



SERA Form 03, Revised 1/7/2006

**Application for Frequency Coordination
SouthEastern Repeater Association, Inc**
 Representing Coordination and UHF/VHF Interests throughout
 Georgia, Kentucky, Mississippi, North Carolina, South
 Carolina, Tennessee, Virginia, and West Virginia

Page One of Two

Please return this form to your local coordinator (see your district page at www.sera.org).

The SERA provides a service of repeater coordination in FCC authorized bands above 29.5 MHz. Volunteers provide this service, and its effectiveness is directly proportional to the degree of cooperation between amateur repeater owners and the SERA. Not all repeater owners cooperate, and there is no guarantee that the frequency we assign will be free of interference. Applicants are expected to actively participate with coordinators to determine which frequencies are usable in their area. Please provide ALL information (print or type) requested, as incomplete forms will delay your application. This information will be kept confidential and will be used only for coordination. We value your cooperation and will respond to your request as soon as possible.

For additional information, see the SERA web page www.sera.org or contact your frequency coordinator.

Desired Frequency: _____ Input: _____ Output: _____
 For auxiliary frequencies (control, link, voting receiver links, link to hub repeater, etc), please attach a system drawing that shows how the auxiliary station will be used and what band(s) on which coordination is desired. The coordinator can be asked to assign a frequency.

Proposed Location of Repeater: _____

Describe the EXACT location of the repeater **above**, enabling your coordinator to pinpoint its location on a map. Please don't use coordinates here.

Please supply a published map of sufficient scale, or a clear photocopy, clearly indicating accurately the exact location of the repeater

City/Town: _____ County: _____ State: _____

Location Specifics: Latitude and longitude below should be provided to the nearest second. Do NOT use decimals for either degrees or minutes. (Only first line required if transmitter AND receiver are at the same site)

Transmitter: Latitude: _____ ° ' " Longitude: _____ ° ' "
 Receiver: Latitude: _____ ° ' " Longitude: _____ ° ' "

Enter latitude and longitude in Degrees, Minutes, and Seconds. Remember that minutes must be an integer of 59 or less and that seconds must be a number less than 60.

If this repeater will have more than one remote receiver, please attach another sheet describing the exact location and other installation details.

ARRL Grid Square: (Calculated by Frequency Coordinator)

Repeater Callsign: _____ Repeater Directory Listing/City Name (limit 16 characters): _____

Trustee Name: _____	Sponsor Name: _____
Call: _____	Call: _____
Address: _____	Address: _____
City, State, Zip: _____	City, State, Zip: _____
Phone: _____	Phone: _____
Email Address: _____	Email Address: _____

Type of coordination: Individual or Club
 Holder of Record ("Holder" of the coordination): Trustee or Sponsor
 Person responsible for answering SERA correspondence: Trustee or Sponsor

I have in my possession and have also read and understand both the latest edition **Coordination Policy and Guidelines of the SouthEastern Repeater Association, Inc.**, and of the **FCC Part 97 rules** pertaining to repeater operation.

Trustee (Printed): _____ Signature: _____
 If Club Sponsored: _____ Officer _____
 Officer (Printed): _____ Callsign: _____ Date: _____

Complete both sides and return this signed original form to your coordinator via US Mail or Fax (if available)

Antenna information

Transmit site Ground elevation Above Mean Sea Level **GAMSL** _____ Feet
 Center of Antenna Height of Above Ground **AHAG** _____ Feet
 Total: (Height of center of Antenna Above Mean Sea Level) **AAMSL** _____ Feet

Antenna pattern (circle one) OMNI DIRECTIONAL to: _____ (Azimuth) USE degrees, NOT direction name or abbreviation

Antenna Height Above Average Terrain

(Calculated only by Frequency Coordinator)	AHAAT:	Feet
(Entered only by Frequency Coordinator)	ERP:	Watts

Effective Radiated Power

**SERA Coordination Policy and Guidelines
 POLICY 7 - REPEATER POWER LIMITATIONS:**

28 MHz to 225 MHz	420 MHz and above
up to 100 feet HAAT - 800w ERP	up to 1000 feet HAAT - 800w ERP 1000 feet and above - 400w ERP
100-500 feet HAAT - 400w ERP	
500-1000 feet HAAT - 200w ERP	
1000 feet and above - 100w ERP	

Frequency Coordinators also have the authority to impose power limitations of a repeater which may be based in whole or in part on calculated effective radiated power (ERP), height above average terrain (HAAT), antenna system design, and separation from co-channel and adjacent repeaters.

General Information: (Please circle all that apply. ARRL code follows each item if used in ARRL Repeater Directory.)

Mode will be	FM	ATV	OTHER:				
Access will be	TONE BURST	DTMF	DCS CODE _____ ds	CTCSS _____ Hz t	Publish code/tone? YES NO		
Other features	OPEN AUTOPATCH a	CLOSED AUTOPATCH (ca)	EMERGENCY POWER e	SOLAR POWER e-sun	WIND POWER e-wind	LINKED OR CROSSBAND l	SKYWARN Wx
	REMOTE BASE SYSTEM RB	RACES AFFILIATED R	ARES AFFILIATED S	OTHER:			

Transmitter output power: (A)	Watts	Antenna gain (from manufacturer specs.): (B)	dB	Length of antenna feed line: (C)	Ft
Brand, Model (& diameter) of antenna feed line: (D)		Duplexer insertion loss (manufacturer. specs): (E)	dB	Transmitting frequency band: (F)	MHz

Tables below for use of frequency coordinator only

Table I – Conversion between Watts and dBW

Watts	dBW	Watts	dBW	Watts	dBW	Watts	dBW
1	= 0.0	35	= 15.4	125	= 21.0	475	= 26.8
2	= 3.0	40	= 16.0	150	= 21.8	500	= 27.0
3	= 4.8	45	= 16.5	175	= 22.5	525	= 27.2
4	= 6.0	50	= 17.0	200	= 23.0	550	= 27.4
5	= 7.0	55	= 17.4	225	= 23.5	575	= 27.6
6	= 7.8	60	= 17.8	250	= 24.0	600	= 27.8
7	= 8.5	65	= 18.1	275	= 24.4	625	= 28.0
8	= 9.0	70	= 18.5	300	= 24.8	650	= 28.1
9	= 9.5	75	= 18.8	325	= 25.1	675	= 28.3
10	= 10.0	80	= 19.0	350	= 25.4	700	= 28.5
15	= 11.8	85	= 19.3	375	= 25.7	725	= 28.6
20	= 13.0	90	= 19.5	400	= 26.0	750	= 28.8
25	= 14.0	95	= 19.8	425	= 26.3	775	= 28.9
30	= 14.8	100	= 20.0	450	= 26.5	800	= 29.0

Table II
 Coaxial Cable feed line loss factors (dB per 100 feet at 50 ohms)

Freq. MHz	Typical RG-8	9913 RG-8	1/2" LDF	7/8" LDF	1-5/8" LDF
28	.88	.68	.37	.20	0.12
50	1.20	.90	.48	.26	0.16
144	1.80	1.30	.85	.46	0.27
222	2.80	1.85	1.04	.57	0.35
440	4.20	2.70	1.51	.84	0.50
902	6.70	4.20	2.29	1.28	0.78
1240	8.20	5.20	2.64	1.48	0.90
2400					0.94

Rule of thumb: Shoot for a maximum loss of 2 dB

GAINS: Power **(A)** (converted to **dBW** in **Table I**): + Antenna Gain **(B)**: = **dB = SYSTEM GAIN**

LOSSES: Feed Line length **(C)** Ft /100 = x **Table II** for Feed Line **(D)** = **dB = CABLE LOSS** (enter on next line)

CABLE LOSS: + Insertion Loss **(E)**: = **dB = SYSTEM LOSS**

SYSTEM GAIN: _____ dB – **SYSTEM LOSS** _____ dB = **ERP in dBW** _____ (This is NOT watts)

ERP: (dBW) converted back to Watts, using **Table I** = _____ **Watts** (Transfer to ERP, at top of page)

Please remember that this section is for use of the frequency coordinator only.