



GENERAL STATION PERFORMANCE	UNITS	FORWARD	REVERSE	NOTES
Pass band	MHz	54-1218	5-204	
Amplifier type	-	GaN	GaAs	
Frequency response	dB	± 0.5	± 0.5	
Auto slope and gain range	dB	± 5.8	-	
Return loss	dB	16	16	4
Maximum AC through current (continuous)	Amps	15	-	
Maximum AC through current (surge)	Amps	25	-	
Hum modulation at 15A (over specified frequency range)	dB	60 (54-1002 MHz) 55 (1002-1218 MHz)	55 (5-10 MHz) 60 (10-204 MHz)	
Test points (± 0.75 dB)	dB	-20	-20	

Forward Station Performance	Units	Auto/Thermal with 12 dB I/S EQ	Notes
Operational gain (minimum)	dB	38	1
Internal tilt (± 0.5 dB) @ 54 – 1218 MHz	dB	+11.7	
Noise Figure	dB	8	1
BER	dB	<1E-6	
CCN	dB	49	5
MER	dB	49	5

Unless indicated differently, our specifications are established based on a standard performance of 68°F (20°C). The measurements employed in determining these specifications adhere to the globally recognized SCTE/ANSI standards, when relevant, utilizing standard frequency assignments.

Reverse Station Performance	Units	Notes
Operational gain (minimum)	dB	27, 3, 4
Noise Figure	dB	6, 3, 4
NPR at 50dB CNR at 42 MHz		27
NPR at 50dB CNR at 85 MHz	dB	24
NPR at 50dB CNR at 204 MHz		20

Station Delay Characteristics (42/54 Split)			
Forward (Chrominance to Luminance Delay)		Reverse (Group Delay in 1.5 MHz bandwidth)	
Frequency (MHz)	Delay (ns)	Frequency (MHz)	Delay (ns)
55.25 to 58.83	37	5.0 to 6.5	60
61.25 to 64.83	15	6.5 to 8.0	22
67.25 to 70.83	10	8.0 to 9.5	12
77.25 to 80.83	5	37.5 to 39.0	20
		39.0 to 40.5	32
		40.5 to 42.0	45

Station Delay Characteristics (85/102 Split)			
Forward (Chrominance to Luminance Delay)		Reverse (Group Delay in 1.5 MHz bandwidth)	
Frequency (MHz)	Delay (ns)	Frequency (MHz)	Delay (ns)
109.275 to 112.855	15	5.0 to 6.5	60
115.275 to 118.855	10	6.5 to 8.0	22
121.2625 to 124.8425	8	8.0 to 9.5	12
127.2625 to 130.8425	5	80.5 to 82.0	10
		82.0 to 83.5	17
		83.5 to 85.0	21

Station Delay Characteristics (204/258 Split)			
Forward (Chrominance to Luminance Delay)		Reverse (Group Delay in 1.5 MHz bandwidth)	
Frequency (MHz)	Delay (ns)	Frequency (MHz)	Delay (ns)
259.2625 to 262.8425	10	5.0 to 6.5	60
265.2625 to 268.8425	8	6.5 to 8.0	22
271.2625 to 274.8425	7	8.0 to 9.5	12
277.2625 to 280.8425	5	199.5 to 201.0	10
		201.0 to 202.5	17
		202.5 to 204.0	21

Station Powering Data															
Quantum12 Line Extender System Amplifier	IDC (Amps)		AC Voltage												
	5.5V	24V	90	85	80	75	70	65	60	55	50	45	40	35	
Thermal/Manual	0.75	0.72	AC current	0.56	0.61	0.61	0.64	0.65	0.67	0.67	0.69	0.71	0.75	0.83	0.92
			Power (W)	27.9	28.1	27.7	28.1	27.9	27.9	27.6	27.9	27.9	28.1	28.6	28.9
AGC	0.75	0.79	AC current	0.56	0.61	0.62	0.64	0.66	0.68	0.68	0.70	0.72	0.77	0.85	0.95
			Power (W)	28.9	29.1	28.7	29.1	28.9	28.9	28.6	28.9	28.9	29.1	29.6	29.9

The data provided here is derived from stations set up for bidirectional operation. The specified AC currents are measured using a common CATV type ferroresonant AC power supply (quasi-square wave) and the Quantum12 High Output System Amplifier power supply (2.5A, 24 VDC).

The DC supply incorporates a customizable 30V, 40V, or 50 VAC under-voltage lockout circuit with the default setting being 30V, 40V, or 50 VAC. You can adjust the under-voltage lockout by modifying the position of the lockout jumper.

**Note:**

1. We specify the output tilt as "LINEAR" tilt (not "cable" tilt). These tilts were achieved using a 1.5 dB EQ in the interstage, while the remaining tilt comes from the input EQ and the input signal.
2. Forward gain and noise figures were measured with 0 dB input EQ, 1 dB input pad, Thermal, and AGC module.
3. Reverse gain, noise figures for stations with 0 dB reverse input pad, 0 dB reverse output EQ, and 1 dB output pad.
4. Reverse operational gain, noise figure, and return loss are given without the reverse switch option. If a switch is installed, reduce gain by 0.5 dB, increase noise figure by 0.5 dB, and decrease return loss by 1 dB.
5. Distortion performance at reference output levels and tilt. Corrected with source performance backed out.

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Environmental	Value
Operating temperature range	-40 to 140°F (-40 to 60°C)

Mechanical	Value
Housing dimensions (L x H x D)	11.66 in. x 6.77 in. x 9.58 in. (296.1 mm x 172.0 mm x 243.3 mm)
Weight Housing with power supply	13 lb (5.9 kg)