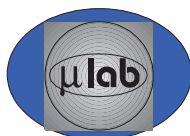


## *Project References*

## **Presentation**

Most of the Systems and Devices included, have been designed for our Customers. Some cases, due to a NDA, the name of the Customer is not showed.



## References

- ◇ QLight System
- ◇ Tmatic System
- ◇ QosMngr System

### - QLight System:

It's a Fluorescent lamps lighting management System It's composed by a Controller, an Interface Board and various Ballasts.

The communication between the Controller and the Interface Board is by power line while the communication between the last one and the various Ballasts is through the DALI standard. Every Ballast is equipped with PFC and dimming capability. Main features are a Power Factor > 0.97 and the flexibility in lighting configuration.

### - Tmatic System:

This System has to be considered as a support to increase the efficiency of the Heating/Cooling Systems. It's composed by a Controller and a Valve Power Board. Main feature is based on management of hydraulic valves that could be installed to radiators or directly to the pipes coming from the distribution box. The Controller manages the time windows and monitors the System status.

### - QosMngr System:

It's a System measuring the QoS for Voip audio. QoS is measured over G.711 and G.729 codecs using both PESQ (Itu P.862) and E-Model (Itu G.107) standards. The System analyzes Voip traffic and applies the algorithms to the audio, so creating report files with measure results. The file could be handled both locally or remotely. The System could even be coupled to a management environment so allowing the configuration through a standard Web-browser by user-friendly pages showing all the configuration and activation choices. The System reveals very useful when it's needed to certify the audio QoS. The System is Linux RHAS-based and developed using open-source libraries, adequately modified, and specifically written code.



## References



### - **GDTD System:**

It's a Traffic Generator for both the SIP and H.323 standards. Gdtd System allows to activate completely configurable test sessions, for number of parties, kind of call, RTP traffic, traffic curves, supplementary services, etc. The configuration is managed through a standard Web-browser by user-friendly pages showing all the configuration and activation choices. The System is Linux RHAS-based and developed using open-source libraries, adequately modified, and specifically written code.

### - **VoipRecorder System:**

It's an Audio Recorder for SIP Traffic. It allows to create an audio database according to the main info that distinguish it such as timestamp, calling party, called party, etc.. The configuration is managed through a standard Web-browser by user-friendly pages showing all the configuration and activation choices. The System reveals very useful when it's needed to keep history of the audio traffic, even for legal reasons. The System is Linux RHAS-based and developed using open-source libraries, adequately modified, and specifically written code.



## References

- ◇ SIP Videotelephony System
- ◇ CTP System
- ◇ Multiservice System

### - Sip Videotelephony System:

Customer: *Urmel S.p.A.*. It's a System including Sip Server/Balancer, Radius Server, Soap Server features other than monitoring, maintenance and Call Data Record generation functions. The System is Linux RHAS-based and developed using open-source libraries, adequately modified, and specifically written code.

### - CTP System:

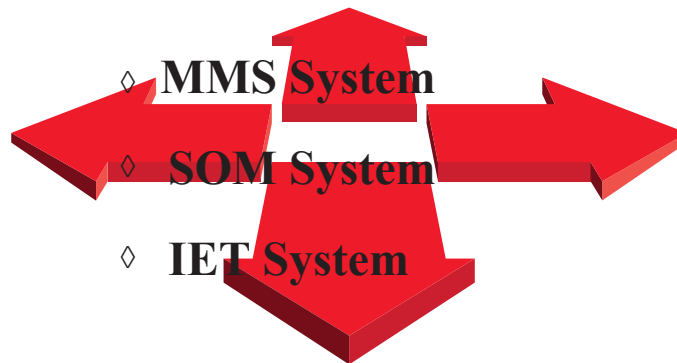
Customer: *Ericsson S.p.a.* and destined to *ASST/Iritel* public services booths, and including Telephony, Videotelephony, G3/G4 Fax and Data Transmission over ISDN. It's developed in 'C' and Assembler languages. The Gui is user-friendly and supported by a touch screen entry mode.

### -Multiservice System:

Customer: *Saritel S.p.a./Urmel S.p.a.* and destined to *Telecom* public services booths, and including Telephony, Videotelephony, G3/G4 Fax and Data Transmission over ISDN. It even detects the tariff messages. It's developed in 'C' and Assembler languages. The Gui is user-friendly and supported by a touch screen entry mode.



## References



### - MMS System:

Customer: *Arma dei Carabinieri* Military Police. The System manages the routing of analog modem data traffic. It's composed by Controller, Router and Modem boards. All the functionalities are both locally or remotely programmable.

### - SOM System:

Customer: *HP Italiana S.p.a.* Destined to the *I.S.P.T. of the Italian Post Department*. The System is intended to certify analog Modems. It's composed by two Racks including an HP9000/serie300 computer, a Spectrum Analyzer, a telephone line Simulator, a Selective Voltmeter, a Digital Oscilloscope, etc., all connected through Hpib interface, and managed by an HPBasic-based Software.

### - IET System:

Customer: *Railway Department* of Napoli. It's intended to acquire and displaying the arrival/departure status. It's composed by an HP150 Computer connected, through an analog modem, to expressly developed data acquisition and visualization hardware boards.



## References

◇ **ISDN Terminal Adapter**

◇ **NT1 - Ericsson**

◇ **x̄NT1 - Urmet**

◇ **x̄NT1 - Mistel**

### - ISDN Terminal Adapter

Customer: *ICET S.p.a.*. Includes Terminal Adapter features such as pppOverIsdn and Mlppp protocols other than Modem modulations up to V.90 standard. The TA even includes Uui management. The ISDN protocol is managed using a protocol stack completely developed in-house.

### - Terminatore NT1 per ISDN:

Customer: *Ericsson S.p.a.* and destined to *Telecom Italia* and compliant to ETSI *standards and ISPT/CSELT* certified. It's based on a Lucent chipset.

### - Terminatore NT1 per ISDN:

Customer: *Urmet S.p.a.* and destined to *Telecom Italia* and compliant to ETSI *standards and ISPT/CSELT* certified. It's based on a Siemens chipset.

### - Terminatore NT1 per ISDN:

Customer: *Mistel S.p.a.* and destined to *Telecom Italia* and compliant to ETSI *standards and ISPT/CSELT* certified. It's based on a Motorola chipset.



## References

- ◇ **CryptoPhone**
- ◇ **ISDN Interception Probe**
- ◇ **PSTN Interception Probe**

### - **CryptoPhone:**

It's a PSTN telephone including a 3DES algorithm sent over a V.32bis modem modulation. An advanced GUI allows to navigates through various Menus by mean of an extended keypad and a graphic display.

### - **ISDN Interception Probe:**

The probe, once inserted at the ISDN user connection at the C.O Switching premise, allows to redirect the data and voice traffic to an hearing center. A wide range of configurations is allowed such as the list of called number to redirect, routing modes, statistical records, debug etc..

### - **PSTN Interception Probe :**

The probe, once inserted at the PSTN user connection at the C.O Switching premise, allows to redirect the data and voice traffic to an hearing center. A wide range of configurations is allowed such as the list of called number to redirect, routing modes, statistical records, debug etc..



## References

◇ Eurocomm Phone

◇ MMS Board

◇ 8Pots Board

### - Eurocomm Phone:

It's a Eurocomm coding based Military Phone. It's customized with features compliant to functionalities included in C.O. equipments of the Customer. An advanced GUI allows to navigates through various Menu by mean of an extended keypad and a graphic display.

### - MMS Board:

It's a board with 8 Csm V.90 modems on-board and managing the PPP, Radius and Dns protocols and intended to be connected to Analog MMS Terminals. The Application is developed under LynxOs Operating System on Freescale PowerPc processor.

### - 8Pots Board:

It's a PSTN Line Card equipped with eight user terminations with Ring Generator and over-voltage protections. A wide range of configurable parameters is allowed.





## References

- ◇ GPS Module
- ◇ Bluetooth Module
- ◇ Tetra Smart Power Supply
- ◇ Camera Controller

### - Modulo GPS:

It's a military field-oriented rugged module power supplied by a vehicular or portable radio equipment it's data connected to. Other than sending Gps standard geographical coordinates it even sends proprietary messages through the NMEA standard. Moreover is equipped with sensors such to detect the "dead-man" condition.

### - Modulo Bluetooth:

It's a military field-oriented rugged module aimed to eliminate the physical link between the safety helmet and the motorcycle on-board radio. The user is allowed to use the on-board radio even at a 100 meters distance. The remote Push-to-Talk is included.

### - Tetra Smart Power Supply:

It's a redundancy power supply System including various alarm monitor (fan block, over-temperature, over and under-voltage, etc.) intended to supply power to Tetra Systems.

### - Camera Controller:

Customer: *Rais '80 S.r.l.*. Composed by a Controller, an audio/video matrix, Motor and Optics Controller, etc.. The System is controlled both locally or remotely through an Rs-232 link.



## References

- ◇ **MicroMessenger Software**
- ◇ **NT1 Test Software**
- ◇ **DSC Modem**
- ◇ **V.21/V.22 Pc Modem**
- ◇ **V.21/V.22 Modem**

### **-Micro Messenger Software:**

It's a Windows Operating System based Software allowing the Videocommunication at very low speed (1200 up to 38400 bps) through serial port both half and full-duplex. It's mainly destined to handle video communication through radio devices. It's even possible to transmit Video/audio/Data simultaneously.

### **-ISDN Test Software:**

It's a Windows Operating System based Software developed using National Instruments Tools and intended to manage testing during manufacturing of ISDN equipment.

### **-Dsc Modem:**

-Customer: *Cimat S.p.a.*. Compliant to Ccir 493/3 standard developed on Double Eurocard format board with proprietary bus.

### **-Modem Board:**

Customer: *Seat S.p.a.* Pc-based board certified by Italian Post Department and compliant to V.21/V.22 standards with AT command set.

### **-Modem Board:**

Customer: *Elettronica S.p.a.*, certified by Italian Post Department and compliant to V.21/V.22 standards with AT command set.



## References

- ◇ Electromedical RF Device
- ◇ ElectroMedical Ultrasound
- ◇ Magnetic Therapy Device

### - Electromedical RF Device

The device allows to radiate Rf pulses to the human body. It's composed by a Panel Pc equipped with Windows CE Operating System, a Custom set of Electronic boards and a Peltier Cell-based cooling system. Due to the presence of an advanced Gui and a Touch Screen, the application allows configuration and activation of the various available functions.

### - Electromedical Ultrasound Device:

The device allows to radiate ultrasound pulses to the human body. It's composed by a Controller Board and a Power Board. Through the alphanumeric display and the keypad it's allowed to configurate and activate the various functions.

### - Magnetic Therapy Device:

The device allows to radiate a magnetic field pulses to the human body. It's composed by a Controller Board and a Power Board. Through the alphanumeric display and the keypad it's allowed to configurate and activate the various functions. Moreover there's a Smart Card management, and it's possible to load therapy parameters through the use of a Card.



## References



At last we can't ignore the countless number of modems designed for our Customers or for our own Brand both for industrial and end-user application.

These devices cover all the Itu standards from V.21 up to V.92 with Correction and Compression MNP 4/5/10 and V.42/V.42bis protocols with At, V.25bis command sets and Fax management.

In this Presentation we have showed just some examples about Projects and Customers that during more than thirty years have counted on Microlab to solve their design and manufacturing problems and that obtained reliable and technologically advanced products at reasonable costs.



*Thank you for your attention!*

