

# ham tips

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## HAM-BAND CHARTS

### Covering FCC Allocations, Sub-Allocations, and Authorized Emissions from 3.5 to 450 MHz

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The return to incentive licensing on November 22, 1968 places even greater emphasis upon the Federal Communications Commission requirement that amateurs be familiar with all frequency assignments. No longer is it sufficient to know just the band edges. The amateur who plans any mobility around the various bands had best equip himself with either an Extra Class license or the charts on the following pages. Even with an Extra Class license, he may still find the charts useful as a guide to where his friends went.

Charts 1 and 2 cover all amateur frequency assignments up to 450 MHz, with the exception of the 1.8 to 2.0 MHz allocation. The 160-meter band is divided into eight "sub-bands," and operation in each of the 50 states and U. S. possessions is limited to a few of these. Maximum DC plate input power varies from day to night. A1 and A3 emissions are authorized, and there are no privileged segments. Because the regulations covering "top band" are subject to change without hearing (whenever the Commission shall determine such action necessary in view of the priority of the

LORAN-A radionavigation system), it is suggested that interested amateurs consult the nearest FCC District Office for details governing their particular area.

Because of their limited scope, Novice Class privileges are not shown. They are as follows: radiotelegraph (A1) operation only, 3.7 to 3.75 MHz; 7.15 to 7.2 MHz; 21.1 to 21.25 MHz; and 145.0 to 147.0 MHz — using all authorized radiotelegraph emissions.

Technician Class licensees may use all emissions authorized between 50.1 and 54.0 MHz and between 145.0 and 147.0 MHz, as well as all amateur frequencies and emissions authorized above 220.0 MHz.

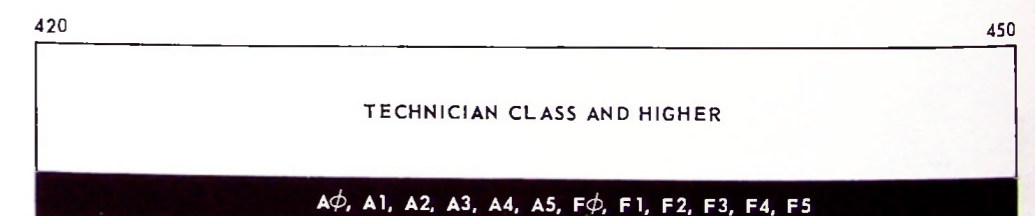
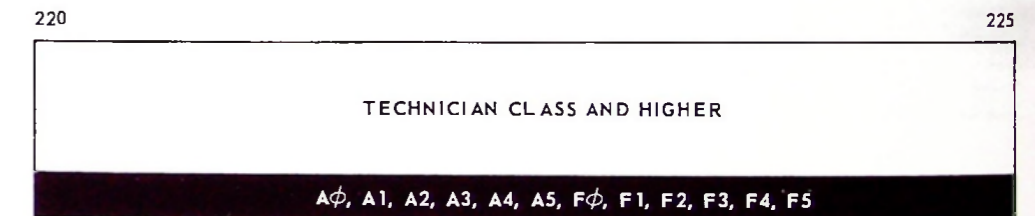
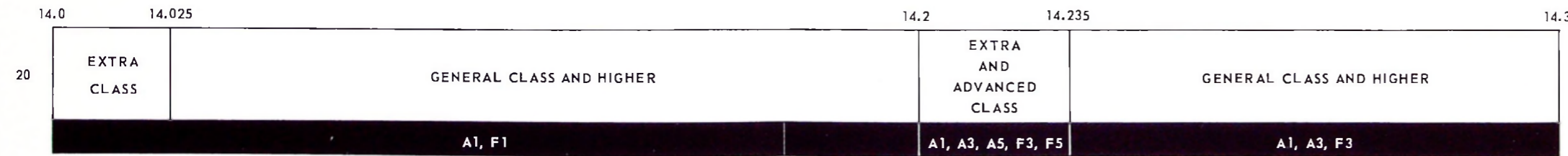
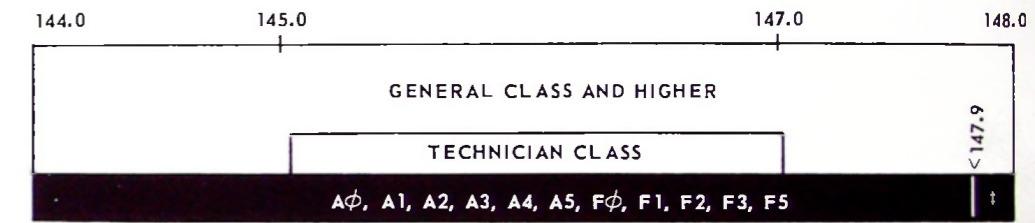
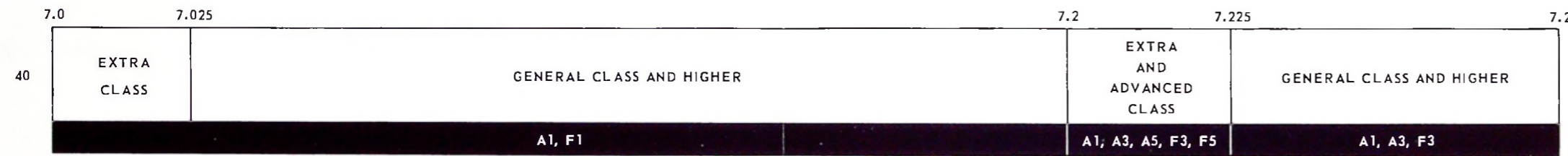
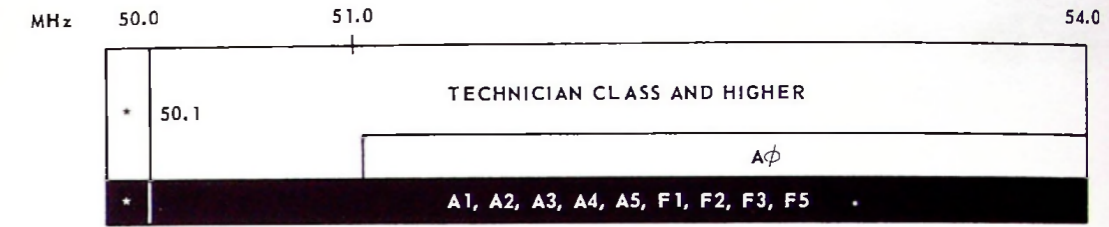
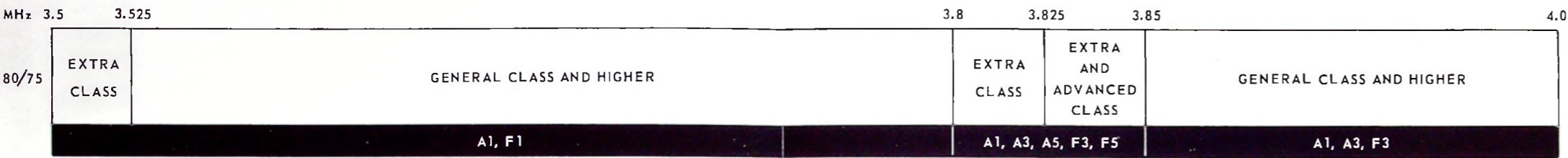
#### Emission Limitations

Type A0 emission may be used for short periods of time, even where not specifically designated, for test and other experimental purposes.

On frequencies below 29.0 MHz and between 50.1 and 52.5 MHz, the bandwidth of an F3 emission may not exceed that of an A3 emission having the same audio characteristics.

**Chart 1: Amateur Bands**  
 (Showing Sub-Allocations and Authorized Emissions From 3.5 to 29.7 MHz)

**Chart 2: Amateur Bands**  
 (Showing Sub-Allocations and Authorized Emissions From 50 to 450 MHz)



\* EXTRA AND ADVANCED CLASS - A1 ONLY  
 † GENERAL CLASS AND HIGHER - A1 ONLY

On frequencies below 50.0 MHz, the bandwidth of A5 and F5 emissions may not exceed that of an A3 single-sideband emission.

On frequencies between 50.0 and 225.0 MHz, single-sideband or double-sideband A5 emission may be used but the bandwidth may not exceed that of an A3 single-sideband or double-sideband signal, respectively. The bandwidth of an F5 emission may not exceed that of an A3 single-sideband emission.

Below 225.0 MHz, A3 and A5 emissions may be used simultaneously on the same carrier frequency provided the total bandwidth does not exceed that of an A3 double-sideband emission.

In addition to the allocations shown here, amateurs may operate within six bands of

frequencies from 1,215 to 22,000 MHz, as well as all frequencies above 40,000 MHz. Hams interested in any of these frequency assignments should consult "FCC Rules and Regulations," Part 97, for available operating privileges.

Except for voice-interrupted code practice, 50.1 MHz is the lowest frequency at which tone-modulated keying or facsimile modulation is permitted. Also, 51.0 MHz is the lowest frequency at which an unmodulated carrier (A0) can be transmitted for other than short periods of test.

Amateur TV enthusiasts will note that A5 and F5 emissions of the slow-scan type are now permitted on the bands between 3.5 and 225.0 MHz.

Meet me on the low end!

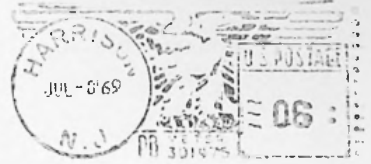
**INDEX TO SYMBOLS USED IN CHARTS 1 AND 2**  
**Showing Classification of All Emissions Authorized**  
**for Use by Amateurs Through 450 MHz**

Type of Modulation	Type of Transmission	Symbol	Type of Modulation	Type of Transmission	Symbol
Amplitude	With no modulation	A0	Frequency (or phase)	Telegraphy by use of shift keying without the use of a modulating audio frequency	F1
	Telegraphy without the use of modulating audio frequency (by on-off keying)	A1		Telegraphy by the on-off keying of a frequency-modulating audio frequency or by the on-off keying of frequency-modulated emission (Special Case: An unkeyed emission, frequency modulated)	F2
	Telegraphy by the on-off keying of an amplitude-modulating audio frequency or by the on-off keying of the modulated emission (Special Case: An unkeyed emission, amplitude-modulated)	A2		Telephony	F3
	Telephony	A3		Facsimile	F4
	Facsimile	A4		Television	F5
	Television	A5			

**PLEASE NOTE:** All data presented in the charts and text have been compiled from "FCC Rules and Regulations," Part 97, as of January 1, 1969. While this information is subject to change at any time, it is likely that it will remain valid until November 22, 1969, at which time the second phase of the incentive licensing program will be instituted.

# RCA

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# When you look into your final, look for the RCA-8122



RCA-8072  
Conduction-cooled

RCA-8122 Axial  
forced-air cooled

RCA-8121 Transverse  
forced-air cooled

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Reliability? This amateur type tube is a member of the same family as the 8072 and 8121 that brings the latest in tube technology to both medium and high power commercial and military equipments.

Ceramic-and-metal construction, exclusive electrode configuration, and precision-aligned grids eliminate mechanically-caused noise even at the high temperatures and severe vibration levels encountered in mobile service.

So whether you plan to buy or build, get the full story on the RCA-8122 as your first step. Write for a copy of the RCA-8122 Data Bulletin to RCA Electronic Components, Commercial Engineering, Section XXX, Harrison, N.J. 07029. Or see your local Authorized RCA Industrial Distributor for a copy of the new Power Tube Product Guide, PWR-506C.

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