



## Across

1. Unwanted signals
6. Descriptions of where the power goes
12. 3 to 30 kHz
13. Transmitter output measurement
15. Where US hams aim for Scarborough Reef on the short path
16. Circuit that keeps FM signals tuned in
17. Logic gates made from resistors and transistors
19. Term for power given off by antennas
23. Ninety degrees from 15 Across
25. Most popular family of directional antennas
26. Abbreviation for numeric information
27. What you have to do on the air every 10 minutes
30. System of operating modes wirelessly (abbr)
32. Just above 12 Across
33. An antenna with a preferred direction
36. CW abbreviation for male operator
37. Prefix meaning "near"
38. Male pronoun
39. Optimum frequency (symbol)
40. Built in or encased
44. The highest mountains in Europe
46. Another acronym for Zulu or GMT
47. Prefix for Peruvian stations
48. Synonym for "lid"
50. Electrically switches antenna sections in and out

51. Slender, flexible antenna
52. With respect to isotropic
56. Suffix of a station at sea
57. A bipolar transistor's turn-on voltage is measured between these two terminals
58. Mobile platform
59. Most common and oldest type of antenna
61. Mountain range that divides Europe and Asia
63. Method of movement by a station described in 56 Across
65. Where the antenna in 59 Across radiates best if oriented EW
66. Opposite of sit
67. Short sections of transmission line used for tuning
69. Make two impedances equal
70. CW for "from"
71. Change frequency
72. Abbreviation for "reduce in strength"
73. Acronym for static pulse

## Down

1. Communication through high-angle skywave
2. Abbreviation for too much received signal
3. Flying an airplane by instruments only (abbr)
4. Companion to H-Plane
5. Same as 15 Across, but long path
7. CW meaning of ES
8. Duplicate
9. Consume

10. Implanted or tagged chips used for identification (acronym)
11. An oscillator controlled with digital data (acronym)
14. What the "P" in "PCB" stands for
18. Prefix of Benin
20. CW for "stand by"
21. An antenna with multiple elements
22. Most popular voice mode for hams (acronym)
24. Opposite of narrow
28. Measurement of an antenna's ability to direct or reject signals
29. Region of radiation
31. CW for "closing station"
32. Antenna made of continuous conductors
34. Edge or lip
35. Inexpensive
37. 2.2 of these in a kilogram
39. An antenna design that doesn't work
41. Prototypes go with this kind of bread
42. With respect to 1 milliwatt
43. With respect to 1 watt
44. Horizontal direction
45. Electrically enclosed to reject incoming signals
49. Unit of resistance
53. Corrosion-resistant metal used in marine antennas
54. Satellite location system
55. Remove dirt and oxidation
57. Frequency ranges
60. Abbreviation for measuring device
62. Suffix of ARRL propagation bulletin author's call
64. Prefix for Argentina
66. Unidirectional thyristor
68. Type of college degree
69. Number one

1	N	2	O	3	I	4	S	5	E	6	P	7	A	8	T	9	E	10	R	11	N	S
12	V	13	L	14	F	15	P	16	E	17	C	18	A	19	F	20	A	21	R	22	O	N
23	S	24	W	25	R	26	T	27	L	28	A	29	R	30	I	31	D	32	A	33	I	B
34	D	35	I	36	R	37	E	38	C	39	T	I	O	40	N	A	L	41	M	42	O	M
43	P	44	E	45	R	46	I	47	H	48	E	49	B	50	Y	51	F	52	O	53	S	
54	O	55	M	56	E	57	D	58	D	59	E	60	D	61	E	62	A	63	L	64	P	S
65	P	66	E	67	B	68	H	69	E	70	B	71	Y	72	F	73	O	74	S	75	P	
76	T	77	A	78	G	79	R	80	I	81	S	82	N	83	L	84	R	85	D	86	C	
87	S	88	E	89	P	90	E	91	R	92	T	93	L	94	A	95	I	96	O	97	N	
98	T	99	B	100	S	101	M	102	A	103	T	104	C	105	H	106	D	107	E	108	S	
109	A	110	Y	111	L	112	T	113	U	114	S	115	T	116	B	117	S	118	D	119	E	
120	T	121	S	122	O	123	Q	124	D	125	N	126	R	127	E	128	S	129	D	130	S	