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*Connectivity  
Beyond Limits*

DAVICOM Semiconductor, Inc.

# ***DM9000'S***

Internal 10/100 PHYsceiver

**IEEE802.3 TEST REPORT**

***Version: 5.00***

***Prepared by : PSA***

***Date : Sep. 25, 2001***



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### IEEE802.3 test:

Test No.	Test Parameter	Result	Specifications	Pass/Fail
<b>1</b>	<b>Differential Output Voltage (UTP)</b>			
1-1	Positive Amplitude, +Vout	See Table A&Fig. Series A1	TP-PMD 9.1.2.2 950mv $\leq$ ±Vout $\leq$	Pass
1-2	Negative Amplitude, -Vout	See Table A&Fig. Series A2	1050mv	Pass
1-3	Signal Amplitude Symmetry	See Table A	TP-PMD 9.1.4 0.98 $\leq$ (+Vout/ -Vout) $\leq$ 1.02	Pass
<b>2</b>	<b>Rise and Fall Time</b>			
2-1	Signal Rise, Baseline to +Vout	See Table B&Fig. Series B1	TP-PMD 9.1.6 3.0ns<t rise/fall<	Pass
2-2	Signal Fall, +Vout to Baseline	See Table B&Fig. Series B2	5.0ns	Pass
2-3	Signal Rise, -Vout to Baseline	See Table B&Fig. Series B3		Pass
2-4	Signal Fall, Baseline to -Vout	See Table B&Fig. Series B4		Pass
2-5	Rise and Fall Time Symmetry	See Table B	TP-PMD 9.1.6 The difference between max.&min. $\leq$ 0.5ns	Pass
<b>3</b>	<b>Duty Cycle Distortion</b>		TP-PMD 9.1.8 The deviations of the 50% crossing times from a best fit to a time grid of 16ns shall not exceed +0.25ns.	No test
<b>4</b>	<b>Transmit Jitter</b>	See Table C&Fig. Series C	TP-PMD 9.1.9 <1.4ns	Pass
<b>5</b>	<b>Waveform Overshoot</b>			
5-1	Excursion Beyond +Vout	See Fig. Series D1	TP-PMD 9.1.3	Pass
5-2	Excursion Beyond -Vout	See Fig. Series D2	<5% & decay to 1% within 8.0ns	Pass
<b>6</b>	<b>Transmit Differential Output Template</b>	See Fig. Series E	TP-PMD Annex J	Pass
<b>7</b>	<b>10 Base-T, Normal Link Pulse</b>	See Fig. Series F	IEEE 802.3I, 14.3.1.2.1	Pass
<b>8</b>	<b>10Base-T Differential Output Template</b>			
8-1	+Vout Template	See Fig. Series G1	IEEE 802.3I, 14.3.1.2.1	Pass
8-2	-Vout Template	See Fig. Series G2		Pass
8-3	10 Base-T Differential Output	See Fig. Series G3		Pass



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### Differential Output Voltage (UTP)

Trial No.	+Vout	-Vout	+Vout/-Vout
1	1.03000V	-1.02000V	1.01

Table A  
±Vout & AMPLITUDE SYMMETRY

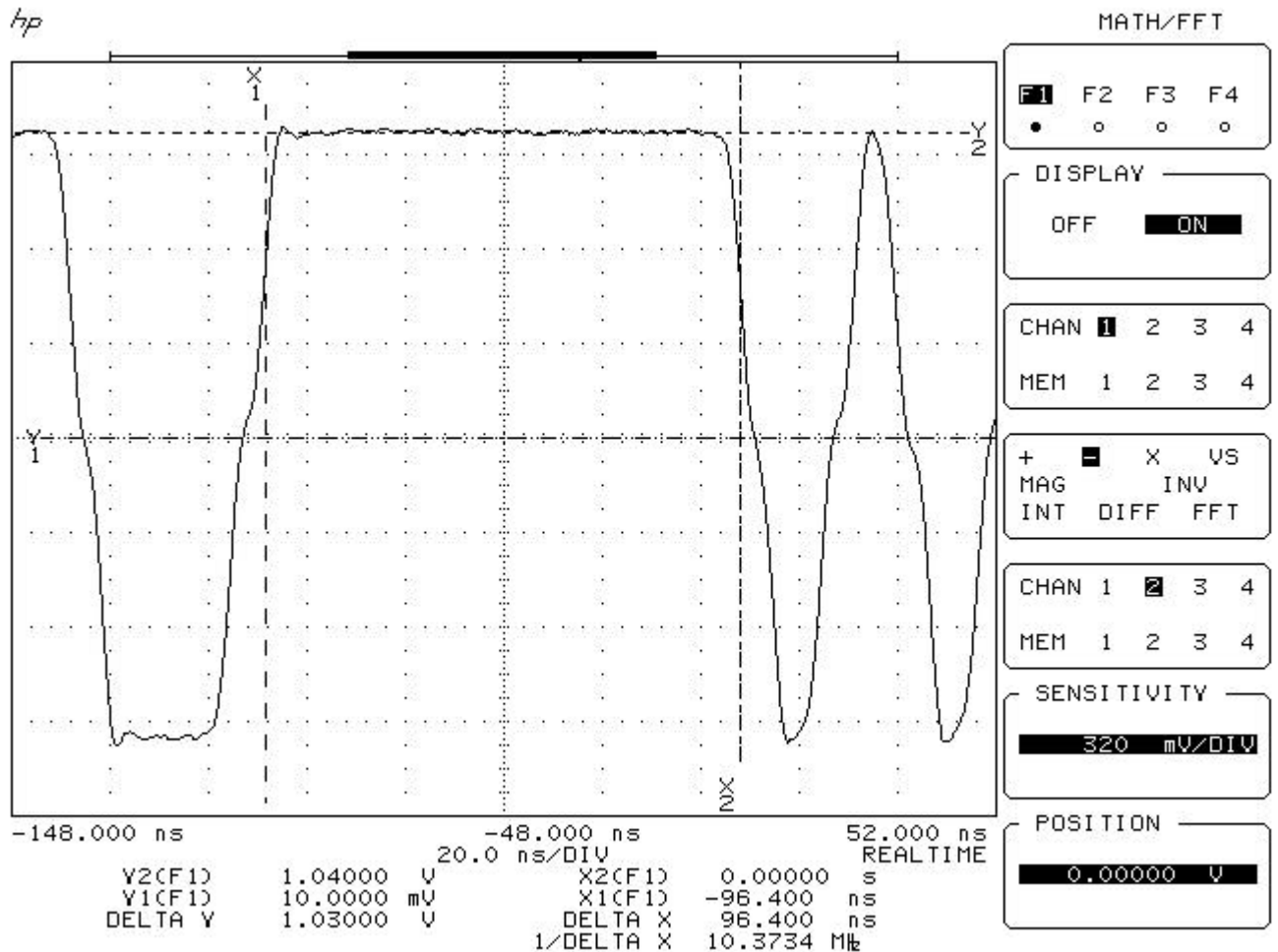
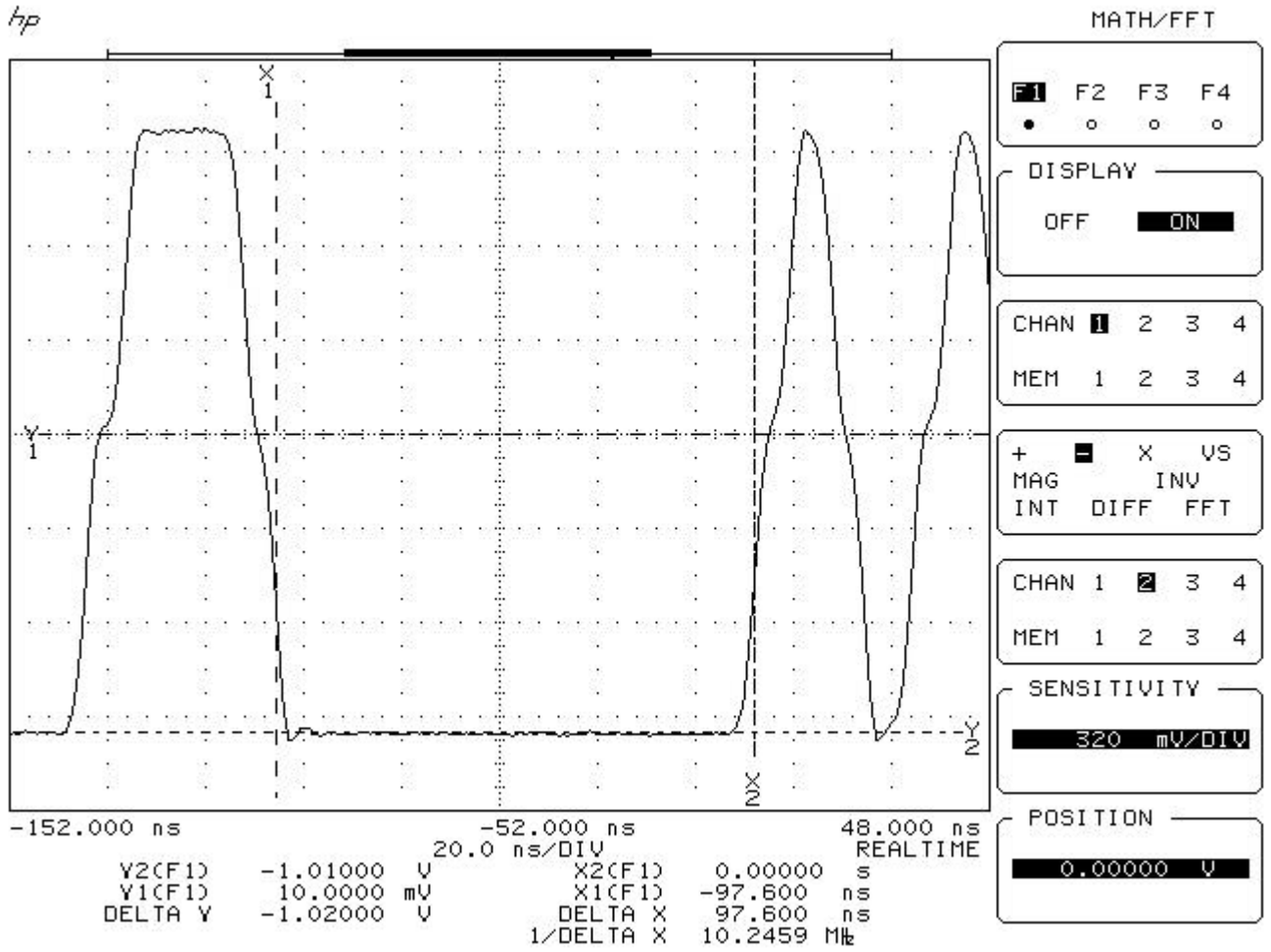


Fig. Series A1  
Positive Amplitude, +Vout



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**Fig. Series A2**  
**Negative Amplitude, -Vout**

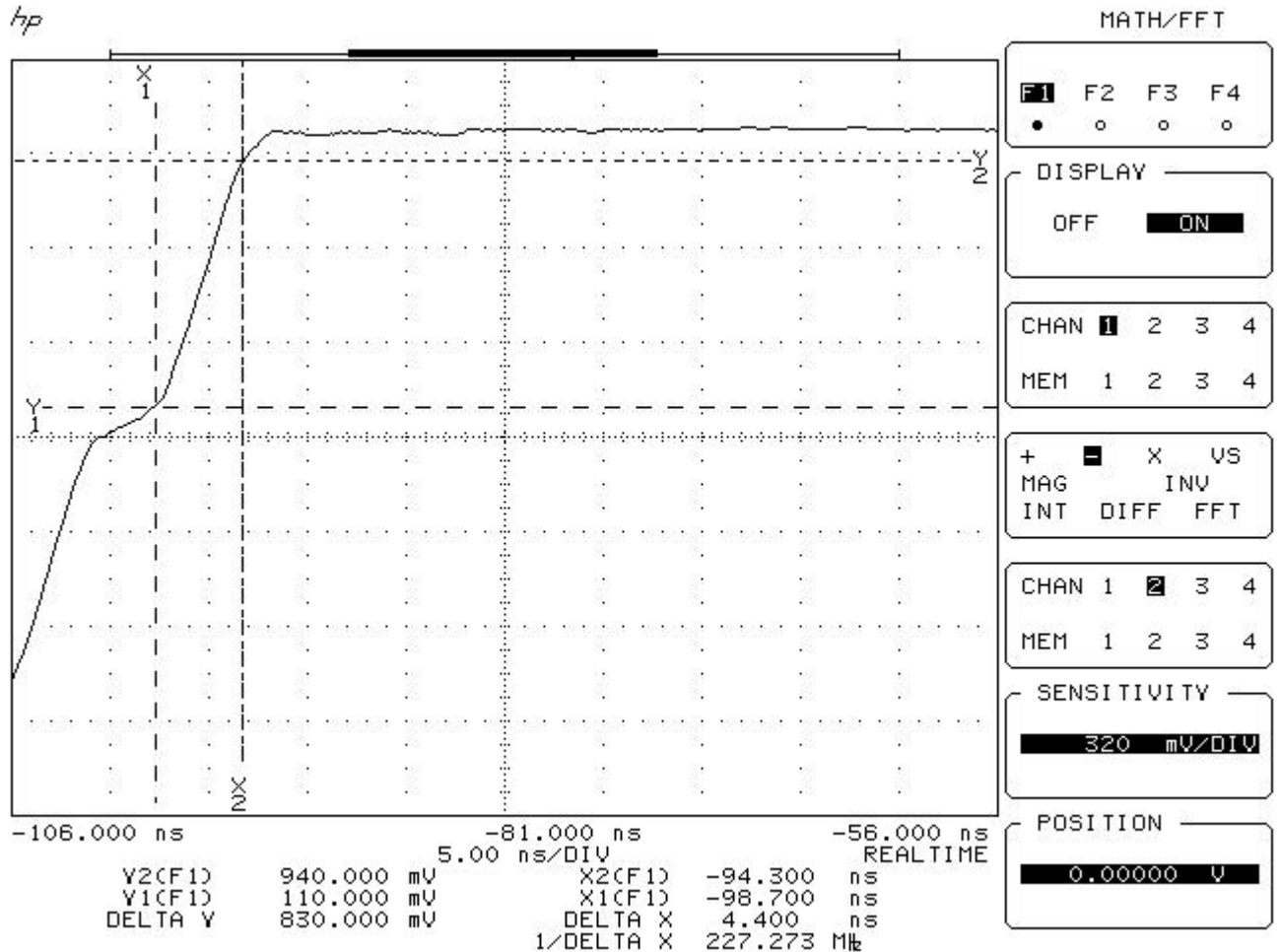


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### Rise and Fall Time

Trial No.	+Vout		-Vout		( ) <sub>max</sub>
	t <sub>r</sub>	t <sub>f</sub>	t <sub>r</sub>	t <sub>f</sub>	
1	4.4ns	4.4ns	4.4ns	4.3ns	0.1ns

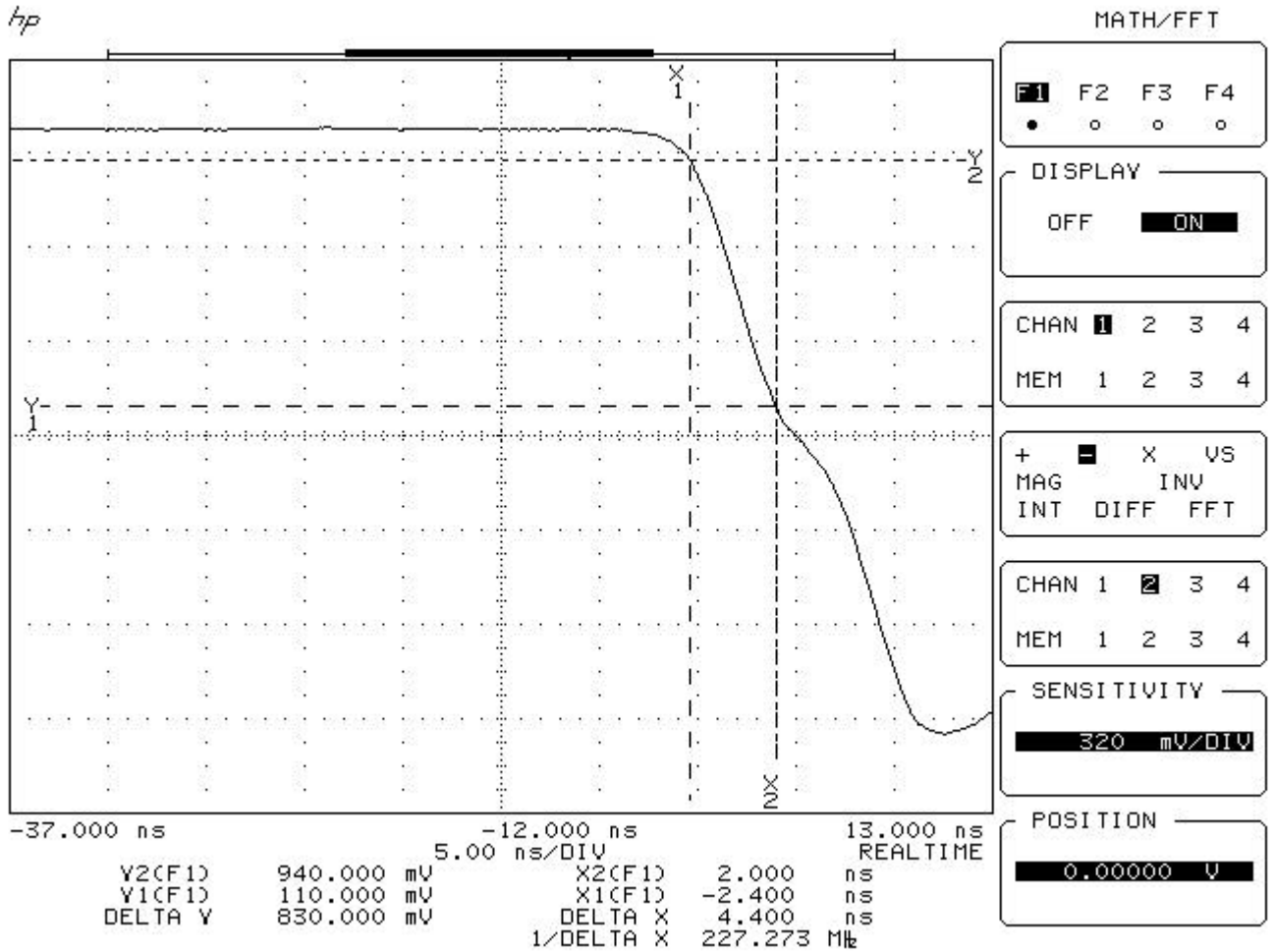
**Table B**  
t<sub>r</sub>, t<sub>f</sub> of ±Vout & TIME SYMMETRY



**Fig. Series B1**  
Signal Rise, Baseline to +Vout



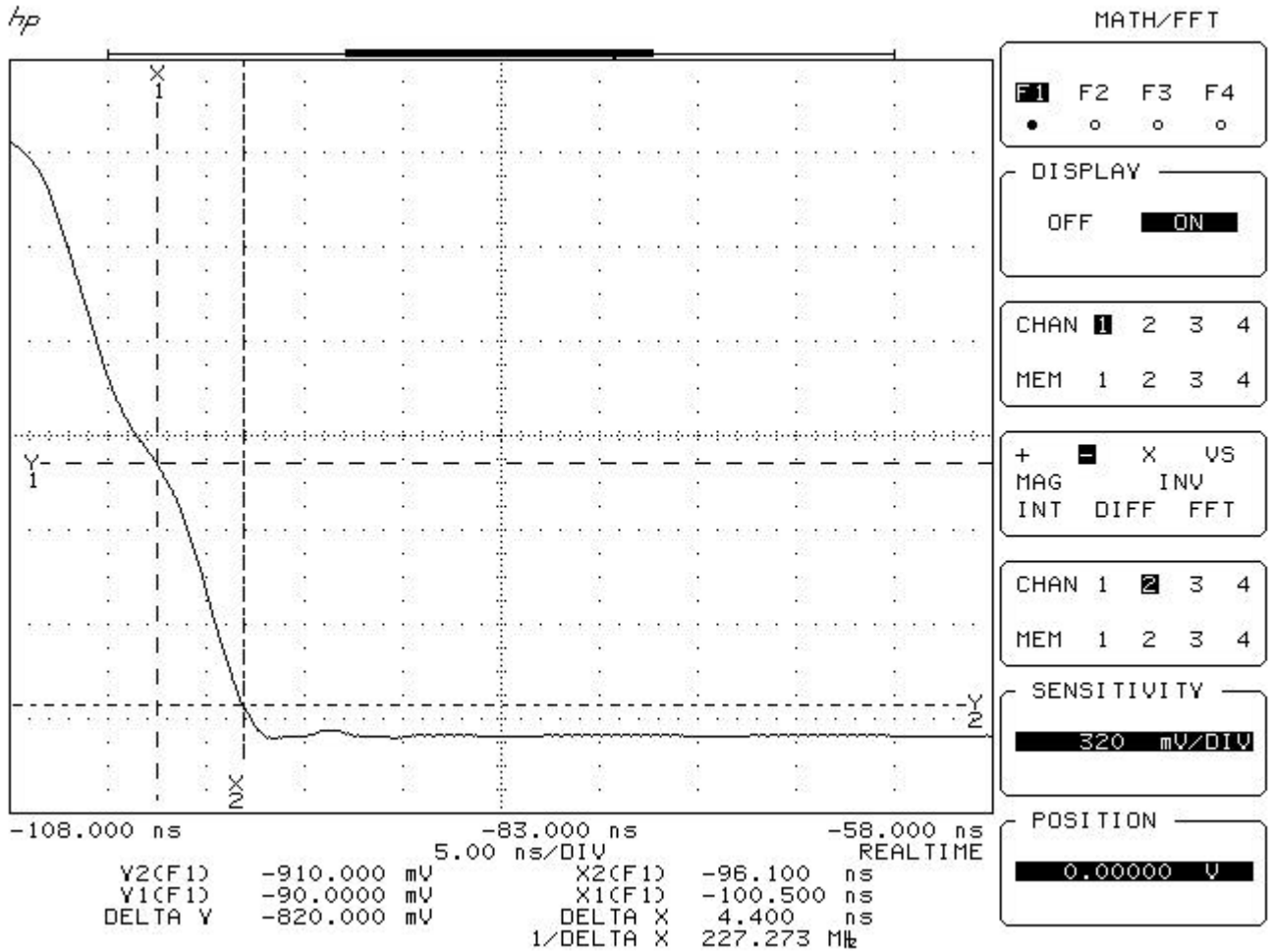
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**Fig. Series B2**  
**Signal Fall, +Vout to Baseline**



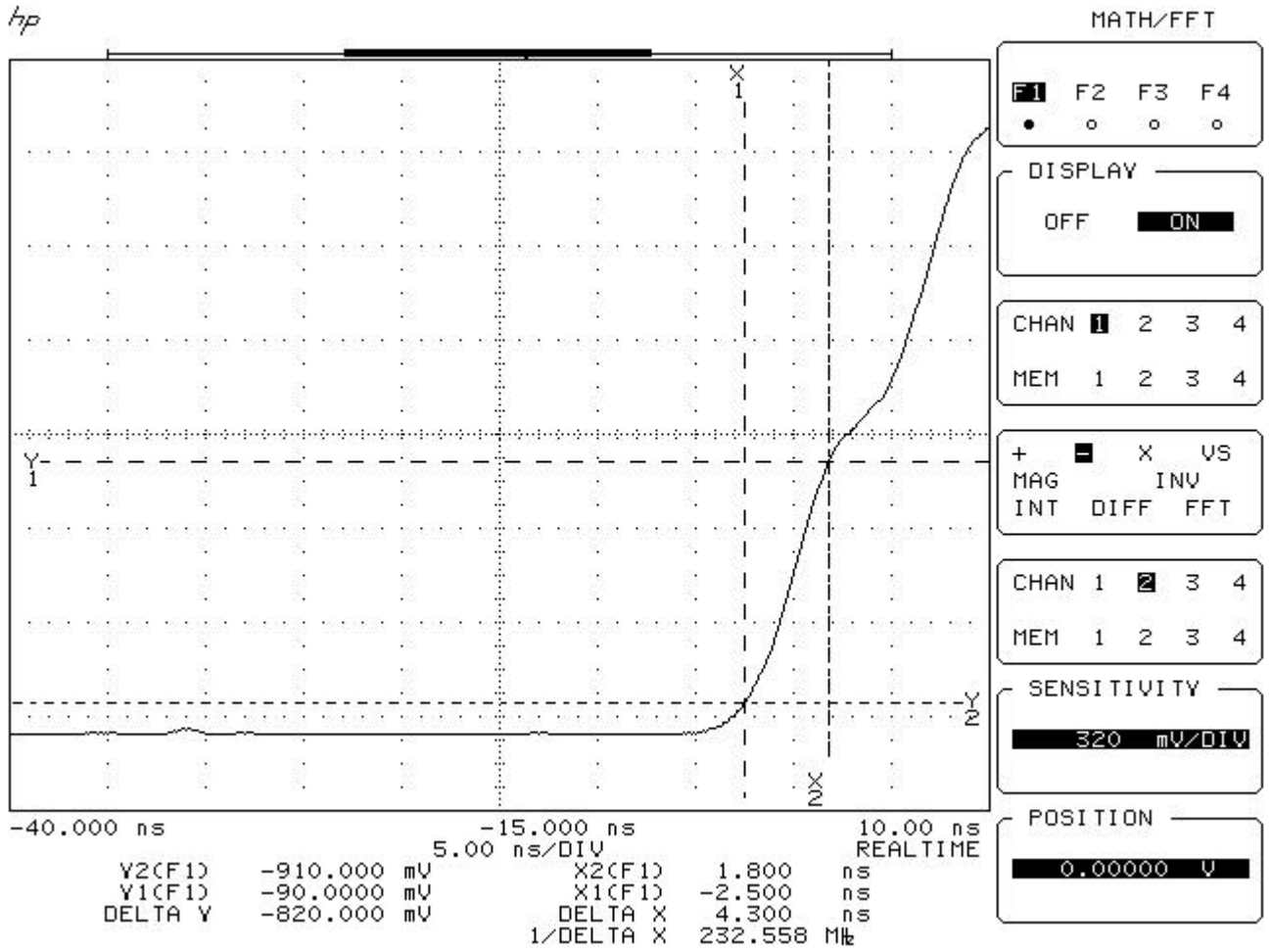
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**Fig. Series B3**  
**Signal Rise, -Vout to Baseline**



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**Fig. Series B4**  
**Signal Fall, Baseline to -Vout**





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### Transmit Jitter

Trial No.	Transmit Jitter
1	840ps

Table C  
Transmit Jitter

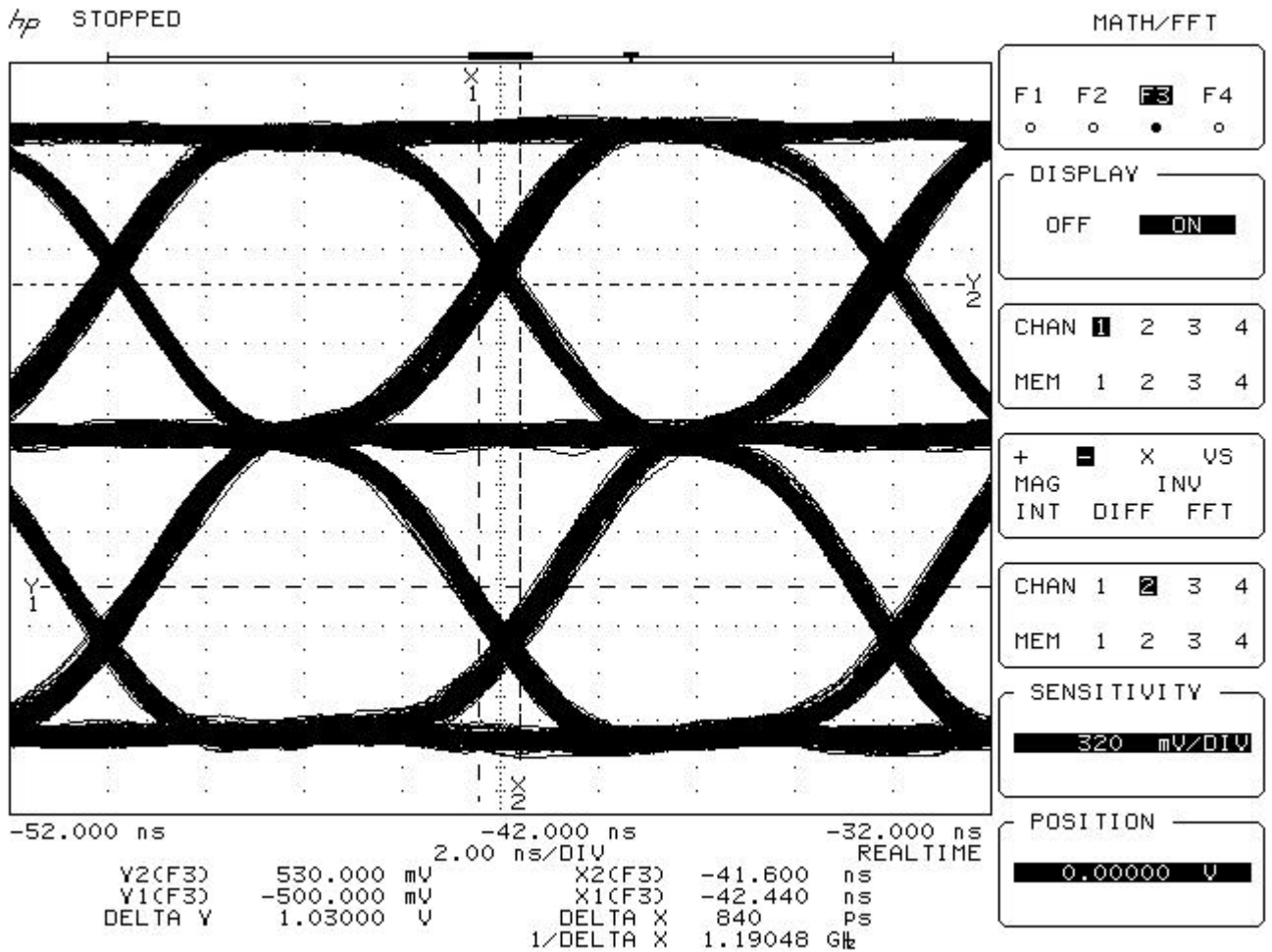


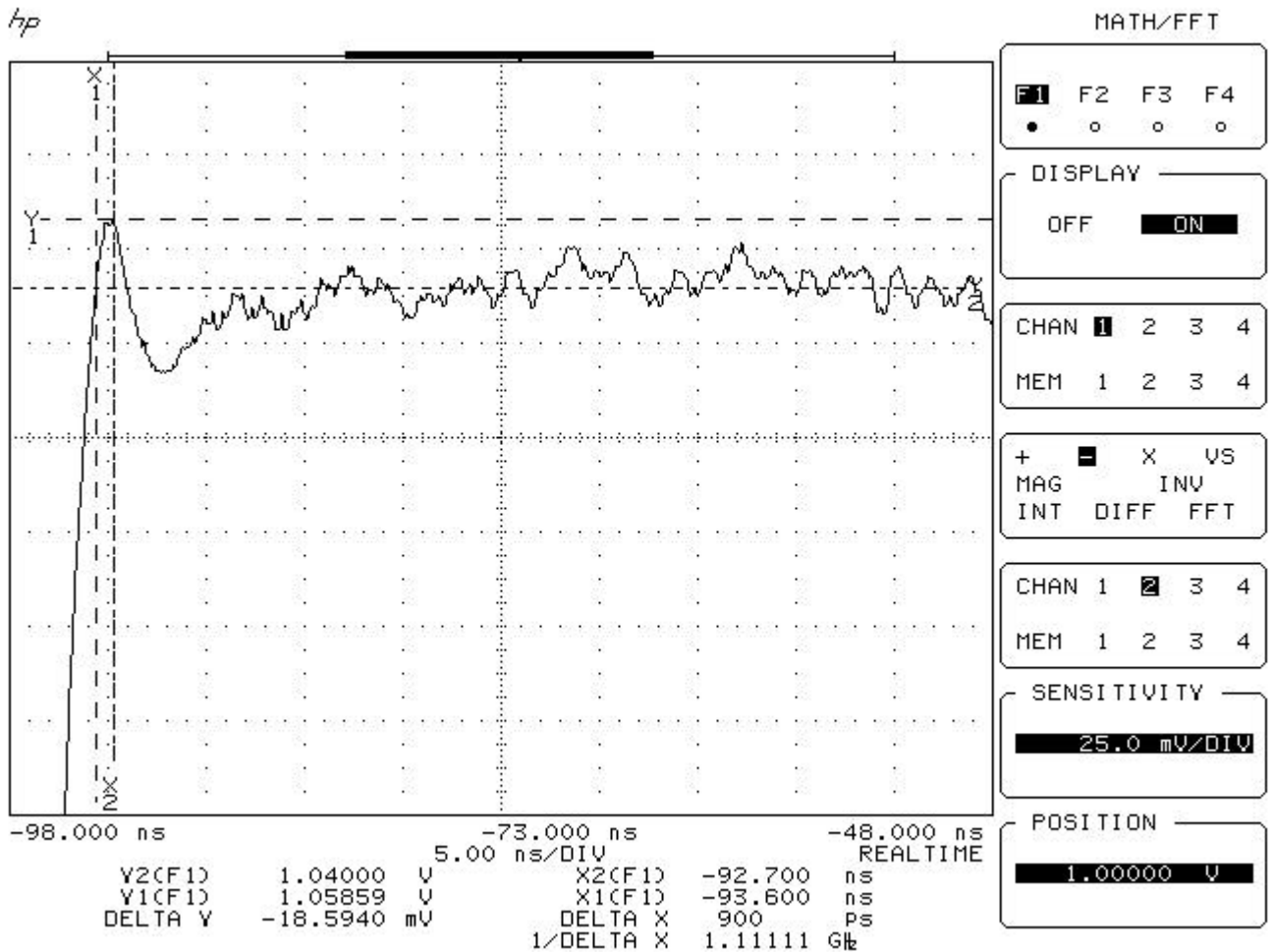
Fig. Series C  
Transmit Jitter



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## Waveform Overshoot

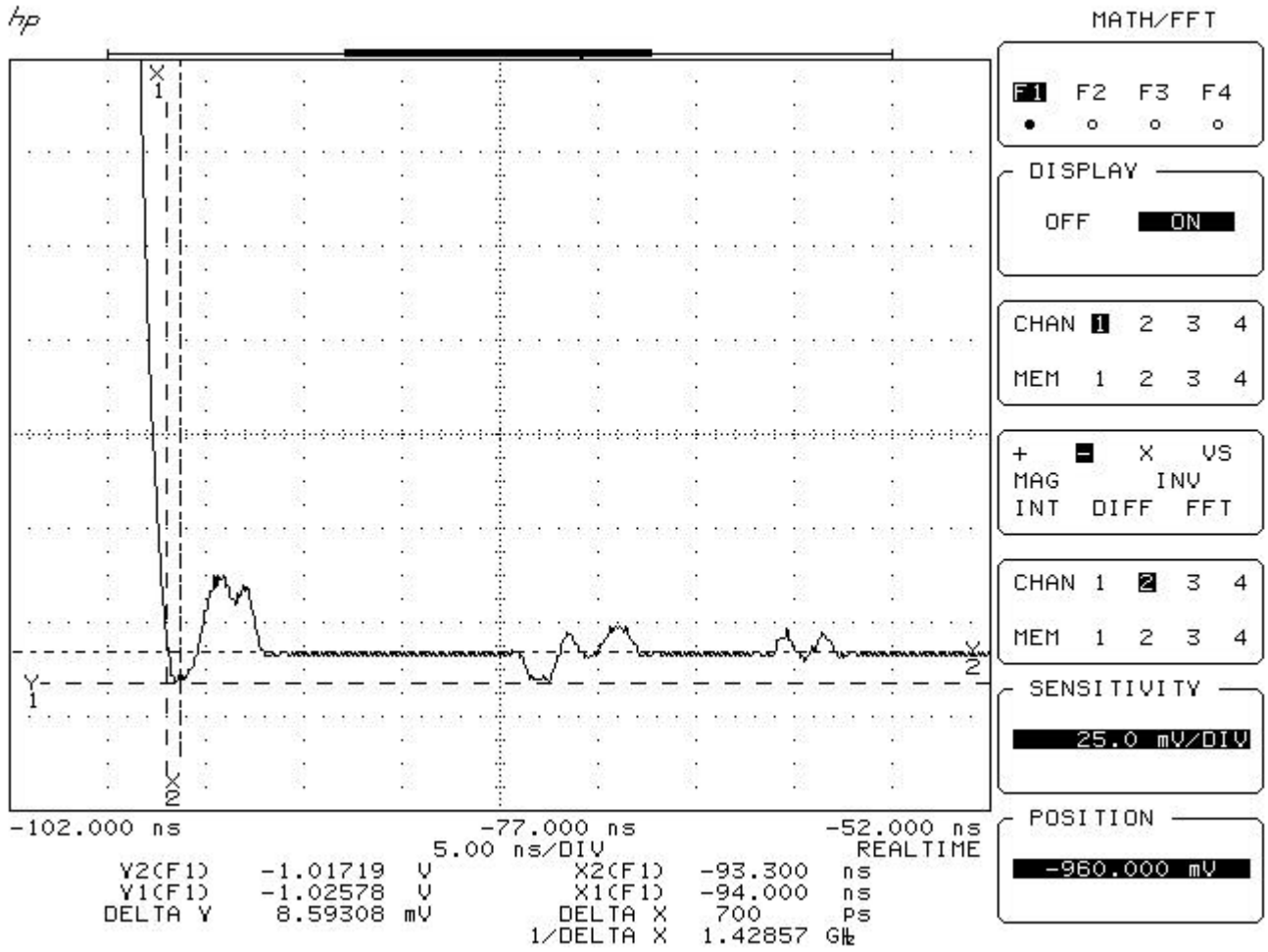
**Result:** PASS , +Vout overshoot < 1.81% , -Vout overshoot < 0.84%



**Fig. Series D1**  
**Excursion Beyond +Vout**



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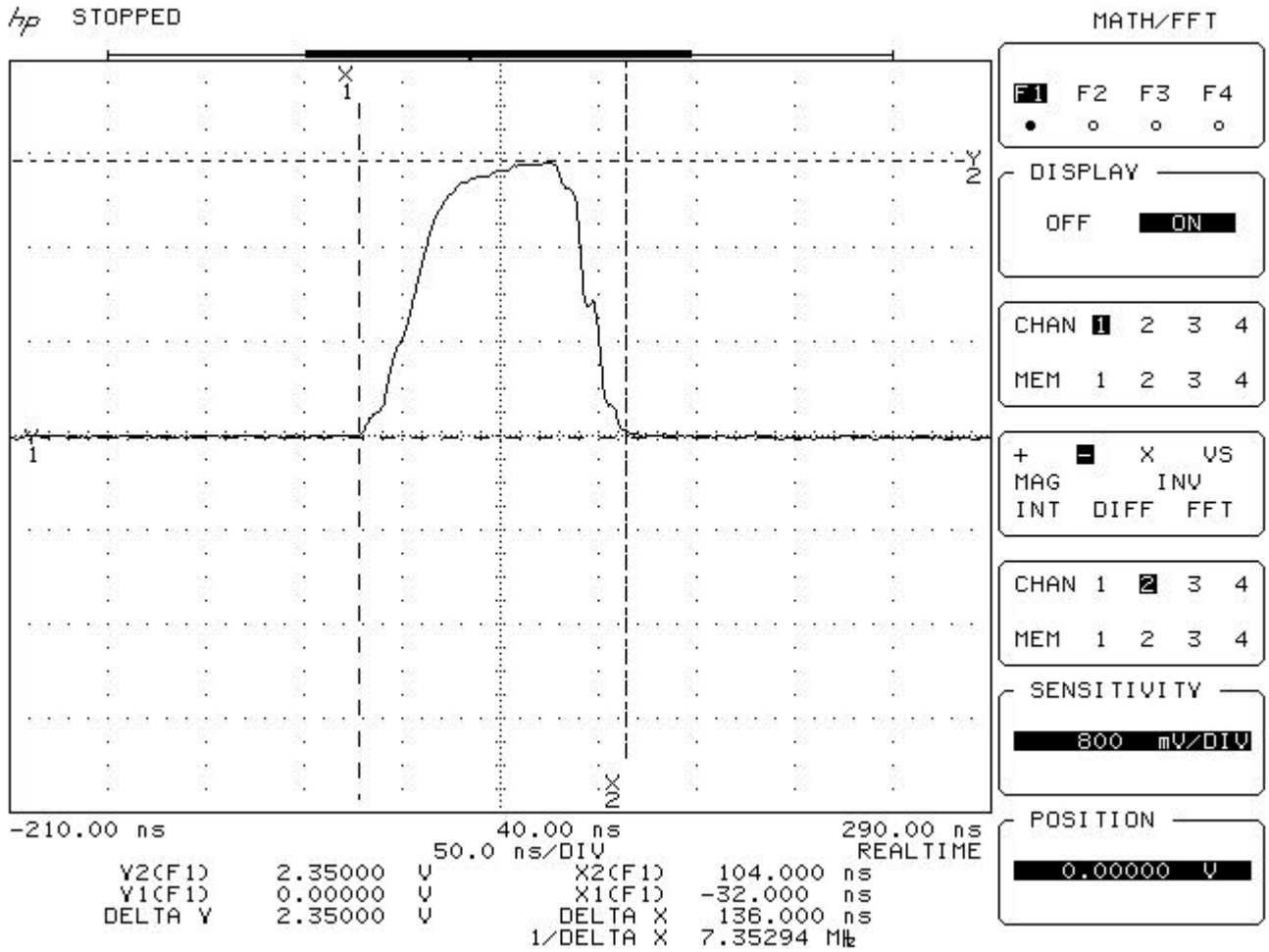
**Fig. Series D2**  
**Excursion Beyond -Vout**





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### 10 Base-T, Normal Link Pulse



**Fig. Series F**  
**10 Base-T, Normal Link Pulse**



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## 10Base-T Differential Output Template

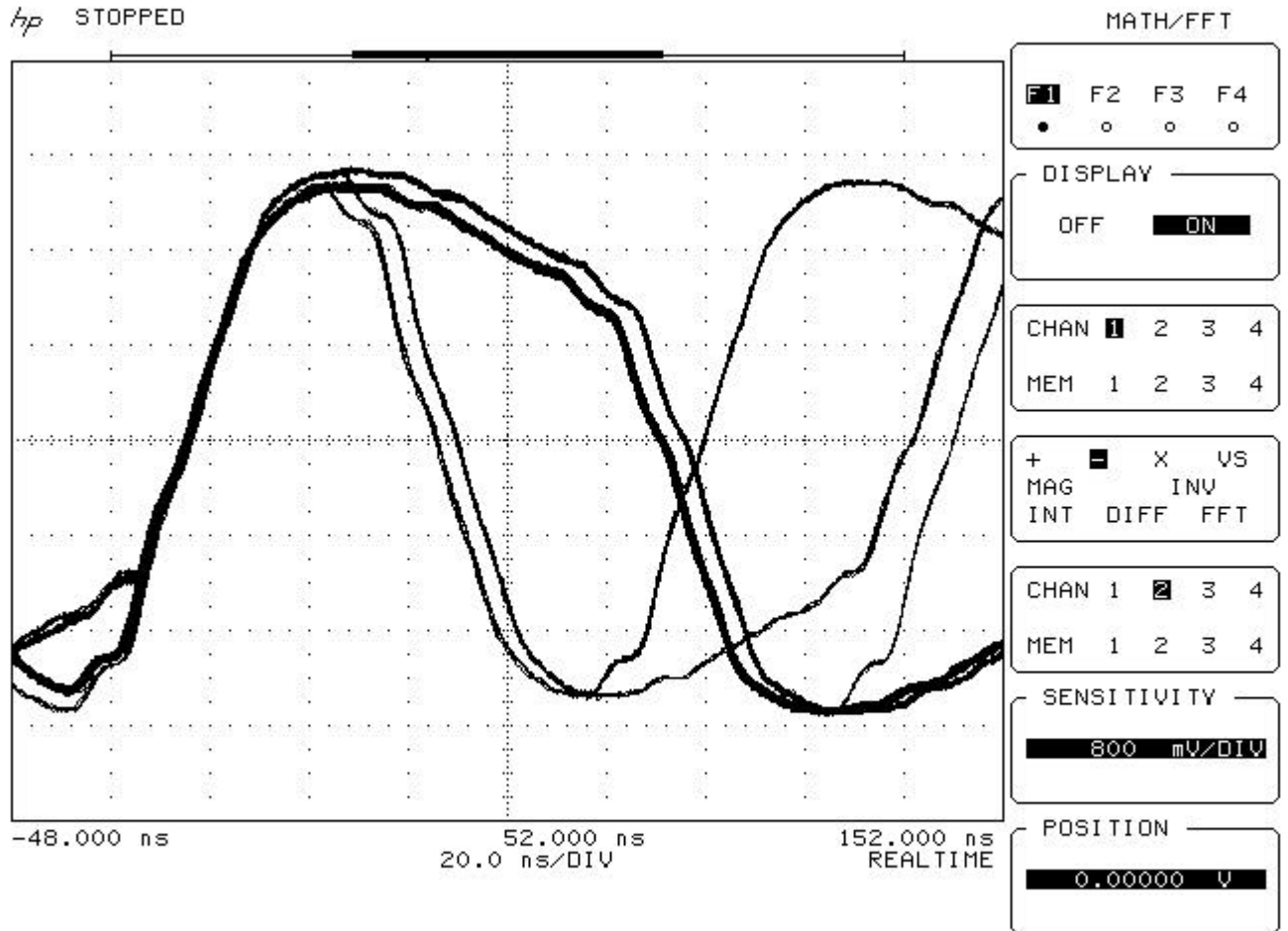


Fig. Series G1  
10 Base-T, +Vout Template



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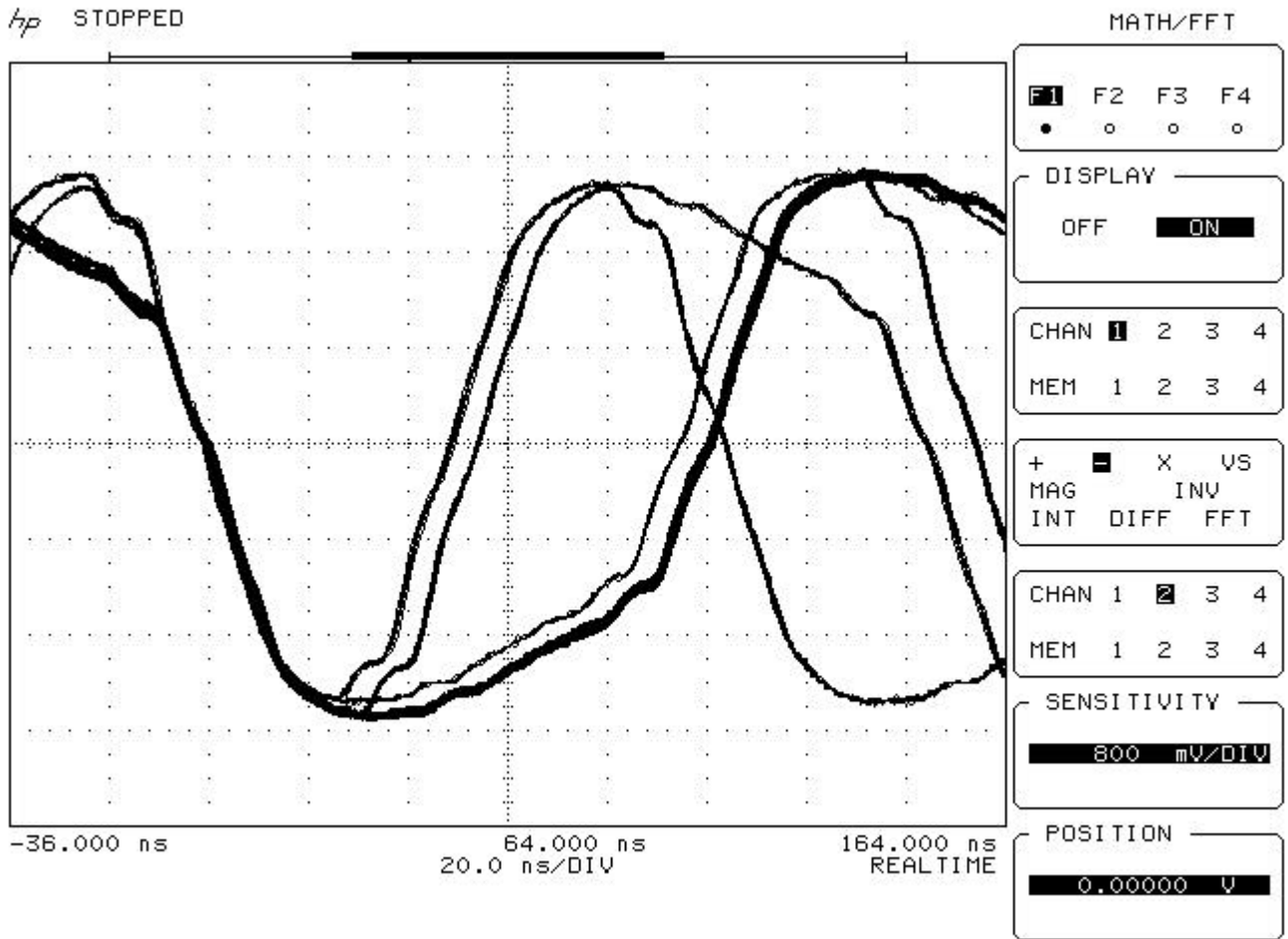
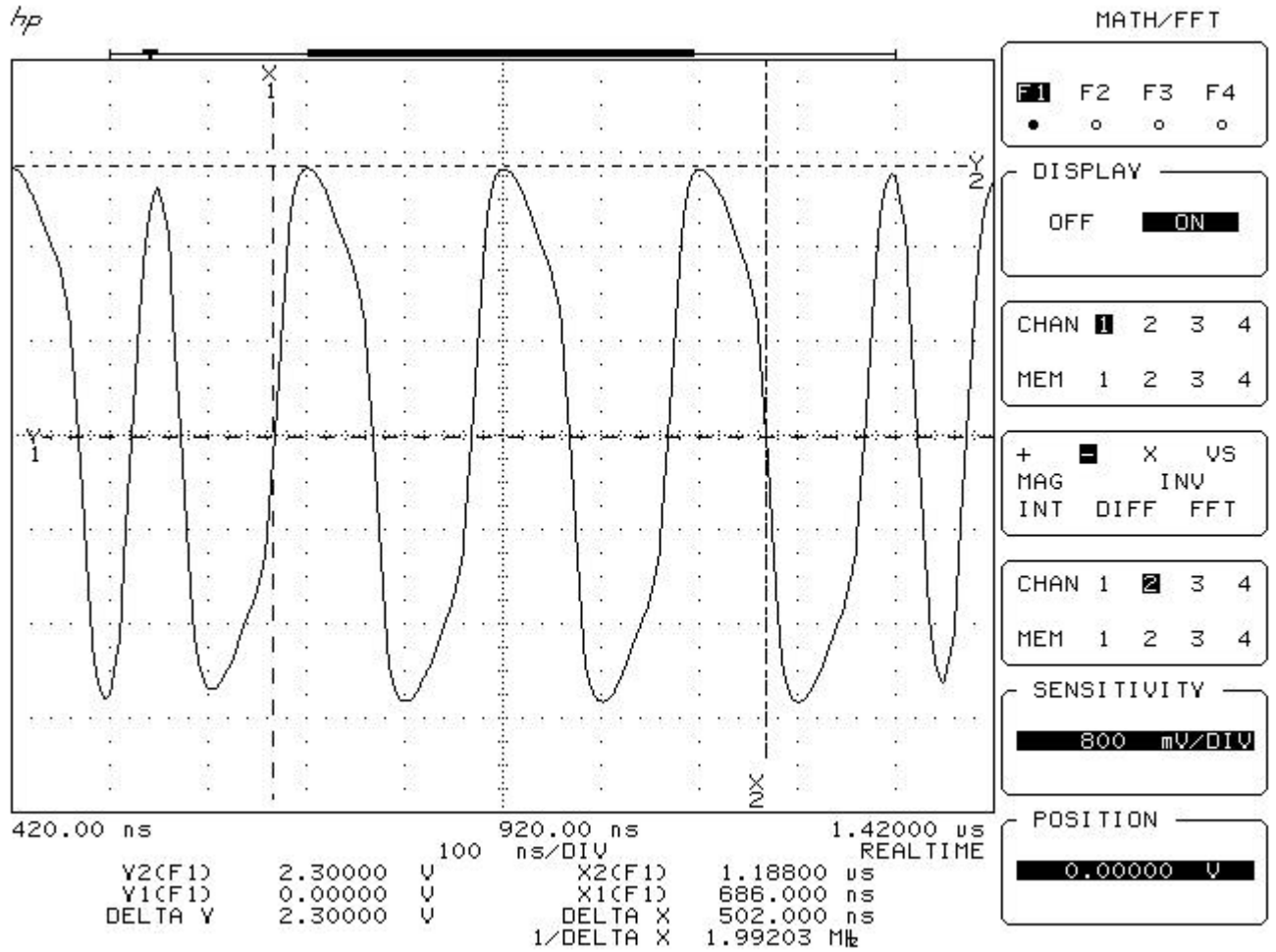


Fig. Series G2  
10 Base-T, -Vout Template



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**Fig. Series G3**  
**10 Base-T Differential Output**