



## SSNT- TYPE D & E House Amplifiers

**ACI** Communications, Inc. 

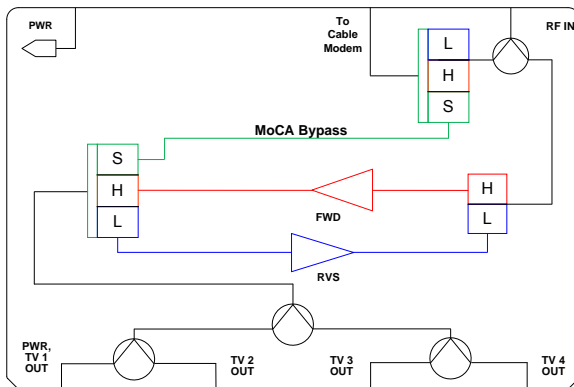
## Overview

The ACI Communications Home Amplifier with a MoCA filter and a dedicated modem port is a house-type active device that delivers superior performance up to 1 GHz in today's expanding RF telecommunications networks. The modem pass through port is designed to keep the modem connection active if the residential power is lost to provide uninterrupted VoIP services. This device also 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 bypass connection allows for in-home networking between the modem, eMTA, set top boxes and other in-home networking devices such as game consoles, computers, ect.

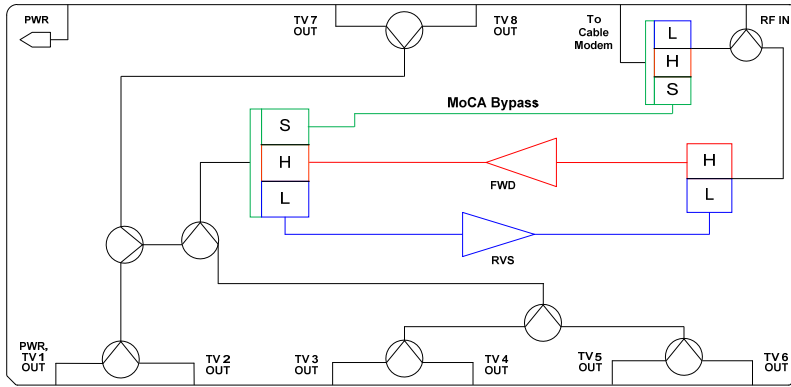
## Features

- 1002 MHz bandwidth
- 5.0 to 8.0 dB forward gain
- -4.25 dB to -8.25 dB reverse gain
- 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
- 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).
- High performance “F” connectors – SCTE Compliant.
- Universal range AC power pack ensures normal operation under widely varying AC inputs

### Block Diagram

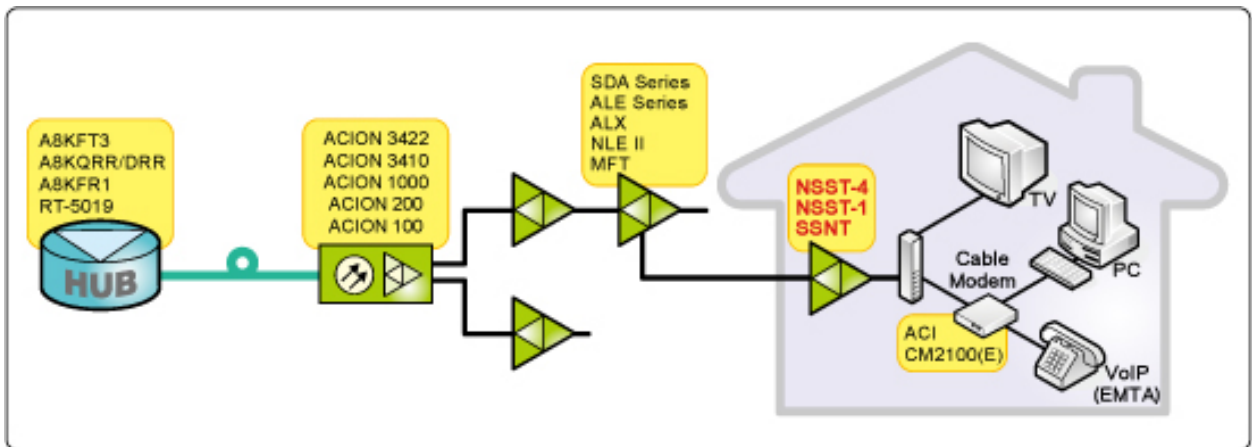


MoCA Multimedia 5 Port House Amplifier  
With Active Reverse Gain  
Type D



MoCA Multimedia 9 Port House Amplifier  
With Active Reverse Gain  
Type E

### Application



Specifications

ACI Communications, Inc.,			SSNT House Amplifiers Type D & E								
STATION PARAMETERS:		Type	TYPE D1				TYPE E1				
		Part Number	SSNT-5-S4D1				SSNT-9-S4E1				
		Description	UNITS	Four outputs with active reverse & passive modem port				Eight outputs with active reverse & passive modem port			
FORWARD			MHz	54	552	750	1002	54	552	750	1002
Gain	Min	dB	1.25	3.75	4.25	5.00	1.25	3.75	4.25	5.00	
	Ideal	dB	1.75	5.00	5.75	6.75	1.75	5.00	5.75	6.75	
	Max	dB	3.25	6.00	7.00	8.00	3.25	6.00	7.00	8.00	
Flatness		±dB	0.5				0.5				
Return loss - All ports power on	Min	-dB	18				18				
Output to output isolation - all ports	Worst case frequency	dB	≥ 25				≥ 25				
Noise figure	Worst case	dB	≥ 16				≥ 16				
Group Delay (n = Sec / 3.58 MHz)											
Channel 2-4	Max	ns	30				30				
Channel 5 & up	Max	ns	5				5				
CHANNEL LOADING											
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	75				71				
Composite Second Order (CSO)		-dBc	63				61				
Cross Modulation (XMOD)		-dBc	77				73				
CNN @ 55.25 MHz		dBc	49				49				
CNN @ 999 MHz		-dBc	53				53				
HUM Modulation	Time Domain Method	-dBc	75				75				
REVERSE			MHz	5	10	40	42	5	10	40	42
Gain	Min	dB	-9.25	-7.25	-7.25	-8.25	-9.25	-7.25	-7.25	-8.25	
	Ideal	dB	-6.25	-6.25	-6.25	-6.25	-6.25	-6.25	-6.25	-6.25	
	Max	dB	-3.25	-5.25	-5.25	-4.25	-3.25	-5.25	-5.25	-4.25	
Return loss	Min 5-15 MHz	dB	18				18				
	Min 15-40 MHz	dB	30 Output Ports / 25 Input port				30 Output Ports / 25 Input port				
	Min 40-42 MHz	dB	18				18				
Output to output isolation - all ports	Min 5-15 MHz	dB	≥ 25				≥ 25				
	Min 15-40 MHz	dB	≥ 35				≥ 35				
	Min 40-42 MHz	dB	≥ 25				≥ 25				
Noise figure	Worst case	dB	≤ 16				≤ 20				
Group Delay											
Group Delay - 5 MHz to 6.5 MHz	Maximum Inequality	ns	23				23				
Group Delay - Any 1.5 MHz 6.5 MHz to 40 MHz	Maximum Inequality	ns	10				10				
Group Delay - 40 MHz to 42 MHz	Maximum Inequality	ns	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	+55				+55				
Station Distortions (Worst Case) - See Note 3											
Discrete Second Order (DSO)		-dBc	55				55				
Discrete Third Order (DTO)		-dBc	55				55				
Cross Modulation (XMOD)		-dBc	65				65				
HUM Modulation	Time Domain Method	-dBc	65				65				

Specifications

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STATION PARAMETERS:		Type	TYPE D1				TYPE E1			
		Part Number	SSNT-5-S4D1				SSNT-9-S4E1			
MODEM PORT										
Forward		MHz	54	552	750	1002	54	552	750	1002
Insertion Loss	Min	dB	-3.50	-3.75	-4.00	-4.00	-3.50	-3.75	-4.00	-4.00
	Ideal	dB	-4.00	-4.25	-4.50	-4.75	-4.00	-4.25	-4.50	-4.75
	Max	dB	-5.00	-5.25	-5.50	-6.00	-5.00	-5.25	-5.50	-6.00
Return loss - worst case frequency, power off		dB	≥ 9				≥ 9			
Reverse		MHz	5	10	40	42	5	10	40	42
Insertion Loss	Min	dB	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5
	Ideal	dB	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
	Max	dB	-5.5	-4.5	-4.5	-4.5	-5.5	-4.5	-4.5	-4.5
Multimedia over Coax Alliance (MoCA)		MHz	1125-1225		1225-1525		1125-1225		1225-1525	
Upstream isolation: Any amplified output port to input port		Min	36.0				36.0			
Downstream isolation: (MoCA isolation from system input): Input port to any amplified output port		Min	23.0		26.0		23.0		26.0	
Insertion Loss - Between output ports		Max	30.0				42.0			
Insertion Loss - Modem port to any output port		Max	30.0				42 (36 Typical)			
Isolation - bi-directional isolation: Modem port < > input port		Min	30.0				30.0			
Physical Information										
RFI Shielding		See Note 2	dB	≥ 100						
Impedance			ohm	75						
Surge protection		Required on all active outputs, input port, passive modem 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	7.2			7.2			
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 6.9 (3.8 x 8.9 x 17.6)			
Weight		With external power supply	lbs. (kg)	1.0 (0.45)			1.3 (0.6)			

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 D&E 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 (4/2/5/3)

10-11  1

**Reverse Gain**  
D1 = Active Reverse (4 output)  
E1 = Active Reverse (8 output)

13-14  0

**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)**

<u>Part Number</u>	<u>Description</u>
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.