



SSNT- TYPE A, B & C House Amplifiers

ACI Communications, Inc. 

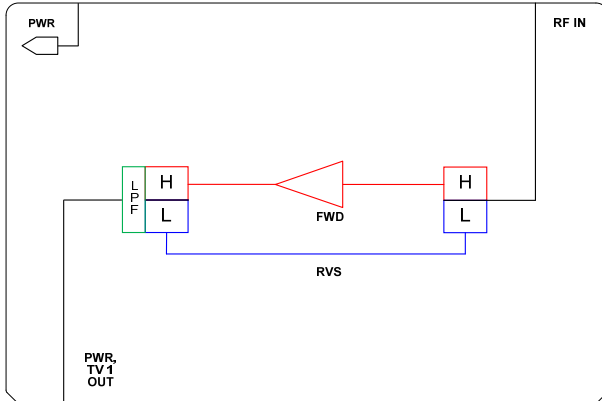
Overview

The ACI Communications Home Amplifiers with a MoCA filter is a house-type active device that delivers superior performance up to 1 GHz in today's expanding RF telecommunications networks. This device has a built in LPF MoCA filter that prevents the MoCA signals (1125-1525 MHz) getting out of the internal home network. The internal MoCA LPF filter allows for in-home networking between the modem, eMTA, set top-boxes and other in-home networking devices such as game consoles, computers, ect on the Type C 4-port Home Amplifiers.

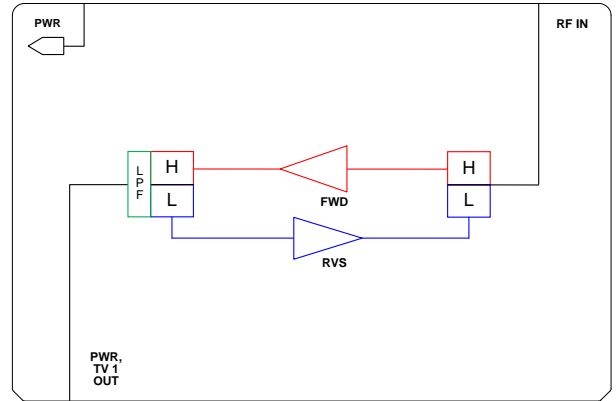
Features

- 1002 MHz bandwidth
- MoCA LFP filter and bypass connection for in-home networking
- Superior performance specifications for full channel loading at design bandwidth
- Durable paint coated Die-cast aluminum housing for excellent heat dissipation and corrosion protection
- High performance "F" connectors – SCTE compliant.
- Remote or co-located powering capability
- Perfect for both indoor and outdoor applications
- 6 Kv combination wave surge protection on amplifier – all ports (IEEE587 category B3)
- 6 Kv combination wave surge protection on the transformer (IEEE587 category B3)
- Universal range AC power pack ensures normal operation under widely varying AC inputs

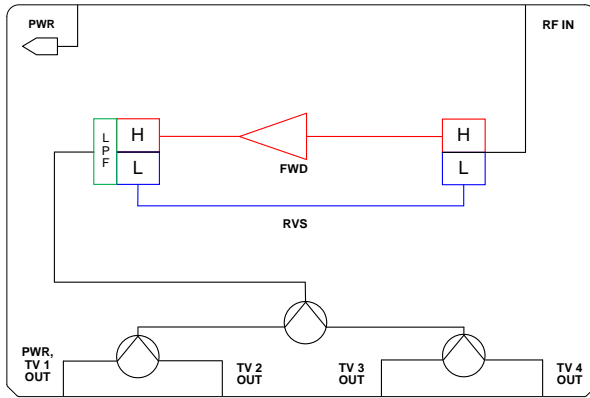
Block Diagram



MoCA Multimedia 1 Port House Amplifier With Passive Reverse Gain Type A

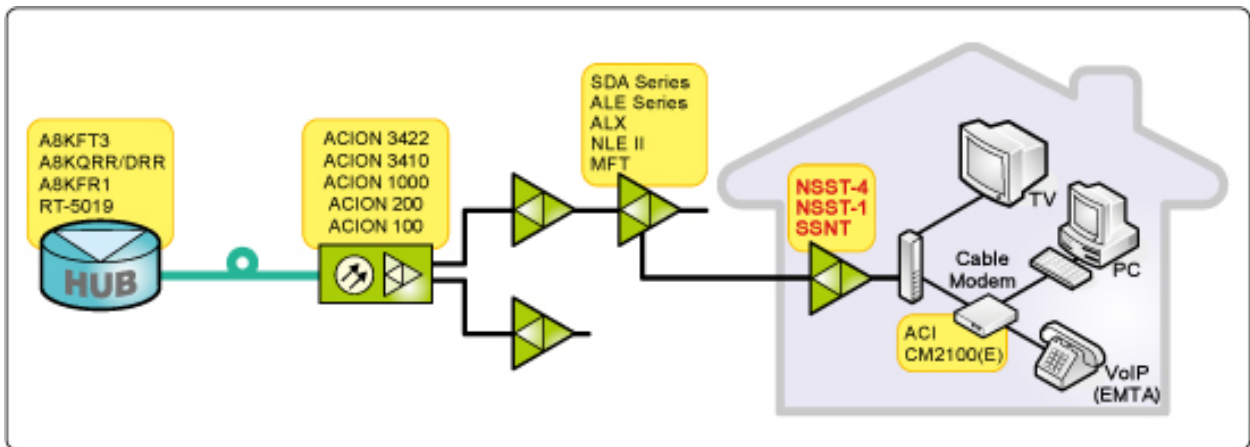


MoCA Multimedia 1 Port House Amplifier With Active Reverse Gain Type B



MoCA Multimedia 4 Port House Amplifier With Passive Reverse Type C

Application



Specifications

ACI Communications, Inc.,				SSNT House Amplifiers Type A, B & C											
STATION PARAMETERS:		Type		TYPE A				TYPE B				TYPE C			
		Part Number		SSNT-1-S4A1				SSNT-1-S4B1				SSNT-4-S4C1			
		Description	UNITS	Single output with passive reverse				Single output with active reverse				Four outputs with passive reverse			
FORWARD			MHz	54	552	750	1002	54	552	750	1002	54	552	750	1002
Gain	Min	dB	10.50	12.50	13.00	14.00	10.50	12.50	13.00	14.00	2.50	5.25	5.75	6.50	
	Ideal	dB	11.50	13.50	14.00	15.00	11.50	13.50	14.00	15.00	3.50	6.25	6.75	7.50	
	Max	dB	12.50	14.50	15.00	16.00	12.50	14.50	15.00	16.00	4.50	7.25	7.75	8.50	
Flatness		±dB	0.5				0.5				0.5				
Return loss - All ports power on	Min	-dB	18				18				18				
Output to output isolation - all ports	Worst case frequency	dB	≥ 25				≥ 25				≥ 25				
Noise figure	Worst case	dB	≥ 9				≥ 10				≥ 12				
Group Delay (n = Sec / 3.58 MHz)															
Channel 2-4	Max	ns	30				30				31				
Channel 5 & up	Max	ns	5				5				5				
CHANNEL LOADING			79 each VSB-AM video signals from 54 MHz to 552 MHz, not including channels A-3, A-4, and A-5; together with 75 each, 256-QAM signals from 552 MHz to 1002 MHz operated at average 6 MHz-band power levels of 6 dB below the peak levels of the VSB-AM signals												
Station Input Levels - See Note 1															
Input Levels - Tap-on-bridger-port	Case 1	dBmV	+18 dBmV @ 1002 MHz, +6 dBmV @ 54 MHz												
Input Levels - Flat amp inputs	Case 2	dBmV	+12 dBmV @ 1002 MHz, +12 dBmV @ 54 MHz												
Input Levels - Tap-at-end-of-line	Case 3	dBmV	+8 dBmV @ 1002 MHz, +16 dBmV @ 54 MHz												
Station Distortions (Worst Case)															
Composite Triple Beat (CTB)		-dBc	72				72				72				
Composite Second Order (CSO)		-dBc	62				62				62				
Cross Modulation (XMOD)		-dBc	74				74				74				
CNN @ 55.25 MHz		dBc	54				54				54				
CNN @ 999 MHz		-dBc	57				57				57				
HUM Modulation	Time Domain method	-dBc	75				75				75				
REVERSE			MHz	5	10	40	42	5	10	40	42	5	10	40	42
Gain	Min	dB	-2.50	-1.50	-1.50	-2.00	1.50	3.50	4.00	3.00	-11.00	-9.00	-9.00	-10.00	
	Ideal	dB	-1.00	-1.00	-1.00	-1.00	4.50	4.50	5.00	5.00	-8.00	-8.00	-8.00	-8.00	
	Max	dB	0.00	-0.50	-0.50	0.00	7.50	5.50	6.00	7.00	-5.00	-7.00	-7.00	-6.00	
Return loss	Min 5-15 MHz	dB	18				18				18				
	Min 15-40 MHz	dB	30 Output Ports / 25 Input port				30 Output Ports / 25 Input port				30 Output Ports / 25 Input port				
	Min 40-42 MHz	dB	18				18				18				
Output to output isolation - all ports	Min 5-15 MHz	dB	≥ 25				≥ 25				≥ 25				
	Min 15-40 MHz	dB	≥ 35				≥ 35				≥ 35				
	Min 40-42 MHz	dB	≥ 25				≥ 25				≥ 25				
Noise figure	Worst case	dB	≤ 8				≤ 9				≤ 16				
Group Delay															
Group Delay - 5 MHz to 6.5 MHz	Maximum Inequality	ns	20				20				21				
Group Delay - Any 1.5 MHz, 6.5 MHz to 40 MHz	Maximum Inequality	ns	10				10				10				
Group Delay - 40 MHz to 42 MHz	Maximum Inequality	ns	30				30				30				
CHANNEL LOADING			T8 (13 MHz) & T9 (19 MHz) Per ANSI/SCTE 115 2006												
Station Input Levels - Specified at housing reverse input (forward RF output ports)															
Input Levels	Per Carrier	dBmV	NA				+48				NA				
Station Distortions (Worst Case) - See Note 3															
Discrete Second Order (DSO)		-dBc	NA				55				NA				
Discrete Third Order (DTO)		-dBc	NA				55				NA				
Cross Modulation (XMOD)		-dBc	NA				65				NA				
HUM Modulation	Time Domain method	-dBc	NA				65				NA				

Specifications

ACI Communications, Inc.,			SSNT House Amplifiers Type A, B & C		
	Part Number		SSNT-1-S4A1	SSNT-1-S4B1	SSNT-4-S4C1
	Description	UNITS	Single output with passive reverse	Single output with active reverse	Four outputs with passive reverse
Multimedia over Coax Alliance (MoCA)		MHz	1125-1525	1125-1525	1125-1225 1225-1525
	Upstream isolation: Any amplified output port to input port	Min	dB	36.0	36.0
	Downstream isolation: (MoCA isolation from system input): Input port to any amplified output port	Min	dB	16.0	23.0 26.0
	Insertion Loss - Between output ports	Max	dB	NA	30.0
Physical Information					
	RFI Shielding	See Note 2	dB	≥100	
	Impedance		ohm	75	
	Surge protection	For all active outputs, input port & power port (with transformer)	KV	IEEE 587 categories, B3, 6kV/3kA (combination wave) A3, 6KV (ring wave)	
	Corrosion Withstand			1000 hours, ANSI/SCTE 143 2007, Test Method for Salt Spray	
	Seal Integrity		PSIG	≥ ±15	
	DC input voltage range	Measured at the amplifier	VDC	10 to 15	
	Power consumption		watt	2.1	5.1 2.1
	Operating temperature range		°F (°C)	-40 to +140 (-40 to +60)	
	Dimensions	Height x Width x Depth	in. (cm)	1.5 x 3.5 x 5.0 (3.8 x 8.9 x 12.7)	1.5 x 3.5 x 5.0 (3.8 x 8.9 x 12.7) 1.5 x 3.5 x 5.0 (3.8 x 8.9 x 12.7)
	Weight	With external power supply	lbs. (kg)	1.0 (0.45)	

Notes:

- worst case channel with specified channel load over specified temperature range.
- ANSI/SCTE 48-1 2007, Test Method for Measuring Shielding Effectiveness of Passive and Active Devices Using a GTEM Cell.

Ordering Matrix

SSNT-TYPE A,B&C House Amplifier Configuration Sheet

Customer: _____

Created By: _____

ORDERING MATRIX

July 6, 2012

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PART NUMBER	S	S	N	T	-	-	-	-	-	-	-	-	-	-

SSNT

Type of Station

SSNT = House Amplifier

6

Number of output ports

1 = 1 output
4 = 4 output

8-9

Frequency split

S4 = Subsplit (42/53)

10-11

Reverse Gain

A1 = Passive Reverse (one output)
B1 = Active Reverse (one output)
C1 = Passive Reverse (four output)

13-14

Transformer options

01 = W/ 120 VAC/12 VDC transformer(pws)
02 = W/ 120 VAC/12 VDC transformer(pws) & PI-30 Power inserter

Optional accessories: (sold separately)

Part Number	Description
P1 - 30	Cable power inserter 12-30 VDC(F-ports)
120V-U	Transformer 120 VAC / 12 VDC (F-ports)

NOTES:

Electrical Safety (North American example)

The wall-mounted (electrical outlet) power supply requires 120VAC, 60Hz, 1-ampere maximum input power source, with proper ground. Please refer to local electrical codes. The amplifier requires 12VDC at 300ma. The power transformer should be UL Type 2 rated. It is recommended that the power pack not be installed on a circuit that is shared with such electrical noise sources as motors, starting solenoids, toasters, or equipment that operates intermittently with high starting currents.