LEM ELETTRONICA®

DSP25

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

WARRANTY 5 YEARS

AUTO TUNING

RED COMPLIANT

MODEL		DSP25
NUMBER OF INPUTS	4	1 FM; 1 BIII/DAB/UHF; 2 UHF
INPUTS FREQUENCY RANGE	MHz	FM (40... 108) BIII / DAB (170... 240) UHF (470... 694)
SINGLE CHANNEL FILTERS		32
NUMBER OF CHANNEL PER FILTERS		1
INPUT TOTAL LEVEL RANGE	dBµV	FM 35... 90 - BIII/DAB 40... 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	35 @1MHz
SELECTABLE FILTERS AMPLITUDE		STANDARD/NARROW/AUTO
GAIN	dB	VHF 50 - UHF 60
OUTPUT LEVEL RANGE	dBµV	86... 106
VHF ADJUSTABLE GAIN	dB	0... -10
UHF ADJUSTABLE SLOPE	dB	0... -5
MAX TOTAL VHF-UHF OUTPUT LEVEL	dBµV	116 (IM3 DIN 45004B - 60 dBc)
MAX OUTPUT LEVEL WITH 6 MUX	dBµV	113
MAX INPUTS REMOTE POWER		12V / 80 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	227 x 107 x 48

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

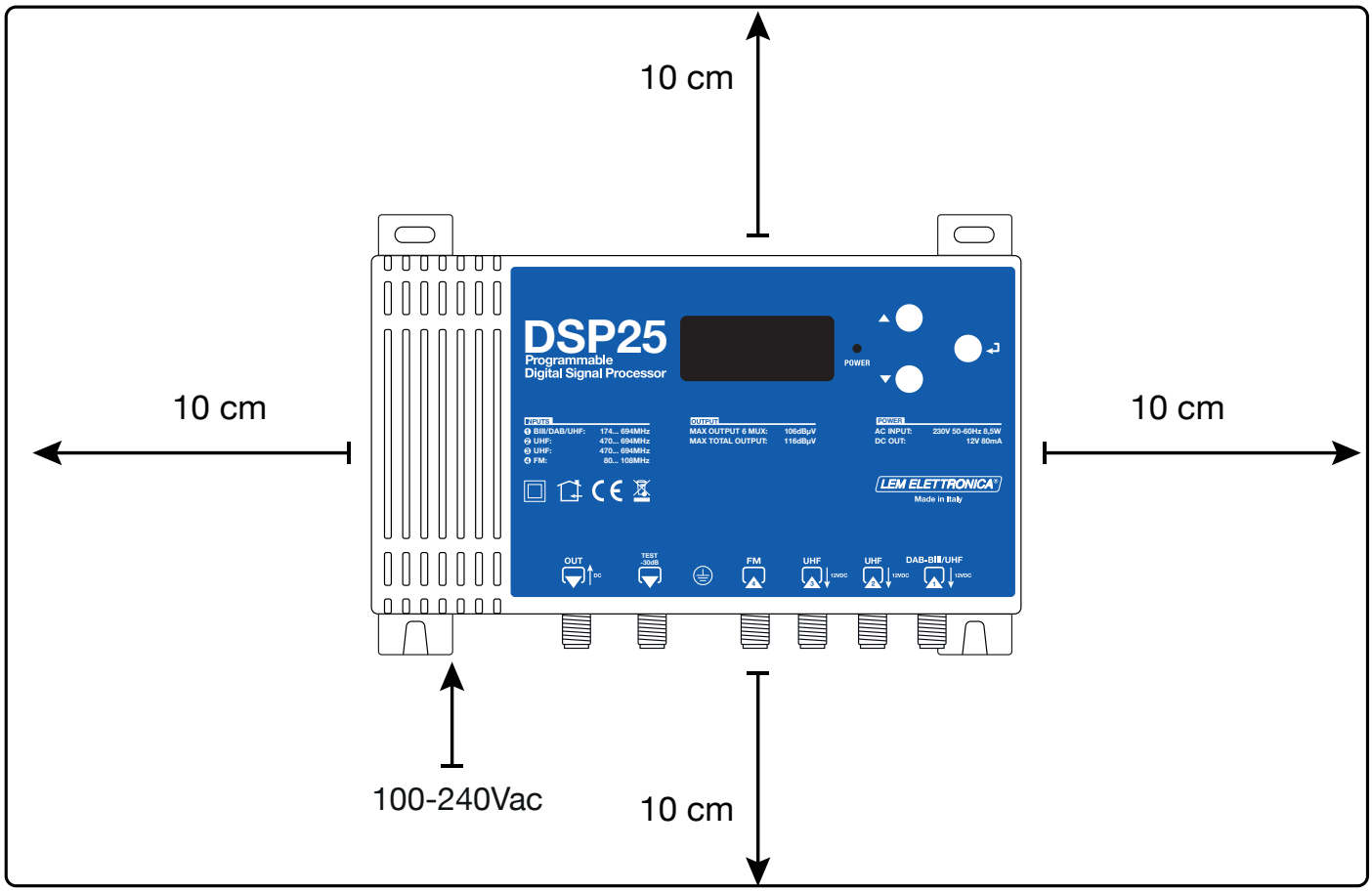
To avoid the risk of electric shock, do not open the equipment.

The equipment is compliant with RoHS 2011/65EU

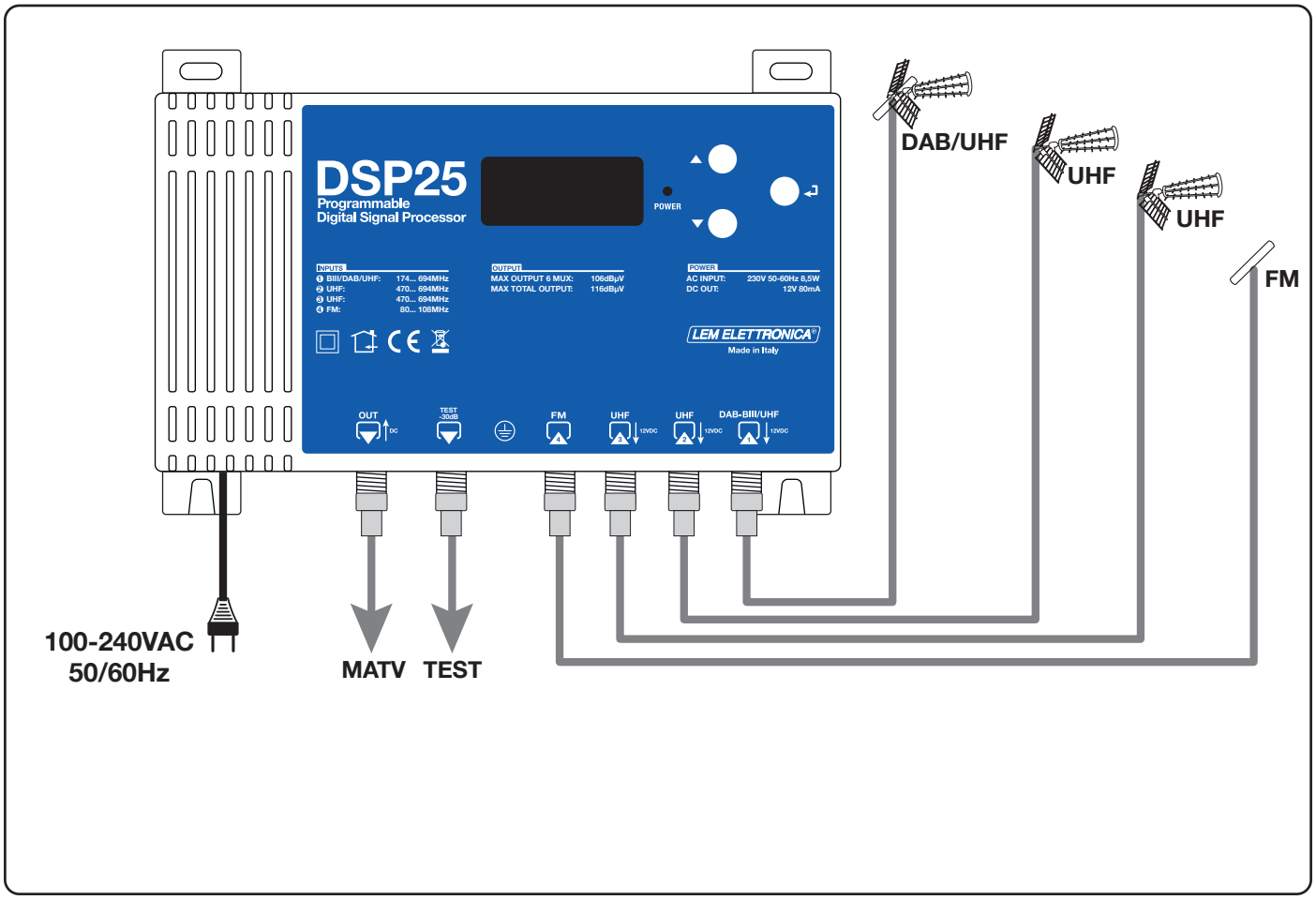
Dispose according to local authorities recycling processes

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

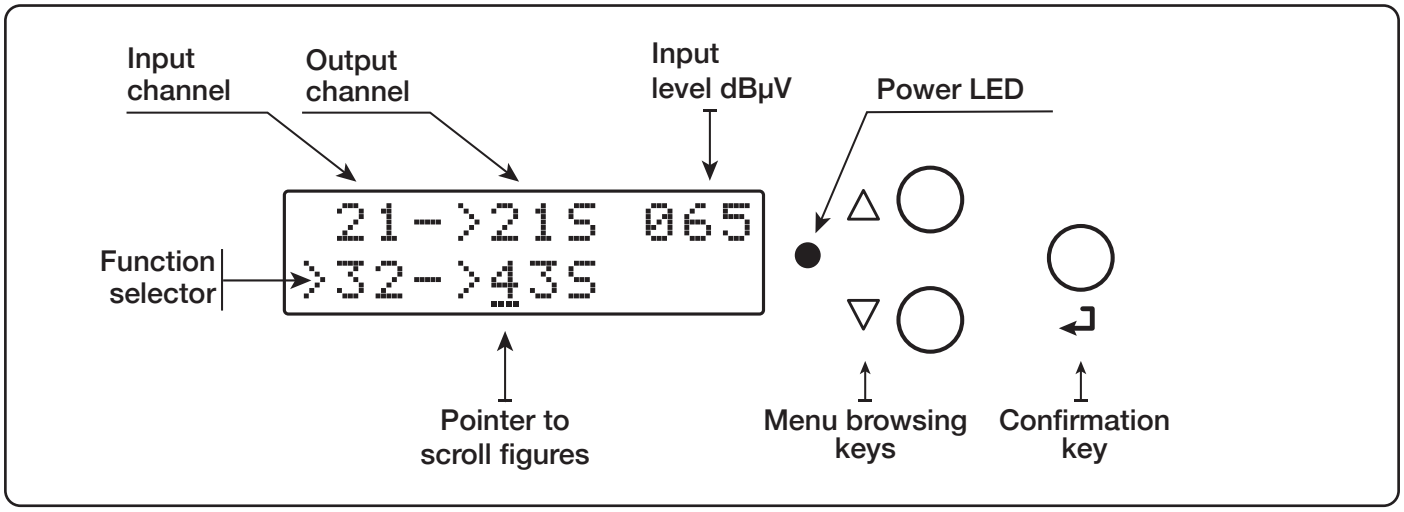
4 Connect the DSP25 power cord to mains plug

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 ↵ for three seconds to enter the programming menu

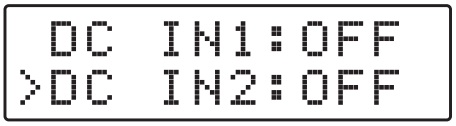


Note: the display will go out after 1 minutes of inactivity remaining open on the last selected function. Press any key to continue.

Automatic channel scan and memorization

To begin the **AUTO-TUNING** procedure connect the antenna(s) to the **DSP25** inputs, then follow the operations described below.

To begin the automatic programming **AUTO-TUNING** select **AUTO** and Press ↵ to proceed.



Before the MUX scanning is possible to activate the 12VDC for of the remote powering for each input. For remote powering of active antennas or pre-amplifiers.

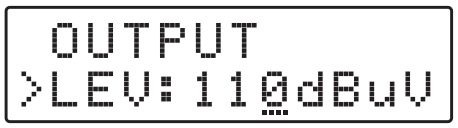
THRES is the sensitivity threshold level for the **AUTO-TUNING** scanning operations.

Range: 45... 90dBµV

Press again ↵ to confirm the scanning start.

The amplifier display will start scanning from the input [1] than input [2] and input [3] in sequence.

During the scanning operations the Power Led will flash green. When the scanning and storing are finished the Power Led turn to steady green.



The display will show the maximum output level optimal for the number of found MUX's. Press ↵ to confirm and complete the procedure. To change the output level press the keys ∇ Δ then press ↵ to confirm.

Setting higher output levels of the optimal could reduce the quality of the received signals.

If the number of the memorized MUX is lower than expected try reducing the THRES level and restart the AUTO-TUNING procedure.

If no MUX were found please check the antenna inputs or try reducing the THRES level and restart the AUTO-TUNING procedure.

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
```

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.

OFF= 0dB / ON= +16dB

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 dBµV at the input

TWO MUX FILTERING

```
  ADD 1 CH
 >ADD 2 CH
```

To add a filter for two channels with two adjacent MUX press ∇ and select **ADD 2 CH**. Press ↵ to confirm. Select the first channel with the ∇ Δ keys. The second channel will automatically appear in second position. Press ↵ to confirm.

```
>22<>23 070
 ADD 1CH
```

MUX CONVERSION

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

```
>26->27 068
 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.

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
```

INPUT 2 UHF
Channel range: E21... E48

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

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

INPUT [3] UHF

```
  INPUT U 3
```

INPUT 3 UHF
Channel range: E21... E48

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

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.

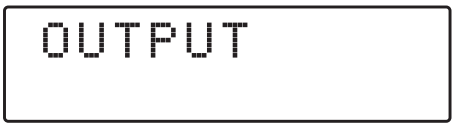
FM AMPLIFIER

```
  INPUT FM
 >AMPLI:ON
```

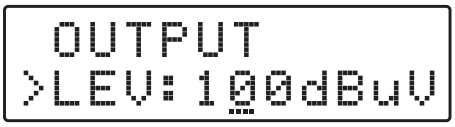
OFF= -10dB / ON= +10dB

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

OUTPUT LEVEL SELECTION



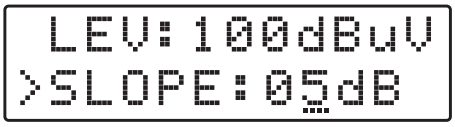
Press ∇ to select the menu **OUTPUT** and press ↵ to confirm and check the selected output level.



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

Output level: 86... 106dBµV

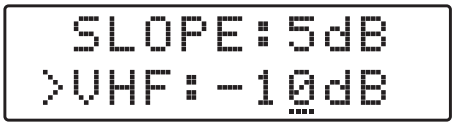
SLOPE



To adjust the UHF slope select **SLOPE** press ↵ and press ∇ Δ to set the value. Press ↵ to confirm.

Range: 0... 5dB

VHF ATTENUATION



To adjust the VHF attenuation select **VHF** press ↵ and press ∇ Δ to set the value. Press ↵ to confirm.

Level: 0 ... -10dB

ADVANCED SETTINGS

```
ADVANCED
```

Press the keys ∇ Δ 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 ↵, press the∇ Δ keys to select the first figure from the right. Press ↵ to confirm. Repeat for the other figures and press ↵ to confirm.

Code 0 0 0= No protection passcode

FILTERS BANDWIDTH

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

Select **BW** and press ↵, press the ∇ Δ keys to select a non standard filter bandwidth. Press ↵ to confirm.

BW: AUTO/NRW/STD

STD: all filters will be set in standard bandwidth.
NRW: all filters will be set with narrow bandwith
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 for **AUTO-TUNING** and **MONITOR** scanning.

Range: 45... 90dBµV

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
```

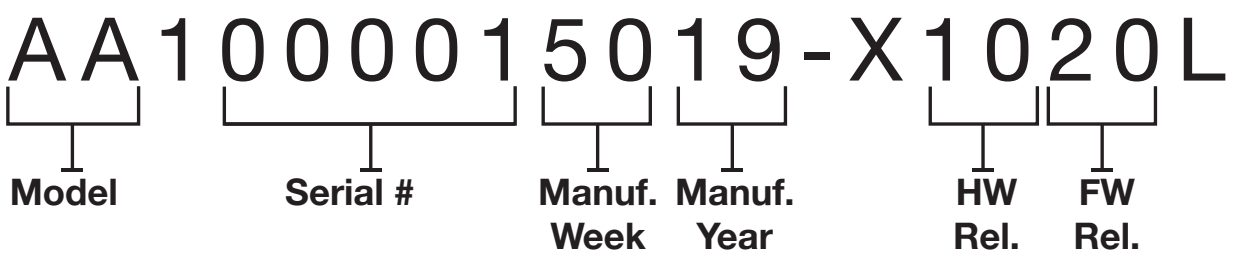
To end the programming procedure select **EXIT** and press ↵. Select **YES** to exit programming mode and press ↵ to confirm.
To carry on with the programming, select **NO** and press ↵ to confirm.

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



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