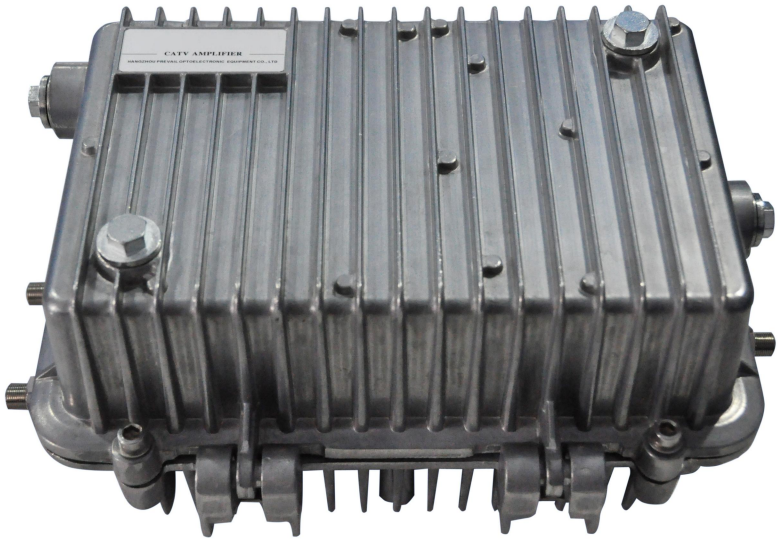
SOFTEL

SA1300C series

Outdoor Modular Bi-directional Amplifier



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1. Product Summary

SA1300C series outdoor bi-directional trunk amplifier is the new developed high-gain amplifier. Mature and optimized circuit design, scientific and reasonable internal process and high quality materials, ensure the stable gain and low distortion. It is the best choice for building large or middle-sized CATV bi-directional transmission network.

2. Performance Characteristics

- The forward path preceding stage adopts the newest high index imported low noise push-pull amplifier module or GaAs push-pull module, output stage adopts the newest high index imported power doubly amplifier module or GaAs amplifier module. The nonlinear index is good and output level is more stable. The return path adopts the newest high index imported return dedicated amplifier module. The distortion is low and the signal to noise ratio is high.
- It is more convenient to debug because of the plug-in duplex filter, plug-in fixed (or adjustable) equalizer and attenuator, and the scientific and reasonable on-line detection ports.
- The equipment can long time continuous work steadily under outdoor bad environmental condition. Because of the aluminum waterproof housing, high reliability switching power supply and strict lightning protection system.
- The shell adopts embedded modular design; equipment maintenance, replacement, and debugging are convenient.

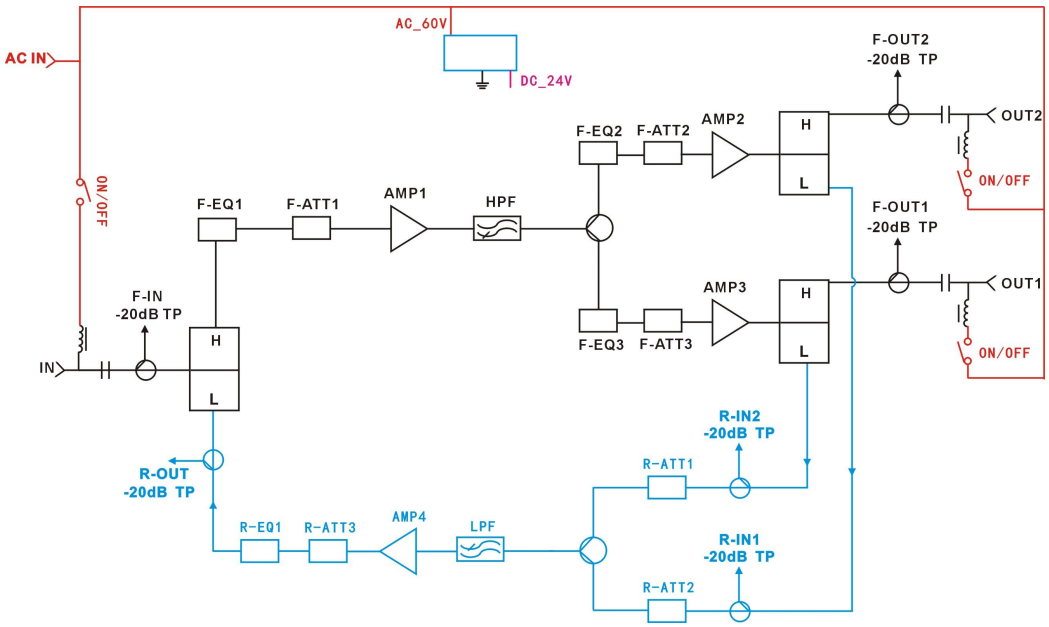
3. Performance Parameters

Item	Unit	Technical Parameters				
Forward Path						
Frequency range	MHz	47/54/85-862/1003				
Rated gain	dB	30	34	36	38	40
Minimum full gain	dB	≥30	≥34	≥36	≥38	≥40
Rated input level	dBμV	72				
Rated output level	dBμV	108				
Flatness in band	dB	±0.75				
Noise figure	dB	≤10				
Return loss	dB	≥16				
Attenuation	dB	1-18 (Fixed insert,1dB stepping)			According to user requirements	
Equilibrium	dB	1-15 (Fixed insert,1dB stepping)				
C/CTB	dB	65			Test condition: 79 channels signal, output level: 85MHz/550MHz/860MHz. 99dBuV/105dBuV/108 dBuV	
C/CSO	dB	63				
Group delay	ns	≤10 (112.25 MHz/116.68 MHz)				
AC hum modulation	%	< 2%				
Gain stability	dB	-1.0 ~ +1.0				

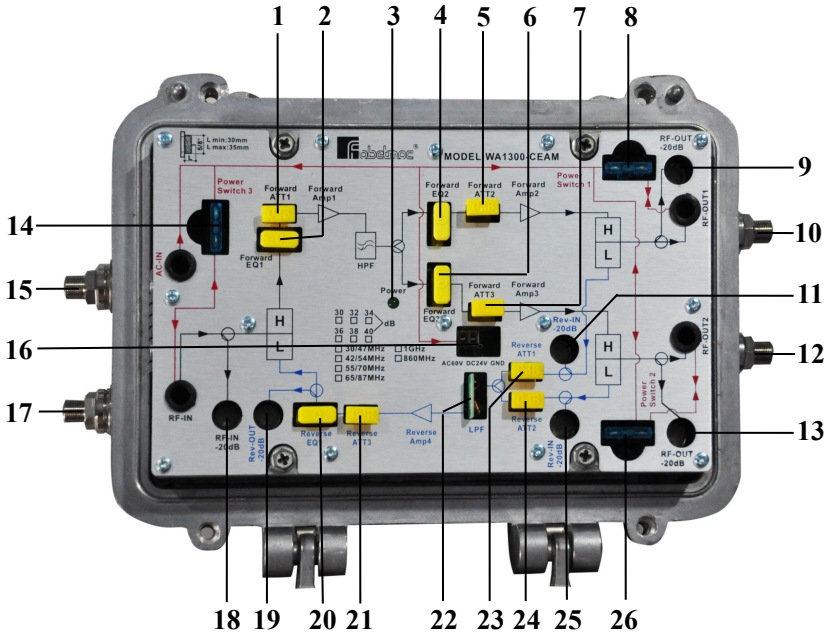
Return Path			
Frequency range	MHz	5 ~ 30/42/65	
Rated gain	dB	≥20	
Minimum full gain	dB	≥22	
Maximum output level	dBμV	≥ 110	
Flatness in band	dB	±0.75	
Noise figure	dB	≤ 12	
Return loss	dB	≥ 16	
Carrier to second-order inter-modulation ratio	dB	≥ 52	Test Condition: Output level 110dBuV, test points: F1=10MHz,f2=60MHz,f3=f2-f1 =50MHz
Group delay	ns	≤ 20 (57MHz/59MHz)	
AC hum modulation	%	< 2%	
General Performance			
Characteristic impedance	Ω	75	
Test port	dB	-20±1	
Power supply voltage	V	A：AC (135 ~ 250) V；B：AC（45 ~ 90) V	
Impulse withstand voltage（10/700μs）	kV	> 5	
Power consumption	W	29	
Dimension	mm	295 (L) × 210 (W) × 150 (H)	

***Note:** Different modules, different parameters.

4. Block Diagram



5. Structure Diagram



1	Forward fixed ATT inserter 1	**2**	Forward fixed EQ inserter 1	**3**	Power indicator
4	Forward fixed EQ inserter 2	**5**	Forward fixed ATT inserter 2	**6**	Forward fixed EQ inserter 3
7	Forward fixed ATT inserter 3	**8**	Auto fuse 1	**9**	Forward output 1 test port (-20dB)
10	RF output port 1	**11**	Backward input test port 1 (-20dB)	**12**	RF output port 2
13	Forward output 2 test port (-20dB)	**14**	Auto fuse 3	**15**	AC60V power feed port
16	Power port	**17**	RF input port	**18**	Forward input test port (-20dB)
19	Backward output test port (-20dB)	**20**	Backward fixed EQ inserter 1	**21**	Backward fixed ATT inserter 3
22	Low pass filter	**23**	Backward fixed ATT inserter 1	**24**	Backward fixed ATT inserter 2
25	Backward input test port 2 (-20dB)	**26**	Auto fuse 2		

6. Ordering Guide

Please confirm: uplink and downlink splitting frequency of bi-directional paths.

Special Tips:

1. Before using the product must be reliable grounding!
2. The maximum overcurrent capacity of the product is 10A.