



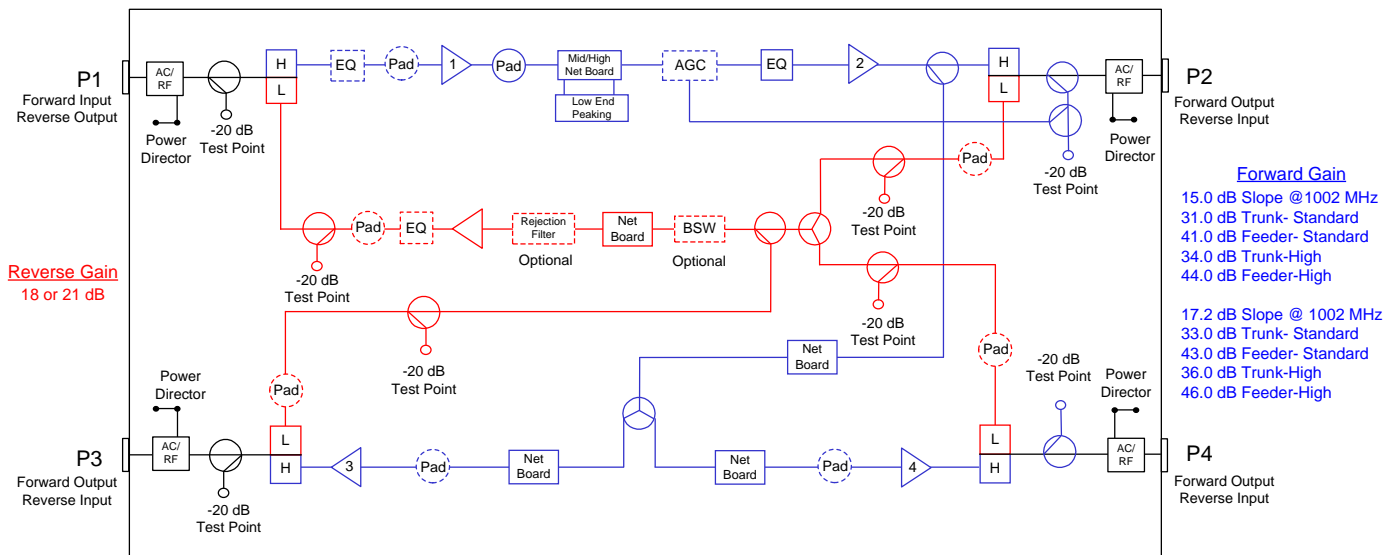
## SDA and ALX MiniFlex Super Distribution Amplifiers 1002 MHz

The ACI MiniFlex super distribution RF amplifiers are now offered with the Gallium Nitride (GaN) hybrid technology that allows for 3 dB higher output levels while maintaining close to the same specifications as the previous stations with the Gallium Arsenide (GaAs) hybrids. With this increase in the output level capabilities the cable operators are now able to extend the fiber deeper in their networks at a lower cost by reducing the number of active that are needed. The GaN hybrid technology is also extremely beneficial for use in the traditional HFC networks with the increase in station performance at the standard output levels over the GaAS hybrid stations.

### Features

- ◆ 1002 MHz may be dropped into the 750 or 870 MHz spacing
- ◆ Availability of an 85/105 or 204/258 MHz option to increase the reverse bandwidth
- ◆ Common 1002 MHz housing platform
- ◆ Optional, 8 or 14 MHz reverse path rejection filter (sold separately)
- ◆ 5 to 42, 55, 65, 85 or 204 MHz reverse path
- ◆ Patented DSIM Technology (Digital AGC)
- ◆ Increased reliability with higher surge
- ◆ Ideal for fiber deep networks with the extended reach of the amplifiers
- ◆ Ideal for traditional HFC networks for increased performance & reliability
- ◆ Lower power consumption
- ◆ Upgradable, reverse split options

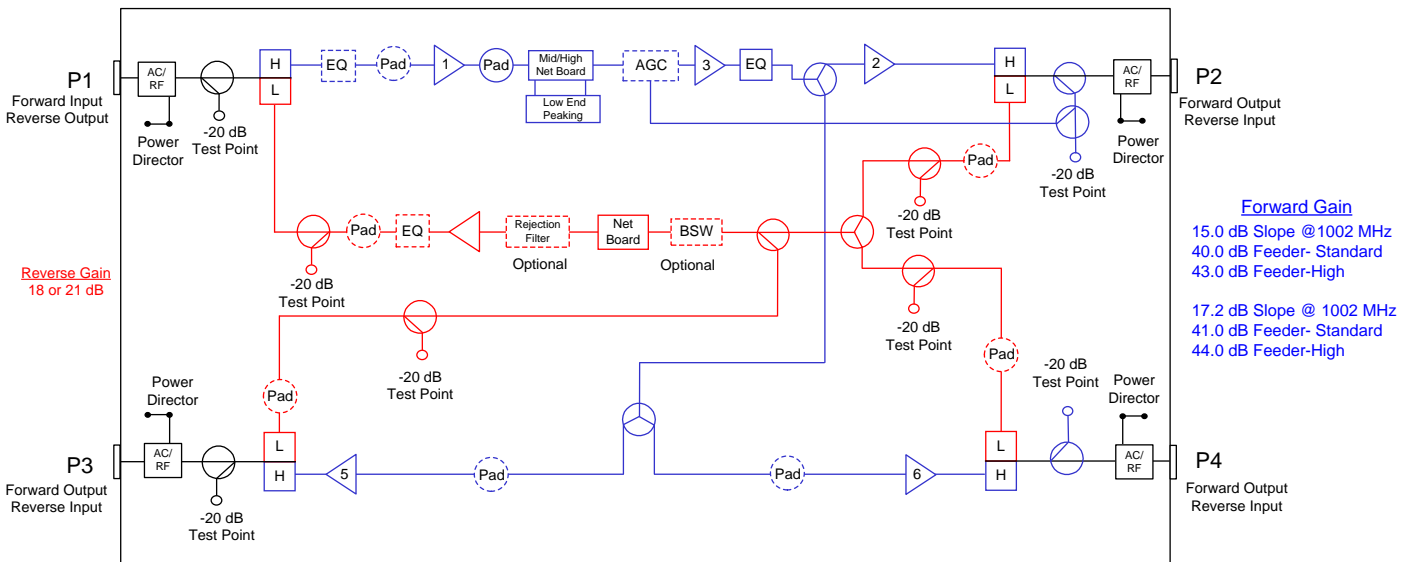
## SDAT (Type 1A, 1T & 1M) 1002 MHz GaN Amplifier Block Diagram



Note:

1. Forward gain stated at 1002 MHz with AGC. Reverse gain stated at 40 MHz.

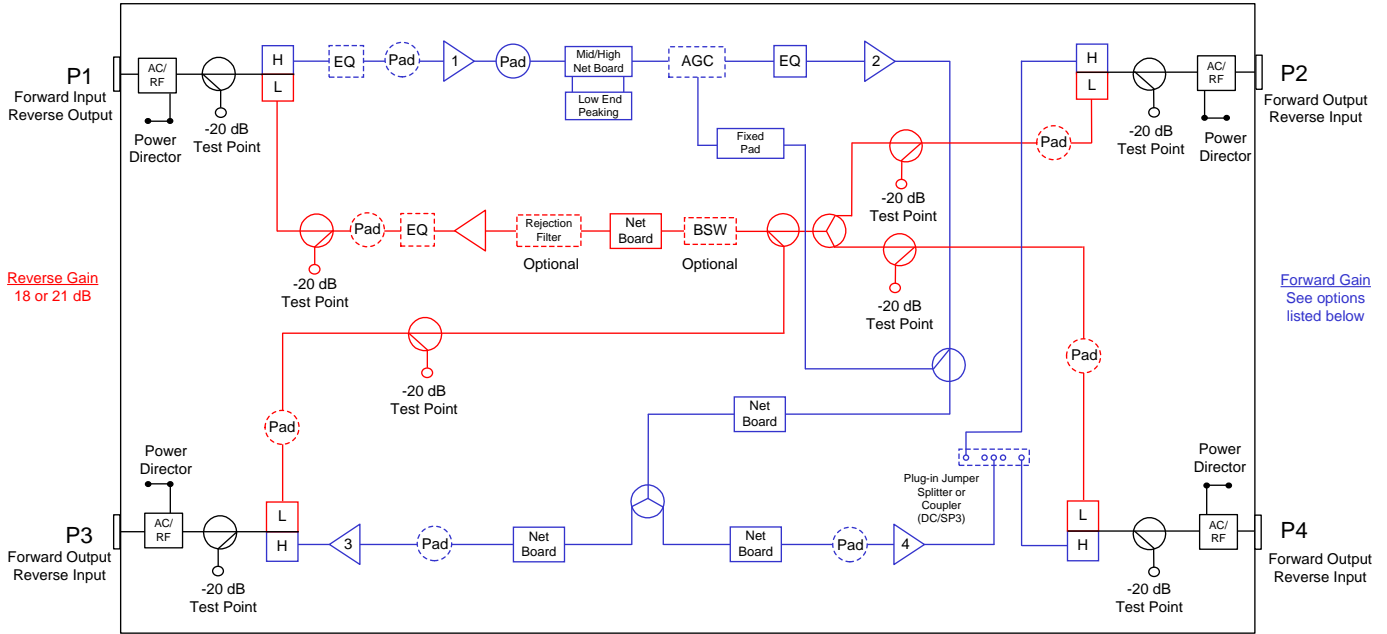
## SDBT (Type 6A, 6T & 6M) 1002 MHz GaN Amplifier Block Diagram



Note:

1. Forward gain stated at 1002 MHz with AGC. Reverse gain stated at 40 MHz.

# SDAF (Type 2A-TRI, 2T-TRI, 2M-TRI) 1002 MHz GaN Amplifier Block Diagram



Reverse Gain  
18 or 21 dB

Forward Gain  
See options listed below

### Notes:

- Forward gain stated at 1002 MHz with AGC and 17.2 dB of slope at. Reverse gain stated at 40 MHz.
- For 15.0 dB slope the forward gain is decrease by 1 dB.
- Amplifiers are configured at the factory with jumper in Position #2 to have P3 & P4 active. Splitters and Couplers are sold separately.

Jumper Position #1  
(P2 & P3 active)

Jumper Position #2  
(P3 & P4 active)

SDA1G-SPLTR3.5

SDA1G-DC7

SDA1G-DC7

SDA1G-DC12

SDA1G-DC12

Port	Fwd Gain (dB)	HG	SG
P2	46.0	43.0	
P3	46.0	43.0	
P4	N/A	N/A	

Port	Fwd Gain (dB)	HG	SG
P2	N/A	N/A	
P3	46.0	43.0	
P4	46.0	46.0	

Port	Fwd Gain (dB)	HG	SG
P2	42.5	39.5	
P3	46.0	43.0	
P4	42.5	39.5	

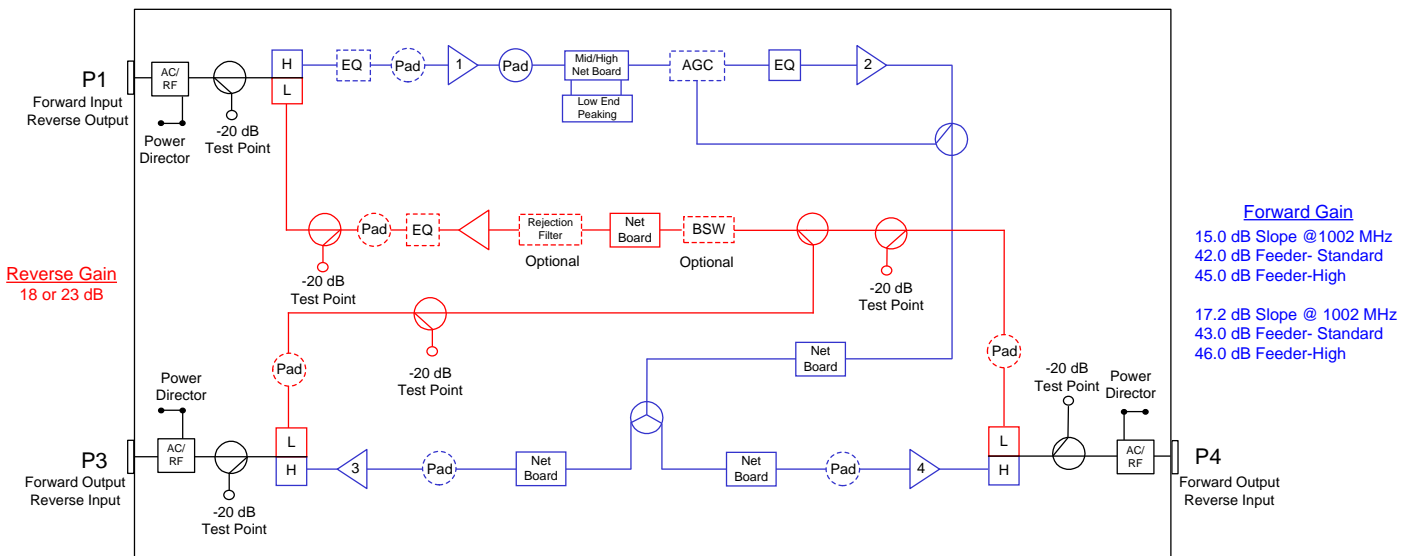
Port	Fwd Gain (dB)	HG	SG
P2	39.0	36.0	
P3	46.0	43.0	
P4	43.5	40.5	

Port	Fwd Gain (dB)	HG	SG
P2	43.5	40.5	
P3	46.0	43.0	
P4	39.0	36.0	

Port	Fwd Gain (dB)	HG	SG
P2	34.0	31.0	
P3	46.0	43.0	
P4	43.0	41.0	

Port	Fwd Gain (dB)	HG	SG
P2	44.0	41.0	
P3	46.0	43.0	
P4	34.0	31.0	

# SDAB (Type 2A, 2T & 2M) 1002 MHz GaN Amplifier Block Diagram



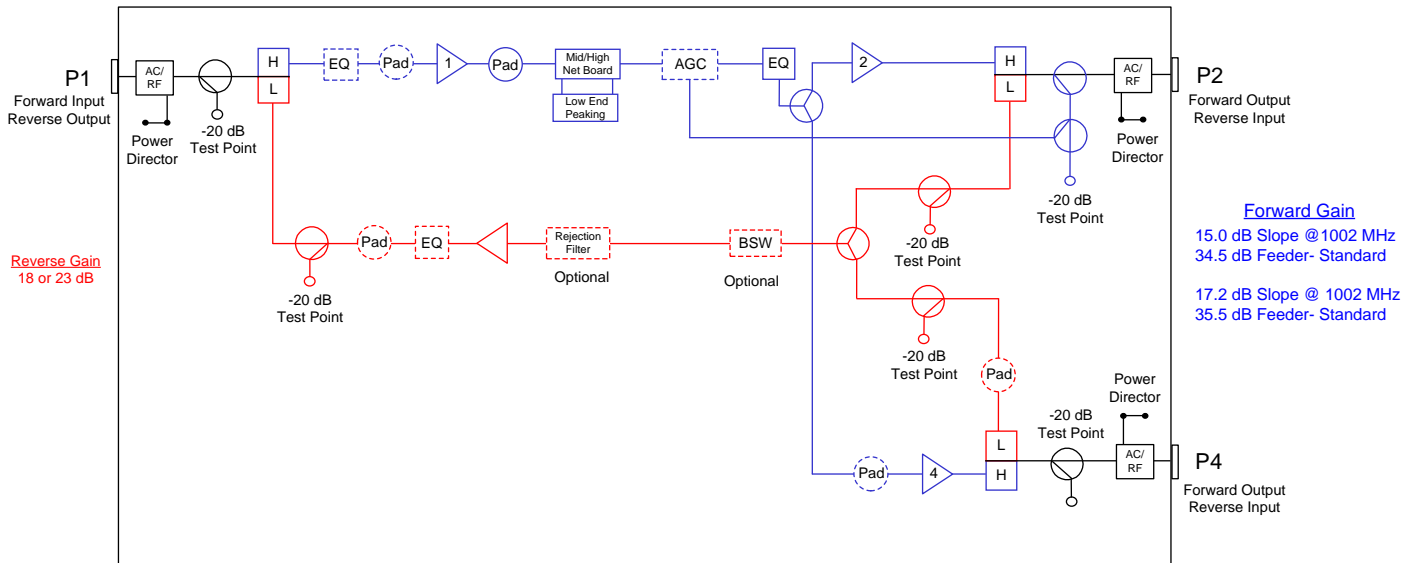
Reverse Gain  
18 or 23 dB

Forward Gain  
15.0 dB Slope @1002 MHz  
42.0 dB Feeder- Standard  
45.0 dB Feeder-High  
17.2 dB Slope @ 1002 MHz  
43.0 dB Feeder- Standard  
46.0 dB Feeder-High

### Note:

- Forward gain stated at 1002 MHz with AGC. Reverse gain stated at 40 MHz.

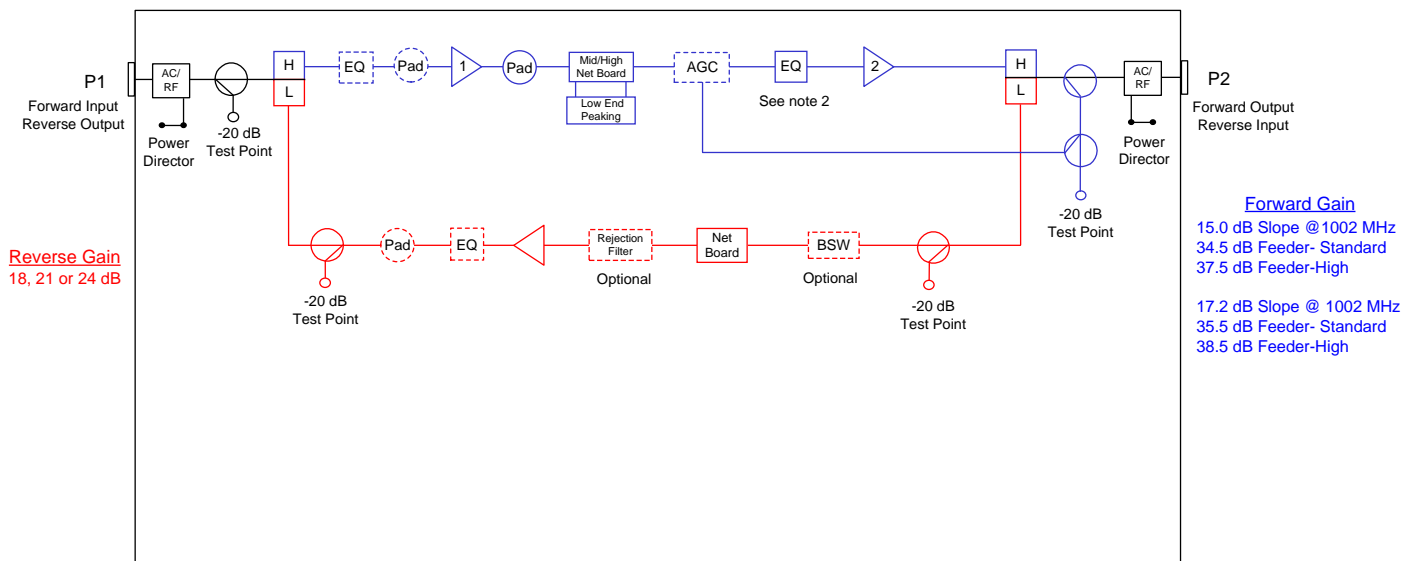
## SDLA (Type 3A, 3T, & 3M Dual) 1002 MHz GaN Amplifier Block Diagram



**Note:**

1. Forward gain stated at 1002 MHz with AGC. Reverse gain stated at 40 MHz.

## SDLE & ALX (Type 3A, 3T, & 3M) 1002 MHz GaN Amplifier Block Diagram



**Note:**

1. Forward gain stated at 1002 MHz with AGC. Reverse gain stated at 40 MHz.
2. The interstage EQ is not present in the ALX amplifiers.

STATION PARAMETERS: 1002 MHz 42-53 MHz Split			SDA 1002 MHz With GaN Hybrids 17.2 dB Forward Slope @ 1002 MHz High Forward Gain					
CONDITIONS		UNITS	SPECIFICATIONS					
Housing passband		MHz	5 to 1002					
Input current capacity	Any port, worst case	Amp	15					
Hum modulation	Time domain @ rated current above	-dBc	65 @ 5-40 MHz 69 @ 54-1002 MHz					
Return loss	Any port, worst case	dB	17.0					
<b>Test Points</b>								
Frequency range		MHz	5 to 40 (Reverse) / 54 to 1002 (Forward)					
Test point type	Directional coupler	N / A						
Test point level	Forward & reverse	-dB	20.0					
Test point accuracy	Forward & reverse	±dB	0.5					
<b>Station Slope</b>								
Operational slope - trunk & feeders	@ 54 / 550 / 1002 MHz	dB	0 / 9.0 / 17.2					
Slope control type	Cable equalizers	dB	Plug-in EQ's					
Slope control range	Includes cable equivalent	dB	-12.0 to +30.0					
Slope control steps	Equalizer value steps	dB	0 - 18.0 (1.0 steps) & 20.0-30.0 (2.0 steps) -1.0 to -15.0 (1.0 steps)					
<b>Station Group Delay</b>								
Group delay	Channel 2 (Std)	nSec / 3.58 MHz	40 (35 Typical)					
Group delay	Channel 3		16					
Group delay	Channel 4		10					
Group delay	Channel 5 & >		4					
<b>AGC</b>								
DSIM-A Single Pilot Channel AGC								
Pilot Channel Type		N / A	NTSC Analog or QAM					
Compensation Range		dB	System compensation input change +3/-6 @ 1002 MHz					
Accuracy		±dB	0.5					
Nominal loss	@ 77 °F (25 °C)	dB	6.25					
Center frequency/bandwidth			6 (MHz)					
Configuration			SDAT (Type 1) High Gain	SDBT (Type 6) High Gain	SDAF (Type 2-TRI) High Gain	SDAB (Type 2) High Gain	SDLE (Type 3) High Gain	ALX (Type 3) High Gain
<b>Operational Specifications</b>								
Station passband		MHz	54 to 1002					
Station flatness - trunk out	Normalized w / 0 dB slope	±dB	0.35	-	-	-	-	-
Station flatness - feeder out		±dB	0.6	0.6	0.6	0.6	0.35	0.35
Gain - Port 2 (AGC / Manual)	+0.5 / -0 @ 1002 MHz (Temperature stabilized)	dB	36 / 41	43 / 47	-	-	38.5 / 43.5	38.5 / 43.5
Gain - Port 3 (AGC / Manual)		dB	46 / 51	43 / 47	46 / 49	46 / 49	-	-
Gain - Port 4 (AGC / Manual)		dB	46 / 51	43 / 47	46 / 49	46 / 49	-	-
Gain control type		N / A	Plug-in pads					
Gain control steps	Pad value steps	dB	0.5					
<b>Station Output Levels - Digital</b>								
Port 2	@ 54 / 550 / 1002 MHz	dBmV	22 / 31.0 / 39.2	32 / 41.0 / 49.2	-	-	32 / 41.0 / 49.2	32 / 41.0 / 49.2
Port 3			32 / 41.0 / 49.2	32 / 41.0 / 49.2	32 / 41.0 / 49.2	32 / 41.0 / 49.2	-	-
Port 4			32 / 41.0 / 49.2	38 / 47.0 / 55.2	32 / 41.0 / 49.2	32 / 41.0 / 49.2	-	-
<b>Station Output Levels - Analog</b>								
Port 2	@ 54 / 550 / 1002 MHz	dBmV	28 / 37 / 45.2	38 / 47 / 55.2	-	-	38 / 47 / 55.2	38 / 47 / 55.2
Port 3			38 / 47 / 55.2	38 / 47 / 55.2	38 / 47 / 55.2	38 / 47 / 55.2	-	-
Port 4			38 / 47 / 55.2	38 / 47 / 55.2	38 / 47 / 55.2	38 / 47 / 55.2	-	-
<b>Station Noise Figure</b>								
Noise figure (w / 1 dB for input EQ loss)	Typ. @ 54 MHz	dB	11.2	14.5	12.1	11.5	8.5	8.9
	Typ. @ 550 MHz	dB	6.7	9.0	6.6	6.4	6.0	6.7
	Typ. @ 1002 MHz	dB	6.9	10.5	7.2	7.0	7.7	8.1
<b>Station Distortions (Worse Case)</b>								
550 MHz analog channel loading, 79 channels +450 MHz digital channel loading, 256 QAM at -6 dBc relative to its associated visual carrier								
Composite Triple Beat (CTB)		-dBc	75 / 70	67	72	69	75	72
Cross Modulation (XMOD)		-dBc	74 / 65	62	70	62	70	67
Composite Second Order (CSO-)	(Vc +0.75 & -1.25 MHz)	-dBc	75 / 68	70	69	68	75	76
Composite Second Order (CSO+)	(Vc +1.25 MHz)	-dBc	79 / 71	75	72	74	76	75
Carrier-to-Intermodulation Noise (CIN)		-dBc	73 / 68	65	70	67	73	70

STATION PARAMETERS: 1002 MHz 42-53 MHz Split SDA 1002 MHz With GaN Hybrids  
17.2 dB Forward Slope @ 1002 MHz  
Standard Forward Gain

CONDITIONS		UNITS	SPECIFICATIONS						
Housing passband		MHz	5 to 1002						
Input current capacity	Any port, worst case	Amp	15						
Hum modulation	Time domain @ rated current above	-dBc	65 @ 5-40 MHz 69 @ 54-1002 MHz						
Return loss	Any port, worst case	dB	17.0						
<b>Test Points</b>									
Frequency range		MHz	5 to 40 (Reverse) / 54 to 1002 (Forward)						
Test point type	Directional coupler	N / A							
Test point level	Forward & reverse	-dB	20.0						
Test point accuracy	Forward & reverse	±dB	0.5						
<b>Station Slope</b>									
Operational slope - trunk & feeders	@ 54 / 550 / 1002 MHz	dB	0 / 9.0 / 17.2						
Slope control type	Cable equalizers	dB	Plug-in EQ's						
Slope control range	Includes cable equivalent	dB	-12.0 to +30.0						
Slope control steps	Equalizer value steps	dB	0 - 18.0 (1.0 steps) & 20.0-30.0 (2.0 steps) -1.0 to -15.0 (1.0 steps)						
<b>Station Group Delay</b>									
Group delay	Channel 2 (Std)	nSec / 3.58 MHz	40 (35 Typical)						
Group delay	Channel 3		16						
Group delay	Channel 4		10						
Group delay	Channel 5 & >		4						
<b>AGC</b>									
Pilot Channel Type		N / A	DSIM-A Single Pilot Channel AGC						
Compensation Range		dB	NTSC Analog or QAM						
Accuracy		±dB	System compensation input change +3/-6 @ 1002 MHz						
Nominal loss	@ 77 °F (25 °C)	dB	0.5						
Center frequency bandwidth			6.25						
Configuration			SDAT (Type 1) Standard Gain	SDBT (Type 6) Standard Gain	SDAF (Type 2-TRI) Standard Gain	SDAB (Type 2) Standard Gain	SDLA (Type 3-DUAL) Standard Gain	SDLE (Type 3) Standard Gain	ALX (Type 3) Standard Gain
<b>Operational Specifications</b>									
Station passband		MHz	54 to 1002						
Station flatness - trunk out	Normalized w / 0 dB slope	±dB	0.35	-	-	-	-	-	-
Station flatness - feeder out		±dB	0.6	0.6	0.6	0.6	0.6	0.35	0.35
Gain - Port 2 (AGC / Manual)	+0.5 / -0 @ 1002 MHz (Temperature stabilized)	dB	33 / 38	41 / 44	-	-	35.5 / 40.5	35.5 / 40.5	35.5 / 40.5
Gain - Port 3 (AGC / Manual)		dB	43 / 48	41 / 44	43 / 46	43 / 46	-	-	-
Gain - Port 4 (AGC / Manual)		dB	43 / 48	41 / 44	43 / 46	43 / 46	35.5 / 40.5	-	-
Gain control type		N / A	Plug-in pads						
Gain control steps	Pad value steps	dB	0.5						
<b>Station Output Levels Digital</b>									
Port 2	@ 54 / 550 / 1002 MHz	dBmV	19 / 38 / 36.2	29 / 38 / 46.2	-	-	29 / 38 / 46.2	29 / 38 / 46.2	29 / 38 / 46.2
Port 3			29 / 38 / 46.2	29 / 38 / 46.2	29 / 38 / 46.2	29 / 38 / 46.2	-	-	-
Port 4			29 / 38 / 46.2	29 / 38 / 46.2	29 / 38 / 46.2	29 / 38 / 46.2	29 / 38 / 46.2	-	-
<b>Station Output Levels Analog</b>									
Port 2	@ 54 / 550 / 1002 MHz	dBmV	25 / 34 / 42.2	35 / 44 / 52.2	-	-	35 / 44 / 52.2	35 / 44 / 52.2	35 / 44 / 52.2
Port 3			35 / 44 / 52.2	35 / 44 / 52.2	35 / 44 / 52.2	35 / 44 / 52.2	-	-	-
Port 4			35 / 44 / 52.2	35 / 44 / 52.2	35 / 44 / 52.2	35 / 44 / 52.2	35 / 44 / 52.2	-	-
<b>Station Noise Figure</b>									
Noise figure (w / 1 dB for input EQ loss)	Typ. @ 54 MHz	dB	11.5	14.7	12.4	11.8	9.5	8.8	9.0
	Typ. @ 550 MHz	dB	6.9	9.2	7.0	6.6	6.9	6.2	6.4
	Typ. @ 1002 MHz	dB	7.1	10.7	7.4	7.2	7.9	7.3	7.5
<b>Station Distortions (Worse Case)</b>			Trunk / Feeder	Feeder	Feeder	Feeder	Feeder	Feeder	Feeder
550 MHz analog channel loading, 79 channels +450 MHz digital channel loading, 256 QAM at -6 dBc relative to its associated visual carrier									
Composite Triple Beat (CTB)		-dBc	81 / 76	73	73	75	78	81	78
Cross Modulation (XM0D)		-dBc	80 / 71	70	71	68	80	76	73
Composite Second Order (CSO-)	(Vc +0.75 & -1.25 MHz)	-dBc	78 / 71	70	72	71	75	78	79
Composite Second Order (CSO+)	(Vc +1.25 MHz)	-dBc	82 / 74	77	75	77	76	79	78
Carrier-to-Intermodulation Noise (CIN)		-dBc	79 / 74	71	71	73	76	79	76

STATION PARAMETERS: 1002 MHz 42-53 MHz Split			SDA 1002 MHz With GaN Hybrids 15.0 dB Forward Slope @ 1002 MHz High Forward Gain					
CONDITIONS		UNITS	SPECIFICATIONS					
Housing passband		MHz	5 to 1002					
Input current capacity	Any port, worst case	Amp	15					
Hum modulation	Time domain @ rated current above	-dBc	65 @ 5-40 MHz 69 @ 54-1002 MHz					
Return loss	Any port, worst case	dB	17.0					
<b>Test Points</b>								
Frequency range		MHz	5 to 40 (Reverse) / 54 to 1002 (Forward)					
Test point type	Directional coupler	N / A						
Test point level	Forward & reverse	-dB	20.0					
Test point accuracy	Forward & reverse	±dB	0.5					
<b>Station Slope</b>								
Operational slope - trunk & feeders	@ 54 / 550 / 1002 MHz	dB	0 / 7.9 / 15.0					
Slope control type	Cable equalizers	dB	Plug-in EQ's					
Slope control range	Includes cable equivalent	dB	-12.0 to +30.0					
Slope control steps	Equalizer value steps	dB	0 - 18.0 (1.0 steps) & 20.0-30.0 (2.0 steps) -1.0 to -15.0 (1.0 steps)					
<b>Station Group Delay</b>								
Group delay	Channel 2 (Std)	nSec / 3.58 MHz	40 (35 Typical)					
Group delay	Channel 3		16					
Group delay	Channel 4		10					
Group delay	Channel 5 & >		4					
<b>AGC</b>								
DSIM-A Single Pilot Channel AGC								
Pilot Channel Type		N / A	NTSC Analog or QAM					
Compensation Range		dB	System compensation input change +3/-6 @ 1002 MHz					
Accuracy		±dB	0.5					
Nominal loss	@ 77 °F (25 °C)	dB	6.25					
Center frequency bandwidth			6 (MHz)					
Configuration			SDAT (Type 1) High Gain	SDBT (Type 6) High Gain	SDAF (Type 2-TRI) High Gain	SDAB (Type 2) High Gain	SDLE (Type 3) High Gain	ALX (Type 3) High Gain
<b>Operational Specifications</b>								
Station passband		MHz	54 to 1002					
Station flatness - trunk out	Normalized w / 0 dB slope	±dB	0.35	-	-	-	-	-
Station flatness - feeder out		±dB	0.6	0.6	0.6	0.6	0.35	0.35
Gain - Port 2 (AGC / Manual)	+0.5 / -0 @ 1002 MHz (Temperature stabilized)	dB	34 / 39	43 / 46	-	-	37.5 / 42.5	37.5 / 42.5
Gain - Port 3 (AGC / Manual)		dB	44 / 49	43 / 46	45 / 48	45 / 48	-	-
Gain - Port 4 (AGC / Manual)		dB	44 / 49	43 / 46	45 / 48	45 / 48	-	-
Gain control type		N / A	Plug-in pads					
Gain control steps	Pad value steps	dB	0.5					
<b>Station Output Levels - Digital</b>								
Port 2	@ 54 / 550 / 1002 MHz	dBmV	23 / 30.8 / 38	33 / 40.8 / 48	-	-	33 / 40.8 / 48	33 / 40.8 / 48
Port 3			33 / 40.8 / 48	33 / 40.8 / 48	33 / 40.8 / 48	33 / 40.8 / 48	-	-
Port 4			33 / 40.8 / 48	33 / 40.8 / 48	33 / 40.8 / 48	33 / 40.8 / 48	-	-
<b>Station Output Levels - Analog</b>								
Port 2	@ 54 / 550 / 1002 MHz	dBmV	29 / 36.8 / 44	39 / 46.8 / 54	-	-	39 / 46.8 / 54	39 / 46.8 / 54
Port 3			39 / 46.8 / 54	39 / 46.8 / 54	39 / 46.8 / 54	39 / 46.8 / 54	-	-
Port 4			39 / 46.8 / 54	39 / 46.8 / 54	39 / 46.8 / 54	39 / 46.8 / 54	-	-
<b>Station Noise Figure</b>								
Noise figure (w / 1 dB for input EQ loss)	Typ. @ 54 MHz	dB	11.2	14.5	12.1	11.5	8.5	8.9
	Typ. @ 550 MHz	dB	6.7	9.0	6.6	6.4	6.0	6.6
	Typ. @ 1002 MHz	dB	6.9	10.5	7.2	7.0	7.6	8.0
<b>Station Distortions (Worse Case)</b>			Trunk / Feeder	Feeder	Feeder	Feeder	Feeder	Feeder
550 MHz analog channel loading, 79 channels +450 MHz digital channel loading, 256 QAM at -6 dBc relative to its associated visual carrier								
Composite Triple Beat (CTB)		-dBc	77 / 72	69	74	71	77	69
Cross Modulation (XMOD)		-dBc	76 / 67	63	72	64	72	63
Composite Second Order (CSO-)	(Vc +0.75 & -1.25 MHz)	-dBc	76 / 69	71	70	69	76	73
Composite Second Order (CSO+)	(Vc +1.25 MHz)	-dBc	80 / 72	77	73	75	77	74
Carrier-to-Intermodulation Noise (CIN)		-dBc	75 / 70	67	72	69	75	67

CONDITIONS		UNITS	SPECIFICATIONS						
Housing passband		MHz	5 to 1002						
Input current capacity	Any port, worst case	Amp	15						
Hum modulation	Time domain @ rated current above	-dBc	65 @ 5-40 MHz 69 @ 54-1002 MHz						
Return loss	Any port, worst case	dB	17.0						
<b>Test Points</b>									
Frequency range		MHz	5 to 40 (Reverse) / 54 to 1002 (Forward)						
Test point type	Directional coupler	N / A							
Test point level	Forward & reverse	-dB	20.0						
Test point accuracy	Forward & reverse	±dB	0.5						
<b>Station Slope</b>									
Operational slope - trunk & feeders	@ 54 / 550 / 1002 MHz	dB	0 / 7.9 / 15.0						
Slope control type	Cable equalizers	dB	Plug-in EQ's						
Slope control range	Includes cable equivalent	dB	-12.0 to +30.0						
Slope control steps	Equalizer value steps	dB	0 - 18.0 (1.0 steps) & 20.0-30.0 (2.0 steps) -1.0 to -15.0 (1.0 steps)						
<b>Station Group Delay</b>									
Group delay	Channel 2 (Std)	nSec / 3.58 MHz	40 (35 Typical)						
Group delay	Channel 3		16						
Group delay	Channel 4		10						
Group delay	Channel 5 & >		4						
<b>AGC</b>									
Pilot Channel Type		N / A	DSIM-A Single Pilot Channel AGC						
Compensation Range		dB	NTSC Analog or QAM						
Accuracy		±dB	System compensation input change +3/-6 @ 1002 MHz						
Nominal loss	@ 77 °F (25 °C)	dB	0.5						
Center frequency bandwidth			6.25						
Configuration			SDAT (Type 1) Standard Gain	SDBT (Type 6) Standard Gain	SDAF (Type 2-TRI) Standard Gain	SDAB (Type 2) Standard Gain	SDLA (Type 3-DUAL) Standard Gain	SDLE (Type 3) Standard Gain	ALX (Type 3) Standard Gain
<b>Operational Specifications</b>									
Station passband		MHz	54 to 1002						
Station flatness - trunk out	Normalized w / 0 dB slope  +0.5 / -0 @ 1002 MHz (Temperature stabilized)	±dB	0.35	-	-	-	-	-	-
Station flatness - feeder out		±dB	0.6	0.6	0.6	0.6	0.6	0.35	0.35
Gain - Port 2 (AGC / Manual)		dB	31 / 36	40 / 43	-	-	34.5 / 39.5	34.5 / 39.5	34.5 / 39.5
Gain - Port 3 (AGC / Manual)		dB	41 / 46	40 / 43	42 / 45	42 / 45	-	-	-
Gain - Port 4 (AGC / Manual)		dB	41 / 46	40 / 43	42 / 45	42 / 45	34.5 / 39.5	-	-
Gain control type		N / A	Plug-in pads						
Gain control steps	Pad value steps	dB	0.5						
<b>Station Output Levels - Digital</b>									
Port 2	@ 54 / 550 / 1002 MHz	dBmV	20 / 27.8 / 35	30 / 37.8 / 45	-	-	30 / 37.8 / 45	30 / 37.8 / 45	30 / 37.8 / 45
Port 3			30 / 37.8 / 45	30 / 37.8 / 45	30 / 37.8 / 45	30 / 37.8 / 45	-	-	-
Port 4			30 / 37.8 / 45	30 / 37.8 / 45	30 / 37.8 / 45	30 / 37.8 / 45	30 / 37.8 / 45	-	-
<b>Station Output Levels - Analog</b>									
Port 2	@ 54 / 550 / 1002 MHz	dBmV	26 / 33.8 / 41	36 / 43.8 / 51	-	-	36 / 43.8 / 51	36 / 43.8 / 51	36 / 43.8 / 51
Port 3			36 / 43.8 / 51	36 / 43.8 / 51	36 / 43.8 / 51	36 / 43.8 / 51	-	-	-
Port 4			36 / 43.8 / 51	36 / 43.8 / 51	36 / 43.8 / 51	36 / 43.8 / 51	36 / 43.8 / 51	-	-
<b>Station Noise Figure</b>									
Noise figure (w / 1 dB for input EQ loss)	Typ. @ 54 MHz	dB	11.5	14.7	12.4	11.8	9.5	8.8	9.0
	Typ. @ 550 MHz	dB	6.9	9.1	7.0	6.6	6.9	6.2	6.3
	Typ. @ 1002 MHz	dB	7.1	10.6	7.4	7.2	7.9	7.2	7.6
<b>Station Distortions (Worse Case)</b>			Trunk / Feeder	Feeder	Feeder	Feeder	Feeder	Feeder	Feeder
550 MHz analog channel loading, 79 channels +450 MHz digital channel loading, 256 QAM at -6 dBc relative to its associated visual carrier									
Composite Triple Beat (CTB)		-dBc	83 / 78	75	75	77	80	83	75
Cross Modulation (XM0D)		-dBc	82 / 73	72	72	70	81	78	69
Composite Second Order (CSO-)	(Vc +0.75 & -1.25 MHz)	-dBc	79 / 72	71	71	72	76	79	76
Composite Second Order (CSO+)	(Vc +1.25 MHz)	-dBc	83 / 75	77	79	78	77	80	77
Carrier-to-Intermodulation Noise (CIN)		-dBc	81 / 76	73	73	75	78	81	73



REVERSE SPECTRUM:										
REVERSE - CHANNEL LOADING - Typically 23 each, 1.5 MHz wide QPSK channels.										
Reverse - General		CONDITIONS	UNITS	SPECIFICATION						
Station passband			MHZ	5 to 42						
Station flatness		Normalized w / 0 dB slope	±dB	0.5						
Reverse - Station Gain										
Gain		+0.5 / -0 @ 40 MHz (Temperature stabilized)	dB	18 or 21 for SDAT, SDBT, SDAF 18, 21 or 23 for SDAB, SDLA 18, 21 or 24 for SDLE & ALX						
Gain control type				Plug-in pads						
Gain control range			dB	12.0						
Gain control steps		Pad value steps	dB	0.5						
Reverse - Station Slope										
Slope control type		Cable equalizers	N / A	Plug-in EQs						
Slope control range			dB	0 to 12.0						
Slope control steps		Equalizer value steps	dB	1.0						
Reverse - Station Output Levels										
@ Forward input port		Average	dBmV	35.0						
REVERSE - STATION DISTORTIONS										
Composite Second Order (CSO)		6 channel loading	-dBc	82.0						
Composite Triple Beat (CTB)				90.0						
Cross Modulation (XMOD)				80.0						
Reverse - Station Group Delay										
Group delay		5 MHz	nSec / 1.5 MHz	36						
Group delay		7 MHz		16						
Group delay		10 MHz		6						
Group delay		35 MHz		10						
Group delay		38.5 MHz		33						
Configuration				SDAT (Type 1)	SDBT (Type 6)	SDAF (Type 2-TRI)	SDAB (Type 2)	SDLA (Type 3-DUAL)	SDLE (Type 3)	ALX (Type 3)
Reverse - Noise Figure										
Station noise figure (w / EQ)		Across the bandwidth	dB	15.8	16.1	12.4	14.6	12.2	10.0	9.7
Power Requirements:										
DSIM-A		Includes reverse (Worst case)	W	44.7	52.1	44.1	44.1	39.7	26.8	26.3
Manual			W	42.6	50.0	42.0	42.0	37.5	24.6	24.2
AC Voltage										
Input ranges			VAC	40-90						
Current Draw (with AGC)										
@ 40 VAC		Maximum	A	1.41	1.58	1.39	1.39	1.25	0.85	0.75
@ 50 VAC			A	1.17	1.36	1.16	1.16	1.05	0.72	0.63
@ 60 VAC			A	1.03	1.20	1.02	1.02	0.92	0.64	0.58
@ 70 VAC			A	0.93	1.09	0.92	0.92	0.84	0.59	0.51
@ 80 VAC			A	0.86	1.00	0.85	0.85	0.77	0.55	0.46
@ 90 VAC			A	0.80	0.94	0.79	0.79	0.72	0.50	0.42
Weight				SDAT	SDBT	SDAF	SDAB	SDLA	SDLE	ALX
Weight			lbs. (kg)	16.0 (7.26)	16.0 (7.26)	16.0 (7.26)	16.0 (7.26)	14.5 (6.58)	14.5 (6.58)	11.0 (4.99)
Physical										
Dimensions		(H X W X D)	In. (cm)	6.75 X 14.25 X 9.00 (17.1 X 36.2 X 22.9)					4.00 X 14.25 X 9.00 (10.2 X 36.2 X 22.9)	
Environmental										
Operating temperature			°F (°C)	-40 to +140 (-40 to +60)						

# SDA & ALX 15 Amp 1002 MHz GaN Product Configuration Worksheet

Customer: \_\_\_\_\_

Created By: \_\_\_\_\_ Order Date: \_\_\_\_\_

## ORDERING MATRIX

April 30, 2018

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PART NUMBER															

1  STATION TYPE

A = ALX 1 Output Low Profile LE      D = SDLA 2 Output LE      L = SDLE 1 Output LE  
 B = SDAB 2 Output Feeder      F = SDAF 2 or 3 Output Feeder      T = SDAT 3 Output Trunk  
 J = SDBT 3 Equal Output Feeder

2  BANDWIDTH FREQUENCY

1 = 1002 MHz Upper Frequency

3,4  STATION GAIN (Forward) - For 0.5 dB gain values, use the first two digits listed in the part number

Station Type	TYPE 1	TYPE 6	TYPE 2 TRI	TYPE 2	TYPE 3 DUAL	TYPE 3	TYPE 3
Amplifier Model	SDAT	SDBT	SDAF	SDAB	SDLA	SDLE	ALX
Frequency	1002	1002	1002	1002	1002	1002	1002
Max gain with AGC/ Thermal	36	44	46	46	35.5	38.5	38.5
Max gain w/AGC bypass	41	47	49	49	40.5	43.5	43.5

5  CONTROL TYPE

D = Digital Station Intelligence Manger (DSIM)  
 M = Manual (AGC Bypass)

6  CONTROL FREQUENCY

1 = AGC Bypass  
 2 = DSIM-A Single Pilot AGC (Analog or Digital pilot) - Pilot channel loaded during setup

7  CURRENT PASSING CAPACITY 15A (Continuous on all ports)

8  STATION SLOPE

	550	650	750	870	900	1002
E=	9.0	10.8	12.6	14.8	15.3	17.2
F=	7.9	9.4	11.0	12.9	13.4	15.0
T=	7.3	8.8	10.3	12.0	12.5	14.0
*K=	4.1	5.0	5.8	6.8	7.1	7.9

\*Slope option "K" is only available on the SDLE and SDLA 1002 MHz stations

9  HOUSING OPTIONS

0 = No housing or power pack      B = SDA - Chromate without TP  
 1 = Module upgrade kit with power supply and seizure screws      G = ALX - Standard low profile line extender with TP  
 E = SDA - Standard with TP      H = ALX - Chromate low profile line extender with TP  
 F = SDA - Chromate with TP      K = ALX - Chromate low profile line extender without TP

10  DIPLEX FREQUENCY SPLIT

4 = 42 / 53    5 = 55 / 70    6 = 65 / 85    8 = 85 / 105    2 = 204 / 258

11  STATION GAIN (Reverse)

0 = None      4 = 18 dB min (SDA: T, B, F, LA, BT)      T = 23 dB min (SDA: B, LA)  
 1 = Passive      H = 18 dB min (SDLE & ALX)      U = 24 dB min (SDLE & ALX)  
 R = 21 dB min (SDA: T, BT, AF, LA, LE & ALX)

12  SURGE PROTECTION

A = Version 5 SDA 45-90 VAC power supply and plug-in sidactor or ALX with plug-in sidactor (Standard)  
 B = Version 4 SDA 40-90 VAC power supply with fuse surge protection  
 D = Version 5 SDA 45-90 VAC power supply and plug-in sidactor  
 F = ALX with plug-in sidactor & fuse in power supply  
 C = No Sidactor - Triac only (Included in the SDA power supply)  
 \* For SDA module only units, select the power supply version that is in the current complete station.

13,14   TEST SPECS (Determined by ACI engineering)

15  SPECIAL/CUSTOMER: LABELS, FUNCTIONS, (Determined by Product Management)

0 = No special instructions    3 = SDAF w/3 dB splitter installed    N = GaN Forward Hybrids    A = GaN Hybrids & Pad Adjustable EQ's

Generic Order Form: Not all configurations are available

## Accessory Ordering Information:

The SDA ordering matrix provides the part number information to order the configured stations. This page contains the ordering information for the required accessories that will be needed to make the stations functional in the field or the optional accessories that can be ordered separately.

### Required Accessories (For using fixed value plug-in equalizers)

Description	Part Numbers (Where XX.X = dB value)
JXP style attenuator pads <ul style="list-style-type: none"> <li>1 Required for forward input</li> <li>1 Required for reverse output (if active)</li> </ul>	JXP1.38-XX.X (0 to 20 dB in 0.5 dB steps)
Forward equalizers <ul style="list-style-type: none"> <li>1 Required forward input</li> </ul>	EQDA1G/XX (1.0 to 18.0 dB in 1.0 dB steps) (20.0 to 30.0 dB in 2.0 dB steps) CEQ1G/XX (1.0 to 15.0 dB in 1.0 dB steps)
Reverse equalizers <ul style="list-style-type: none"> <li>1 Required reverse output (if active)</li> </ul>	REQDA42/XX (0 to 12.0 dB in 1.0 dB steps) REQDA85/XX (1 to 12.0 dB in 1.0 dB steps)

### Optional Accessories

Description	Part Numbers
Digital Station Intelligence Manager - Single Pilot AGC Module (Analog or Digital)	DSIM-A-MDL-02
Digital Station Intelligence Manager -Controller	DSCT-xxx-yyy xxx = Pilot Channel Number yyy = Channel Type IRC = Analog IRC Spacing DIG = Digital / QAM
Digital Station Intelligence Manager - Cable Assembly For Computer Interface	240327-01
DSIM Bluetooth Dongle Apple iOS or android	DSIM-DONGLE-02
Cable assembly DSIM adaptor to connect controller	240330-01
Manual AGC (Bypass plug-in)	AGC-BYPASS-1G
Pad Adjustable Equalizer JXP Platform 0-18 dB	AEQDA1G
Pad Adjustable Cable Equivalent Equalizers JXP Platform 0-9 dB	ACEQ1G
Pad Adjustable Reverse Equalizers 5-42 MHz JXP Platform 0-12 dB	AREQDA42
Pad Adjustable Reverse Equalizers 5-85 MHz JXP Platform 0-12 dB	AREQDA85
Reverse Rejection Filter 14 MHz	RPRFLTR-14
Reverse Rejection Filter 8 MHz	RPRFLTR-8
Reverse Rejection Filter by-pass	RPRFLTR-JMP

## Optional Accessories (Continued)

Description	Part Numbers
DC/SP3 Plug-in - SDAF only	SDA1G-SPLTR3.5 SDA1G-DC7 SDA1G-DC12
Test Probe (5.5" Long)	100685-01
Test Probe (1.57" / 4 cm Long)	TP-7504
Test Adapter for Test Probe to Seizure Screw (RF Connector)	100677
Thru-housing Test Cable. Allows reading of internal test points with the housing closed.	240310
AC Power Director	100818-01
EQ Puller Tool	130311
Nut Driver 1/2"	130312
Nut Driver 5/8"	130313
Power Supply with fuse (40-90 VAC) Version 4	SDA90VSP-V4
Power Supply (45-90 VAC) Version 5	SDA90VSP-V5
Replacement SDA Housing (Standard)	HSG03/00
Replacement SDA Housing (Chromate)	HSG04/00
Replacement ALX Housing (Standard)	HSG15/00
Replacement ALX Housing (Chromate)	HSG16/00
Metal 5/8" Port Housing Caps	H5/8PLUG
Housing Port Dielectric Insert	030765-01
Seizure Screw / RF Connector 15A	100633-01



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