

PROOF OF PERFORMANCE MEASUREMENTS

WRSU-FM

Call Letters

Board of Governors
Rutgers-the State University
Partnership, Company or
Corporate Name

New Brunswick, New Jersey, 08903
City State Zip

January 6, 1975
Date

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ENGINEER'S STATEMENT

This is to certify that the data contained within this Proof of Performance report is as factual and accurate as the present state of the art permits. It is further attested that the measurements were conducted on the 6th day of January, 1975, using the broadcast facilities of WRSU-FM, New Brunswick, N.J. between the hours of 3:00 AM and 5:45 AM in accordance with the applicable rules and regulations.

Engineer  Mark A. Harris

License number P1-2-32425

Expires June 7, 1978

EQUIPMENT LIST

ITEM	MAKE	TYPE	SERIAL/CALIBRATION
AUDIO GEN	<u>B&W</u>	<u>210</u>	<u>S/N 4139</u>
GAIN SET	<u>Gates</u>	<u>M 3625</u>	
MOD. MONITOR	<u>Belar</u>	<u>FMM-1</u>	<u>S/N 101875</u>
N/D METER	<u>B&W</u>	<u>410</u>	<u>S/N 4437</u>
SCOPE	<u>RCA</u>	<u>WO-91B</u>	<u>S/N 25531</u>
Stereo Monitor	<u>Belar</u>	<u>FMS-1</u>	<u>S/N 201662</u>
<u>Console</u>	<u>Gates</u>	<u>M 61531</u>	<u>S/N 73-9934-013</u>
<u>AGC Amp.</u>	<u>Gates</u>	<u>Solid Statesman</u>	<u>S/N's 73-7800-004</u> <u>73-7800-022</u>
<u>Limiter</u>	<u>Gates</u>	<u>Solid Statesman</u>	<u>S/N's 73-9936-039</u> <u>73-9936-042</u>

PROCEDURE

System gain was maintained as used in normal programming. Any AGC, Limiter, or Clipper circuits were either disabled or patched out.

A 10 dB correction factor was used to allow for the sine vs. complex peak difference. The mic input level was approximately -50 dBm.

Standard good engineering practices were used in making the tests. The last calibration date for each piece of test gear is listed on page 3. Therefore, the data contained herein is believed to be quite accurate.

Distortion measurements were made at the applicable modulation level, ie: 25%, 100% etc. Response is listed as a departure from the ideal directly in dB.

Measurements were made with the monitors located at the transmitter site and not using the studio RF amplifier where employed.

SYSTEM RESPONSE DATA (FM)

FREQ. LEFT RIGHT MONO

100% MODULATION

50	0	0	
100	-1	-.75	
400	-.95	-.7	
1000	-.15	-.15	
2500	+.05	+.05	
5000	0	+.5	
7500	+.05	+.3	
10000	+.4	+.15	
15000	-.1	+.65	

50% MODULATION

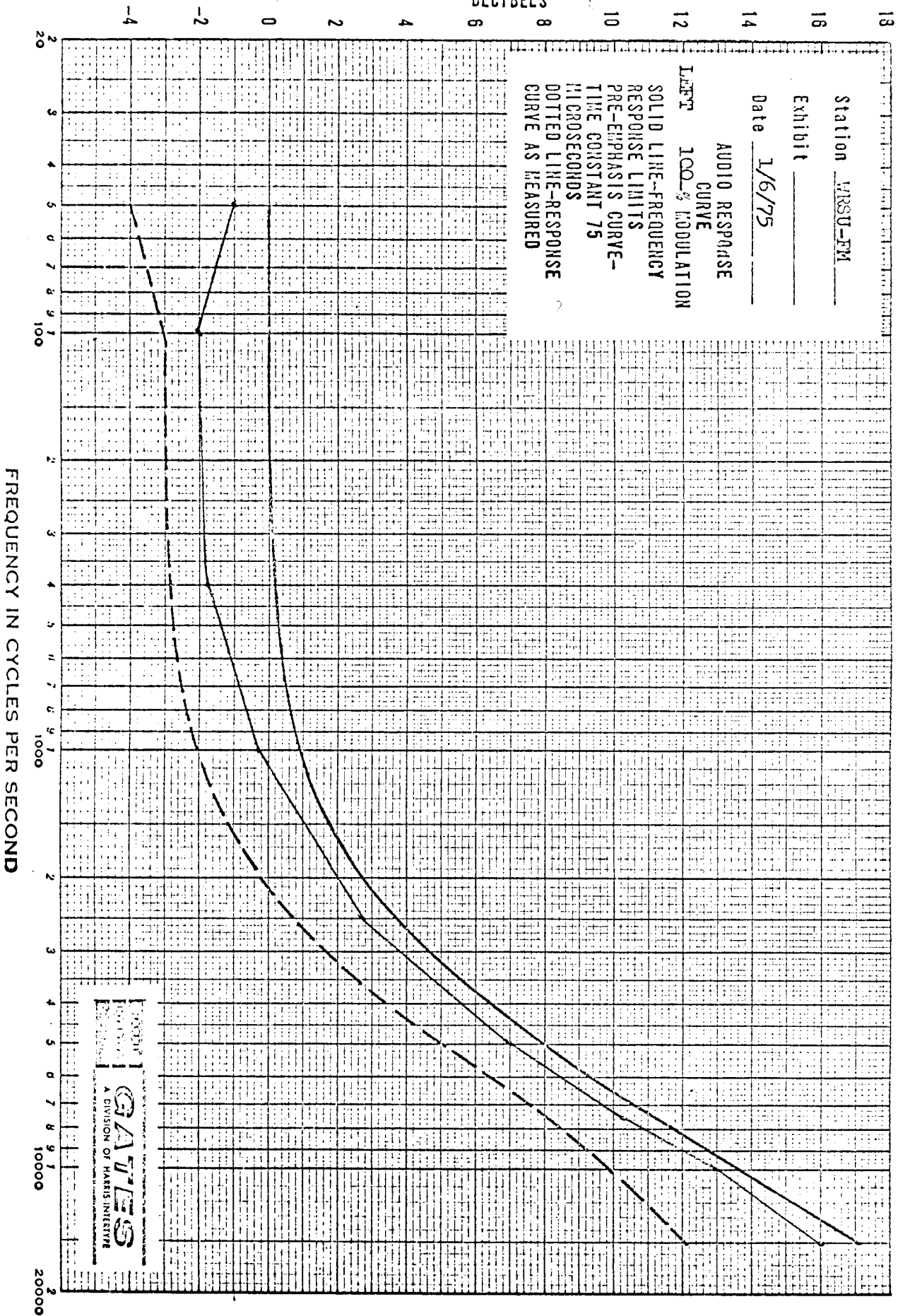
50	0	0	
100	-.5	-.5	
400	-.45	-.8	
1000	-.15	-.15	
2500	+.05	+.05	
5000	+.5	+.25	
7500	+.05	+.05	
10000	+.4	+.15	
15000	+.4	+.15	

25% MODULATION

50	0	0	
100	-.75	-.5	
400	-.7	-.45	
1000	-.3	-.3	
2500	+.05	+.3	
5000	+.5	+.25	
7500	+.3	+.3	
10000	+.65	+.9	
15000	+1.15	+1.4	

XXXX

DECIBELS



XXX

DECIBELS

18
16
14
12
10
8
6
4
2
0
-2
-4

Station WNSU-FM

Exhibit

Date 1/6/75

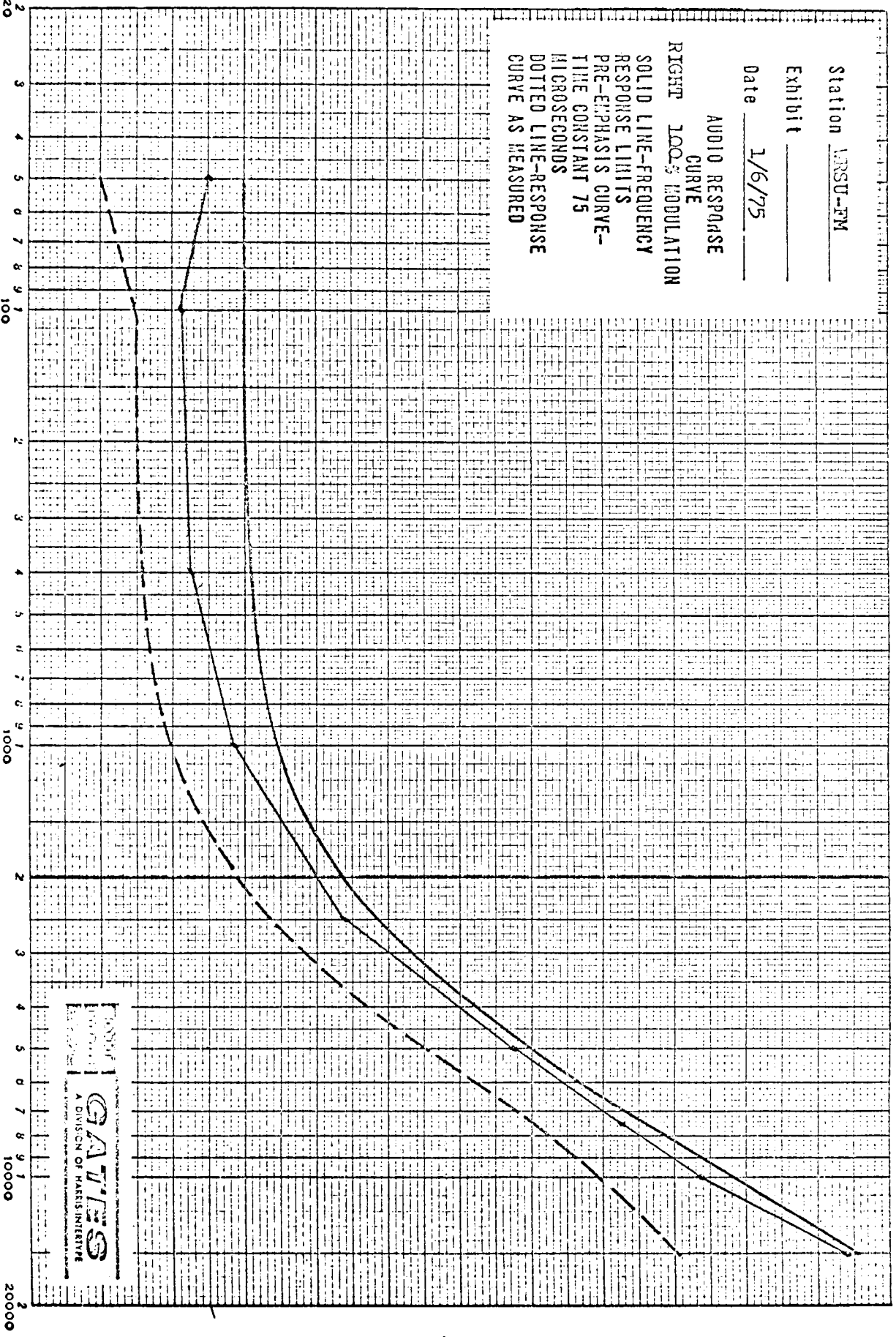
AUDIO RESPONSE
CURVE

RIGHT 100% MODULATION

SOLID LINE-FREQUENCY
RESPONSE LIMITS

PRE-EMPHASIS CURVE-
TIME CONSTANT 75
MICROSECONDS

DOTTED LINE-RESPONSE
CURVE AS MEASURED



MOORE GATES
A DIVISION OF HARTS INITIATIVE

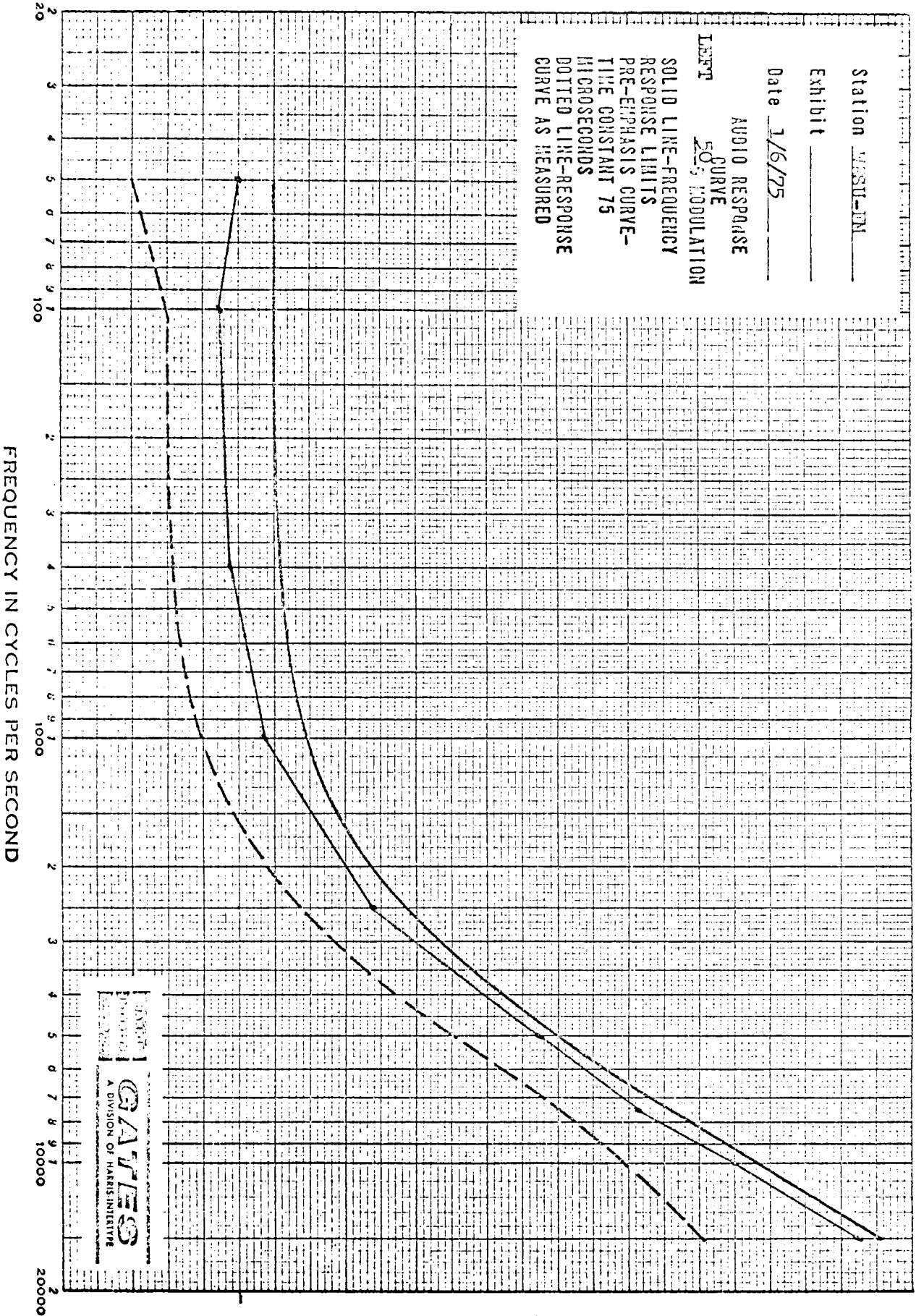
DECIBELS
9 8

Station WASU-FM
Exhibit _____
Date 1/6/75

AUDIO RESPONSE

LEFT 50 POINTS MODULATION

**SOLID LINE-FREQUENCY
RESPONSE LIMITS
PRE-EMPHASIS CURVE-
TIME CONSTANT 75
MICROSECONDS
DOTTED LINE-RESPONSE
CURVE AS MEASURED**

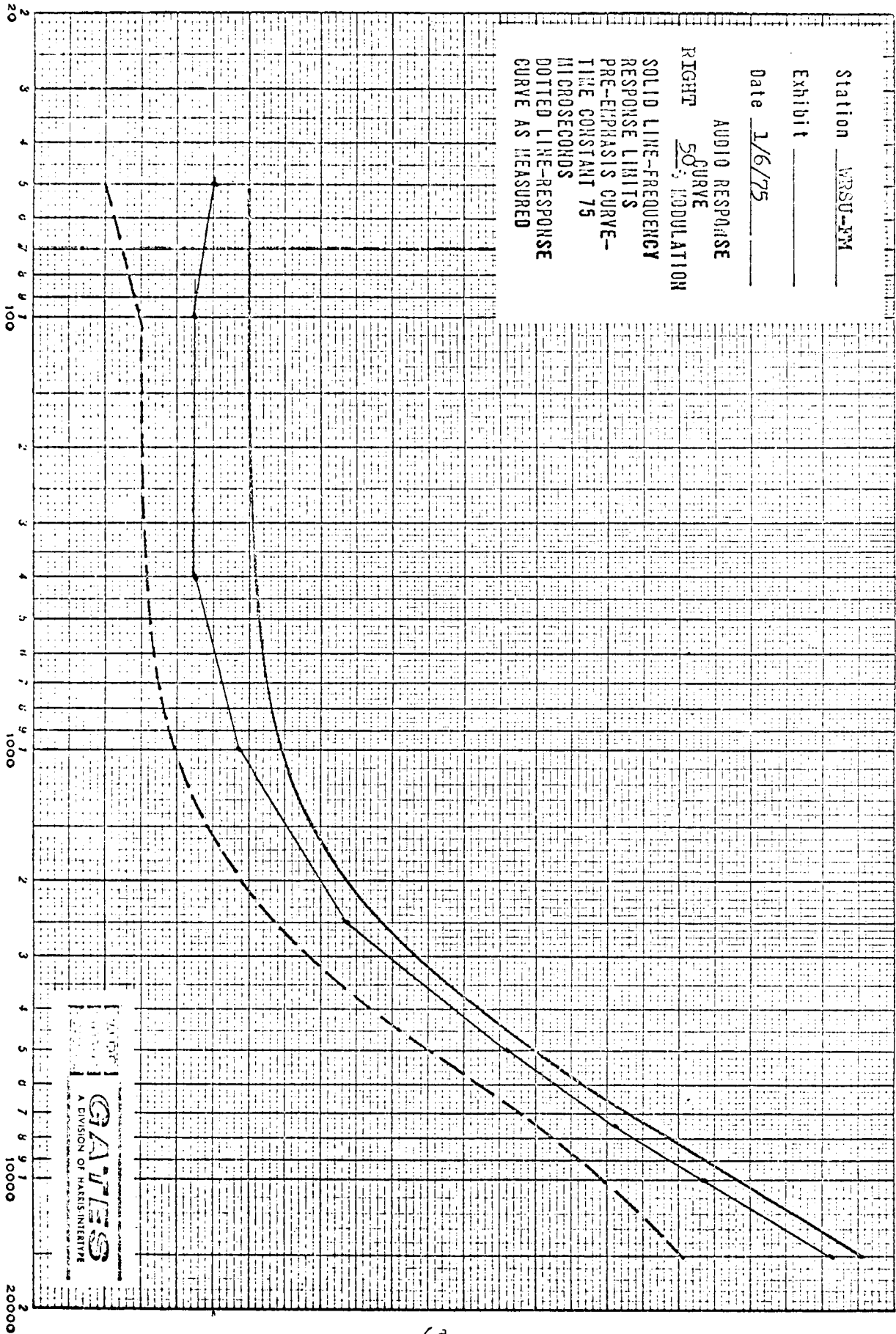


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DECIBELS

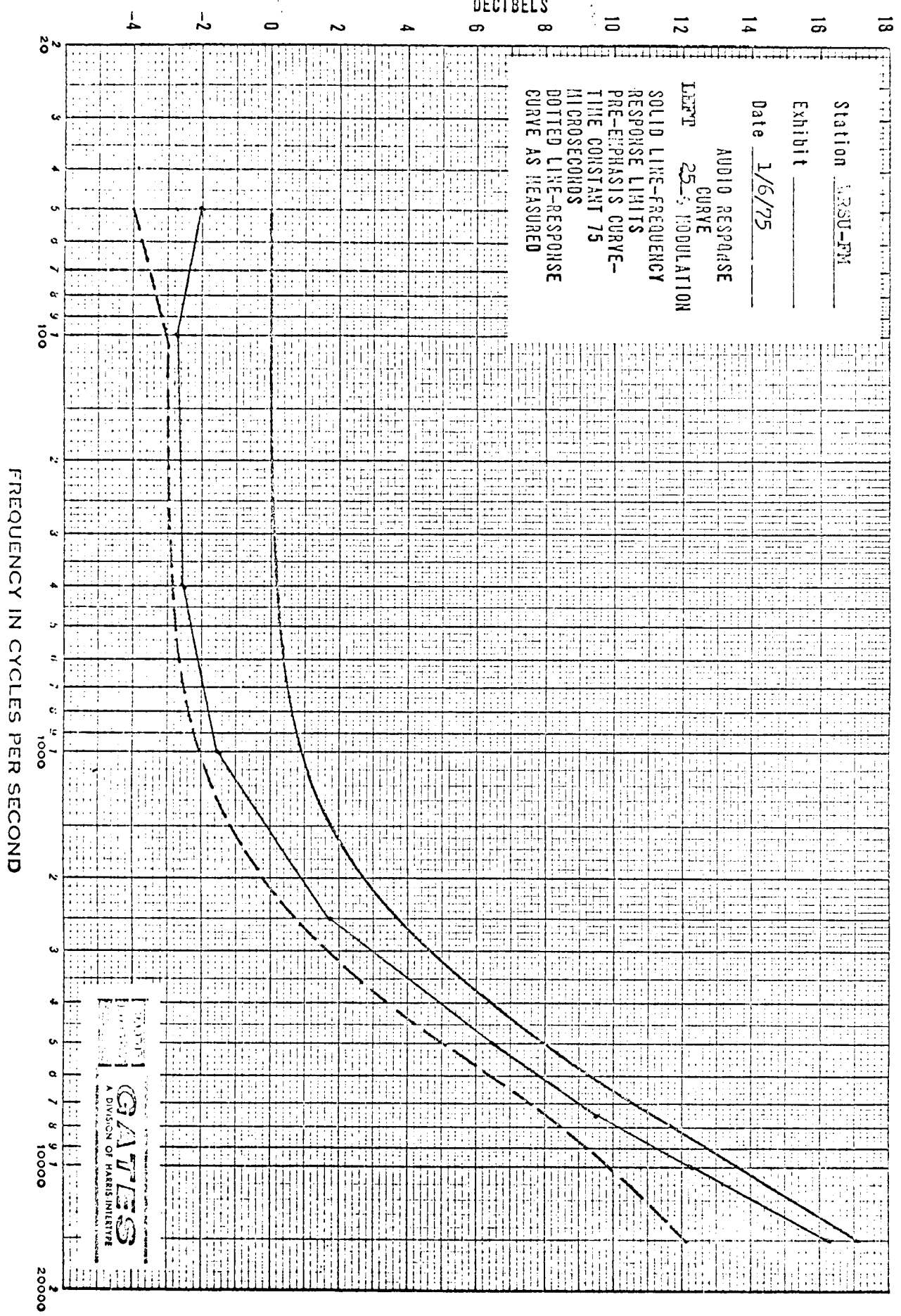
Station WRSU-FM
Exhibit
Date 1/6/75
AUDIO RESPONSE
RIGHT 50 CURVE
MODULATION
SOLID LINE-FREQUENCY
RESPONSE LIMITS
PRE-EMPHASIS CURVE-
TIME CONSTANT 75
MICROSECONDS
DOTTED LINE-RESPONSE
CURVE AS MEASURED

FREQUENCY IN CYCLES PER SECOND



QXX

DECIBELS

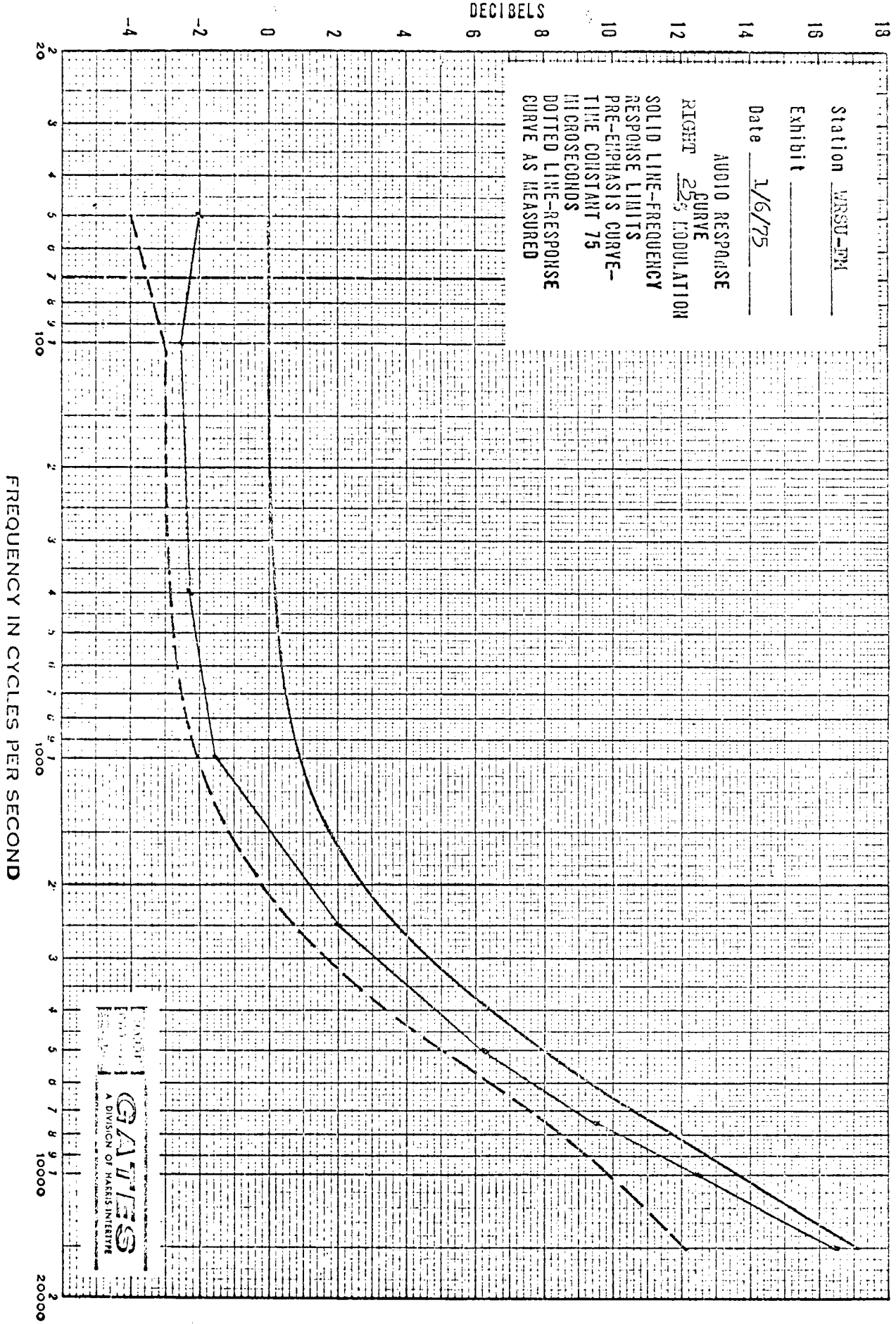


FREQUENCY IN CYCLES PER SECOND

GATES
A DIVISION OF HARRIS INTERTELEPHONE

(22)

Station WRSU-FM
Exhibit _____
Date 1/6/75
AUDIO RESPONSE
RIGHT 25 MODULATION
SOLID LINE-FREQUENCY
RESPONSE LIMITS
PRE-EMPHASIS CURVE-
TIME CONSTANT 75
MICROSECONDS
DOTTED LINE-RESPONSE
CURVE AS MEASURED



SYSTEM DISTORTION (FM)

FREQ. LEFT RIGHT MONO FCC LIMIT

100% Modulation

50	.8%	1%		3.5%
100	.9	1		3.5
400	.9	.9		2.5
1000	.7	.9		2.5
5000	.55	.8		2.5
7500	.6	.9		3.0
10000	.8	1		3.0
15000	1.3	1.7		3.0

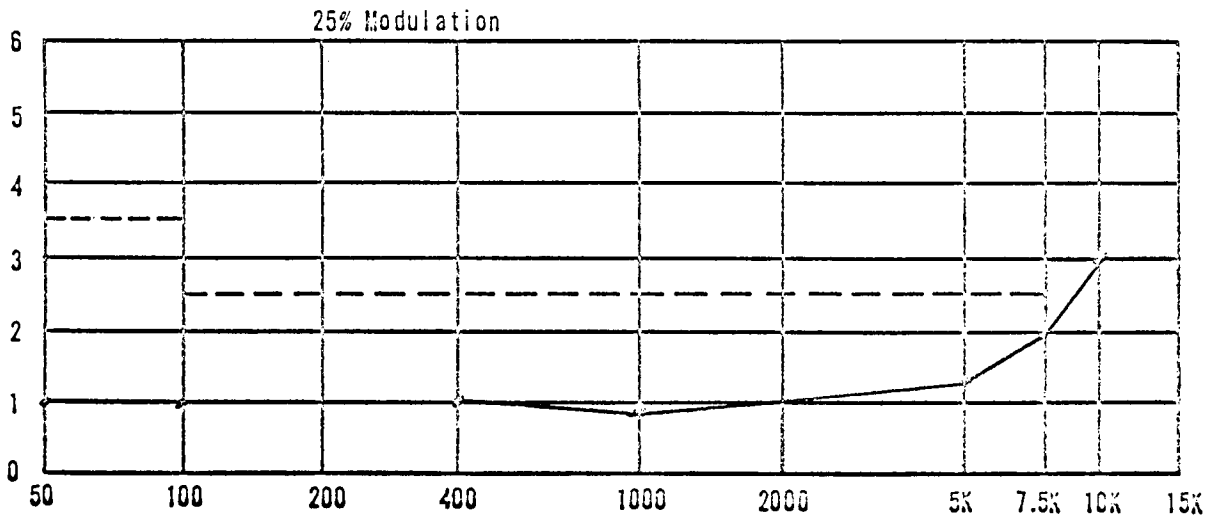
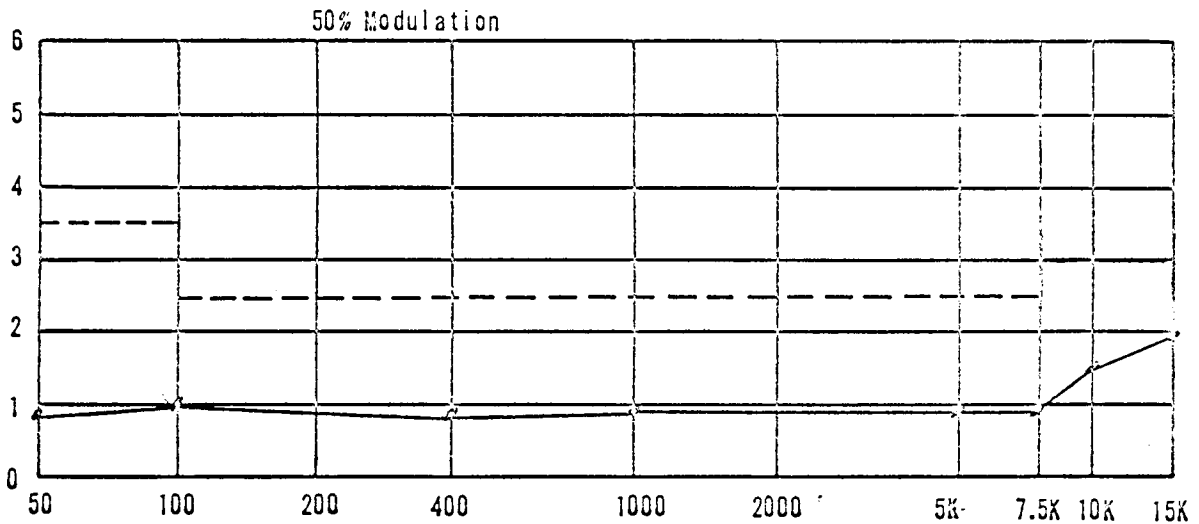
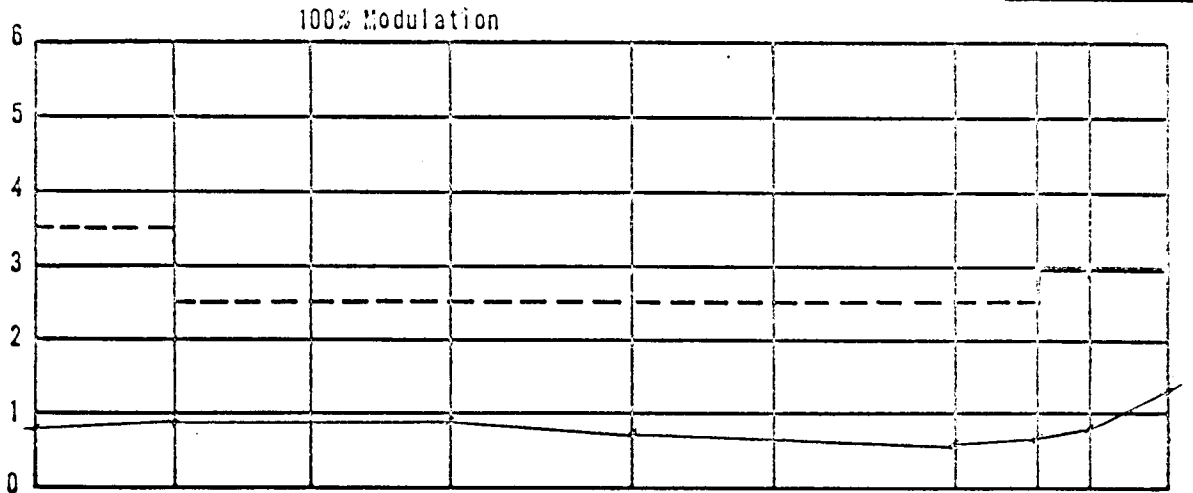
50% Modulation

50	.9%	.9%		3.5
100	1	1		3.5
400	.9	1		2.5
1000	.9	.8		2.5
5000	.9	.9		2.5
7500	.9	1		Is Not Required
10000	1.5	1.4		Is Not Required
15000	1.9	2.2		Is Not Required

25% Modulation

50	1	1		3.5
100	1	1		3.5
400	1	.9		2.5
1000	.9	.9		2.5
5000	1.3	1.5		2.5
7500	2	2.4		Is Not Required
10000	3	2.8		Is Not Required
15000	Unreadable	Unreadable		Is Not Required

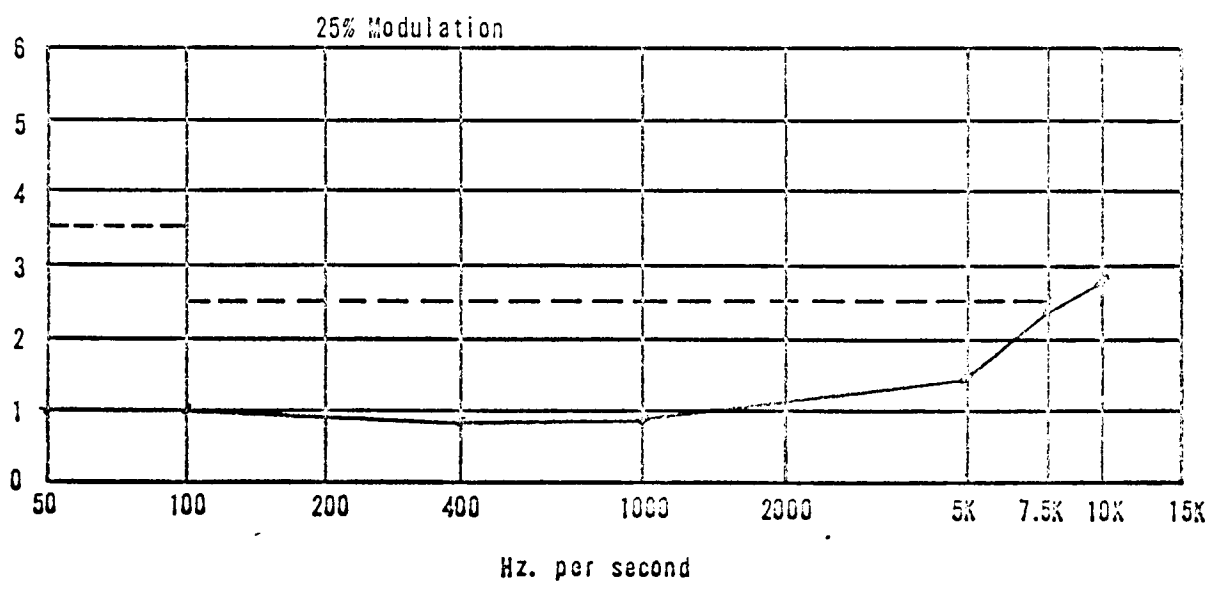
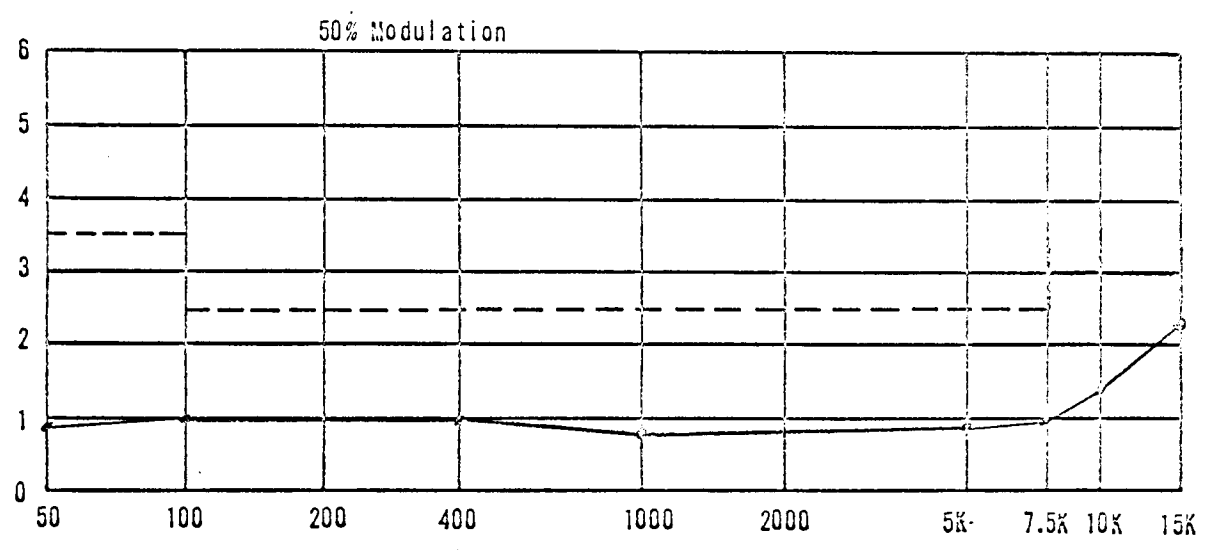
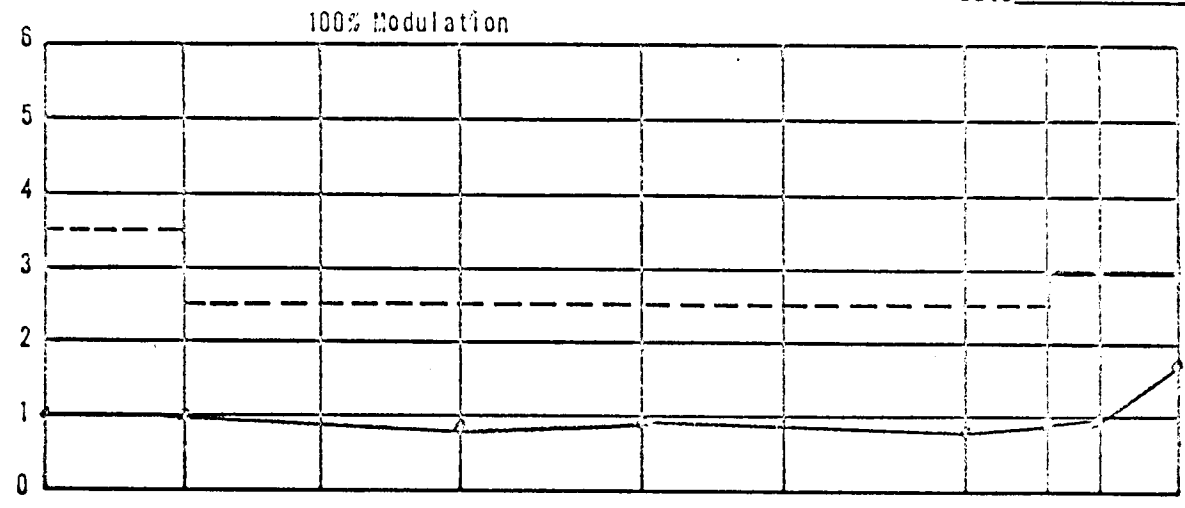
DISTORTION IN PERCENT LEFT



Hz. per second

DISTORTION IN PERCENT RIGHT

Date 1/6/75



SYSTEM NOISE

MONO IS _____dB below 100% level

LEFT STEREO IS 46 dB below 100% level

RIGHT STEREO IS 46 dB below 100% level

FCC LIMIT IS _____dB 50-15,000 Hz.

AM NOISE

Not Applicable

DIODE VOLTAGE IS _____Vdc

Vdc times 1.414 (equivalent 100% AM Modulation) is _____Vrms

Measured AM rms voltage from diode unit is _____Vrms

If noise is $-20 \log E_1/E_2$

Then the AM Noise is -_____dB

FCC Limit Is -50 dB 50-15000 Hz with 75usec de-emphasis

OTHER DATA:

AM Noise as read off our Belar FMS-1 Stereo Monitor is -63 dB

FM Noise as read off our Belar FMS-1 Stereo Monitor is -71 dB

Cross Talk (at 400 Hz)

Main Carrier to Sub Carrier is -40 dB

Sub Carrier to Main Carrier is -36 dB

EXHIBIT NO. 1

WRSU is funded at Rutgers through a system known as student fees. These fees are paid on a semester basis, and a Fee Board, composed of various students, is selected to distribute said fees (\$70.00 per student per semester). WRSU-FM also sponsors various fund raising events throughout the school year (such as showing films on campus) to supplement the student fee allocations.

A process similar to the one stated above goes on every year. At the present time, it is in this manner that the station can continue operation. Any changes or alterations in this process, or any additional data concerning finances, will be outlined to the Commission when and if they occur.



EXHIBIT NO. 3

The only contract of any type at WRSU-FM would be a contract currently pending the signature of a representative of United Press International news service. The contract would be for one year of the date of the signing. We are at this moment waiting for the news service to return the contract.



680 AM - CAMPUS
STUDIOS AND OFFICES:
RUTGERS STUDENT CENTER
126 COLLEGE AVENUE, NEW BRUNSWICK, N.J. 08901
PHONE: 201 545-6800

EXHIBIT NUMBER 4

Section VI has not been filed because WRSU has no fulltime employees and is run totally by student volunteers. Currently our staff is around one hundred and twenty five students.

WRSU-FM 88.7

680 AM - CAMPUS
STUDIOS AND OFFICES:
RUTGERS STUDENT CENTER
126 COLLEGE AVENUE, NEW BRUNSWICK, N.J. 08901
PHONE: 201 545-6800

Pre-Filing Announcement

On April 22, 1974 WRSU-FM was granted a license by the Federal Communications Commission to serve the public interest as a public trustee until June 1, 1975.

Our license will expire on June 1, 1975. We must file an application for license renewal with the FCC on Feb. 1, 1975. When filed, a copy of this application will be available for public inspection during our regular business hours. It contains information concerning this station's performance during the last nine months and projections of our programming during the next three years.

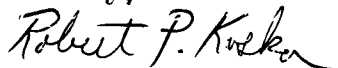
Individuals who wish to advise the FCC of facts relating to our renewal application and to whether this station has operated in the public interest should file comments and petitions with the Commission by May 1, 1975 by writing the FCC, Washington, D.C. 20554.

Times announcement ran; 12/19/74 - 6:24 P.M.
1/ 1/75 - 3:03 P.M.
1/16/75 - 5:15 P.M.

These announcements were not run in December as stated in FCC rules due to the fact that we were unaware of the times until we received our license renewal application in the mail on the 18th of December.

The pre-filing announcement was run in the above form as explained in the renewal application instructions. We did not receive the transmittal sheet with the pre-filing announcement until the 16th of January.

Sincerely,



Robert P. Koska
General Manager

WRSU-FM 88.7

680 AM - CAMPUS
STUDIOS AND OFFICES:
RUTGERS STUDENT CENTER
126 COLLEGE AVENUE, NEW BRUNSWICK, N.J. 08901
PHONE: 201 545-6600

Post-Filing Announcement

On April 22, 1974 WRSU-FM was granted a license by the Federal Communications Commission to serve the public interest as a public trustee until June 1, 1975.

Our license will expire on June 1, 1975. We have filed an application for license renewal with the FCC.

A copy of this application is available for public inspection during our regular business hours. It contains information concerning the station's performance during the last nine months and projections of our programming during the next three years.

Individuals who wish to advise the FCC of facts relating to our renewal application and to whether this station has operated in the public interest should file comments and petitions with the Commission by May 1, 1975.

Further information concerning the Commission's broadcast license renewal process is available at 126 College Ave., New Brunswick, New Jersey or may be obtained from the FCC, Washington, D.C. 20554.

Times announcement to be run;	2/1/75 - 8:30 A.M.	2/16/75 - 10:00 A.M.
	3/1/75 - 5:15 P.M.	3/16/75 - 8:30 A.M.
	4/1/75 - 12:20 P.M.	4/16/75 - 9:05 P.M.

Sincerely,

Robert P. Koska

Robert P. Koska
General Manager