** Primary Rate Access and equipment,
- Installation, maintenance and troubleshooting of **V5.1** and **V5.2** access,
- Installation, maintenance and troubleshooting of SS#7 links and equipment,
- Monitoring at the **GSM A<sub>bis</sub>** interface,
- ISDN** Call Data Records (CDR),
- SS#7** Call Data Records (CDR),
- Billing applications.

### Main Functions

- ISDN** Multi-Protocol Analysis (ETSI E-DSS1, VN6, Q.SIG, DPNSS, DASS2, 1TR6, TN1R6),
- SS#7** Protocol Analysis (MTP, SCCP, TUP, ISUP, TCAP, INAP),
- V5.x** monitoring with multi timeslots facility,
- GSM A<sub>bis</sub>** monitoring,
- Call Data Records ,
- Mass storage on hard disk,
- Real Time** and Off Line **Filtering**,
- Management and exporting of results,
- Traffic Analysis** (REGLIS option),

#### WAVETEL

Test & Mesure en Télécommunications / Analyse de trafic WAN et Internet  
Espace du Ter – 13 Bvd Jean Monnet - F-56260 LARMOR PLAGÉ  
Tél. / Phone : +33 (0)2 97 35 36 12 - Fax : +33 (0)2 97 35 36 13 Web :  
[www.wavetel.fr](http://www.wavetel.fr) Email : info@wavetel.fr



Projet Cofinancé par l'union Européenne



## COMPLIS a complete solution for multiple E1 analysis

**COMPLIS** is made of a master probe including all the measurement interfaces and a Windows™ PC software for protocol analysis. The master probe includes a 2 Gbytes hard-disk and an Ethernet card allowing so long term monitoring and remote control of the **COMPLIS** probe.



Rear panel of the COMPLIS probes with the eight line interfaces and the ethernet card for TCP/IP connection

Thanks to its modularity **COMPLIS** is able to capture and decode traffic coming from different locations of the telecommunication network. The following facilities are integrated in the **COMPLIS** offer:

### ➤ ISDN Network and Equipment maintenance and troubleshooting:

**COMPLIS** is able to monitor at the same time up to eight **ISDN Primary Rate Accesses (PRA)**. **COMPLIS** is then a powerful tool for public and private network installation, maintenance and troubleshooting. **COMPLIS** software offers you a full decoding of public and private protocols such as **E-DSS1 (ETSI)**, **VN4/VN6**, **1TR6**, **Q.SIG**, **DPNSS**, **X.25/D** ... Private protocols support makes **COMPLIS** a powerful tool for **PBX** configuration. The **Call Data Records** facility provides a clear synthesis of all communication established on the access.

### ➤ SS#7 Network and Equipment maintenance and troubleshooting:

**COMPLIS** is a cost-effective solution for **SS#7** maintenance. The **COMPLIS** software decodes the main **SS#7** protocols and layers (**MTP**, **SCCP**, **TUP**, **ISUP**, **TCAP**, **INAP**, **SSUTR2**). Layers filters (**FISU**, **LSSU**) are available and help you to focus on the relevant information. **Call Data Records** allow you to identify faulty links.

### ➤ ETSI V5.1 and V5.2 Access Network maintenance:

Thanks to its multi timeslot capability **COMPLIS** is the adequate tool for troubleshooting at the **V5** interfaces. **COMPLIS** allows you to analyze up to eight timeslots on the same PCM link. With the **COMPLIS** software you get a complete understanding of the **V5** events and layers including Control Protocol, **PSTN** and **ISDN** protocols for the **V5.1 interface** and Bearer Channel Connection Protocol, Link Control Protocol and Protection Control protocol for the **V5.2 interface**.

### ➤ GSM A<sub>bis</sub> Monitoring:

**COMPLIS** provides a clear understanding of protocols exchanges between the **Base Transceiver Station (BTS)** and the **Base Station Controller (BSC)** of a **GSM Network**. The **COMPLIS** PC based software decodes the Physical Layer, the data Link layer and the layer 3 Messages and Information elements used for the **BTS** management (**BTSM**) including Radio Resource Management (**RR**), Mobility Management (**MM**) and Call Management (**CM**, **CC**, **SMS** and **SM**).

#### WAVETEL

Test & Mesure en Télécommunications / Analyse de trafic WAN et Internet

Espace du Ter – 13 Bvd Jean Monnet - F-56260 LARMOR PLAGE

Tél. / Phone : +33 (0)2 97 35 36 12 - Fax : +33 (0)2 97 35 36 13 Web :

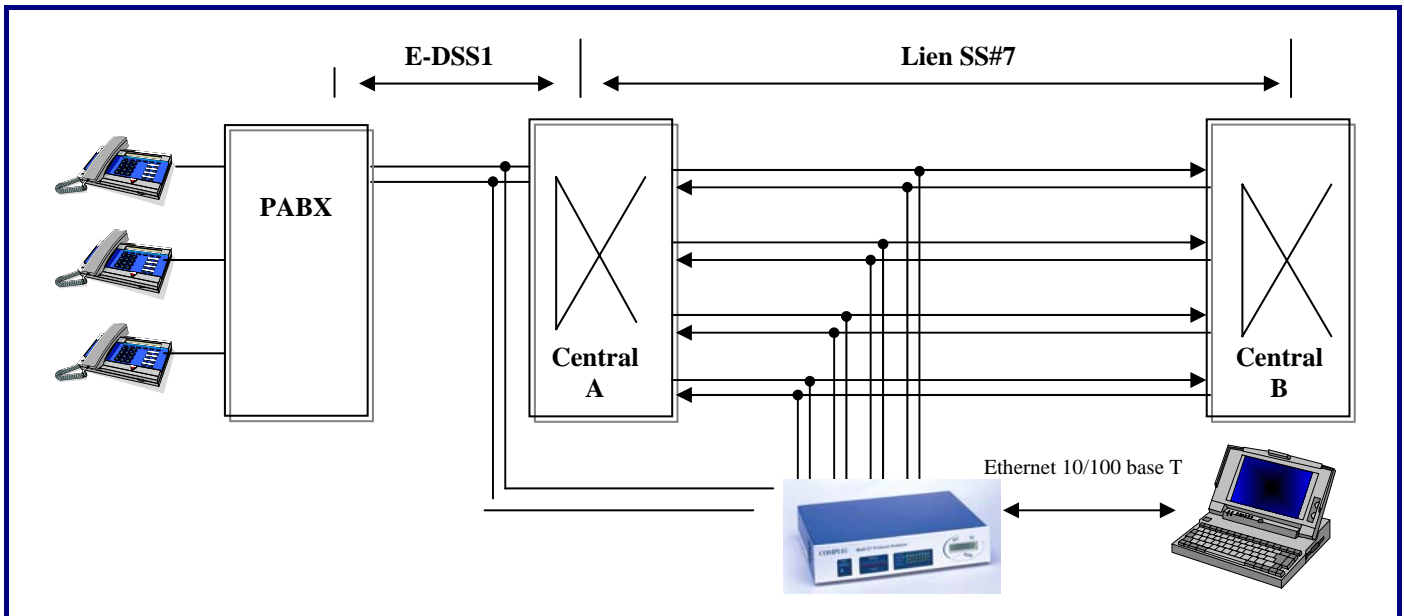
[www.wavetel.fr](http://www.wavetel.fr) Email : [info@wavetel.fr](mailto:info@wavetel.fr)



Projet Cofinancé par l'union Européenne

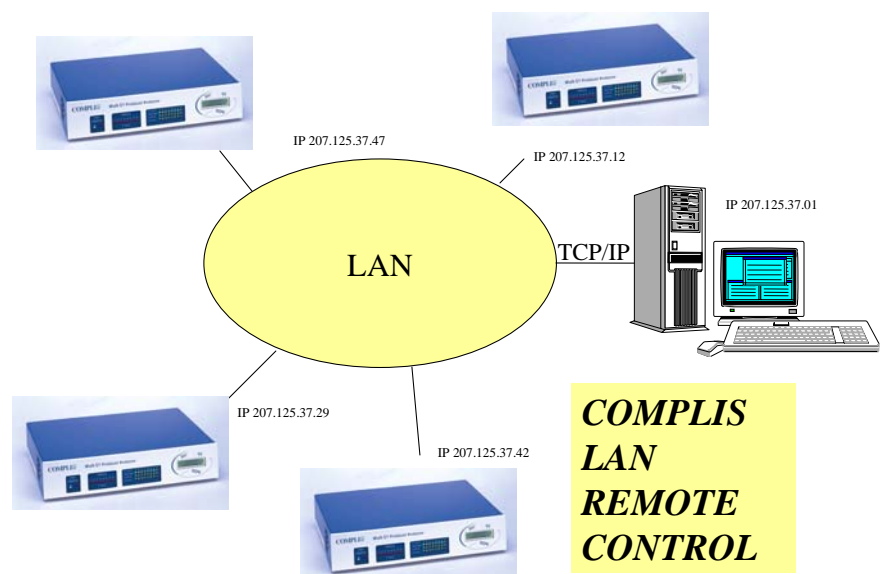
## COMPLIS typical application

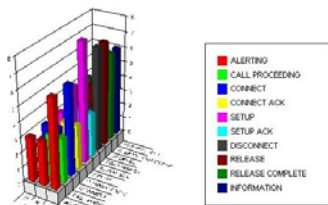
Thanks to its multi-protocols decoding facility **COMPLIS** is the adequate tool for troubleshooting at different interfaces (e.g SS#7 and E-DSS1) allowing so switches and Private Branch Exchanges (PBX) maintenance.



## COMPLIS LAN integration and Remote Control

**COMPLIS** is the right tool for troubleshooting everywhere in the telecommunication network. Thanks to its Ethernet card you can easily get the data from a remote site only by connecting the **COMPLIS** to the Local Area Network. Connection can also be made directly from the PC to the **COMPLIS** without connecting to the LAN.





## Protocol Analysis with ACTW eXpert

### ISDN / SS7 and V5 Protocol Analysis :

Complete decoding of layers 1, 2 et 3 with a wide selection of display formats and user-defined filters

### ISDN / SS7 and V5 Call Data Records :

A clear synthesis of all the telecommunications that occur on one or several ISDN, V5 or SS7 accesses.

**A Pre-header with statistical analysis allows you to detect immediately the release causes of unsuccessful calls and the B channel / CIC used**

### Statistics

Overview of one or several accesses and allows you to detect the presence of specific trouble related messages as for instance : STATUS, REJECT, NOTIFY ... Graphics are user defined and can be exported into you reports.

## Technical Specifications

	COMPLIS LITE	COMPLIS
<b>Capabilities</b>	4 E1 timeslots Monitoring	8 E1 timeslots Monitoring
<b>Electrical</b>		
<b>Connector</b>	4 x RJ-45 & Coax	8 x RJ-45 & Coax.
<b>Impedance</b>	High Impedance, 75 Ω BNC .	High Impedance , 75 Ω BNC.
<b>ISDN - Primary Rate Access (PRA)</b>		
<b>Layer 1</b>	ITU-T Rec I.431, ETS 300 011	
<b>Layer 2</b>	LAP-D, ITU-T Q.921, ETS 300 125	
<b>Layer 3</b>	E-DSS1* (ETSI), Q.931, VN4/VN6*, ITR6, DPNSS, TN1R6, DASS2 N-ISDN, Q.SIG* (ECMA, ISO, ETSI), X.25/D *: Including decoding of supplementary services.	
<b>Filters</b>	Real time and off line: Layers, frames type, TEI, SAPI, information element, addresses, Call Reference, Text Equation editor.	
<b>SS#7 - Signaling System N°7</b>		
<b>MTP (Message Transfer Part)</b>	Q.700 - Q.710	
<b>TUP (Telephone User Part)</b>	Q.721 - Q.725	
<b>TUP French version</b>	SSUTR2 1994	
<b>ISUP (ISDN User part)</b>	Q.761-Q.766	
<b>TCAP (Transaction Control Part)</b>	Q.771-Q.774	
<b>INAP (Intelligent Network Application Part)</b>	Q.1218, ETS 300 374-1	
<b>BT IUP</b>	PNO-ISC/SPEC/004 - PNO-ISC/SPEC/006 - PNO-ISC/INFO/004	
<b>Filters</b>	Layers, FISU, LSSU, MSU, CIC, OPC, DPC, Text....	
<b>V5.X - Access Network</b>		
<b>V5.1</b>	ETS 300 324-1	
<b>V5.2</b>	ETS 300 347-1	
<b>Filters</b>	Layers, Frame type (ISDN, PSTN, BCC Protocol, Control Protocol..), Text	
<b>GSM A<sub>bis</sub></b>		
<b>Standards</b>	ETS GSM 08.56, 08.58, 04.08.	
<b>Filters</b>	Layers, SAPI and text filters.	
<b>Miscellaneous</b>		
<b>PC interface</b>	Ethernet for TCP/IP remote control and RS 232 for IP address setting.	
<b>Weight</b>	2 Kg	
<b>Size</b>	29 x 185 x 60	
<b>Power supply</b>	5 V / 5 A	

WAVETEL

Test & Mesure en Télécommunications / Analyse de trafic WAN et Internet

Espace du Ter - 13 Bvd Jean Monnet - F-56260 LARMOR PLAGÉ

Tél. / Phone : +33 (0)2 97 35 36 12 - Fax : +33 (0)2 97 35 36 13 Web :

[www.wavetel.fr](http://www.wavetel.fr) Email : info@wavetel.fr



Projet Cofinancé par l'Union Européenne