

SA1012AGC Series Outdoor Bi-directional Trunk Amplifier

I. Summary

SA1012 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.



II. Characteristics

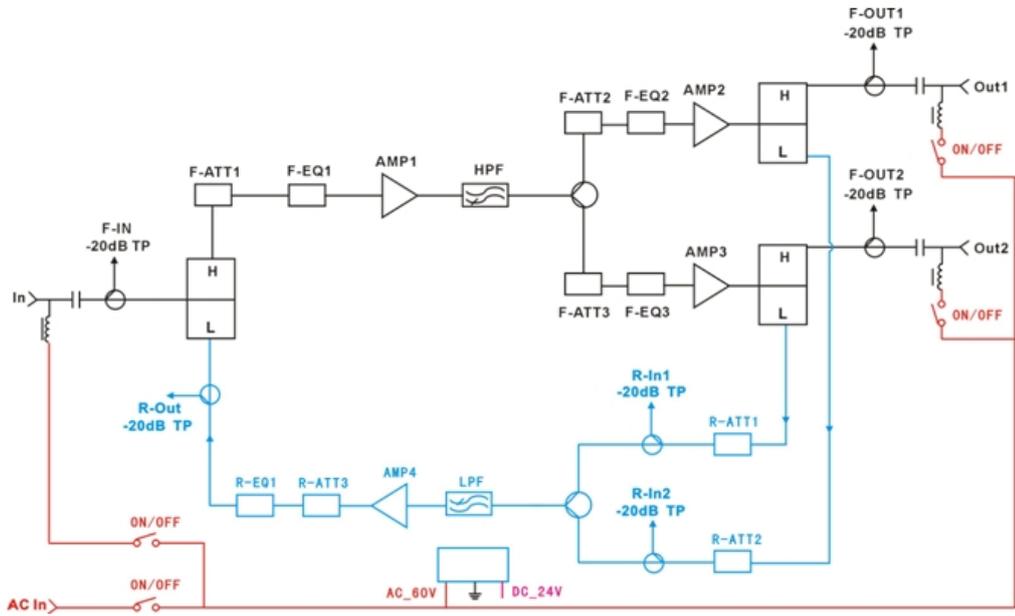
- The forward path preceding stage adopts the newest high index imported low noise push-pull amplifier module or GaAs push-pull module, output stage adopts two independent newest high index imported power doubler amplifier module or GaAs amplifier module. The nonlinear index is good and output level 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, plug-in output splitter, 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.

III. Technology Parameters

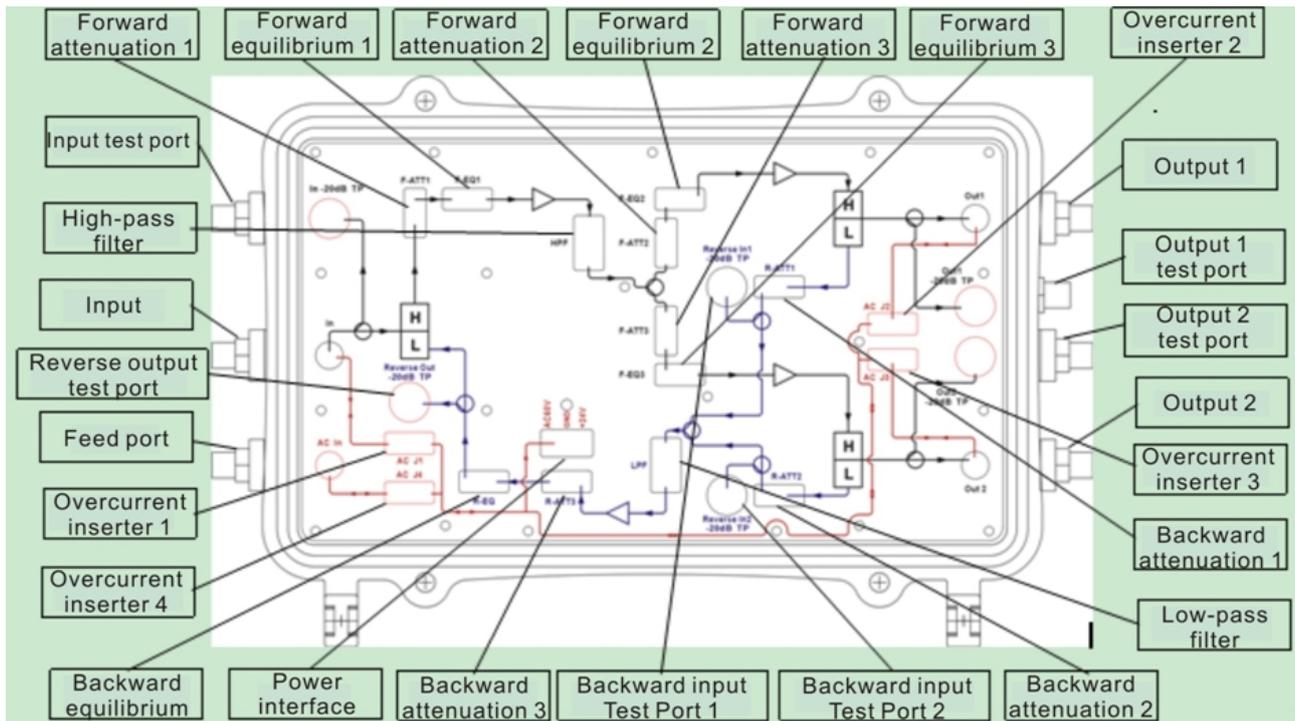
Item	Unit	Technical Parameter				
Forward Path						
Frequency range	MHz	47/85 ~ 1000				
Rated gain	dB	30	34	36	38	40
Minimum full gain	dB	≥30	≥34	≥36	≥38	≥40
Rated input level	dBμV	72				
Rated output level	dBμV	108				
Flatness in band	dB	±0.75				
Noise figure	dB	≤10				
Return loss	dB	≥16				
Attenuation	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 ~ 30/42/45/65	
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	≥ 14	
Carrier to Second-order Inter-modulation Ratio	dB	≥ 52	Test Condition: Output level is 110dBuV, test points: F1=10MHz, f2=60MHz, f3=f2-f1=50 MHz
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 (35 ~ 90) V	
Impulse Withstand Voltage (10/700μs)	kV	> 5	
Power consumption	W	35	
dimension	mm	289*218*123	

IV. Block Diagram



V. Structure Diagram



VI. Ordering Guide

Please check: uplink and downlink crossover frequency of bidirectional paths.

Special Tips:

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