



**AMERICAN MICROWAVE
CORPORATION**

TEST DATA

ON

MINIATURE, SLIM-LINE

1.0 TO 18.0 GHz

SP4T

REFLECTIVE, PIN DIODE SWITCH

MODEL No: SWS-118-4DR-HM

(Serial No: 4MS40639)

**BY
AMERICAN MICROWAVE
CORPORATION**

MAY 7, 1995

7311G GROVE ROAD, FREDERICK, MARYLAND 21701 • Tel. (301) 662-4700 • Fax (301) 662-4938

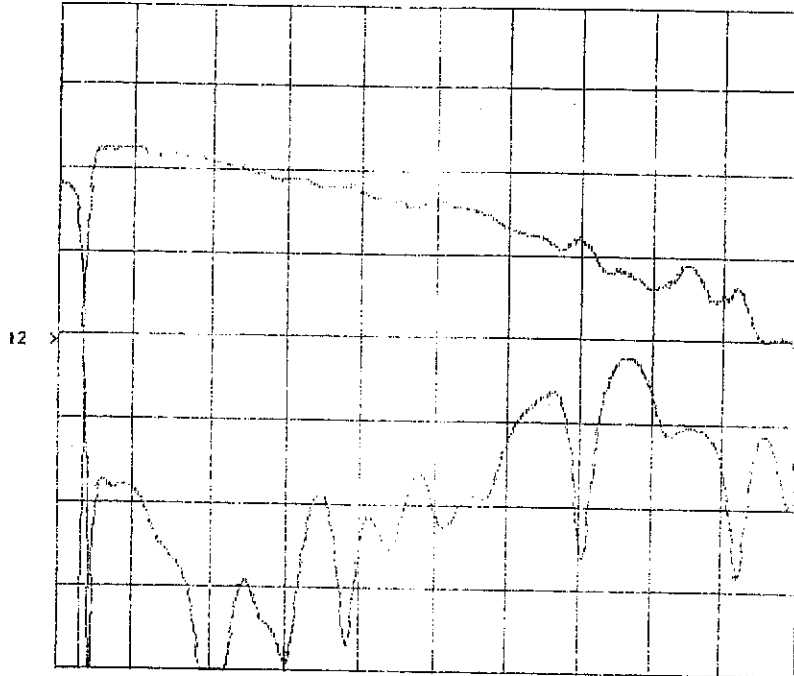
SUMMARY TEST DATA



- MODEL No. : SWS-118-4DR-HM
- SERIAL No. : 4MS40639
- TECHNICIAN : RENE AFABLE
- VOLTAGE & CURRENT DRAW : + 5vdc @ 140mA, - 15vdc @ 55mA
- PAGE : 3

INSERTION LOSS vs VSWR J0 TO J1

CH1: A -M - 3.05 dB CH2: B -M - 16.88 dB
 1.0 dB/ REF - 3.00 dB 5.0 dB/ REF - 9.54 dB



STRT + .0100GHz CRSR +18.000GHz STOP +18.000GHz

TYPICAL MEASUREMENTS FOR ALL ARMS:

FREQUENCY	INSERTION LOSS	RETURN LOSS
1.0 GHz	0.8 dB	19.54 dB
2.0 GHz	0.8 dB	17.50 dB
4.0 GHz	0.9 dB	29.54 dB
6.0 GHz	1.1 dB	24.54 dB
8.0 GHz	1.3 dB	22.00 dB
10.0 GHz	1.5 dB	19.50 dB
12.0 GHz	1.8 dB	12.54 dB
14.0 GHz	2.3 dB	11.00 dB
16.0 GHz	2.5 dB	14.90 dB
18.0 GHz	3.05 dB	16.88 dB

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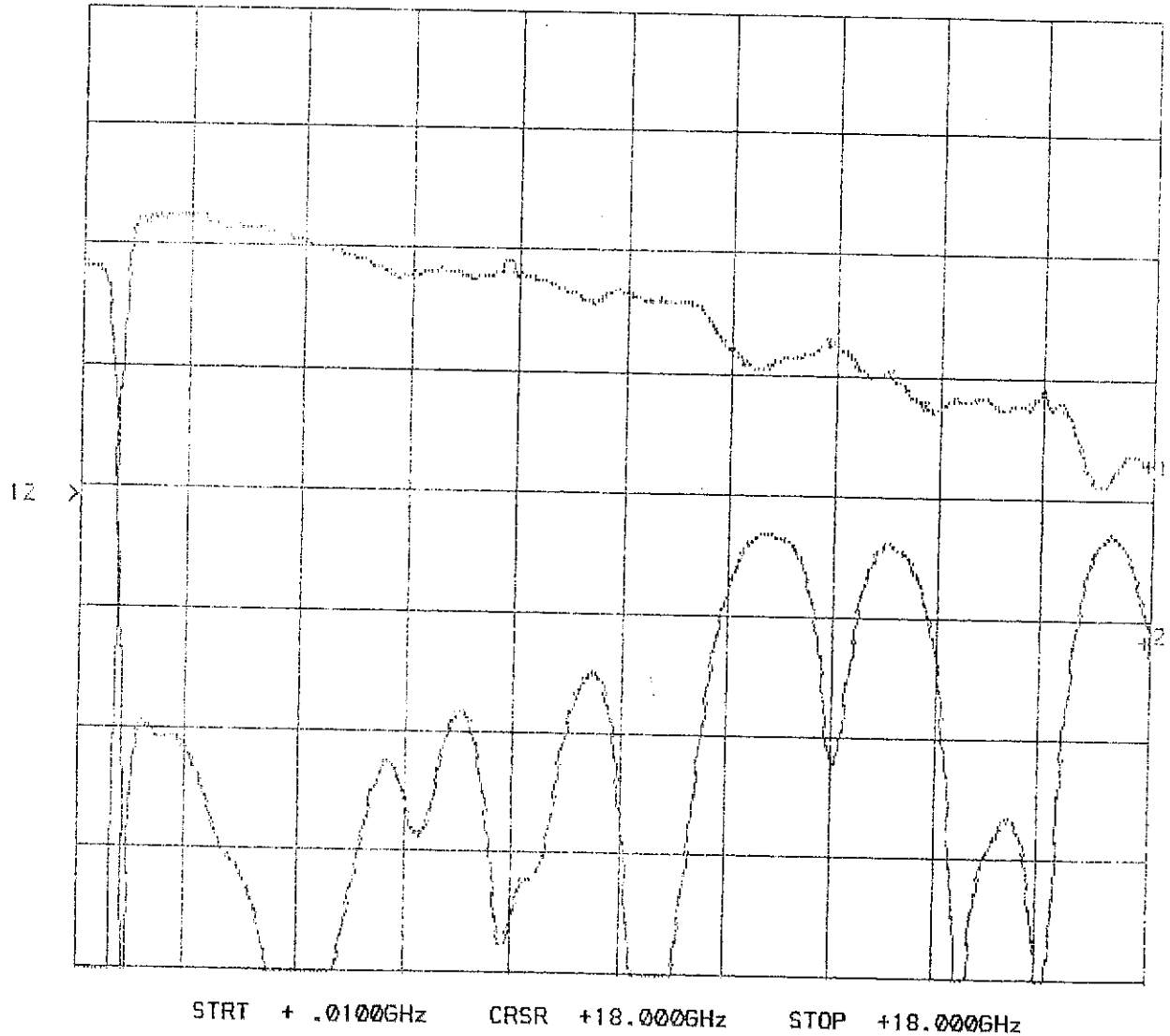
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- PAGE : 4

INSERTION LOSS vs VSWR J0 TO J2

CH1: A -M - 2.72 dB CH2: B -M - 15.57 dB
1.0 dB/ REF - 3.00 dB 5.0 dB/ REF - 9.54 dB



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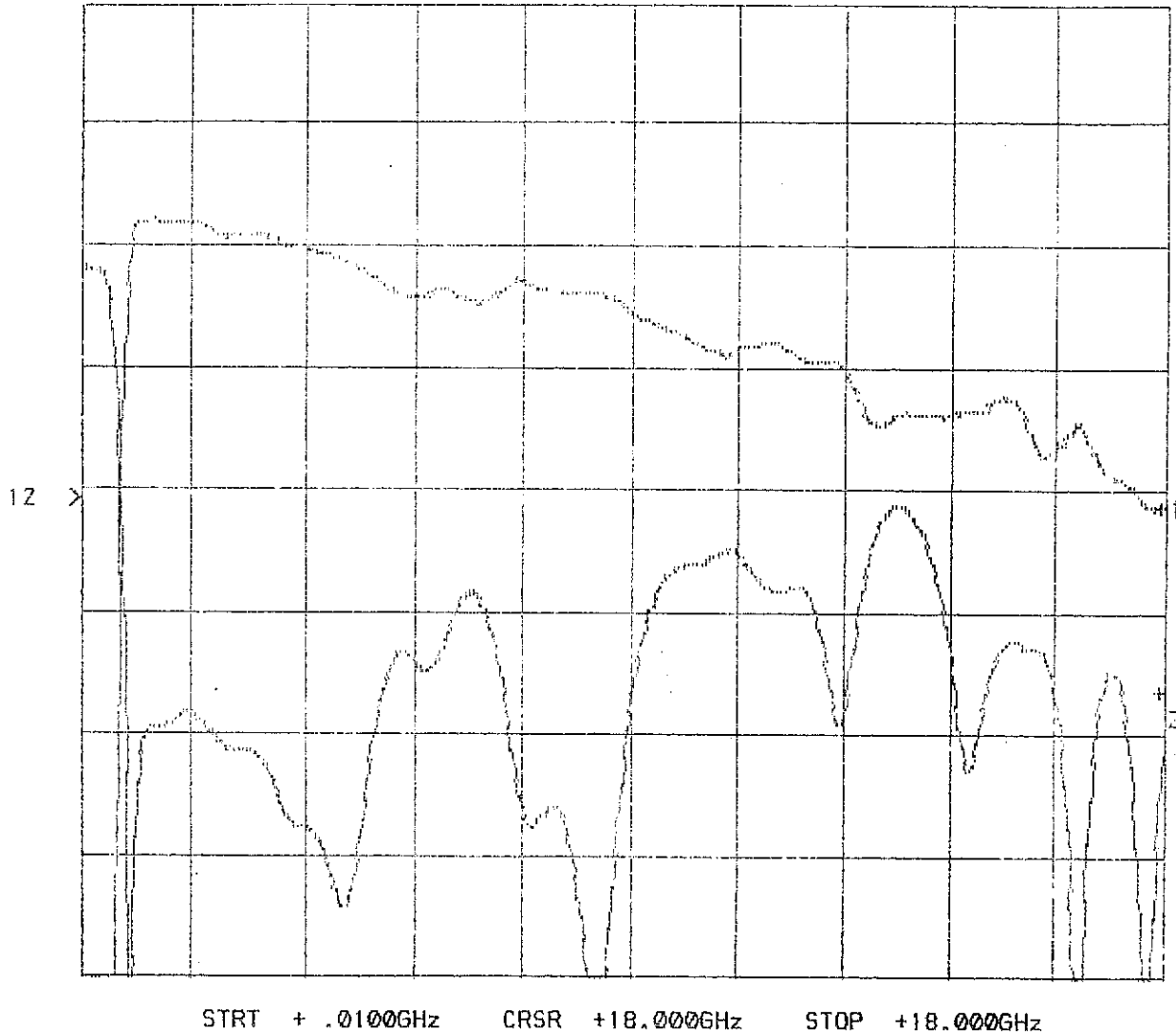
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- PAGE : 5

INSERTION LOSS vs VSWR J0 TO J3

CH1: A -M - 3.15 dB CH2: B -M - 17.79 dB
1.0 dB/ REF - 3.00 dB 5.0 dB/ REF - 9.54 dB



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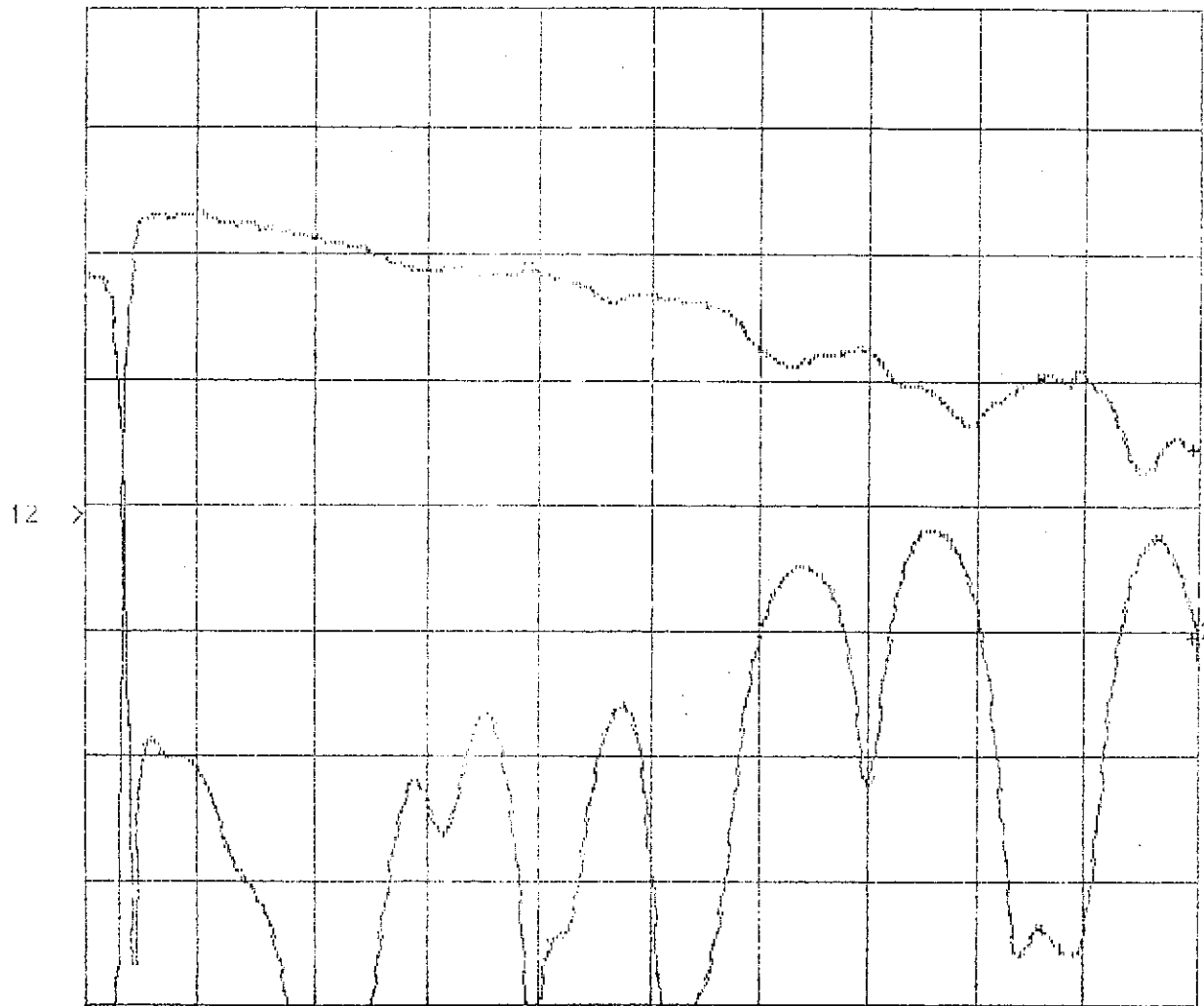
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INSERTION LOSS vs VSWR J0 TO J4

CH1: A -M - 2.55 dB CH2: B -M - 14.87 dB
1.0 dB/ REF - 3.00 dB 5.0 dB/ REF - 9.54 dB



STRT + .0100GHz CRSR +18.000GHz STOP +18.000GHz

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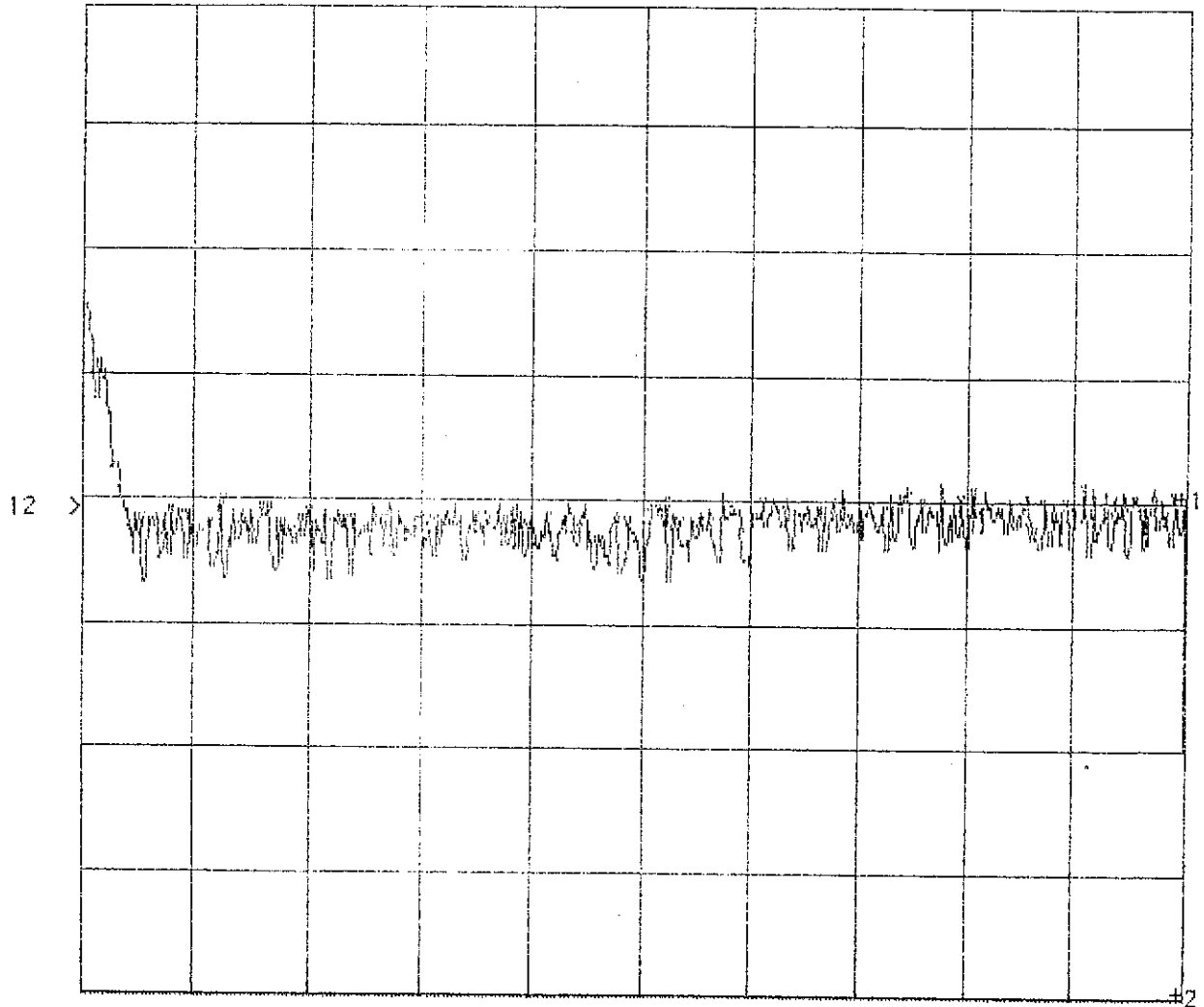
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- PAGE : 7

ISOLATION J0 TO J1

CH1: A -M - 58.89 dB CH2: B -M - 44.54 dB
20.0 dB/ REF - 60.00 dB 5.0 dB/ REF - 9.54 dB



STRT + .0100GHz CRSR +18.000GHz STOP +18.000GHz

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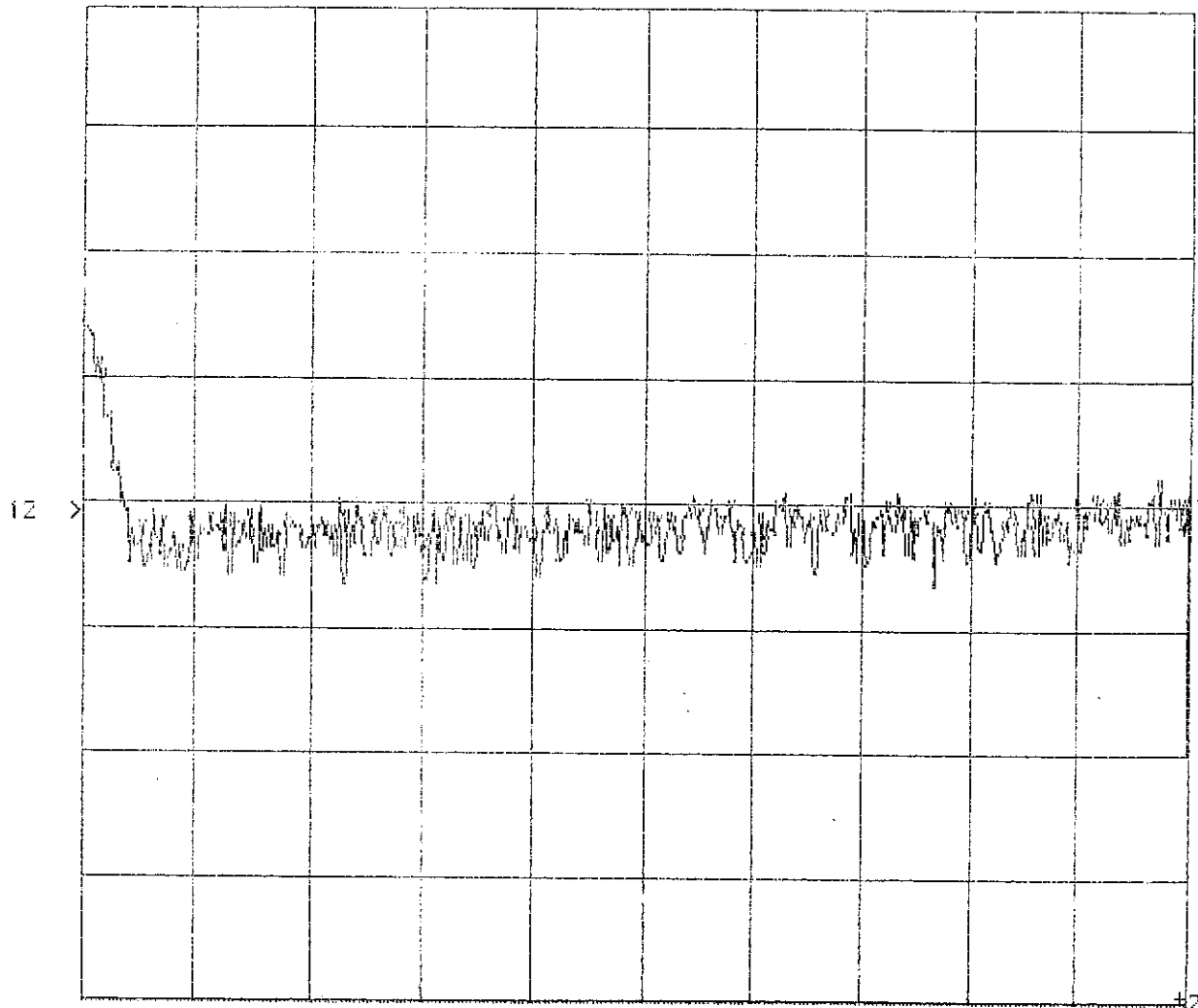
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ISOLATION J0 TO J2

CH1: A -M - 63.61 dB CH2: B -M - 49.73 dB
20.0 dB/ REF - 60.00 dB 5.0 dB/ REF - 9.54 dB



STRT + .0100GHz CRSR +18.000GHz STOP +18.000GHz

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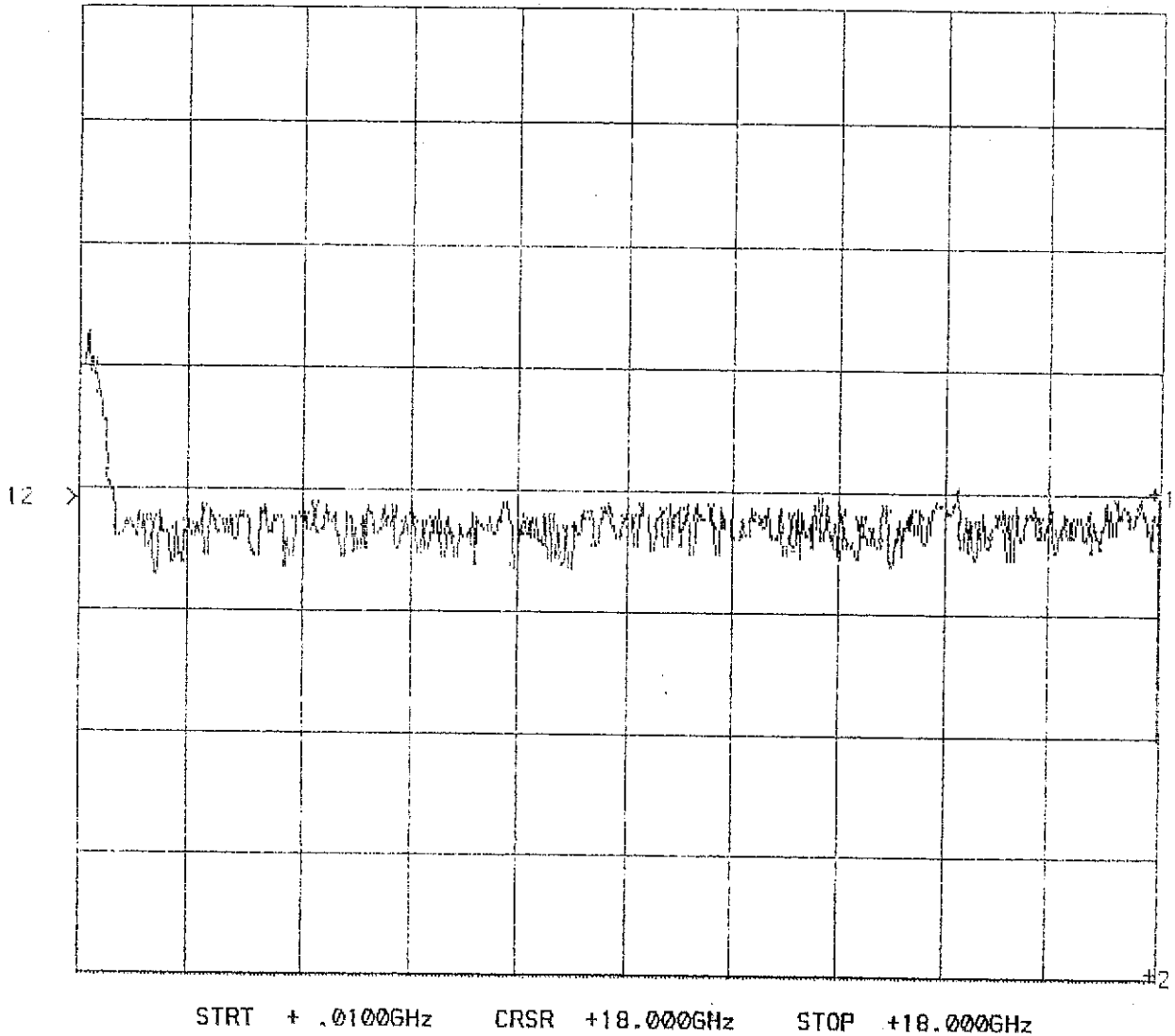
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ISOLATION J0 TO J3

CH1: A -M - 60.13 dB CH2: B -M - 48.15 dB
20.0 dB/ REF - 60.00 dB 5.0 dB/ REF - 9.54 dB



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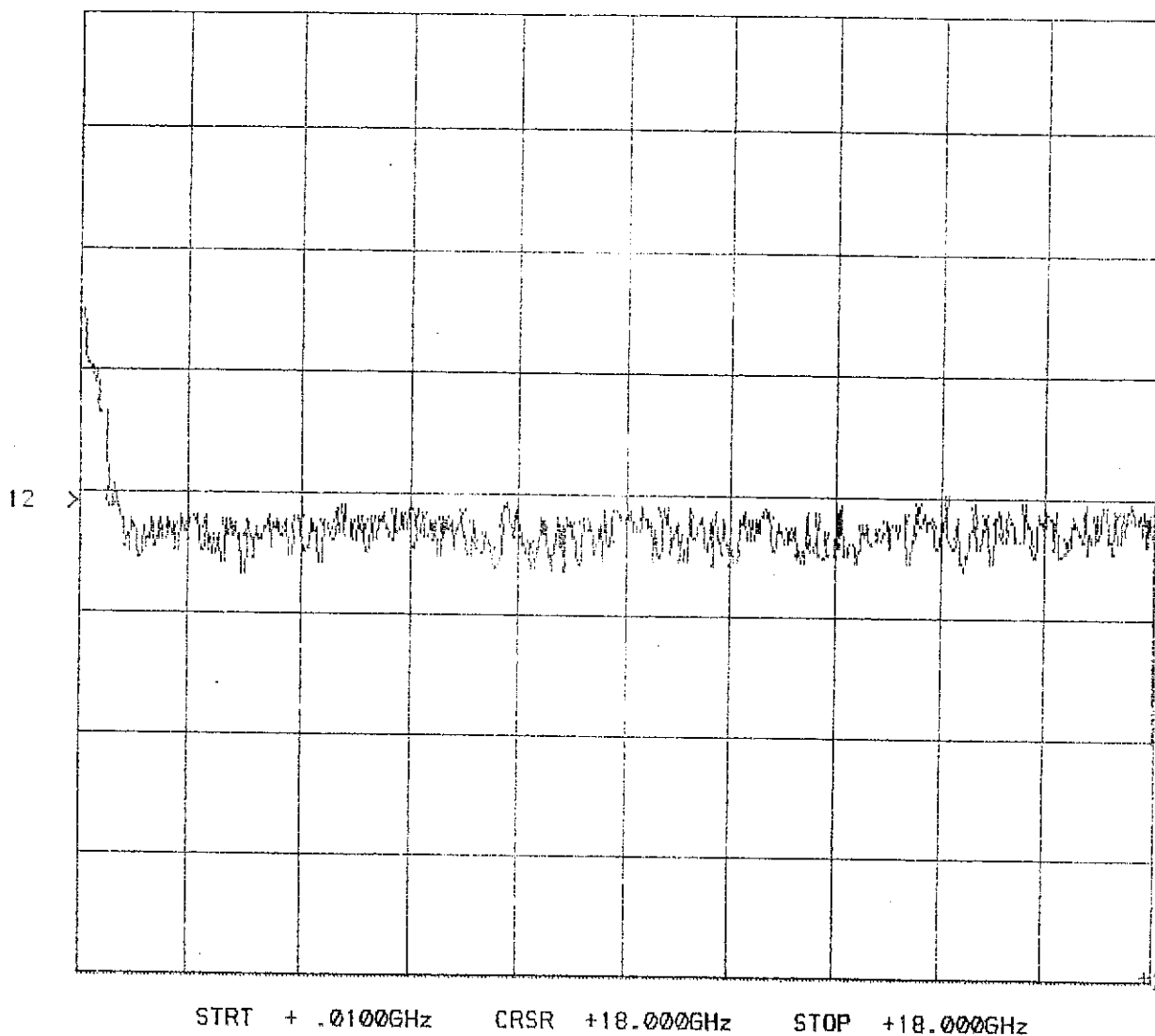
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ISOLATION J0 TO J4

CH1: A -M - 64.36 dB CH2: B -M - 49.14 dB
20.0 dB/ REF - 60.00 dB 5.0 dB/ REF - 9.54 dB



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ISOLATION AS MEASURED ON A SPECTRUM ANALYSER

FREQUENCY	J0-J1	J0-J2	J0-J3	J0-J4
0.3 GHz	66dB	68dB	66dB	66dB
0.5 GHz	68dB	66dB	66dB	65dB
1.0 GHz	82dB	82dB	82dB	80dB
2.0 GHz	> 90dB	> 90dB	> 92dB	> 90dB
4.0 GHz	88dB	90dB	90dB	90dB
6.0 GHz	90dB	90dB	90dB	90dB
8.0 GHz	86dB	76dB	74dB	74dB
10.0 GHz	86dB	84dB	88dB	82dB
12.0 GHz	86dB	84dB	74dB	80dB
14.0 GHz	80dB	80dB	80dB	82dB
16.0 GHz	78dB	80dB	78dB	80dB
18.0 GHz	78dB	78dB	70dB	74dB

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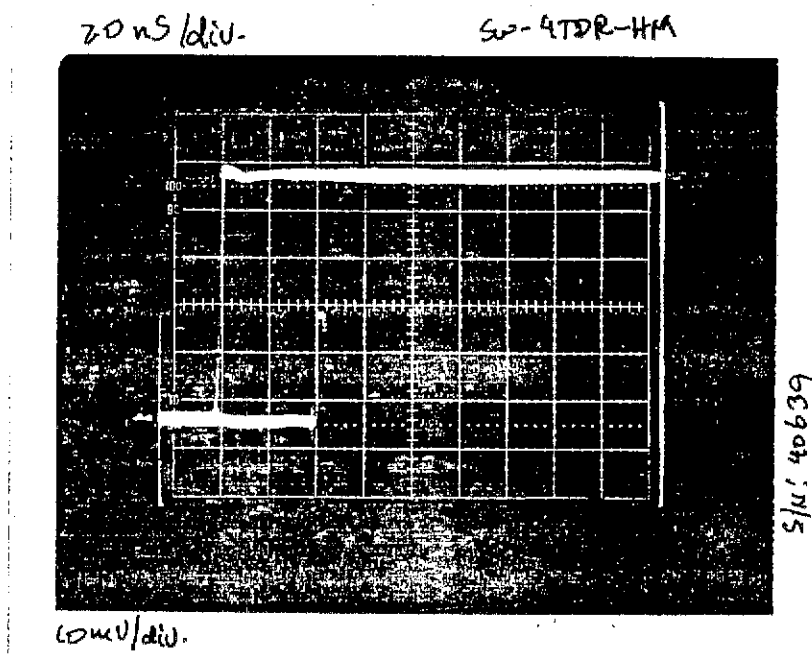
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- PAGE : 12

SWITCHING SPEED

10nS PER DIVISION

(Typical Results For All Arms)

DELAY ON: 48nS RISE: 8nS
(50%TTL to 90%RF) (10%RF to 90%RF)



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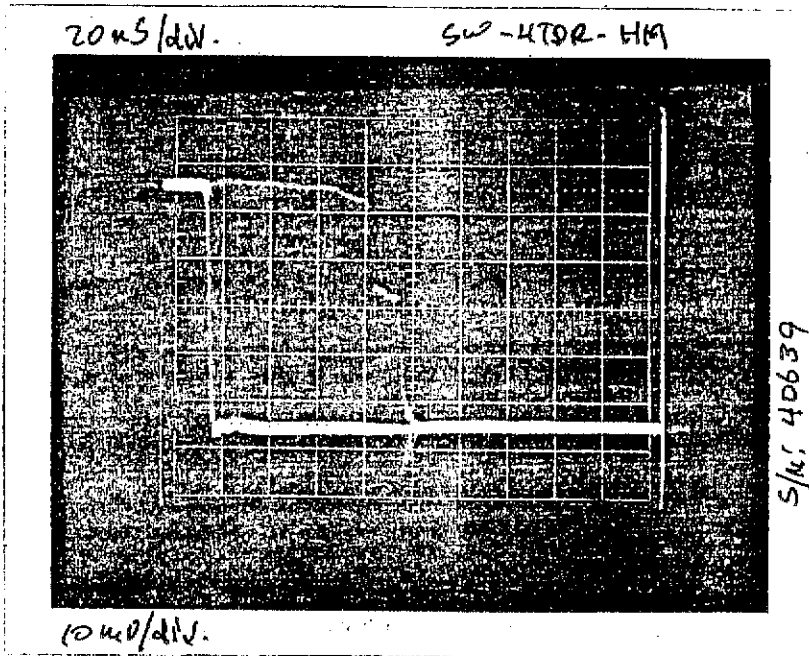
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SWITCHING SPEED 10nS PER DIVISION (Typical Results For All Arms)

DELAY OFF: 80nS FALL: 20nS
(50% TTL to 10% RF) (90%RF to 10%RF)



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SUMMARY TEST DATA

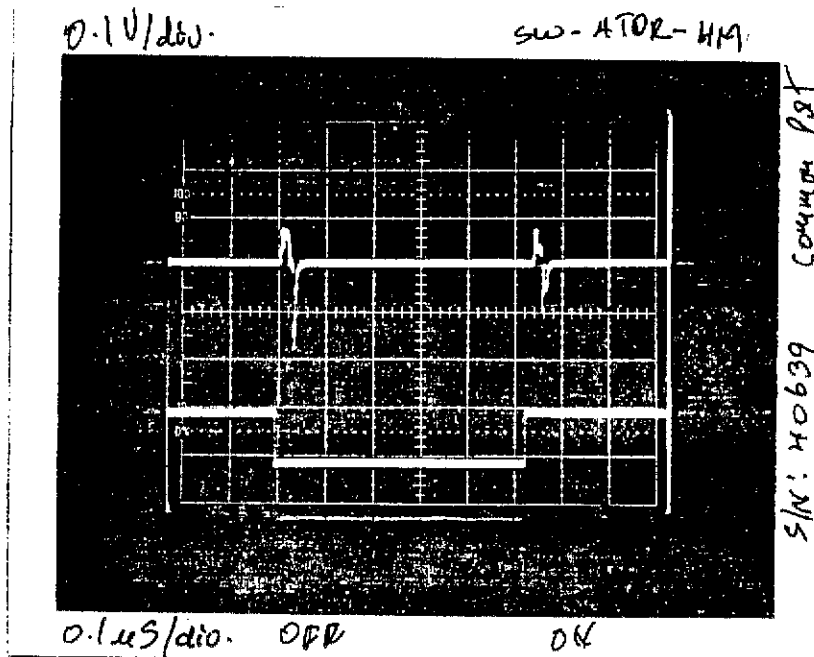


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VIDEO TRANSIENTS COMMON ARM

Vertical Scale:
0.1volt/Division

Horizontal Scale:
0.1 μ S/Division



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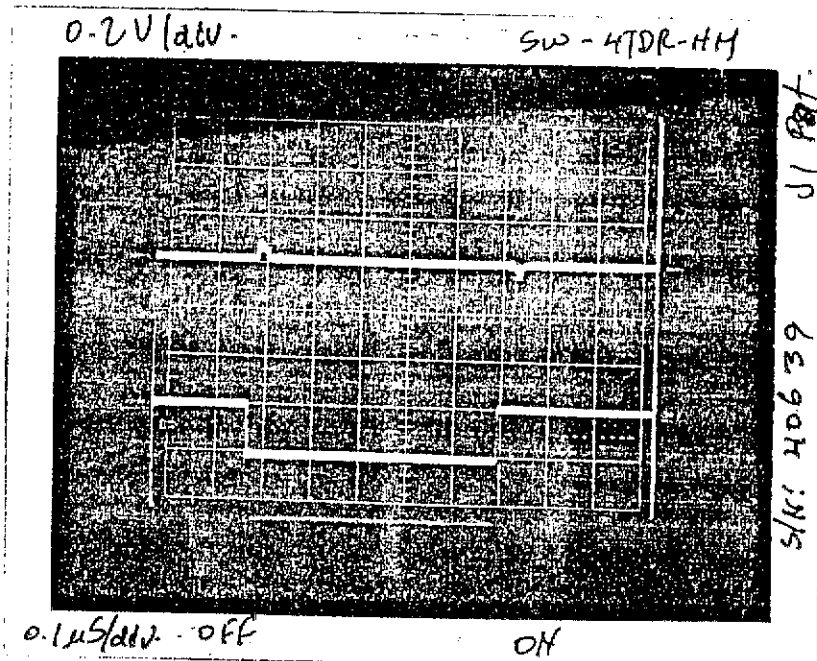


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VIDEO TRANSIENTS TYPICAL ALL ARMS

Vertical Scale:
0.2volt/Division

Horizontal Scale:
0.1 μ S/Division



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