Multimedia Electronics

HIRSCHMANN

Compact Power for Every Distribution Network

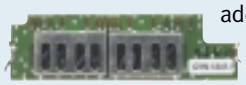
House Connection and Line Amplifiers

Individual Amplifier Performance for Line and House Connections

Modern cable networks nowadays need to meet high demands. In addition to larger frequency ranges for more programs, the usage of the return path for interactive services, multimedia and communication options became a key element of development progress.

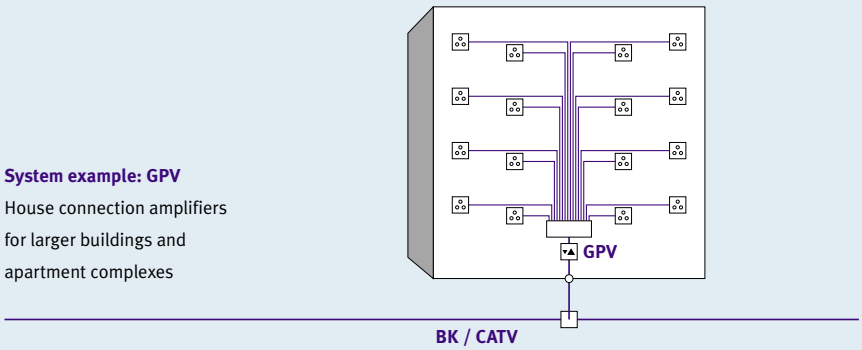
Flexible configuration of Hirschmann GPV house and GLV line amplifiers ensures the construction of high-performing tailor-made and future-proof distribution networks.

- Large selection of amplifiers for every need.
- Flexible configuration based on optional add-on modules.

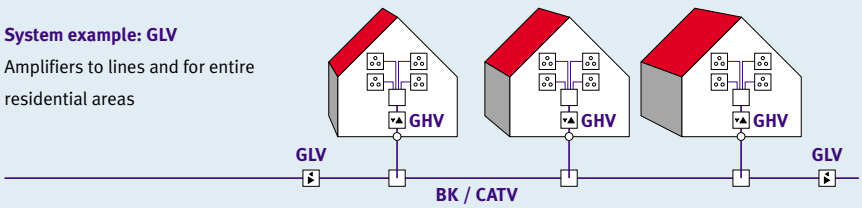


- Return path compatible at 5–30 MHz or 5–65 MHz.
- Basic gain adjustable in two stages.
- Frequency range switchable for networks up to 606/862 MHz.
- Power supply locally or remote feeded.
- Compact design for quick and easy installation.
- Economical due to low power consumption switched-mode power supply).

System example: GPV
House connection amplifiers for larger buildings and apartment complexes



System example: GLV
Amplifiers to lines and for entire residential areas



The future-proof solution:

Modular construction – flexibly configurable

For analog and digital signals

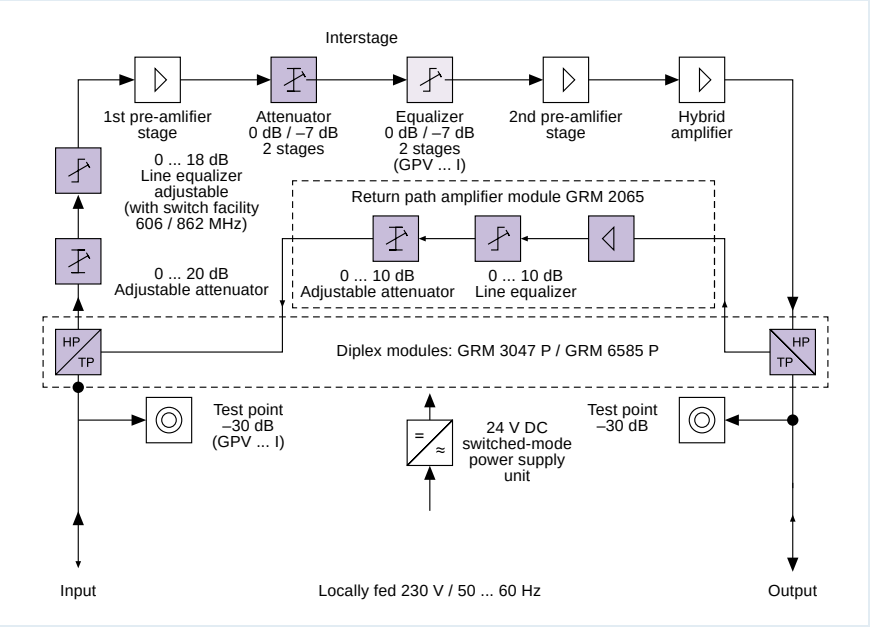
Variable return path

Conforms to all major international specifications

For Large-scale House Distribution Systems: GPV high-power

Inhouse power tailored to every need

The high-performance amplifiers of the GPV series provide perfect reception quality in larger buildings. They are available in three locally fed basic versions with differing output levels, as well as alternative versions with a repluggable Interstage pre-emphasis (0/7 dB) for higher modulation. The remote fed versions also boast of this pre-amplifier function.



Block diagram GPV ... / GPV ... I

Service connection amplifiers GPV	*high-power*	*high-power*	*high-power+*
Base units	**GPV 839**	**GPV 841**	**GPV 851**
Order no.	944 773-001	944 769-011	944 770-011
Units with Interstage pre-emphasis	**GPV 839 I**	**GPV 841 I**	**GPV 851 I**
Order no.	944 773-003	944 769-013	944 770-013
Remote fed versions		**GPV 841 F**	**GPV 851 F**
Order no.		944 776-001	944 777-001

Output stage		Push Pull	Push Pull	Power Doubler
Frequency range		47–862 MHz	47–862 MHz	47–862 MHz
Primary amplification	low	30 dB	29 dB	29 dB
	high	37 dB	36 dB	36 dB
Frequency response		± 1 dB	± 0.75 dB	± 0.75 dB
Noise figure		7 dB	7 dB	7 dB
Output level	IMA2 ≥ 60 dB (EN 50083-5)	114 dBµV	115 dBµV	117 dBµV
	IMA3 ≥ 60 dB (EN 50083-5)	121 dBµV	122 dBµV	124 dBµV
	CSO/CTB ≥ 60 dB Cenelec grid[1)]	109 dBµV	110 dBµV	112 dBµV
	CSO/CTB ≥ 60 dB Cenelec grid[2)]	107 dBµV	108 dBµV	110 dBµV
	Maximum operating level	113 dBµV	113 dBµV	113 dBµV
Return loss at input and output		16 dB	16 dB	16 dB
Group propagation delay[3)]		15 ns	15 ns	15 ns
Adjustable line equalizer		0–18 dB	0–18 dB	0–18 dB
Adjustable attenuation		0–20 dB	0–20 dB	0–20 dB
Test point on output[4)]		–30 ± 1 dB	–30 ± 1 dB	–30 ± 1 dB
Operating voltage (50–60 Hz)		AC 230 V	AC 230 V[5)]/AC 32–65 V[6)]	AC 230 V[5)]/AC 32–65 V[6)]
Power consumtion		8 W	9.5 W[5)]/11 W[6)]	12.5 W[5)]/14 W[6)]
Ambient temperature range to EN 60065		–20 ... +60 °C	–20 ... +55 °C	–20 ... +55 °C
Operable in temperature range		–40 ... +70 °C	–40 ... +60 °C	–40 ... +60 °C
Weight		approx. 2 kg	approx. 2.5 kg	approx. 2.5 kg
Dimensions (W x H x D)		190 x 115 x 70 mm	190 x 115 x 70 mm	190 x 115 x 70 mm

[1)] Asignment with 29 TV channels up to 606 MHz

[2)] Asignment with 42 TV channels up to 862 MHz

[3)] Lower channel BT/FHT (interval 4.43 MHz)

[4)] On GPV ... I and GPV ... F also at input

[5)] Base unit and version with Interstage pre-emphasis

[6)] Remote fed version

For CATV and BK Networks

GLV line-power

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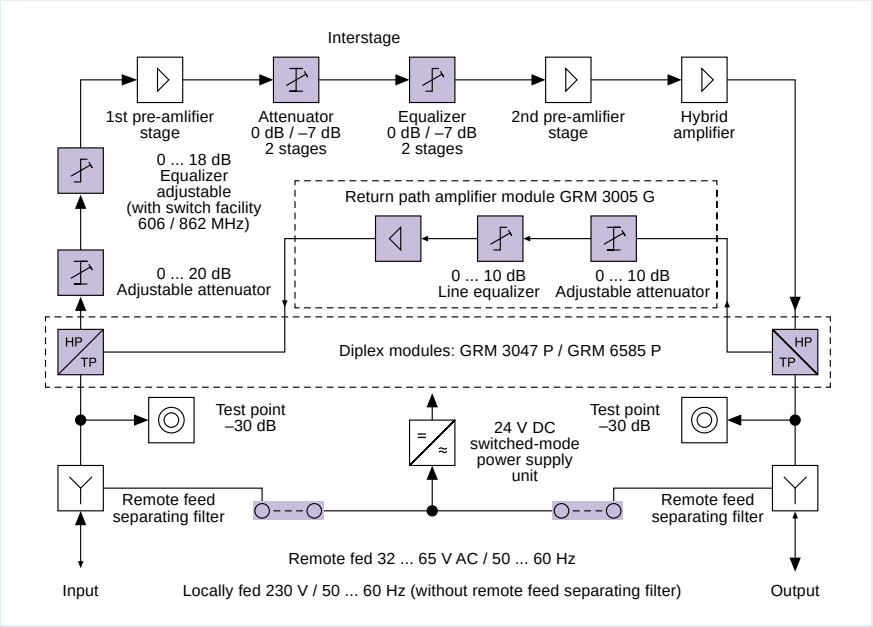
Power all along the line

The robust GLV line amplifiers with their compact and waterproof housings meeting IP 65 are well suited for all place and weather conditions. Matching installation accessories are available. The three base versions boast of an integrated Interstage pre-emphasis and an automatic gain control (AGC) to equalize fluctuations in attenuation. All units are optionally available as locally or remote fed.



Block diagram GLV ... F

Party-line amplifiers GLV	*line-power*	*line-power*	*line-power*
Base units	**GLV 860**	**GLV 865**	**GLV 865 AGC**
Order-no.	944 405-002	944 409-002	944 786-002
Remote fed versions	**GLV 860 F**	**GLV 865 F**	**GLV 865 F AGC**
Order-no.	944 406-002	944 410-002	944 799-002
Output stage	Push Pull	Power Doubler	Power Doubler with Automatic Gain Control
Frequency range	47–862 MHz	47–862 MHz	47–862 MHz
Basic gain low	29 dB	29 dB	28 dB
high	36 dB	36 dB	
Control deviation			± 5 dB
Frequency response	± 0.5 dB	± 0.5 dB	
Linearity in TV channel 0.5 MHz	≤ 0.2 dB	≤ 0.2 dB	≤ 0.2 dB
7 MHz	≤ 0.5 dB	≤ 0.5 dB	≤ 0.5 dB
Noise figure	7 dB	7 dB	7 dB
Output level IMA2 ≥ 60 dB (EN 50083-5)	114 dBµV	117 dBµV	117 dBµV
IMA3 ≥ 60 dB (EN 50083-5)	122 dBµV	124 dBµV	124 dBµV
CSO/CTB ≥ 60 dB Cenelec grid[1]	113 / 110 dBµV	113 / 110 dBµV	
CSO/CTB ≥ 60 dB Cenelec grid[2]	111 / 109 dBµV	113 / 112 dBµV	109 dBµV[3]
Maximum operating level	113 dBµV	113 dBµV	113 dBµV
Return loss at input and output	18 dB	18 dB	14 dB
Group propagation delay[4]	10 ns	10 ns	10 ns
Interstage pre-emphasis, fixed	0 / 7 dB	0 / 7 dB	
Adjustable line equalizer	0–18 dB	0–18 dB	0–18 dB
Adjustable attenuation	0–20 dB	0–20 dB	0–20 dB
Test point	–30 ± 1 dB	–30 ± 1 dB	–30 ± 1 dB
Operating voltage (50–60 Hz)	AC 230 V[5]/AC 32–65 V[6]	AC 230 V[5]/AC 32–65 V[6]	AC 230 V[5]/AC 32–65 V[6]
Power consumption	9.5 W[7]	12.5 W[7]	14 W[7]
Current capacity of remote feed channels[6]	≤ 3.5 A	≤ 3.5 A	≤ 3.5 A
Ambient temperature range to EN 60065	–20 ... +55 °C	–20 ... +55 °C	–20 ... +55 °C
Operable in temperature range	–40 ... +60 °C	–40 ... +60 °C	–40 ... +60 °C
Weight	approx. 2 kg	approx. 2.5 kg	approx. 2.5 kg
Dimensions (W x H x D)	190 x 115 x 70 mm	190 x 115 x 70 mm	190 x 115 x 70 mm

[1] Assignment with 29 TV channels up to 606 MHz

[2] Assignment with 42 TV channels up to 862 MHz

[3] CSO at 100 dBµV, level 114, 69 dB; CTB at 100 dBµV, level 113, 17 dB

[4] From picture carrier to color subcarrier

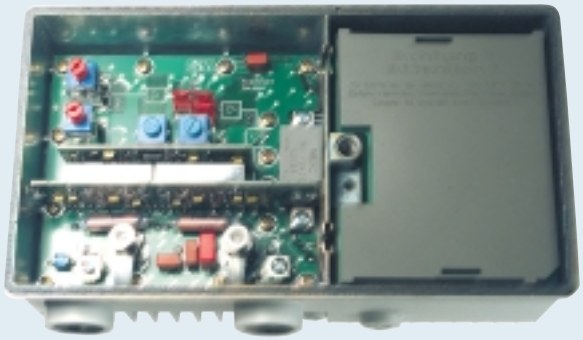
[5] Base unit

[6] Remote fed version

[7] Remote fed version at 40 V

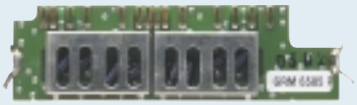
The Right Setting Counts

Versatile and powerful amplifiers for all applications:
Despite their differing areas of application, the two amplifier series GPV and GLV have one thing in common: they can be custom configured on-site. Interchangeable plug-in modules and adjusters permit optimum adaptation to technical circumstances – and ensure that the units can also be modified at a later time to adapt to any possible changes.

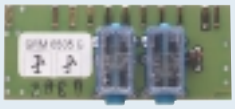


Modules

Diplex modules to split the frequency range into reverse and forward channel (passive), optionally with splits of 5–30 / 47–862 MHz or 5–65 / 85–862 MHz. More versions are available on request.



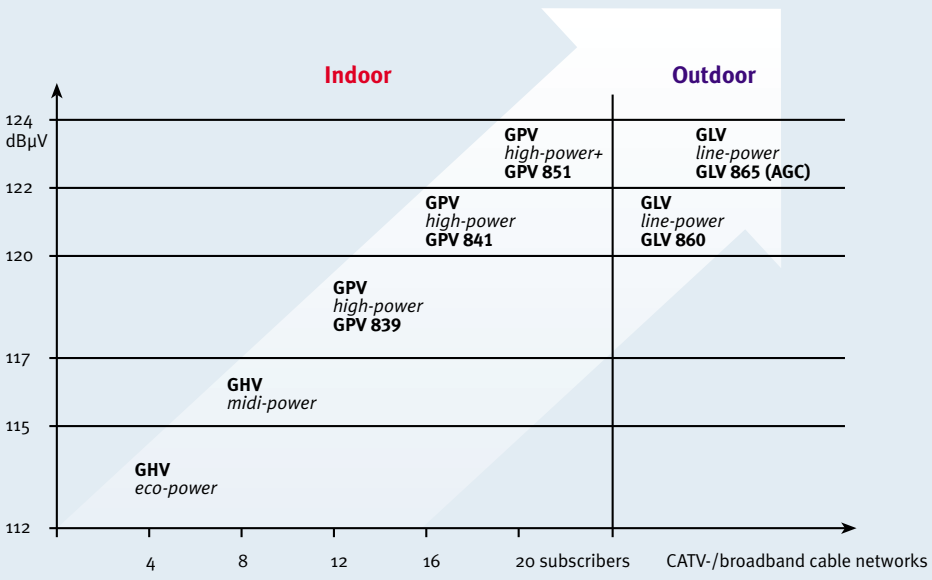
Return path amplifier modules in two design versions: with an equalizer and adjustable attenuation at the module input in case of a high input level of the return path or at the module output in case of a low input level (≤ 90 dB). Available for the two return path ranges 5–30 MHz and 5–65 MHz.



Replugging functions for basic gain (factory set to lower amplification) and for units with Interstage pre-emphasis for higher input modulation. Additional control options by means of adjustable attenuation and adjustable line equalizer.

Types

Depending on the application (house connection/local distribution network) and the number of connected parties, a choice of different base units with optimized performance profiles is available. Fine adjustments are made by means of the settings and modules cited above.



High-power for Today and Tomorrow: GPV 838

HIRSCHMANN

Start the future at any time

The high-power GPV 838 amplifier provides an optimum solution to prepare house connections for network constructions on forward and return path. Its integrated return path can easily be switched on using the available jumpers. When the return path is switched off, Band I is available on forward path. The GPV 838 offers a multitude of attractive advantages:

- Optimized investment to suit the needs of today and tomorrow
- Low power consumption helps to save costs and energy
- Level adjustment for forward and return path
- Integrated Interstage pre-emphasis

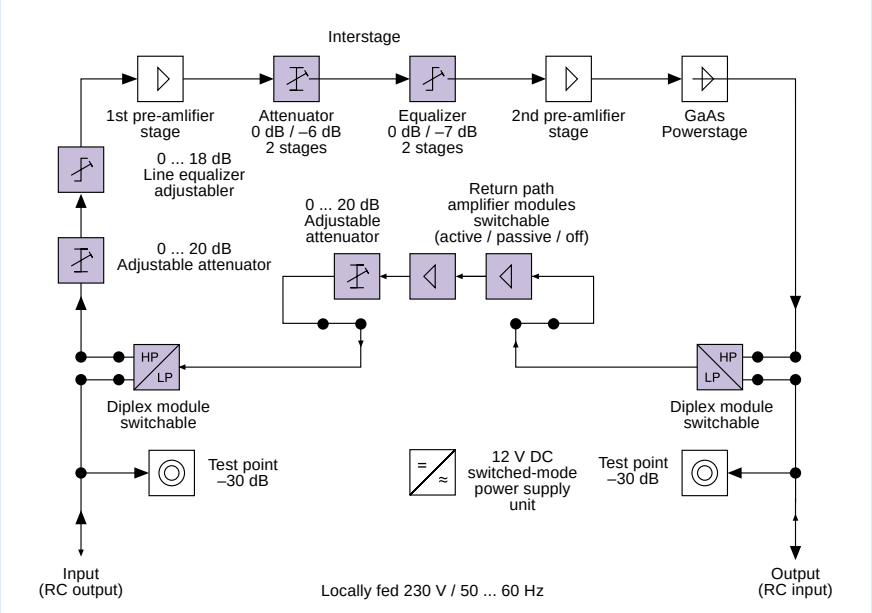
House amplifier with return path function

Base unit		**GPV 838**
Order no.		940 025-001
Output stage		Push Pull
Frequency range	Forward path (Band I ON/ RC OFF)	40–862 MHz
	Forward path (RC OFF)	85–862 MHz
	Return path (RC ON)	5–65 MHz
Primary amplification	low	28 dB
	high	34 dB
Frequency response		± 1.5 dB
Linearity in the TV channel	0.5 MHz	≤ 0.2 dBµV
	7 MHz	≤ 0.5 dBµV
Noise figure		7 dB
Output level	IMA2 ≥ 60 dB (EN 50083-5)	114 dBµV
	IMA3 ≥ 60 dB (EN 50083-5)	121 dBµV
	CSO/CTB ≥ 60 dB Cenelec grid[1]	107 dBµV
	Maximum operating level	113 dBµV
Return loss at input and output		16 dB
Group propagation delay[2]		max. 25 ns
Interstage pre-emphasis		0 / –6 dB
Adjustable line equalizer (AC)		0–18 dB
Adjustable attenuation (AC)		0–20 dB
Test point on output		–30 ± 1 dB
Operating voltage (50–60 Hz)		AC 230 V
Power consumtion		7 W
Ambient temperature range to EN 60065		–20 ... +55 °C
Operable in temperature range		–40 ... +60 °C
Weight		approx. 2 kg
Dimensions (W x H x D)		200 x 110 x 80 mm

[1] Asignment with 29 TV channels up to 606 MHz

[2] Lower channel BT/FHT (interval 4.43 MHz)

Block diagramm GPV 838



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