



43 **POLICY 1 - GENERAL INTRODUCTION**

44

45 **DISTRICTS:**

46 A. The state of Connecticut.

47

48 **POLICY 2 - FIXED COORDINATION**

49 CSMA coordinates only the types of fixed amateur transmitting facilities in those amateur  
50 frequency segments as authorized by the FCC.

51

52 The CSMA may coordinate frequencies for the following emitters.

53

54 A. Repeaters

55 B. Link/Control

56 C. Auxiliary Stations

57 D. Simplex Operations

58 E. Automatic Digital Operations

59

60 The CSMA coordinates emitters with maximum frequency utilization of designated amateur  
61 bands. Voluntary compliance with our policy has proven successful. CSMA has recognized  
62 certain existing repeaters that do not exactly match the following band plan. They may continue  
63 operations as they existed prior to the formation of this policy and band plans.

64 Any deviation from the following guidelines must be recommended by the CSMA frequency  
65 coordinator(s) and approved by the Board of Directors.

66

67 Recommended Repeater Frequency Utilization:

68

69 A. 29 MHz:

70 29.510-29.590 , 29.610-29.690 MHz: pairs are issued with low in, high out, with a  
71 100 KHz offset. Channel spacing is 20 KHz.

72 B. 50 MHz:

73 1. 52-54 MHz: pairs are issued low in, high out, and a 1 MHz offset. Channel  
74 spacing is 20 KHz.

75 2. 51.120-51.480, 51.620-51.980 MHz: pairs are issued low in, high out, and 500  
76 KHz offset. Channel spacing is 20 KHz.

77 C. 144-148 MHz: most two meter pairs are issued with a plus (+)600 KHz offset and 15  
78 KHz channel spacing above 147 MHz; minus (-)600 KHz offset and 15 KHz channel  
79 spacing between 146 and 147 MHz; and minus (-)600 KHz offset and 20 KHz channel  
80 spacing below 146 MHz.

81 D. 222 MHz: all 222 MHz pairs are issued with a minus (-)1.6 MHz offset and 20 KHz  
82 channel spacing.

- 83 E. 440 MHz: (1) all 440 MHz pairs ending in .x50 or .x00 are issued “in high-out low.”  
84 440 MHz: (2) all 440 MHz pairs ending in .x25 or .x75 are issued “out high-in low.”  
85 440 MHz: (3) narrowband pairs (12.5 KHz channels) will be coordinated at the  
86 recommendation of the frequency coordinator.  
87 F. 902 MHz: all 902 MHz pairs are issued with a minus (-)12 MHz offset, low input, high  
88 output.  
89 F. 1240 MHz: all 1.2 GHz pairs are issued with a minus (-)20 MHz offset, low input, high  
90 output.  
91

92 A digipeater is a simplex operating system. Duplex digital systems which utilize FM repeater  
93 input and output pairs are classified as repeaters, operating digital, and shall be coordinated by  
94 the CSMA, as would any other FM repeater pair. The CSMA recommends frequencies for  
95 automatic digital (packet) radio use.  
96

### 97 **POLICY 3 - SIMPLEX FREQUENCIES**

98 The CSMA will recommend FM simplex frequencies, which will be listed in the CSMA band  
99 plan. These simplex frequencies should not be used for digipeaters, although simplex digital  
100 (keyboard to keyboard) operation is allowable as is CW, RTTY, and other FM simplex  
101 operations.  
102

### 103 **POLICY 4 - FREQUENCY COORDINATORS**

104 CSMA Frequency Coordinator(s) are appointed by the Board of Directors. Their job is to make  
105 maximum use of frequencies available for amateur use by using the CSMA Coordination Policy  
106 and Guidelines and through mutual cooperation of repeater trustees. The CSMA offers  
107 coordination to benefit both repeater trustees and users.

### 108 **POLICY 5 - REPEATER COORDINATION PARAMETERS**

109 The CSMA coordinates repeater, link and auxiliary stations on a case-by-case minimum  
110 interference basis. Under normal circumstances, the CSMA normally maintains the following  
111 recommended repeater distance spacing:

#### 112 Co-channel distances:

- 113 A. 29 and 50 MHz repeaters: 120 miles  
114 144-148, & 222, repeaters: 80 miles  
115 440, 902, 1240 MHz, and above, repeaters: 70 miles
- 116 B. Adjacent channel distances:  
117 29, 50, & 222 MHz repeaters: 25 miles at 20 KHz spacing  
118 144-148 MHz repeaters:  
119 144-145 MHz: 30 miles at 20 KHz spacing  
120 146-148 MHz: 35 miles at 15 KHz spacing  
121 440 MHz:  
122 440 repeaters: 25 miles at 25 KHz spacing

123 440 MHz repeaters: 35 miles at 12.5 KHz spacing.  
124 902, 1240 MHz, and above, repeaters: 10 miles at 100 KHz spacing.

## 125 **POLICY 6 - REPEATER DISTANCE VARIANCE**

126 Channel spacing distances referred to in Policy 5 may be adjusted as necessary. Repeater  
127 locations that are unusually higher than the surrounding average terrain (i.e. mountain peaks or a  
128 multiple floor building in a metropolitan area) may require spacing distance in excess of Policy 5  
129 guidelines. Repeater locations where terrain and low ERP are a factor may allow for less  
130 distance. Decisions concerning distances are based on various technical parameters of the  
131 proposed repeater. Those decisions are made at the discretion of the Frequency Coordinator and  
132 the Board of Directors.

## 133 **POLICY 7 - REPEATER POWER LIMITATIONS**

134 Although the FCC has eliminated specific power limits for repeaters according to height above  
135 average terrain (HAAT) as contained in the former Section 97.67 (C), the CSMA will continue  
136 to weigh the requested ERP against the desired coverage area. ERP limits will be set by the  
137 coordinator to allow efficient re-use of spectrum in the best interest of the amateur community.  
138 As a rule, the CSMA does not honor requests for repeater pairs that are contrary to our  
139 recommended plan, which has been designed for maximum utilization of frequencies in our  
140 areas.

## 141 **POLICY 8 - TRUSTEE & HOLDER OF RECORD**

142 The trustee is the holder of record of a coordination, except in the case of a club sponsored  
143 emitter for which the club is the holder of record and the appointed trustee will act on behalf of  
144 the sponsor.

145 All requests for coordination, or for changes in listing, call sign, sponsorship, or trustee  
146 information for an emitter or its associated link(s) shall be submitted in writing on the  
147 appropriate CSMA form over the signature of the owner/trustee, except for club emitters, which  
148 will be over the signature of the trustee and the club president. Club sponsors may make a  
149 trustee change, provided the request is signed by the new trustee and club president.

150 If an emitter that is originally coordinated to an individual later becomes sponsored by a club, the  
151 individual still remains the holder of record, unless the coordination is transferred similar to the  
152 steps as outlined in Policy 11.

153 A. If the coordination is transferred the club becomes the “primary” sponsor.

154 B. If the owner/trustee retains the coordination in his name, the club may provide  
155 “secondary” sponsorship.

156 Frequency Coordination requests will be made on an official “Application for Frequency  
157 Coordination” form. The applicant shall provide all requested information and submit the  
158 application to the appropriate Frequency Coordinator for his final approval.

## 159 **POLICY 9 - HEIGHT, POWER, FREQUENCY, OR LOCATION** 160 **CHANGES**

161 Coordination is based on information provided by the applicant and contained on the  
162 “Application for Frequency Coordination” form. Any change of location, antenna height or

163 pattern, effective radiated power, frequency, or any other operating parameter will require the  
164 emitter to be re-coordinated. The CSMA Frequency Coordinator shall be notified in writing on  
165 the appropriate form. Re-coordination is required to verify that interference to or from other  
166 emitters does not occur. Re-coordination is not to allow another emitter or proposed emitter to  
167 be assigned to the frequency.  
168  
169

## 170 **POLICY 10 - DIRECTIONAL & NON-DIRECTIONAL**

171 In all cases, a coordinated emitter using a non-directional antenna and changing to a directional  
172 antenna or using a directional antenna and changing to a non-directional antenna will require re-  
173 coordination. Any subsequent approval will transfer the emitter to the status of a newly  
174 coordinated emitter as defined in Policy 12.  
175

## 176 **POLICY 11 - EMITTER PAIRS RELINQUISHED**

177 Normally, emitter frequency coordinations are not transferable. When the current trustee of  
178 record relinquishes his coordination in writing, the frequencies revert back to the CSMA  
179 frequency pool. If a trustee sells his emitter system to another person, the same frequency pair  
180 may be re-coordinated to the new owner; provided, the coordination request meets the CSMA  
181 Coordination Policy and Guidelines, the proposed new trustee makes an application to his  
182 respective Frequency Coordinator within thirty days of the sale, and the current trustee of record  
183 has relinquished that frequency pair. If the new owner does not make an application within  
184 thirty days, the frequencies shall revert back to the CSMA frequency pool.

## 185 **POLICY 12 – EMITTER RE-COORDINATION**

186 Re-coordination transfers an emitter to newly coordinated, with regard to “first on frequency”  
187 status. See POLICY 14d.  
188

## 189 **POLICY 13 - TRUSTEE RESPONSIBILITY**

190 A trustee of a coordinated emitter shall notify the CSMA, (address available at  
191 [www.ctspectrum.com](http://www.ctspectrum.com)) in writing (email acceptable), within thirty days of any change in their  
192 mailing address. Trustees shall notify the CSMA in writing, within thirty days of the date the  
193 emitter ceases operation. If an emitter permanently ceases operation or is sold for relocation, the  
194 trustee shall notify the CSMA in writing, within thirty days of the event. Such cessation letter  
195 will be construed to mean the trustee is relinquishing the assigned frequency pair. Failure to  
196 respond to a request for information update from CSMA within 90 days may also be construed as  
197 notification that the emitter has ceased operation and the frequencies are available for re-  
198 assignment.

## 199 **POLICY 14 - COORDINATION SPECIFICS**

200 In terms of coordination, the CSMA has established policies dealing with priorities for emitter  
201 frequency requests.

202  
203  
204  
205  
206  
207  
208  
209  
210  
211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233

- A. RESERVED
- B. The owner and/or trustee of the proposed emitter should actively participate with the Frequency Coordinator in the survey of available frequencies and the coverage area of existing systems. Further, the owner and/or trustee will bear the primary responsibility for any testing or monitoring period that might be required by the Frequency Coordinator. The Frequency Coordinator may also require the logging of signals heard, at the proposed coordination site, from co-channel and/or adjacent users. Although the final decision will be at the discretion of the Frequency Coordinator, during any arbitration that may take place; the burden of proof of an alleged clear frequency will rest with the proposed emitter owner and/or trustee.
- C. Emitter frequency assignments shall be made with more consideration given to the transmissions of fixed and mobile stations than the output signal of the emitter. The majority of emitter coordination problems arise from fixed and mobile stations inadvertently accessing co-channel and adjacent channel emitters in addition to the one intended.
- D. Just as with AM & FM commercial broadcast allocations, “first on frequency” is the accepted principle. Existing coordinated emitters have first right to continued use of their frequencies and reasonable service areas. The effective use of an existing emitter should not be appreciably diminished by a new emitter. These rights have great weight, but are not absolute. For example: An established wide area emitter should tolerate minor loss of fringe coverage and the occasional inadvertent access, to allow a new emitter to provide needed service in a location distant from the first. Further, “first on frequency” carries no special right to make a technical parameter change without re-coordination of the frequency assignment, as stated in Policy 9.
- E. Requests for closed emitters will be discouraged. The rationale for our position is simple. Frequency pairs are a limited and valuable resource and they should be made available to all amateurs. CSMA may reduce the adjacent and co-channel protection distances for closed emitters to maximize frequency utilization.
- F. Emitter linking via remotely controlled transmitters and/or receivers, utilizing an allocated CSMA repeater input and/or output frequency, has the potential to cause harmful interference to coordinated repeater operations and is therefore highly discouraged.

## **POLICY 15 - GOOD EMITTER OPERATING PRACTICES**

Good operating practices are needed by emitter owners and/or trustees and users alike to achieve the standards that are expected in the amateur radio service. Although coordination councils lack the actual “police power” to regulate amateur frequencies, mutual cooperation between the coordination council, owners and/or trustees, and users is required to make frequency coordination work. Our coordination policy is an outline, which, if followed on a voluntary basis by all, will allow the coordination plan to work, thereby providing a better operating climate for all within amateur radio.

Further, the CSMA advocates:

- A. Emitter owners and/or trustees and users are expected to maintain good engineering and operating practices, as well as common amateur courtesy. Good amateur practice promotes harmony and prevents unwanted interference to, and from, other systems.

- 246 B. Emitter users should see that their equipment operates on the proper frequency and their  
247 deviation should not exceed 4.5 KHz.
- 248 C. When the system's effective radiated power exceeds its receive capability, operators tend to  
249 use excessive transceiver power in order to access an emitter. This creates an atmosphere  
250 of potential interference to other co-channel and adjacent channel emitters. Therefore, it is  
251 strongly suggested that emitter ERP should always equal the receive capability.
- 252 D. Emitter owners and/or trustees are encouraged to use state of the art equipment with  
253 sufficient filtering on input and output, as well as maintaining proper calibrations, to  
254 prevent adjacent channel interference.
- 255 E. Emitter owners should utilize intermod suppression devices to limit the generation of  
256 intermod products that may cause interference to other amateur or commercial services.

## 257 **POLICY 16 - REQUESTS FOR COORDINATION**

258 Although voluntary from the beginning of emitter operation, frequency coordination has played a  
259 large part in maintaining order in the operation of emitters. The CSMA strongly recommends to  
260 all amateurs that wish to construct and operate an emitter to seek coordination and cooperate  
261 fully with their coordination council.

- 262 A. Any verbal discussion concerning coordination with the Frequency Coordinator is  
263 welcomed. No official action will be taken until a complete written Request for  
264 Coordination is received providing all of the required information.
- 265 B. Any licensed amateur that wants to construct and operate an emitter shall fill out a Request  
266 for Coordination form. Request for Coordination forms are available at the CSMA web  
267 site. This form then shall be submitted to the CSMA. Incomplete forms cannot be  
268 processed and will delay the application.
- 269 C. The CSMA shall be provided all control or link frequencies used in an emitter system.  
270 This information will be used to help prevent interference from other emitter systems,  
271 which might use control or link frequencies. Link and control frequencies are also required  
272 to be coordinated. All control or link frequencies must comply with the current CSMA  
273 band plan. This information will be held as confidential and not be published or made  
274 available to anyone, other than frequency coordinators through the regular course of their  
275 duties.
- 276 D. The frequency coordinator or his or her band coordinator will notify the emitter operator  
277 that they have 90 days, once temporary coordination is granted to install equipment that is  
278 seeking permanent coordination. The emitter operator will then notify the Secretary of  
279 CSMA when the equipment is installed and operational thereby beginning the 180 day test  
280 period. Reasonable time must be used during this six month period to assure adequate  
281 interference and technical standards are met. CSMA directors and/or the frequency  
282 coordinator and/or his band coordinator may expand the testing time to assure proper  
283 technical standards are met. The Board has the right to rescind any and all temporary  
284 coordination's. Temporary coordination does not assure permanent coordination approval.
- 285 E. Upon completion of six months of on the air testing period, the trustee of a new emitter  
286 shall notify the CSMA by using the appropriate CSMA form, or in the absence thereof by  
287 letter, when his emitter is on the air in a permanent condition and operating within the  
288 specifications of the original coordination request. At this time, if no issues preventing the  
289 permanent coordination exist, the Frequency Coordinator will submit for Permanent  
290 Coordination the emitter's request to the Board.

291 F. Although the FCC no longer requires submission of emitter system diagrams, other  
292 pertinent data, and logging of emitter operation, emitter trustees are still responsible for  
293 maintaining the complete history and system description in written form. Further, it is  
294 strongly recommended that each emitter trustee maintain a copy of the current CSMA  
295 Coordination Policy and Guidelines.

## 296 **POLICY 17 - EMITTER DE-COORDINATION**

297 To preserve integrity in coordination and to maintain accurate records, the CSMA maintains  
298 certain rules that shall be followed by emitter owners. If these requirements are not followed de-  
299 coordination of the frequency assignment will follow.

300 A. CSMA reserves the right to revoke a coordinated frequency under the following  
301 circumstances:

- 302 1. If the FCC orders the system to permanently cease operation,
- 303 2. If during a six month monitoring period the holder cannot comply with the request of the  
304 CSMA to demonstrate the operation of such system within thirty days of the request; or if  
305 there is not a working system on the air and the trustee has not filed a written request on a  
306 CSMA form requesting a continuation of coordination,
- 307 3. When a determination has been made that a frequency pair has not been in use for six  
308 months, the CSMA will send an inquiry by certified and first class mail, to the trustee of  
309 record. Should no response be received within thirty days from the date of receipt of this  
310 letter, or if the letter be returned as not delivered the coordination of the frequency pair  
311 will be rescinded. Upon receipt of the trustee's response within the 30 day period,  
312 CSMA, at its discretion, will determine the outcome of the coordination.
- 313 4. If, in the course of research, a frequency allocation is determined to be vacant and the  
314 trustee of record cannot be located by certified mail, return receipt requested, or;
- 315 5. If the trustee of the system consistently violates good engineering and/or good amateur  
316 practices by:

- 317 a. operating a system with excessive deviation, spurious emissions, off frequency, or to  
318 cause harmful interference, or
- 319 b. having been found to be responsible for interference to another system, refuses to  
320 cooperate with the other trustee(s) involved and/or the CSMA,
- 321 c. or, operates remotely controlled transmitters and/or receivers for the purpose of  
322 emitter linking, which utilize any allocated CSMA emitter input and/or output  
323 frequency, which cause harmful interference to coordinated emitter operations.

324 B. If arbitration proves that the public interest will be better served by a de-coordination act,  
325 or that spectrum utilization will be enhanced by the coordination and subsequent re-  
326 assignment of that frequency to another party, the CSMA may initiate the de-coordination  
327 act.

328 C. An emitter trustee will have the right to file a one time protest of each de-coordination act  
329 by filing a grievance with the CSMA within ten days of the final finding. If an emitter  
330 trustee protests a de-coordination act, the CSMA will present all documentation concerning  
331 the de-coordination to a review board appointed by the CSMA Board. The determination  
332 of this board shall be the final action by CSMA.

- 333 1. Various other de-coordination actions may be taken by the CSMA for good cause or  
334 reason and subject to the same grievance procedure as set forth in Policy 17.B. In all

335 cases the CSMA will notify the emitter trustee, setting forth the cause or reasons for the  
336 action.

337 2. De-coordinated frequencies will be placed back into the frequency pool and made  
338 available for future coordination by the CSMA.

339 3. Re-assignment of de-coordinated frequencies will not take place until an interval of  
340 thirty days has passed since final notice has been delivered to the trustee.

341

## 342 **POLICY 18 - INTERFERENCE POLICIES**

343 The CSMA maintains a policy of dealing with interference problems between emitter owners,  
344 trustees, and sponsors to resolve these disputes. This policy complies with  
345 FCC rulings and guidelines.

346 A. If an uncoordinated emitter causes harmful interference to a coordinated emitter, the primary  
347 responsibility for correcting the interference rests with the trustee of the uncoordinated  
348 emitter in accordance with FCC Part 97.205(c).

349 B. If both emitter systems are coordinated, the trustee of the most recently coordinated or re-  
350 coordinated system bears the responsibility for correcting the interference.

351 C. If both emitter systems are uncoordinated CSMA will not address the issue.

352 D. In cases where an emitter in a CSMA district is involved with interference with a system  
353 operated outside of a CSMA district, the CSMA will work with the frequency coordinator  
354 from the other territory and should work within CSMA Policies and Guidelines while  
355 working to resolve the dispute with the other emitter and Coordinating Council.

356 E. If an emitter trustee changes the location, antenna height or pattern, ERP, frequency, or  
357 other operating parameters of his system, as defined in Policy 9, and subsequently causes  
358 interference to other co-channel or adjacent channel emitters, that emitter trustee bears  
359 primary responsibility for correcting the interference.

## 360 **POLICY 19 - INTERFERENCE REVIEW PROCEDURES**

361 CSMA policies provide equal fairness to all parties that are involved in review and arbitration  
362 procedures that are a result of emitter interference complaints.

363 A. An emitter trustee who is a victim of harmful interference from another emitter system, or  
364 its operators, shall document times, band conditions, station call signs, and the type of  
365 interference experienced. Abnormal band conditions will not be considered as a valid  
366 reason for filing an interference complaint. CSMA encourages emitter trustees to  
367 communicate directly between each other and the ARRL Field Organization.

368 B. If negotiation attempts fail and the interference problem cannot be resolved with the trustee  
369 of the interfering emitter, the offended trustee shall then contact the CSMA by letter or  
370 email, outlining the problem and provide his documentation of the problem. Any failed  
371 attempt to contact the interfering emitter trustee should also be explained in detail.

372 C. The CSMA shall use the complete documented history of the affected emitter and offending  
373 emitter that is contained in the applicable coordination file and database. If the CSMA  
374 needs any other information, the individual trustees, or sponsors, shall provide that  
375 information within thirty days of any request by the CSMA.

376 D. All cases of malicious interference should be forwarded to ARRL Official Observer having  
377 jurisdiction in the area where interference is located after proper documentation has been

378 made. Documentation shall include, but not be limited to, times, band conditions, station  
379 call signs, and the type of interference experienced.  
380

## 381 **POLICY 20 - EMITTER INDEXES AND PUBLISHED LISTINGS**

382 Aside from coordination of emitters in Connecticut, the CSMA shall maintain an accurate  
383 database of information that will be readily available to all officers of the organization. The  
384 source of data contained in the ARRL Emitter Directory listings, or indexes, is the respective  
385 CSMA Frequency Coordinator. Listing from any other source will be reviewed and approved by  
386 the respective Frequency Coordinator, prior to publication.

- 387 A. The CSMA shall maintain a computerized database of all known emitters in Connecticut.  
388 The emitter listings will be updated for publication in the ARRL Emitter Directory, and are  
389 believed to be correct to the best of our knowledge. The published listings will contain  
390 only basic pertinent emitter information. All other emitter information, will be held as  
391 confidential and will not be published or made available to anyone, other than frequency  
392 coordinators through the regular course of their duties. Newly coordinated frequencies  
393 may sometimes miss publication deadlines and not readily appears in the ARRL Repeater  
394 Directory, even though the information will be contained in the master database.
- 395 B. The operational parameters of all emitters within the CSMA jurisdiction will be contained in  
396 our database. Any emitter operating contrary to the official CSMA Frequency Utilization  
397 Plan shall be marked as such in the database. By publishing a “non band plan” emitter, the  
398 CSMA is not condoning such operation.
- 399 C. The CSMA Database may not be published or reproduced, in any form, by any individual,  
400 publication, electronic source, or any other means, for distribution without the expressed  
401 written consent of the CSMA, Inc.
- 402 D. While the CSMA makes every attempt to publish correct and accurate indexes, we cannot be  
403 responsible for errors in our lists.
- 404 E. Emitter owners and/or trustees are responsible for providing information of their emitter.  
405 The owner/trustee is responsible to see that all pertinent operational information is on file  
406 with the CSMA.  
407

## 408 **DOCUMENT MODIFICATION HISTORY:**

409 CSMA Coordination Policies and Guidelines first draft, 08/29/2004

410 CSMA Coordination Policies and Guidelines adopted subject to grammatical correction,  
411 09/18/04

412 Changes to Policy 5 for 144-148 & 222 co channel distance increased from 70 miles to 80  
413 miles. Also changed the adjacent channel spacing on 144-145 from 25 miles to 30 miles for  
414 20 KHz spacing as accepted at the April 30, 2006 CSMA meeting in Manchester.

415 September 30, 2007 - Changes to Policy 16 paragraph D regarding timing of repeater  
416 coordination's. 90 day construction period followed by a 180 day test period.

417 October 19, 2008 – Change to Policy 5 increasing from 10 miles to 25 miles the distance of  
418 440 repeaters operating at 25 KHz on adjacent pairs.