

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF CHIEF ENGINEER  
TECHNICAL RESEARCH DIVISION

RADIO EQUIPMENT LIST

PART B

AURAL BROADCAST EQUIPMENT

The transmitters and monitors listed herein are considered acceptable for use in the aural broadcast services (FM and Standard Broadcast), provided operation is in accordance with the rules and that the technical specifications for such equipment as set forth herein are not exceeded. The transmitters listed include those which had been "type approved" under the rules existing prior to June 30, 1955. Under the present rules, "type acceptance" is required for transmitter listing. For monitors, "type approval" requirements continue applicable.

WASHINGTON, D. C.  
August 18, 1955

(Reprinted by National Association of Radio and Television  
Broadcasters for its AM and FM Radio Members)

THE UNIVERSITY OF CHICAGO  
DIVISION OF THE PHYSICAL SCIENCES  
DEPARTMENT OF PHYSICS

PHYSICS 551

1963

LECTURE NOTES

The following notes were prepared for the course  
PHYSICS 551, QUANTUM MECHANICS, in the  
Department of Physics, University of Chicago,  
during the fall semester of 1963. The course  
was taught by Professor R. F. Streater and  
Professor J. J. Sakurai. The notes are  
based on the lectures given by Professor  
Streater and Professor Sakurai, and  
include the problems assigned for the course.

PHYSICS 551

UNIVERSITY OF CHICAGO  
DIVISION OF THE PHYSICAL SCIENCES  
DEPARTMENT OF PHYSICS



# *member service*

**NATIONAL ASSOCIATION OF RADIO AND TELEVISION BROADCASTERS**

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TO ALL RADIO MEMBERS

Sections 3.41 to 3.64 govern the design, construction, and technical operation of standard broadcast equipment. Herein is listed the equipment which has been approved in accordance with the provisions of "Requirements for Type Approval of Broadcast Transmitters". It will supersede Section 23 in the NARTB Engineering Handbook.

Section 3.55 requires that each standard broadcast station shall have an approved modulation monitor in operation. Herein is listed the equipment which has been approved in compliance with these rules. It will supersede Section 22 in the NARTB Engineering Handbook.

Section 3.60 requires that each standard broadcast station shall have in operation at the transmitter an approved frequency monitor. Herein is listed the equipment which has been approved in compliance with these rules. It will supersede Section 21 of the NARTB Engineering Handbook.

A. Prose Walker  
Manager of Engineering



TRANSMITTERS

TYPE NUMBER	POWER KW	FREQUENCY RANGE MC	EMISSION
1092 COLLINS RADIO CO			
20H	1	.54-1.6	A3
20HA	1	.54-1.6	A3
20J	1	.54-1.6	A3
20K	1	.54-1.6	A3
20T	1/0.5	.54-1.6	A3
20V	1/0.5	.54-1.6	A3
21A	5	.54-1.6	A3
21B	5/1	.54-1.6	A3
21D	5/1	.54-1.6	A3
21DA	5/1	.54-1.6	A3
21DX	5	.54-1.6	A3
21E	5/1	.54-1.6	A3
21L	10/5	.54-1.6	A3
21M	10/5	.54-1.6	A3
300C	.25	.54-1.6	A3
300C-1	.25	.54-1.6	A3
300E	.1	.54-1.6	A3
300FA	.25	.54-1.6	A3
300G	.25/0.1	.54-1.6	A3
300J	.25/0.1	.54-1.6	A3
550A	.5/0.25	.54-1.6	A3
731A	.25	88-108	F3
732A	1	88-108	F3
733A	3	88-108	F3
734A	10	88-108	F3
737A	5	88-108	F3
738A	.01	88-108	F3
738B	.01	88-108	F3
1410 CONTINENTAL ELECTRONICS MFG. CO			
312	.25	.54-1.6	A3
314.2	1/0.5	.54-1.6	A3
315	5/1	.54-1.6	A3
316	10	.54-1.6	A3
317	50/5	.54-1.6	A3
1680 DOOLITTLE RADIO INC			
100-B	.1	.54-1.6	A3
1000-B	1	.54-1.6	A3

TRANSMITTERS

TYPE NUMBER	POWER KW	FREQUENCY RANGE MC	EMISSION
DOOLITTLE RADIO INC			
250-B	.25	.54-1.6	A3
2500 FEDERAL TELEPHONE & RADIC CORP			
162-A	50	.54-1.6	A3
163-A	5	.54-1.6	A3
165-A	5	.54-1.6	A3
191A	1	88-108	F3
192A	3	88-108	F3
192AZ	3	88-108	F3
193A	10	88-108	F3
196-A	5	.54-1.6	A3
197-A	50	.54-1.6	A3
2893 GATES AMERICAN CORP & GATES RADIO COMPANY			
1-D	1	.54-1.6	A3
100-A	.1	.54-1.6	A3
1000-C	1	.54-1.6	A3
250-A	.25	.54-1.6	A3
250-C	.25	.54-1.6	A3
250-C-1	.25	.54-1.6	A3
500-A	.5	.54-1.6	A3
BC-1E	1	.54-1.6	A3
BC-1F	1/0.5/0.25	.54-1.6	A3
BC-1G	1	.54-1.6	A3
BC-1J	1/0.5	.54-1.6	A3
BC-250 GY	.25/0.1	.54-1.6	A3
BC-250-D	.25	.54-1.6	A3
BC-250L	.25	.54-1.6	A3
BC-500-D	.5	.54-1.6	A3
BC-500-GY	.5	.54-1.6	A3
BC-500K	.5	.54-1.6	A3
BC-5A	5	.54-1.6	A3
BC-5B	5/1/0.5	.54-1.6	A3
BC-5E	5/1/0.5	.54-1.6	A3
BF-10A	10	88-108	F3
BF-1A	1	88-108	F3
BF-250A	.25	88-108	F3
BF-250B	.25	88-108	F3
BF-3A	3	88-108	F3
BF-3B	3	88-108	F3
BF-3C	3	88-108	F3
BF-3D	3	88-108	F3
BF-P-10	.01	88-108	F3
FMR-250B	.25	88-108	F3

TRANSMITTERS

TYPE NUMBER	POWER KW	FREQUENCY RANGE MC	EMISSION
GATES AMERICAN CORP & GATES RADIO CO			
S-101	.1	.54-1.6	A3
S-251	.25	.54-1.6	A3
2948 GENERAL ELECTRIC COMPANY			
BT-1-A	.25	88-108	F3
BT-1-B	.25	88-108	F3
BT-11-B	.01	88-108	F3
BT-12-A	.01	88-108	F3
BT-12-B	.01	88-108	F3
BT-2-A	1	88-108	F3
BT-2-B	1	88-108	F3
BT-20-A	.25/0.1	.54-1.6	A3
BT-21-A	1	.54-1.6	A3
BT-22-A	5	.54-1.6	A3
BT-23-A	10	.54-1.6	A3
BT-25-A	50	.54-1.6	A3
BT-3-A	3	88-108	F3
BT-3-B	3	88-108	F3
BT-4-A	10	88-108	F3
BT-4-B	10	88-108	F3
BT-5-A	50	88-108	F3
XT-1-A	1	.54-1.6	A3
3549 HARVEY RADIO LABORATORIES INC			
FM-500	.25	88-108	F3
6606 RADIO CORPORATION OF AMERICA			
1-F	1	.54-1.6	A3
1-E-A	1	.54-1.6	A3
1-G	1	.54-1.6	A3
1-K	1	.54-1.6	A3
10-C-A	10	.54-1.6	A3
10-C-B	10	.54-1.6	A3
10-D	10	.54-1.6	A3
10-DX	10	.54-1.6	A3
10-E	10	.54-1.6	A3
100-E	.1	.54-1.6	A3
100-G	.1	.54-1.6	A3
100-H	.1	.54-1.6	A3
250-D	.25	.54-1.6	A3
250-E	.25	.54-1.6	A3

TRANSMITTERS

TYPE NUMBER	POWER KW	FREQUENCY RANGE MC	EMISSION
RADIO CORPORATION OF AMERICA			
250-F	.25	.54-1.6	A3
250-G	.25	.54-1.6	A3
250-K	.25	.54-1.6	A3
5-D	5	.54-1.6	A3
5-D-1	5/1	.54-1.6	A3
5-D-2	5	.54-1.6	A3
5-DX	5	.54-1.6	A3
5-E	5	.54-1.6	A3
50-D	50	.54-1.6	A3
50-D POWER AMP.	50	.54-1.6	A3
50-E	50	.54-1.6	A3
50-E POWER AMP.	50	.54-1.6	A3
BTA-10F	10	.54-1.6	A3
BTA-10G	10/5	.54-1.6	A3
BTA-11	1	.54-1.6	A3
BTA-10H	10/5	.54-1.6	A3
BTA-11A	1	.54-1.6	A3
BTA-1M	1/0.5/0.25	.54-1.6	A3
BTA-250L	.25/0.1	.54-1.6	A3
BTA-250M	.25	.54-1.6	A3
BTA-500M	.5	.54-1.6	A3
BTA-50-F	50	.54-1.6	A3
BTA-50-F1	50/10	.54-1.6	A3
BTA-5F	5	.54-1.6	A3
BTA-5G	5/1	.54-1.6	A3
BTA-5H	5/1	.54-1.6	A3
BTF-10B	10	88-108	F3
BTF-1C	1	88-108	F3
BTF-250A	.25	88-108	F3
BTF-3B	3	88-108	F3
BTF-50A	50	88-108	F3
BTF-5A	5	88-108	F3
ET-4300	1	.54-1.6	A3
MI-7016	EXCITER	88-108	F3

6690 RADIO ENG LABORATORIES INC

518B-DL	1	88-108	F3
518D-DL	1	88-108	F3
519-DL	3	88-108	F3
520-DL	10	88-108	F3
549A-DL	.25	88-108	F3
701	1	88-108	F3

7288 RAYTHEON MANUFACTURING CO

RA-10	10	.54-1.6	A3
RA-1000	1	.54-1.6	A3



TRANSMITTERS

TYPE NUMBER	POWER KW	FREQUENCY RANGE MC	EMISSION
RAYTHEON MANUFACTURING CO			
RA-1000A	1	.54-1.6	A3
RA-10A	10	.54-1.6	A3
RA-250	.25	.54-1.6	A3
RA-250A	.25	.54-1.6	A3
RA-5	5	.54-1.6	A3
RA-5A	5	.54-1.6	A3
RF-10	10	88-108	F3
RF-1000	1	88-108	F3
RF-250	.25	88-108	F3
RF-3	3	88-108	F3
9227	TRANSMITTER EQUIP MFG CO		
250-BCA	.25	.54-1.6	A3
9445	WESTERN ELECTRIC		
310A	.1	.54-1.6	A3
310B	.25	.54-1.6	A3
310C	.5	.54-1.6	A3
310D	1	.54-1.6	A3
350C-1	.1	.54-1.6	A3
351E-1	.25	.54-1.6	A3
352E-1	.5	.54-1.6	A3
353E-1	1	.54-1.6	A3
403A-1	1	.54-1.6	A3
405A-1	5	.54-1.6	A3
405A-2	5	.54-1.6	A3
405B-1	5	.54-1.6	A3
405B-2	5	.54-1.6	A3
406A-1	10	.54-1.6	A3
406A-2	10	.54-1.6	A3
406A-3	10	.54-1.6	A3
406B-1	10	.54-1.6	A3
406B-2	10	.54-1.6	A3
407A-1	50	.54-1.6	A3
407A-2	50	.54-1.6	A3
407A-3	50	.54-1.6	A3
407A-4	50	.54-1.6	A3
442A-1	.5	.54-1.6	A3
443A-1	1	.54-1.6	A3
451A-1	.25	.54-1.6	A3
503B-1	1	88-108	F3
503B-2	1	88-108	F3
504B-2	3	88-108	F3
506B-2	10	88-108	F3

TRANSMITTERS

	TYPE NUMBER	POWER KW	FREQUENCY RANGE MC	EMISSION
9625	WESTINGHOUSE ELECTRIC CORP.			
	10-HV	10	.54-1.6	A3
	10-HV-1	10	.54-1.6	A3
	5-HV	5	.54-1.6	A3
	5-HV-1	5	.54-1.6	A3
	5-HV-2	5	.54-1.6	A3
	50-HG	50	.54-1.6	A3
	50-HG-1	50	.54-1.6	A3
	50-HG-2	50	.54-1.6	A3
	FM-1	1	88-108	F3
	FM-10	10	88-108	F3
	FM-3	3	88-108	F3
	FM-50	50	88-108	F3
	MO/MP	EXCITER	88-108	F3

MONITORS

	TYPE NUMBER	FREQUENCY RANGE MC	TYPE OF MONITOR	EMISSION
0570	BERKELEY DIV OF BECKMAN INST INC 5570	.54-1.6	FREQ	A3
1680	DOOLITTLE RADIO INC			
	FD-11	88-108	FREQ	F3
	FD-11	88-108	MOD	F3
	FD-1A	.54-1.6	FREQ	A3
2893	GATES AMERICAN CORP & GATES RADIO COMPANY			
	MO-2639	.54-1.6	MOD	A3
	MO-2890	.54-1.6	FREQ	A3
2948	GENERAL ELECTRIC COMPANY			
	98X402	.54-1.6	FREQ	A3
	EM-1-A	88-108	MOD	F3
	EM-1-A	88-108	FREQ	F3
	EM-3-A	.54-1.6	MOD	A3
	EM-3-A	.54-1.6	FREQ	A3
2960	GENERAL RADIO CO			
	1170-A	88-108	MOD	F3
	1170-A	88-108	FREQ	F3
	1181-A	.54-1.6	FREQ	A3
	1931-A	.54-1.6	MOD	A3
	25-A	.54-1.6	FREQ	A3
	25-AB	.54-1.6	FREQ	A3
	731-A	.54-1.6	MOD	A3
	731-B	.54-1.6	MOD	A3
3800	HEWLETT PACKARD CO			
	335B	88-108	MOD	F3
	335B	88-108	FREQ	F3

MONITORS

TYPE NUMBER	FREQUENCY RANGE MC	TYPE OF MONITOR	EMISSION
6606	RADIO CORPORATION OF AMERICA		
311-A	.54-1.6	FREQ	A3
311-AB	.54-1.6	FREQ	A3
66-A	.54-1.6	MOD	A3
66-A-1	.54-1.6	MOD	A3
66-B	.54-1.6	MOD	A3
66-D	.54-1.6	MOD	A3
66-D-1	.54-1.6	MOD	A3
BW-11A	.54-1.6	FREQ	A3
BW-66E	.54-1.6	MOD	A3
WF-48A	.54-1.6	FREQ	A3
WM-43A	.54-1.6	MOD	A3
6690	RADIO ENG LABORATORIES INC		
600	88-108	MOD	F3
600	88-108	FREQ	F3
600A	88-108	MOD	F3
600A	88-108	FREQ	F3
600R	88-108	MOD	F3
600R	88-108	FREQ	F3
600T	88-108	MOD	F3
600T	88-108	FREQ	F3
9445	WESTERN ELECTRIC		
1-C	.54-1.6	FREQ	A3
5A	88-108	MOD	F3
5A	88-108	FREQ	F3