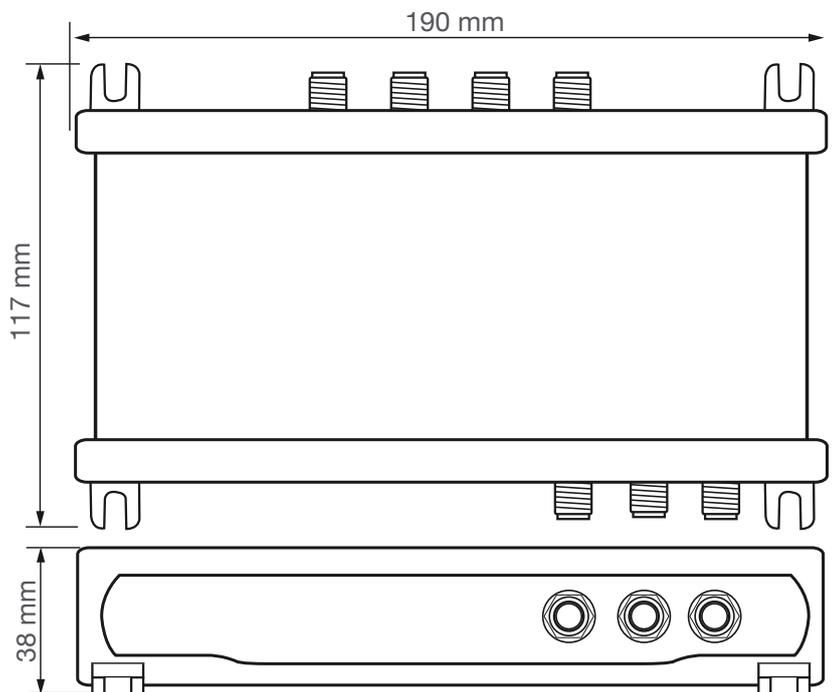


SAT-32 IF-SAT DIGITAL HEADEND

- Selectable TP bandwidth from 20 to 80 MHz
- 4 inputs for LNB Quattro/Universal/Wideband
- Automatic Control Gain for each Transponder
- PASSCODE protected
- PC Windows programmable via USB port
- Integrated IF SAT amplifier
- Passive TV Terr. mixing
- -30dB TEST Output



Technical Instructions



Electrical and electronic equipments **are not household waste**. In accordance with the European directive EN50419 (corresponding to the article 11(2) of the guideline 2002/96/EC) of the European Parliament of the Council of January, 27th 2003 on used electrical and electronic equipment, it must be disposed properly. At the end of the product life cycle please take this unit and dispose it on designated public collection points.



Installation is only permitted in dry rooms and upon a non combustibile surface. Ensure that there is an adequate air circulation.



The product is in compliance with the EMC requirements in accordance to the EU product norm EN 50083-2 and the keeping of the safety requirements in accordance to the EU product norm EN 60728-11 by the CE sign.

Class A

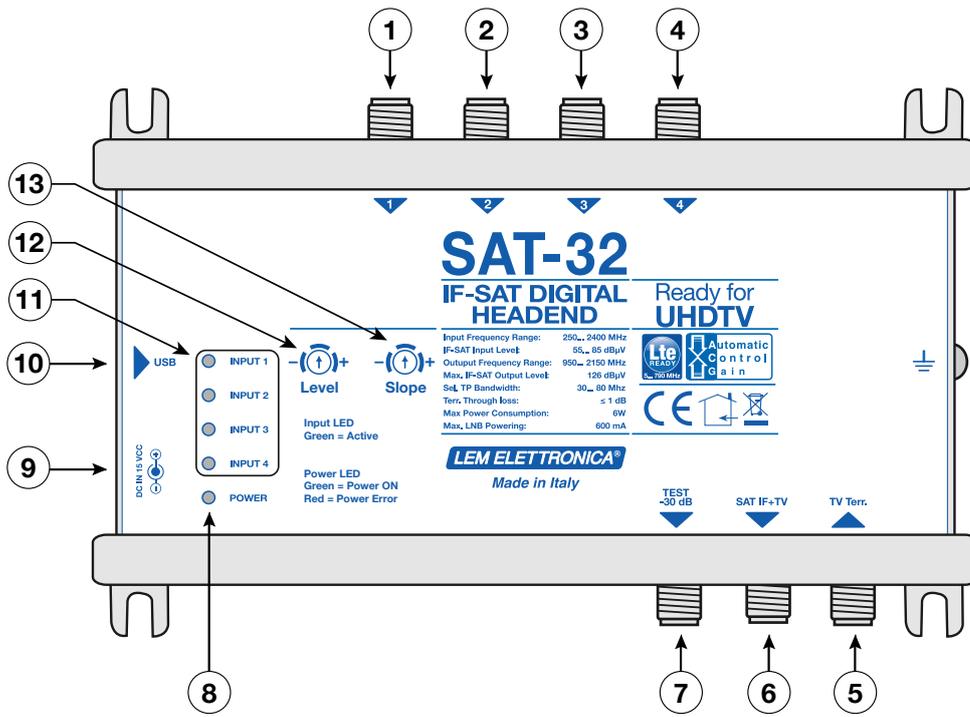
This product meets the more stringent screening requirements according to **EN 50083-2, quality grade A**.



POWER SUPPLY

To remote feed the **SAT-32** use only the power supplier included in the box. The employment of other power suppliers can irreversibly damage the device and invalidate the warranty.

INPUT-OUTPUT DESCRIPTION



- ① LNB 1 Input
- ② LNB 2 Input
- ③ LNB 3 Input
- ④ LNB 4 Input
- ⑤ Mix TV Terr. Input
- ⑥ Mix SAT+TV Terr. Output
- ⑦ Test Output -30dB
- ⑧ Power Supply Status Led
- ⑨ DC connection
- ⑩ USB Port
- ⑪ Input Status Led
- ⑫ Output level adjuster (0 - 30dB)
- ⑬ Slope adjuster (5/10/15 dB)

POWER SUPPLY STATUS LED	
OFF	NO POWER SUPPLY
GREEN	CORRECT POWER SUPPLY
RED - BLINKING	FAULTY VOLTAGE

LNB INPUT LED	
OFF	INPUT NOT ACTIVE
GREEN	INPUT ACTIVE WITH LNB POWER
RED - BLINKING	SHORT CIRCUIT/OVERLOAD



In the event of short-circuit on one or more LNB inputs the SAT-32 device will protect itself by ceasing to operate and stopping the remote power supply. Unplug the power supplier, remove the cause of the short-circuit and wait at least 15 seconds before turning the device back on.

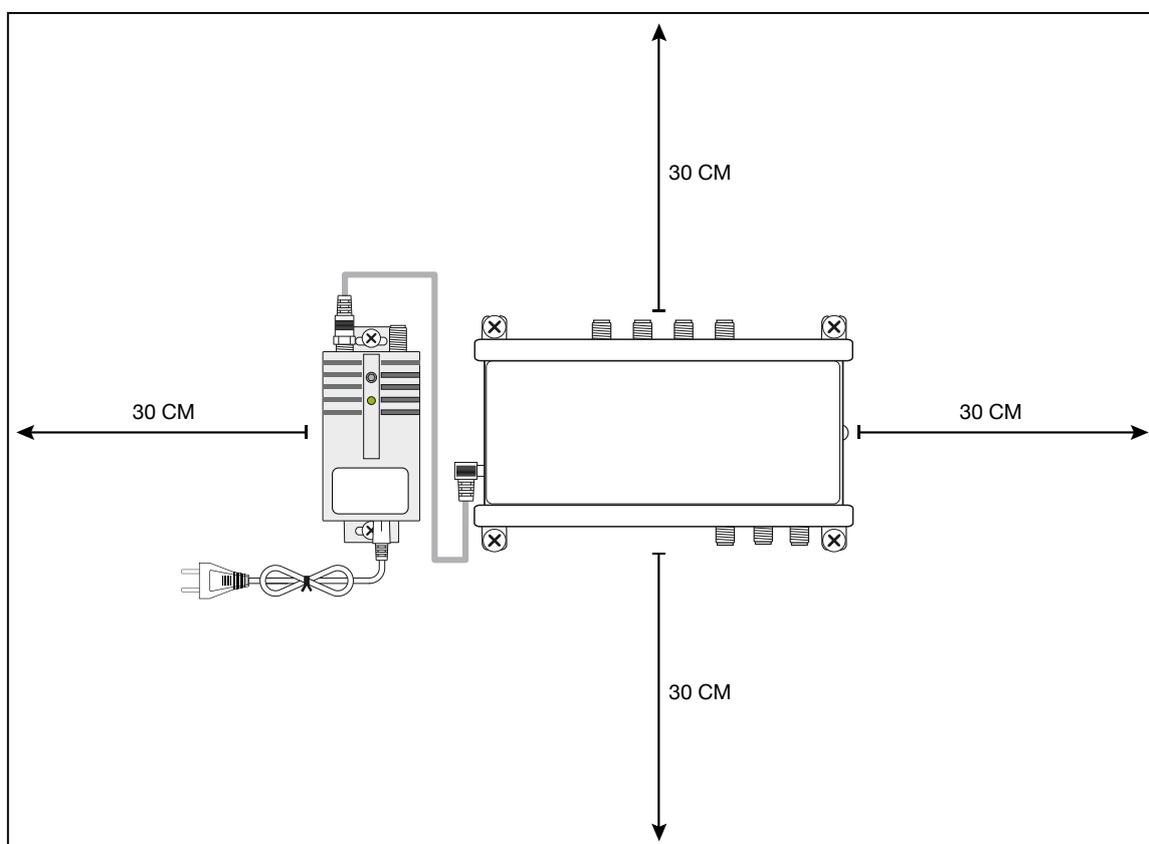
SAT-32		
NUMBER OF IF-SAT INPUTS		4
NUMBER OF TV TERR. INPUT		1
NUMBER OF SELECTABLE TRANSPONDERS		32 (36 MHz)
IF-SAT INPUT FREQ. RANGE	MHz	250... 2400
IF-SAT INPUT LEVEL	dB μ V	55... 85
TV TERR. INPUT FREQ. RANGE	MHz	5... 790
TV TERR. THROUGH LOSS	dB	\leq 1
IF-SAT RETURN LOSS	dB	$>$ 12
OUTPUT FREQUENCY RANGE	MHZ	950...2150
TV TERR. RETURN LOSS	dB	$>$ 12
IF-SAT MAX. OUTPUT LEVEL*	dB μ V	126
IF-SAT INTER-STAGE ADJUSTER	dB	0... -20 (1 dB step)
SELECTABLE TRANSPONDERS BANDWIDTH	MHz	20... 80
LNB SELECTABLE VOLTAGE (FOR QUAD)		13V/18V/22KHz
MAX LNB POWER SUPPLY	mA	800@13V / 600@18V
POWER CONSUMPTION	W	6W + LNB
USER SETTING INTERFACE		USB
DIMENSIONS	mm	138x202x38

* CEI EN 50083-3 -35 dB IMA2

SETUP

1. Location and Safety Instruction

- To ensure good ventilation and cooling mount the **SAT-32** IF-SAT Headend and the power supplier on a vertical wall or board.
- Do not expose the device to rain or moisture.
- Do not obstruct the ventilation slots and care for a generous air circulation around the device in order to prevent any damage.
- Keep water or any liquids away from the device.
- Do not place the device close to heating sources or in places of high humidity.
- If the device is installed in a closed space or cabinet please ensure a good ventilation around it and keep the distances as shown in the picture below.

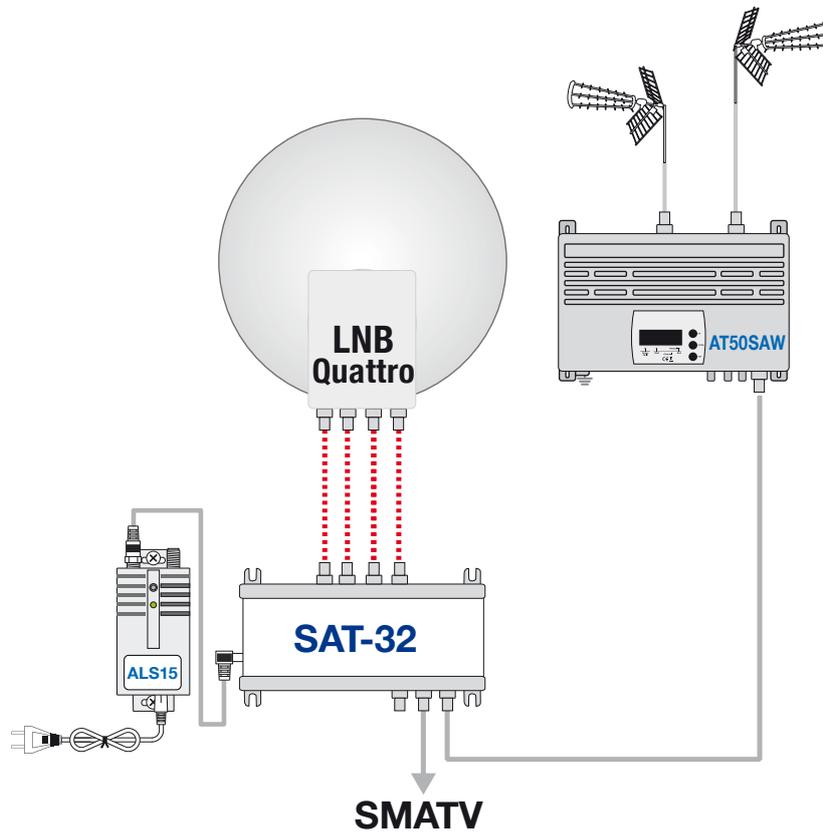


2. Connections

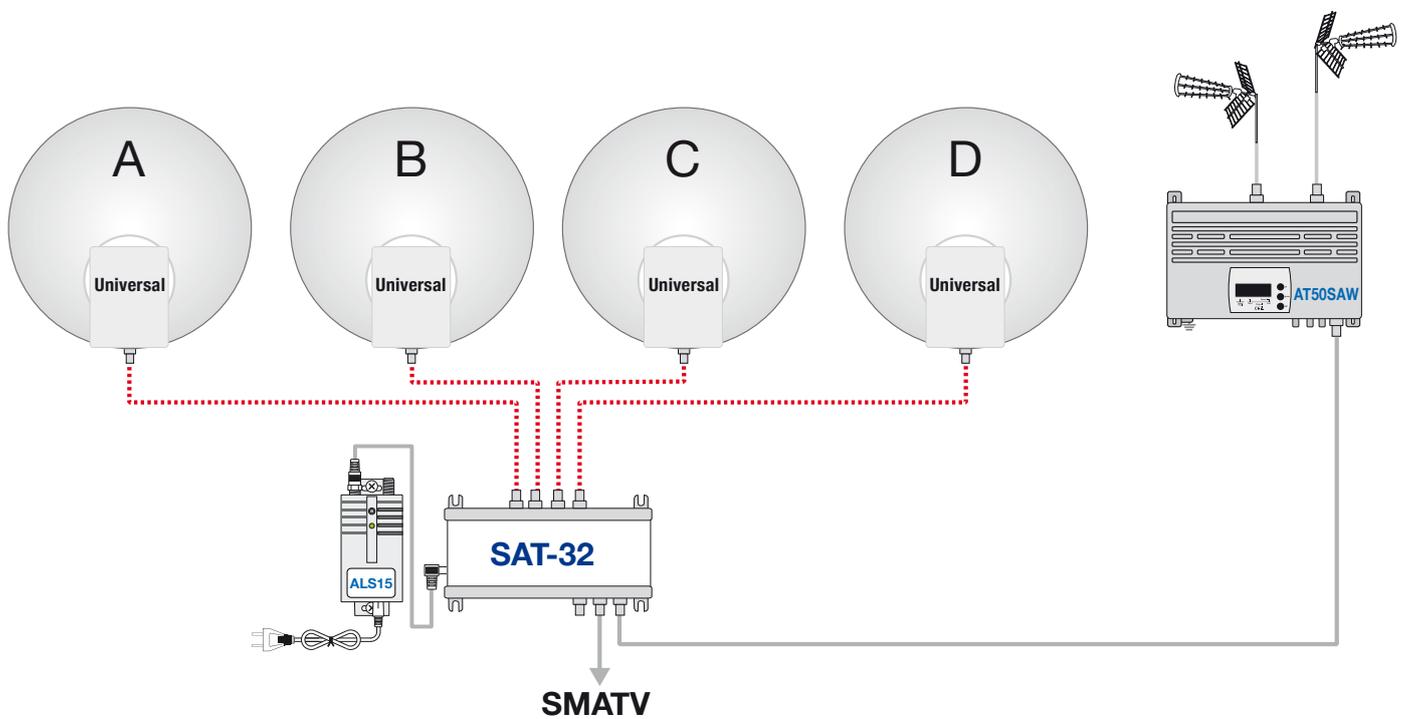
- Connect input and output coaxial cables.
- Plug in the power supplier only after you have connected everything else.
- To test your device directly use the -30dB Test Output.



To ensure the correct operation of the SAT-32 device please use good quality LNB with OFF-SET frequency not larger than +/- 2MHz



SAT-32 connected to a Quattro LNB to select and convert the transponders from a single satellite orbital position.



SAT-32 connected to four universal LNB to select and convert the transponders from four different satellite orbital positions.

SAT-32 SETTINGS

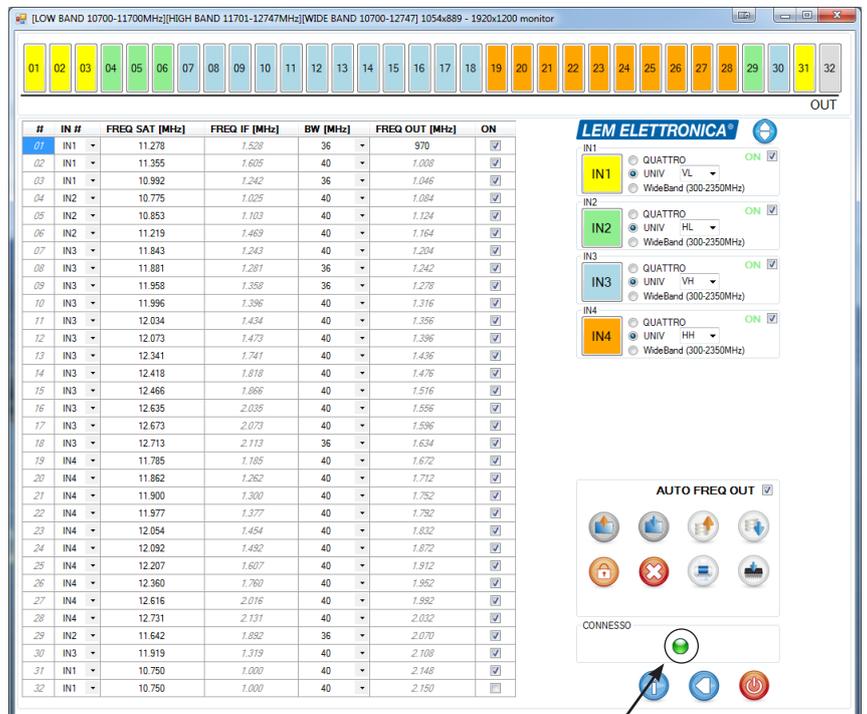
- All the SAT-32 parameter settings can be edited through the LEM GUI setup software which is compatible with Windows XP, 7, 8.1 and 10.
- The PC must have at least one free USB port.
- To connect the SAT-32 use a USB A-B standard cable

Before the setup

1. The package Microsoft Framework.NET 3.5 must be installed and working on the computer where you want to install the LEM GUI software. If not, please download it from Microsoft website free of charge.
2. Any older LEM GUI software must be removed from the PC before installing the latest version.
3. Download the latest release from the www.lemelettronica.it > download area. Install the LEMGUI setup software on the PC (Windows) following the procedure step-by-step
4. Turn on the SAT-32 and wait for the confirmation of the initializing procedures marked by the green LED (Power).
5. Connect the USB cable to the PC and the SAT-32, then launch the LEMGUI.
6. A window will appear, as shown in the picture below. Before starting the setup, please check the connection between the SAT-32 and the PC. If it is correct the green light at the bottom will be on. If not, please repeat the procedure from step 4.

Icons description

-  Read configuration
-  Write configuration
-  Load configuration file
-  Save configuration file
-  Protect with PassCode
-  Mask Reset
-  Print configuration
-  Update SAT-32 f.w.
-  Edit view



Green Light

SETUP PROCEDURE

1. LNB type selection and input activation.

You can select a different LNB for each of the four inputs, choosing between Quattro LNB, Universal LNB, Wide Band LNB. To activate the input and the remote power supply, flag ON.

The screenshot shows the 'LEM ELETTRONICA' software interface. On the left, there is a table of transponder data. On the right, there are four input configuration panels (IN1, IN2, IN3, IN4). Each panel has radio buttons for 'QUATTRO', 'UNIV', and 'WideBand'. Below these are dropdown menus for 'VL', 'VH', and 'HH'. A red box highlights the 'QUATTRO' selection and the 'ON' checkbox for IN1. A red arrow points from this selection to the 'IN1' entry in the table.

LNB type and remote power supply selection

2. LNB Input and Transponders coupling

You can couple each input transponder with one of the LNB input set at Step1.

A close-up of a dropdown menu titled 'LNB - Transponder Coupling'. The menu is open, showing options: IN1, IN2, IN3, IN4, and INZ. The 'IN1' option is currently selected and highlighted in blue.

LNB - Transponder Coupling

The screenshot shows the 'LEM ELETTRONICA' software interface. A red arrow points from the 'IN1' option in the dropdown menu to the 'IN1' column in the transponder table. The table shows the 'FREQ SAT [MHz]' and 'FREQ IF [MHz]' for each transponder.

3. Input Transponder frequency setting

Enter the Ku band frequency of the trasponder you want to convert, in MHz. The SAT-IF frequency will be determined by the coupled LNB type and it will appear in the column on its right.

FREQ SAT [MHz]	FREQ IF [MHz]
11.278	1.528
11.355	1.605
10.992	1.242
10.775	1.025

The screenshot shows the 'LEM ELETTRONICA' software interface. A red arrow points from the 'FREQ SAT [MHz]' column of the table to the 'FREQ SAT [MHz]' column in the software's transponder table. The software table shows the 'FREQ SAT [MHz]' and 'FREQ IF [MHz]' for each transponder.

Transponder Frquency

4 Transponder Bandwidth Setting

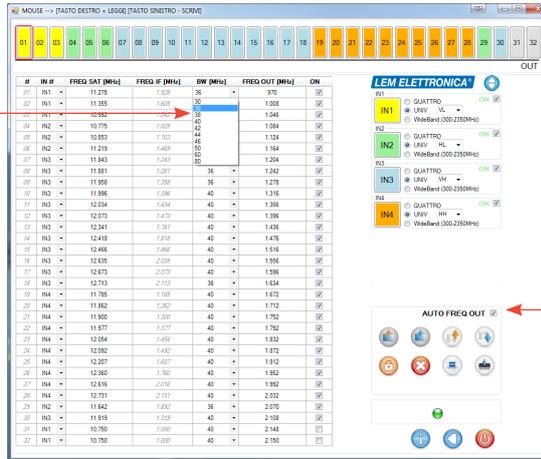
Select the correct bandwidth of the transponder you need to convert. The table below shows the bandwidth of the most common Symbol Rate

Symbol Rate	BW
22.000	30 MHz
27.500	36 MHz
29.900	40 MHz

5. Transponder Output Frequency Setting

By selecting the AUTO FREQ OUT function the converted transponders output frequencies will be automatically calculated. If you want to set them manually, disable the AUTO FREQ OUT Function.

[Hz]	BW [MHz]	FREQ OUT [MHz]
	36	970
	30	1.008
	36	1.046
	38	1.046
	40	1.084
	42	1.084
	44	1.124
	46	1.164
	50	1.204
	60	1.204
	80	1.242
	36	1.242
	36	1.270

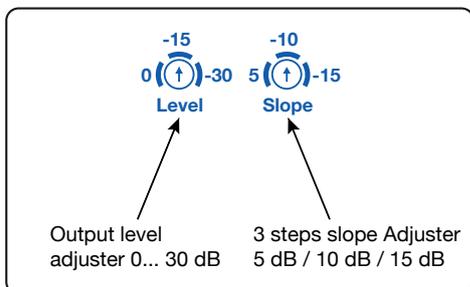


Transponders frequency band and output frequency setting

AUTO FREQ OUT Function selection

5. Output level and slop setting

Operate on the **Level adjuster** to select the required SAT-IF level output. To balance the cable loss operate on the 3 steps **Slope adjuster**.



SAT-32 Slope

