



Elogic Srl unipersonale

## Radio Gateway

v.1.0



### RadioGateway unit

The radio gateway is a unit that allows you to remote audio and serial connections necessary to control the radio equipment via a single Ethernet connection.

The unit in addition to the audio connections (VoIP) and serials also adds a digital interface output with relays and open collector as an option and the opto-isolated inputs for remote control of the site.

As a result of the use of the LAN for the transport of data and signaling is also the realization of a virtual matrix that via a management center allows to control the remote devices from any point of connection to the LAN.

A radio device can be seen and managed from multiple locations.

The copper and fiber optic connection allows you to connect different types of LAN.

The unit has a web server for the complete management and configuration.

A control program on PC-Windows allows you to configure the serial port and manage virtual com.

### Riepilogo caratteristiche:

4 stereo VOIP channel G711.

Every VoIP channel has open collector PTT signal and opto isolated Ready.

4 RS232 channels programmable Async-Sync from 50 to 230400 baud.

4 RS422/RS485 channels with auto enable TX at 2-4 wires, from 50 to 230400 baud.

8 output relays with NA/NC contacts.

8 opto isolated input.

Hub:

2 gate 10/100Mbit copper

1 gate 10/100Mbit ottica

Hardware Options:

8 open collector output.

Software Options:

Agent SNMP for configuration.

Compliant EUROCAE ED-137A.

Management of multiple attendant with management linked to priorities or to PTT.

The system is designed to add the remote control of external devices via WEB interface or SNMP. In practice, on request we develop web pages and / or the relative MIB specific to an apparatus and the driver towards the apparatus in serial.

Then through the WEB configuration pages you can link a TLC / WEB / MIB with one of the serial.



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## Main features:

### Voip G711 stereo:

The audio channels are terminated by audio transformers at 600 Ohm.

The reference signal accepted is 0dBm.

### Client-server automa connection :

In practice, a serial extension over the network. The client connects to the server in automatic mode. The mode is restored at power on.

### Programmable baud rate from 50 to 115200:

are managed all basic speed [50-75-100-150-300-600-1200-2400-4800-9600-19200-28800-38400-57600-115200]

### RTS = TX :

the RTS criteria is used to report the status of TX data automatically without intervention of the software.

### Multiconnection :

more sockets can point to the same physical connection, such as in the case of multiple servers.

### Monitor :

you can open sockets for the monitoring of the TX and RX.

### End-frame-rx delay before transferring the data to the serial interface:

adjustable in four steps.

### Closing connection:

immediate, without transmission queue. The socket connection can follow the connection of the virtual com on PC.

### Integrated software update:

by the same management program you can download software updates.

**Web server:** for browser-based viewing of programming status and to configure the device.

## Characteristics

### Dimensions:

rack standard.

Width 447mm

Depth 207mm

Height 44mm

### Operating Conditions:

Supply 90-240VAC 50Watt

Operating temperature: 0-50C°

### LAN-QoS Switch:

2 Interfaccia LAN Ethernet 10-100MBps auto detect con RJ45

Interfaccia LAN Ethernet 10-100MBps STP ottico.

### Voip:

4 VOIP channel G711, with PTT / Ready on DB15 male connector.

### Seriali:

4 Uart RS232/RS422/RS485 on DB9 male connector DTE.

4 Uart RS422/485 on DB9 female connector [Auto enable in RS485 o RS422Hiz mode].

### Protections:

IC with 15KV ESD protection.

RS422/RS485 lines finished with 120 ohm resistor can be disabled via an internal jumper.

### HDIO:

8 channel relays with dry contact 30VDC 1Amp.

8 optoisolated input.

### Notifications:

LED: Power on – Boot – Bite - 10/100MBit - Link on – TX/RX

LED: TX-RX bicolored on serials

LED Voip channel activity

LED PTT activity

LED Ready activity

### Local Command:

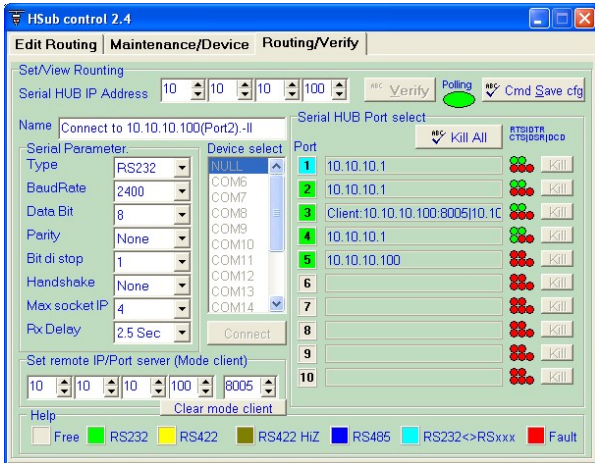


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Supply switch.

**Protocols:**

Proprietary protocol on socket to allow the port management in virtual com mode.

**Screenshot of routing setting and verification.**



Directive 2004/108/CE (Electromagnetic compatibility).

Norm EN61326-1 (Test methods and limits for measurements of immunity for equipment control, measurement, ecc)

CEI EN55022:2009-01 (Conducted and radiated emissions)

CEI EN 60945:2003-11 Test methods and limits for equipment for maritime navigation and radio-communication)

CEI EN 61000-3-2:2007-04 harmonic emissions)

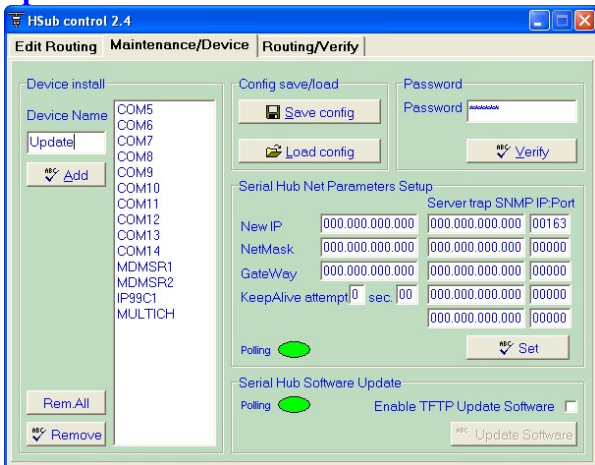
CEI EN 61000-3-3:2009-09 (flickers)

Directive 2006/95/CE of Low Voltage

Norm EN 60950 (Safety for information technology equipment, and more)

European Directive RoHS 2002/95/EC

**Screenshot of IP setup and software update.**



8100 Socket connection with commands hide / show / get.



## Web server-Config

- Main Menu
  - Network Settings
  - Digital in / out
  - Serial Settings
  - Voip Settings
  - Documentation
  - Downloads
  - Reboot
  - Change Password
  - Restore To Default

### Welcome to Red Panel web console

Model Name	Red panel elg_100
MAC address	00:0d:15:00:90:89
Serial No.	1
Firmware Version	1.0

Red panel web console provide the following function groups:

#### Networking Settings

IP address, netmask, gateway, dns, voip's address

#### Digital in / out

Shows digital input status, Manage digital output status

#### Serial Settings

Manage serial parameter, mode, baud rate, data bits, stop bits, parity, rx delay, Shows active connections

#### Voip Settings

Shows voip status, Manage volume, call to sip ip address

#### Reboot

Reboot red panel

#### Change Admin Password

Manage admin password

#### Restore To Default

Restore to default settings



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## Networking Settings

### General

Ip address	<input type="text" value="10.10.10.100"/>
Netmask	<input type="text" value="255.255.255.0"/>
Gateway	<input type="text" value="10.10.10.1"/>
DNS server 1	<input type="text" value="10.10.10.1"/>
DNS server 2	<input type="text"/>

### Voip

channel	ip address	netmask	gateway
Voip 1	<input type="text" value="10.10.10.101"/>	<input type="text" value="255.255.255.0"/>	<input type="text" value="10.10.10.1"/>
Voip 2	<input type="text" value="10.10.10.102"/>	<input type="text" value="255.255.255.0"/>	<input type="text" value="10.10.10.1"/>
Voip 3	<input type="text" value="10.10.10.103"/>	<input type="text" value="255.255.255.0"/>	<input type="text" value="10.10.10.1"/>
Voip 4	<input type="text" value="10.10.10.104"/>	<input type="text" value="255.255.255.0"/>	<input type="text" value="10.10.10.1"/>

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## Digital in / out

### Digital Input

ch 1	ch 2	ch 3	ch 4	ch 5	ch 6	ch 7	ch 8
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Digital Output

ch 1	ch 2	ch 3	ch 4	ch 5	ch 6	ch 7	ch 8	ch 9	ch 10	ch 11	ch 12	ch 13	ch 14	ch 15	ch 16
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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### Serial Settings

port	type	speed	data bits	stop bits	parity	rx delay	n. connections	flow control	clock pol	master clock	auto rts on tx	end sync	mode sync	ip active connections
Port 1	RS232 ASYNC	9600	8	1	None	None	4	None						
Port 2	RS232 ASYNC	9600	8	1	None	None	4	None						
Port 3	RS232 ASYNC	9600	8	1	None	None	4	None						
Port 4	RS232 ASYNC	9600	8	1	None	None	4	None						
Port 5	RS422	19200	8	1	None	None	4	Xon/Xoff						
Port 6	RS422	19200	8	1	None	None	4	Xon/Xoff						
Port 7	RS422	19200	8	1	None	None	4	Xon/Xoff						
Port 8	RS422	19200	8	1	None	None	4	Xon/Xoff						

Save Config

- Main Menu
- Network Settings
- Digital in / out
- Serial Settings
  - Port 1
  - Port 2
  - Port 3
  - Port 4
  - Port 5
  - Port 6
  - Port 7
  - Port 8
- Voip Settings
  - Voip 1
  - Voip 2
  - Voip 3
  - Voip 4
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### Port 1

Mode	RS232 ASYNC
Speed	9600
Data Bits	8
Stop Bits	1
Parity	None
Flow Control	None
Clock Polarity	Normal
Master Clock	Off
Auto RTS on TX	Off
End Sync	Off
Mode Sync	Only CTS
Rx Delay	None
Max. Connections	4
Client	<input type="text"/>

Send

Current Status	
Mode	RS232 ASYNC
Speed	9600
Data Bits	8
Stop Bits	1
Parity	None
Flow Control	None
Clock Pol	
Master Clock	
Auto RTS on TX	
End Sync	
Mode Sync	
Rx Delay	None
Max. Connections	4
Ip Active Connections	



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  - Port 7
  - Port 8
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  - Voip 1**
  - Voip 2
  - Voip 3
  - Voip 4
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## Voip 1

channel	ip address	netmask	status
Voip 1	10.10.10.101	255.255.255.0	No active call.

Call Ip Address sip:

PTT:  off

Ready:  off

Headphone Volume:

## Piedinatura connettori

### Pinout Connectors

- Power connector VDE standard
- LAN connector (RJ45)

PIN	FUNCTION	ELECTRICAL CHARACTERISTICS
1	DATA TRANSMISSION TX+	ETHERNET 10/100 Mbit DATA
2	DATA TRANSMISSION TX-	ETHERNET 10/100 Mbit DATA
3	RECEIVING DATA RX+	ETHERNET 10/100 Mbit DATA
4	NOT USED	
5	NOT USED	
6	RECEIVING DATA RX-	ETHERNET 10/100 Mbit DATA
7	NOT USED	
8	NOT USED	

- Connector SERIAL RS232( n.4 connectors ).  
Type: DB9 male DTE.

PIN	FUNCTION	ELECTRICAL CHARACTERISTICS
1	DCD	Data Carrier Detect
2	RX CONTROL DATA	SERIAL DATA RS 232
3	TX CONTROL DATA	SERIAL DATA RS 232
4	DTR	Data Terminal Ready
5	GND	REFERENCE
6	DSR	Data Set Ready



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<b>7</b>	<b>RTS</b>	<b>Request To send</b>
<b>8</b>	<b>CTS</b>	<b>Clear To Send</b>
<b>9</b>	<b>NOT USED</b>	

- Connector SERIAL RS422/RS485( n.4 connectors ).

Type: DB9 female.

<b>PIN</b>	<b>FUNCTION</b>	<b>ELECTRICAL CHARACTERISTICS</b>
<b>1</b>	<b>NOT USED</b>	
<b>2</b>	<b>NOT USED</b>	
<b>3</b>	<b>NOT USED</b>	
<b>4</b>	<b>NOT USED</b>	
<b>5</b>	<b>GND</b>	<b>REFERENCE</b>
<b>6</b>	<b>TX+</b>	<b>TX a</b>
<b>7</b>	<b>TX-</b>	<b>TX b</b>
<b>8</b>	<b>RX+</b>	<b>RX a</b>
<b>9</b>	<b>RX-</b>	<b>RX b</b>





- **Connettore HDIO IN**

**Function:** Connector for input signals

**Type:** DB25 male

<b>PIN</b>	<b>FUNCTION</b>	<b>ELECTRICAL CHARACTERISTICS</b>
1	IN1-	Negative input optically isolated ( Vf 1.15V 10mA )
2	IN2-	Negative input optically isolated ( Vf 1.15V 10mA )
3	IN3-	Negative input optically isolated ( Vf 1.15V 10mA )
4	IN4-	Negative input optically isolated ( Vf 1.15V 10mA )
5	IN5-	Negative input optically isolated ( Vf 1.15V 10mA )
6	IN6-	Negative input optically isolated ( Vf 1.15V 10mA )
7	IN7-	Negative input optically isolated ( Vf 1.15V 10mA )
8	IN8-	Negative input optically isolated ( Vf 1.15V 10mA )
9	GND	
10	+5VDC	Common reference at +5V available
11	GND	
12	+12VDC	Common reference at +12V available
13	GND	
14	IN1+	Positive input optically isolated ( Vf 1.15V 10mA )
15	IN2+	Positive input optically isolated ( Vf 1.15V 10mA )
16	IN3+	Positive input optically isolated ( Vf 1.15V 10mA )
17	IN4+	Positive input optically isolated ( Vf 1.15V 10mA )
18	IN5+	Positive input optically isolated ( Vf 1.15V 10mA )
19	IN6+	Positive input optically isolated ( Vf 1.15V 10mA )
20	IN7+	Positive input optically isolated ( Vf 1.15V 10mA )
21	IN8+	Positive input optically isolated ( Vf 1.15V 10mA )
22	+5VDC	Comune di riferimento a +5V disponibile
23	GND	
24	+12VDC	Common reference at +12V available
25	GND	



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- **Connector HDIO OUT**

**Function:** Connector for output commands channels 1÷8

**Type:** DB25 male

<b>PIN</b>	<b>FUNCTION</b>	<b>ELECTRICAL CHARACTERISTICS</b>
1	NC1 ( Contact NC relay n.1 )	Contact relay 30 Vdc 1A
2	NA1 (Contact NA relay n.1 )	Contact relay 30 Vdc 1A
3	COM2 ( Common relay n.2 )	Contact relay 30 Vdc 1A
4	NC3 (Contact NC relay n.3 )	Contact relay 30 Vdc 1A
5	NA3 (Contact NA relay n.3 )	Contact relay 30 Vdc 1A
6	COM4 (Common relay n.4 )	Contact relay 30 Vdc 1A
7	NC5 (Contact NC relay n.5 )	Contact relay 30 Vdc 1A
8	NA5 (Contact NA relay n.5 )	Contact relay 30 Vdc 1A
9	COM6 (Common relay n.6 )	Contact relay 30 Vdc 1A
10	NC7 (Contact NC relay n.7 )	Contact relay 30 Vdc 1A
11	NA7 (Contact NA relay n.7 )	Contact relay 30 Vdc 1A
12	COM8 (Common relay n.8 )	Contact relay 30 Vdc 1A
13	GND	
14	COM1 (Common relay n.1 )	Contact relay 30 Vdc 1A
15	NC2 (Contact NC relay n.2 )	Contact relay 30 Vdc 1A
16	NA2 (Contact NA relay n.2 )	Contact relay 30 Vdc 1A
17	COM3 (Common relay n.3 )	Contact relay 30 Vdc 1A
18	NC4 (Contact NC relay n.4 )	Contact relay 30 Vdc 1A
19	NA4 (Contact NA relay n.4 )	Contact relay 30 Vdc 1A
20	COM5 (Common relay n.5 )	Contact relay 30 Vdc 1A
21	NC6 (Contact NC relay n.6 )	Contact relay 30 Vdc 1A
22	NA6 (Contact NA relay n.6 )	Contact relay 30 Vdc 1A
23	COM7 (Common relay n.7 )	Contact relay 30 Vdc 1A
24	NC8 (Contact NC relay n.8 )	Contact relay 30 Vdc 1A
25	NA8 (Contact NA relay n.8 )	Contact relay 30 Vdc 1A



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- **VOIP Connector ( n.4 connectors ).**

**Function:** Connector for IN/OUT audio and PTT signals

**Type:** DB15 male

<b>PIN</b>	<b>FUNCTION</b>	<b>ELECTRICAL CHARACTERISTICS</b>
<b>1</b>	<b>PTT OUT</b>	<b>Open collector output 30 Vdc 100 mA</b>
<b>2</b>	<b>Audio USB TX +</b>	<b>+ Audio usb TX 0 dBm</b>
<b>3</b>	<b>Audio USB RX +</b>	<b>+ Audio usb RX 0 dBm</b>
<b>4</b>	<b>NOT USED</b>	
<b>5</b>	<b>Audio LSB TX +</b>	<b>+ Audio lsb TX 0 dBm</b>
<b>6</b>	<b>Audio LSB RX +</b>	<b>+ Audio lsb RX 0 dBm</b>
<b>7</b>	<b>PTT IN</b>	<b>Positive input optoisolated ( Vf 1.15V 10mA )</b>
<b>8</b>	<b>GND</b>	
<b>9</b>	<b>COM PTT OUT</b>	<b>Common output PTT optoisolated</b>
<b>10</b>	<b>Audio USB TX -</b>	<b>- Audio usb TX 0 dBm</b>
<b>11</b>	<b>Audio USB RX -</b>	<b>- Audio usb RX 0 dBm</b>
<b>12</b>	<b>GND</b>	
<b>13</b>	<b>Audio LSB TX -</b>	<b>- Audio lsb TX 0 dBm</b>
<b>14</b>	<b>Audio LSB RX -</b>	<b>- Audio lsb RX 0 dBm</b>
<b>5</b>	<b>COM PTT IN</b>	<b>Common input optoisolated</b>