Surge-Gap™ Drop Amplifier 1 GHz with 65/86 MHz Split

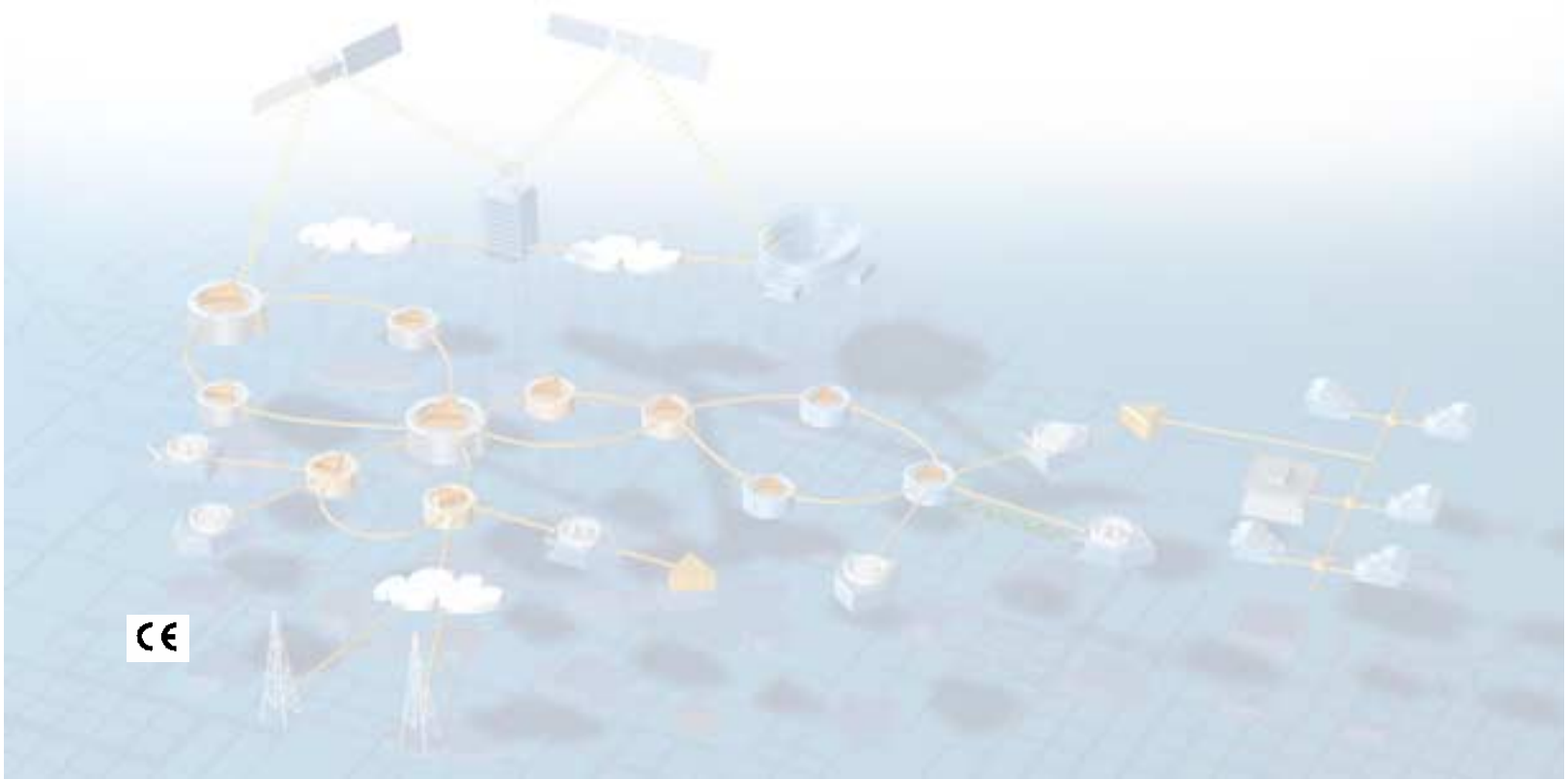
Description

As data, advanced video, and voice services are made available over broadband networks, the demand for signal level at the customer premises has increased. Typically, this increased demand is distributed over various customer segments and is not universal. With that in mind, deployment of amplifiers to high-revenue customers is the most cost-effective solution.

Scientific-Atlanta's Surge-Gap™ Drop Amplifier was specifically designed for the delivery of these advanced services. It provides high-quality RF performance and supports both forward and reverse signal transmissions. Its surge protection, coated housing, and sealed ports ensure reliable operation in harsh environments.

Features

- 6 kV surge resistant input and outputs improve system reliability
- 1 GHz capability minimizes obsolescence concerns
- Available in 1-, 2-, and 4- output versions
- High-quality RF performance supports digital signal transmission
- Local or remote powering capable
- Improved system reliability
- Coated and sealed housing enables outdoor application
- Advanced heat sinking design enables worry-free indoor application
- Power indicator LED



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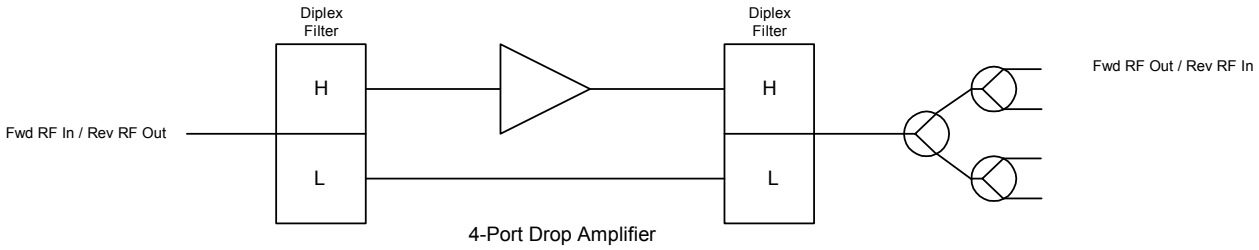
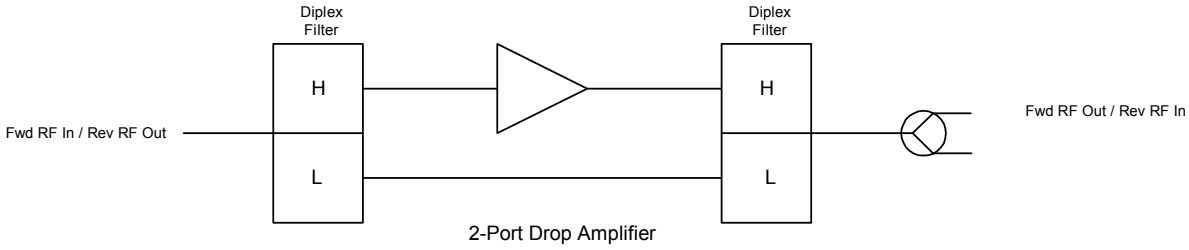
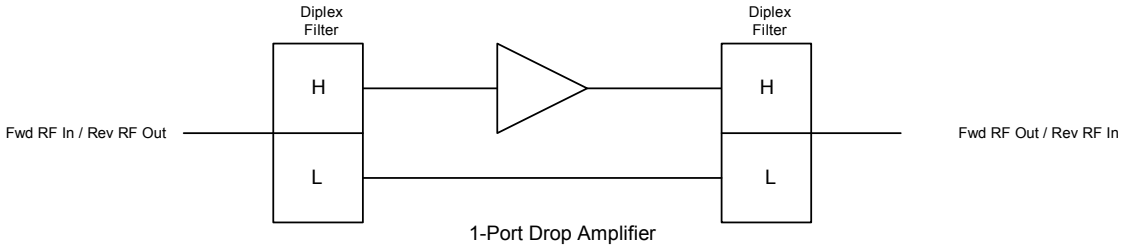
Block Diagrams



4-Port Drop Amplifier



2-Port Drop Amplifier



1-Port Drop Amplifier

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Specifications

General Station Performance	Units	Forward	Reverse	Notes
Pass Band	MHz	86 - 1000	5-65	
Amplifier Type	---	GaAs FET	N/A	
Frequency Response	dB	± 0.5	± 0.5	
Return Loss (minimum)	dB	18	18	
Port-to-Port Isolation (minimum)	dB	22	22	
Operating Temperature Range	ºF (ºC)	-40 to +140°F (-40 to +60°C)		
Shielding Effectivness	dB	110		6

Station Performance	Units	1 Output	2 Output	4 Output	Notes
Operational Gain - Forward	dB	15	11	7	1
Noise Figure	dB	3.0	3.5	3.5	
Return Path Insertion Loss	dB	1.5	4.5	7.5	1
64 PAL B/G Channels (CW) with digital					
Composite Triple Beat	dB	78	78	78	2
Cross Modulation	dB	67	67	67	2
Composite Second Order (high side)	dB	70	70	70	2
64 PAL I Channels (CW) with digital					
Composite Beat	dB	79	79	79	3
Cross Modulation	dB	75	75	75	3
42 CENELEC Channels (CW)					
Composite Triple Beat	dBuV	96	92	88	4
Cross Modulation	dBuV	92	88	84	4
Composite Second Order (high side)	dBuV	93	89	85	4
78 NTSC Channels (CW) with digital					
Composite Triple Beat	dB	80	80	80	5
Cross Modulation	dB	75	75	75	5
Composite Second Order (high side)		64	64	64	5
Electrical Specifications					
RF Input & Output Connectors		"F" - female			
AC Power Input Connector		"F" - female			
Power Supply Voltage	V DC	12-15			
Power Consumption	W	3.0			
Surge Suppression		6 kV Ring Wave, 0.5 kA 2 kV Combination Wave, 1.0 kA			all ports
		6 kV Combination Wave, 3.0 kA			RF input port & power port
Mechanical Specifications					
Housing Finish		powder paint coated AL360			
Housing Dimensions	in.	5.2 W x 4.7 H x 1.2 D			
Housing Dimensions	mm	132.1 W x 119.4 H x 30.5 D			
Weight	lbs (kg)	1.1 (0.5)			

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Specifications, continued

Station Delay Characteristics				
Forward Chrominance to Luminance Delay (ns)		**Reverse** Group Delay in 1.5 MHz bandwidth (ns)		
			Power Inserter	
Frequency (MHz)		**Frequency (MHz)**	**With**	**Without**
91.25 - 94.83	8	5.0 - 6.5	41	30
97.25 - 100.83	6	6.5 - 8.0	23	16
103.25 - 106.83	5	8.0 - 9.5	11	8
112.25 - 116.68	4	60.5 - 62.0	6	6
		62.0 - 63.5	7	7
		63.5 - 65.0	8	8

Notes:
1. Includes loss of internal splitter(s)
2. Loaded with 64 PAL B/G CW carriers from 112 - 600 MHz. "Digital" refers to 600 - 870 MHz loading with 45 QAM carriers at -6dB relative to analog video carrier levels.
3. Loaded with 64 PAL I CW carriers from 88 - 600 MHz. "Digital" refers to 600 - 870 MHz loading with 45 QAM carriers at -6dB relative to analog video carrier levels.
4. Tested per CENELEC Standard EN50083-3.
5. 78 CW NTSC channels loaded from 55 to 550 MHz, +10 dBmV input, 0 dB Tilt. Digital refers to 550 - 870 MHz loading with QAM carriers at -6dB levels relative to analog video carrier levels.
6. Using preliminary SCTE test procedure #IPS TP 403A-2 Rev 04, dated October 25th 2002.

Unless otherwise noted, the above specifications reflect typical station performance at stated reference levels in the recommended operating configuration(s). Unless otherwise noted, specifications are based on measurements made in accordance with NCTA Recommended Practices for Measurements on Cable Television Systems using standard frequency assignments and are referenced to 68°F (20°C).

Standards Compliance

Scientific-Atlanta Drop Amplifiers meet or exceed the following industry standards:

Mechanical
- SCTE IPS-SP-400 - F-port interface specification
- Sealed F-Ports

Emission
- FCC - Part 76, Subpart K
- EN 50083-2

Surge Resistance
IEEE C62.41-1991
- All Ports - Category B1, 2 kV Combination Wave and Category B3, 6 kV Ring Wave
- Input Ports - Category B3, 6 kV Combination Wave

Safety
- UL 1409
- EN50083-1/A1
- EN60065

Environmental
- ASTM G 53 - weathering specification
- ASTM B 117 - salt spray specification
- ASTM D 3170 - chip resistance specification

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Ordering Information

Product Description	1 Output	2 Output	4 Output
Amplifier, 230 volt, 50 Hz AC, with power inserter	N/A	754145	754146
Amplifier, 230 volt, 50 Hz AC, without power inserter	4004550	N/A	N/A
Replacement Power Inserter	562781		
Replacement Power Supply 230 V	748205		

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Part Number 7000241 Rev C
August 2004