



Comparative Analysis of Micro Modulator Power Supplies

In June 2002 Cabletronix Engineering conducted a comparative study of the effect of ambient temperature on fully loaded micro modulator power supplies. Power supplies tested included the Cabletronix CTPS-12, and similar supplies from two leading vendors. Power supplies from each vendor were fully loaded with 12 agile micro modulators, and set at an output level of 40 dBmV. Units were allowed to burn at 21° C (70° F) for 48 hours prior to testing. Ambient room temperature was raised until each unit failed. Testing was done with and without rack fans. Two types of rack fans were used in two configurations. The failure temperature for each unit under set conditions is noted.

Testing Condition	Cabletronix CTPS-12	Vendor "A"	Vendor "B"
No rack fans used	26° C / 79° F	24° C / 75° F	25° C / 77° F
One dual fan unit mounted on the top of the chassis holding the modulators and power supply	29° C / 84° F	27° C / 81° F	28° C / 82° F
One dual fan unit mounted on the top of the chassis holding the modulators and power supply, <i>and one dual fan unit on the bottom</i>	30° C / 86° F	27° C / 81° F	28° C / 82° F
One tri fan unit mounted on the top of the chassis holding the modulators and power supply	30° C / 86° F	27° C / 81° F	28° C / 82° F
One tri fan mounted on the top of the chassis holding the modulators and power supply, <i>and one tri fan unit on the bottom</i>	32° C / 90° F	28° C / 82° F	30° C / 86° F

Disclaimer: The results in this study may vary from similar testing. While Cabletronix Engineering makes every attempt to represent each product line accurately, inaccuracies during production, or other alterations not evident in the items tested can cause results to vary. This study was performed by Cabletronix and not an outside agency. Even though Cabletronix uses reasonable efforts to follow industry accepted testing procedures, other test results may vary.



Comparative Analysis of Agile Micro Modulators

In June 2002 an independent laboratory tested and assessed commercial-grade agile micro modulators from three vendors. This analysis was conducted as part of a larger vendor and product due diligence effort required for future component procurements. The tests were conducted using a VM700A Video Measurement Set. Vendors were not present while the evaluations were being performed.

Test Performed	Target	Cabletronix CT-AMM	Vendor "D"	Vendor "O"
Avg. Picture Level	50-60%	52.7%	53.0%	94.6%
Bar Amplitude	96-104 IRE	100 IRE	121.6 IRE	189.7 IRE
Sync Amplitude	36-44% Bar	39.2% Bar	45.3% Bar	41.9% Bar
IRS Chroma Amplitude	100% Burst	99.6% Burst	98.3 Burst	95.1% Burst
IRS Chroma Amplitude	38-42% Bar	38.8% Bar	40.7% Bar	43.7% Bar
Line Time Distortion	0-1.4%	1.5%	1.6%	5.4%
T Pulse K-Factor	0-2.5% Kf	1.3% Kf	6.5% Kf	1.5% Kf
Chroma-Lum Delay	180 ns	171.2 ns	79.7 ns	242.7 ns
Chroma-Lum Gain	93-107%	96.3 %	97%	130.1%
Differential Gain	0-4% at 95% APL	1.46%	12.05%	8.32%
Differential Phase	0-2° at 95% APL	2.90°	12.94°	6.82°
Hum Non-Linearity	0-4% at 95% APL	1.25%	13.24%	10.01%
CC Multiburst Flag	100% Bar	100.8% Bar	95.8% Bar	98.8% Bar
CC MB Packet #1	57.1-63.0% Flag	60.0% Flag	74.3% Flag	61.3% Flag
CC MB Packet #2	56.2-64.2% Flag	60.0% Flag	71.7% Flag	61.7% Flag
CC MB Packet #3	54.8-65.6% Flag	58.4% Flag	70.7% Flag	64.0% Flag
CC MB Packet #4	53.5-67.3% Flag	57.9% Flag	67.8% Flag	67.7% Flag
CC MB Packet #5	56.0-64.3% Flag	58.1% Flag	65.5% Flag	68.7% Flag
TC7 20 IRE Chroma	20 IRE	20 IRE	20.1 IRE	20.4 IRE
TC7 Chr-Lum Intmd	-4 to 4 IRE	0.1 IRE	0.1 IRE	-7.3 IRE

Figures identified in **Bold** indicate significant deviation from industry-accepted targets or specifications.

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