R.V.R. ELETTRONICA

TLK300 & TLK2000
(/V1, /V2 , /V3 & /V4)

USER MANUAL
VOLUME1

BROADCAST EQUIPMENT

Manufactured by R.V.R ELETTRONICA S.p.A. Italy

CE

File Name: TLK300_2000_V1-V2-V3-V4_ING_1.0.indb

Version: 1.0

Date: 13/06/2014

Revision History

Date	Version	Reason	Editor
13/06/2014	1.0	First Version	J. H. Berti

TLK300 & TLK2000 (/V1, /V2 , /V3 & /V4) - User Manual
Version 1.0

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Declaration of Conformity
Hereby, R.V.R. Elettronica SpA, declares that this FM transmitter is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

CE

DECLARATION OF CONFORMITY

We, the undersigned,

Manufacturer's Name: **R.V.R. Elettronica SpA**

Manufacturer's Address: **Via del Fonditore 2/2c**
Zona Ind. Roveri
40138 Bologna
Italy

Certify and declare under our sole responsibility that the product:

Product Description: **Telemetry Unit**

Models: **TLK2000**

Variants: **TLK300**

when used for its intended purpose, is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/CE "R&TTE", and therefore carries the "CE" mark.

The conformity assessment procedure referred in Article 10 and detailed in Annex III of Directive 1999/5/EC has been followed.
The following harmonized standard have been applied:

ElectroMagnetic Compatibility (3.1b): EN 301 489-1 V1.9.2 (2011-09) +
EN 301 489-11 V1.3.1 (2006-05)

Safety (3.1a): EN 60215 (1997-10) +
EN 60065 (2011-01)

The technical documentation is held at the location above, as required by the conformity assessment procedure.

Bologna, Italia, 20/06/2013

Ravagnani Stefano
Direttore Tecnico
R.V.R. Elettronica S.p.A.

Rev. 1.0 - 29/06/2013

Technical Description

			TLK300	TLK2000	
Parameters	*Conditions*	*U.M.*	*Value*		*Notes*
GENERALS					
Ambient working temperature		°C	-10 to + 50	-10 to + 50	Whithout condensing
POWER REQUIREMENTS					
AC Power Input	AC Supply Voltage	VAC	80 ÷ 260 (*)	80 ÷ 260 (*)	(*) Full range (**) Internal switch
	Active Power Consumption	W	25	25	
	Connector		VDE IEC Standard	VDE IEC Standard	
DC Power Input	DC Supply Voltage	VDC	12	12	
	DC Current	ADC	< 3	< 3	(*)max 25W (**) max 140W
FUSES					
On Mains			1 External fuse F 1 A F - 5X20 mm	1 External fuse F 1 A F - 5X20 mm	
MECHANICAL DIMENSIONS					
Phisical Dimensions	Front panel width	mm	483 (19")	483 (19")	19" EIA rack
	Front panel height	mm	44 1HE	44 1HE	
	Overall depth	mm	263	263	
	Chassis depth	mm	239	239	
Weigh		kg	about 4,3	about 4,9	
INTERFACES					
Signalling LEDs			Yes	Yes	
Display	40x2 Alphanumerical		No	Yes	
Push buttons	4 (UP, DOWN , ENTER, ESC)		No	Yes	
USB	TELECON Protocol		Yes	Yes	
RS232	TELECON Protocol		Yes	Yes	
RS 485	PLUG-IN protocol		Yes (only on WEB+GSM versions)	Yes (only on WEB+GSM versions)	
I^2C			Yes	Yes	
RJ45	LAN		Yes (only on WEB versions)	Yes (only on WEB versions)	
SIM slot & ANTENNA			Yes (only on GSM versions)	Yes (only on GSM versions)	
VARIOUS					
Cooling			Convection cooling	Convection cooling	
Acoustic Noise		dBA	0	0	

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IMPORTANT

The symbol of lightning inside a triangle placed on the product, evidences the operations for which is necessary gave it full attention to avoid risk of electric shocks.

The symbol of exclamation mark inside a triangle placed on the product, informs the user about the presence of instructions inside the manual that accompanies the equipment, important for the efficacy and the maintenance (repairs).

1. Preliminary Instructions

• General foreword

The equipment in object is to considering for uses, installation and maintenance from “trained” or “qualified” staff, they conscious of the risks connected to operate on electronic and electrical circuits electrical.
The “trained” definition means staff with technical knowledge about the use of the equipment and with responsibility regarding the own safety and the other not qualified staff safety place under his directed surveillance in case of works on the equipment.
The “qualified” definition means staff with instruction and experience about the use of the equipment and with responsibility regarding the own safety and the other not qualified staff safety place under his directed surveillance in case of works on the equipment.

WARNING: The machine can be equipped with an ON/OFF switch which could not remove completely voltages inside the machine. It is necessary to have disconnected the feeding cord, or to have switched off the control panel, before to execute technical operations, making sure himself that the safety connection to ground is connected.
The technical interventions that expect the equipment inspection with circuits under voltage must be carry out from trained and qualified staff in presence of a second trained person that it is ready to intervene removing voltage in case of need.

R.V.R. Elettronica SpA doesn’t assume responsibility for injury or damage resulting from improper procedures or practices by untrained/unqualified personnel in the handling of this unit.

WARNING: The equipment is not water resistant and an infiltration could seriously compromise its correct operation. In order to prevent fires or electric shocks, do not expose the equipment to rain, infiltrations or humidity.

Please observe all local codes and fire protection standards during installation and use of this unit.

WARNING: The equipment has to its inside exposed parts to risk of electric shock, always disconnect power before opening covers or removing any part of this unit.

Fissures and holes are supplied for the ventilation in order to assure a reliable efficacy of the product that for protect itself from excessive heating, these fissures do not have to be obstructed or to be covered. The fissures doesn’t be obstructed in no case. The product must not be incorporated in a rack, unless it is supplied with a suitable ventilation or that the manufacturer’s instructions are been followed.

WIRING: This equipment can irradiate radio frequency energyand if it’s not installed following the instructions contained in the manual and local regulations it could generate interferences in radio communications.

WIRING: This device has a connection to ground on the power cord and on the chassis. Check that they are correctly connected.

Operate with this device in a residential ambient can cause radio disturbs; in this case, it can be demanded to the user to take adequate measures.

Specifications and informations contained in this manual are furnished for information only, and are subject to change at any time without notice, and should not be construed as a commitment by **R.V.R. Elettronica SpA**.
The **R.V.R. Elettronica SpA** assumes no responsability or liability for any errors or inaccuracies that may appear in this manual, including the products and software described in it;and it reserves the right to modify the design and/or the technical specifications of the product and this manual without notice.

• Warning regarding the use designated and the use limitations of the product.

This product is an transmitter radio indicated for the audio broadcasting service in frequency modulation. It uses working frequencies that are not harmonized in the states of designated user.
The user of this product must obtain from the Authority for spectrum management in the state of designated user the appropriate authorization to use the radio spectrum, before putting in exercise this equipment.
The working frequency, the transmitter power, let alone other specifications of the transmission system are subject to limitation and definited in the authorization obtained.

2. Warranty

R.V.R. Electronics S.P.A. guarantees absence of manufacturing defect and the good operation for the products, within the provided terms and conditions.

Please read the terms carefully, because the purchase of the product or acceptance of order confirmation, constitutes acceptance of the terms and conditions.

For the last legal terms and conditions, please visit our web site (WWW.RVR.IT) wich may also be changed, removed or updated for any reason without prior notice.

Warranty will be void in cases of opened products, physical damage, misuse, modification, repair by unauthorised persons, carelessness and using the product for other purpose than its intended use.

In case of defect, proceed like described in the following:

1 Contact the dealer or distributor where you purchased the unit. Describe the problem and, so that a possible easy solution can be detected.

Dealers and Distributors are supplied with all the information about problems that may occur and usually they can repair the unit quicker than what the manufacturer could do. Very often installing errors are discovered by dealers.

2 If your dealer cannot help you, contact **R.V.R. Elettronica** and explain the problem. If it is decided to return the unit to the factory, **R.V.R. Elettronica** will mail you a regular authorization with all the necessary instructions to send back the goods;

3 When you receive the authorization, you can return the unit. Pack it carefully for the shipment, preferably using the original packing and seal the package perfectly. The customer always assumes the risks of loss (i.e.,

R.V.R. is never responsible for damage or loss), until the package reaches R.V.R. premises. For this reason, we suggest you to insure the goods for the whole value. Shipment must be effected C.I.F. (PREPAID) to the address specified by R.V.R.'s service manager on the authorization

DO NOT RETURN UNITS WITHOUT OUR AUTHORIZATION AS THEY WILL BE REFUSED

4 Be sure to enclose a written technical report where mention all the problems found and a copy of your original invoice establishing the starting date of the warranty.

Replacement and warranty parts may be ordered from the following address. Be sure to include the equipment model and serial number as well as part description and part number.

R.V.R. Elettronica SpA
Via del Fonditore, 2/2c
40138 BOLOGNA ITALY
Tel. +39 051 6010506

3. First Aid

The personnel employed in the installation, use and maintenance of the device, shall be familiar with theory and practice of first aid.

3.1 Treatment of electrical shocks

3.1.1 If the victim is not responsive

Follow the A-B-C's of basic life support.

- Place victim flat on his backon a hard surface.
- Open airway: lift up neck, push forehead back (**Figure 1**).

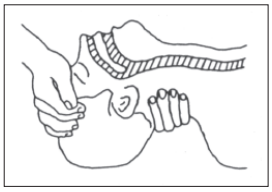


Figure 1

- clear out mouth if necessary and observe for breathing
- if not breathing, begin artificial breathing (**Figure 2**): tilt head, pinch nostrils, make airtight seal, four quick full breaths. Remember mouth to mouth resuscitation must be commenced as soon as possible.

Figure 2

- Check carotid pulse (**Figure 3**); if pulse is absent, begin artificial circulation (**Figure 4**) depressing sternum (**Figure 5**).

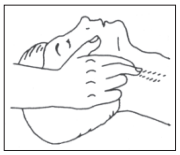


Figure 3

Figure 4

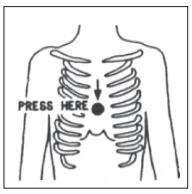


Figure 5

- In case of only one rescuer, 15 compressions alternated to two breaths.
- If there are two rescuers, the rythm shall be of one brath each 5 compressions.
- Do not interrupt the rythm of compressions when the second person is giving breath.
- Call for medical assistance as soon as possible.

3.1.2 If victim is responsive

- Keep them warm.
- Keep them as quiet as possible.
- Loosen their clothing (a reclining position is recommended).
- Call for medical help as soon as possible.

3.2 Treatment of electrical Burns

3.2.1 Extensive burned and broken skin

- Cover area with clean sheet or cloth.
- Do not break blisters, remove tissue, remove adhered particles of clothing, or apply any salve or ointment.
- Treat victim for shock as required.
- Arrange transportation to a hospital as quickly as possible.
- If arms or legs are affected keep them elevated.

If medical help will not be available within an hour and the victim is conscious and not vomiting, give him a weak solution of salt and soda: 1 level teaspoonful of salt and 1/2 level teaspoonful of baking soda to each quart of water (neither hot or cold).

Allow victim to sip slowly about 4 ounces (half a glass) over a period of 15 minutes.

Discontinue fluid if vomiting occurs.

DO NOT give alcohol.

3.2.2 Less severe burns

- Apply cool (not ice cold) compresses using the cleansed available cloth article.
- Do not break blisters, remove tissue, remove adhered particles of clothing, or apply salve or ointment.
- Apply clean dry dressing if necessary.
- Treat victim for shock as required.
- Arrange transportation to a hospital as quickly as possible.
- If arms or legs are affected keep them elevated.

4. General Description

The **TLK300** and the **TLK2000**, manufactured by R.V.R. Elettronica SpA, are telemetry systems that allows an immediate intervention in case of fault, thanks to the radio station remote control. Equipment great flexibility makes it possible to control a high number of devices or to modify the station layout. This operation does not involve any radical changes of the control system, it is simply a matter of adding expansion boards that will increase the number of operating parameters the system can manage.

TLK300 and **TLK2000** are designed to being contained into a 19" rack box of 1HE.

4.1 Unpacking

The package contains:

- 1 **TLK300** or **TLK2000**
- 1 User Manual
- 1 Cavo di Alimentazione da Rete

The following accessories are also available from Your R.V.R. Dealer:

- **Accessories, spare parts and cables**

4.2 Features

The **TLK300**, and **TLK2000**, telemetry device manage and control the alarms, send/receive text messages (SMS), connect to external/internal GSM and PSTN modems, WEB interfaces, send EMAIL and use the telecon control software designed by RVR. The various function depend on product versions.

On the front panel there is also a set of LEDs, again depending on the preset configuration, which show system status at a glance.

In the case of the model **TLK2000** is also present on the front panel is a clear user interface which allows you to read and set the operating parameters; the entire system can be controlled using the keys.

On rear panel are present all connectors to be used for connections to various components of the station.

The **TLK300**, and **TLK2000**,telemetry system and relative management software were designed to solve all of those problems arising from the management of radio stations located in areas that are not easily reached or which would require a significant amount of time for the operator to reach.

The system has the following main functions (the functions depends on version used) :

- Management and control of alarms;
- Telemetrization of operating parameters of device present in each station;
- Sending and receiving of SMS;
- Connecting to modem External / Internal GSM and PSTN;
- WEB interfaces;
- Sending of MAIL;
- Use of TELECON management software developed by RVR;
- Storage of events that caused faults.

This system allows remote management of the radio station, allowing the operator to intervene immediately in the event of a fault.

On the rear panel are all of the connectors to be used for connecting the device to the various station components.

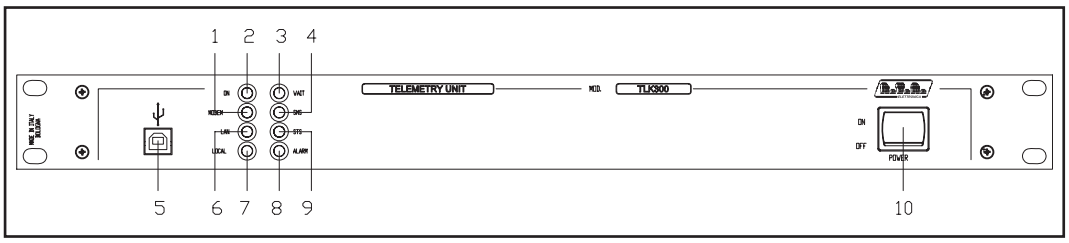
The TELECON management software is easy to understand, as well as the WEB interface used for remote management of the device it is fully compatible with all browsers.

The **TLK300**, and **TLK2000**, telemetry system comes in different configurations summarized below:

- Version **V1**: serial telemetry unit for transmitter of Compact and Modular family.
- Version **V2**: GSM telemetry unit for transmitter of Compact and Modular family.
- Version **V3**: WEB telemetry unit for transmitter of Compact and Modular family.
- Version **V4**: GSM e WEB telemetry unit for transmitter of Compact and Modular family.

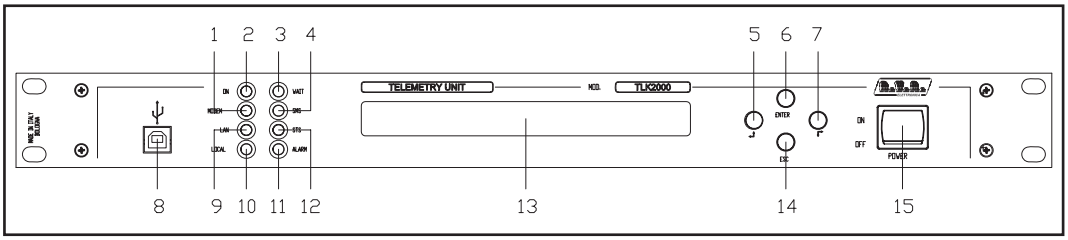
4.3 Frontal Panel Description

4.3.1 Frontal Panel Description of TLK300



[1]	MODEM	Green LED, turns on when modem is connected and it is properly initialized.
[2]	ON	Green LED, turns on when the equipment is connected to mains power supply.
[3]	WAIT	Yellow LED, when flashing indicates the Start up of equipment. When on, indicates that Start time is active. No alarm messages will be sent until this LED turns off.
[4]	SMS	Yellow LED, indicates that it is transmitting an alarm signal by SMS.
[5]	USB	USB Type B connector for programming of firmware and local interfacing with TELECON software. The USB connection automatically puts the unit in local mode.
[6]	LAN	Green LED, turns on when the LAN option is present and properly communicating.
[7]	LOCAL	Yellow LED, turns on when the equipment is in local operating status.
[8]	ALARM	Red LED, turns on when an alarm is present in the alarm list.
[9]	STS	Red LED, turns on when one of alarm condition is present.
[10]	POWER	ON/OFF switch.

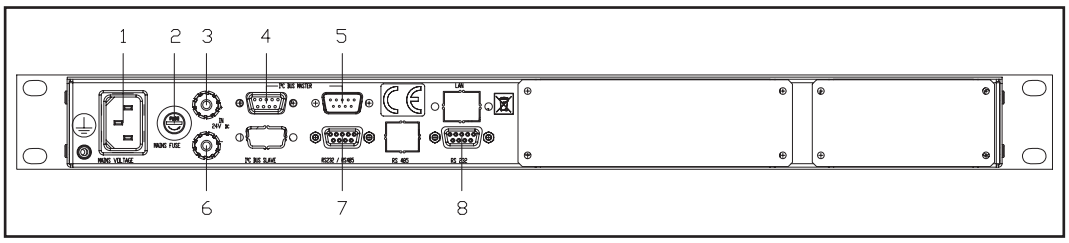
4.3.2 Frontal Panel Description of TLK2000



[1]	MODEM	Green LED, turns on when modem is connected and it is properly initialized.
[2]	ON	Green LED, turns on when the equipment is connected to mains power supply.
[3]	WAIT	Yellow LED, when flashing indicates the Start up of equipment. When on, indicates that Start time is active. No alarm messages will be sent until this LED turns off.
[4]	SMS	Yellow LED, indicates that it is transmitting an alarm signal by SMS.
[5]		Push button to move in the menu system and to modify the parameters.
[6]	ENTER	Push button to confirm a parameter and to enter in a menu.
[7]		Push button to move in the menu system and to modify the parameters.
[8]	USB	USB Type B connector for programming of firmware and local interfacing with TELECON software. The USB connection automatically puts the unit in local mode.
[9]	LAN	Green LED, turns on when the LAN option is present and properly communicating.
[10]	LOCAL	Yellow LED, turns on when the equipment is in local operating status.
[11]	ALARM	Red LED, turns on when an alarm is present in the alarm list.
[12]	STS	Red LED, turns on when one of alarm condition is present.
[13]	DISPLAY	Liquid crystals display.
[14]	ESC	Push button to exit from a menu.
[15]	POWER	ON/OFF switch.

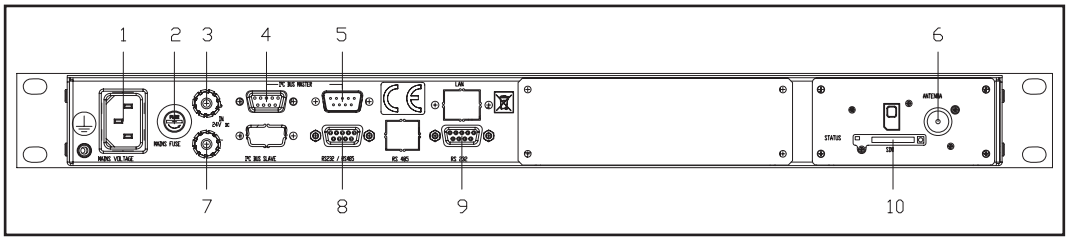
4.4 Rear Panel Description

4.4.1 Rear Panel Description of TLK300&2000 /V1



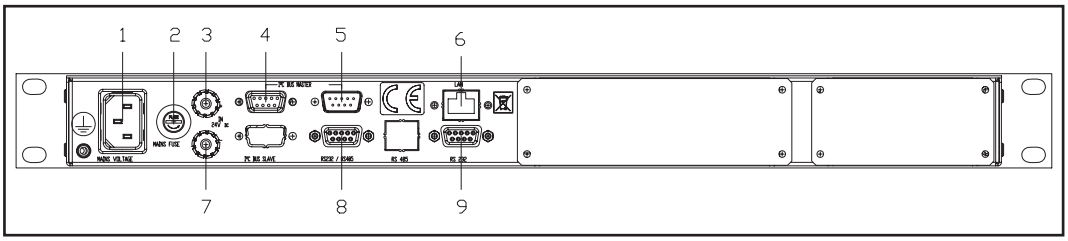
[1]	PLUG	VDE mains power supply connector.
[2]	MAINS FUSE	Fuse carrier.Use a screwdriver to access the fuse.
[3]	12 VDC IN +	External 12Vdc supply input. Positive (red).
[4]	I²C BUS	DB9 female connector, for I²C sampling.
[5]	I²C BUS	DB9 male connector, for I²C sampling.
[6]	12 VDC IN -	External 12Vdc supply input. Negative (black).
[7]	RS232 / 485	DB9 female connector for serial sampling.
[8]	RS232	DB9 connector for direct serial communication with the TELECON program and software update in exchange with frontal USB socket.

4.4.2 Rear Panel Description TLK300&2000 /V2



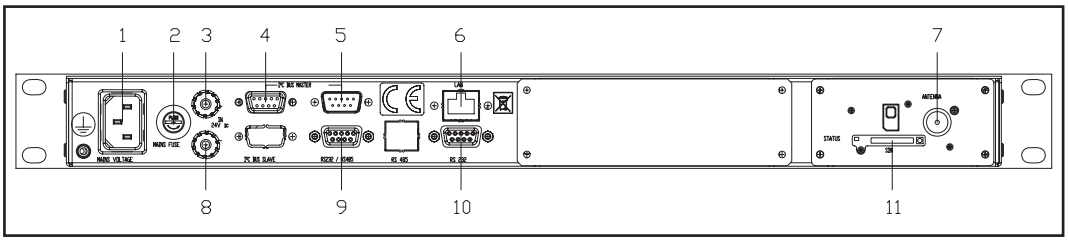
[1]	PLUG	VDE mains power supply connector.
[2]	MAINS FUSE	Fuse carrier.Use a screwdriver to access the fuse.
[3]	12 VDC IN +	External 12Vdc supply input. Positive (red).
[4]	I²C BUS	DB9 female connector, for I²C sampling.
[5]	I²C BUS	DB9 male connector, for I²C sampling.
[6]	ANTENNA	SMA female connector for connection to a GSM antenna.
[7]	12 VDC IN -	External 12Vdc supply input. Negative (black).
[8]	RS232 / 485	DB9 female connector for serial sampling.
[9]	RS232	DB9 connector for direct serial communication with the TELECON program and software update in exchange with frontal USB socket.
[10]	SIM	SIM card tray. On the left side there is a status LED. On the right side there is the eject button for SIM card tray.

4.4.3 Rear Panel Description TLK300&2000 /V3



[1]	PLUG	VDE mains power supply connector.
[2]	MAINS FUSE	Fuse carrier.Use a screwdriver to access the fuse.
[3]	12 VDC IN +	External 12Vdc supply input. Positive (red).
[4]	I²C BUS	DB9 female connector, for I²C sampling.
[5]	I²C BUS	DB9 male connector, for I²C sampling.
[6]	LAN	RJ45 connector for TCP/IP communication.
[7]	12 VDC IN -	External 12Vdc supply input. Negative (black).
[8]	RS232 / 485	DB9 female connector for serial sampling.
[9]	RS232	DB9 connector for direct serial communication with the TELECON program and software update in exchange with frontal USB socket.

4.4.4 Rear Panel Description TLK300&2000 /V4

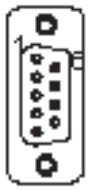


[1]	PLUG	VDE mains power supply connector.
[2]	MAINS FUSE	Fuse carrier.Use a screwdriver to access the fuse.
[3]	12 VDC IN +	External 12Vdc supply input. Positive (red).
[4]	I²C BUS	DB9 female connector, for I²C sampling.
[5]	I²C BUS	DB9 male connector, for I²C sampling.
[6]	LAN	RJ45 connector for TCP/IP communication.
[7]	ANTENNA	SMA female connector for connection to a GSM antenna.
[8]	12 VDC IN -	External 12Vdc supply input. Negative (black).
[9]	RS232 / 485	DB9 female connector for serial sampling.
[10]	RS232	DB9 connector for direct serial communication with the TELECON program and software update in exchange with frontal USB socket.
[11]	SIM	SIM card tray. On the left side there is a status LED. On the right side there is the eject button for SIM card tray.

4.5 Connectors Description

4.5.1 RS232

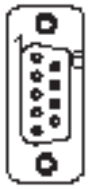
Type: Female DB9



1	NC
2	TX_D
3	RX_D
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

4.5.2 I²C Bus

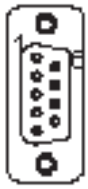
Type: Male DB9



1	NC
2	SDA
3	SCL
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

4.5.3 I²C Bus

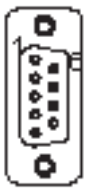
Type: Female DB9



1	NC
2	SDA
3	SCL
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

4.5.4 RS485

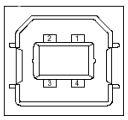
Type: Female DB9



1	RS485 +
2	IC internally connected. Do not use.
3	GND
4	NC
5	IC internally connected. Do not use.
6	RS485 -
7	NC
8	NC
9	NC

4.5.5 USB

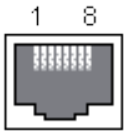
Type: Female type-B



1	+V In
2	D-
3	D+
4	GND

4.5.6 LAN

Type: female RJ45



1	TX+
2	TX-
3	RX+
4	NC
5	NC
6	RX-
7	NC
8	NC

5. Quick guide for installation and use

This section provides a step-by-step description of equipment installation and configuration procedure. Follow these procedures closely upon first power-on and each time any change is made to general configuration, such as when a new transmission station is added or the equipment is replaced.

Once the desired configuration has been set up, no more settings are required for normal operation; at each power-up (even after an accidental shutdown), the equipment defaults to the parameters set during the initial configuration procedure.

The topics covered in this section are discussed at greater length in the next sections, with detailed descriptions of all hardware and firmware features and capabilities. Please see the relevant sections for additional details.

IMPORTANT: *When configuring and testing the transmitter in which the equipment is integrated, be sure to have the Final Test Table supplied with the equipment ready at hand throughout the whole procedure; the Final Test Table lists all operating parameters as set and tested at the factory.*

5.1 Preparation

5.1.1 Preliminary checks

Unpack the transmitter and immediately inspect it for transport damage. Ensure that all connectors are in perfect condition.

The main fuse can be accessed from the outside on the rear panel. Extract the fuse carrier with a screwdriver to check its integrity or for replacement, if necessary. The fuse to be used is this type:

	@ 230 ±15% Vac
TLK300 & TLK2000 @ 230 Vac/115 Vac	**(1x) 2A type 5x20**

Table 5.1: ***Fuses***

Provide for the following (applicable to operating tests and putting into service):

√ Single-phase mains power supply, with adequate earth connection.

√ Connection cable kit (**NOT INCLUDED**), including:

- Cables for telemetry signals and sampling.
- If a LAN output is present: Ethernet cable (with RJ45 connector) for connection to ADSL router or LAN.

5.1.2 Connections

Note: *the mains must be equipped with adequate earth connection properly connected to the equipment. This is a pre-requisite for ensuring operator safety and correct operation.*

Connect the sampling cables of **TLK300** or **TLK2000** sources to output connectors of system to telemetric data, such as the **REMOTE** connector of transmitters.

If LAN ouput is present, connect the **ETHERNET** output of **TLK300** or **TLK2000** to the appropriate input of your ADSL router or LAN network. If the connecting device was different, identify an equivalent.

Connect the mains cable to the corresponding connector MAINS on **TLK300** or **TLK2000**.

5.1.3 Dip Switch configuration

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Modem None																
Modem PSTN Option	x															
Modem GSM Option		x														
Lan Option			x													
Not used				x												
Config TX									x	x	x	x	x			
Not used					x	x	x	x						x	x	x

Table 5.2: ***Dip Switch***

Below the different configurations, that CONFIG TX can assume, are listed.

Dip Switch, from position 1 to position 5, is to set as binary number based on the configuration number to which reference is made (for example the configuration 12 is equal to 00110, or the configuration 20 is equal to 00101).

5.1.3.1 Configuration of transmitter Version from V1 to V4

adr	TEX#1	TEX#2	SCM	HC o PA	PA	PA	PA	PA	PA
Config 01	1								
Config 02	1			4					
Config 03	1			4	5	6			
Config 04	1			4	5	6	7		
Config 05	1			4	5	6	7	8	
Config 06	1			4	5	6	7	8	9
Config 07	1	2	3	4					
Config 08	1	2	3	4	5	6			
Config 09	1	2	3	4	5	6	7		
Config 10	1	2	3	4	5	6	7	8	
Config 11	1	2	3	4	5	6	7	8	9
adr	**PTX#1**	**PTX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 12	1								
Config 13	1			4					
Config 14	1			4	5	6			
Config 15	1			4	5	6	7		
Config 16	1			4	5	6	7	8	
Config 17	1			4	5	6	7	8	9
Config 18	1	2	3	4					
Config 19	1	2	3	4	5	6			
Config 20	1	2	3	4	5	6	7		
Config 21	1	2	3	4	5	6	7	8	
Config 22	1	2	3	4	5	6	7	8	9

Table 5.3: ***TX configurations in versions from V1 to V4***

5.2 Management Firmware

Note: *ai fini di una maggiore chiarezza, sono riportati qui di seguito solo le schermate tipiche del* ***TLK2000****. The* ***TLK300*** *model is not equipped with LCD display.*

The equipment features an LCD with two lines by 16 characters that displays a set of menus. The figure below provides an overview of equipment menus.

The symbols listed below appear in the left portion of the display as appropriatei:

- _ (Cursor) - Highlights selected (i.e. accessible) menu.
- ▶ (Filled arrow) - Editable parameter marker. This symbol appears in menus that take up more than two lines to aid browsing.
- ▷▷▷ (Three empty arrows) - Parameter is being edited.
- ▷ (Empty arrow) - Current line marker; the parameter in this line cannot be edited. This symbol appears in menus that take up more than two lines to aid browsing.

Switch on the equipment and verify that the led ON is lit. The LCD will display an indication of the status of operation about modem and Lan.

```
Modem : Not in use
Lan   : Not in use
```

Menu 1

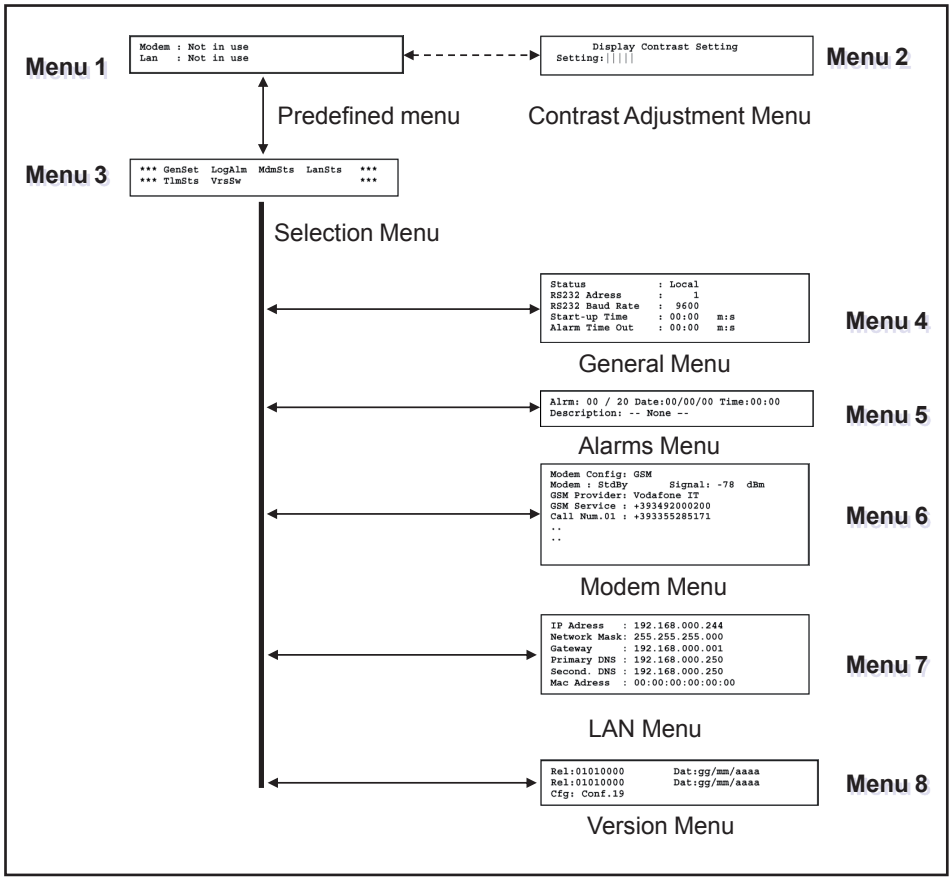


Figure 1

When the display is off, touching any key will turn on backlightin.

When the display is on, by pressing the **ENTER** button for about 3 seconds while you are in the **default menu** (menu 1), is used to call up the **contrast adjustment menu** (menu 4). Once you choose the setting, by press **ENTER** again and you will exit the present menu, confirming the change.

```
        Display Contrast Setting
Setting:|||||
```

Menu 2

When the display is on, by pressing the **ESC** button from the **default menu** (menu 1), calls up the **selection screen** (menu 3), which gives access to all other menus:

```
*** GenSet  LogAlm  MdmSts  LanSts   ***
*** TlmSts  VrsSw                    ***
```

Menu 3

If you want to return to the **default menu** (menu 1), simply press the **ESC** button.

5.2.1 General menu (GenSts)

In this menu, you can toggle **local control**, set the **address** and **speed** of **serial ports**, and set the time both of **Start-up** and of **alarms generation**.

To edit an item, highlight the appropriate line using the ↵ and ↓ buttons and then press and hold the **ENTER** button until the command is accepted. In this way, the setting is toggled between Local and Remote or viceversa. To edit the parameters, simply select item and edit its value using the UP and DOWN buttons; finally, press **ENTER** to confirm.

```
Status             : Local
RS232 Adress       :     1
RS232 Baud Rate    :  9600
Start-up Time      : 00:00   m:s
Alarm Time Out     : 00:00   m:s
```

Menu 4

`Status` The equipment can read and modify their own operating parameters in local mode (LOCAL) through the navigation keys and firmware management, excluding all other sources. The equipment can only read in remote mode (REMOTE), but not modify the operating parameters, except through commands provided by the LAN interfaces or GSM connected.

`RS232 Adress`
Selection of serial address or USB for TELECON. The serial address is relevant when the unit is connected to an RVR transmission system which provides for use of this protocol. It is recommended, however, to not change it for any reason. It is selectable from 1 to 200.

`RS232 Baud Rate`
Selection of the baud rate for the serial port data transfer selectable between 1200, 2400, 4800, 9600, 19200 and 38400.

`Start-up Time`
Setting of start-up time expressed in mm:ss.

`Alarm Time Out`
Setting of time for alarms generation expressed in mm:ss.

5.2.2 Alarms menu (LogAlm)

This menu provides general information on the last twenty alarms stored in a non volatile memory from the exciter.

In case the buffer is full, the previous alarms stored will have replaced with the new one, normally it visualized the last alarm saved in memory.

To change the alarm displayed press the ◁┘ and ▽┐ buttons, turn until the indicator is highlighted on the “Alarm” label and then press again to confirm. Select one of the twenty alarms choose itself from the list of alarms 1 ... 20 using the buttons.

If the user confirm or doesn’t confirm the new value (i.e., the **ENTER** button is not pressed), the cursor stops blinking and remains on the first alarm stored.

```
Alrm: 00 / 20 Date:00/00/00 Time:00:00
Description: -- None --
```

Menu 5

`Alrm` Visualization and selection of the stored alarm number.

`Date` Visualization of the alarm record date expressed as dd/MM/yy.

`Time` Visualization of the alarm record time expressed as HH:mm.

`Description`
Visualization of the of stored alarm name.

Note that these are readings, rather than settings, and cannot be edited (note the empty triangle).

5.2.3 Modem menu (MdmSts)

Note: *this menu is present on* ***TLK2000*** *only in version* ***/V2****,* ***/V6****,* ***/V4*** *and* ***/V8****.*

This menu provides general information on the modem in case it is installated in the equipment:

```
Modem Config: GSM
Modem : StdBy       Signal: -78  dBm
GSM Provider: Vodafone IT
GSM Service : +393492000200
Call Num.01 : +393355285171
..
..
```

Menu 6

`Modem Config`
: Visualization of modem type selected.

`Modem` Visualization of the modem status.

`Signal` Visualization of the GSM signal level received in antenna expressed in dBm.

`GSM Provider`
: Visualization of the customer number manager.

`GSM Service`
: Visualization of the Service Centre Number.

`Call Num.xx`
: Visualization of last 10 numbers for calls and SMS.

Note that these are readings, rather than settings, and cannot be edited (note the empty triangle).

5.2.4 Lan Menu (LanSts)

This page shows to the user the information about the presence of LAN interface on the machine.

```
IP Adress    : 192.168.000.244
Network Mask: 255.255.255.000
Gateway      : 192.168.000.001
Primary DNS  : 192.168.000.250
Second. DNS  : 192.168.000.250
Mac Adress   : 00:00:00:00:00:00
```

Menu 5

IP Address

Shows the number that unequivocally identifi es, within a single network, the devices connected to an IT network that uses the IP standard (Internet Protocol).

Network Mask

Shows the subnet mask, necessary for the computer that must communicate with another IP address to know if it should route packages toward the gateway of its local network or use the address of the receiver local network.

Gateway

Shows gateway address. In simpler networks, there is only one gateway that forwards to the internet network all the outbound traffic. In more complicated networks where many subnets are available, each of them refers to a gateway that will route data traffi c towards the other subnets or forward it to other gateways.

Primary DNS

Shows the fi rst DNS server address (Domain Name System); in case the server should change the server hosting a service, or it is necessary to change its IP address, it is enough to change the DNS record, without changing client settings.

Second DNS

Shows the second DNS server address (Domain Name System); in case the server should change the server hosting a service, or it is necessary to change its IP address, it is enough to change the DNS record, without changing client settings.

MAC Address

Shows the MAC (Media Access Control) address; this address is uniquely assigned to the ethernet network card present on exciter. It can be useful if you want to add in your router, or fi rewall, a list of MAC addresses of network cards authorized to connect to the network.

Note that these are readings, rather than settings, and cannot be edited (note the empty triangle).

5.2.5 Version menu (VrsSw)

This menu provides general information on the release installated:

```
Rel:01010000          Dat:gg/mm/aaaa
Rel:01010000          Dat:gg/mm/aaaa
Cfg: Conf.19
```

Menu 6

Note that these are readings, rather than settings, and cannot be edited (note the empty triangle).

`Rel` Visualization of firmware release (first row) or Bios information (second row).

`Dat` Visualization of release date about firmware (first row) or Bios (second row).

`Cfg` Visualization of table loaded set via dip-Swtiches.

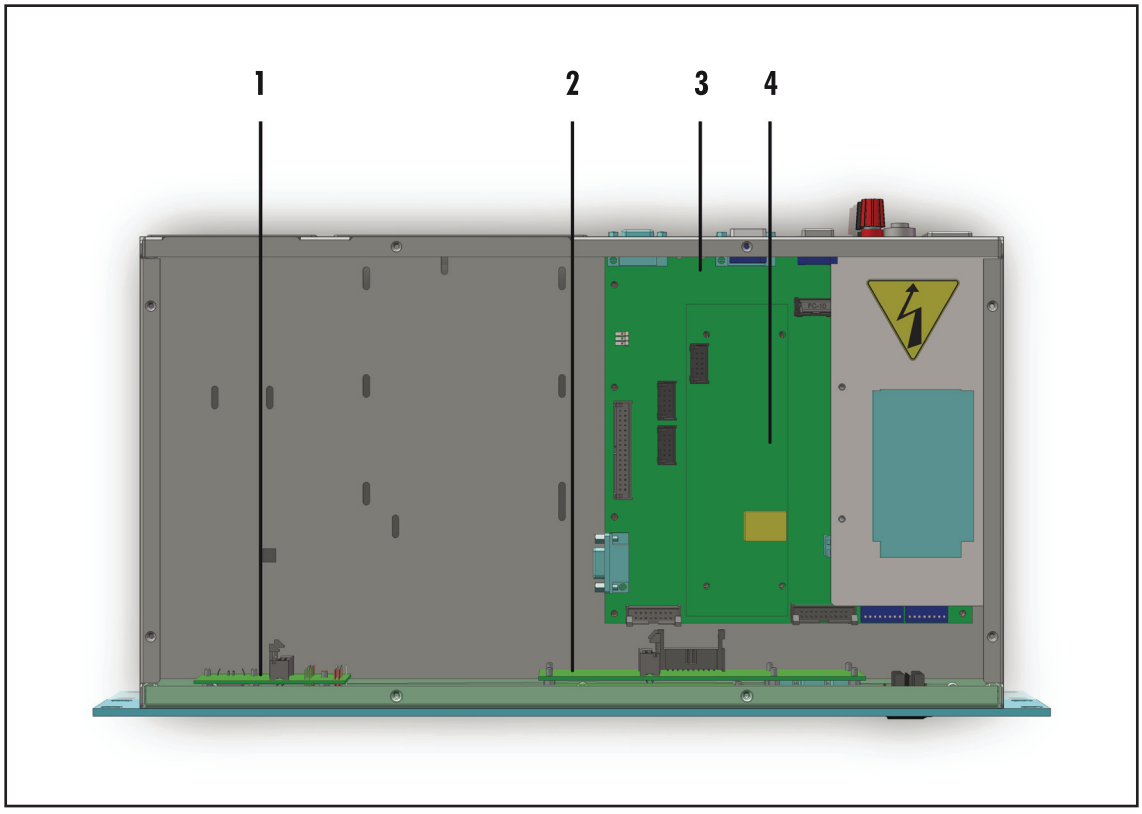
6. Identification and Access to the Modules

6.1 Identification of the Modules

The **TLK300** and **TLK2000** are made up of various modules linked to each other through connectors so as to make maintenance and any required module replacement easier.

6.1.1 TL300 and TLK2000 versions /V1 - Upper view

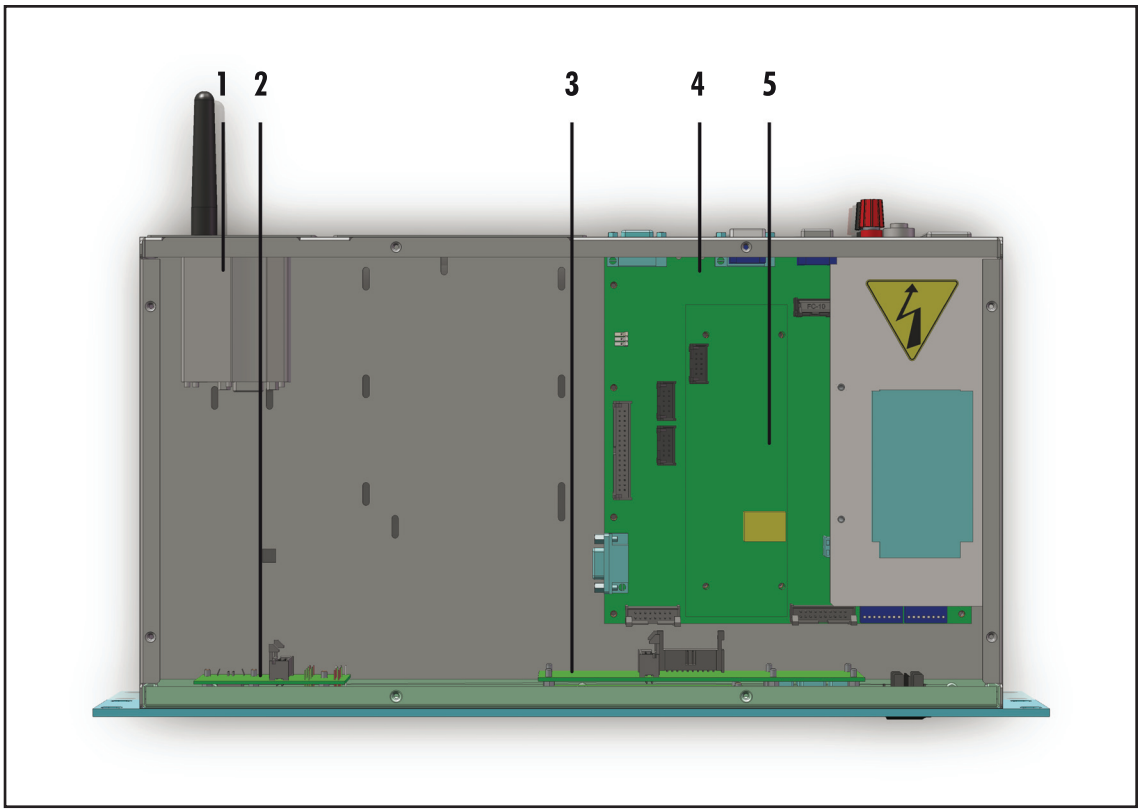
The figure below shows the equipment upper view with the various components pointed out.



[1] USB & LED card
[2] Panel card (**not present on TLK300**)
[3] Mainboard & Power Supply card
[4] 16-bit CPU card

6.1.2 TL300 and TLK2000 versions /V2 - Upper view

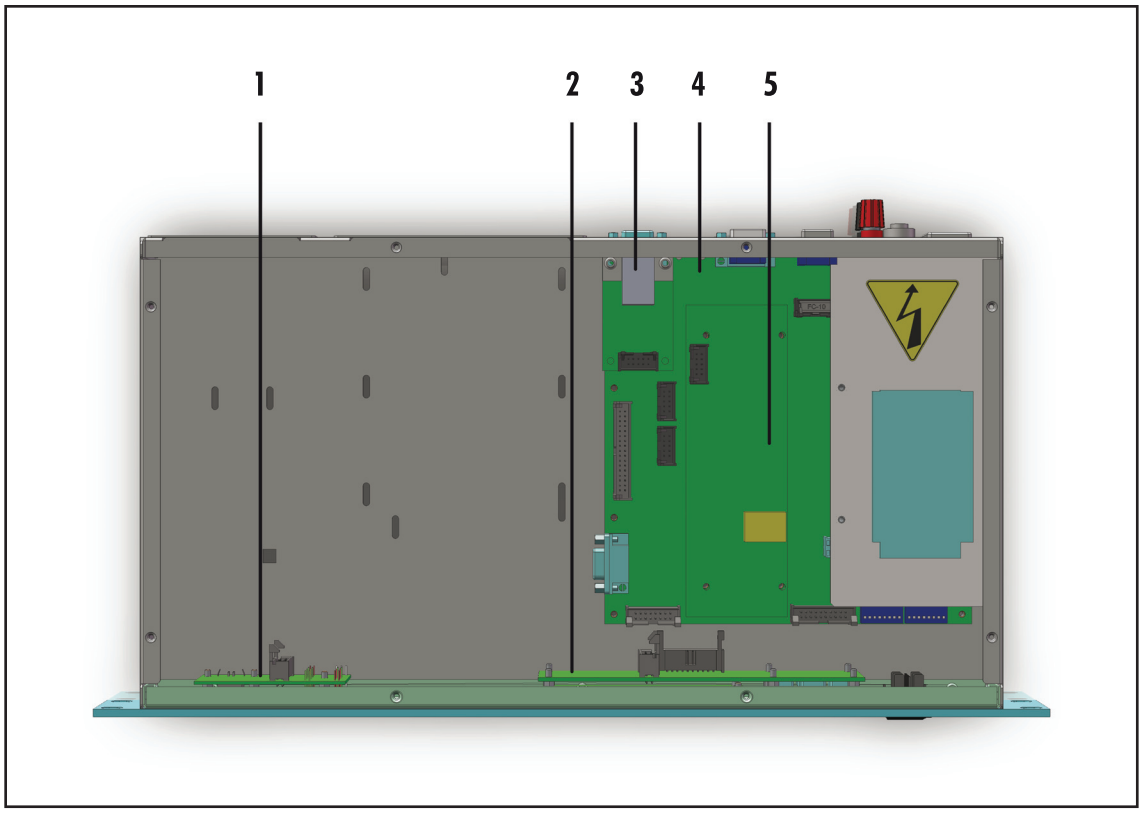
The figure below shows the equipment upper view with the various components pointed out.



[1] GSM Modem & Antenna
[2] USB & LED card
[3] Panel card (**not present on TLK300**)
[4] Mainboard & Power Supply card
[5] 16-bit CPU card

6.1.3 TL300 and TLK2000 versions /V3 - Upper view

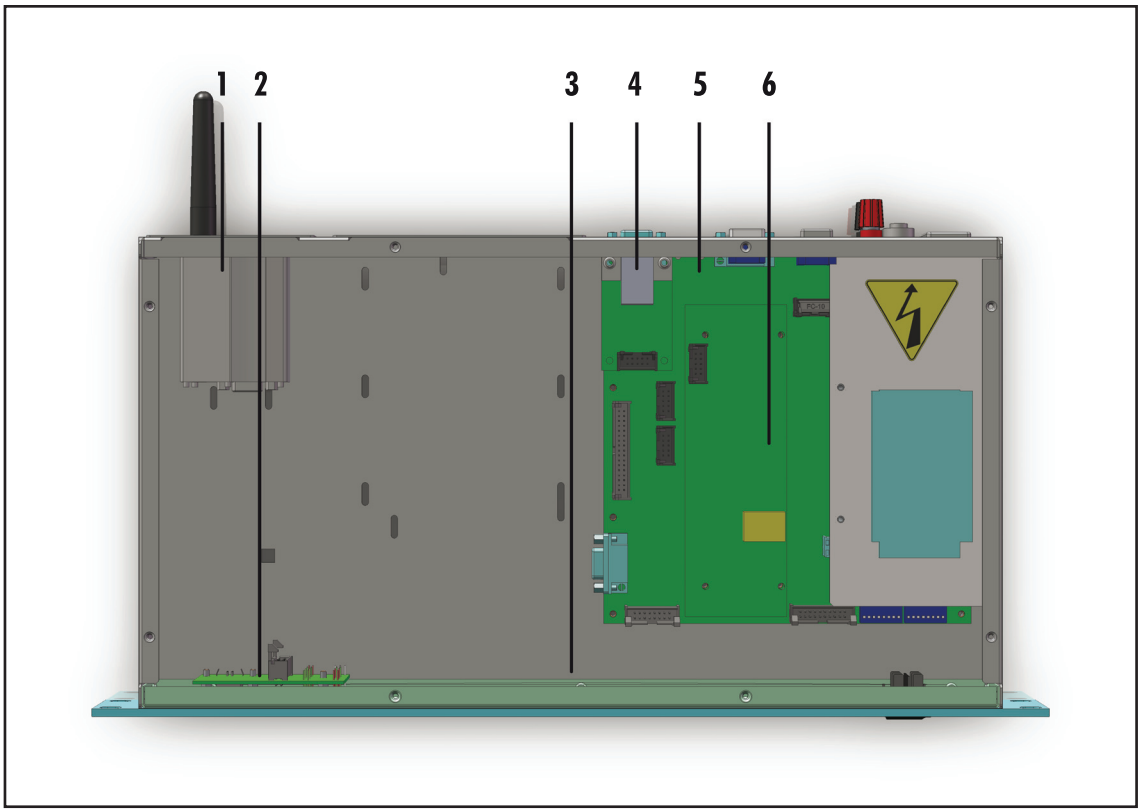
The figure below shows the equipment upper view with the various components pointed out.



[1] USB & LED card
[2] Panel card (**not present on TLK300**)
[3] LAN card
[4] Mainboard & Power Supply card
[5] 16-bit CPU card

6.1.4 TL300 and TLK2000 versions /V4 - Upper view

The figure below shows the equipment upper view with the various components pointed out.



[1] GSM Modem & Antenna
[2] USB & LED card
[3] Panel card (**not present on TLK300**)
[4] LAN card
[5] Mainboard & Power Supply card
[6] 16-bit CPU card

7. Working Principles

7.1 Panel card

The panel card contains display and keys needed to interface with the user.

7.2 Mainboard

The main board carries out the following functions:

- RS232, RS485, USB and I²C input/output treatment;
- Signal Processing Control;
- Management measures;
- Distribution of power supplies

The power supply is a “direct from mains” type and it can be connected to any voltage between 90 and 260 V without any adjustments or manual settings.

7.3 16-bit CPU Card

The CPU card is located on the mainboard.

This card is the heart of the equipment as it handles and processes all information provided by the other cards and by other devices connected through the serial interface.

It is possible to perform firmware updates by directly connecting the RS232 output of **TLK300 & TLK2000** to serial or USB port of one PC.

The card has a diagnostic LEDs to verify it works.

7.4 USB card

This card adds an USB 2.0 port to allow connection to one PC by creating a virtual serial port.

The USB connector is used to program the firmware and to interface in local with TELECON software.

The USB connection automatically puts the equipmenti in local mode.

7.5 LAN card

This card adds a LAN port that allows you to connect itself to an equipment via TCP/IP. The visualization and modification of working parameters concern transmitter is so possible using an Internet browser in added Java and Ajax features.

7.5 Alarm generation

Alarm generation parameters are listed below:

- Alarm generation parameters are listed below:
- Exciter output power (forward power good “PgD”);
- Reflected power at the exciter (reflected power good “PgR”);
- Temperature state (OVER TEMPERATURE);
- Audio Signal presence;
- Mains voltage state (present or missing).

An inhibit time (start time) after power-on is provided to ensure false alarm prevention. When this inhibit time times out, the thresholds of alarm generation parameters are checked and remote alarms are sent if needed.

Alarm generation technique is outlined in the figure below; remote alarm delay, i.e. the amount of time the system waits before issuing a remote alarm after an alarm condition occurs is indicated in figure 7.1. When appropriate, a new line is added to the alarm log stored, up to twenty lines maximum.

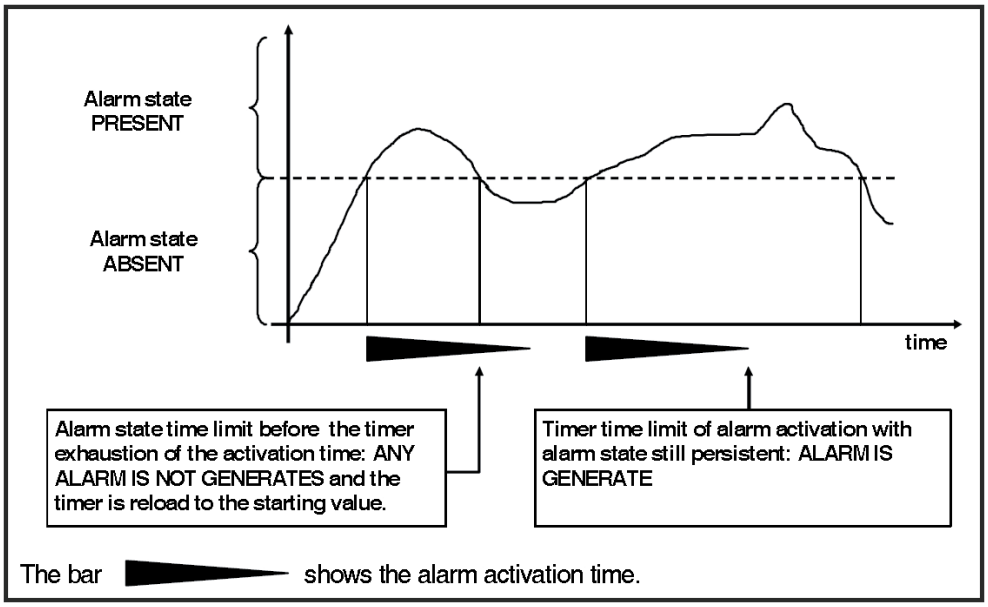


Figure 7.1

The alarm log may be reviewed using the “TELECON” software, or through SMS (see relevant section) only for GSM model when connected to an external modem, or through Trap viewable in a MIB browser only for WEB version with SNMP.

WARNING: The mains alarm is internally generated if the device is powered through appropriate terminals with an external $12V_{DC}$; instead, an SMS message indicating a normal condition is sent upon next start-up.

8. Web User Interface (WUI)

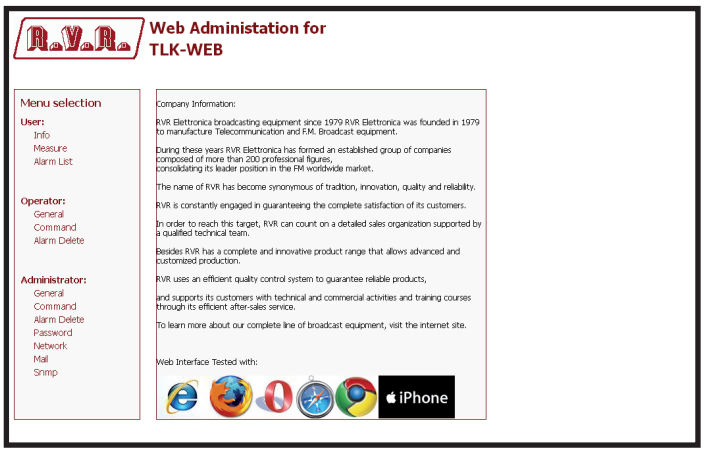
Once all connections previously described are performed, the equipment is ready for commissioning.

The **WUI** (Web User Interface) allows you to adjust, modify or display the configuration variables such as IP, netmask and gateway address. Follow the procedure below to open the **WUI**:

1) Open your web browser on your PC, and connect to ***http://192.168.0.244*** address to connect to the **WUI** (if LAN IP address was previously modified, it is necessary to use the new one). At this point the following page opens.

By factory the RVR uses the following adjustments:

- IP address: **192.168.0.244**
- Netmask address: **255.255.255.0**
- Gateway address: **192.168.0.1**



Menu 1

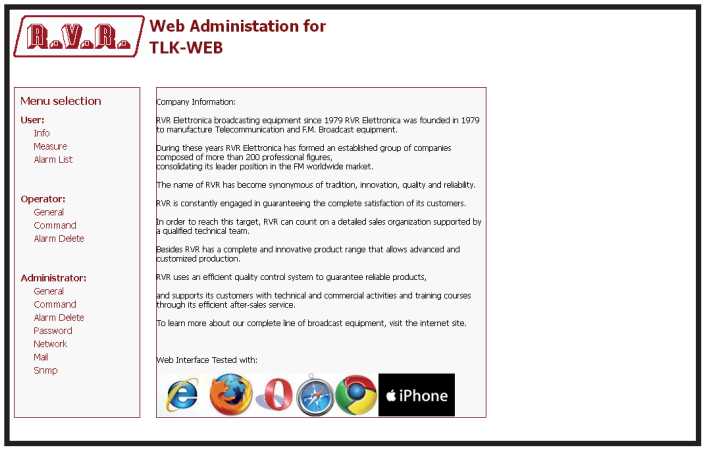
Nota : *If address* ***http://192.168.0.244*** *does not work, check and set IP address as* ***192.168.0.XXX*** *(where XXX is a figure between 1 and 254, excluding 244 that is* ***TLK300&2000*** *interface default address). To change the IP address, follow the instructions in the manual or in the online guide and technical help, specific for the Operating System you use.*

2) Modify the parameters in accordance with the own needs.

3) Now interface is ready to remotely read data and modify the various settings of the equipment.

8.1 Management Software

1) After access is made, the **Main menu** (main page) opens and shows possible viewing options. This picture shows the **Main menu** after access:



Menu 1

To enter in one of the sub-menus, select the name and then click on item to enter.

To go back to **MAIN menu**, just press the F5 key on your computer's keyboard to force the WEB page reload.

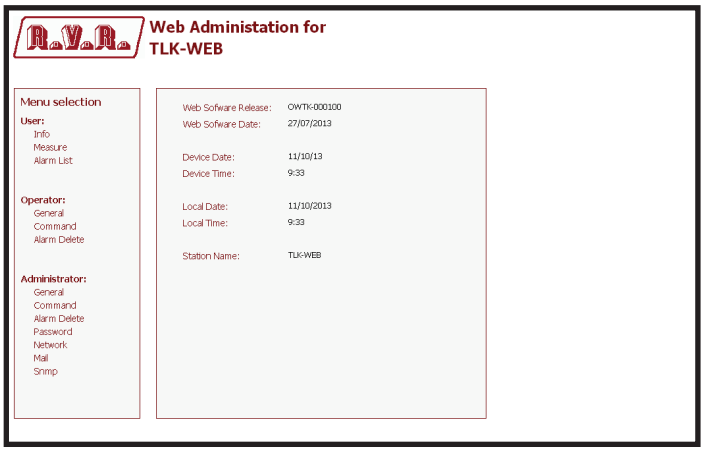
The page that appears is divided into three frames:

1) **Title**: it has the logo and an identification of the current page displayed. It is located on the top of the page.
2) **Navigation menu**: it allows you to select the page to display.
   To enter into a submenu, select the name and then click on the item to enter.
3) **Body**: area where the page displays information about the selected menu.

8.1.1 Info Menu - User

Values found here are “live readings”, and as such they can not be modified. To change the settings, use the **operator** or **administrator General** menu.

This page shows the user the data of **TLK300** or **TLK2000** interface:



Menu 2

`Web Software Release`
Shows the release of WEB firmware.

`Web Software Date`
Shows the issue date of WEB firmware.

`Device Date`
Shows the day stored on the equipment (dd/MM/yyyy).

`Device Time`
Shows the time stored on the equipment (hh:mm).

`Local Date`
Shows the day stored in your browser/PC (dd/MM/yyyy).

`Local Time`
Shows the time stored in your browser/PC (hh:mm).

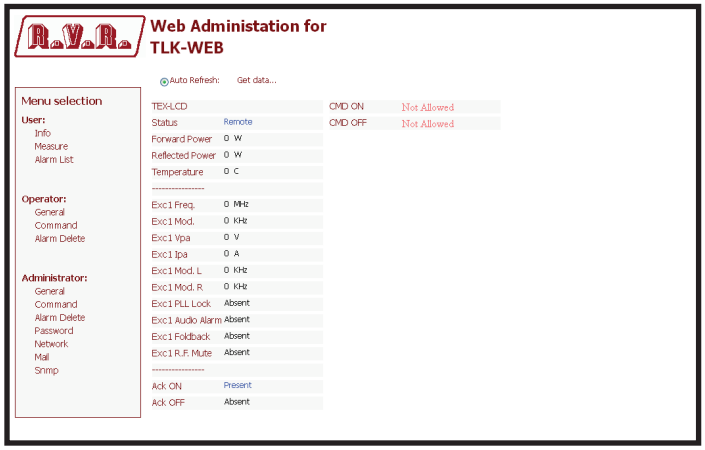
`Station Name`
Shows the ID name of transmitting station.

8.1.2 Measure Menu - User

Values found here are “live readings”, and as such they can not be modified. To change the settings, use the **operator** or **administrator Command** Menu.

The upper part allows you to enable or disable the Auto-refresh by clicking on the relevant box.
With Auto-refresh enabled the measures are taken every 3 seconds (“Get Data ..”) and gave available in a legible form by the current page (“Ready”).
With Auto-refresh disabled the measures are frozen (“Stopped”) at the time when you uncheck the box and gave available in a legible form by the current page.

This page shows the user the data of the exciter connected to the **TLK300** or **TLK2000** interface:



Menu 3

Nota: *an example of **TLK300** or **TLK2000** connected to **TEX-LCD**, made by **RVR**, is in the case shown above. The x next to EXC words is refer to the number of exciter to which the measure makes reference.*

`Status`
Shows the status of remote control.

`Forward Power`
Shows exciter forward power expressed in W.

`Reflected Power`
Shows exciter reflected power expressed in W.

`Temperature`
Shows equipment internal temperature reading expressed in °C.

`Exc x Freq.`
Shows operating frequency of exciter expressed in MHz.

`Exc x Mod.`
: Shows exciter modulation expressed in kHz.

`Exc x Vpa`
: Shows exciter amplifier module voltage expressed in V.

`Exc x Ipa`
: Shows exciter amplifier module current expressed in A.

`Exc x Mod.L`
: Shows modulation on left channel of exciter expressed in kHz.

`Exc x Mod.R`
: Shows modulation on right channel of exciter expressed in kHz.

`Exc x PLL Lock`
: Shows the lock status at frequency set by PLL.

`Exc x Audio Alarm`
: Shows the status of an impasse due to excessive SWR.

`Exc x Foldback`
: Shows the triggered status of the foldback function (automatic reduction of output power).

`Exc x Ext R.F. Mute`
: Shows the status of power inhibition by an interlock signal.

`CMD ON`
: Not allowed through User credentials.

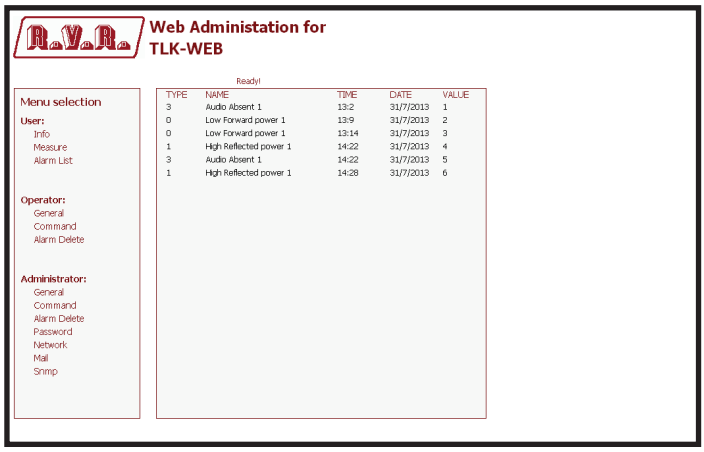
`CMD OFF`
: Not allowed through User credentials.

8.1.3 Alarm List menu - User

Values found here are “live readings”, and as such they can not be modified. To change the settings, use the **operator** or **administrator Alarm Delete** Menu.

Within this menu you can display all alarms saved by the system: any new event will automatically delete the older ones.

This page shows the user the alarms of the exciter connected to the **TLK300** or **TLK2000** interface:



Menu 4

`Type`

Shows the alarm code.

`Name`

Shows the description for the error that led to event recording.

`Time`

Shows event recording time (hh:mm).

`Date`

Shows the day event was recorded (dd/MM/yyyy).

`Value`

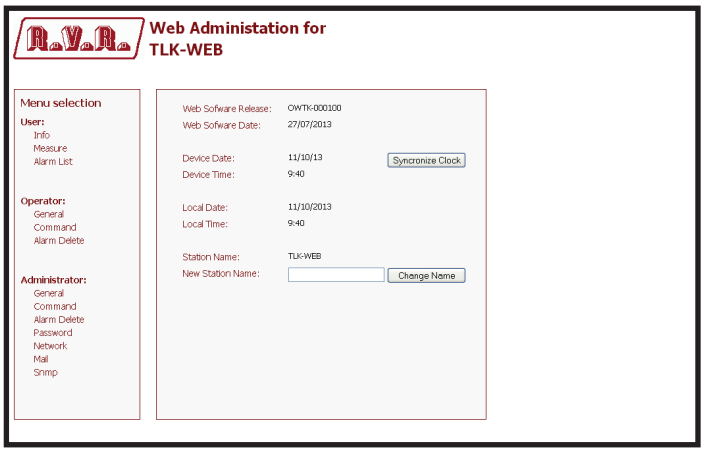
Shows progressive number for event recording.

8.1.4 General Menu - Operator & Administrator

Note : *Access to this menu and modifi cation of these parameters are only possible after login with operator or administrator rights.*

This page not only shows the user the information about the exciter connected to **TLK300** or **TLK2000** interface, but also allows setting various parameters.

Below will be described only items that allow the modification of the parameter, with respect to the Info menu. Press the buttons to confirm your choice; if you let timer to time out, the parameter setting will remain as previously set.



Menu 5

`Web Software Release`
Shows ID number of firmware release.

`Web Software Date`
Shows the date of firmware release.

`Device Date`
Allows you to align the date stored in the equipment with that of browser device, by pressing the **Syncronize Clock** button (dd/MM/yyyy).

`Device Time`
Allows you to align the time stored in the equipment with that of browser device, by pressing the **Syncronize Clock** button (hh:mm).

`Local Date`
Shows the current local Date stored relates on own browser/PC (dd/MM/yyyy).

`Local Time`
Shows the current local Time stored relates on own browser/PC (hh:mm).

`Station Name`
Shows ID (identifier) name of transmitting station.

`New Station Name`

Setting of the station name. Write the name in the box that you want to assign, then press the **Change Name** button to apply the choice.

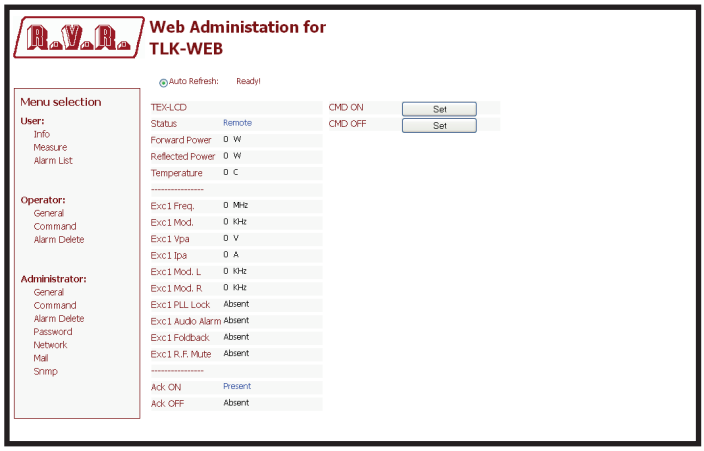
8.1.5 Command Menu - Operator & Administrator

Note : *Access to this menu and modification of these parameters are only possible after login with operator or administrator rights.*

This page not only shows the user the information about the exciter connected to the **TLK300** or **TLK2000** interface, but also allows setting various parameters.

The upper part allows you to enable or disable the Auto-refresh by clicking on the relevant box.
With Auto-refresh enabled the measures are taken every 3 seconds (“Get Data ..”) and gave available in a legible form by the current page (“Ready”).
With Auto-refresh disabled the measures are frozen (“Stopped”) at the time when you uncheck the box and gave available in a legible form by the current page.

Following is a description of the items that allow modification of the parameter, with respect to the Info menu. Press the buttons to confirm your choice; if you let timer to time out, the parameter setting will remain as previously set.



Menu 6

Nota: *an example of **TLK300** or **TLK2000** connected to **TEX-LCD**, made by **RVR**, is in the case shown above. The x next to EXC words is refer to the number of exciter to which the measure makes reference.*

`Status`

Shows the status of remote control.

`Forward Power`
Mostra la potenza diretta dell'eccitatore espressa in W.

`Reflected Power`
Mostra la potenza riflessa dell'eccitatore espressa in W.

`Temperature`
Mostra la lettura della temperatura interna dell' apparecchiatura espressa in °C.

`Exc x Freq.`
Shows operating frequency of exciter expressed in MHz.

`Exc x Mod.`
Shows exciter modulation expressed in kHz.

`Exc x Vpa`
Shows exciter amplifier module voltage expressed in V.

`Exc x Ipa`
Shows exciter amplifier module current expressed in A.

`Exc x Mod.L`
Shows modulation on left channel of exciter expressed in kHz.

`Exc x Mod.R`
Shows modulation on right channel of exciter expressed in kHz.

`Exc x PLL Lock`
Shows the lock status at frequency set by PLL.

`Exc x Audio Alarm`
Shows the status of an impasse due to excessive SWR.

`Exc x Foldback`
Shows the triggered status of the foldback function (automatic reduction of output power).

`Exc x Ext R.F. Mute`
Shows the status of power inhibition by an interlock signal.

`CMD ON`
Press **Set** to change the logical state of the data.

`CMD OFF`
Press **Set** to change the logical state of the data.

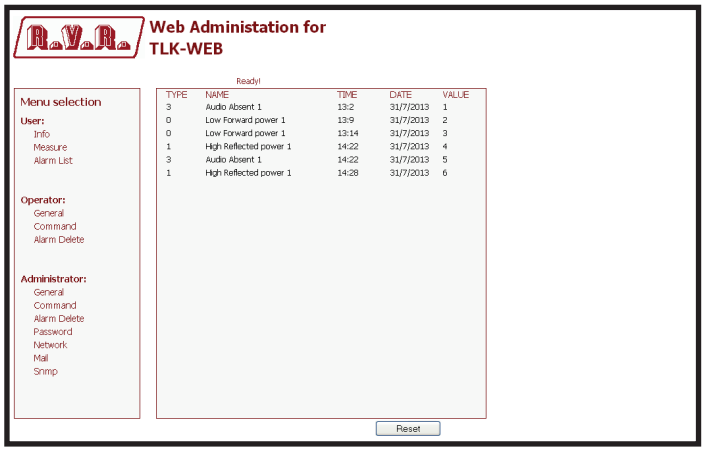
8.1.6 Alarm Delete Menu - Operator & Administrator

Note : *Access to this menu and modification of these parameters are only possible after login with operator or administrator rights.*

Values found here are “live readings”, and as such they can not be modified.

Within this menu you can display the last 20 alarms saved by the system: any new event will automatically delete the older ones. Using **Reset** item at bottom right of the menu, you can delete all pending alarms.

This page shows the user the alarms of the exciter connected to the **TLK300** or **TLK2000** interface:



Menu 7

`Type`

Shows the alarm code.

`Name`

Shows the description for the error that led to event recording.

`Time`

Shows event recording time (hh:mm).

`Date`

Shows the day event was recorded (dd/MM/yyyy).

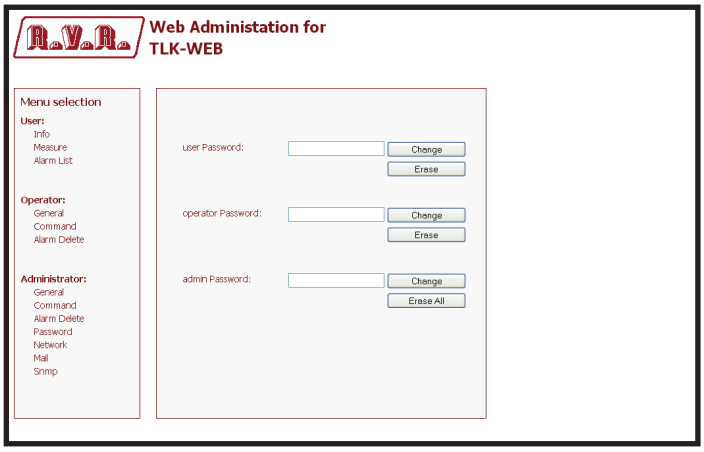
`Value`

Shows progressive number for event recording.

8.1.7 Password Menu - Administrator

Note : *Access to this menu and modification of these parameters are only possible after login with administrator rights.*

This page allows the confi guration of login as an administrator and maintenance of **TLK300** or **TLK2000** interface via WUI:



Menu 8

`User Password`

Shows and set the password for user functions (parameter read-only enabling).
The **Erase** button allows you to delete the password set for maintenance.

`Operator Password`

Shows and set the password for operator functions (parameter reading and partial change enabling).
The **Erase** button allows you to delete the password set for maintenance.

`Admin Password`

Shows and set the password for administrator functions (parameter reading and full change enabling).
The **Erase All** button allows you to delete the password set both for the administrator and for the maintenance.

8.1.8 Network Menu - Administrator

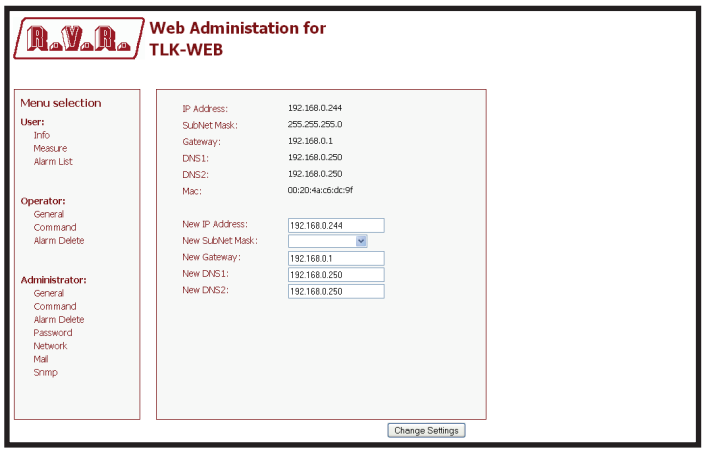
Note : *Access to this menu and modification of these parameters are only possible after login with administrator rights.*

This page not only shows the user the information about **TLK300** or **TLK2000** interface network connection, but also allows setting various parameters.

Press the **Change Settings** button to confirm selection; if you let timer to time out, the parameter setting will remain as previously set.

Nota : *to make changes within these sub-menus you need to have through technical knowledge of network management. It is recommended to have changes performed by trained or qualifi ed personnel.*

Note: *The IP address must be set to static and does not have the opportunity to acquire an address from DHCP server on network.*



Menu 9

`IP Address`

Shows the number that unequivocally identifies, within a single network, the devices connected to an IT network that uses the IP standard (Internet Protocol).

`Subnet Mask`

Shows the subnet mask, necessary for the computer that must communicate with another IP address to know if it should route packages toward the gateway of its local network or use the address of the receiver local network.

`Gateway`

Shows gateway address. In simpler networks, there is only one gateway that forwards to the internet network all the outbound traffic. In more complicated networks where many subnets are available, each of them refers to a gateway that will route data traffic towards the other subnets or forward it to other gateways.

DNS1 server
: Shows the first DNS server address (Domain Name System); in case the server should change the server hosting a service, or it is necessary to change its IP address, it is enough to change the DNS record, without changing client settings.

DNS2 server
: Shows the second DNS server address (Domain Name System); in case the server should change the server hosting a service, or it is necessary to change its IP address, it is enough to change the DNS record, without changing client settings.

MAC Address
: Shows the MAC (Media Access Control) address; this address is uniquely assigned to the ethernet network card present on exciter. It can be useful if you want to add in your router, or firewall, a list of MAC addresses of network cards authorized to connect to the network.

New IP address
: Set the new IP (Internet Protocol) number.

New Subnet Mask
: Set the new subnet mask.

New Gateway
: Set the new gateway address.

DNS1 server
: Set the new first DNS server address (Domain Name System).

DNS2 server
: Set the new second DNS server address (Domain Name System).

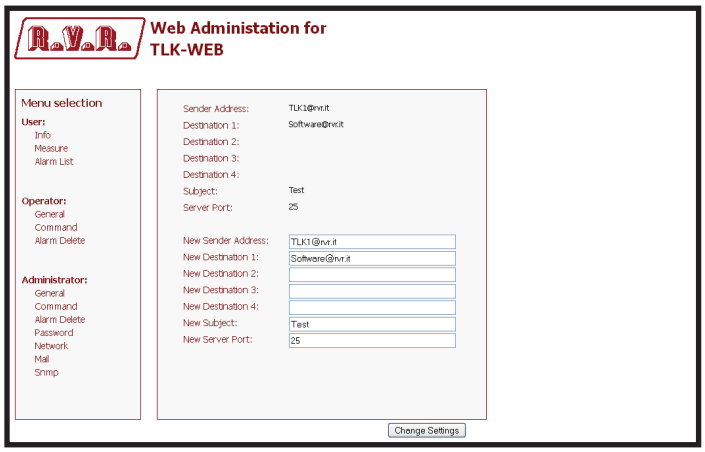
8.1.9 Network Menu - Administrator

Note : *Access to this menu and modification of these parameters are only possible after login with administrator rights.*

This page not only shows the user the information about sending messages through **TLK300** or **TLK2000** interface network connection, but also allows setting various parameters.

Press the **Change Settings** button to confirm selection; if you let timer to time out, the parameter setting will remain as previously set.

Note : *to make changes within these sub-menus you need to have through technical knowledge of network management. It is recommended to have changes performed by trained or qualifi ed personnel.*



Menu 14

`Sender Address`
Shows the transmission address used for sending messages.

`Destination 1`
Shows the fi rst address to which alarm warning mail messages shall be sent.

`Destination 2`
Shows the second address to which alarm warning mail messages shall be sent.

`Destination 3`
Shows the third address to which alarm warning mail messages shall be sent.

`Destination 4`
Shows the fourth address to which alarm warning mail messages shall be sent.

`Subject`

Shows the description of the “subject” field of mail in case of sending alarm messages.

`Server Port`

Shows the port used by TCP transmission protocol.

`New Sender Address`

Set the new transmission address used for sending messages.

`New Destination 1`

Set the new first email address to which alarm warning mail messages shall be sent.

`New Destination 2`

Set the new second email address to which alarm warning mail messages shall be sent.

`New Destination 3`

Set the new third email address to which alarm warning mail messages shall be sent.

`New Destination 4`

Set the new fourth email address to which alarm warning mail messages shall be sent.

`New Subject`

Set the new description of the “subject” field of the mail in case of sending alarm messages.

`New Server Port`

Set the new port used by SMTP server for the transmission of email.

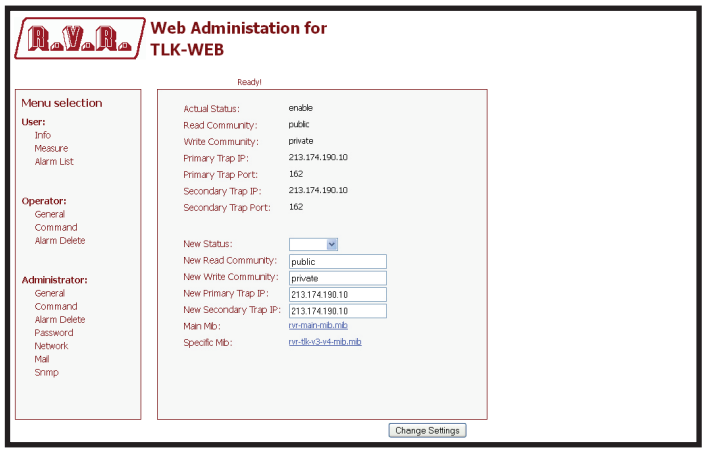
8.1.10 SNMP Menu - Administrator

Note : *Access to this menu and modification of these parameters are only possible after login with administrator rights.*

This page not only shows the user the information related to the management and supervision of the devices connected to the network via SNMP (Simple Network Management Protocol), but also allows setting various parameters.

Press the **Change Settings** button to confirm selection; if you let timer to time out, the parameter setting will remain as previously set.

Nota : *to make changes within these sub-menus you need to have through technical knowledge of network management. It is recommended to have changes performed by trained or qualifi ed personnel.*



Menù 9

`Actual Status`

Viewing the status of the SNMP service.

`Read Community`

Viewing the set string for GET command that allows you to monitor the different variables of the system managed.

`Write Community`

Viewing the set string for SET command that allows you to monitor the different variables of the system managed.

`Primary Trap IP`

Viewing the first Trap destination with the IP to which alarm warning messages shall be sent.

`Primary Trap Port`

Viewing the first Trap destination with the Port to which alarm warning messages shall be sent. The destination port of the Trap can not be edited.

`Secondary Trap IP`

Viewing the second Trap destination with the IP to which alarm warning messages shall be sent.

`Secondary Trap Port`

Viewing the second Trap destination with the Port to which alarm warning messages shall be sent. The destination port of the Trap can not be edited.

`New Read Community`

Imposta la stringa per il comando SET.

`New Write Community`

Imposta la stringa per il comando GET.

`New Primary Trap IP`

Set the identification number of the primary IP address set to send the Trap signaling. It must be in dotted format XXX.XXX.XXX.XXX (ie: 192.168.0.5).

`New Secondary Trap IP`

Set the identification number of the secondary IP address set to send the Trap signaling. It must be in dotted format XXX.XXX.XXX.XXX (ie: 192.168.0.5).

`Main MIB`

By pressing the *.MIB you can download onto your PC, or browser device, the main MIB files of manufacturer of product stored in **TLK300 & TLK2000**.

`Specific MIB`

By pressing the *.MIB you can download onto your PC, or browser device, the specific MIB files of product stored in **TLK300 & TLK2000**.

9. Versions with GSM

This section describes the features introduced with versions **/V2** and **/V4** (option with GSM telemetry) and the necessary steps for their proper configuration.

These versions are able to handle remote the alarm reporting by sending SMS messages through a internal GSM modem or through a dial-up external PSTN modem (option on demand) by sending an alarm message string to a connected PC.

Before querying the system using SMS messages, establish a connection using the “TELECON” software and set the provider service centre number and the telephone numbers authorised to send these commands to the devices.

When any one of the parameters listed above changes state, a text message with the following information is sent via modem (if fitted):

- Station Name.
- Station ID.
- State of measurements.

ES1. (example of TLK300/2000 in double exciter configuration with external switching unit)

TLC ID:01-Station name-
FwdPwr1 OK-
RflPwr1 OK-
Temp1 OK-
Audio1 OK-
Mains OK-
SCM Fault OK-
Audio2 OK-

ES2. (example of TLK300/2000 in single exciter configuration)

TLC ID:01-Station name-
FwdPwr1 OK-
RflPwr1 OK-
Temp1 OK-
Audio OK-
Mains OK-

The versions with GSM support the following commands:

Command	Response	Description
INFO	Station Name: (string 16char max) Station ID: (to 000 from 999) FWD Power: (Exciter Forward Power in W) RFL Power: (Exciter Reflected Power in W) Temp: (Temperature in °C) Tx ON (Tx state ON/OFF/STAND-BY) Local (Local, Remote) Alarm Present (Present/Absent)	Transmitter status information
TXON	Station Name: (string 16char max) Station ID: (from 000 to 999) Tx is ON, Fault Command	Transmitter power-on
TXOFF	Station Name: (string 16char max) Station ID: (from 000 to 999) Tx is OFF, Fault Command	Transmitter power-off
ALARM	Station Name: (string 16char max) Station ID: (to 000 from 999) Alarm: (Last 4 alarm list store in memory)	Alarm log
RESET	Station Name: (string 16char max) Station ID: (to 000 from 999) RESET stored Record	Clear Alarm Log
STATUS	Station Name: (string 16char max) Station ID: (to 000 from 999) Status: Resend status alarm message	Resend the alarm status information
VERSION	Station Name: (string 16char max) Station ID: (to 000 from 999) Release App, Release Bios, Table Code	Software Version informations

Table 9.2 - V2 and V4 versions

Note: Response time to SMS commands may vary with different GSM network providers; as a general rule, response time should not exceed 7-10 minutes maximum.

10. Configurations of Transmitter System

Below are listed the several possible system configurations, the configuration that needs to assume on the dip switch and the screens obtainable via WEB.

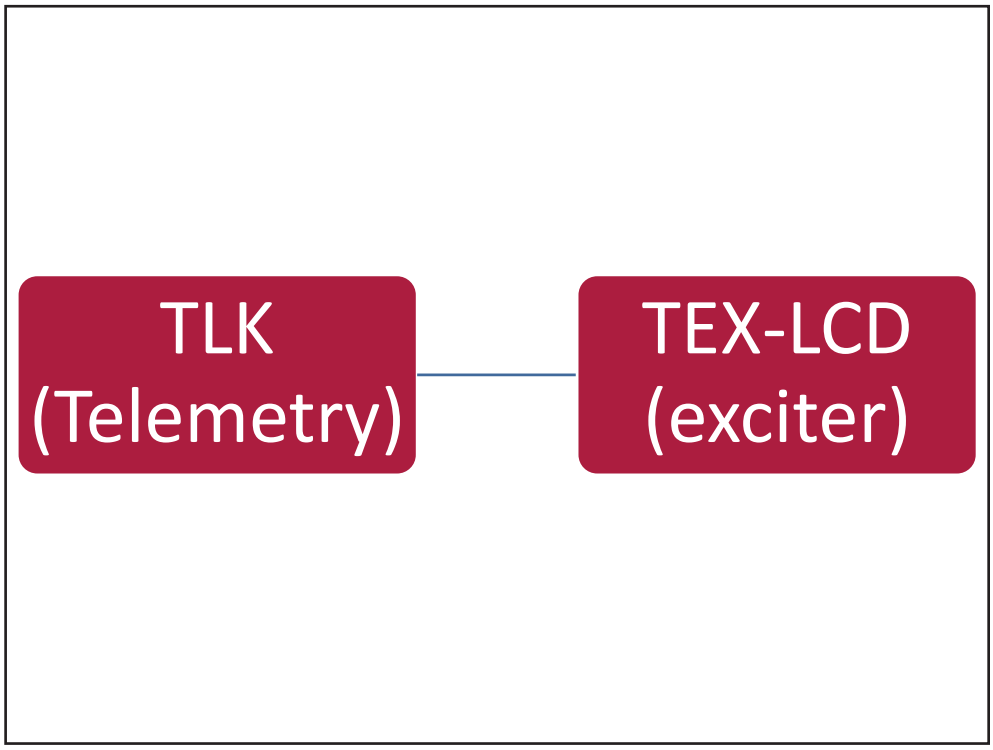
Note: *for further information on the Dip Switch, please read the section on Dip Switch Configuration present in this manual.*

10.1 Configuration of Transmitter from V1 to V4 Versions

10.1.1 Configuration of System 01

Composition:

- TLK (telemetry)
- TEX-LCD (exciter)



Configuration #01: ***System***

10.1.1.1 Configuration of Dip Switch for System 01

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 1									x							

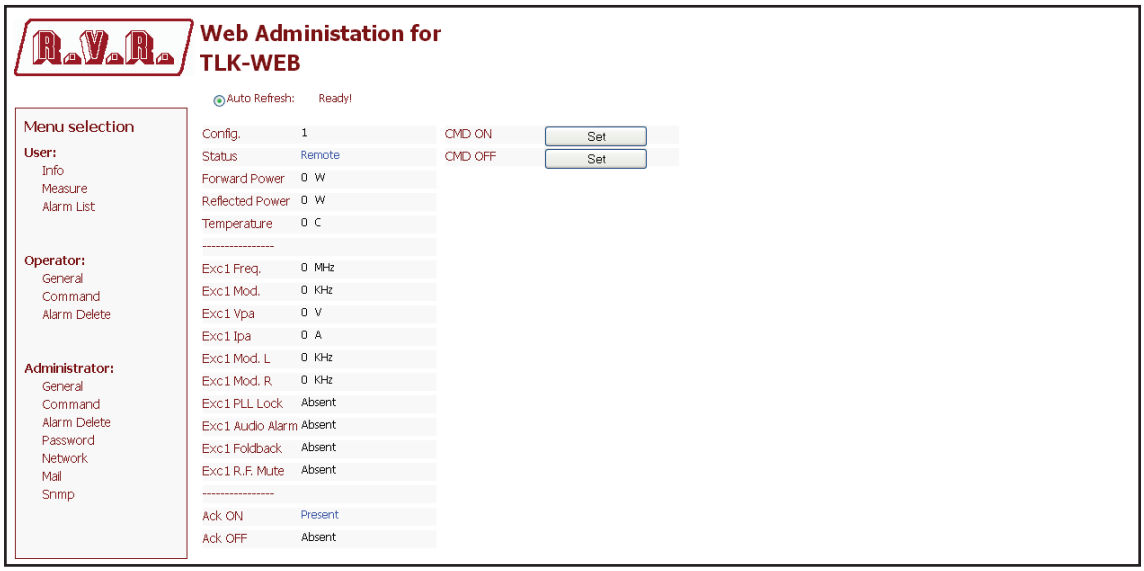
Configuration #01: ***Dip Switch***

10.1.1.2 I²C Address for System 01

adr	TEX#1	TEX#2	SCM	HC o PA	PA	PA	PA	PA	PA
Config 01	1								

Configuration #01: ***I²C Address***

10.1.1.3 Command Menu - Operator & Administrator for System 01

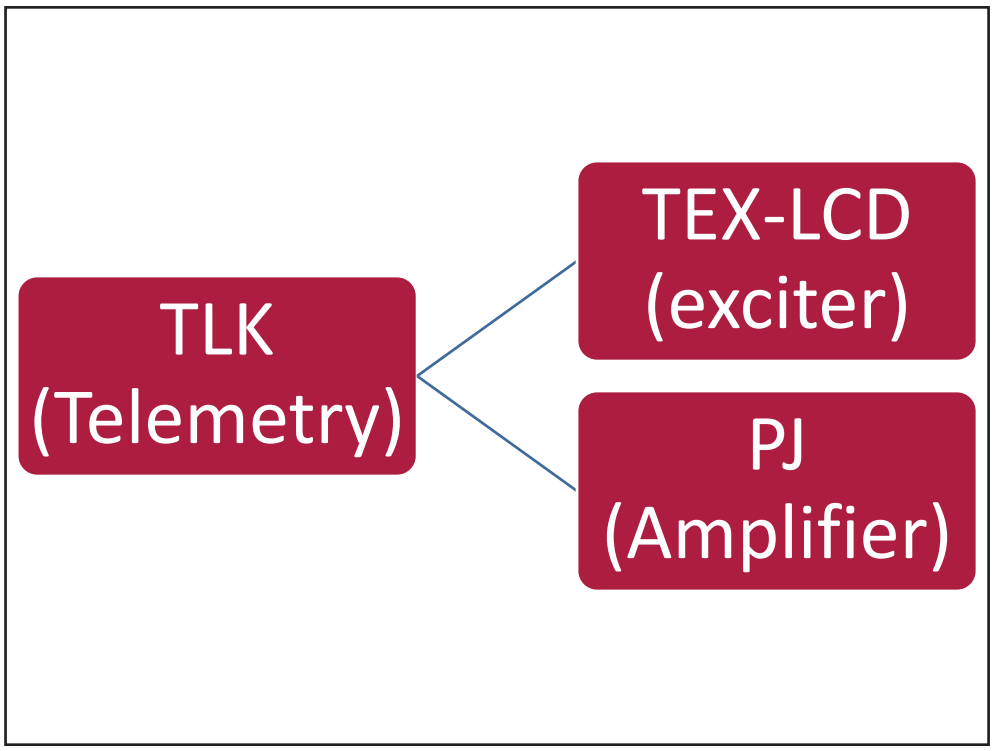


Configuration #01: ***Screen Command***

10.1.2 Configuration of System 02

Composition:

- TLK (telemetry)
- TEX-LCD (exciter)
- PJ (amplifier)



Configuration #02: ***System***

10.1.2.1 Configuration of Dip Switch for System 02

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 2										x						

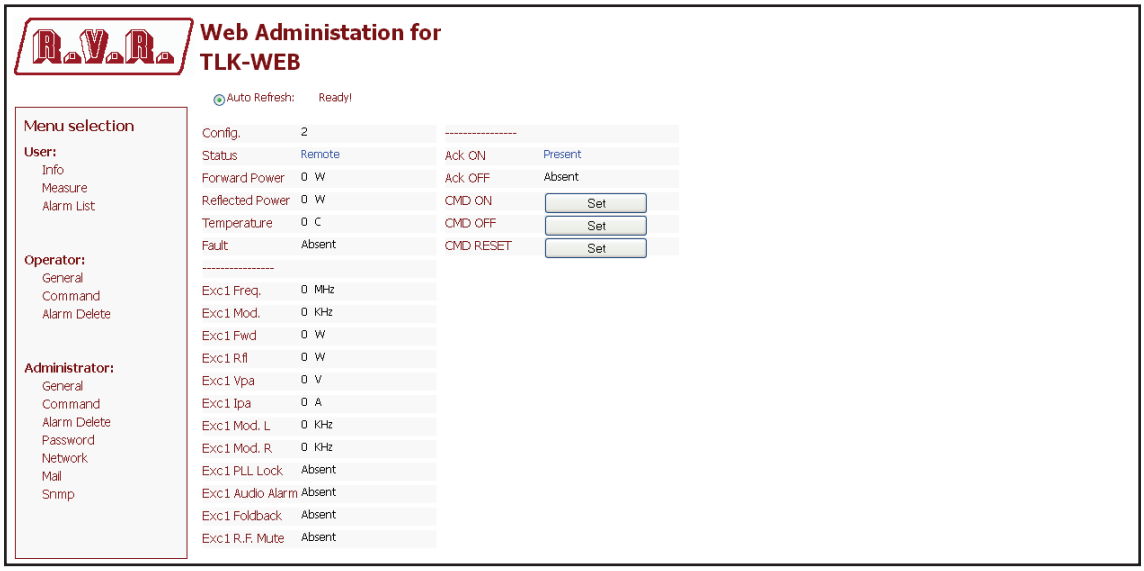
Configuration #02: ***Dip Switch***

10.1.2.2 I²C Address for System 02

adr	**TEX#1**	**TEX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 02	1			4					

Configuration #02: ***I²C Address***

10.1.2.3 Command Menu - Operator & Administrator for System 02

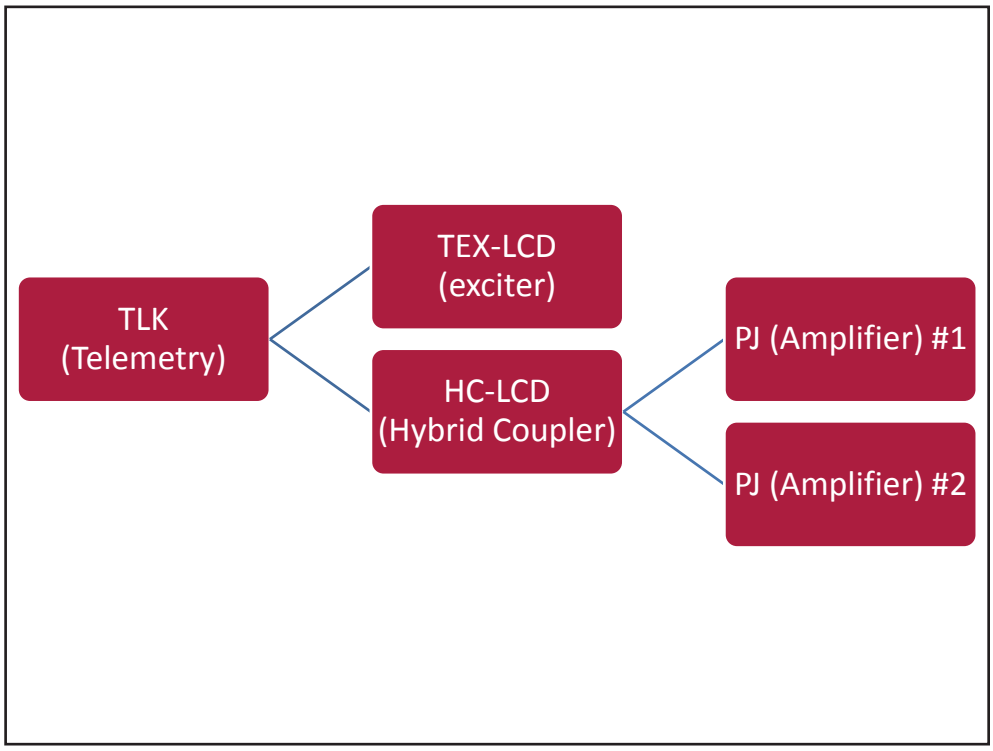


Configuration #02: ***Screen Command***

10.1.3 Configuration of System 03

Composition:

- TLK (telemetry)
- TEX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 2x PJ (amplifier)



Configuration #03: ***System***

10.1.3.1 Configuration of Dip Switch for System 03

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 3									x	x						

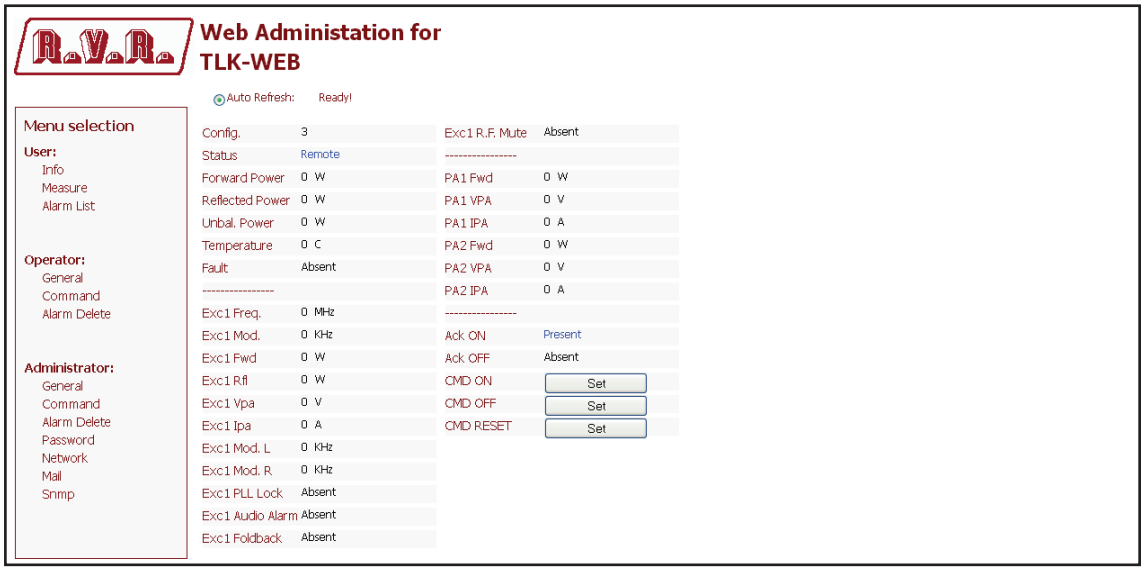
Configuration #03: ***Dip Switch***

10.1.3.2 I²C Address for System 03

adr	**TEX#1**	**TEX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 03	1			4	5	6			

Configuration #03: ***I²C Address***

10.1.3.3 Command Menu - Operator & Administrator for System 03

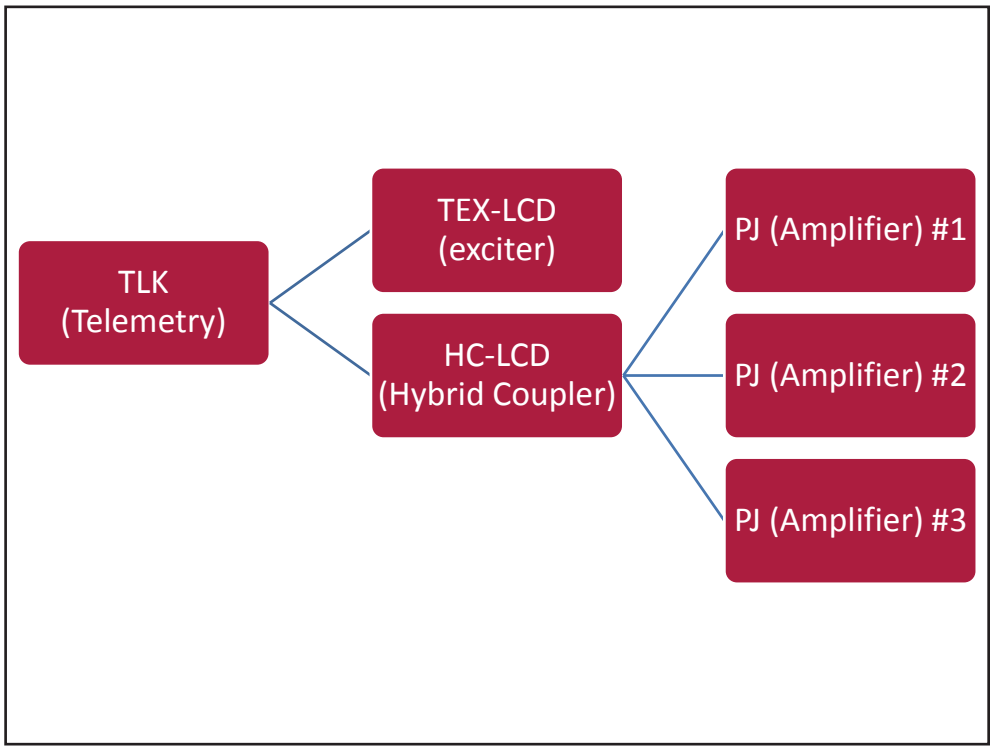


Configuration #03: ***Screen Command***

10.1.4 Configuration of System 04

Composition:

- TLK (telemetry)
- TEX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 3x PJ (amplifier)



Configuration #04: ***System***

10.1.4.1 Configuration of Dip Switch for System 04

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 4											x					

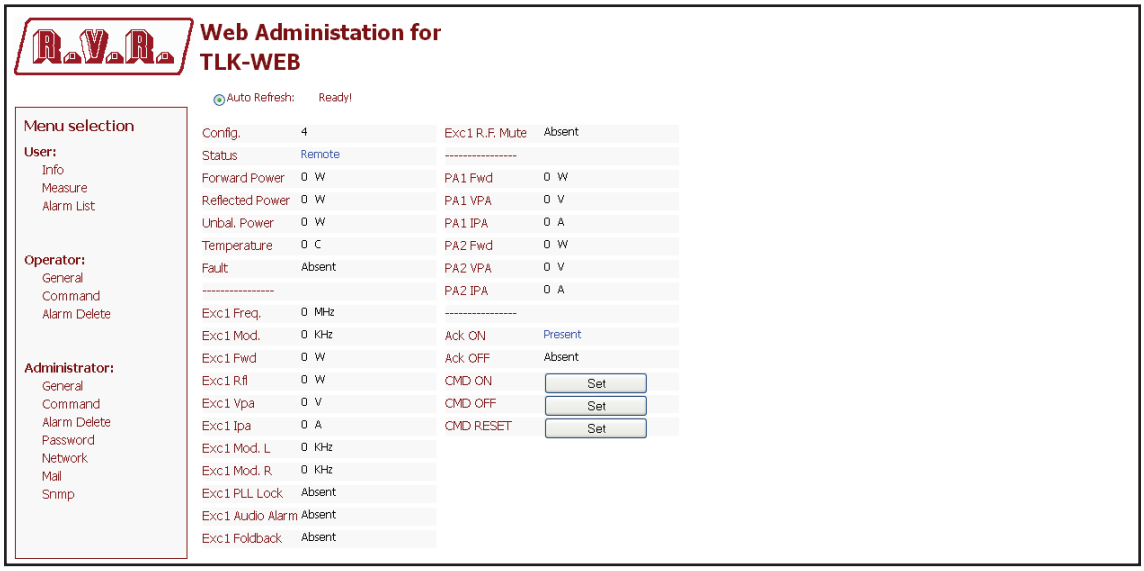
Configuration #04: ***Dip Switch***

10.1.4.2 I²C Address for System 04

adr	**TEX#1**	**TEX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 04	1			4	5	6	7		

Configuration #04: ***I²C Address***

10.1.4.2 Command Menu - Operator & Administrator for System 04

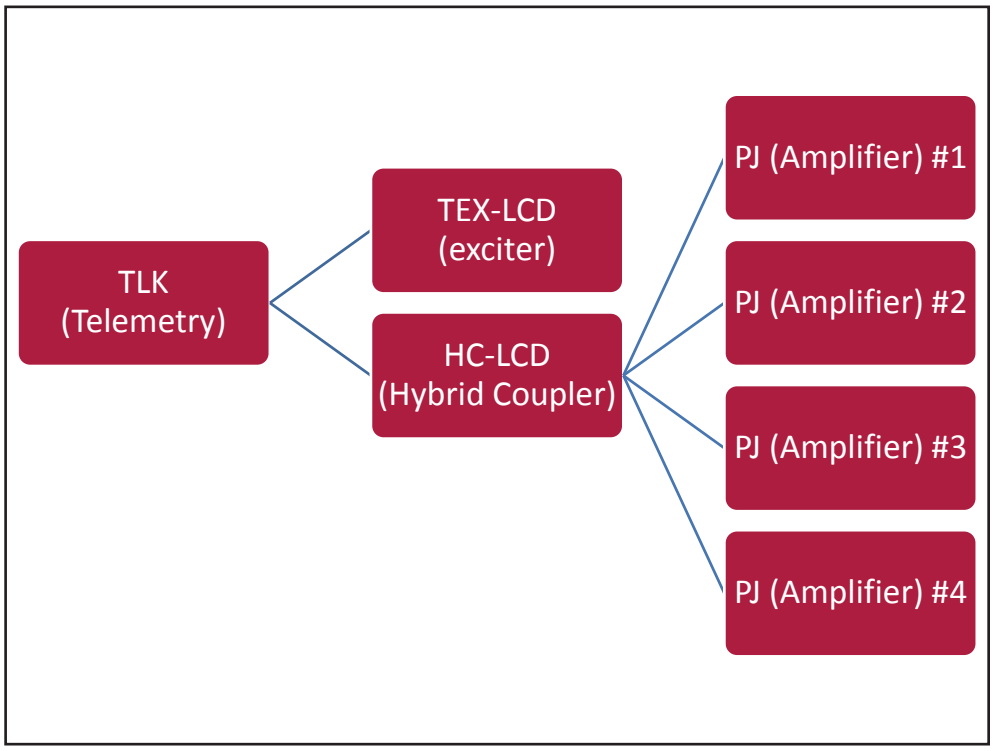


Configuration #04: ***Screen Command***

10.1.5 Configuration of System 05

Composition:

- TLK (telemetry)
- TEX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 4x PJ (amplifier)



Configuration #05: ***System***

10.1.5.1 Configuration of Dip Switch for System 05

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 5									x		x					

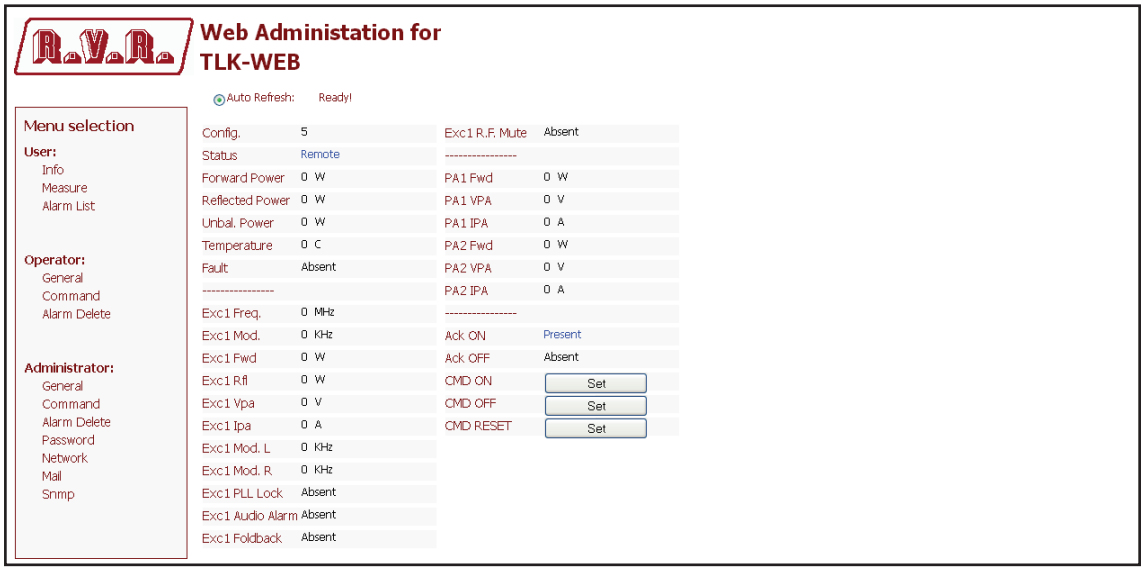
Configuration #05: ***Dip Switch***

10.1.5.2 I²C Address for System 05

adr	**TEX#1**	**TEX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 05	1			4	5	6	7	8	

Configuration #05: ***I²C Address***

10.1.5.3 Command Menu - Operator & Administrator for System 05

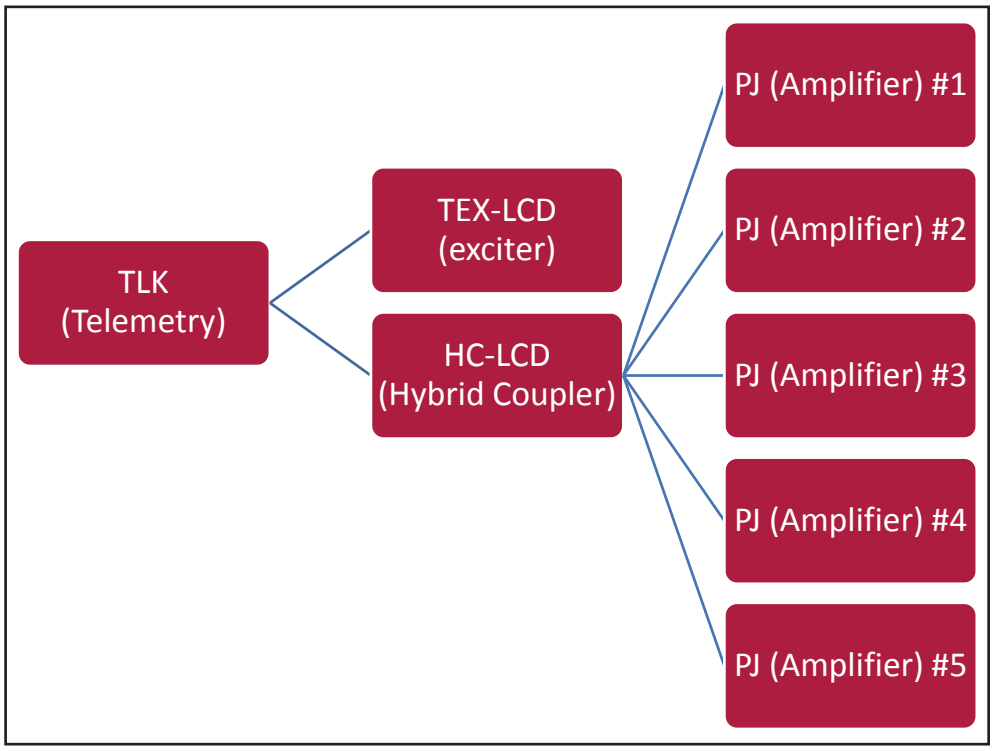


Configuration #05: ***Screen Command***

10.1.6 Configuration of System 06

Composition:

- TLK (telemetry)
- TEX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 5x PJ (amplifier)



Configuration #06: ***System***

10.1.6.1 Configuration of Dip Switch for System 06

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 6										x	x					

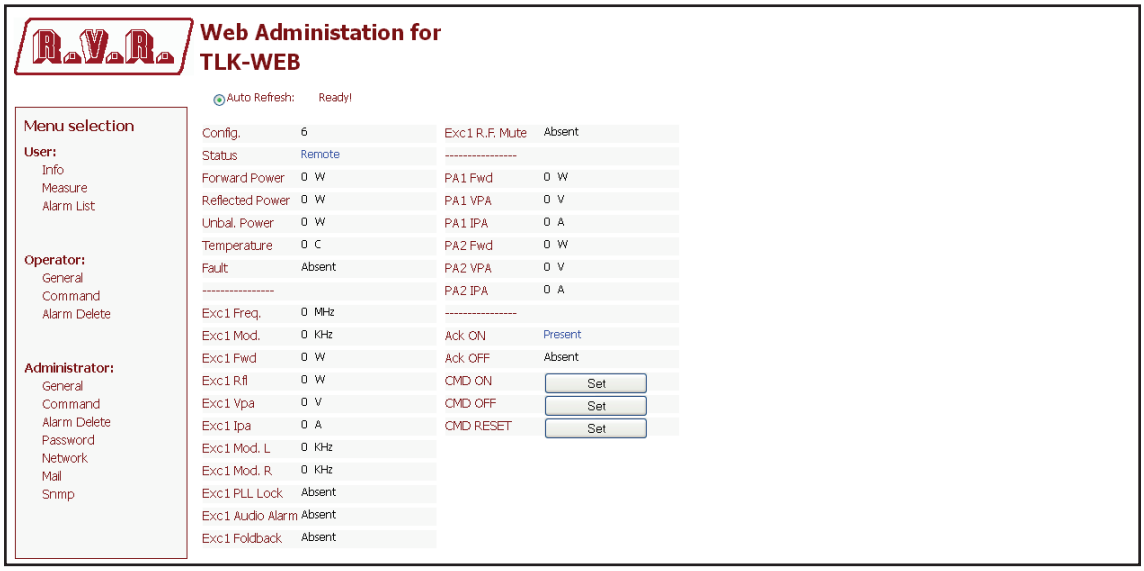
Configuration #06: ***Dip Switch***

10.1.6.2 I²C Address for System 06

adr	**TEX#1**	**TEX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 06	1			4	5	6	7	8	9

Configuration #06: ***I²C Address***

10.1.6.3 Command Menu - Operator & Administrator for System 06

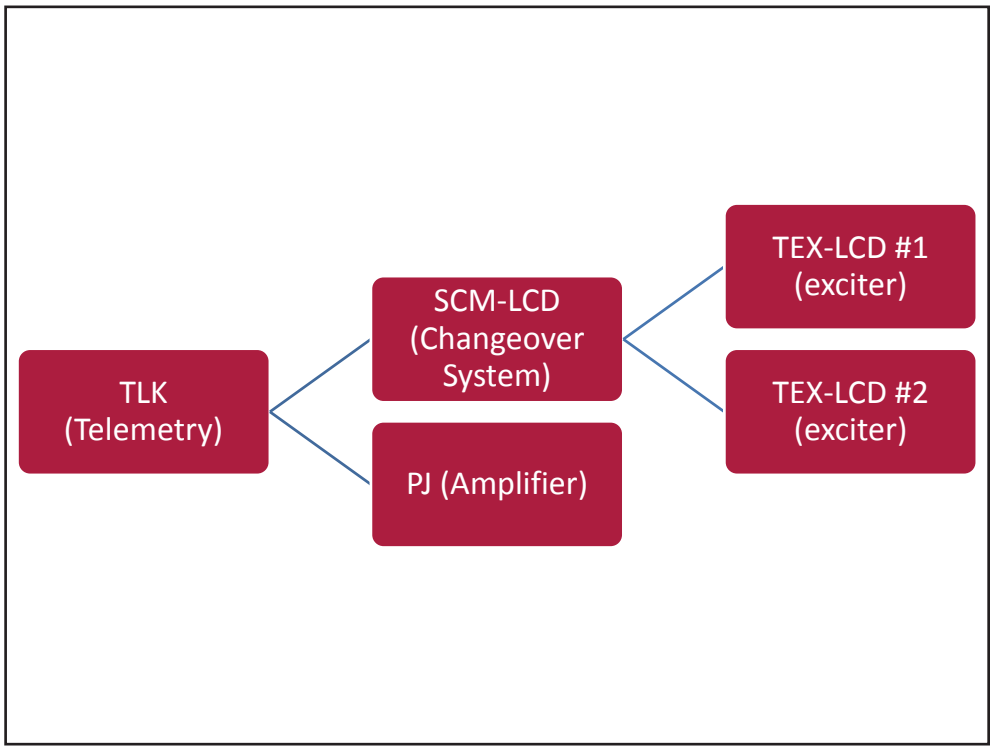


Configuration #06: ***Screen Command***

10.1.7 Configuration of System 07

Composition:

- TLK (telemetry)
- SCM-LCD (changeover)
- 2x TEX-LCD (exciter)
- PJ (amplifier)



Configuration #07: ***System***

10.1.7.1 Configuration of Dip Switch for System 07

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 7									x	x	x					

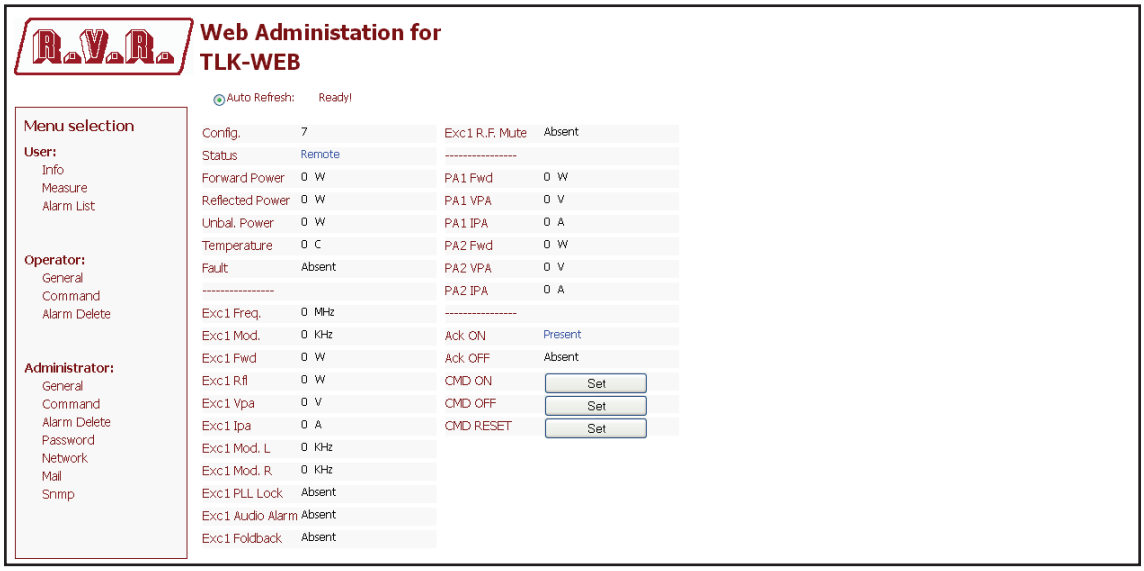
Configuration #07: ***Dip Switch***

10.1.7.2 I²C Address for System 07

adr	**TEX#1**	**TEX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 07	1	2	3	4					

Configuration #07: ***I²C Address***

10.1.7.3 Command Menu - Operator & Administrator for System 07

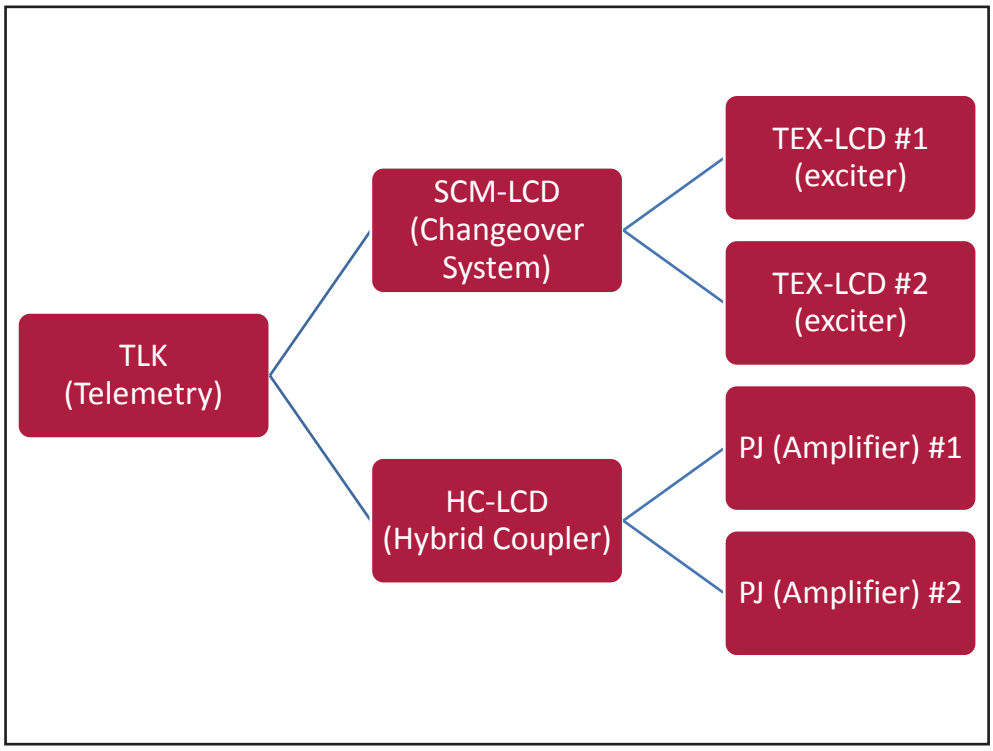


Configuration #07: ***Screen Command***

10.1.8 Configuration of System 08

Composition:

- TLK (telemetry)
- SCM-LCD (changeover)
- 2x TEX-LCD (exciter)
- 2x PJ (amplifier)



Configuration #08: ***System***

10.1.8.1 Configuration of Dip Switch for System 08

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 8												x				

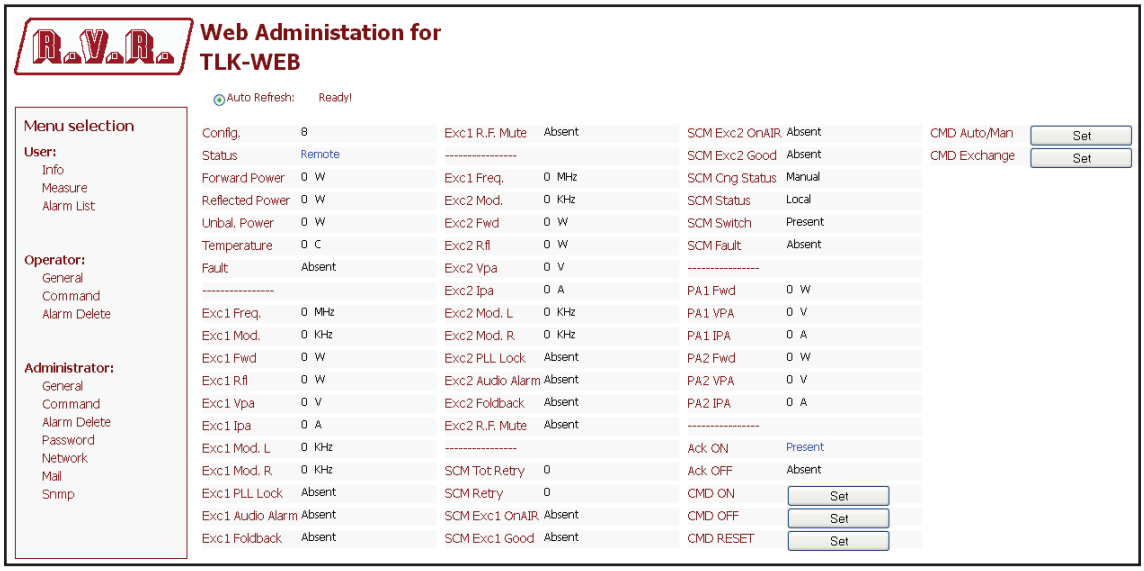
Configuration #08: ***Dip Switch***

10.1.8.2 I²C Address for System 08

adr	**TEX#1**	**TEX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 08	1	2	3	4	5	6			

Configuration #08: ***I²C Address***

10.1.8.2 Command Menu - Operator & Administrator for System 08

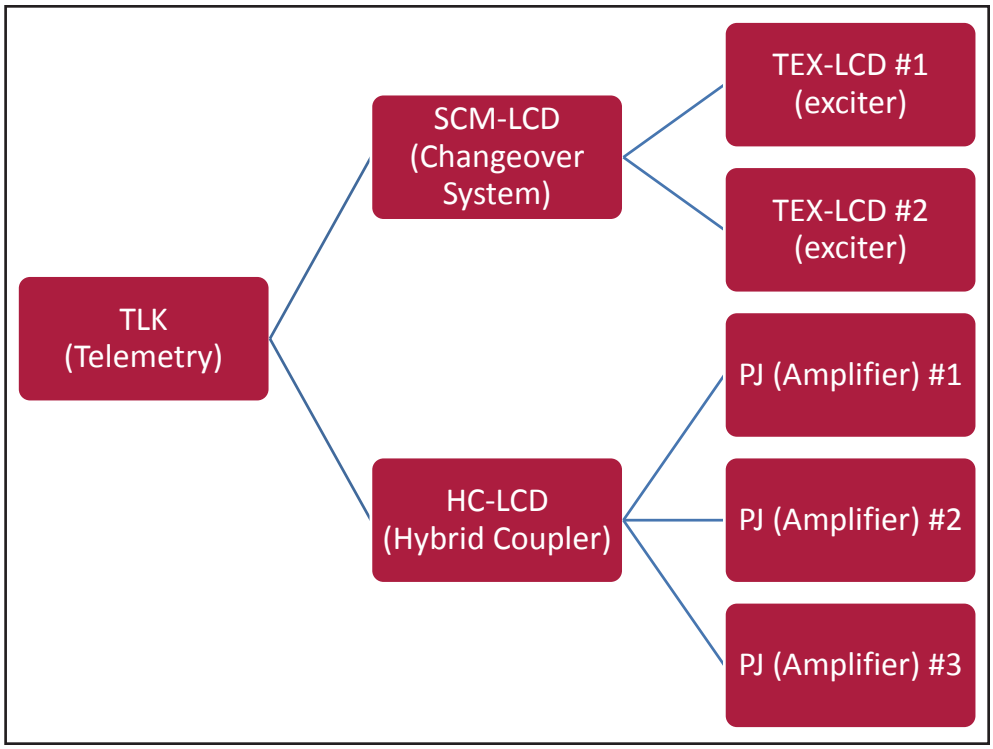


Configuration #08: ***Screen Command***

10.1.9 Configuration of System 09

Composition:

- TLK (telemetry)
- SCM-LCD (changeover)
- 2x TEX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 3x PJ (amplifier)



Configuration #09: ***System***

10.1.9.1 Configuration of Dip Switch for System 09

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 9									x			x				

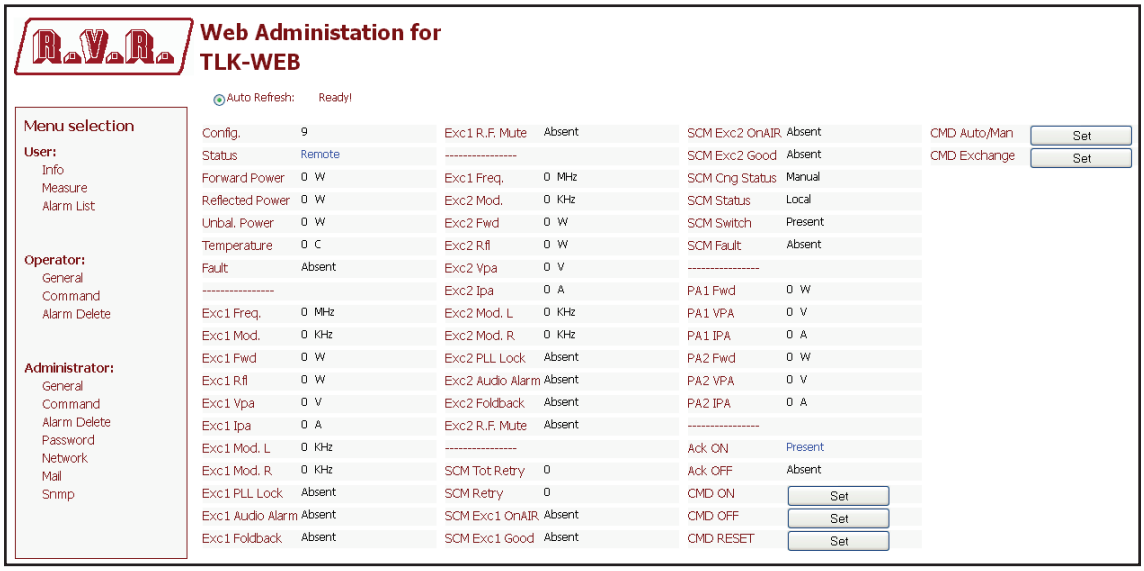
Configuration #09: ***Dip Switch***

10.1.9.2 I²C Address for System 09

adr	**TEX#1**	**TEX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 09	1	2	3	4	5	6	7		

Configuration #09: ***I²C Address***

10.1.9.2 Command Menu - Operator & Administrator for System 09

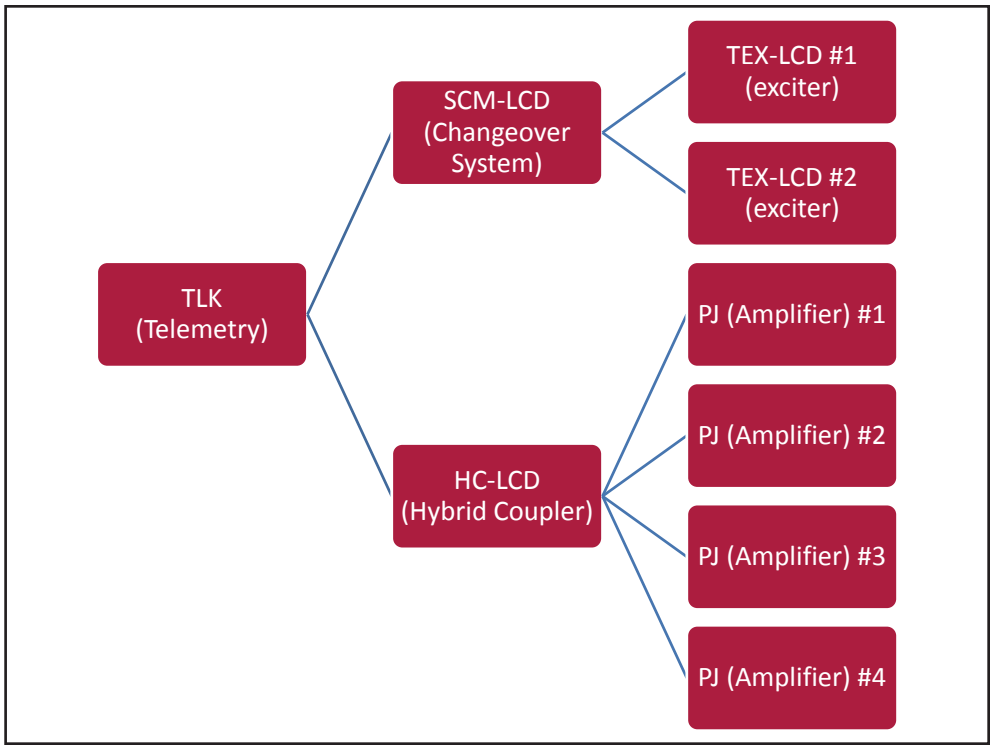


Configuration #09: ***Screen Command***

10.1.10 Configuration of System 10

Composition:

- TLK (telemetry)
- SCM-LCD (changeover)
- 2x TEX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 4x PJ (amplifier)



Configuration #10: ***System***

10.1.10.1 Configuration of Dip Switch for System 10

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 10										x		x				

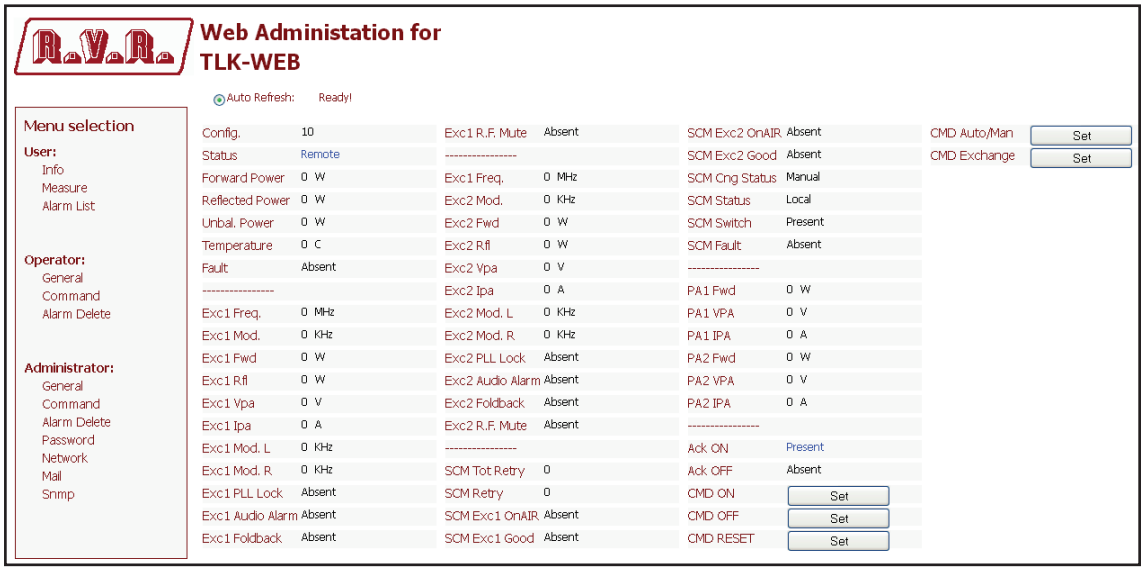
Configuration #10: ***Dip Switch***

10.1.10.2 I²C Address for System 10

adr	**TEX#1**	**TEX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 10	1	2	3	4	5	6	7	8	

Configuration #10: ***I²C Address***

10.1.10.2 Command Menu - Operator & Administrator for System 10

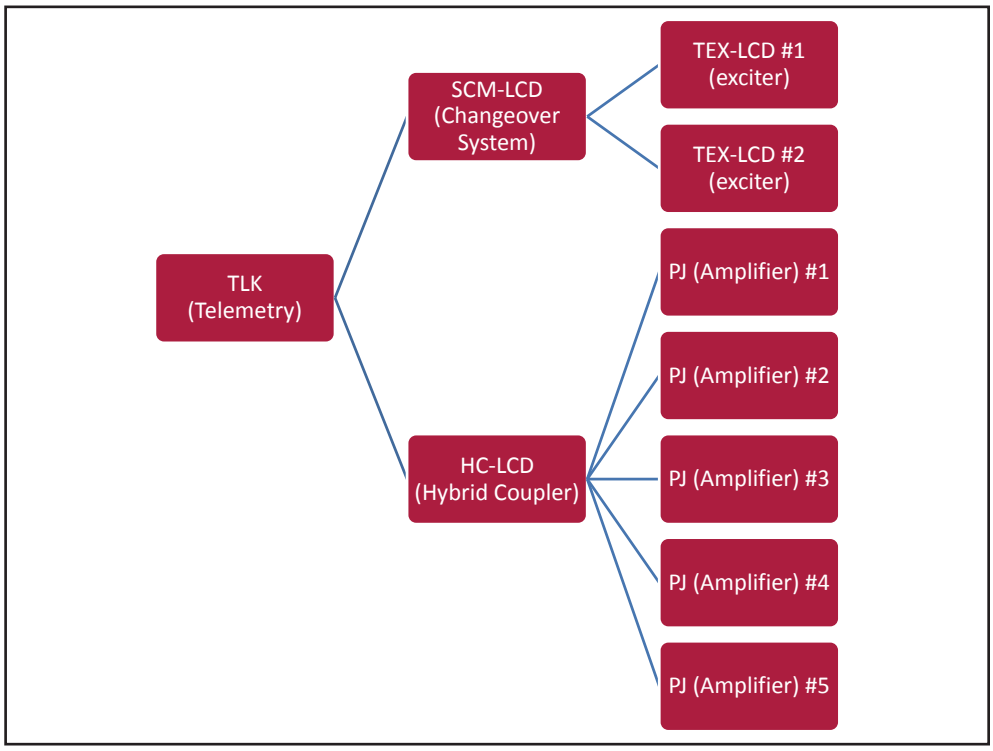


Configuration #10: ***Screen Command***

10.1.11 Configuration of System 11

Composition:

- TLK (telemetry)
- TEX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 5x PJ (amplifier)



Configuration #11: ***System***

10.1.11.1 Configuration of Dip Switch for System 11

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 11									x	x		x				

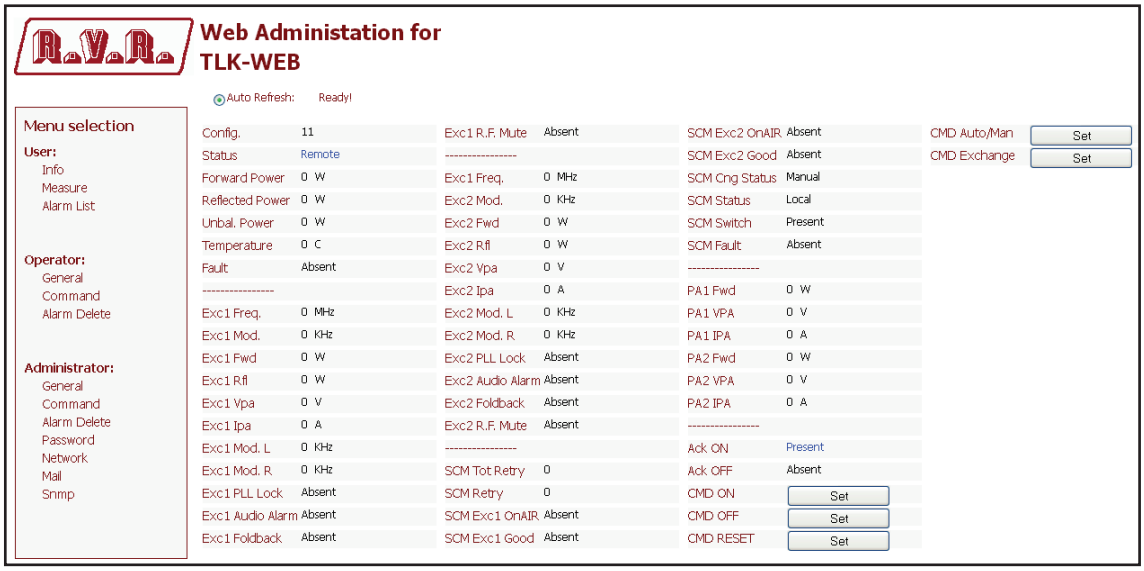
Configuration #11: ***Dip Switch***

10.1.11.2 I²C Address for System 11

adr	**TEX#1**	**TEX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 11	1	2	3	4	5	6	7	8	9

Configuration #11: ***I²C Address***

10.1.11.2 Command Menu - Operator & Administrator for System 11

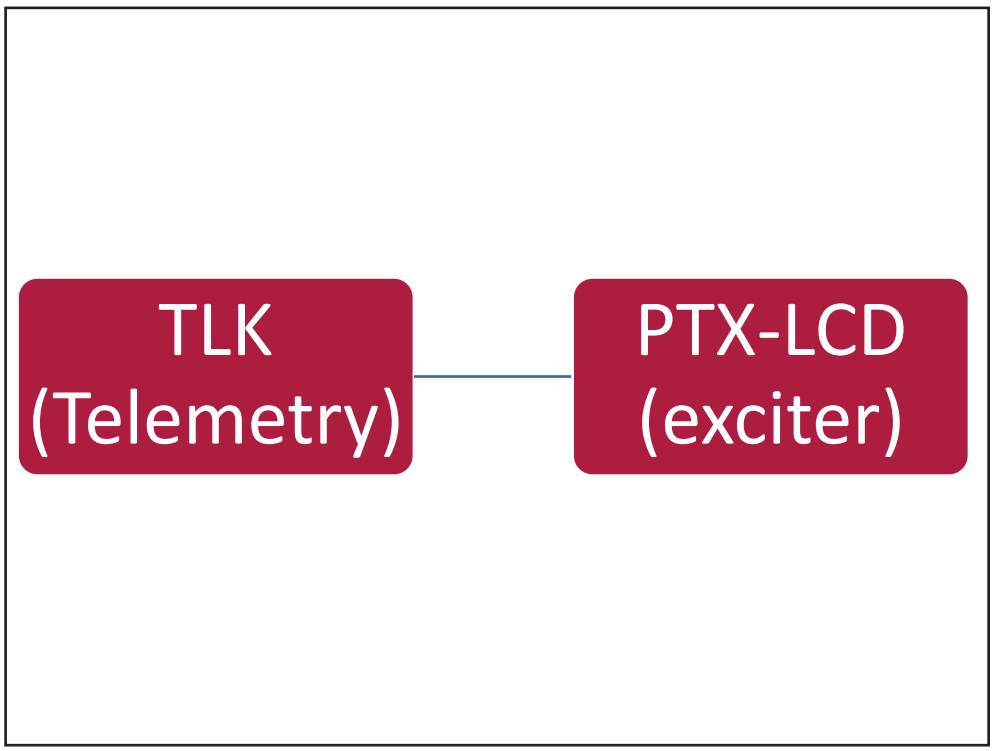


Configuration #11: ***Screen Command***

10.1.12 Configuration of System 12

Composition:

- TLK (telemetry)
- PTX-LCD (exciter)



Configuration #12: ***System***

10.1.12.1 Configuration of Dip Switch for System 12

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 12											x	x				

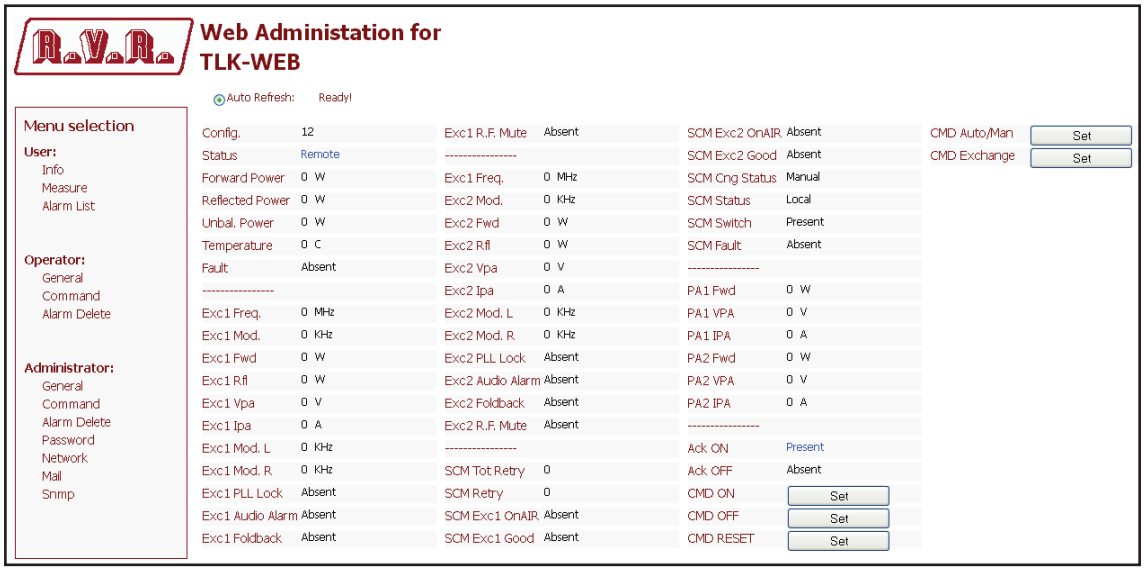
Configuration #12: ***Dip Switch***

10.1.12.2 I²C Address for System 12

adr	**PTX#1**	**PTX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 12	1								

Configuration #12: ***I²C Address***

10.1.12.3 Command Menu - Operator & Administrator for System 12

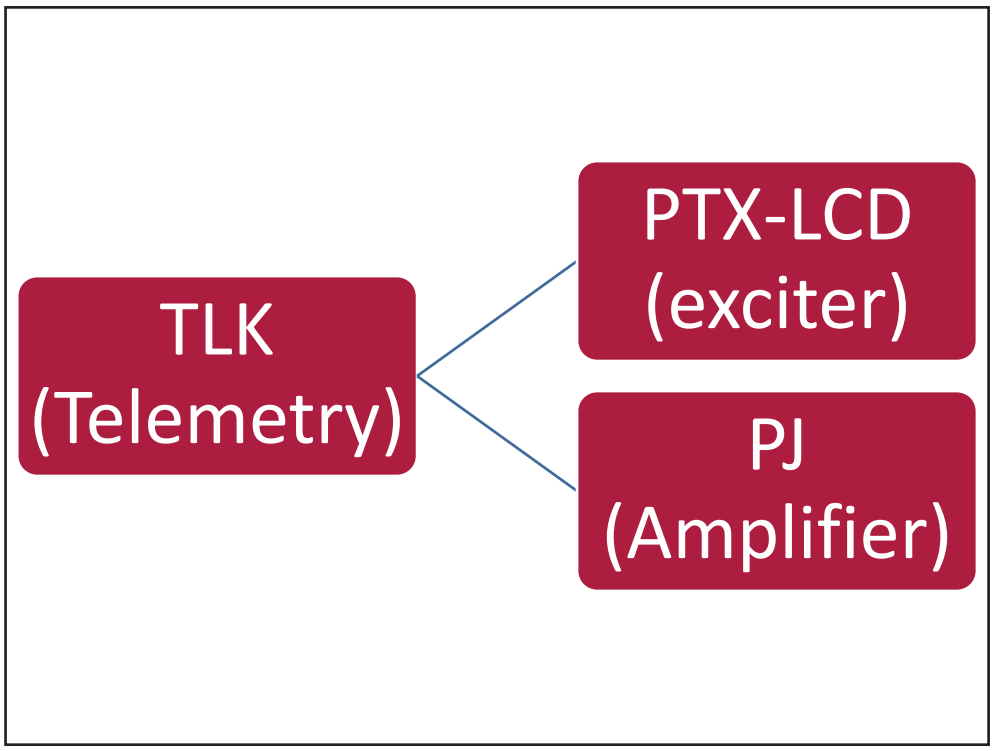


Configuration #12: ***Screen Command***

10.1.13 Configuration of System 13

Composition:

- TLK (telemetry)
- PTX-LCD (exciter)
- PJ (amplifier)



Configuration #13: ***System***

10.1.13.1 Configuration of Dip Switch for System 13

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 13									x		x	x				

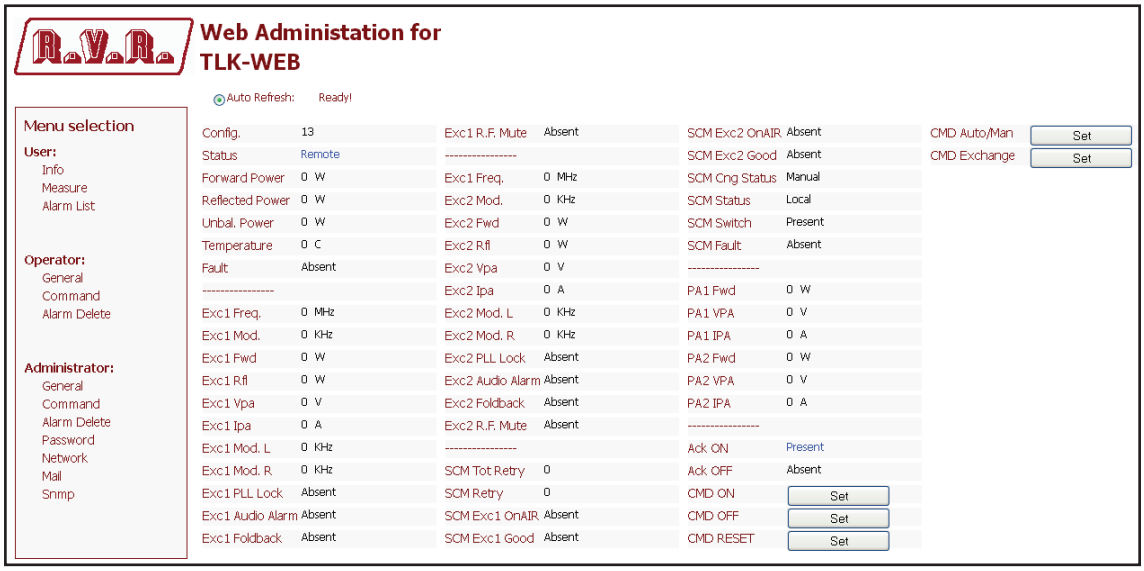
Configuration #13: ***Dip Switch***

10.1.13.2 I²C Address for System 13

adr	**PTX#1**	**PTX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 13	1			4					

Configuration #13: ***I²C Address***

10.1.13.3 Command Menu - Operator & Administrator for System 13

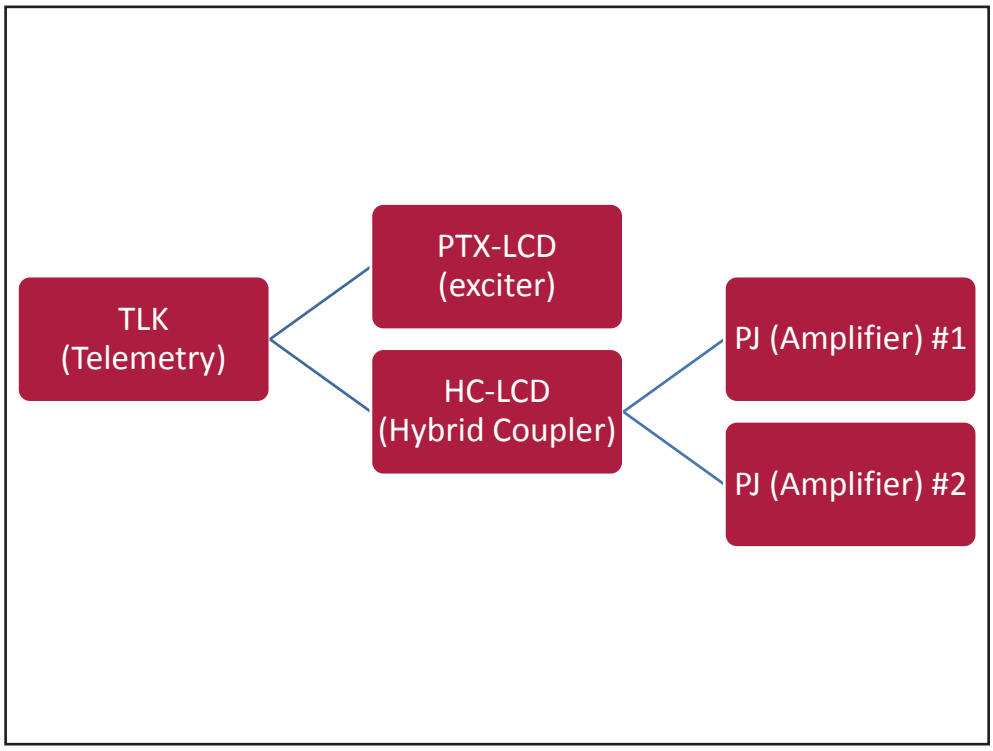


Configuration #13: ***Screen Command***

10.1.14 Configuration of System 14

Composition:

- TLK (telemetry)
- PTX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 2x PJ (amplifier)



Configuration #14: ***System***

10.1.14.1 Configuration of Dip Switch for System 14

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 14										x	x	x				

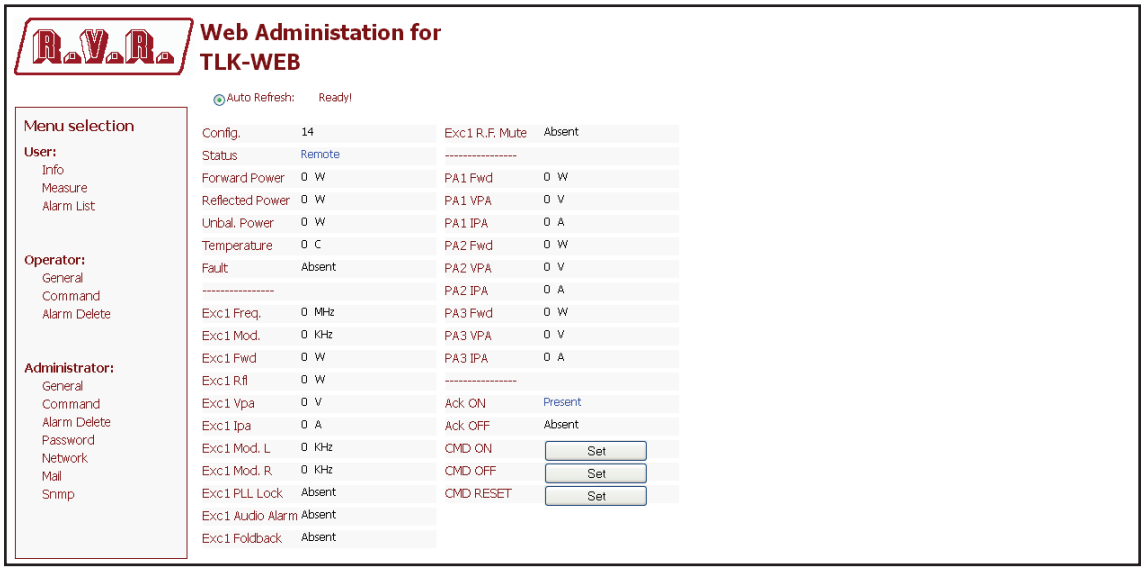
Configuration #14: ***Dip Switch***

10.1.14.2 I²C Address for System 14

adr	**PTX#1**	**PTX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 14	1			4	5	6			

Configuration #14: ***I²C Address***

10.1.14.3 Command Menu - Operator & Administrator for System 14

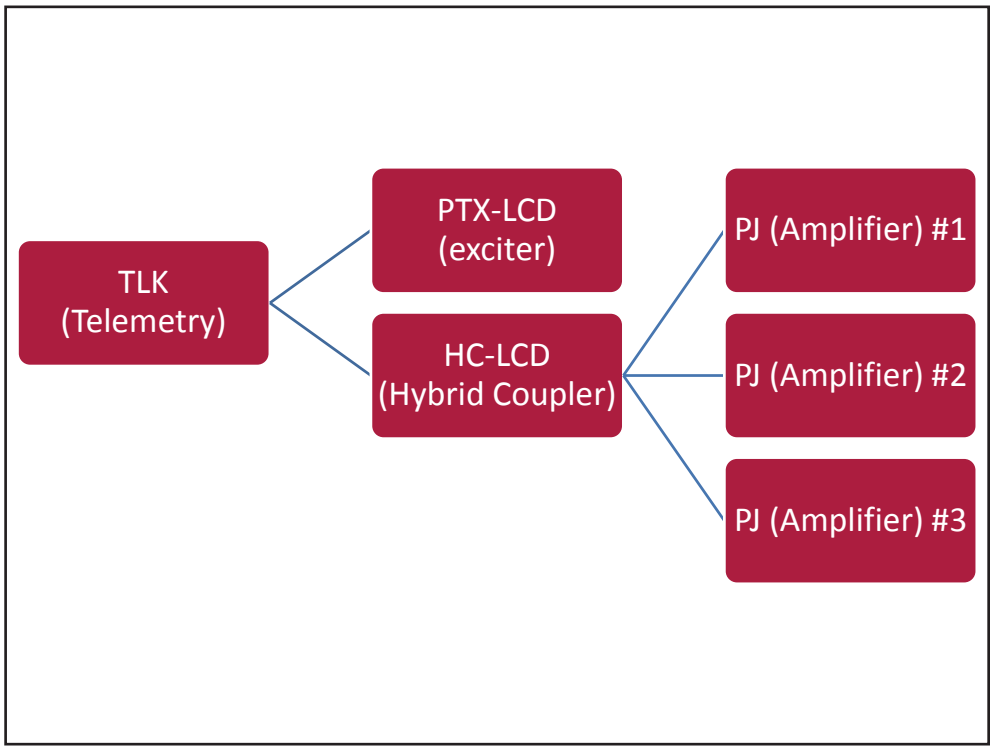


Configuration #14: ***Screen Command***

10.1.15 Configuration of System 15

Composition:

- TLK (telemetry)
- PTX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 3x PJ (amplifier)



Configuration #15: ***System***

10.1.15.1 Configuration of Dip Switch for System 15

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 15									x	x	x	x				

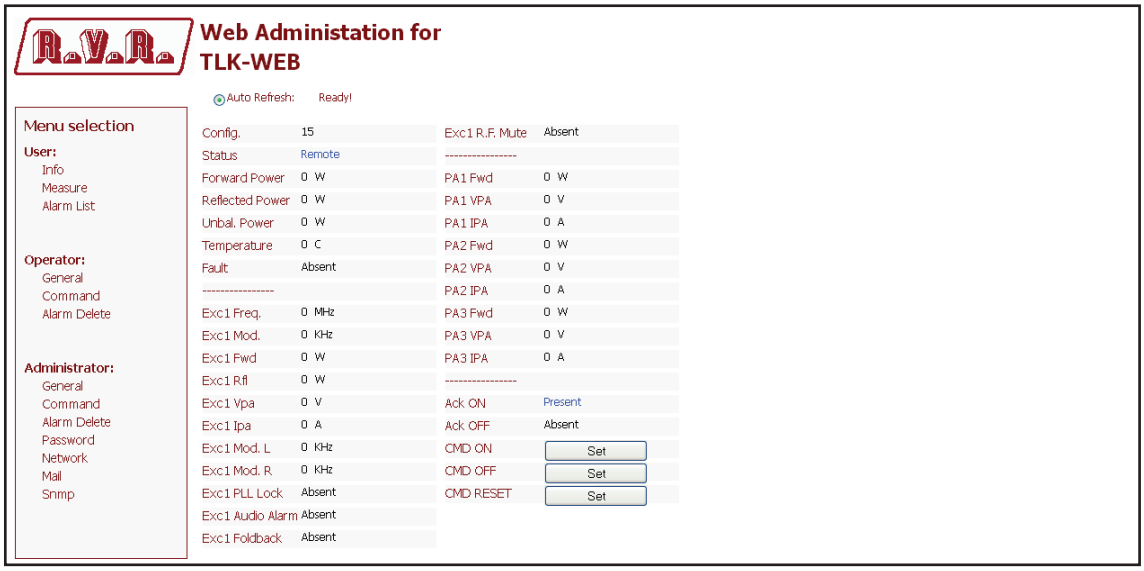
Configuration #15: ***Dip Switch***

10.1.15.2 I²C Address for System 15

adr	**PTX#1**	**PTX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 15	1			4	5	6	7		

Configuration #15: ***I²C Address***

10.1.15.3 Command Menu - Operator & Administrator for System 15

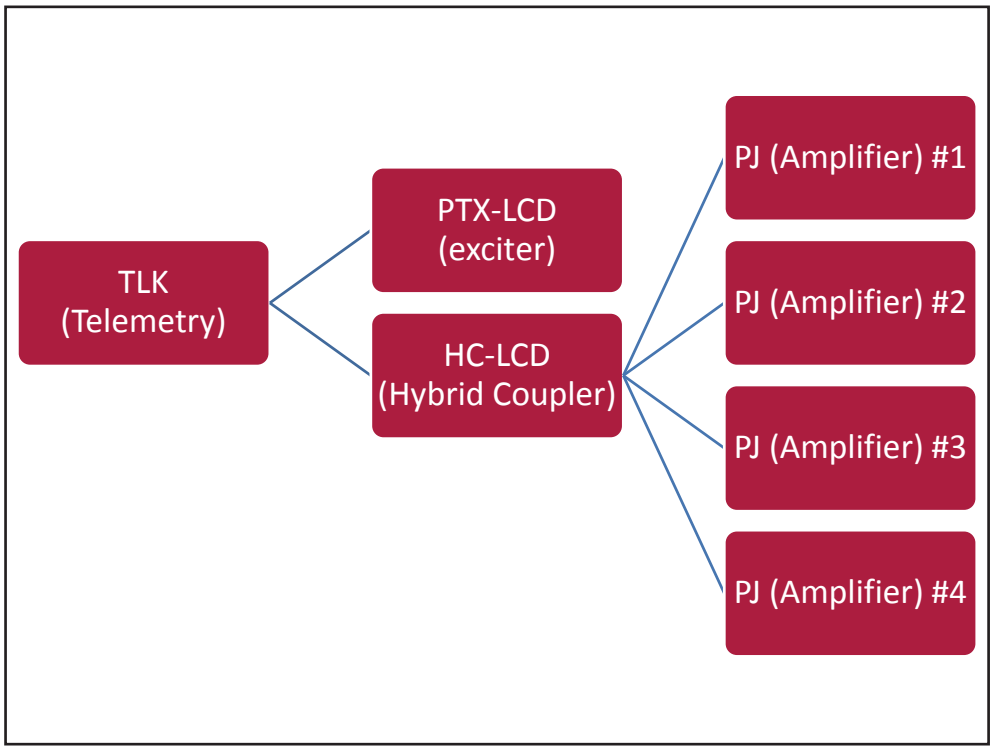


Configuration #15: ***Screen Command***

10.1.16 Configuration of System 16

Composition:

- TLK (telemetry)
- PTX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 4x PJ (amplifier)



Configuration #16: ***System***

10.1.16.1 Configuration of Dip Switch for System 16

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 16													x			

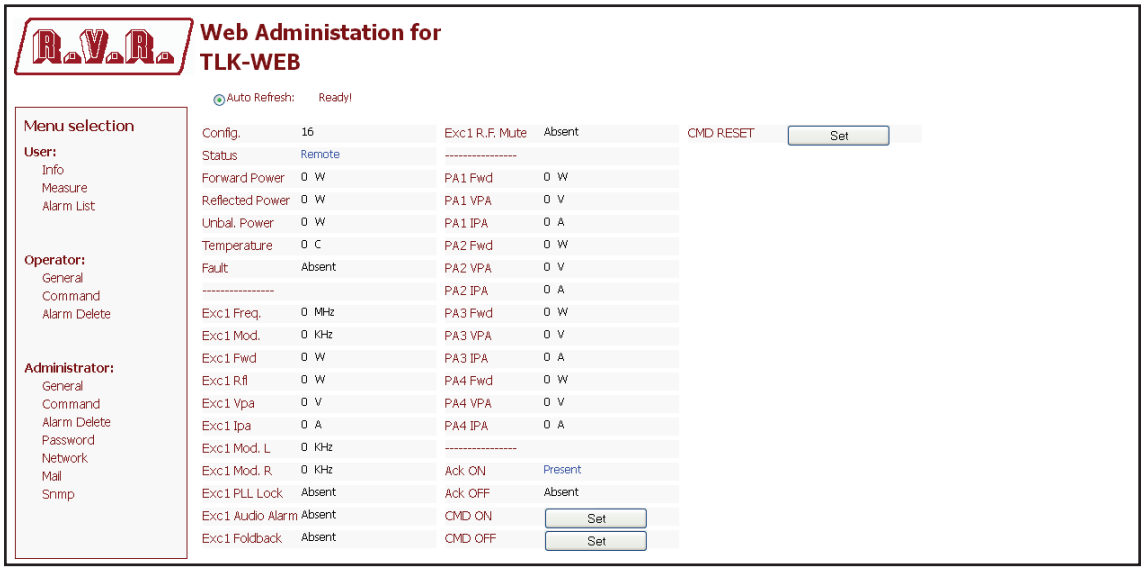
Configuration #16: ***Dip Switch***

10.1.16.2 I²C Address for System 16

adr	**PTX#1**	**PTX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 16	1			4	5	6	7	8	

Configuration #16: ***I²C Address***

10.1.16.3 Command Menu - Operator & Administrator for System 16

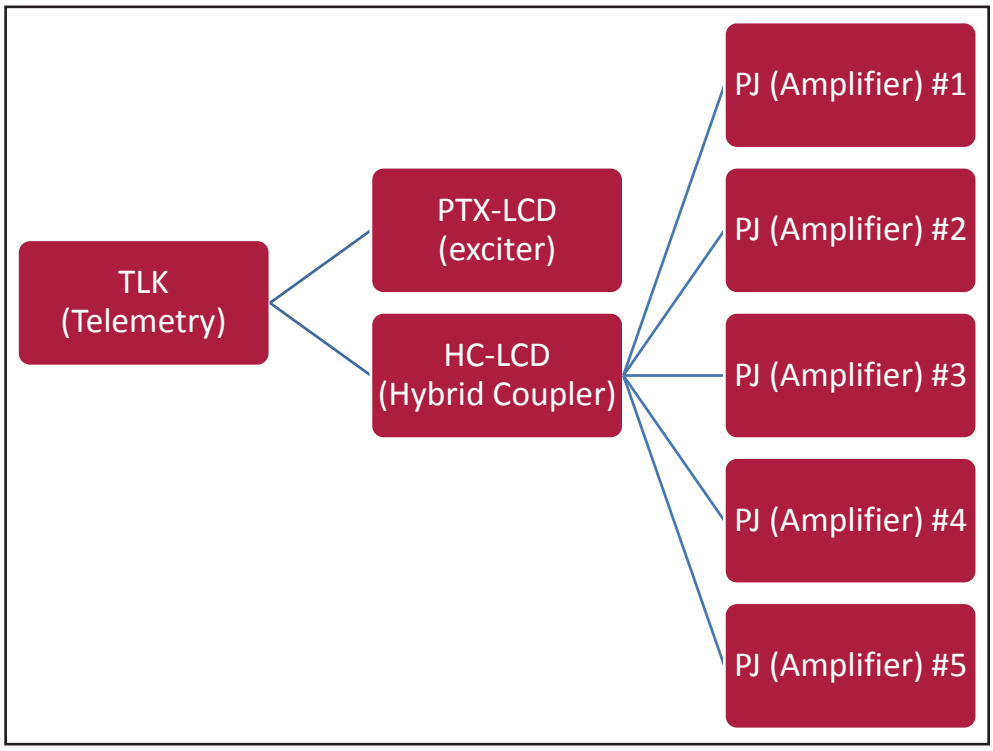


Configuration #16: ***Screen Command***

10.1.17 Configuration of System 17

Composition:

- TLK (telemetry)
- PTX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 5x PJ (amplifier)



Configuration #17: ***System***

10.1.17.1 Configuration of Dip Switch for System 17

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 17									x				x			

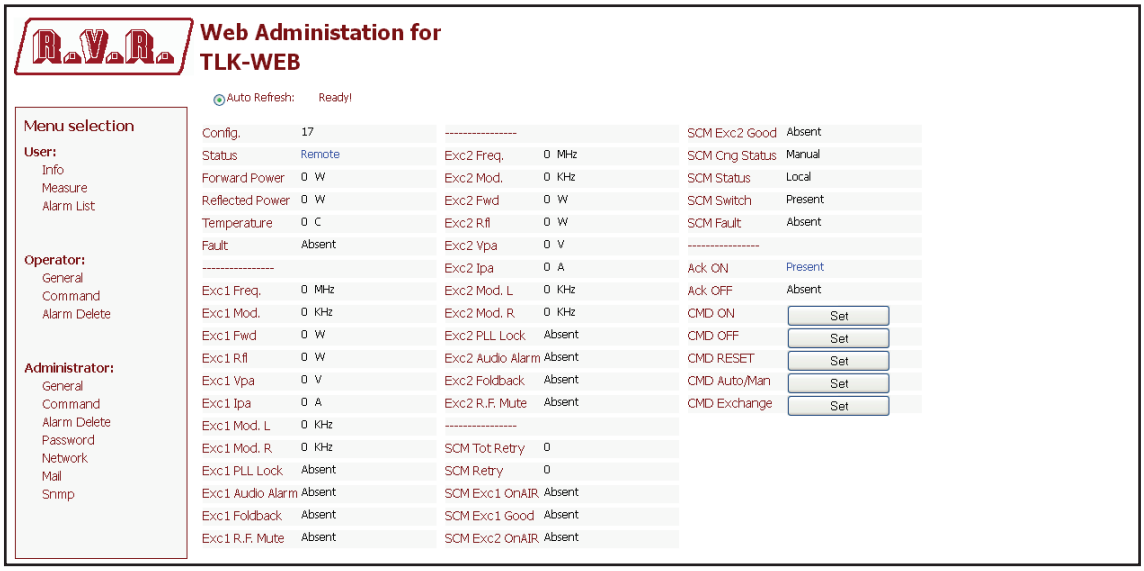
Configuration #17: ***Dip Switch***

10.1.17.2 I²C Address for System 17

adr	**PTX#1**	**PTX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 17	1			4	5	6	7	8	9

Configuration #17: ***I²C Address***

10.1.17.3 Command Menu - Operator & Administrator for System 17

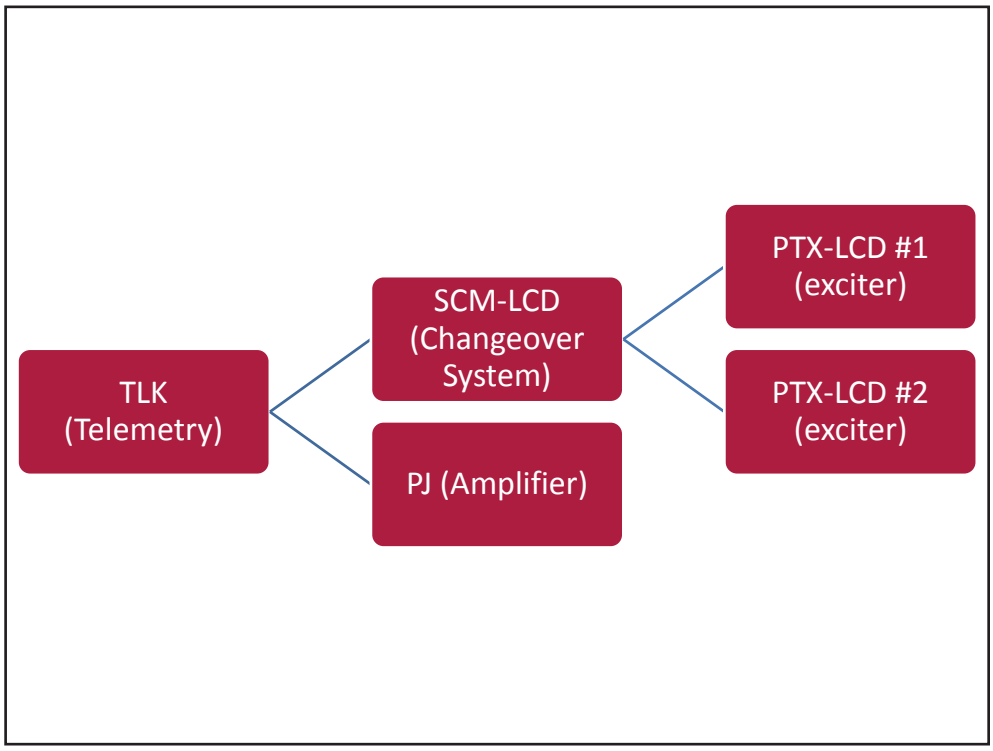


Configuration #17: ***Screen Command***

10.1.18 Configuration of System 18

Composition:

- TLK (telemetry)
- SCM-LCD (changeover)
- 2x PTX-LCD (exciter)
- PJ (amplifier)



Configuration #18: ***System***

10.1.18.1 Configuration of Dip Switch for System 18

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 18										x			x			

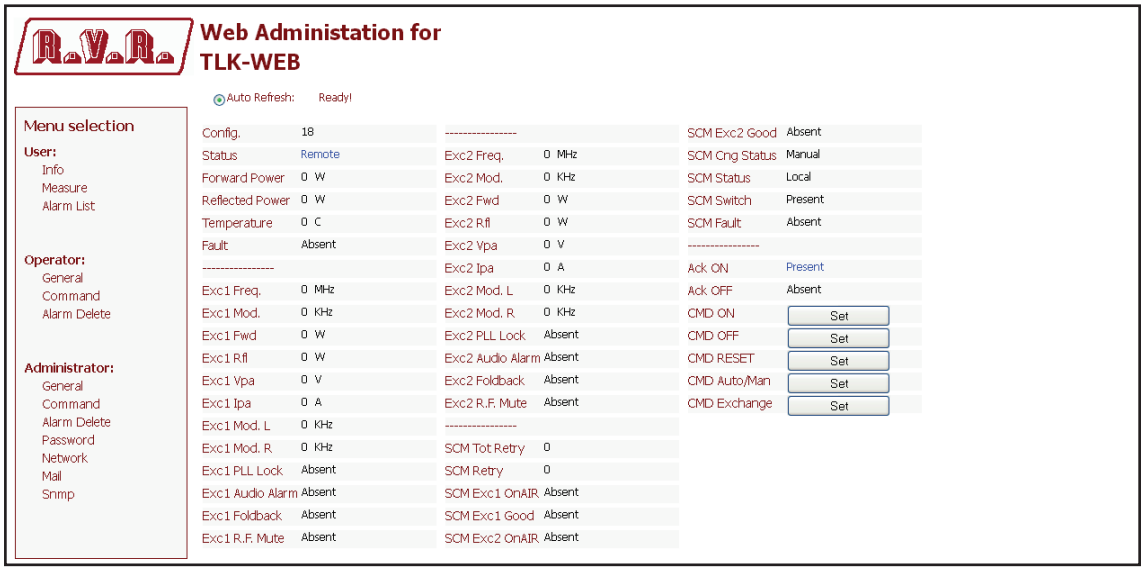
Configuration #18: ***Dip Switch***

10.1.18.2 I²C Address for System 18

adr	**PTX#1**	**PTX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 18	1	2	3	4					

Configuration #18: ***I²C Address***

10.1.18.3 Command Menu - Operator & Administrator for System 18

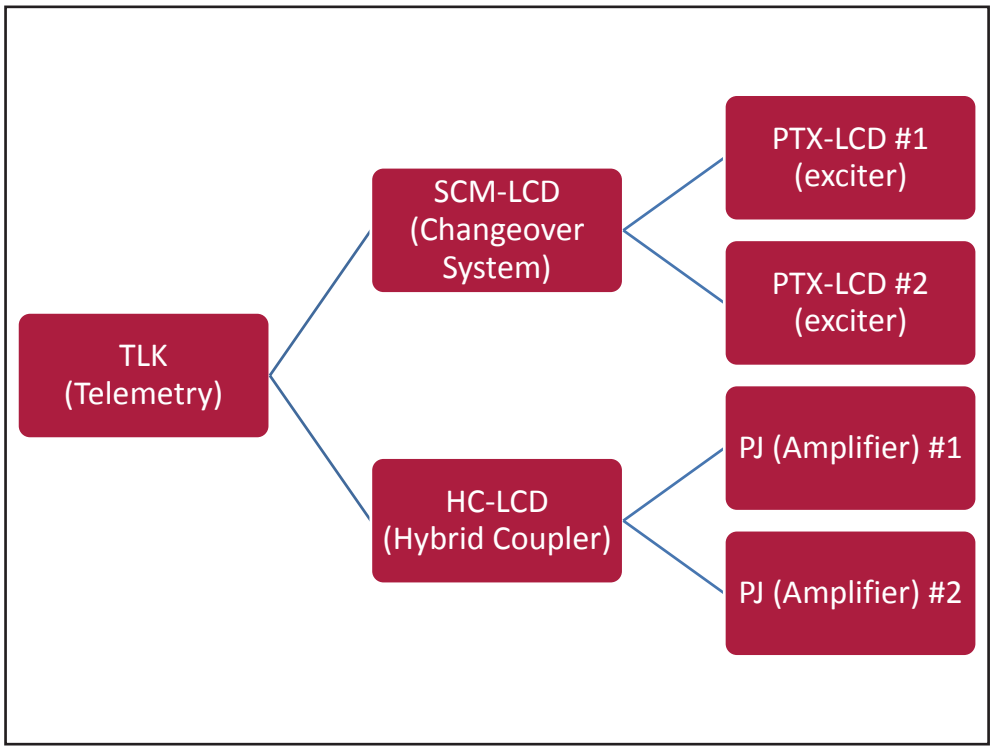


Configuration #18: ***Screen Command***

10.1.19 Configuration of System 19

Composition:

- TLK (telemetry)
- SCM-LCD (changeover)
- 2x PTX-LCD (exciter)
- 2x PJ (amplifier)



Configuration #19: ***System***

10.1.19.1 Configuration of Dip Switch for System 19

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 19									x	x			x			

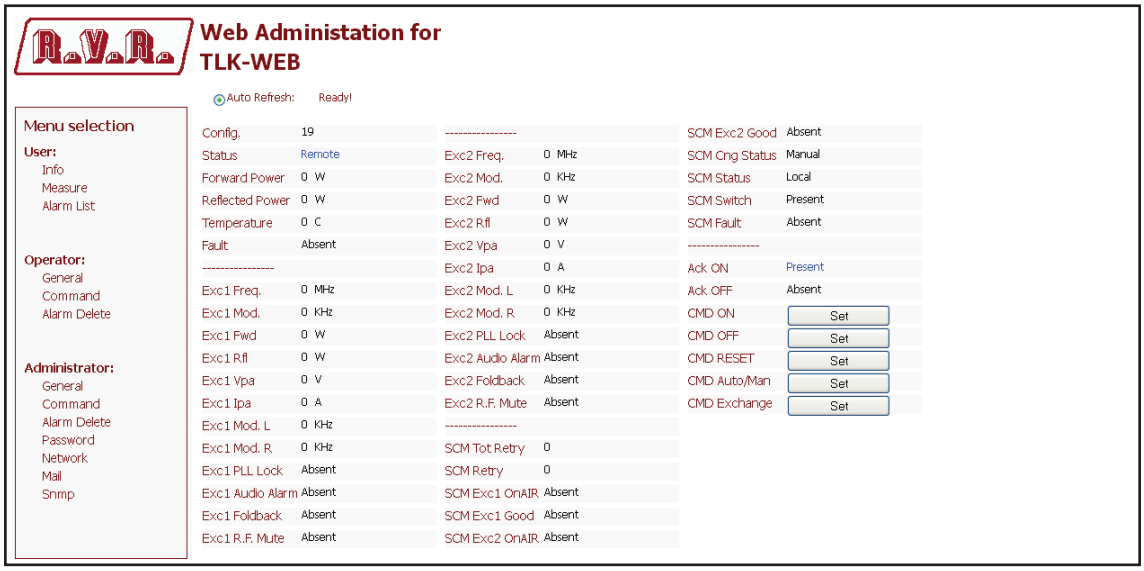
Configuration #19: ***Dip Switch***

10.1.19.2 I²C Address for System 19

adr	**PTX#1**	**PTX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 19	1	2	3	4	5	6			

Configuration #19: ***I²C Address***

10.1.19.3 Command Menu - Operator & Administrator for System 19

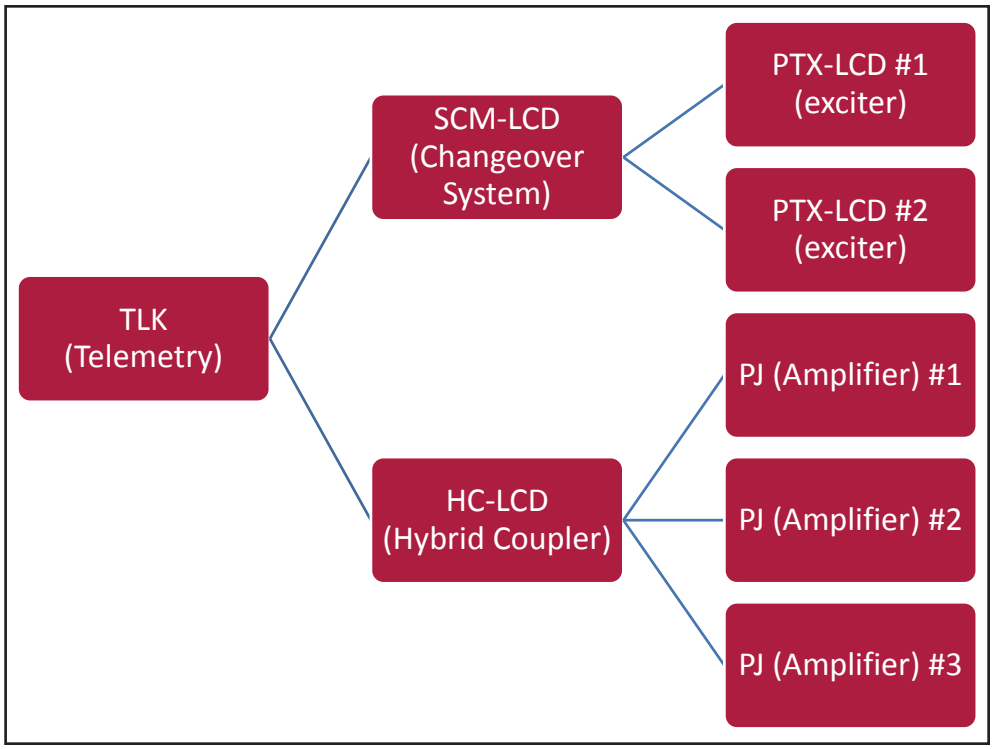


Configuration #19: ***Screen Command***

10.1.20 Configuration of System 20

Composition:

- TLK (telemetry)
- SCM-LCD (changeover)
- 2x PTX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 3x PJ (amplifier)



Configuration #20: ***System***

10.1.20.1 Configuration of Dip Switch for System 20

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 20											x		x			

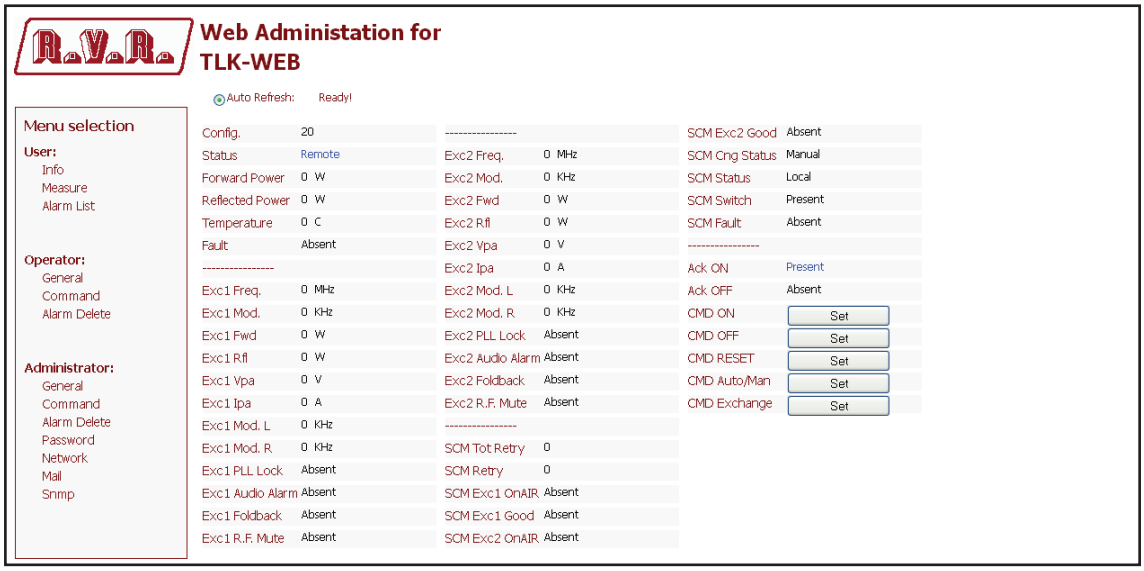
Configuration #20: ***Dip Switch***

10.1.20.2 I²C Address for System 20

adr	**PTX#1**	**PTX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 20	1	2	3	4	5	6	7		

Configuration #20: ***I²C Address***

10.1.20.3 Command Menu - Operator & Administrator for System 20

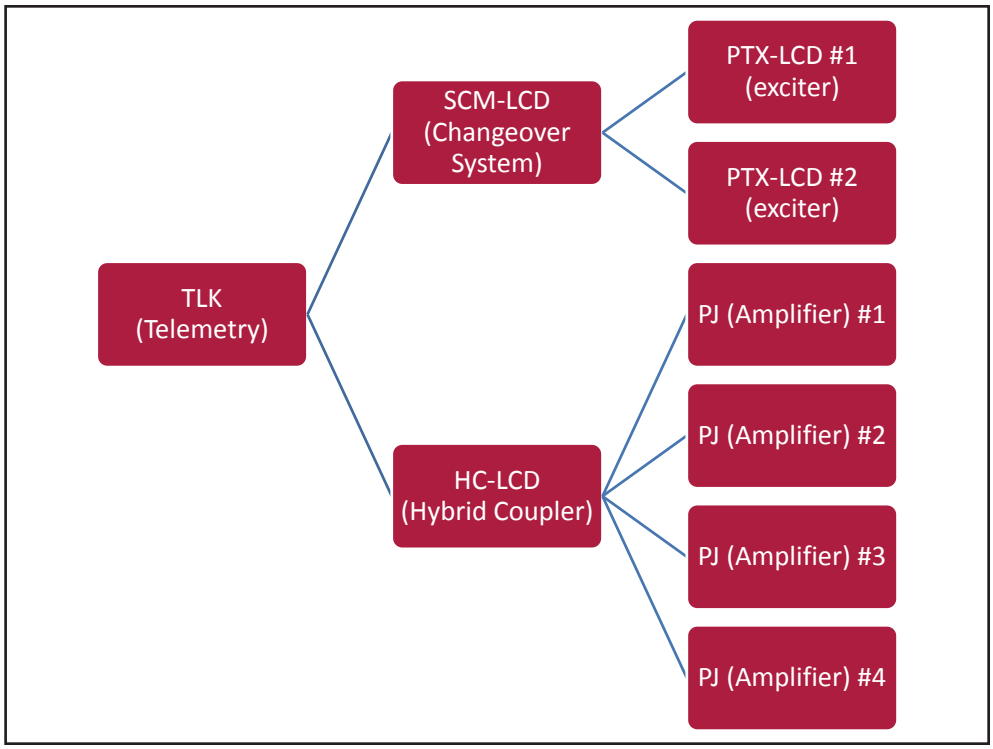


Configuration #20: ***Screen Command***

10.1.21 Configuration of System 21

Composition:

- TLK (telemetry)
- SCM-LCD (changeover)
- 2x PTX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 4x PJ (amplifier)



Configuration #21: ***System***

10.1.21.1 Configuration of Dip Switch for System 21

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 21									x		x		x			

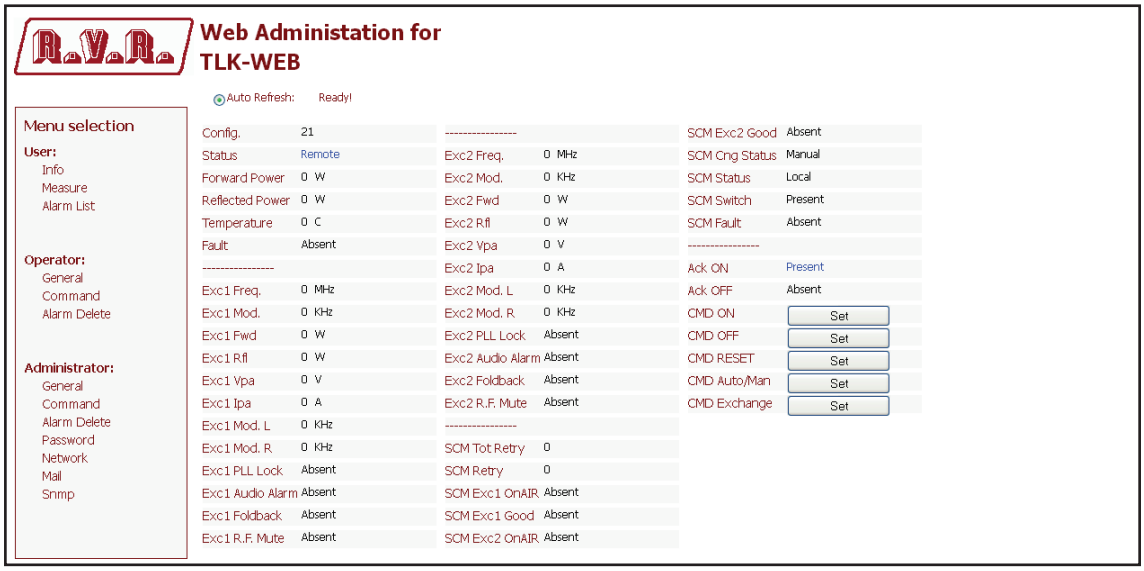
Configuration #21: ***Dip Switch***

10.1.21.2 I²C Address for System 21

adr	**PTX#1**	**PTX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 21	1	2	3	4	5	6	7	8	

Configuration #21: ***I²C Address***

10.1.21.3 Command Menu - Operator & Administrator for System 21

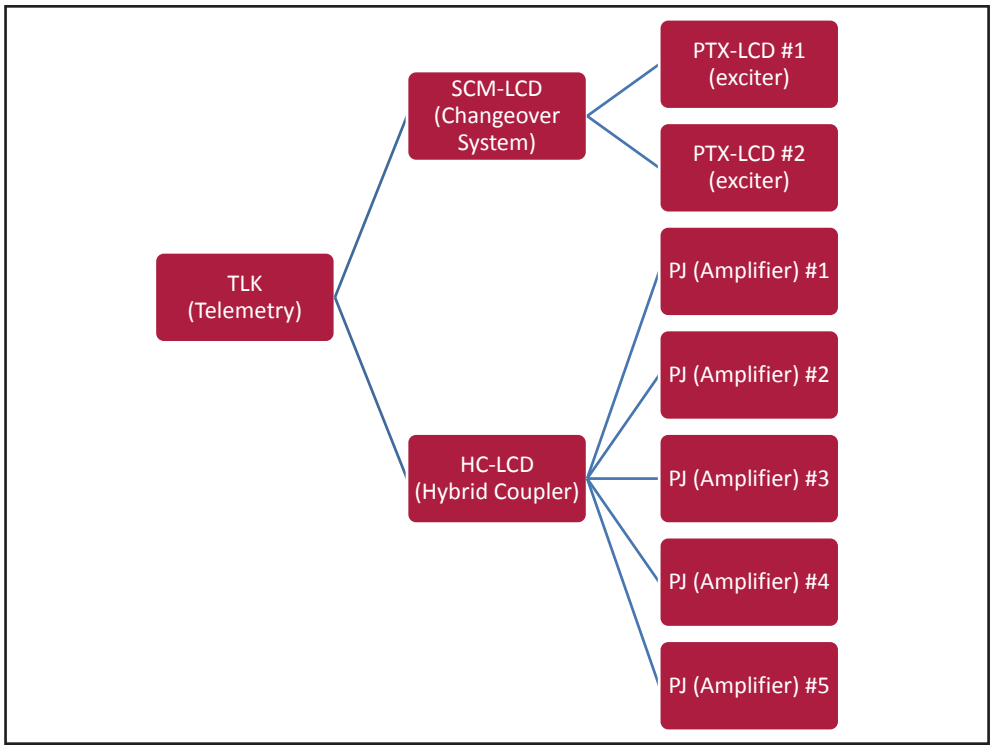


Configuration #21: ***Screen Command***

10.1.22 Configuration of System 22

Composition:

- TLK (telemetry)
- SCM-LCD (changeover)
- 2x PTX-LCD (exciter)
- HC-LCD (hybrid coupler)
- 5x PJ (amplifier)



Configuration #22: ***System***

10.1.22.1 Configuration of Dip Switch for System 22

	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Config TX 22										x	x		x			

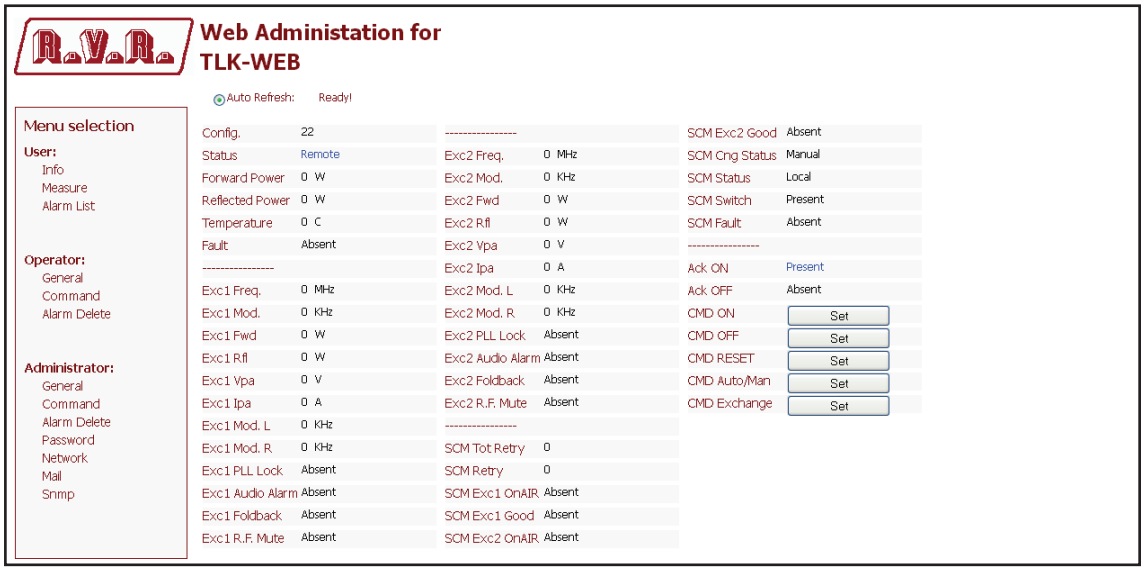
Configuration #22: ***Dip Switch***

10.1.22.2 I²C Address for System 22

adr	**PTX#1**	**PTX#2**	**SCM**	**HC o PA**	**PA**	**PA**	**PA**	**PA**	**PA**
Config 22	1	2	3	4	5	6	7	8	9

Configuration #22: ***I²C Address***

10.1.22.3 Command Menu - Operator & Administrator for System 22



Configuration #22: ***Screen Command***

11. SNMP Telemetry

SNMP (Simple Network Management Protocol) is a worlwide protocol that allows the management and supervision of the equipment connected to the network.

Measurements and commands are described by a MIB (Management Information Base), which is a list of OID (Object Identifi er). Each OID is a variable that can be written (SET) or read (GET) through a NMS (Network Management System) compatible with SNMP.

The MIB is a text file written in ASN.1 and it is imported from the NMS in order to know what OID can be expected by the AGENT (proxy card) and how to interpret the information received.

Nota : *The user can not freely distribute the MIB, unless written authorization issued by the manufacturer. The MIB is property of the manufacturer.*

The SNMP version used in this application is the v2, and is compatible with all NMS systems.

Menu 1

Nota : *Use a MIB BROWSER (not included) to use the MIB of RVR equipments. These are usually provided in an accompanying CD with the system in which the* ***TLK300 & TLK2000*** *is installed.*

11.1 MAIN MIB Description

The MAIN MIB reads and manages the main parameters of **TLK300 & TLK2000** and provides general information related to manufacturer.

Through this MIB you can read, and in some cases set, parameters such as IP address, Netmask, Gateway and DNS address.

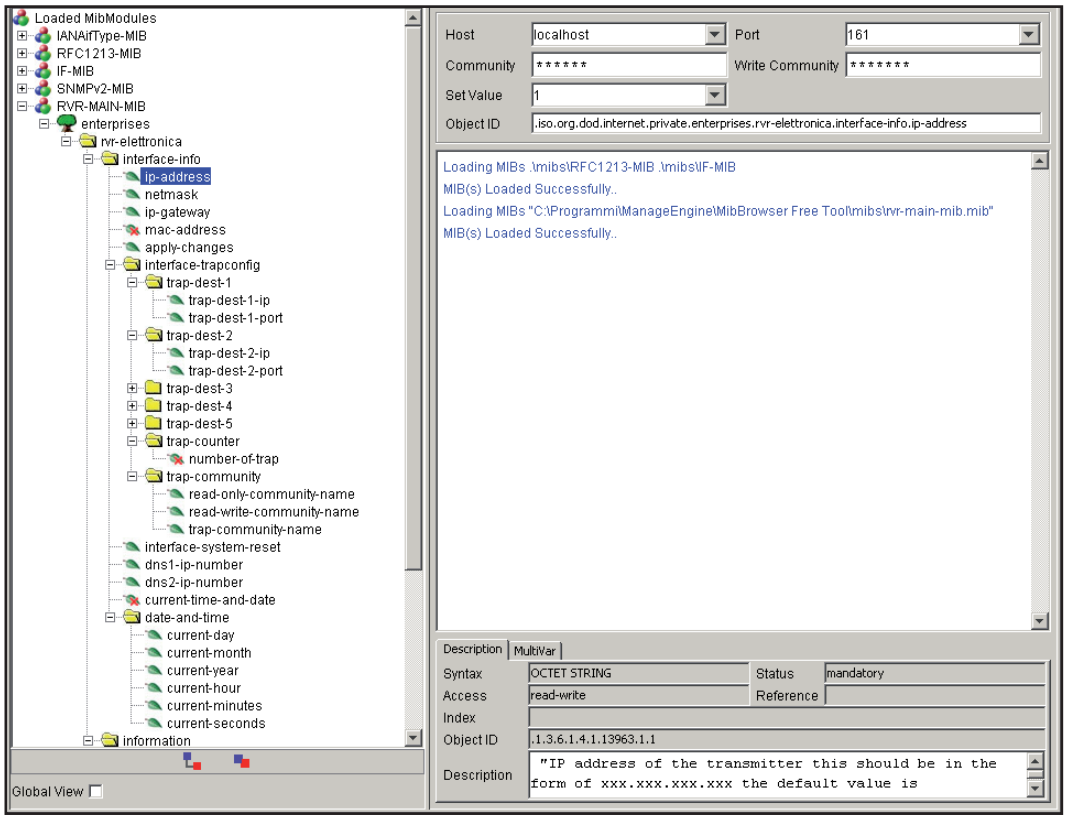
It is also possible to manage IP address, time and date stored within the telemetry system.

In cases where the parameter is a read-only, and you can not change it, it will be indicated by a red X over the icon reference. In some cases to apply a particular change, it is necessary to click on the OID item “Apply Changes”.

Note : *In the following examples is used a MIB browser of ManageEngine, but any MIB Browser can be used.*

11.1.1 Reading and Settings of parameters

The description of each variable is specified inside MIB, which are subsequently reported in the description box (Description) at the end.



Menu 2

The telemetry system is capable to sending Trap up to two different addresses. Different addresses can be set using the OID in major MIB, in this case:

- IP address for the destination of the Trap.

11.2 SPECIFIC MIB Description

The SPECIFIC MIB reads and manages the parameters administrated by **TLK300 & TLK2000** included in transmitter station.

Through this MIB you can read powers (forward, reflected or unbalanced), temperature, voltages and currents on modules of possible amplifiers, exciters and changeovers connected to **TLK300 & TLK2000.**

Note : *In MIB browser will always display the maximum configuration of amplifiers, exciters and changeover available. The machines not present, will report zero readings.*

It is also possible to manage to control the switching on or off of transmitter, the alarm reset, automatic or manual changeover.

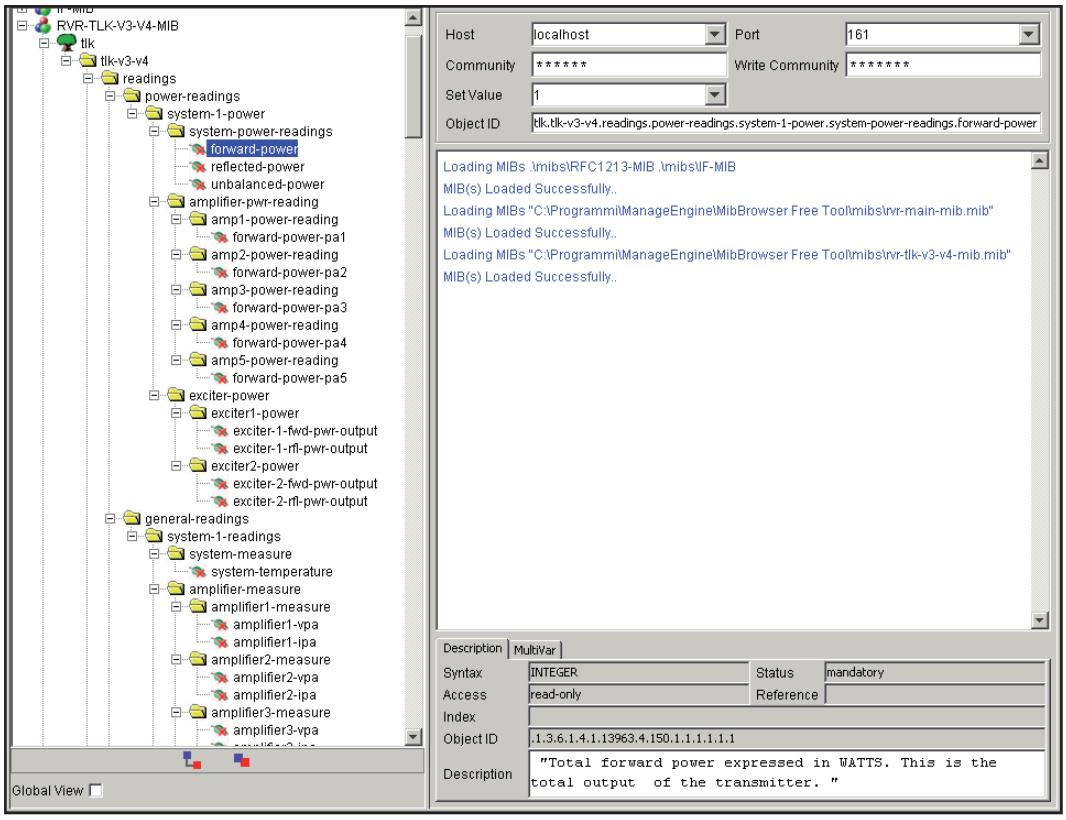
In cases where the parameter is a read-only, and you can not change it, it will be indicated by a red X over the icon reference. In some cases to apply a particular change, it is necessary to click on the OID item “Apply Changes”.

Note : *In the following examples is used a MIB browser of ManageEngine, but any MIB Browser can be used.*

11.2.1 Reading of Measurement

Each transmitter has a range of measures that can be read.

The description of each variable is specified inside MIB, which are subsequently reported in the description box (Description) at the end.

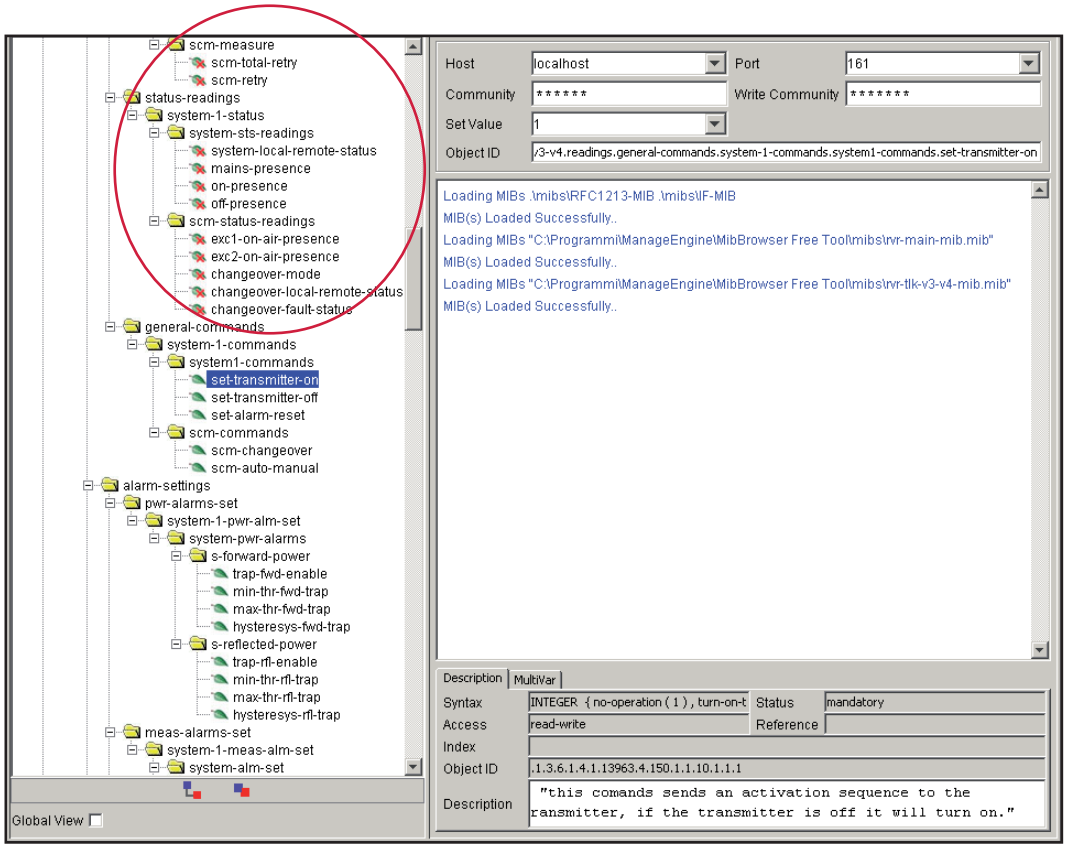


Menu 3

11.2.1 Reading of Status

Similarly to measurements, each transmitter has a range of states that can be read.

The description of each variable is specified inside MIB, which are subsequently reported in the description box (Description) at the end..



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The indications on the states can be of three types:

- **0** Indication of absence of the transmitter system component.
- **1** Indication of ON state, presence or activation of parameter.
- **2** Indication of OFF state, absence or deactivation of parameter.

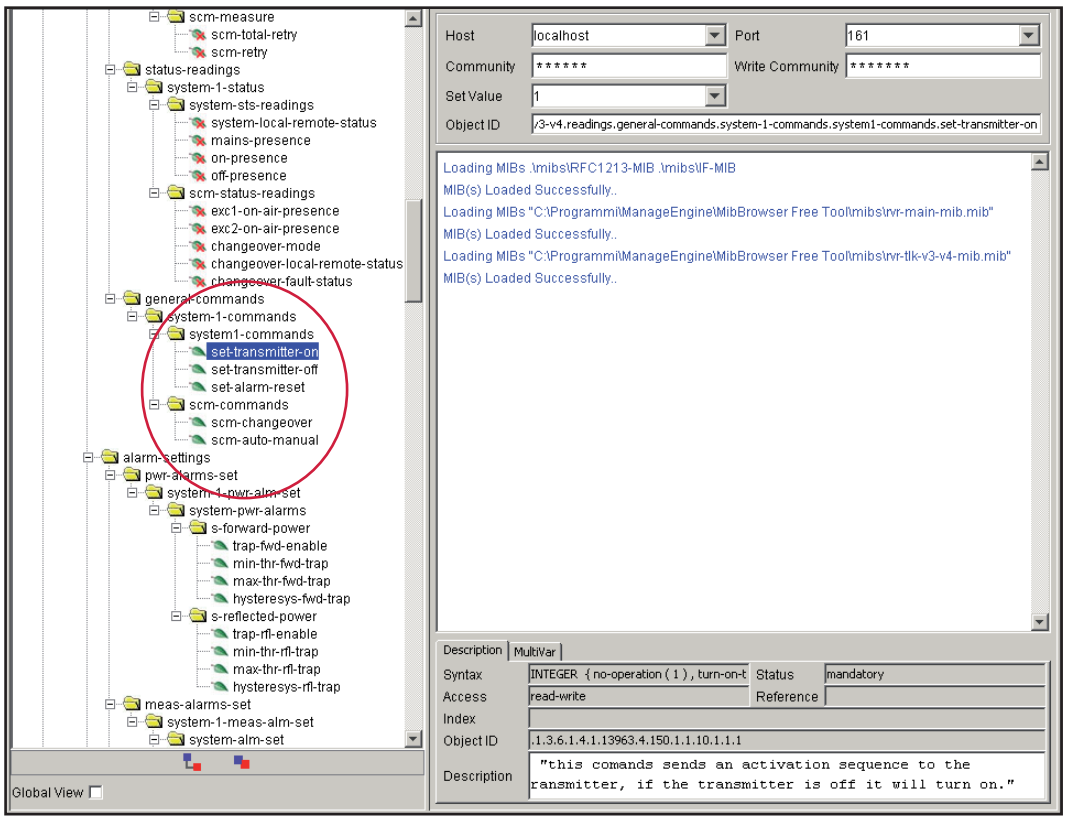
11.2.2 Comand sending

Similarly to measurements, the commands have a number of OID that are only in write mode. For each transmitter, the MIB export a specific set of OID.

The commands set are of two types: bistable (ON / OFF) or impulsive type.

- **Bistable control**: in order to activate (ON), the user must send a “2” as value; in order to disable (OFF), the user must send a “1” as value. No other value is accepted like a command.

- **Impulsive control**: tipically the commands are impulsive type. In other words, if you put the transmitter “ON” (“2” value), the next command is “OFF” (“2” value) and not a disable for “ON” command (“1” value).



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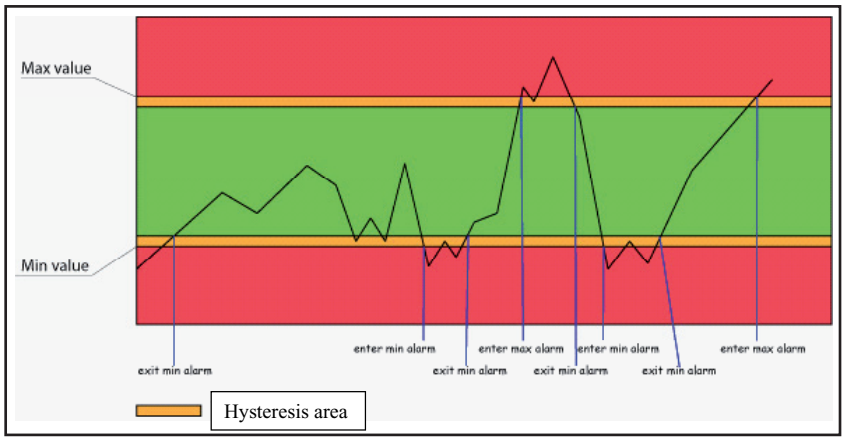
Note: *In the example above, all controls are impulsive type.*

11.2.3 Reading and Settings of Trap

For each Trap related to measurement can be set:

- Enabler Trap command on a power measure.
- The minimum value (MIN) is the fixed point below which is sent a Trap.
- The maximum value (MAX) is the fixed point beyond which is sent a Trap.
- The hysteresis value is a nominal value that the system adds (or subtracts) to real value in order to exit from alarm condition. In other words, it is helpful to avoid situations of continuous alarm, if readout is very close to the set point alarm.



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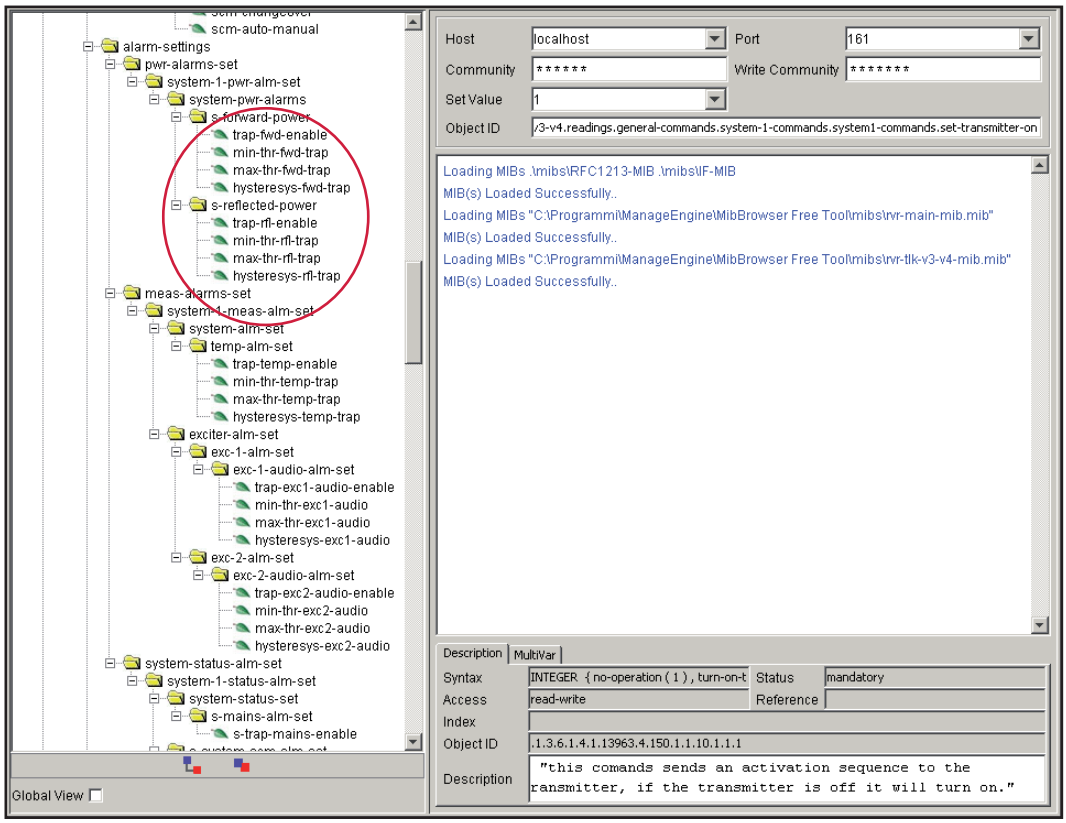
As you can see the hysteresis is a protected area in which the alarm is not sent, when the value exceeds the minimum value (MIN) when there is no alarm or the maximum value (MAX) alarm is active, the minimum value (MIN) alarm is set. To exit the MIN alarm condition, the value should be equal to the MIN value plus the value of hysteresis.

☞ ***Note :*** *the hysteresis value must be less than ½ referred to distance between the minimum value (MIN) and maximum value (MAX).*

An example of an analog alarm setting, are included in the following section in the SNMP tree:



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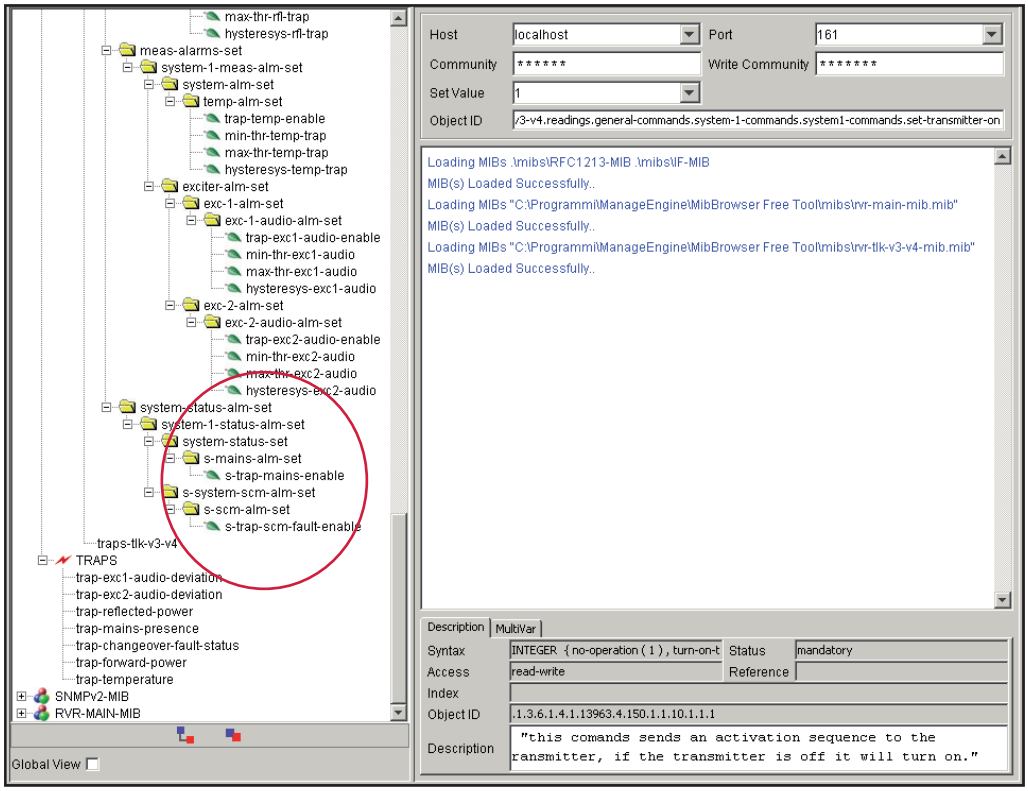
An example of an alarm where you can edit only the enabler of states is shown below:



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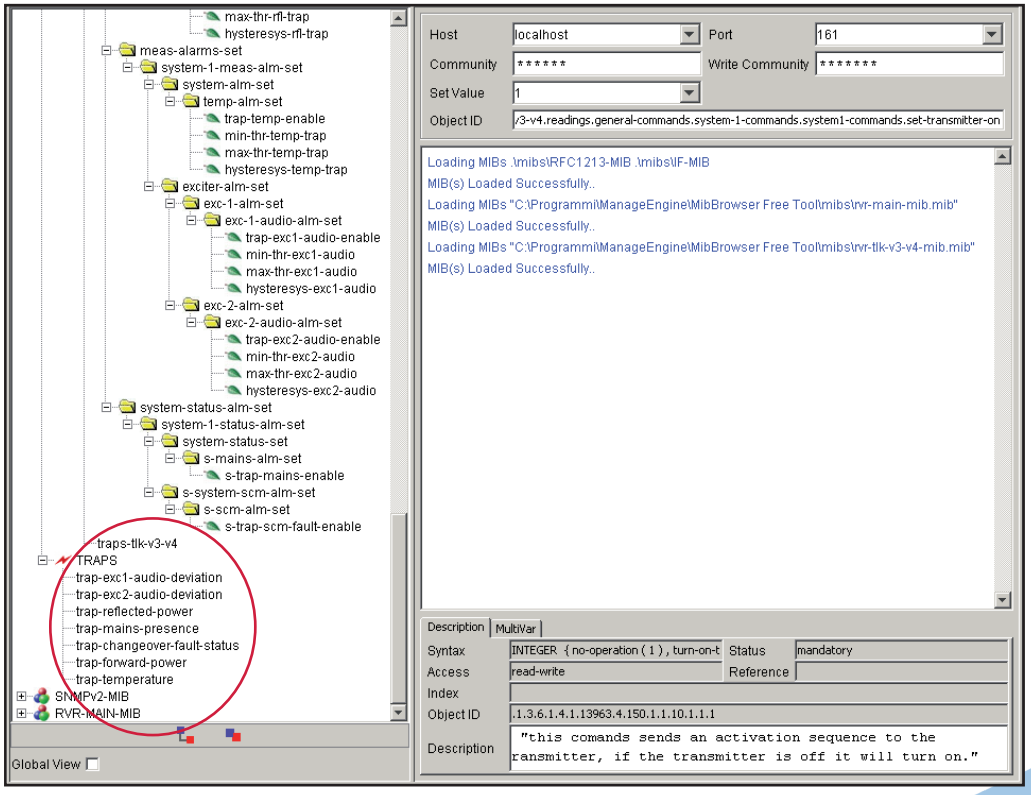
Below are shown the OID descriptions of the trap sent by system:



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12. Connecting TLK to Internet network

In order to connect the system to the public network TLK you must have an internet connection typically provided through a router with NAT (Network Address Translation), which allows devices connected to the LAN to go out with the number router's public IP and protect any attempts at forcing.

In case you have connecting directly with the public IP address on the LAN socket is advisable to insert a router / firewall to avoid exposing the system TLK directly to the public network but manage only the ports used by TLK for the functions of the web interface, SNMP, and SMTP .

The system uses incoming port 80, can not be changed, such as web interface visible from any Web Browser and port 161 can not be changed, such as SNMP port.

For sending the email TLK uses port 25, modifiable, and port 162 can not be changed, for the sending of SNMP Trap.

To ensure that the TLK is visible from the outside is necessary that the router / firewall is set up port forwarding, the function can have different names depending on the brand of your router.

The public port 80 from IP to the IP of TLK for WEB and port 161 of the public interface to the IP of TLK for SNMP data.

To ensure that the unit can send the Trap and the Email needs to be able to use the network at its output ports 162 for Trap and the port 25 for email.

To send the e-mail system TLK uses the MX record for the target domain DNS asked that must be set correctly in the appropriate fields otherwise not be able to send emails.

Also for the emails you must make sure that the destination server accept email from the public IP of our digestive system because the ships directly to the destination SMTP server without going through a server forward as is usual practice for mailers electronics installed on personal computers.

The apparatus as said default IP is set to RVR as 192.168.0.244 and will be adjusted on the network configured as your router's LAN port is used for port forwarding.

If you have multiple devices connected to the LAN after the router is necessary to use different ports on the public interface that will be routed to the fixed ports of the devices TLK must have a LAN IP different from each other.

- TLK#1 IP 192.168.0.244 Port forwarding port 80 > port 80 of 192.168.0.244
- TLK#1 IP 192.168.0.244 Port forwarding port 161 > port 161 of 192.168.0.244
- TLK#2 IP 192.168.0.245 Port forwarding port 81 > port 80 of 192.168.0.245
- TLK#2 IP 192.168.0.245 Port forwarding port 163 > port 161 of 192.168.0.245

With this configuration, the apparatus TLK # 1 will be visible from WEB as http://public.ip and apparatus TLK # 2 will be visible from as http://public.ip:81 WEB, SNMP and how you must use port 161 to see the TLK # 1 and port 163 to see the TLK # 2.

To send the Trap or Email being output there is no problem, as long as there are no restrictions on using ports 25 and 162 are wanted by the service provider.

To know the public IP of our apparatus is desirable to have a FIXED IP connection service that is provided by the provider, if the service has a dynamic IP you will have to rely on a DNS service that gives a name to our IP and keep updated in the event of a change of IP in order to reach the TLK always writing the same name.

This service is provided by many providers, some free and some paid, and usually some routers include this function that can handle some of the service providers, and in case you need to use this service will need to be programmed into your router by following the instructions in that, given the various methods used to manage this function, we can not include this function in the system TLK.

In case your nework TLK has many systems connected to the Internet the safest way to manage and functional systems is to create a VPN between all stations and the headquarters in order to have all the devices in the same network in order to view them directly with their IP without the limitations of different ports for devices in the same location, not all routers have this programming possibilities, limits the output ports and having to manage any dynamic IP with a DNS service.

In this case, the customer will have to rely on a company that specializes in networks to configure your VPN between locations.

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