

- Full DOCSIS 3.1 compatible amplifier with 1.2 GHz downstream and 204 MHz upstream
- Switchable diplex-filters from 65/85 to 204/258 MHz
- Attractive design and optional cover allow deployment in living areas
- Small and compact housing, not much bigger than a splitter
- Low power consumption
- LED's indicating active band-split



## Overview

One of DOCSIS 3.1 major advantages is the extension of the downstream frequency band up to 1.2 GHz as well as the uplift of the upstream to 204 MHz. While 1.2 GHz upgrades of networks have been ongoing for many years, the upstream is lagging behind, mainly due to FM bands which are still active in the network. Moving forward, it will become necessary to upgrade the upstream to higher capacity to support the relative downstream loading. However, currently 1.2 GHz in-home amplifiers are deployed with a fixed band-split at 65/85 MHz. This will result in an expensive truck-roll in the future to replace this device when 204 MHz upstream is being activated.

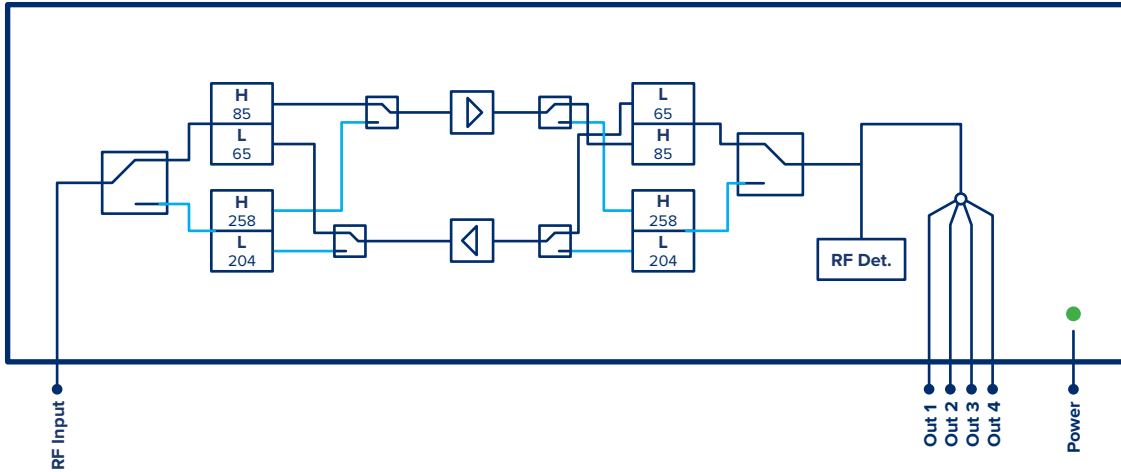
Technetix has tackled this challenge today and introduces the EZ-Amp series of amplifiers which features automatically switchable diplex filters to execute a no-touch upstream upgrade in the home. When upgrading legacy 860 MHz or 1 GHz amplifiers today, Technetix allows you to also prepare for the upstream future.

## Installing EZ-Amp

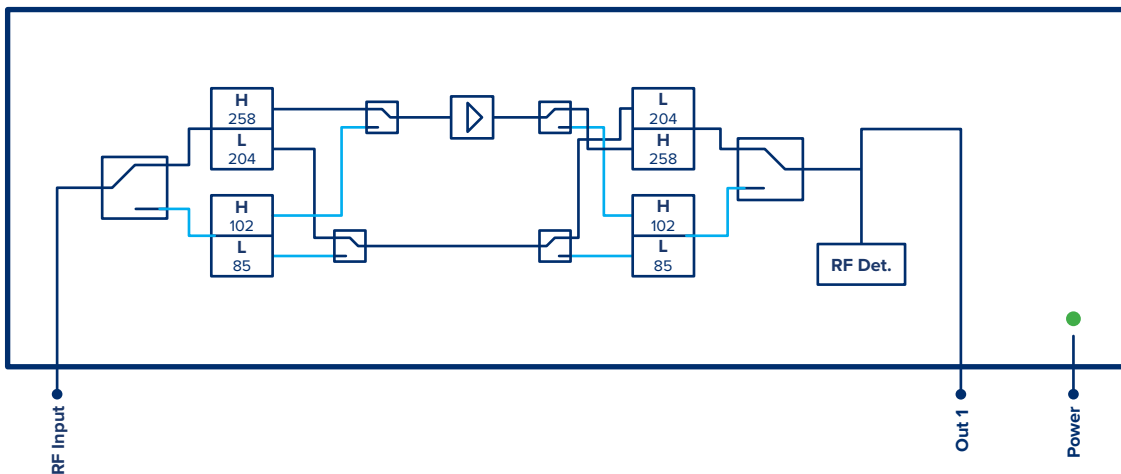


**Block diagrams**

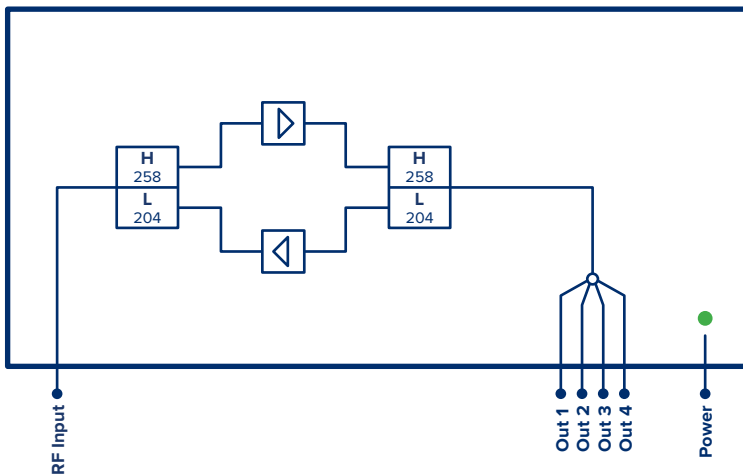
EZ-Amp Basic switchable duplex filters 4 output in-home amplifier:



EZ-Amp Basic switchable duplex filters single output in-home amplifier:



EZ-Amp Lite fixed duplex filters 204/258 MHz 4 output in-home amplifier:



### RF and Electrical Specifications

		MHz	Min	Typ	Max	Unit	Notes
Frequency	Forward Path	85/258-1218	85		1218	MHz	
	Return Path	5-65/204	5		204	MHz	
Return Loss	In	5-65	18				1
		5-204	18				1
		85-1218	18				1
		258-1218	18				1
	Port 1,2,3,4	5-65	18				1
		5-204	18				1
		85-1218	18				1
		258-1218	18				1
Isolation	Port to Port	5-10	22				
		10-15	30				
		15-65	35				
		65-204	30				
		85-1218	26				
Ripple	Forward Path	85-1218			+/- 0.75		
	Return Path	5-65			+/- 1		
Gain Tolerance		85-1218			0.3 dB		
Gain	In -> Port 1	85-1218		0.5			
	In -> Port 2			0.5			
	In -> Port 3			0.5			
	In -> Port 4			0.5			
	Port 1,2,3,4 -> In	5-65		0.5			
Noise Figure	Forward Path	85-120 (or starting from 258)		6	7	dB	2
		120-1218 (or starting from 258)		5	6	dB	
	Return Path	5-65		14	18.0	dB	
		5-204		14	18	dB	
Max Input Level				77	dB $\mu$ V		
Distortion	CSO@(77+Gain) dB $\mu$ V				-65	dBc	3
	CTB@(77+Gain) dB $\mu$ V				-66	dBc	4
Switch trigger level			90 dB $\mu$ V				

**Notes**

- 1 | At F = 40 MHz F > 40 MHz -1,5 dB/octav
- 2 | From input to port 1,2,3,4 (downstream)  
From port 1,2,3,4 to input (upstream)
- 3 | IEC 60728-3 §4.2.3
- 4 | IEC 60728-3 §4.2.2

## RF and Electrical Specifications Continued

		MHz	Min	Typ	Max	Unit	Notes
Spurious / Oscillation		5-65 85-1218 Or 5-204/258- 1218 MHz			20	dBμV	1
Group Delay	Δ2 MHz	5-10			30	ns	2
	Δ2 MHz	10-65/204			10	ns	
	Δ4.43 MHz	85/258- 120/300			20	ns	
	Δ4.43 MHz	120/300-1218			10	ns	
Surge Protection	On Input			1		kV	2
Power					8	V	

## General

Description			Min	Typ	Max	Units	Notes
Connectors	In and outputs	Bottom		F Female			3-4
	CM port	Bottom		F Female			3-4
	Power	Bottom		F Female			3-4
Grounding		Min 3 mm cable					
Adapter		FRAX PSU		F Male			
Temperature range		Operational	0		+40	°C	
		Storage	-20		+85	°C	
Humidity		Non-condensing	5		95	%	
EMC		5 MHz < F < 300 MHz	90			dB	5
		300 MHz < F < 470 MHz	85			dB	5
		470 MHz < F < 1218 MHz	80			dB	5
Marking		CE / RoSH compliant					
Dimensions	H x W x D	150 x 80 x 20				mm	

### Notes

- 1 To be measured on all in and output ports. All ports terminated. Measuring method – Spectrum analyser, no additional signals connected.
- 2 IEC 60728-3 §5.9
- 3 Connectors comply to the KabelKeur specifications
- 4 F connectors according to IEC 169-24 except inner contact = 1.1 mm. Spacing: F connectors 17 mm BNC connectors 36 mm
- 5 According IEC 60728-2 § 4.5. Unit is RoHs compliant

### Ordering information

Article number	Description
19011797	EZ-Amp Basic switchable diplex filters 4 output in-home amplifier
TBD	EZ-Amp Basic switchable diplex filters single output in-home amplifier
19012174	EZ-Amp Lite fixed diplex filters 204/258 MHz 4 output in-home amplifier