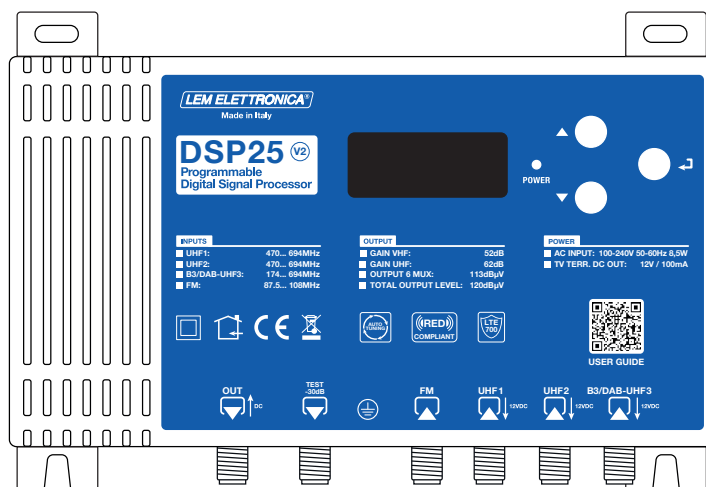


DSP25 v2

MULTI-INPUT DIGITAL SIGNAL PROCESSOR

- ▶ 24 Digits LCD display
- ▶ 3 TV Terrestrial inputs
- ▶ 1 FM input
- ▶ Auto-Tuning function
- ▶ Lte700 filters against 5G/4G interferences
- ▶ A.C.G. in each filter
- ▶ 32 high selectivity digital filters



TECHNICAL SPECIFICATIONS		
NUMBER OF INPUTS	4	1 FM; 1 B3/DAB/UHF; 2 UHF
INPUTS FREQUENCY RANGE	MHz	FM (87... 108) - B3 (170... 230) / DAB (170... 240) - UHF (470... 694)
SINGLE CHANNEL FILTERS		32
NUMBER OF CHANNEL PER FILTERS		1 (with channel to channel conversion)
INPUT LEVEL RANGE	dB μ V	FM (35... 90) - DAB (35... 90) - B3 (45... 110) - UHF (45... 100)
FM INPUT AMPLIFIER	dB	-10/+10 (OFF/ON)
VHF/UHF INPUTS AMPLIFIERS	DB	0/+16
VHF/UHF INPUTS A.C.G. RANGE	dB	40 dB
DIGITAL FILTERS SELECTIVITY	dB	\geq 50 (Adjacent channel)
SELECTABLE FILTERS AMPLITUDE		STANDARD/NARROW/AUTO
GAIN	dB	VHF 52 - UHF 62
OUTPUT LEVEL RANGE	dB μ V	94... 114
VHF ADJUSTABLE GAIN	dB	0... -10
UHF ADJUSTABLE SLOPE	dB	0... -10
MAX TOTAL UHF OUTPUT LEVEL	dB μ V	120 (IM3 DIN 45004B - 60 dBc)
MAX OUTPUT LEVEL WITH 6 MUX	dB μ V	113
MAX INPUTS REMOTE POWER		12V / 100 mA
COMMON		
RETURN LOSS IN/OUT	dB	>12
TEST OUTPUT		1 (-30 dB)
MAXIMUM CONSUMPTION		100-240VAC 50/60HZ 8,5W
OPERATING TEMPERATURE	°C	-5... 50
DIMENSIONS	mm	217 x 145 x 45

DESCRIPTION OF SYMBOLS AND ELECTRICAL SAFETY



The equipment complies with the CE requirements



The equipment is designed for indoor use only



Equipment grounding terminal



This symbol indicates that the equipment complies with the safety requirements for class II equipment



To avoid the risk of electric shock, do not open the equipment.



The equipment is compliant with RoHS 2011/65EU

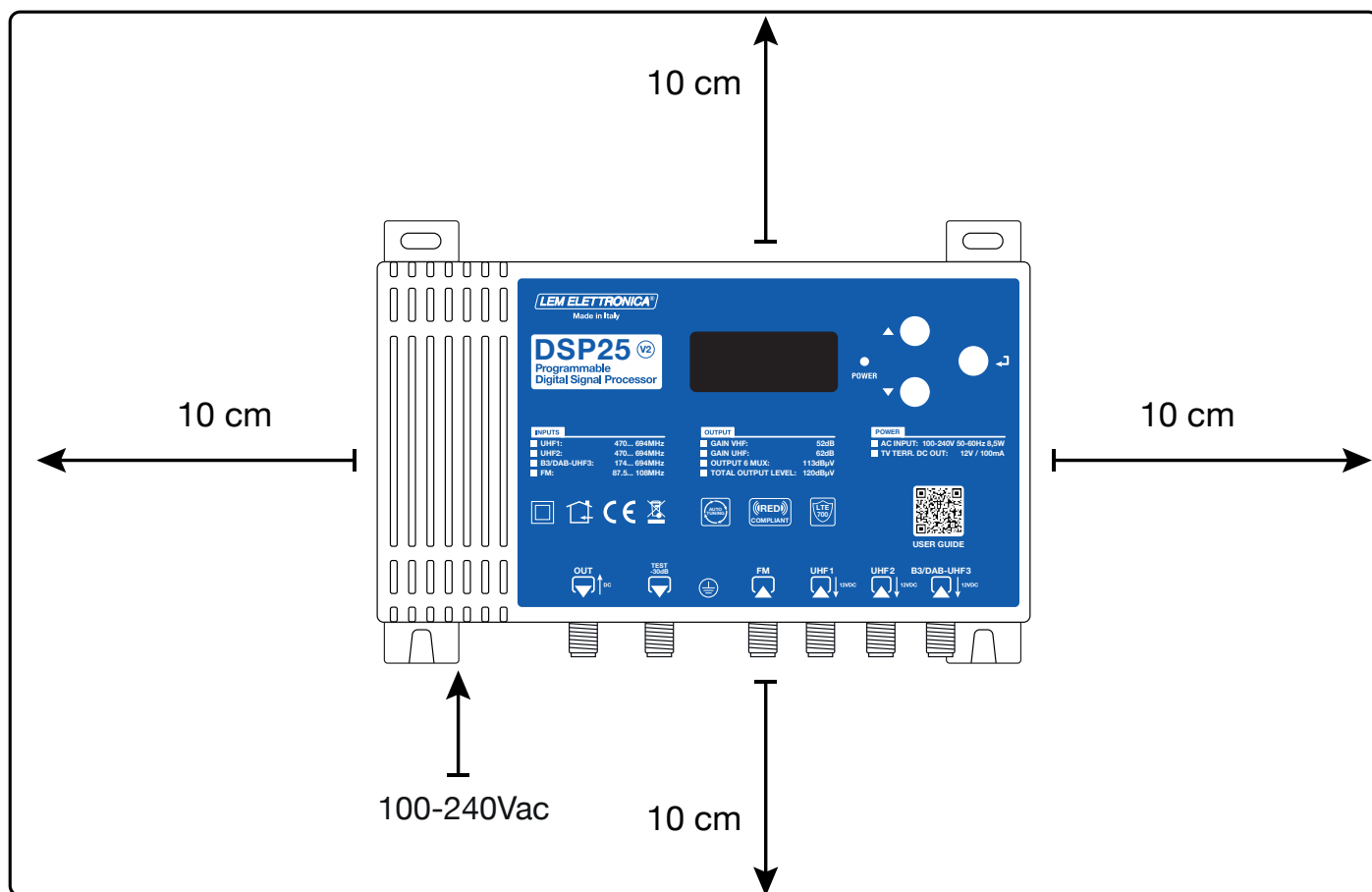


Dispose according to local authorities recycling processes

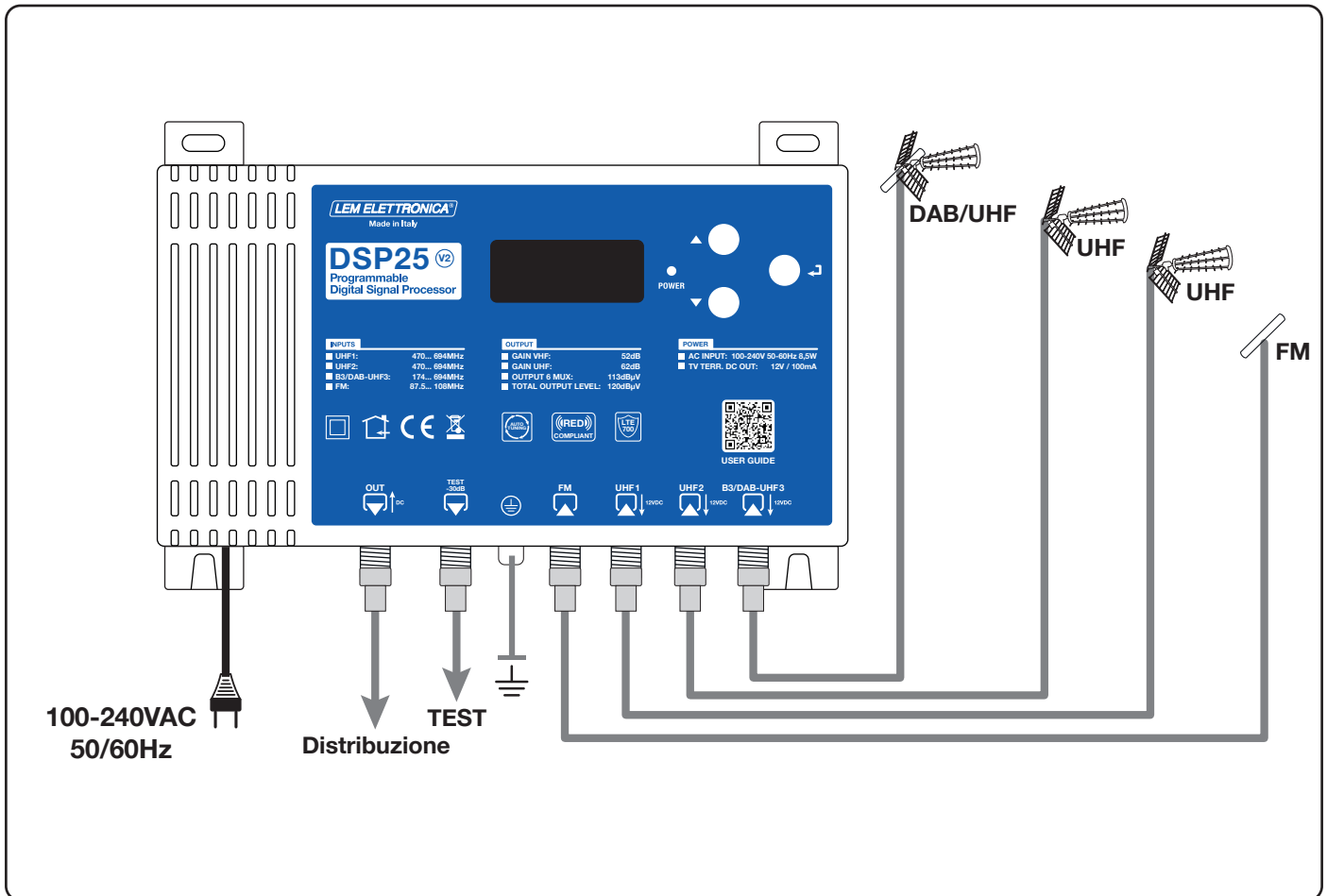


Safety instructions

1. Do not expose the amplifier to extreme temperatures.
2. Place the amplifier in a dry and well-aired location.
3. Install the unit on a vertical wall, or in a waterproof cabinet with a minimum IP55 rating, and fix it safely using fixing plugs.
4. Connect the power cord to a detachable power supply socket.



Standard Connections Schematic



Installation and start-up

- 1 Connect an earth wire to grounding clamp
- 2 Connect the TV and Satellite coaxial cable to the amplifier's inputs
- 3 Connect the MATV output and terminate the unused inputs with 75Ω loads
- 4 Connect the DSP25 power cord to mains plug

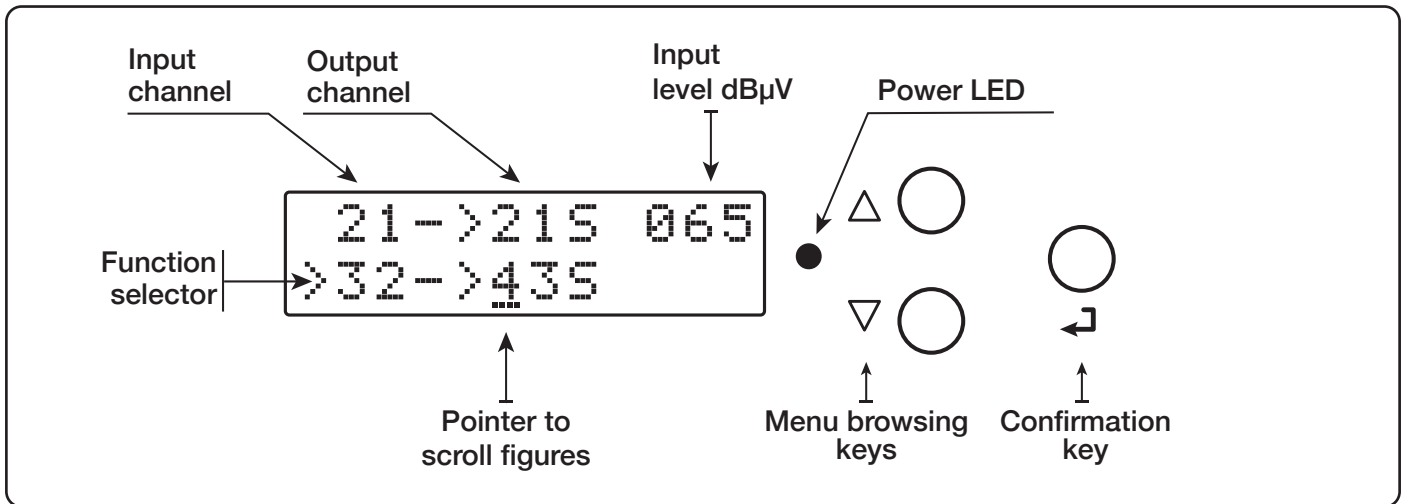


Power Led red blinking

Input short circuit or over current. Please check the input(s) with the remote power supply activated and remove the issue.

Amplifier Programming

1. Press any key to activate the display
2. Keep press \leftarrow for three seconds to enter the programming menu



Note: the display will go out after 1 minutes of inactivity remaining open on the last selected function. Press any key to continue.

Automatic channel scan and memorization

To speed up programming operations, it is possible to use the **AUTO-TUNING** function. By activating this function, the **DSP25** amplifier will scan the inputs and automatically store the DVB-T/T2 signals present on the antenna. The remote power supply voltage is activated automatically only if a current draw is detected, indicating the presence of an external preamplifier or an active antenna.

```
TUNING
AUTO  MAN
```

To start the **AUTO-TUNING** procedure select **AUTO** and press **↵**.

```
>START
EXIT
```

Select **START** to start automatic channels scanning.

```
TUNING
WAIT
```

During the **AUTO-TUNING** scanning and storage operations, the message **TUNING WAIT** appears, and the LED to the right of the display flashes green. The duration of the procedure depends on the number of MUX signals received from the connected antennas.

```
OUTPUT [08]
>LEV: 100dBuV
```

Once the **AUTO-TUNING** procedure is complete, the LED will stop flashing and return to steady green, if channels/MUX have been found, the display will show, in brackets, the number of activated filters and the optimum maximum dB output level. To confirm and complete the procedure press the **↵** key. If you wish to change the value of the output level, use the **∇ Δ** keys and confirm by pressing the **↵** key.



Setting a higher than optimal output level may lead to a degradation of the quality of individual MUX.

```
NO MUX
FOUND
```

If no channel/MUX is found, the display will show the message **NO MUX FOUND**. Check that the connections to the TV antennas are correct.

Manual programming

```
TUNING
AUTO      MAN
```

Position the pointer --- on **MAN** to start the manual programming and press **↵** to continue.



Press the keys **▽ Δ** at the same time to go back to the main menu.

INPUT V/U [1]

```
INPUT V/U 1
```

To set the **INPUT V/U 1** parameters press **↵** to enter the menu.

INPUT 1 VHF - UHF

Channel range:

E5... E13 - DAB - E21... E48

12V REMOTE POWER

```
INPUT V/U 1
>DC : OFF
```

Place the function selector **>** on **DC** press **↵** select **ON** to enable the remote power supply from **INPUT V/U 1** and press **↵** to confirm.

INPUT AMPLIFIER

```
DC: OFF
>AMPLI: ON
```

OFF= 0dB / ON= +16dB

Place the function selector **>** on **AMPLI** press **↵** and scroll the keys **▽ Δ** to select **ON** or **OFF** to enable or disable the input amplifier then press **↵** to confirm.

SINGLE MUX FILTERING

```
AMPLI: ON
>ADD 1 CH
```

Press **▽ Δ** to place the function selector **>** on **ADD 1 CH** and press **↵**.

```
AMPLI: ON
>21- >21 065
```

To activate the filtering function on a single MUX set the desired channel through the **▽ Δ** keys, then press **↵** twice to confirm.

```
AMPLI: ON
>21- >21 065
```

← The 3 digits value is the channel level in dB μ V at the input

MUX CONVERSION

```
>26- >26 068
ADD 1CH
```

To activate the filtering and conversion function on a single MUX set the desired input channel through the **▽ Δ** keys and press **↵** to confirm. Select the output channel required for the conversion through the **▽ Δ** keys then press **↵** to confirm.

```
>26- >27 068
ADD 1CH
```



Output conversions up to the UHF channel 69 are permitted.

DELETED

To delete a filter place the function selector > on the filter row and press ∇ and ← keys together.

DAB FILTER

AMPLI: ON
>DAB>DAB

To activate the single 65MHz DAB filter press ∇ until the figure **DAB-DAB** is shown, then press ← to confirm.

FILTERS OVERLAPPING

26<>26 *065
>25<>26 *070

The selection of two or more output filters with the same frequency is allowed but marked with *



Press the keys ∇ Δ at the same time to go back to the main menu.

INPUT [2] UHF

INPUT U 2

To set the **INPUT 2 UHF** parameters, press ← to enter the menu.

INPUT 2 UHF

Channel range: E21... E48

The same procedures described for input 1 apply for all settings.

INPUT [3] UHF

INPUT U 3

To set the **INPUT 3 UHF** parameters, press ← to enter the menu.

INPUT 3 UHF

Channel range: E21... E48

The same procedures described for input 1 apply for all settings.

INPUT FM

INPUT FM

Press ← to enter the menu to set the **FM** input parameters.

FM AMPLIFIER

INPUT FM
>AMPLI: ON

Place the function selector > on **AMPLI** press ← and select **ON** to enable the FM amplifier and press ← to confirm.

OFF= -10dB / ON= +10dB

OUTPUT LEVEL SELECTION

```
OUTPUT
```

Press ∇ to select the menu **OUTPUT** and press \leftarrow to confirm and check the selected output level.

```
OUTPUT  
>LEV: 100dBuV
```

To adjust the output level, press \leftarrow and change the figure where the pointer is positioned to the required level. Press \leftarrow to confirm.

Output level: 94... 114dB μ V

SLOPE

```
LEV: 100dBuV  
>SLOPE: 05dB
```

To adjust the UHF slope select **SLOPE** press \leftarrow and press $\nabla \Delta$ to set the value. Press \leftarrow to confirm.

Range: 0... 10dB

VHF ATTENUATION

```
SLOPE: 5dB  
>VHF: -10dB
```

To adjust the VHF attenuation select **VHF** press \leftarrow and press $\nabla \Delta$ to set the value. Press \leftarrow to confirm.

Level: 0 ... -10dB

ADVANCED SETTINGS

```
ADVANCED
```



Press the keys $\nabla \Delta$ at the same time to go back to the main menu from anywhere in the **ADVANCED** menu.

PROTECTION PASSCODE

```
ADVANCED  
>PASSW: 000
```

Select **PASSW** and press \leftarrow , press the $\nabla \Delta$ keys to select the first figure from the right. Press \leftarrow to confirm. Repeat for the other figures and press \leftarrow to confirm.

Code 0 0 0= No protection password

FILTERS BANDWIDTH

```
PASSW: 000  
>BW: AUTO
```

Select **BW** and press \leftarrow , press the $\nabla \Delta$ keys to select a non standard filter bandwidth. Press \leftarrow to confirm.

BW: AUTO/NRW/STD

STD: all filters will be set in standard bandwidth.
NRW: all filters will be set with narrow bandwidth
AUTO: Adjacent filters are automatically set as narrow and non-adjacent filters in standard mode.

SENSITIVITY THRESHOLD

```
BW: AUTO  
>THRES: 055dB
```

Select **THRES** values to have different threshold of sensivity **MONITOR**.

Range: 45... 75dB μ V

FAST A.C.G.

```
THRES: 55dB  
>FAST: OFF
```

Activation of the **FAST** function reduces the intervention time of the CAG (automatic gain control). This function is useful in the presence of unstable MUX with sudden changes in their level.

MONITOR

```
FAST: OFF  
>MONITOR: ON
```

Activating the **MONITOR** function activates a continuous cyclic check of all active filters, disabling those that are not involved in the transmission of a MUX.

The switch-off threshold is set by the **THRES** value described in the **SENSITIVITY THRESHOLD** function.

SERIAL NUMBER

```
MONITOR: OFF  
>SRNBR: XXXXX
```

RESET

```
RESET
```

```
ARE U SURE?  
YES NO
```

To restore the default settings select **RESET** and confirm **YES** pressing **↵**. The display will show **RESET OK** for a few second to confirm the operation. If you wish to skip the **RESET** select **NO** and press **↵** to confirm.



Please note with the **RESET** all the programmed settings will be lost.

EXIT

```
EXIT
```

```
ARE U SURE?  
YES NO
```

To end the programming procedure select **EXIT** and press **↵**. Select **YES** to exit programming mode and press **↵** to confirm.

To carry on with the programming, select **NO** and press **↵** to confirm.

Power Error

Power Led red blinking

Input short circuit or over current. Please check the input(s) with the remote power supply activated and remove the issue.

Label with serial and tracking data

AA1000015019-X1020L

AA	100001	50	19	X	10	20	L
Model	Serial #	Manuf. Week	Manuf. Year		HW Rel.	FW Rel.	

REL. 250108

LEM ELETTRONICA srl • Via Grezze, 38 • 25015 Desenzano d/G • Italy
Tel. +39 0309120006 • Fax. +39 0309123035 • info@lemelettronica.it
www.llemelettronica.it