

Memorandum M-1806

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Digital Computer Laboratory  
Massachusetts Institute of Technology  
Cambridge, Massachusetts

SUBJECT: PULSE TESTS OF THE RCA VICTOR FERRITE, XF-96

To: David R. Brown

From: Bronislaw Smulowicz

Date: January 22, 1953

Abstract: Results of a pulse test performed on the RCA Victor ferrite, XF-96, show satisfactory operation with a good selection ratio at approximately 2.1 oersteds.

The test was performed on a Model III pulse-tester at 1000 cps with a pulse-width of 10 microseconds. The current was varied from 1.80 to 2.70 ampere-turns, corresponding to a range of 1.9 to 2.9 oersteds, and the measurements were taken at the second peak of the waveform of the disturbed one.

The tabulated results show a wide range of satisfactory performance. The switching time is of the order of 1.5 microseconds. Although the peak of the disturbed one occurs rather early, the magnitude of the disturbed zero measured at the same instant is already negligible (less than two millivolts).

Signed Bronislaw Smulowicz  
Bronislaw Smulowicz

Approved DRB  
David R. Brown

BS/jk

Attached:

Magnetic Core Pulse Test Data Sheet

cc: Group 63 Staff  
W. N. Papian  
W. Ogden

MAGNETIC CORE PULSE TEST  
DATA SHEET

Core Material: RCA XF-96 ID: 0.282 cm Test Date: 1/22/53  
 Die: \_\_\_\_\_ OD: 0.490 cm Test Equip. Mod. III  
 Date of Firing: \_\_\_\_\_ h: 0.129 cm Tester B.S.  
 Serial No.: \_\_\_\_\_ Pulse Length: 10  $\mu$ s Pulse Rise Time: 0.20  $\mu$ s  
 Windings: 1 turn PRF: 2000 cps Selection Ratio: \_\_\_\_\_  
 \_\_\_\_\_ No. of Disturbs: 6 Temperature: \_\_\_\_\_ °C

$I_m$	$H_m$	$\tau$	$\tau_m$	$l_d$	$l$	$O_d$	$O_{dm}$				
(amp)	(oerst)	( $\mu$ sec)	( $\mu$ sec)	(v)	(v)	(v)	(v)				
1.80	1.90	1.6	0.6	0.38	0.38	--	0.1				
1.90	2.01	1.6	0.6	0.47	0.47	--	0.1				
2.00	2.12	1.5	0.6	0.62	0.62	--	0.15				
2.10	2.22	1.5	0.5	0.70	0.70	--	0.15				
2.20	2.32	1.4	0.5	0.76	0.78	--	0.15				
2.40	2.54	1.3	0.5	1.00	1.10	--	0.15				
2.50	2.64	1.2	0.5	1.00	1.20	--	0.20				
2.60	2.75	1.2	0.5	1.00	1.25	--	0.25				
2.70	2.86	1.1	0.5	1.00	1.30	0.1	0.30				

Remarks: \_\_\_\_\_  
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