DSP40pro+

Programmable Multiband Amplifier

- \checkmark High selectivity digital filter
- Advanced selectable filters per channel
- ✓ Dual-stage input pre-amplifiers
- Filter channel level adjuster ⁽¹⁾
- Filter OFF-SET channel adjuster (1)
- \checkmark UHF inputs with Lte 700 /UHF selectable filter
- $oldsymbol{V}$ Wide band auxiliary input
- Automatic channel scanning
- $oldsymbol{arsigma}$ Manual programming from display and APP

(1) available only on Android App LEM USB

Multiband amplifier with programmable digital filters for equalising and converting digital terrestrial TV channels. Advanced tuning and programming features allow the quality of received signals to be improved.





INPUTS FREQUENCY RANGEMHzFM (40 108) AUX (40 862) BIII/DAB 170 240 / UHF 470 694/862SINGLE CHANNEL FILTERS32NUMBER OF CHANNEL PER FILTERS1 (With possibility of conversion)INPUT LEVEL RANGESdBµVFILTERS SELECTIVITYdBAUTOMATIC CONTROL GAIN RANGEdBVHF/UHF INPUTS AMPLIFIER GAIN0 / H15 / +30FM GAINdBAUX GAINdBAUX GAINdBAUX GAINdBSELECTABLE FILTERS BANDWIDTHdBSELECTABLE FILTERS BANDWIDTH50 (Adjustable 020dB)VHF GAINdBFILTER LEVEL ADJUSTERdBFILTER OFFSET ADJUSTERKHzVHF ADJUSTABLE SLOPEdBVHF ADJUSTABLE SLOPEdBVHF ADJUSTABLE OUTPUTdBMAX TOTAL VHF-UHF OUTPUT LEVELdBµVINPUTS REMOTE POWER12V / 24V 100 mA	TECHNICAL SPECIFICATIONS		
BIII/DAB 170 240 / UHF 470 694/862SINGLE CHANNEL FILTERS32NUMBER OF CHANNEL PER FILTERS1 (With possibility of conversion)INPUT LEVEL RANGESdBµVFM 35 90 - BIII/DAB 40 110 - UHF 50 110FILTERS SELECTIVITYdB>50 (Adjacent channels)AUTOMATIC CONTROL GAIN RANGEdB40 dBVHF/UHF INPUTS AMPLIFIER GAIN0 / +15 / +30FM GAINdB40 (Adjustable 030dB)AUX GAINdB40 (Adjustable 020dB)VHF GAINdB60UHF GAINdB75SELECTABLE FILTERS BANDWIDTHStandard (8MHz) / Narrow (-500KHz) / Wide (+750KHz)OUTPUT LEVEL RANGEdBµV99 119FILTER OFFSET ADJUSTERKHz-500 +500 (125KHz steps)FILTER OFFSET ADJUSTERKHz-500 +500 (125KHz steps)UHF ADJUSTABLE SLOPEdB05VHF ADJUSTABLE OUTPUTdB0 10 (1 dB step)MAX TOTAL VHF-UHF OUTPUT LEVELdBµV122 (/24V 100 mA	NUMBER OF INPUTS	6	1 FM; 2 UHF; 1 VHF/UHF; 1 DAB/UHF ; 1 AUX
NUMBER OF CHANNEL PER FILTERS I (With possibility of conversion) INPUT LEVEL RANGES dBµV FM 3590 - BIII/DAB 40110 - UHF 50110 FILTERS SELECTIVITY dB ≥50 (Adjacent channels) AUTOMATIC CONTROL GAIN RANGE dB VHF/UHF INPUTS AMPLIFIER GAIN 0/115/+30 FM GAIN dB 0/115/+30 FM GAIN dB 0/115/+30 AUX GAIN dB 40 (Adjustable 030dB) AUX GAIN dB 60 VHF GAIN dB 60 VHF GAIN dB 75 SELECTABLE FILTERS BANDWIDTH dB 010 (1dB steps) FILTER OFFSET ADJUSTER AB FILTER AB FILTER OFFSET ADJUSTER AB FILTER AB FILTER AB FILTER AB FILTER AB	INPUTS FREQUENCY RANGE	MHz	
INPUT LEVEL RANGESdBµVFM 35 90 - BIII/DAB 40 110 - UHF 50 110FILTERS SELECTIVITYdB>50 (Adjacent channels)AUTOMATIC CONTROL GAIN RANGEdB40 dBAUTOMATIC CONTROL GAIN RANGEdB0 / +15 / +30FM GAINdB45 (Adjustable 030dB)AUX GAINdB40 (Adjustable 020dB)VHF GAINdB60UHF GAINdB75SELECTABLE FILTERS BANDWIDTHdBStandard (8MHz) / Narrow (-500KHz) / Wide (+750KHz)OUTPUT LEVEL RANGEdBµV99 119FILTER OFFSET ADJUSTERKHz-500(+500 (125KHz steps))FILTER OFFSET ADJUSTERKHz-500(+500 (125KHz steps))UHF ADJUSTABLE SLOPEdB0 10 (1 dB step)MAX TOTAL VHF-UHF OUTPUT LEVELdBµV12V / 24V 100 mA	SINGLE CHANNEL FILTERS		32
FILTERS SELECTIVITYdB≥50 (Adjacent channels)AUTOMATIC CONTROL GAIN RANGEdB40 dBVHF/UHF INPUTS AMPLIFIER GAIN0/ +15 / +30FM GAINdB40 (Adjustable 030 dB)AUX GAINdB40 (Adjustable 020 dB)AUX GAINdB40 (Adjustable 020 dB)VHF GAINdB60UHF GAINdB75SELECTABLE FILTERS BANDWIDTHdBOUTPUT LEVEL RANGEdBµVFILTER OFFSET ADJUSTERdBFILTER OFFSET ADJUSTERdBVHF ADJUSTABLE SLOPEdBVHF ADJUSTABLE OUTPUTdBMAX TOTAL VHF-UHF OUTPUT LEVELdBµVINPUTS REMOTE POWER12V / 24V 100 mA	NUMBER OF CHANNEL PER FILTERS		1 (With possibility of conversion)
AUTOMATIC CONTROL GAIN RANGEdB40 dBVHF/UHF INPUTS AMPLIFIER GAIN0/ +15 / +30FM GAINdBAUX GAINdBAUX GAINdBAUX GAINdBVHF GAINdBVHF GAINdBVHF GAINdBSELECTABLE FILTERS BANDWIDTHdBOUTPUT LEVEL RANGEdBµVFILTER LEVEL ADJUSTERdBFILTER OFFSET ADJUSTERdBFILTER OFFSET ADJUSTERdBVHF ADJUSTABLE SLOPEdBVHF ADJUSTABLE OUTPUT LEVELdBµVMAX TOTAL VHF-UHF OUTPUT LEVELdBµVINPUTS REMOTE POWERtBµV	INPUT LEVEL RANGES	dBµV	FM 35 90 - BIII/DAB 40 110 - UHF 50 110
VHF/UHF INPUTS AMPLIFIER GAIN 0 / +15 / +30 FM GAIN dB 45 (Adjustable 030dB) AUX GAIN dB 40 (Adjustable 020dB) AUX GAIN dB 40 (Adjustable 020dB) VHF GAIN dB 60 UHF GAIN dB 75 SELECTABLE FILTERS BANDWIDTH dBµV Standard (8MHz) / Narrow (-500KHz) / Wide (+750KHz) OUTPUT LEVEL RANGE dBµV 99 119 FILTER LEVEL ADJUSTER dB -5 +5 (1dB steps) FILTER OFFSET ADJUSTER KHz -500(+500 (125KHz steps) UHF ADJUSTABLE SLOPE dB 05 VHF ADJUSTABLE OUTPUT dB 0 10 (1 dB step) INPUTS REMOTE POWER 12V / 24V 100 mA	FILTERS SELECTIVITY	dB	≥50 (Adjacent channels)
FM GAINdB445 (Adjustable 030dB)AUX GAINdB40 (Adjustable 020dB)AUX GAINdB60VHF GAINdB60UHF GAINdB75SELECTABLE FILTERS BANDWIDTHdB75OUTPUT LEVEL RANGEdBµVStandard (8MHz) / Narrow (-500KHz) / Wide (+750KHz)OUTPUT LEVEL ADJUSTERdB-5 +5 (1dB steps)FILTER OFFSET ADJUSTERKHz-500 +500 (125KHz steps)UHF ADJUSTABLE SLOPEdB05VHF ADJUSTABLE OUTPUTdB0 10 (1 dB step)INPUTS REMOTE POWERI2V / 24V 100 mA	AUTOMATIC CONTROL GAIN RANGE	dB	40 dB
AUX GAINdB40 (Adjustable 020dB)AUX GAINdB40 (Adjustable 020dB)VHF GAINdB60UHF GAINdB75SELECTABLE FILTERS BANDWIDTHdBStandard (8MHz) / Narrow (-500KHz) / Wide (+750KHz)OUTPUT LEVEL RANGEdBµV99 119FILTER LEVEL ADJUSTERdB-5 +5 (1dB steps)FILTER OFFSET ADJUSTERKHz-500 +500 (125KHz steps)UHF ADJUSTABLE SLOPEdB05VHF ADJUSTABLE OUTPUTdB0 10 (1 dB step)INPUTS REMOTE POWER12V / 24V 100 mA	VHF/UHF INPUTS AMPLIFIER GAIN		0 / +15 / +30
VHF GAINdB60UHF GAINdB75SELECTABLE FILTERS BANDWIDTHdB75OUTPUT LEVEL RANGEdBµVStandard (8MHz) / Narrow (-500KHz) / Wide (+750KHz)OUTPUT LEVEL RANGEdBµV99 119FILTER LEVEL ADJUSTERdB-5 +5 (1dB steps)FILTER OFFSET ADJUSTERKHz-500 (125KHz steps)UHF ADJUSTABLE SLOPEdB05VHF ADJUSTABLE OUTPUTdB0 10 (1 dB step)INPUTS REMOTE POWERI2V / 24V 100 mA	FM GAIN	dB	45 (Adjustable 030dB)
UHF GAIN dB 75 SELECTABLE FILTERS BANDWIDTH Standard (8MHz) / Narrow (-500KHz) / Wide (+750KHz) OUTPUT LEVEL RANGE dBμV 99 119 FILTER LEVEL ADJUSTER dB -5 +5 (1dB steps) FILTER OFFSET ADJUSTER KHz -500 +500 (125KHz steps) UHF ADJUSTABLE SLOPE dB 05 VHF ADJUSTABLE OUTPUT dB 0 10 (1 dB step) MAX TOTAL VHF-UHF OUTPUT LEVEL dBμV 126 (DIN 45004B) INPUTS REMOTE POWER 12V / 24V 100 mA	AUX GAIN	dB	40 (Adjustable 020dB)
SELECTABLE FILTERS BANDWIDTHStandard (8MHz) / Narrow (-500KHz) / Wide (+750KHz)OUTPUT LEVEL RANGEdBµVFILTER LEVEL ADJUSTERdBFILTER OFFSET ADJUSTERdBOUTPUT LEVEL SLOPEdBVHF ADJUSTABLE SLOPEdBVHF ADJUSTABLE OUTPUTdBMAX TOTAL VHF-UHF OUTPUT LEVELdBµVINPUTS REMOTE POWER12V / 24V 100 mA	VHF GAIN	dB	60
OUTPUT LEVEL RANGE dBμV 99 119 FILTER LEVEL ADJUSTER dB -5 +5 (1dB steps) FILTER OFFSET ADJUSTER KHz -500 +500 (125KHz steps) UHF ADJUSTABLE SLOPE dB 05 VHF ADJUSTABLE OUTPUT dB 0 10 (1 dB step) MAX TOTAL VHF-UHF OUTPUT LEVEL dBμV 126 (DIN 45004B) INPUTS REMOTE POWER 12V / 24V 100 mA	UHF GAIN	dB	75
FILTER LEVEL ADJUSTER d FILTER OFFSET ADJUSTER KHz FILTER OFFSET ADJUSTER KHz UHF ADJUSTABLE SLOPE dB VHF ADJUSTABLE OUTPUT dB MAX TOTAL VHF-UHF OUTPUT LEVEL dBµV INPUTS REMOTE POWER 12V / 24V 100 mA	SELECTABLE FILTERS BANDWIDTH		Standard (8MHz) / Narrow (-500KHz) / Wide (+750KHz)
FILTER OFFSET ADJUSTERKHz-500 +500 (125KHz steps)UHF ADJUSTABLE SLOPEdB05VHF ADJUSTABLE OUTPUTdB0 10 (1 dB step)MAX TOTAL VHF-UHF OUTPUT LEVELdBµV126 (DIN 45004B)INPUTS REMOTE POWER12V / 24V 100 mA	OUTPUT LEVEL RANGE	dBµV	99 119
UHF ADJUSTABLE SLOPE dB 05 VHF ADJUSTABLE OUTPUT dB 0 10 (1 dB step) MAX TOTAL VHF-UHF OUTPUT LEVEL dBµV 126 (DIN 45004B) INPUTS REMOTE POWER 12V / 24V 100 mA	FILTER LEVEL ADJUSTER	dB	-5 +5 (1dB steps)
WHF ADJUSTABLE OUTPUT dB 0 10 (1 dB step) MAX TOTAL VHF-UHF OUTPUT LEVEL dBµV 126 (DIN 45004B) INPUTS REMOTE POWER 12V / 24V 100 mA	FILTER OFFSET ADJUSTER	KHz	-500 +500 (125KHz steps)
MAX TOTAL VHF-UHF OUTPUT LEVEL dBμV 126 (DIN 45004B) INPUTS REMOTE POWER 12V / 24V 100 mA	UHF ADJUSTABLE SLOPE	dB	05
INPUTS REMOTE POWER 12V / 24V 100 mA	VHF ADJUSTABLE OUTPUT	dB	0 10 (1 dB step)
	MAX TOTAL VHF-UHF OUTPUT LEVEL	dBµV	126 (DIN 45004B)
RETURN LOSS IN/OUT dB >12	INPUTS REMOTE POWER		12V / 24V 100 mA
	RETURN LOSS IN/OUT	dB	>12
TEST OUTPUT 1 (-30 dB)	TEST OUTPUT		1 (-30 dB)
AMPLIFIER POWERING 100240VAC 50/60Hz (External power supply 15VDC / 1,25A)	AMPLIFIER POWERING		100240VAC 50/60Hz (External power supply 15VDC / 1,25A)
MAX AMPLIFIER CONSUMPTION W 10,50	MAX AMPLIFIER CONSUMPTION	W	10,50
MAX AMPLIFIER CONSUMPTION + REMOTE POWER W 12,50	MAX AMPLIFIER CONSUMPTION + REMOTE POWER	W	12,50
OPERATING TEMPERATURE °C -5 50	OPERATING TEMPERATURE	°C	-5 50
DIMENSIONS mm 192 x 217 x 37	DIMENSIONS	mm	192 x 217 x 37



Special Features

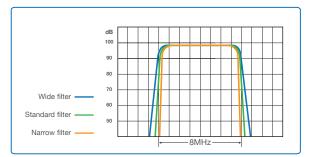
Advanced filtering

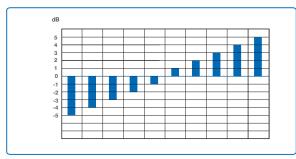
For each individual channel, the most suitable output filter can be chosen to achieve the best output quality. **Standard:** 8 MHz. **Narrow:** 8MHz -500KHz. **Wide:** 8MHz +750KHz.

Single filter level adjuster (1)

For each individual channel, the level can be adjusted in a range from **-5dB** to **+5dB** in 1dB steps.

This feature can be used to obtain an output curve with customised equalisation or in combination with the general **SLOPE** to compensate for large distribution losses.

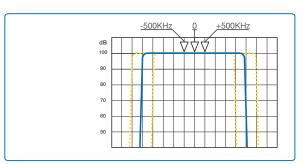




Single filter frequency OFF-SET⁽¹⁾

The output frequency OFF-SET of each filter can be corrected. The maximum range is **+/- 500KHz** in 125KHz steps.

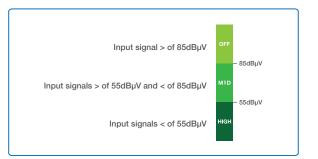
(1) available only on Android App LEM USB



Dual-stage input amplifiers

All inputs dedicated to digital terrestrial signals are equipped with two-stage input amplifiers that can be configured to obtain **three different C.A.G. windows.**

This feature makes it possible to receive signals with very low levels without the need for active antennas or external amplifiers.



Three Programming Options



Direct Programming

The main parameters are directly controllable via keys and a 24-character display.





Android smartphone programming

With the new LEM USB application, configuration and file storage operations are made even easier and more intuitive.



AutoTuning channels scanning

To speed up programming operations, the Auto-tuning function can be used, which automatically scans and memorises the channels received from the antennas.





Application examples

