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NUMERICAL ANALYSIS OF
DOUBLE DELTA ANTENNAS
VOLUME II

by

Achmad Chalid

December 1988

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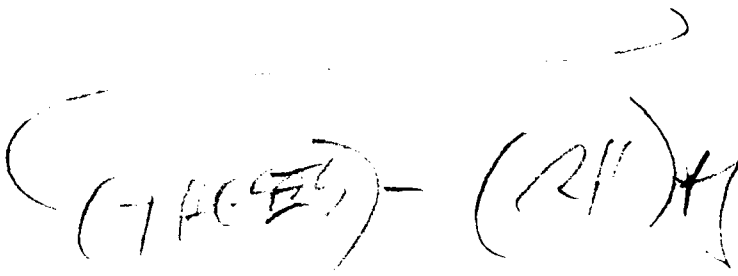
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The Double Delta antenna is an HF communication antenna which exists in many forms throughout military communication commands. Performance characteristics for existing designs are presently unknown and are required in order to recommend an optimum design. This thesis investigates Double Delta antennas used by the US Army (lowband and highband), the US Air Force (lowband and highband), and a commercial model. Selected models are analyzed by a computer simulation method using the Numerical Electromagnetics Code (NEC). The antenna designs are investigated to determine optimum performance characteristics over the 2 - 30 MHz range of frequencies. The parameters calculated were input impedance, VSWR, and antenna gain radiation patterns. For the performance of the antennas when sited near lossy ground, the Sommerfeld method was employed. Finally the results of the evaluation are presented and recommendations are made.				
				
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Volume II

by

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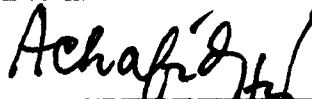
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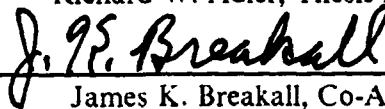


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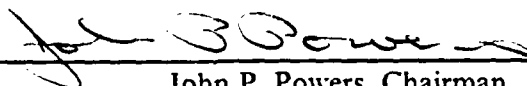
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NUMERICAL ANALYSIS OF DOUBLE DELTA ANTENNAS

VOLUME II

This volume contains Appendix C, the plots of input impedance, VSWR, and maximum gain versus frequency and plots of radiation patterns for each frequency for the Army, the Air Force, and the ESI 32A2A Double Delta antennas. Descriptions of the Army, the Air Force, the ESI 32A2A Double Delta antenna, and method and results of the investigation were described in Volume I.



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TABLE OF CONTENTS

APPENDIX C: PLOTS OF INPUT IMPEDANCE, VSWR, AND MAXIMUM GAIN VERSUS FREQUENCY AND PLOTS OF RADIATION PATTERNS FOR EACH FREQUENCY	1
INITIAL DISTRIBUTION LIST VOLUME II	313

LIST OF FIGURES

Figure 6.	VSWR vs freq. for the Army Lowband DD antenna over perfect ground (normalized impedance = 50 ohms)	1
Figure 7.	VSWR vs freq. for the Army Lowband DD antenna over perfect ground (normalized impedance = 300 ohms)	2
Figure 8.	VSWR vs freq. for the Army Lowband DD antenna over perfect ground (normalized impedance = 600 ohms)	3
Figure 9.	Comparison VSWR vs frequency for the Army Lowband DD antenna over perfect ground	4
Figure 10.	Impedance vs freq. for the Army Lowband DD antenna over perfect ground (normalized impedance = 50 ohms)	5
Figure 11.	Impedance vs freq. for the Army Lowband DD antenna over perfect ground (normalized impedance = 300 ohms)	6
Figure 12.	Impedance vs freq. for the Army Lowband DD antenna over perfect ground (normalized impedance = 600 ohms)	7
Figure 13.	Max. gain vs frequency for the Army Lowband DD antenna over perfect ground and fair ground (boresight)	8
Figure 14.	Max. gain vs frequency for the Army Lowband DD antenna over perfect and fair ground (broadside)	9
Figure 15.	VSWR vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 50 ohms)	10
Figure 16.	VSWR vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 300 ohms)	11
Figure 17.	VSWR vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 600 ohms)	12
Figure 18.	Comparison VSWR vs frequency for the Army Highband DD antenna over perfect ground	13
Figure 19.	Impedance vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 50 ohms)	14
Figure 20.	Impedance vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 300 ohms)	15
Figure 21.	Impedance vs freq. for the Army Highband DD antenna over perfect	

	ground (normalized impedance = 600 ohms)	16
Figure 22.	Max. gain vs freq. for the Army Highband DD antenna over perfect ground and fair ground (boresight)	17
Figure 23.	Max. gain vs frequency for the Army Highband DD antenna over perfect ground and fair ground (broadside)	18
Figure 24.	VSWR vs freq. for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 50 ohms)	19
Figure 25.	VSWR vs freq. for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 300 ohms)	20
Figure 26.	VSWR vs freq. for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 600 ohms)	21
Figure 27.	Comparison VSWR vs freq. for the Air Force Lowband DD antenna over perfect ground	22
Figure 28.	Impedance vs frequency for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 50 ohms)	23
Figure 29.	Impedance vs frequency for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 300 ohms)	24
Figure 30.	Impedance vs frequency for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 600 ohms)	25
Figure 31.	Max. gain vs freq. for the Air Force Lowband DD antenna over perfect ground and fair ground (boresight)	26
Figure 32.	Max. gain vs frequency for the Air Force Lowband DD antenna over perfect ground and fair ground (broadside)	27
Figure 33.	VSWR vs freq. for the Air Force Highband DD antenna over perfect ground (normalized impedance = 50 ohms)	28
Figure 34.	VSWR vs freq. for the Air Force Highband DD antenna over perfect ground (normalized impedance = 300 ohms)	29
Figure 35.	VSWR vs freq. for the Air Force Highband DD antenna over perfect ground (normalized impedance = 600 ohms).	30
Figure 36.	Comparison VSWR vs frequency for the Air Force Highband DD antenna over perfect ground	31
Figure 37.	Impedance vs frequency for the Air Force Highband DD antenna over perfect ground (normalized impedance = 50 ohms)	32
Figure 38.	Impedance vs frequency for the Air Force Highband DD antenna over perfect ground (normalized impedance = 300 ohms)	33

Figure 39. Impedance vs frequency for the Air Force Highband DD antenna over perfect ground (normalized impedance = 600 ohms)	34
Figure 40. Max. gain vs freq. for the Air Force Highband DD antenna over perfect ground and fair ground (boresight)	35
Figure 41. Max. gain vs frequency for the Air Force Highband DD antenna over perfect ground and fair ground (broadside)	36
Figure 42. VSWR vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 50 ohms)	37
Figure 43. VSWR vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 300 ohms)	38
Figure 44. VSWR vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 600 ohms)	39
Figure 45. Comparison VSWR vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground	40
Figure 46. Impedance vs freq. for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 50 ohms)	41
Figure 47. Impedance vs freq. for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 300 ohms)	42
Figure 48. Impedance vs freq. for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 600 ohms)	43
Figure 49. Max. gain vs freq. for the ESI 32A2A Broadband DD antenna over perfect ground and fair ground (boresight)	44
Figure 50. Max. gain vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground and fair ground (broadside)	45
Figure 51. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 2 MHz	46
Figure 52. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 2 MHz	47
Figure 53. Azimuth patterns of the Army Lowband DD antenna over fair ground at 2 MHz	48
Figure 54. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 3 MHz	49
Figure 55. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 3 MHz	50
Figure 56. Azimuth patterns of the Army Lowband DD antenna over fair ground	

at 3 MHz	51
Figure 57. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 4 MHz	52
Figure 58. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 4 MHz	53
Figure 59. Azimuth patterns of the Army Lowband DD antenna over fair ground at 4 MHz	54
Figure 60. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 5 MHz	55
Figure 61. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 5 MHz	56
Figure 62. Azimuth patterns of the Army Lowband DD antenna over fair ground at 5 MHz	57
Figure 63. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 6 MHz	58
Figure 64. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 6 MHz	59
Figure 65. Azimuth patterns of the Army Lowband DD antenna over fair ground at 6 MHz	60
Figure 66. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 7 MHz	61
Figure 67. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 7 MHz	62
Figure 68. Azimuth patterns of the Army Lowband DD antenna over fair ground at 7 MHz	63
Figure 69. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 8 MHz	64
Figure 70. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 8 MHz	65
Figure 71. Azimuth patterns of the Army Lowband DD antenna over fair ground at 8 MHz	66
Figure 72. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 8 MHz	67
Figure 73. Azimuth patterns of the Army Highband DD antenna over perfect ground at 8 MHz	68

Figure 74. Azimuth patterns of the Army Highband DD antenna over fair ground at 8 MHz	69
Figure 75. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 9 MHz	70
Figure 76. Azimuth patterns of the Army Highband DD antenna over perfect ground at 9 MHz	71
Figure 77. Azimuth patterns of the Army Highband DD antenna over fair ground at 9 MHz	72
Figure 78. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 10 MHz	73
Figure 79. Azimuth patterns of the Army Highband DD antenna over perfect ground at 10 MHz	74
Figure 80. Azimuth patterns of the Army Highband DD antenna over fair ground at 10 MHz	75
Figure 81. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 11 MHz	76
Figure 82. Azimuth patterns of the Army Highband DD antenna over perfect ground at 11 MHz	77
Figure 83. Azimuth patterns of the Army Highband DD antenna over fair ground at 11 MHz	78
Figure 84. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 12 MHz	79
Figure 85. Azimuth patterns of the Army Highband DD antenna over perfect ground at 12 MHz	80
Figure 86. Azimuth patterns of the Army Highband DD antenna over fair ground at 12 MHz	81
Figure 87. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 13 MHz	82
Figure 88. Azimuth patterns of the Army Highband DD antenna over perfect ground at 13 MHz	83
Figure 89. Azimuth patterns of the Army Highband DD antenna over fair ground at 13 MHz	84
Figure 90. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 14 MHz	85
Figure 91. Azimuth patterns of the Army Highband DD antenna over perfect	

	ground at 14 MHz	86
Figure 92.	Azimuth patterns of the Army Highband DD antenna over fair ground at 14 MHz	87
Figure 93.	Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 15 MHz	88
Figure 94.	Azimuth patterns of the Army Highband DD antenna over perfect ground at 15 MHz	89
Figure 95.	Azimuth patterns of the Army Highband DD antenna over fair ground at 15 MHz	90
Figure 96.	Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 16 MHz	91
Figure 97.	Azimuth patterns of the Army Highband DD antenna over perfect ground at 16 MHz	92
Figure 98.	Azimuth patterns of the Army Highband DD antenna over fair ground at 16 MHz	93
Figure 99.	Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 17 MHz	94
Figure 100.	Azimuth patterns of the Army Highband DD antenna over perfect ground at 17 MHz	95
Figure 101.	Azimuth patterns of the Army Highband DD antenna over fair ground at 17 MHz	96
Figure 102.	Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 18 MHz	97
Figure 103.	Azimuth patterns of the Army Highband DD antenna over perfect ground at 18 MHz	98
Figure 104.	Azimuth patterns of the Army Highband DD antenna over fair ground at 18 MHz	99
Figure 105.	Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 19 MHz	100
Figure 106.	Azimuth patterns of the Army Highband DD antenna over perfect ground at 19 MHz	101
Figure 107.	Azimuth patterns of the Army Highband DD antenna over fair ground at 19 MHz	102
Figure 108.	Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 20 MHz	103

Figure 109. Azimuth patterns of the Army Highband DD antenna over perfect ground at 20 MHz	104
Figure 110. Azimuth patterns of the Army Highband DD antenna over fair ground at 20 MHz	105
Figure 111. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 21 MHz	106
Figure 112. Azimuth patterns of the Army Highband DD antenna over perfect ground at 21 MHz	107
Figure 113. Azimuth patterns of the Army Highband DD antenna over fair ground at 21 MHz	108
Figure 114. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 22 MHz	109
Figure 115. Azimuth patterns of the Army Highband DD antenna over perfect ground at 22 MHz	110
Figure 116. Azimuth patterns of the Army Highband DD antenna over fair ground at 22 MHz	111
Figure 117. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 23 MHz	112
Figure 118. Azimuth patterns of the Army Highband DD antenna over perfect ground at 23 MHz	113
Figure 119. Azimuth patterns of the Army Highband DD antenna over fair ground at 23 MHz	114
Figure 120. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 24 MHz	115
Figure 121. Azimuth patterns of the Army Highband DD antenna over perfect ground at 24 MHz	116
Figure 122. Azimuth patterns of the Army Highband DD antenna over fair ground at 24 MHz	117
Figure 123. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 25 MHz	118
Figure 124. Azimuth patterns of the Army Highband DD antenna over perfect ground at 25 MHz	119
Figure 125. Azimuth patterns of the Army Highband DD antenna over fair ground at 25 MHz	120
Figure 126. Elevation patterns of the Army Highband DD antenna over perfect	

ground and fair ground at 26 MHz	121
Figure 127. Azimuth patterns of the Army Highband DD antenna over perfect ground at 26 MHz.	122
Figure 128. Azimuth patterns of the Army Highband DD antenna over fair ground at 26 MHz	123
Figure 129. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 27 MHz	124
Figure 130. Azimuth patterns of the Army Highband DD antenna over perfect ground at 27 MHz	125
Figure 131. Azimuth patterns of the Army Highband DD antenna over fair ground at 27 MHz	126
Figure 132. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 28 MHz	127
Figure 133. Azimuth patterns of the Army Highband DD antenna over perfect ground at 28 MHz	128
Figure 134. Azimuth patterns of the Army Highband DD antenna over fair ground at 28 MHz	129
Figure 135. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 29 MHz	130
Figure 136. Azimuth patterns of the Army Highband DD antenna over perfect ground at 29 MHz	131
Figure 137. Azimuth patterns of the Army Highband DD antenna over fair ground at 29 MHz	132
Figure 138. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 30 MHz	133
Figure 139. Azimuth patterns of the Army Highband DD antenna over perfect ground at 30 MHz	134
Figure 140. Azimuth patterns of the Army Highband DD antenna over fair ground at 30 MHz	135
Figure 141. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 2 MHz	136
Figure 142. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 2 MHz	137
Figure 143. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 2 MHz	138

Figure 144. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 3 MHz	139
Figure 145. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 3 MHz	140
Figure 146. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 3 MHz	141
Figure 147. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 4 MHz	142
Figure 148. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 4 MHz	143
Figure 149. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 4 MHz	144
Figure 150. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 5 MHz	145
Figure 151. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 5 MHz	146
Figure 152. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 5 MHz	147
Figure 153. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 6 MHz	148
Figure 154. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 6 MHz	149
Figure 155. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 6 MHz	150
Figure 156. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 7 MHz	151
Figure 157. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 7 MHz	152
Figure 158. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 7 MHz	153
Figure 159. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 8 MHz	154
Figure 160. Azimuth patterns of The Air Force Lowband DD antenna over perfect ground at 8 MHz	155
Figure 161. Azimuth patterns of the Air Force Lowband DD antenna over fair	

ground at 8 MHz	156
Figure 162. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 8 MHz	157
Figure 163. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 8 MHz	158
Figure 164. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 8 MHz	159
Figure 165. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 9 MHz	160
Figure 166. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 9 MHz	161
Figure 167. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 9 MHz	162
Figure 168. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 10 MHz	163
Figure 169. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 10 MHz	164
Figure 170. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 10 MHz	165
Figure 171. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 11 MHz	166
Figure 172. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 11 MHz	167
Figure 173. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 11 MHz	168
Figure 174. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 12 MHz	169
Figure 175. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 12 MHz	170
Figure 176. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 12 MHz	171
Figure 177. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 13 MHz	172
Figure 178. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 13 MHz	173

Figure 179. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 13 MHz	174
Figure 180. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 14 MHz	175
Figure 181. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 14 MHz	176
Figure 182. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 14 MHz	177
Figure 183. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 15 MHz	178
Figure 184. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 15 MHz	179
Figure 185. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 15 MHz	180
Figure 186. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 16 MHz	181
Figure 187. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 16 MHz	182
Figure 188. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 16 MHz	183
Figure 189. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 17 MHz	184
Figure 190. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 17 MHz	185
Figure 191. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 17 MHz	186
Figure 192. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 18 MHz	187
Figure 193. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 18 MHz	188
Figure 194. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 18 MHz	189
Figure 195. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 19 MHz	190
Figure 196. Azimuth patterns of the Air Force Highband DD antenna over perfect	

ground at 19 MHz	191
Figure 197. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 19 MHz	192
Figure 198. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 20 MHz	193
Figure 199. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 20 MHz	194
Figure 200. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 20 MHz	195
Figure 201. Elevation patterns of the Air Force highband DD antenna over perfect ground and fair ground at 21 MHz	196
Figure 202. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 21 MHz	197
Figure 203. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 21 MHz	198
Figure 204. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 22 MHz	199
Figure 205. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 22 MHz	200
Figure 206. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 22 MHz	201
Figure 207. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 23 MHz	202
Figure 208. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 23 MHz	203
Figure 209. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 23 MHz	204
Figure 210. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 24 MHz	205
Figure 211. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 24 MHz	206
Figure 212. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 24 MHz	207
Figure 213. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 25 MHz	208

Figure 214. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 25 MHz	209
Figure 215. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 25 MHz	210
Figure 216. Elevation patterns of the Air Force highband DD antenna over perfect ground and fair ground at 26 MHz	211
Figure 217. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 26 MHz	212
Figure 218. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 26 MHz	213
Figure 219. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 27 MHz	214
Figure 220. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 27 MHz	215
Figure 221. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 27 MHz	216
Figure 222. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 28 MHz	217
Figure 223. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 28 MHz	218
Figure 224. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 28 MHz	219
Figure 225. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 29 MHz	220
Figure 226. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 29 MHz	221
Figure 227. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 29 MHz	222
Figure 228. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 30 MHz	223
Figure 229. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 30 MHz	224
Figure 230. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 30 MHz	225
Figure 231. Elevation patterns of the ESI 32A2A DD antenna over perfect ground	

and fair ground at 2 MHz	226
Figure 232. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 2 MHz	227
Figure 233. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 2 MHz	228
Figure 234. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 3 MHz	229
Figure 235. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 3 MHz	230
Figure 236. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 3 MHz	231
Figure 237. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 4 MHz	232
Figure 238. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 4 MHz	233
Figure 239. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 4 MHz	234
Figure 240. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 5 MHz	235
Figure 241. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 5 MHz	236
Figure 242. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 5 MHz	237
Figure 243. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 6 MHz	238
Figure 244. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 6 MHz	239
Figure 245. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 6 MHz	240
Figure 246. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 7 MHz	241
Figure 247. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 7 MHz	242
Figure 248. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 7 MHz	243

Figure 249. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 8 MHz	244
Figure 250. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 8 MHz	245
Figure 251. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 8 MHz	246
Figure 252. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 9 MHz	247
Figure 253. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 9 MHz	248
Figure 254. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 9 MHz	249
Figure 255. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 10 MHz	250
Figure 256. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 10 MHz	251
Figure 257. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 10 MHz	252
Figure 258. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 11 MHz	253
Figure 259. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 11 MHz	254
Figure 260. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 11 MHz	255
Figure 261. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 12 MHz	256
Figure 262. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 12 MHz	257
Figure 263. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 12 MHz	258
Figure 264. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 13 MHz	259
Figure 265. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 13 MHz	260
Figure 266. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at	

13 MHz	261
Figure 267. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 14 MHz	262
Figure 268. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 14 MHz	263
Figure 269. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 14 MHz	264
Figure 270. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 15 MHz	265
Figure 271. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 15 MHz	266
Figure 272. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 15 MHz	267
Figure 273. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 16 MHz	268
Figure 274. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 16 MHz	269
Figure 275. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 16 MHz	270
Figure 276. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 17 MHz	271
Figure 277. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 17 MHz	272
Figure 278. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 17 MHz	273
Figure 279. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 18 MHz	274
Figure 280. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 18 MHz	275
Figure 281. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 18 MHz	276
Figure 282. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 19 MHz	277
Figure 283. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 19 MHz	278

Figure 284. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 19 MHz	279
Figure 285. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 20 MHz	280
Figure 286. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 20 MHz	281
Figure 287. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 20 MHz ⁴	282
Figure 288. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 21 MHz	283
Figure 289. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 21 MHz	284
Figure 290. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 21 MHz	285
Figure 291. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 22 MHz	286
Figure 292. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 22 MHz	287
Figure 293. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 22 MHz	288
Figure 294. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 23 MHz	289
Figure 295. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 23 MHz	290
Figure 296. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 23 MHz	291
Figure 297. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 24 MHz	292
Figure 298. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 24 MHz	293
Figure 299. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 24 MHz	294
Figure 300. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 25 MHz	295
Figure 301. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground	

at 25 MHz	296
Figure 302. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 25 MHz	297
Figure 303. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 26 MHz	298
Figure 304. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 26 MHz	299
Figure 305. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 26 MHz	300
Figure 306. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 27 MHz	301
Figure 307. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 27 MHz	302
Figure 308. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 27 MHz	303
Figure 309. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 28 MHz	304
Figure 310. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 28 MHz	305
Figure 311. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 28 MHz	306
Figure 312. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 29 MHz	307
Figure 313. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 29 MHz	308
Figure 314. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 29 MHz	309
Figure 315. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 30 MHz	310
Figure 316. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 30 MHz	311
Figure 317. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 30 MHz	312

APPENDIX C. PLOTS OF INPUT IMPEDANCE, VSWR, AND
MAXIMUM GAIN VERSUS FREQUENCY AND PLOTS OF RADIATION
PATTERNS FOR EACH FREQUENCY

ARMY LO-BAND DD ANTENNA

VSWR VS FREQ/PERF.GND/ $Z_0=50$ OHMS

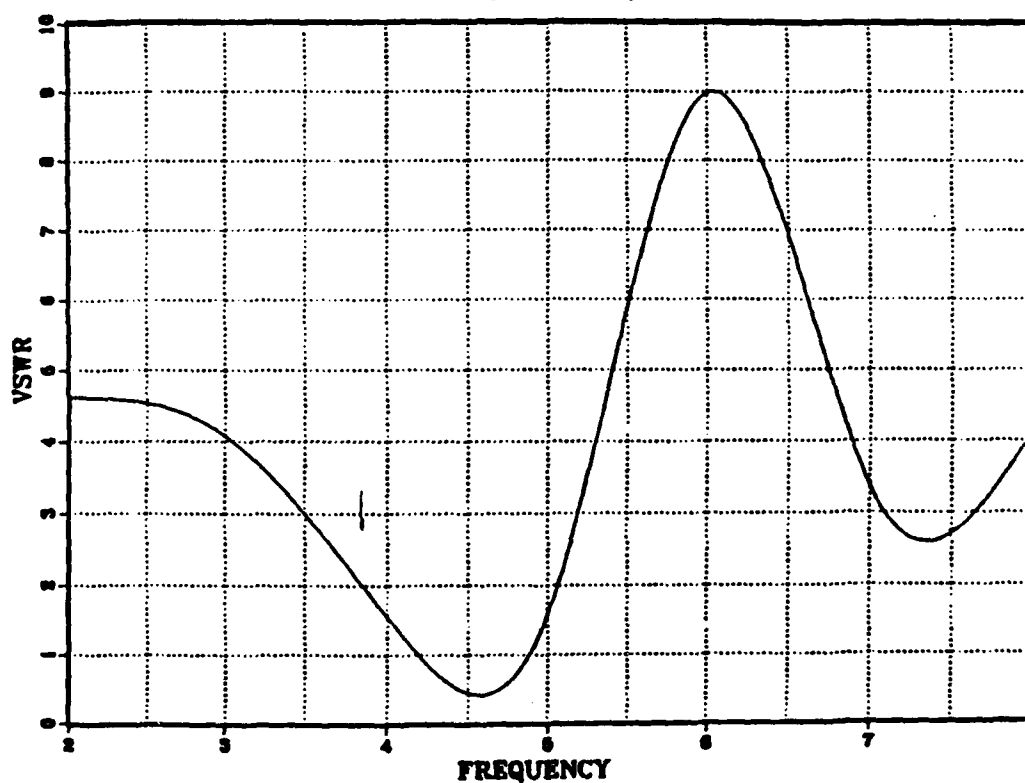


Figure 6. VSWR vs freq. for the Army Lowband DD antenna over perfect ground
(normalized impedance = 50 ohms)

ARMY LO-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=300$ OHMS

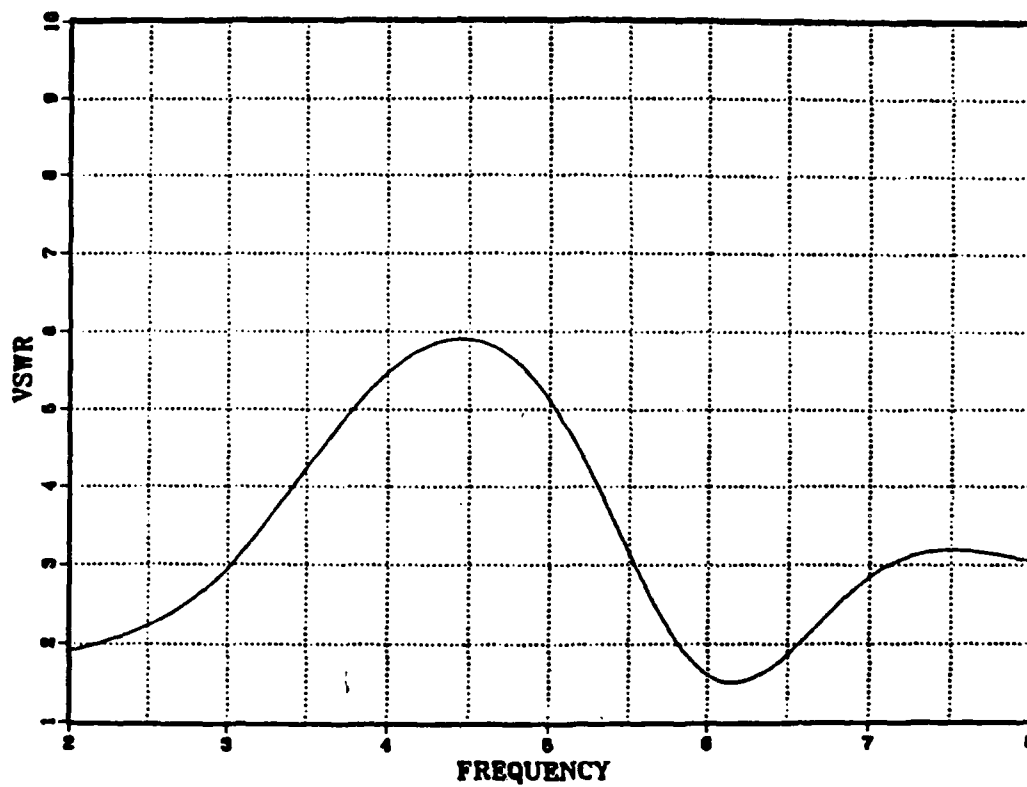


Figure 7. VSWR vs freq. for the Army Lowband DD antenna over perfect ground
(normalized impedance = 300 ohms)

ARMY LO-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=600$ OHMS

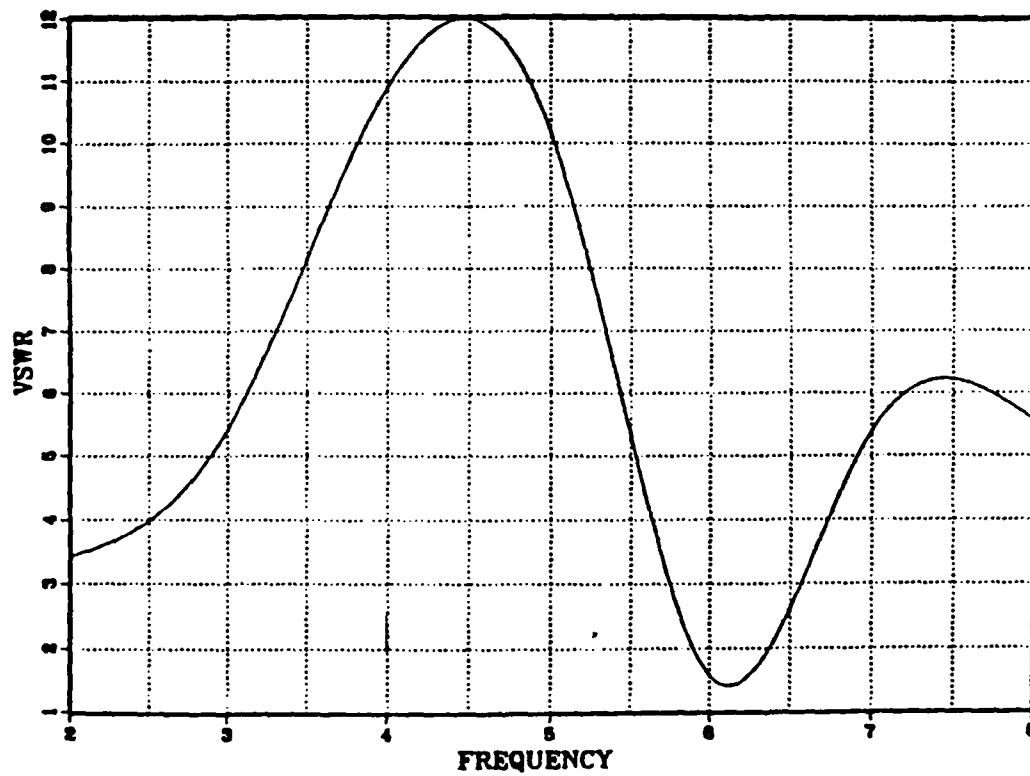


Figure 8. VSWR vs freq. for the Army Lowband DD antenna over perfect ground
(normalized impedance = 600 ohms)

ARMY LO-BAND DD ANTENNA

COMPARISON VSWR VS FREQ/PERF.GND

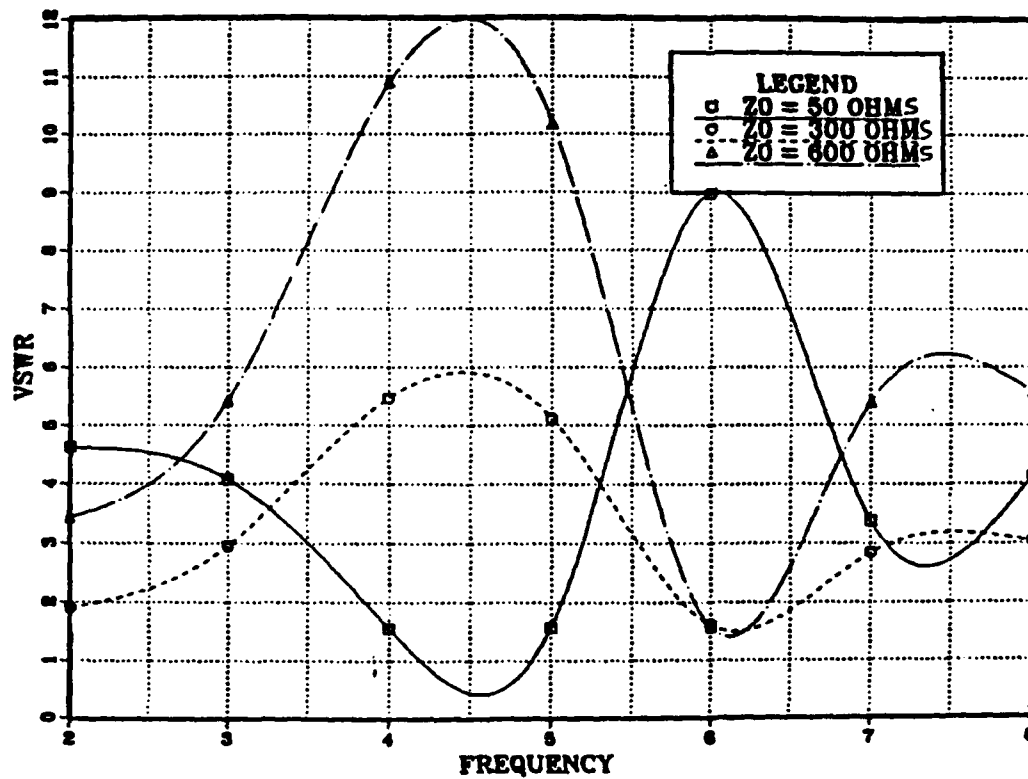


Figure 9. Comparison VSWR vs frequency for the Army Lowband DD antenna over perfect ground

ARMY LO-BAND DD ANTENNA

IMP. VS FREQ/PERF.GND/ $Z_0=50$ OHMS

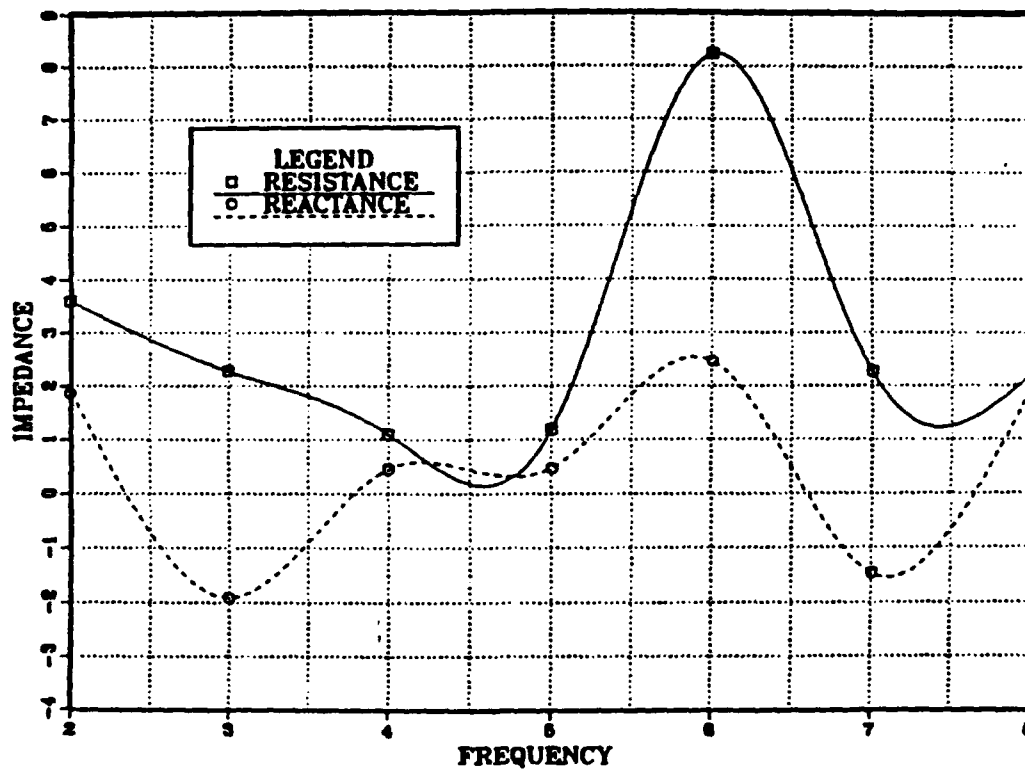


Figure 10. Impedance vs freq. for the Army Lowband DD antenna over perfect ground (normalized impedance = 50 ohms)

ARMY LO-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/Z0=300 OHMS

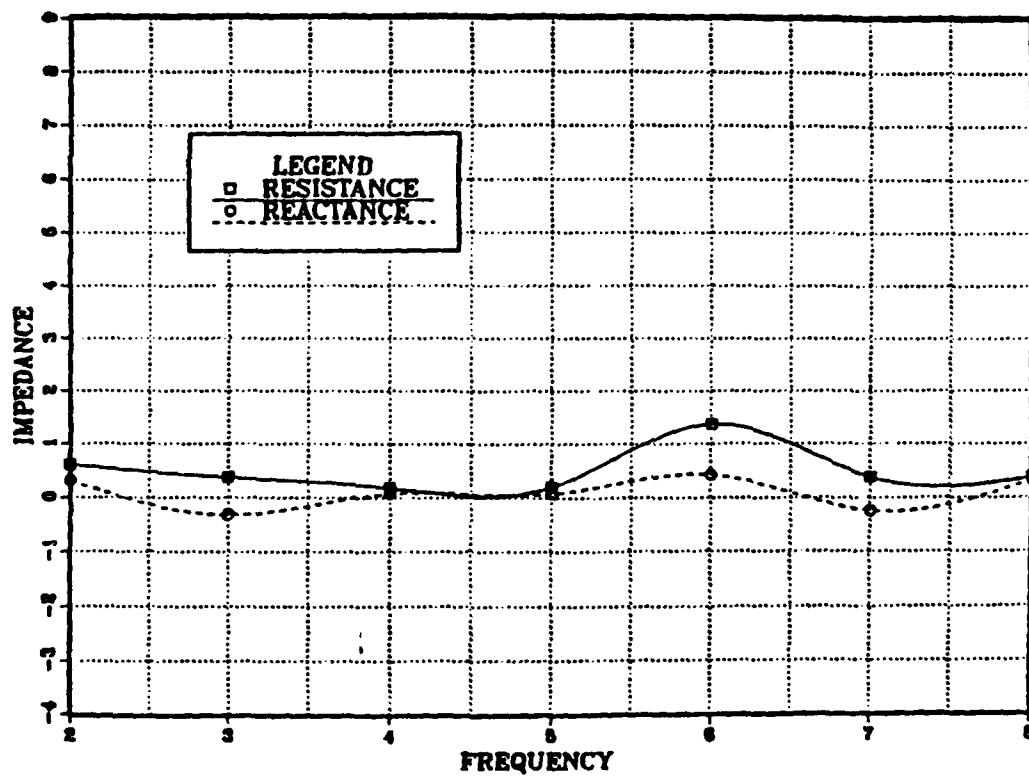


Figure 11. Impedance vs freq. for the Army Lowband DD antenna over perfect ground (normalized impedance = 300 ohms)

ARMY LO-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/20=600 OHMS

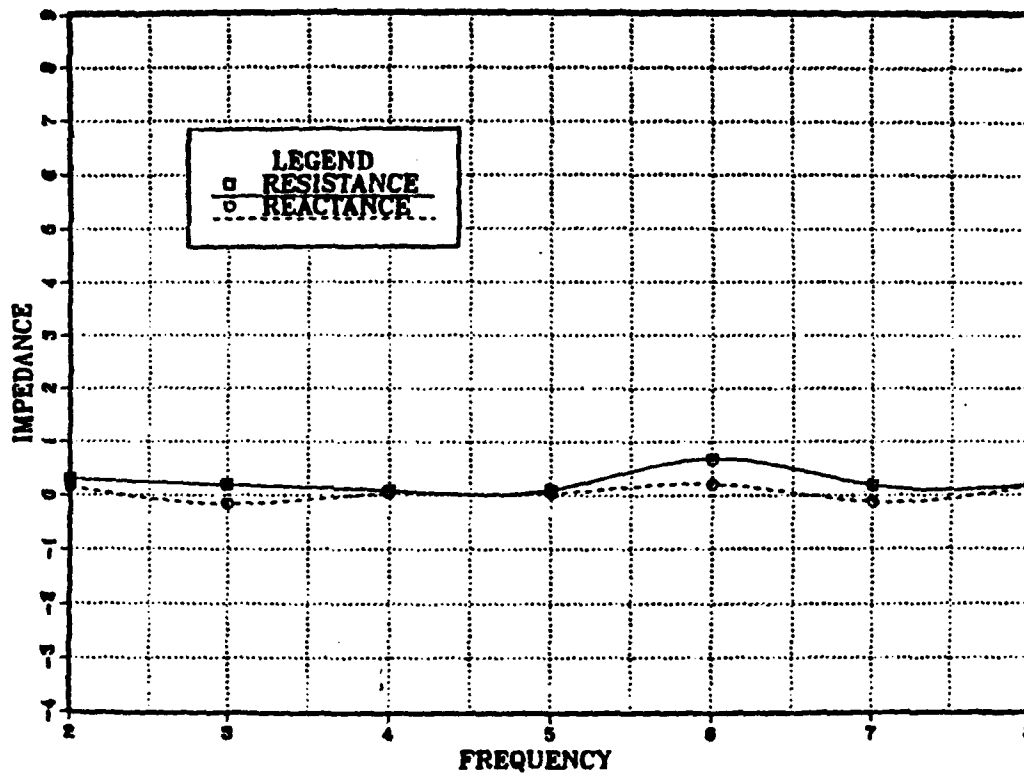


Figure 12. Impedance vs freq. for the Army Lowband DD antenna over perfect ground (normalized impedance = 600 ohms)

ARMY LO-BAND DD ANTENNA

ELEVATION PATTERN (BORESIGHT)

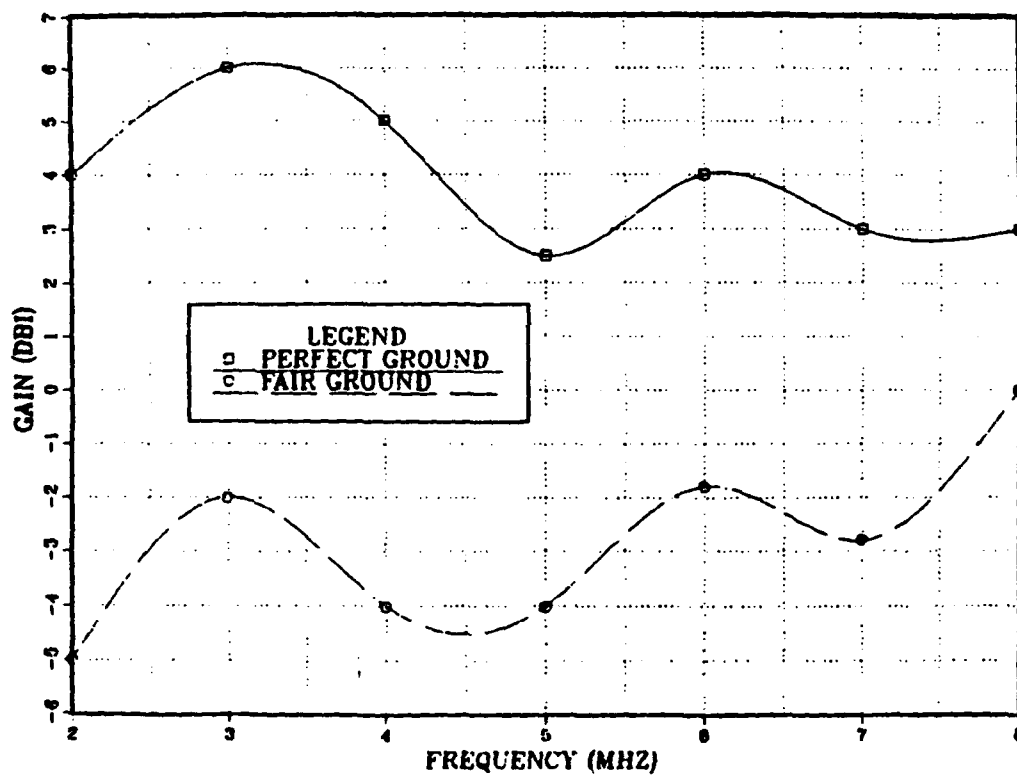


Figure 13. Max. gain vs frequency for the Army Lowband DD antenna over perfect ground and fair ground (boresight)

ARMY LO-BAND DD ANTENNA

ELEVATION PATTERN (BROADSIDE)

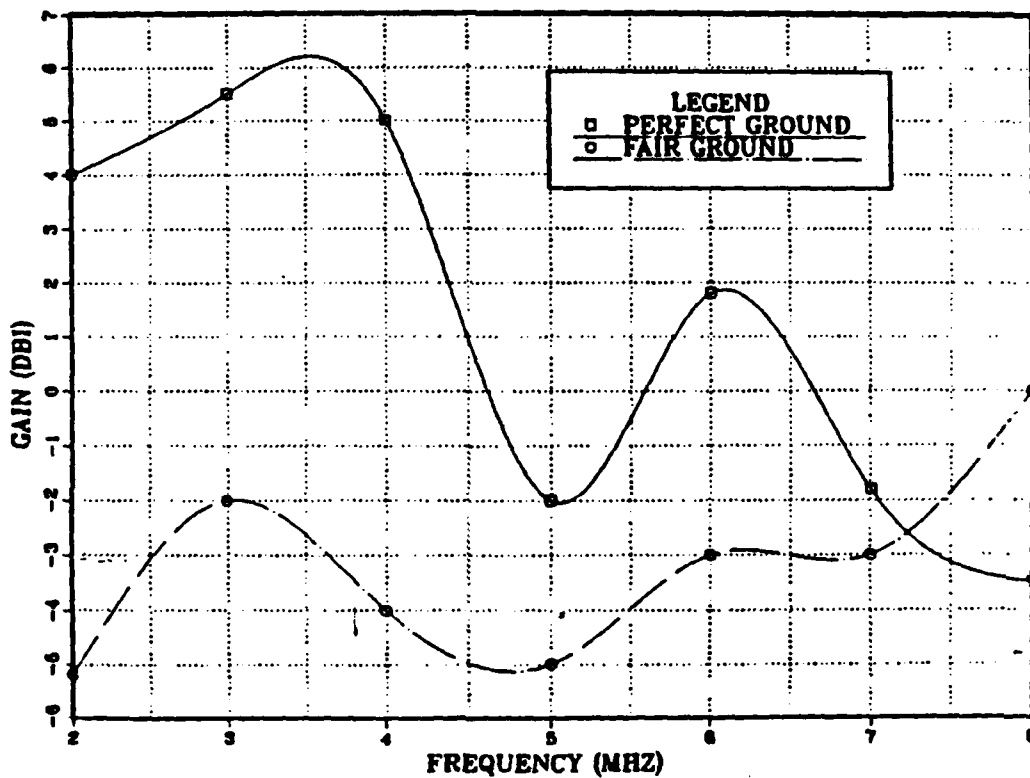


Figure 14. Max. gain vs frequency for the Army Lowband DD antenna over perfect and fair ground (broadside)

ARMY HI-BAND DD ANTENNA

VSWR VS FREQ/PERF.GND/ $Z_0=50$ OHMS

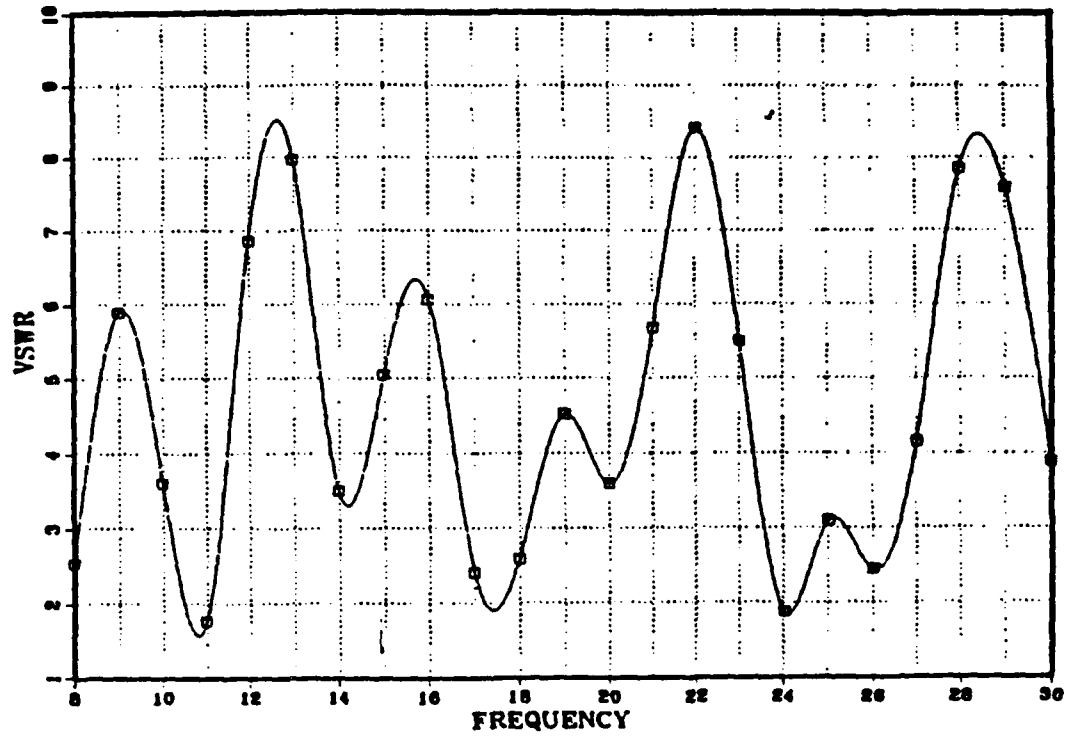


Figure 15. VSWR vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 50 ohms)

ARMY HI-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=300$ OHMS

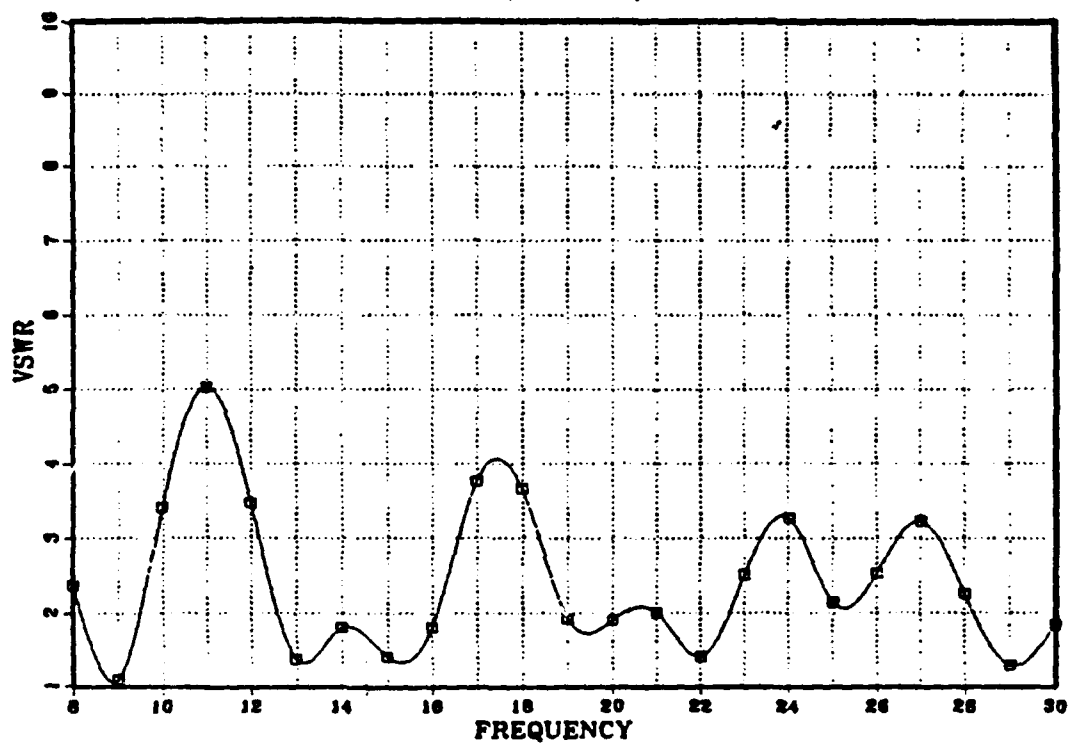


Figure 16. VSWR vs freq. for the Army Highband DD antenna over perfect ground
(normalized impedance = 300 ohms)

ARMY HI-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=600$ OHMS

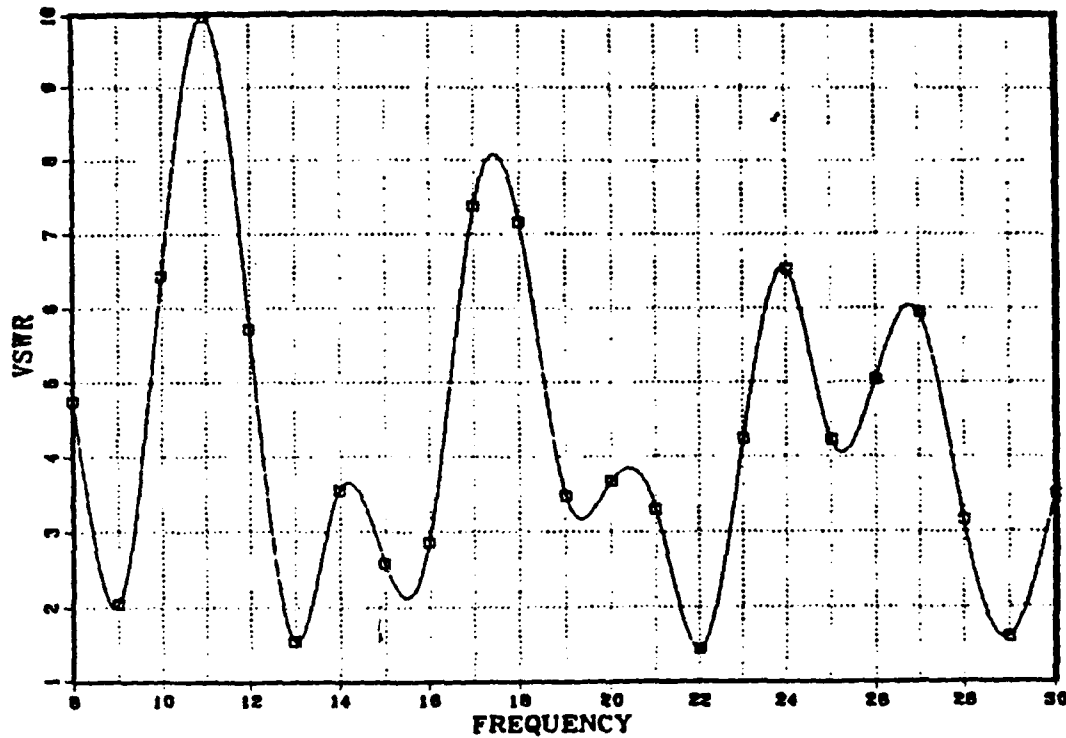


Figure 17. VSWR vs freq. for the Army Highband DD antenna over perfect ground
(normalized impedance = 600 ohms)

ARMY HI-BAND DD ANTENNA

COMPARISON VSWR VS FREQ/PERF.GND

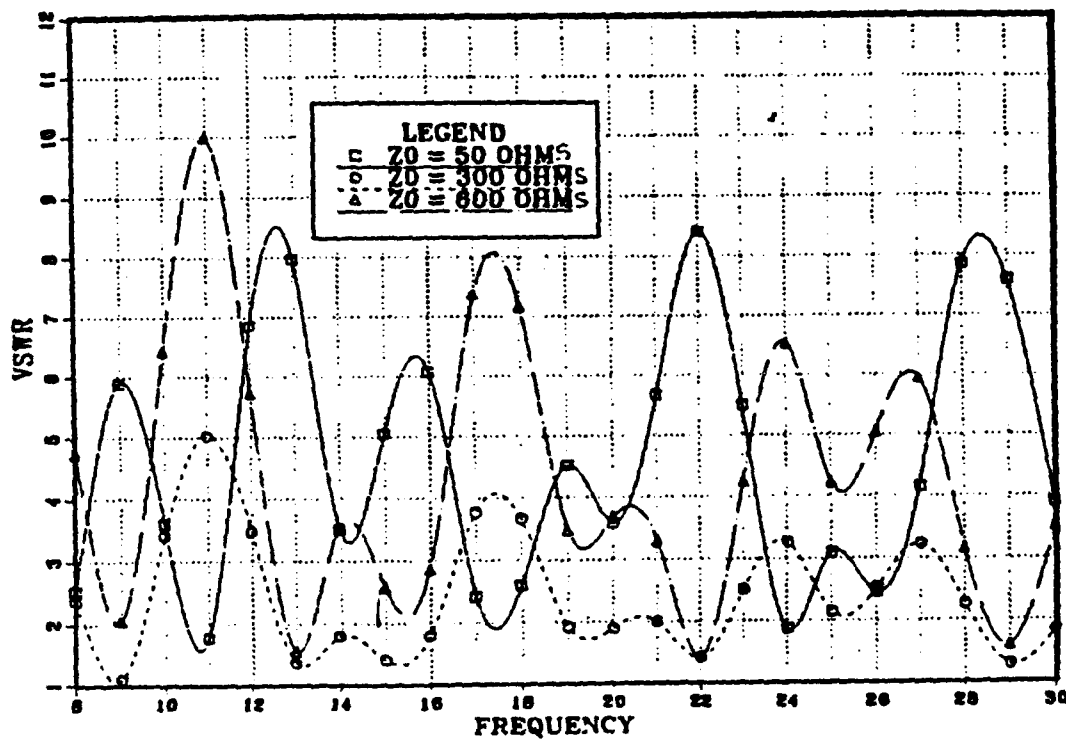


Figure 18. Comparison VSWR vs frequency for the Army Highband DD antenna over perfect ground

ARMY HI-BAND DD ANTENNA

IMP. VS FREQ./PERF.GND/ $Z_0=50$ OHMS

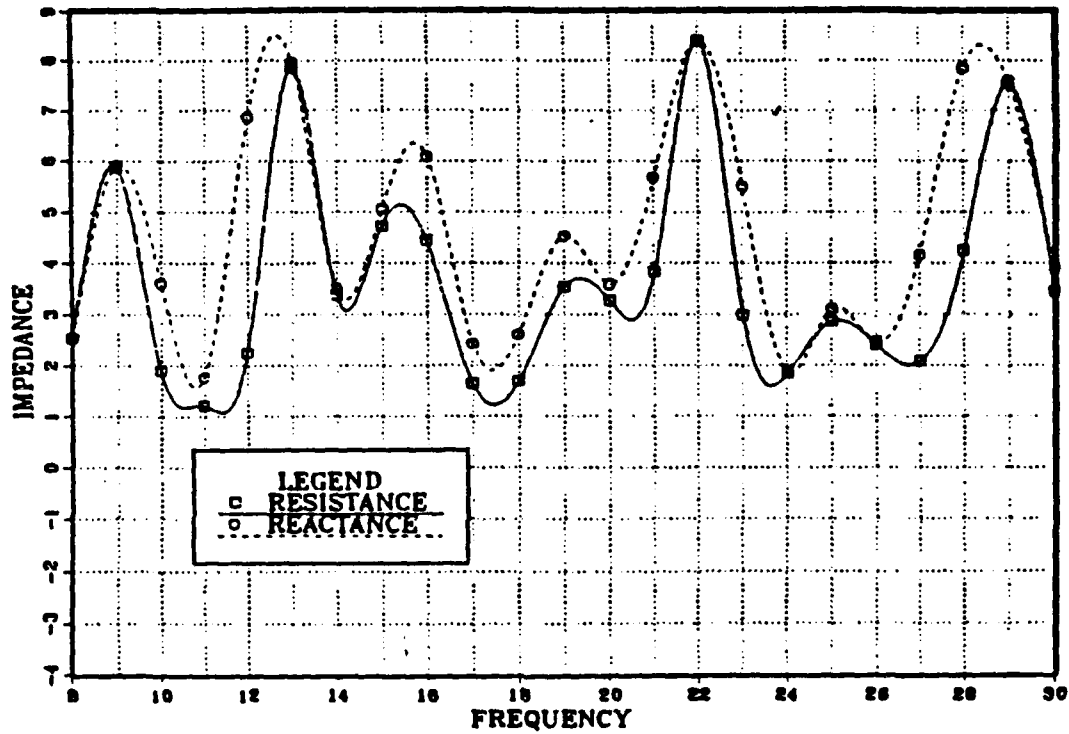


Figure 19. Impedance vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 50 ohms)

ARMY HI-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=300$ OHMS

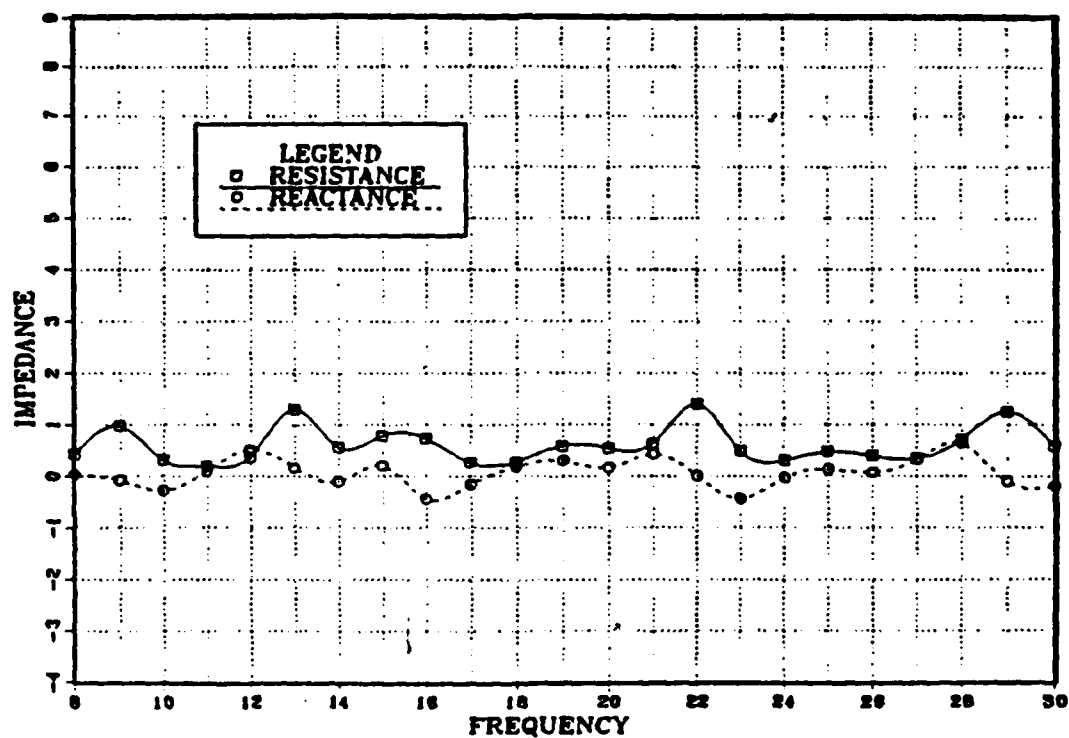


Figure 20. Impedance vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 300 ohms)

ARMY HI-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=600$ OHMS

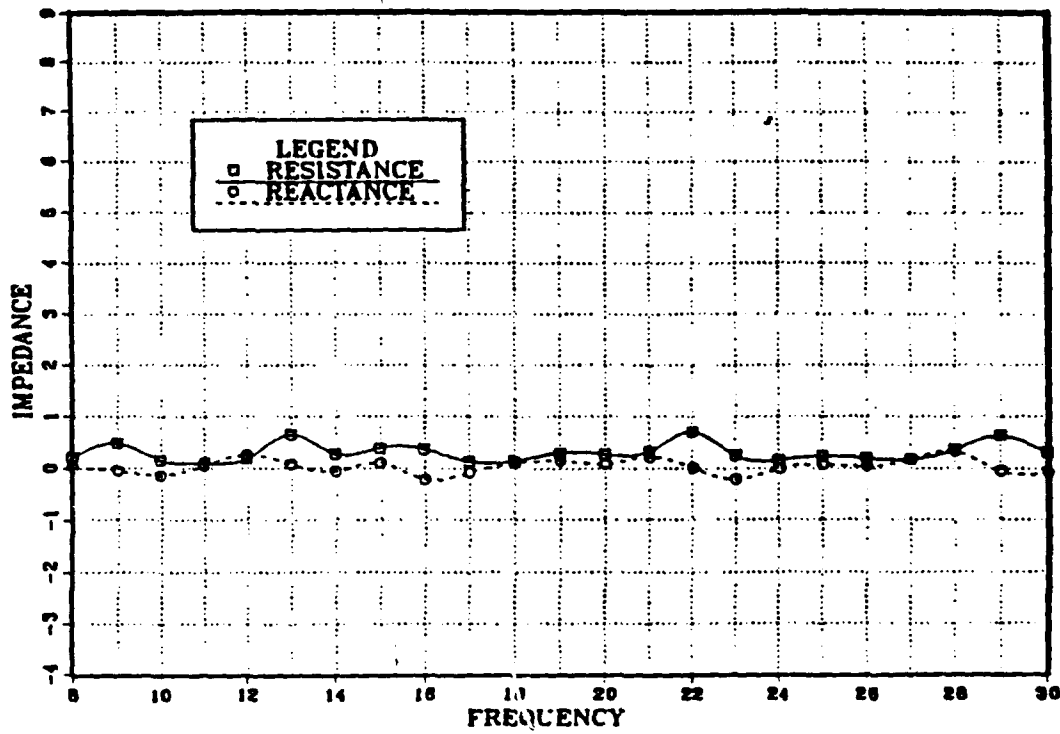


Figure 21. Impedance vs freq. for the Army Highband DD antenna over perfect ground (normalized impedance = 600 ohms)

ARMY HI-BAND DD ANTENNA

ELEVATION PATTERN (BORESIGHT)

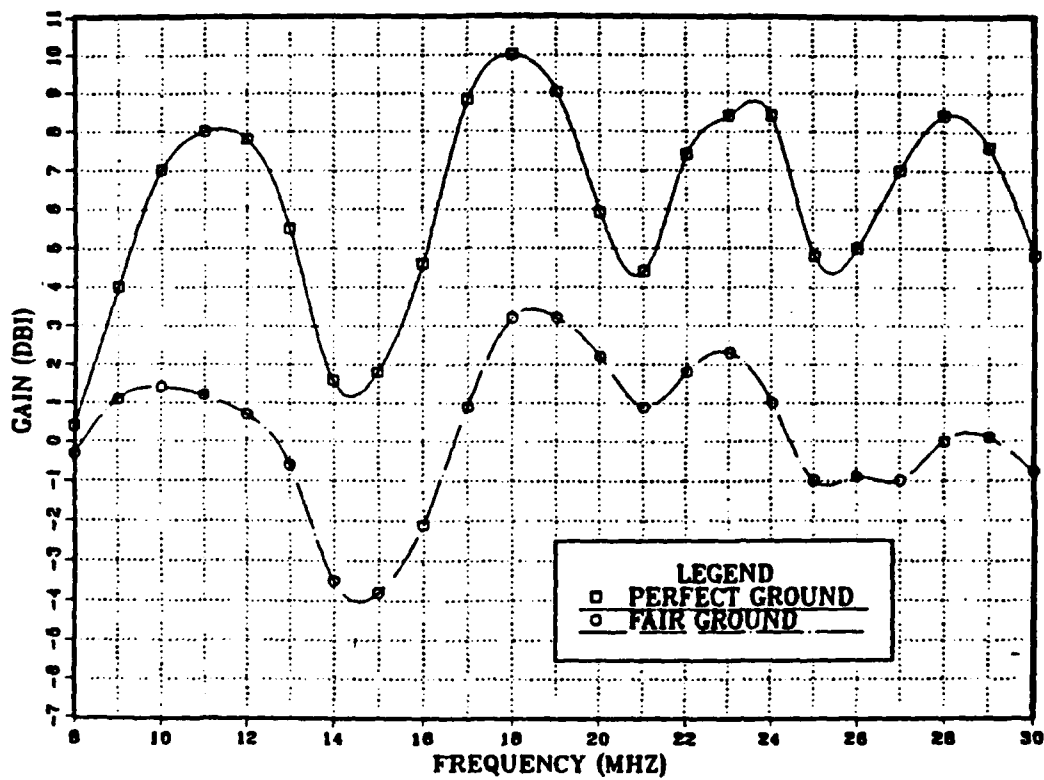


Figure 22. Max. gain vs freq. for the Army Highband DD antenna over perfect ground and fair ground (boresight)

ARMY HI-BAND DD ANTENNA

ELEVATION PATTERN (BROADSIDE)

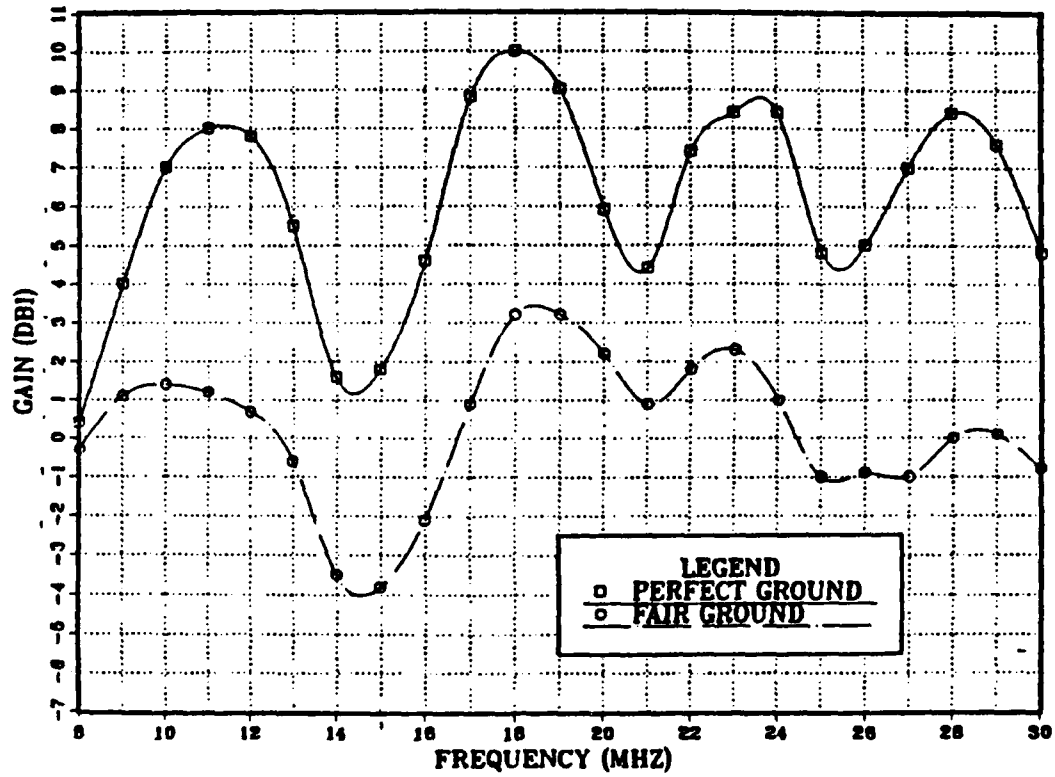


Figure 23. Max. gain vs frequency for the Army Highband DD antenna over perfect ground and fair ground (broadside)

AIR FORCE LO-BAND DD ANTENNA

VSWR VS FREQ/PERF.GND/ $Z_0=50$ OHMS

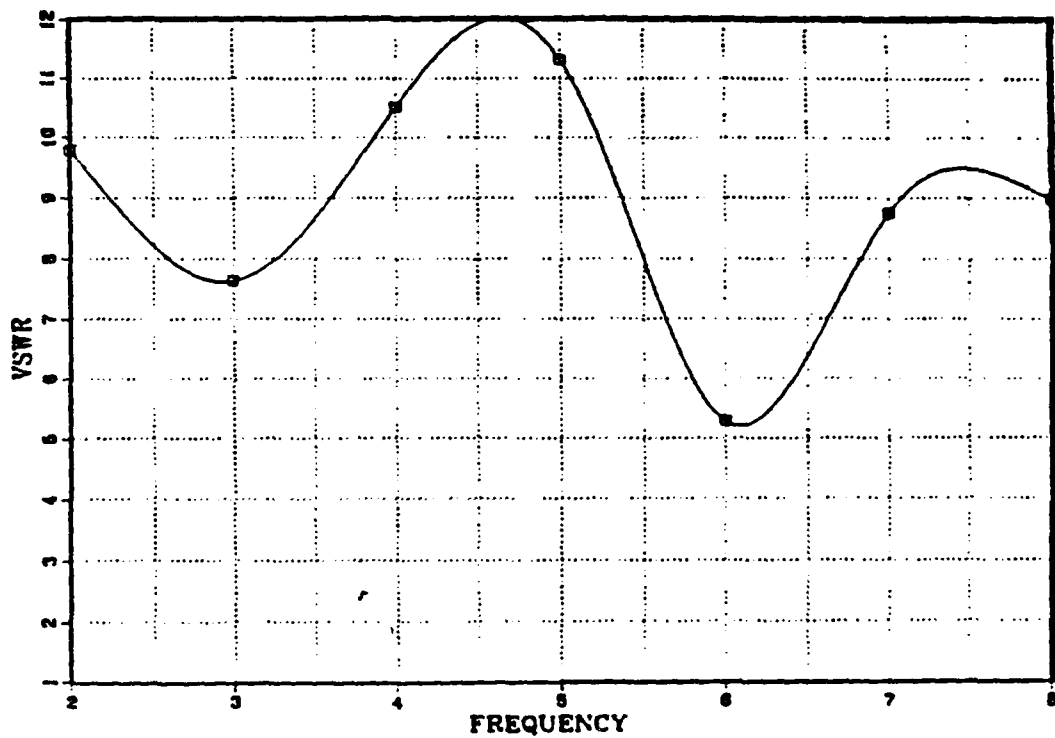


Figure 24. VSWR vs freq. for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 50 ohms)

AIR FORCE LO-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=300$ OHMS

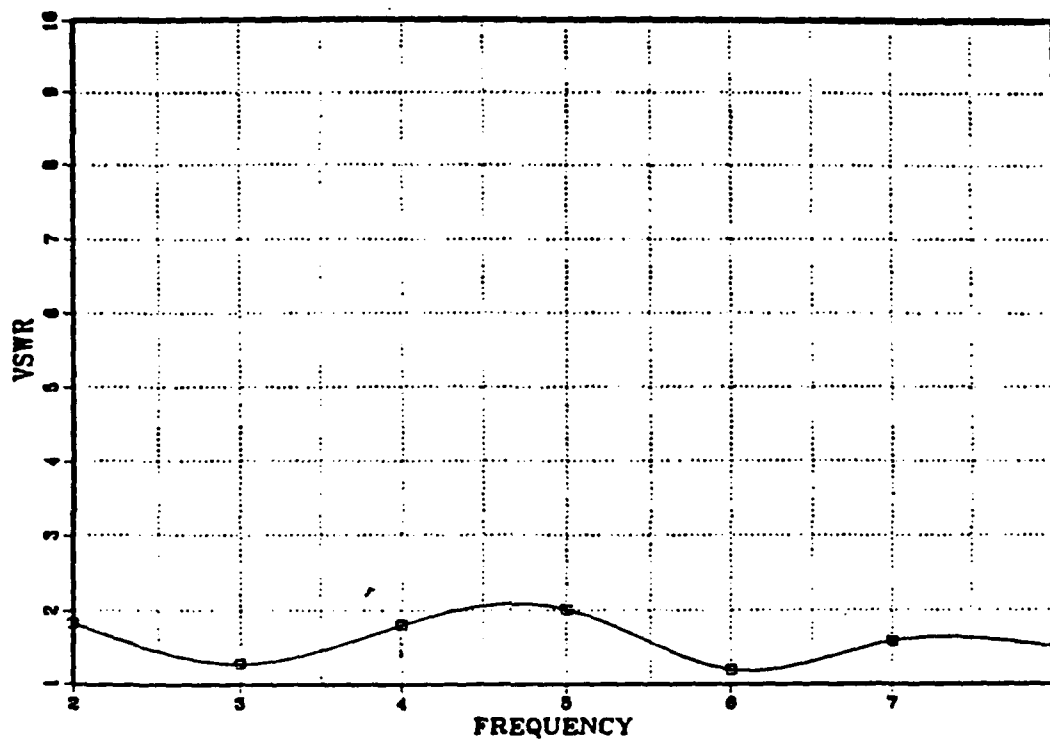


Figure 25. VSWR vs freq. for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 300 ohms)

AIR FORCE LO-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=600$ OHMS

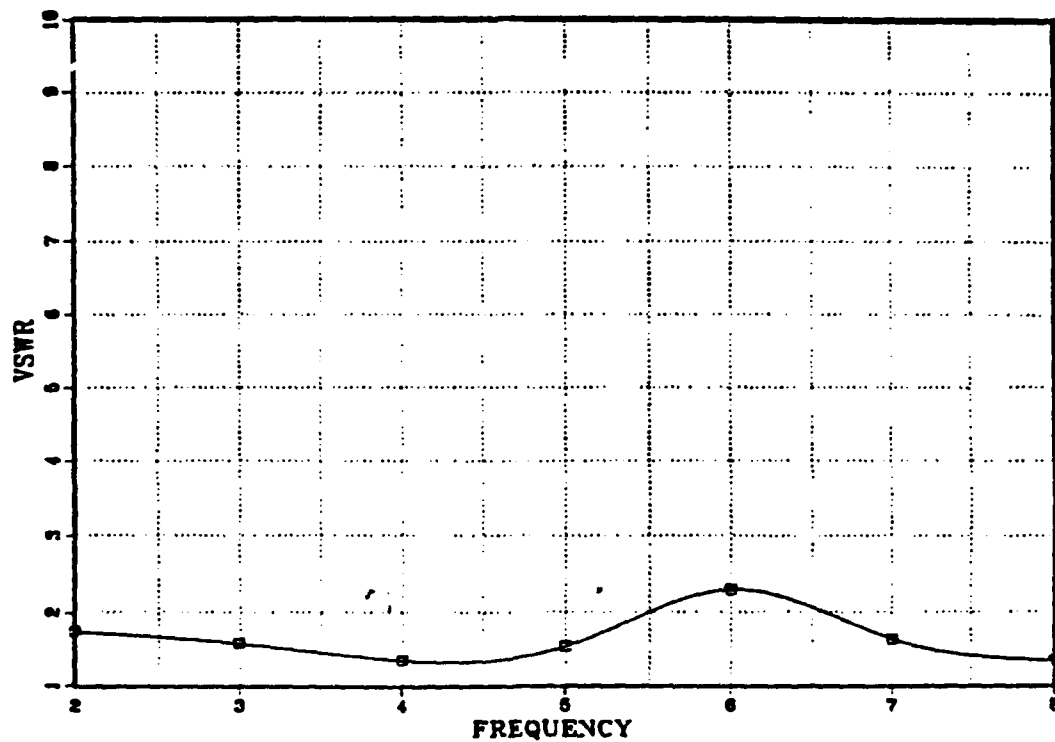


Figure 26. VSWR vs freq. for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 600 ohms)

AIR FORCE LO-BAND DD ANTENNA

COMPARISON VSWR VS FREQ/PERF.GND

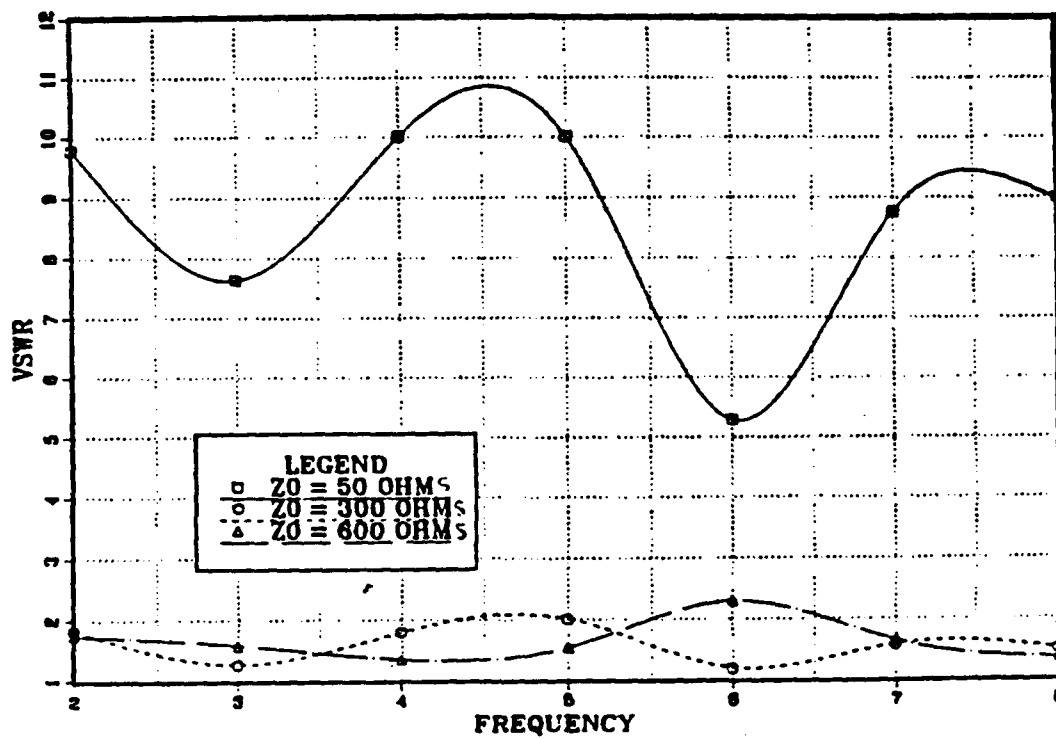


Figure 27. Comparison VSWR vs freq. for the Air Force Lowband DD antenna over perfect ground

AIR FORCE LO-BAND DD ANTENNA

IMP. VS FREQ/PERF.GND/ $Z_0=50$ OHMS

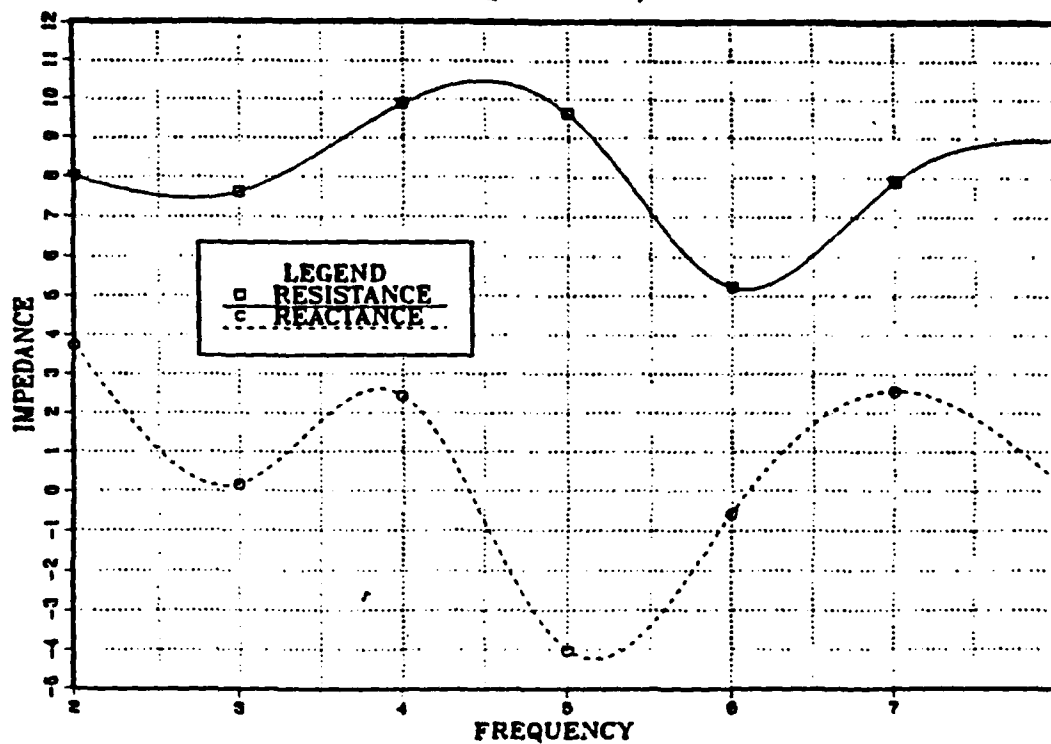


Figure 28. Impedance vs frequency for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 50 ohms)

AIR FORCE LO-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/Z0=300 OHMS

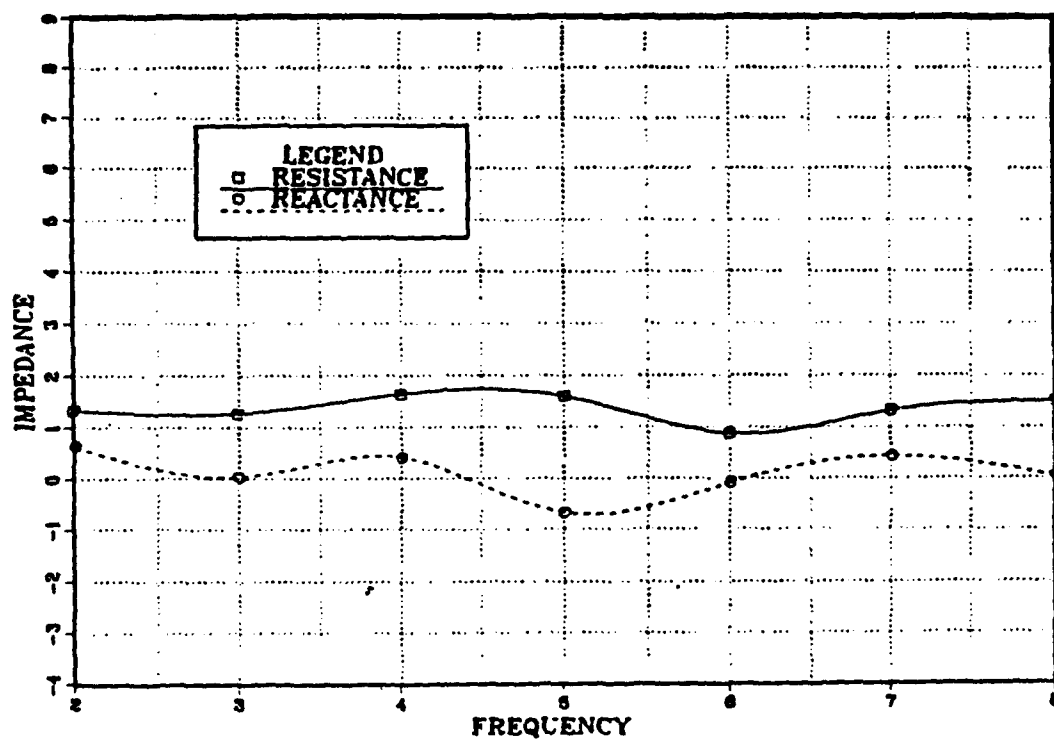


Figure 29. Impedance vs frequency for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 300 ohms)

AIR FORCE LO-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=600$ OHMS

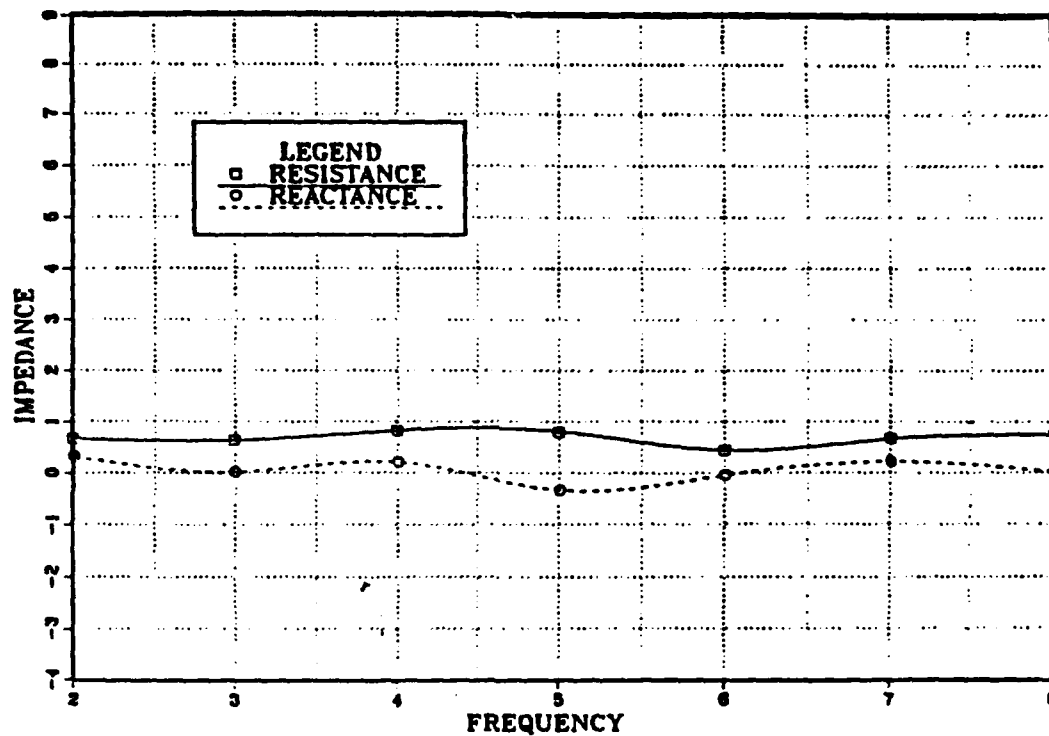


Figure 30. Impedance vs frequency for the Air Force Lowband DD antenna over perfect ground (normalized impedance = 600 ohms)

AIR FORCE LO-BAND DD ANTENNA

ELEVATION PATTERN (BORESIGHT)

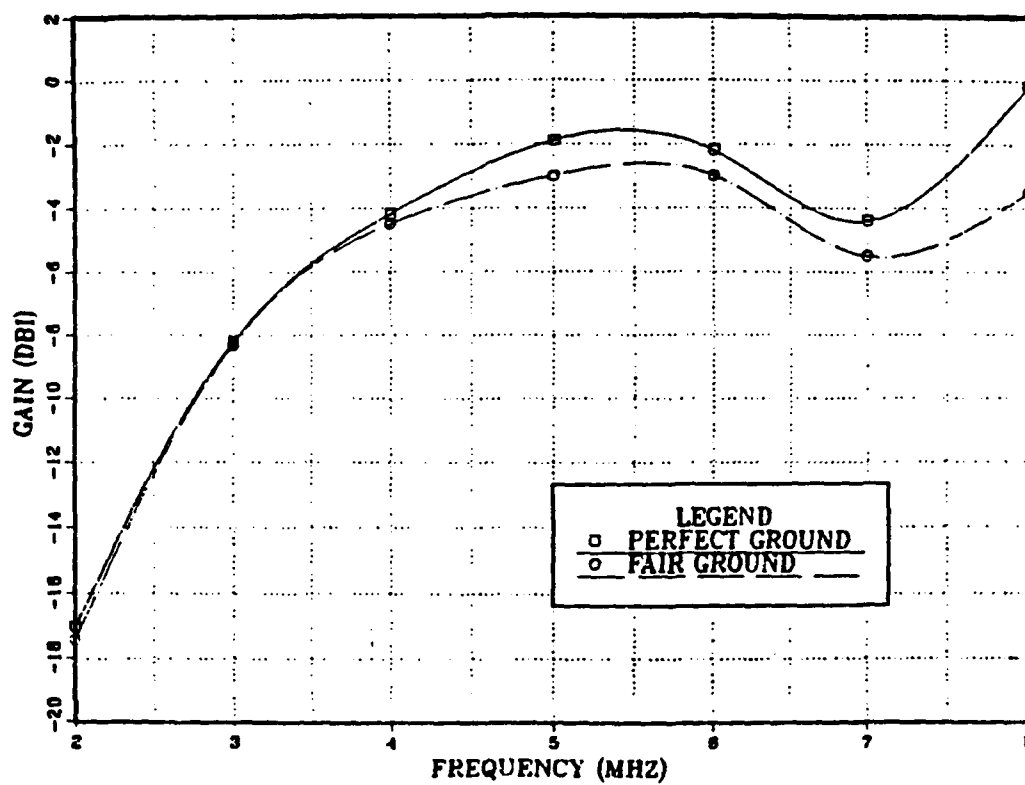


Figure 31. Max. gain vs freq. for the Air Force Lowband DD antenna over perfect ground and fair ground (boresight)

AIR FORCE LO-BAND DD ANTENNA

ELEVATION PATTERN (BROADSIDE)

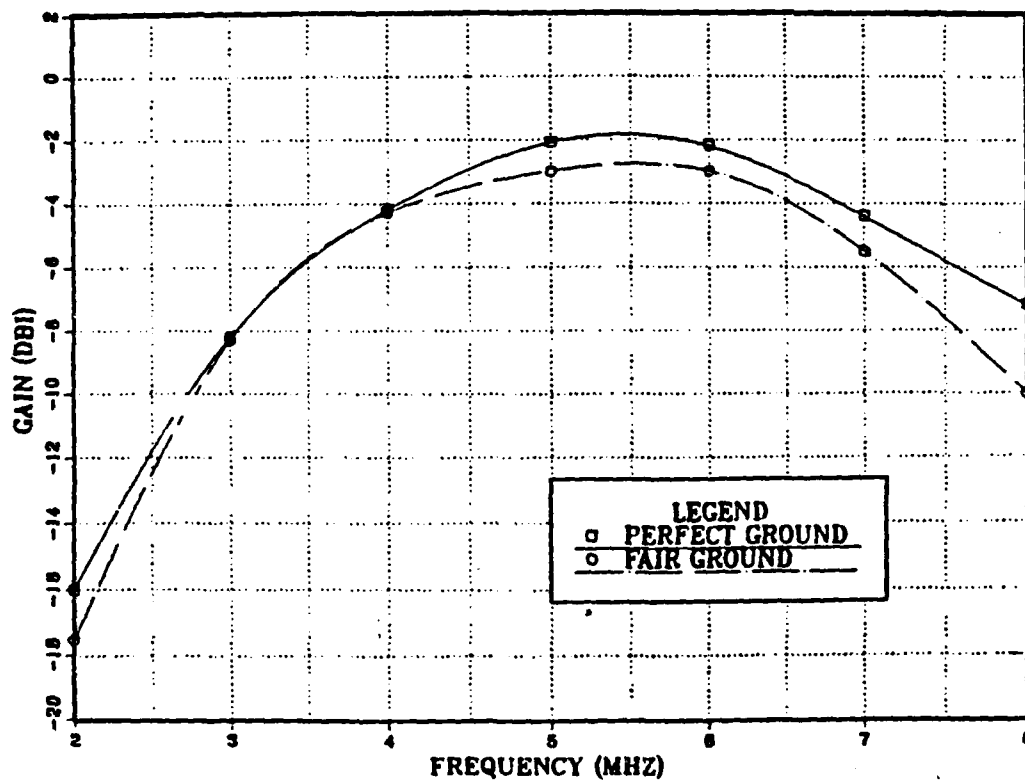


Figure 32. Max. gain vs frequency for the Air Force Lowband DD antenna over perfect ground and fair ground (broadside)

AIR FORCE HI-BAND DD ANTENNA

VSWR VS FREQ/PERF.GND/20-50 OHMS

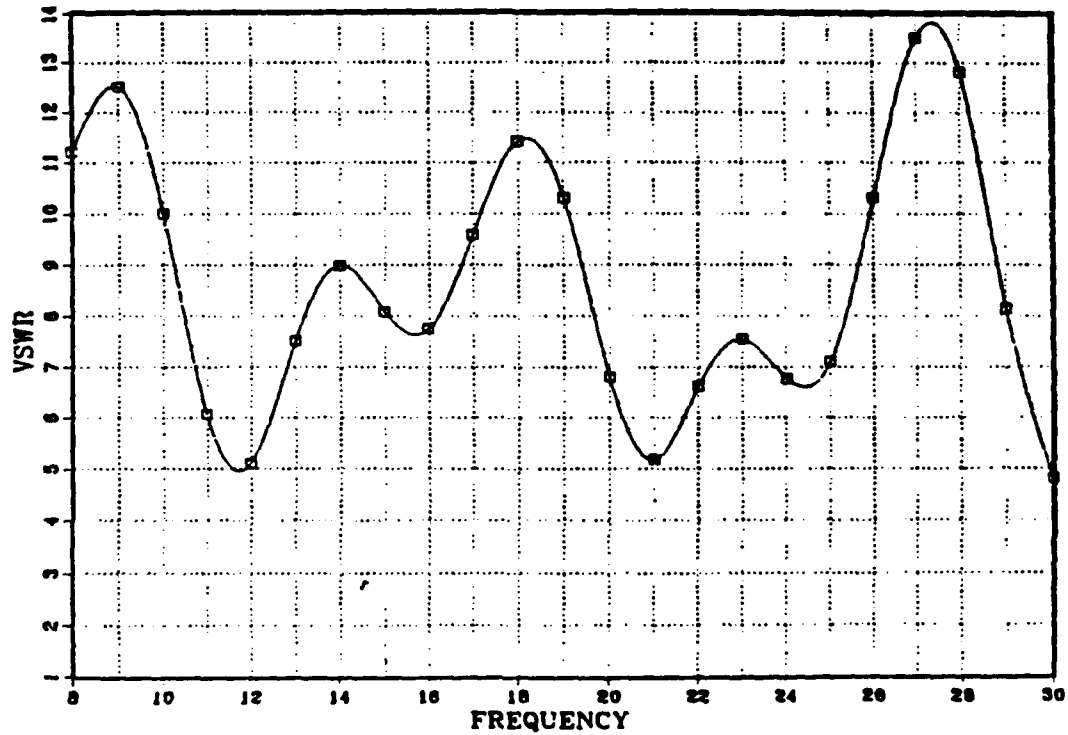


Figure 33. VSWR vs freq. for the Air Force Highband DD antenna over perfect ground (normalized impedance = 50 ohms)

AIR FORCE HI-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=300$ OHMS

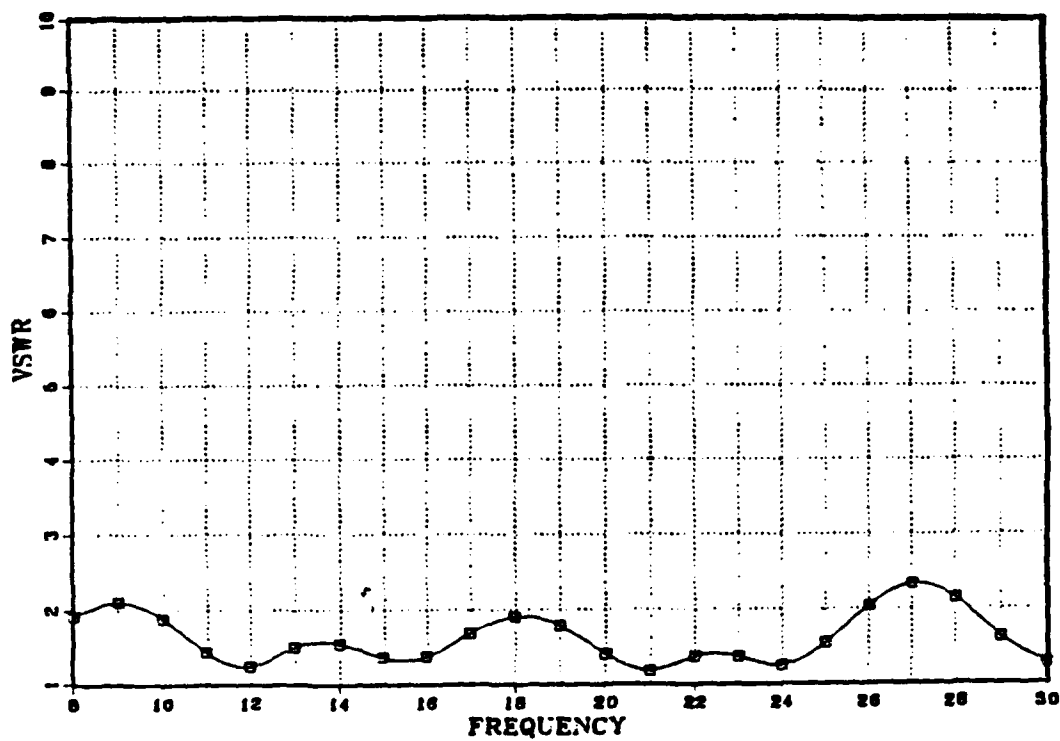


Figure 34. VSWR vs freq. for the Air Force Highband DD antenna over perfect ground (normalized impedance = 300 ohms)

AIR FORCE HI-BAND DD ANTENNA

VSWR VS FREQ/PRF.GND/Z0=600 OHMS

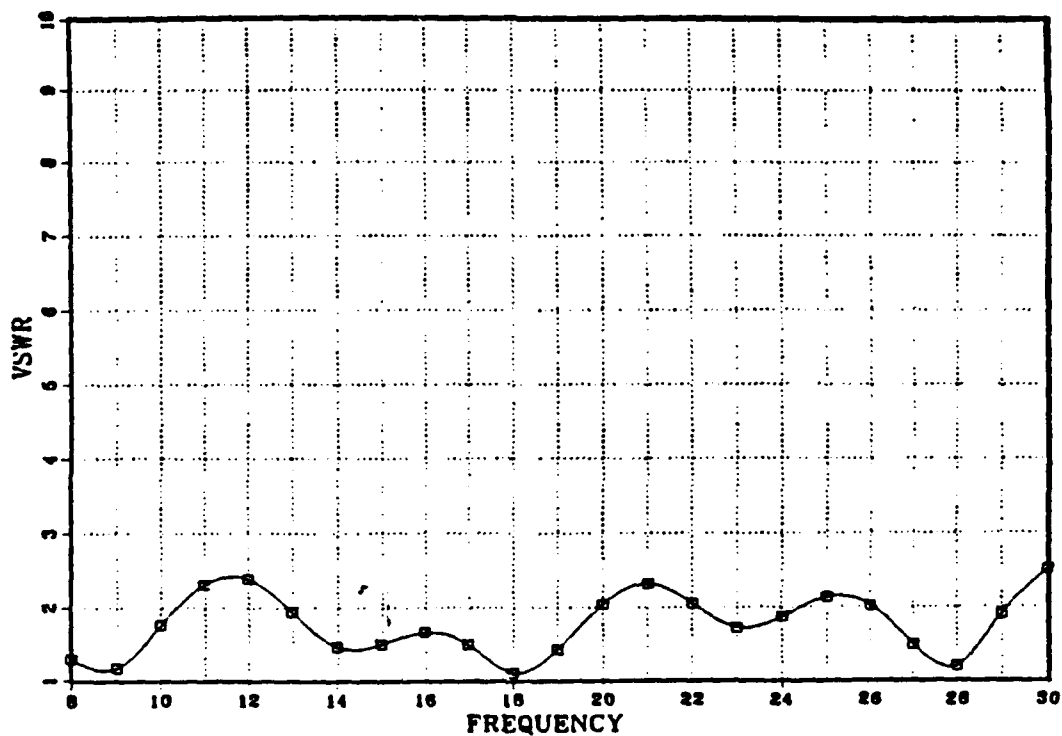


Figure 35. VSWR vs freq. for the Air Force Highband DD antenna over perfect ground (normalized impedance = 600 ohms).

AIR FORCE HI-BAND DD ANTENNA

COMPARISON VSWR VS FREQ/PERF.GND

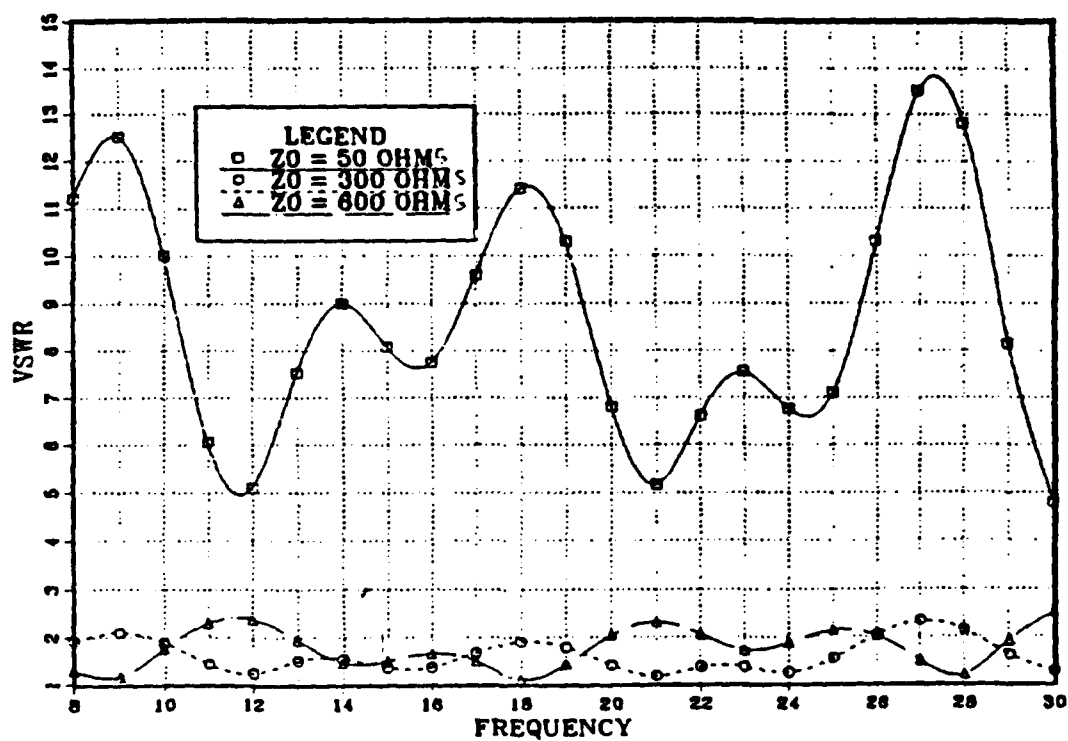


Figure 36. Comparison VSWR vs frequency for the Air Force Highband DD antenna over perfect ground

AIR FORCE HI-BAND DD ANTENNA

IMP. VS FREQ/PERF.GND/ $Z_0=50$ OHMS

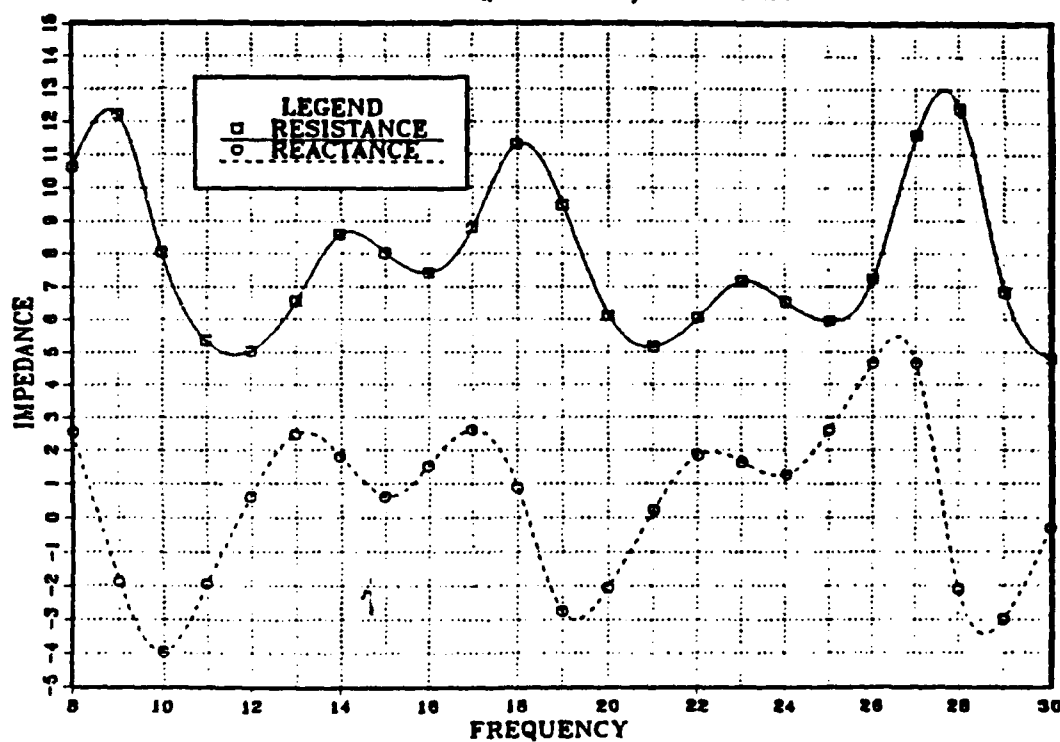


Figure 37. Impedance vs frequency for the Air Force Highband DD antenna over perfect ground (normalized impedance = 50 ohms)

AIR FORCE HI-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=300$ OHMS

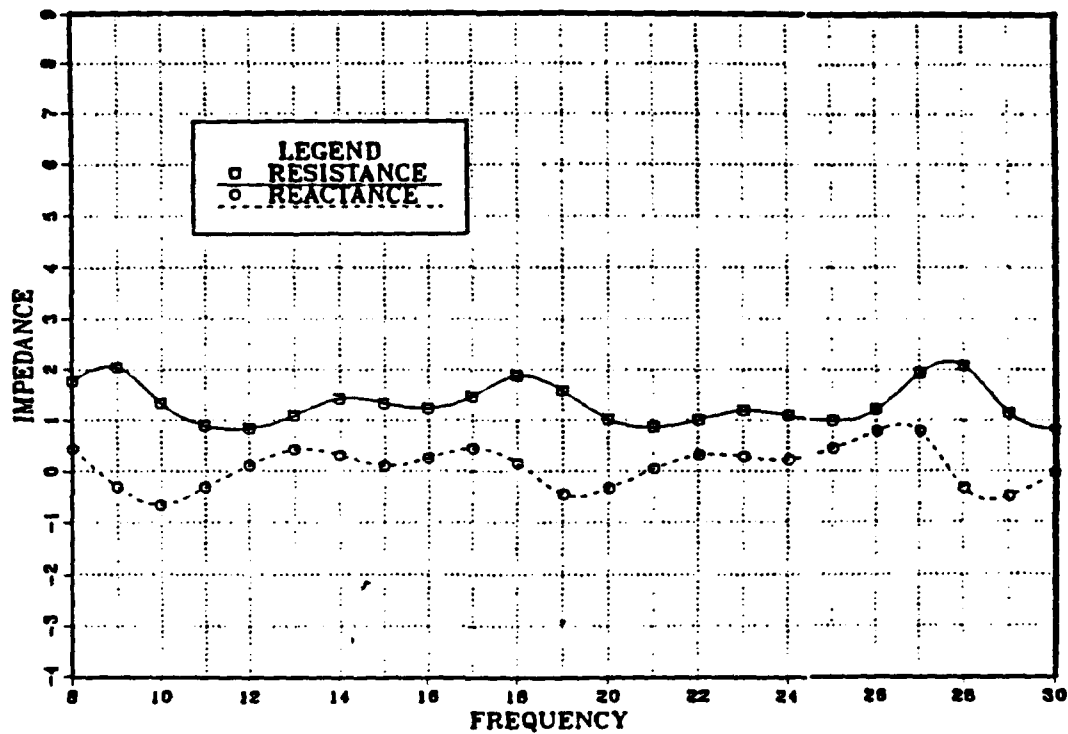


Figure 38. Impedance vs frequency for the Air Force Highband DD antenna over perfect ground (normalized impedance = 300 ohms)

AIR FORCE HI-BAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=600$ OHMS

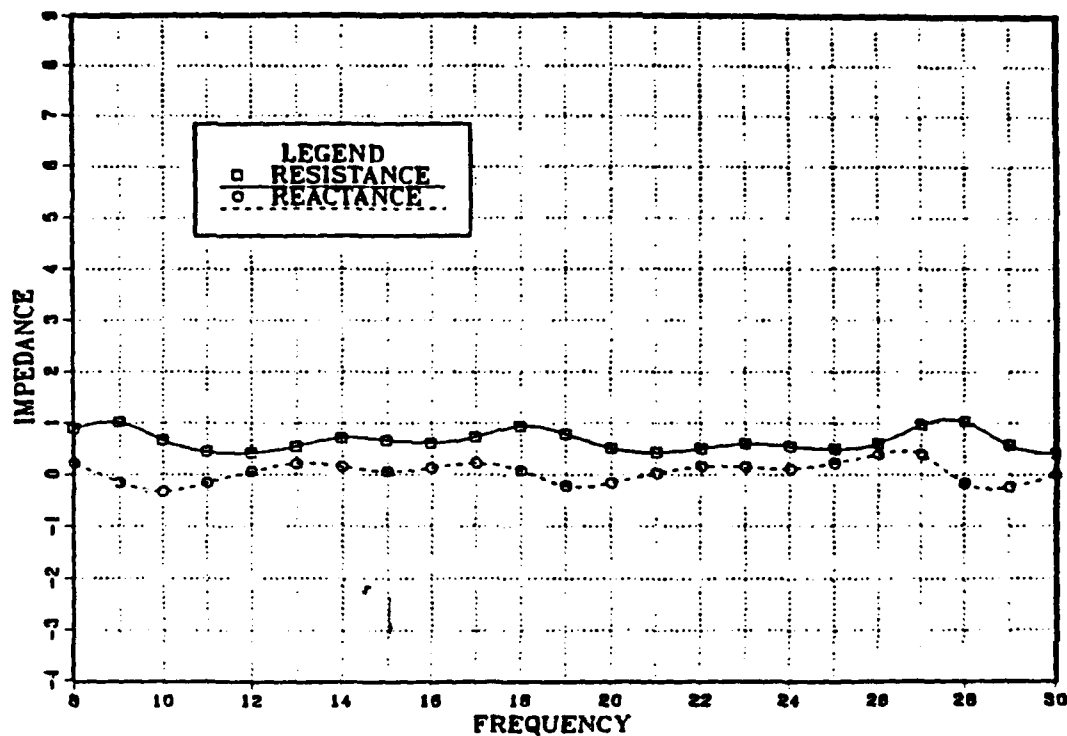


Figure 39. Impedance vs frequency for the Air Force Highband DD antenna over perfect ground (normalized impedance = 600 ohms)

AIR FORCE HI-BAND DD ANTENNA

ELEVATION PATTERN (BORESIGHT)

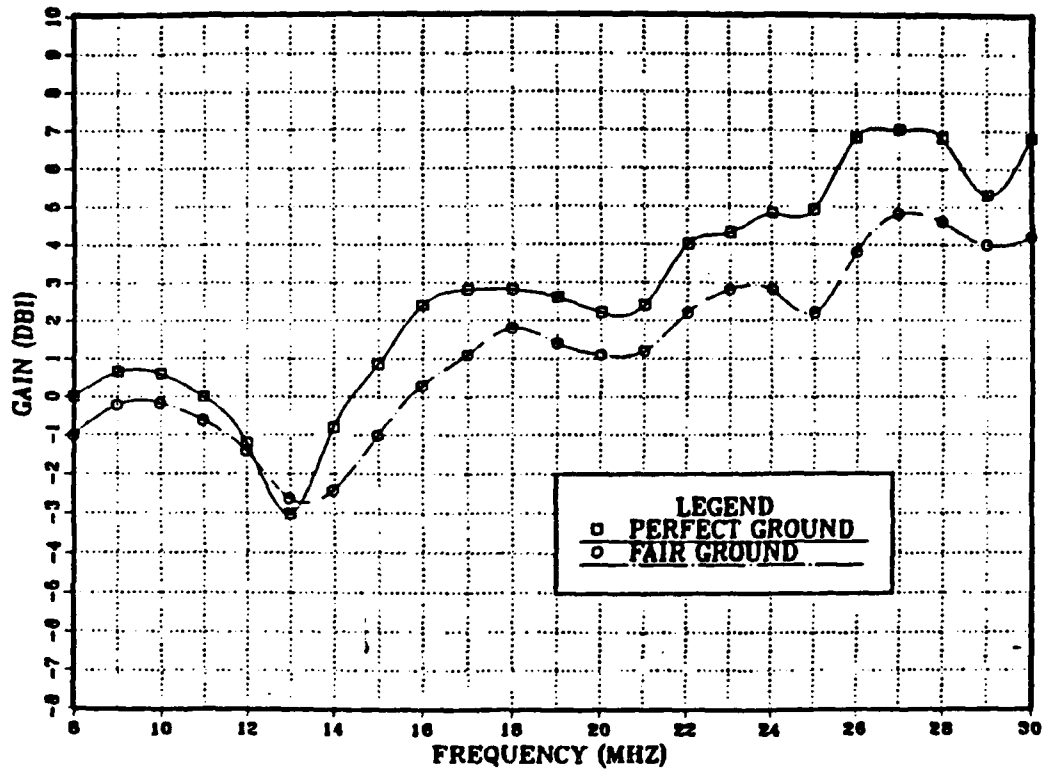


Figure 40. Max. gain vs freq. for the Air Force Highband DD antenna over perfect ground and fair ground (boresight)

AIR FORCE HI-BAND DD ANTENNA

ELEVATION PATTERN (BROADSIDE)

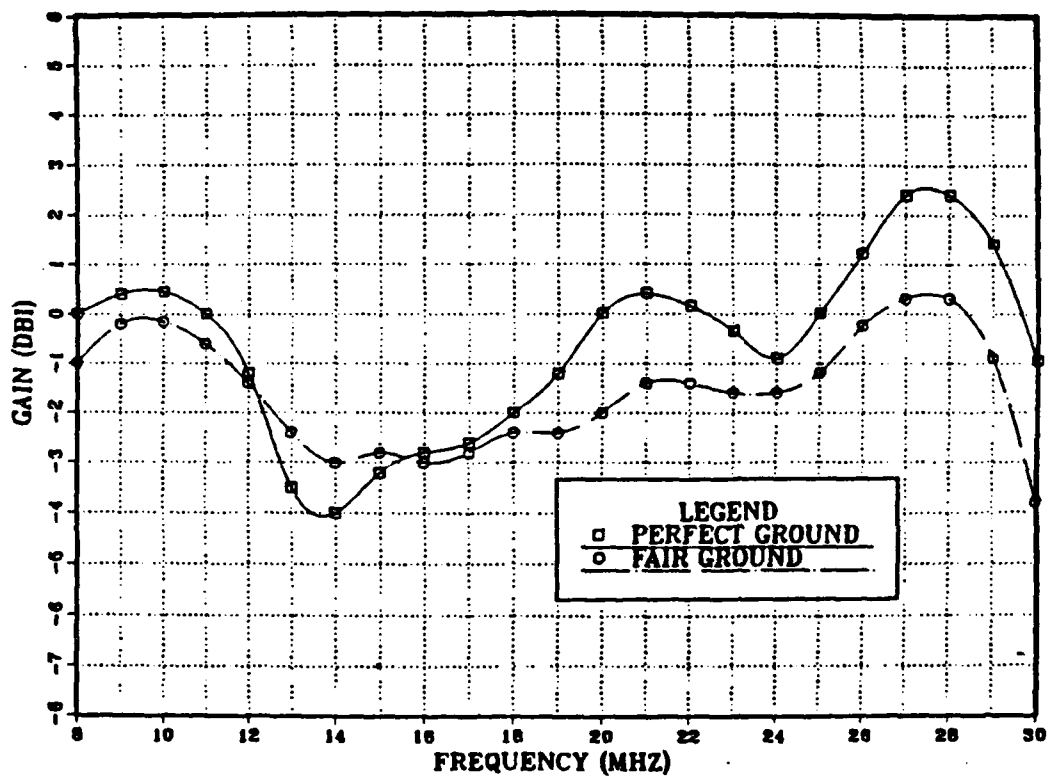


Figure 41. Max. gain vs frequency for the Air Force Highband DD antenna over perfect ground and fair ground (broadside)

ESI 32A2A BROADBAND DD ANTENNA

VSWR VS FREQ/PERF.GND/ $Z_0=50$ OHMS

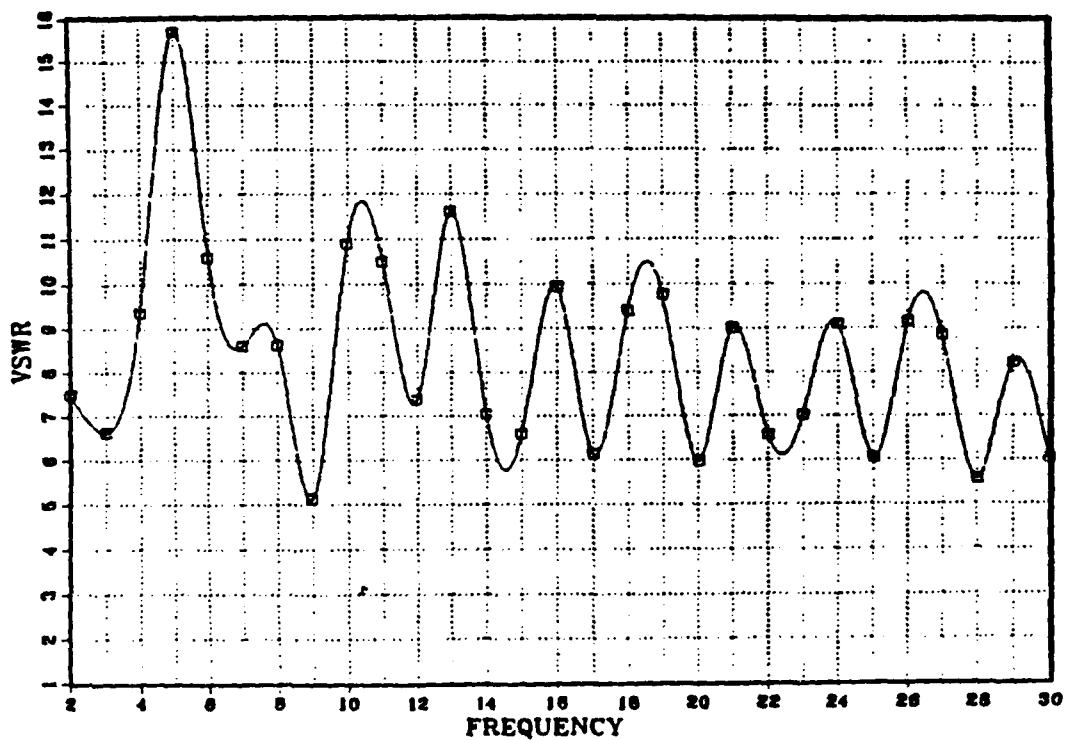


Figure 42. VSWR vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 50 ohms)

ESI 32A2A BROADBAND DD ANTENNA

VSWR VS FREQ/PRF.GND/ $Z_0=300$ OHMS

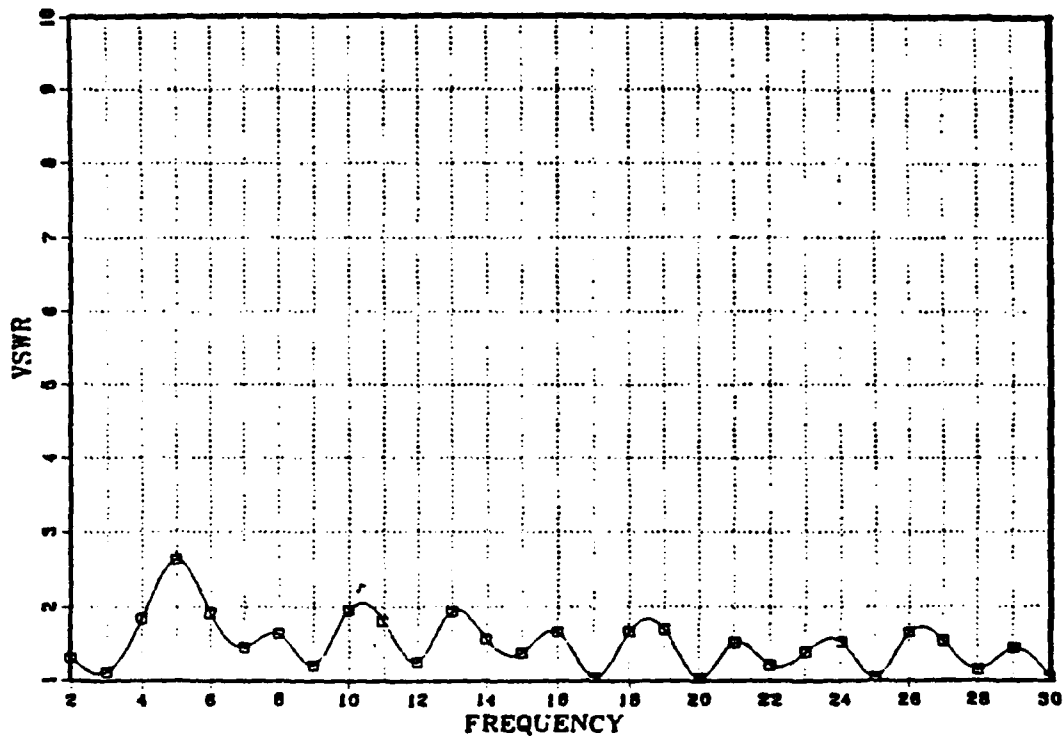


Figure 43. VSWR vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 300 ohms)

ESI 32A2A BROADBAND DD ANTENNA

VSWR VS FREQ/PRF.GND/Z0=600 OHMS

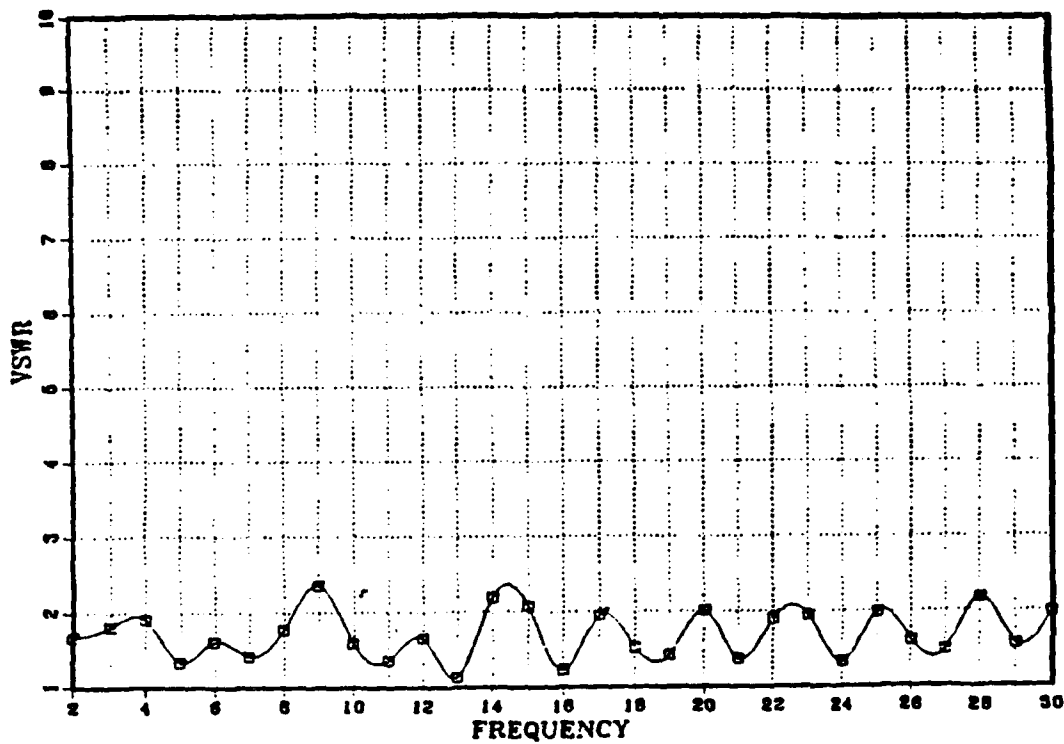


Figure 44. VSWR vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 600 ohms)

ESI 32A2A BROADBAND DD ANTENNA

COMPARISON VSWR VS FREQ/PERF.GND

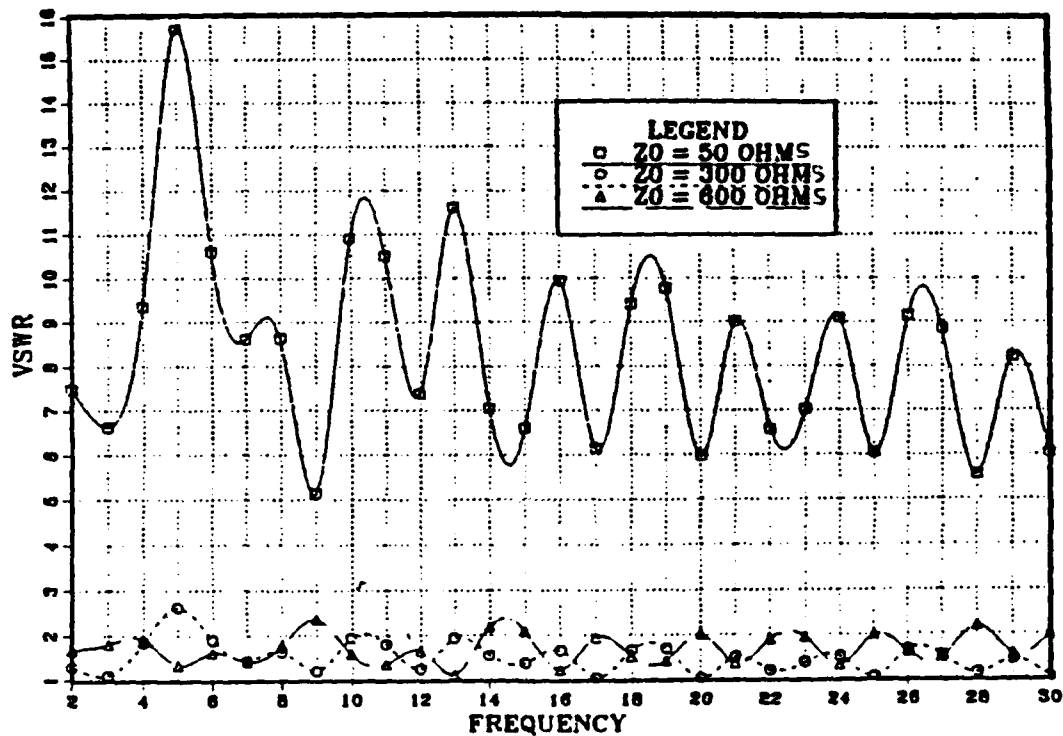


Figure 45. Comparison VSWR vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground

ESI 32A2A BROADBAND DD ANTENNA

IMP. VS FREQ./PERF.GND/ $Z_0=50$ OHMS

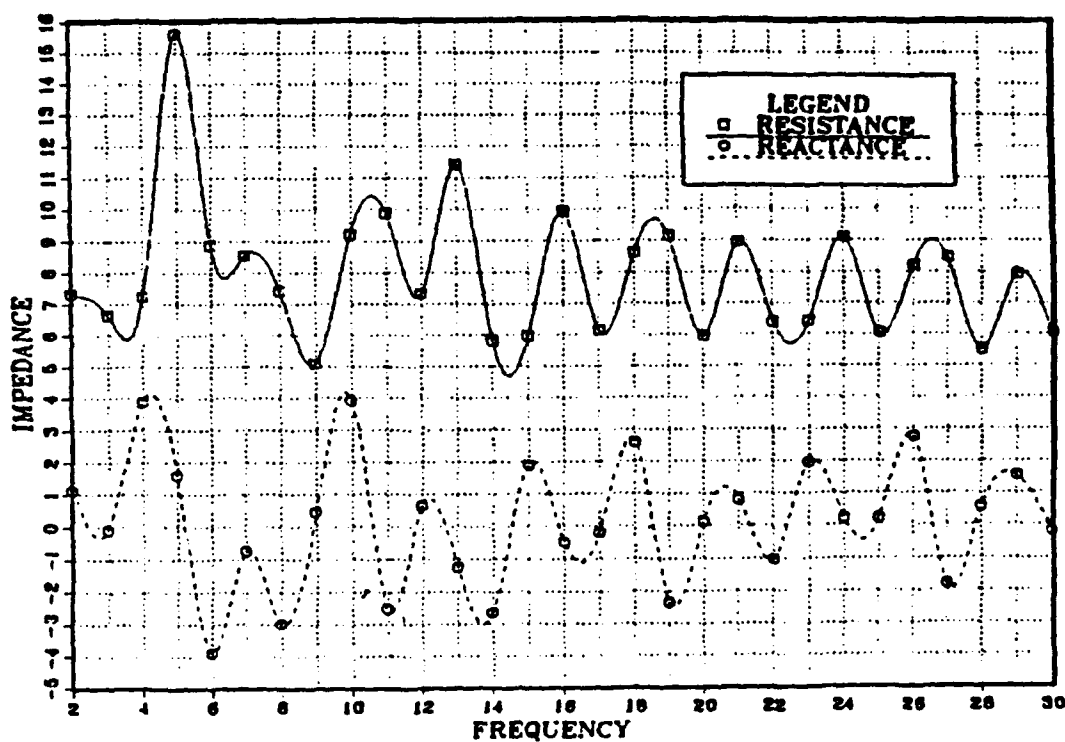


Figure 46. Impedance vs freq. for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 50 ohms)

ESI 32A2A BROADBAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=300$ OHMS

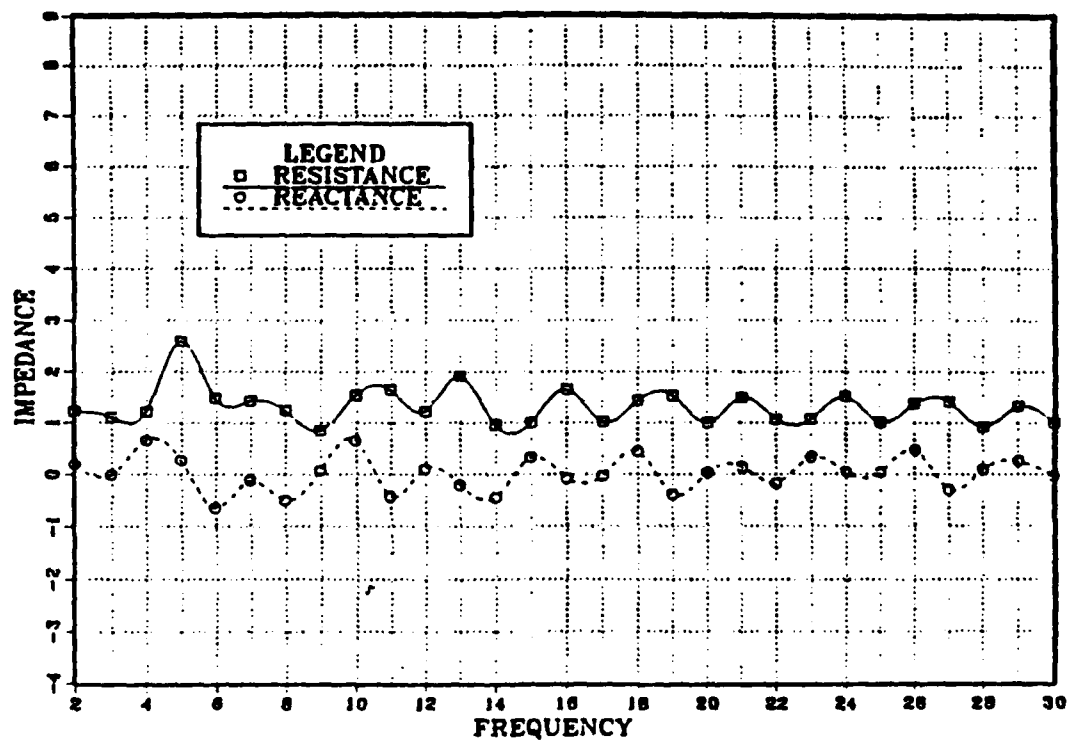


Figure 47. Impedance vs freq. for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 300 ohms)

ESI 32A2A BROADBAND DD ANTENNA

IMP. VS FREQ/PRF.GND/ $Z_0=600$ OHMS

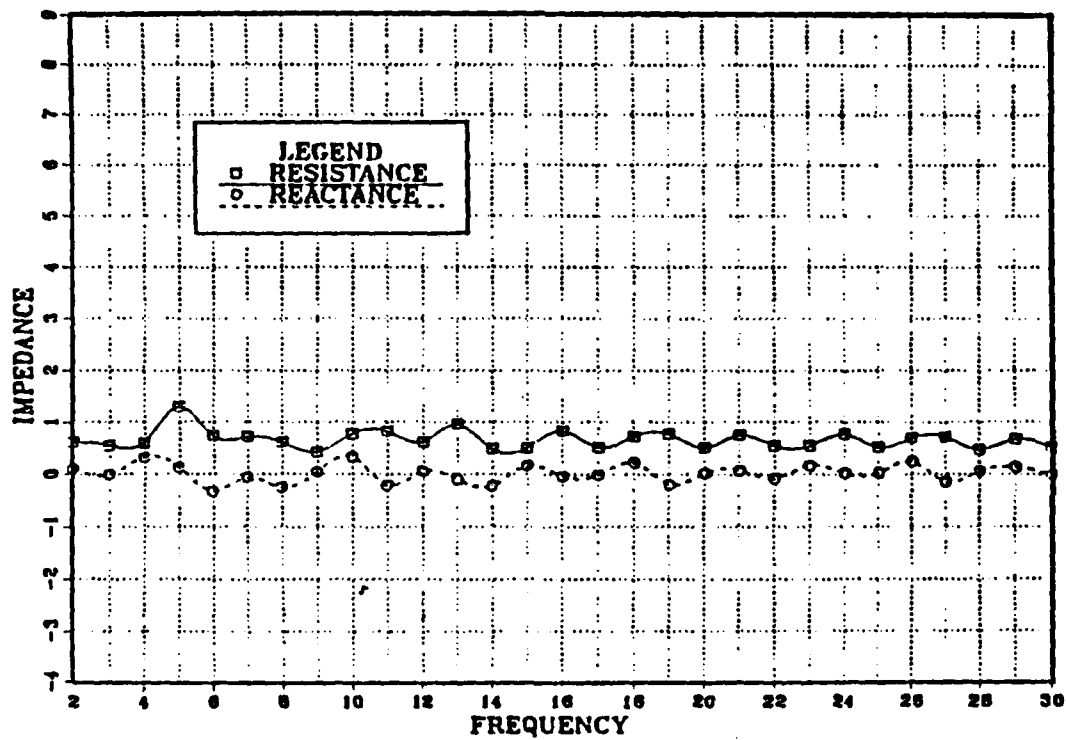


Figure 48. Impedance vs freq. for the ESI 32A2A Broadband DD antenna over perfect ground (normalized impedance = 600 ohms)

ESI 32A2A BROADBAND DD ANTENNA

ELEVATION PATTERN (BORESIGHT)

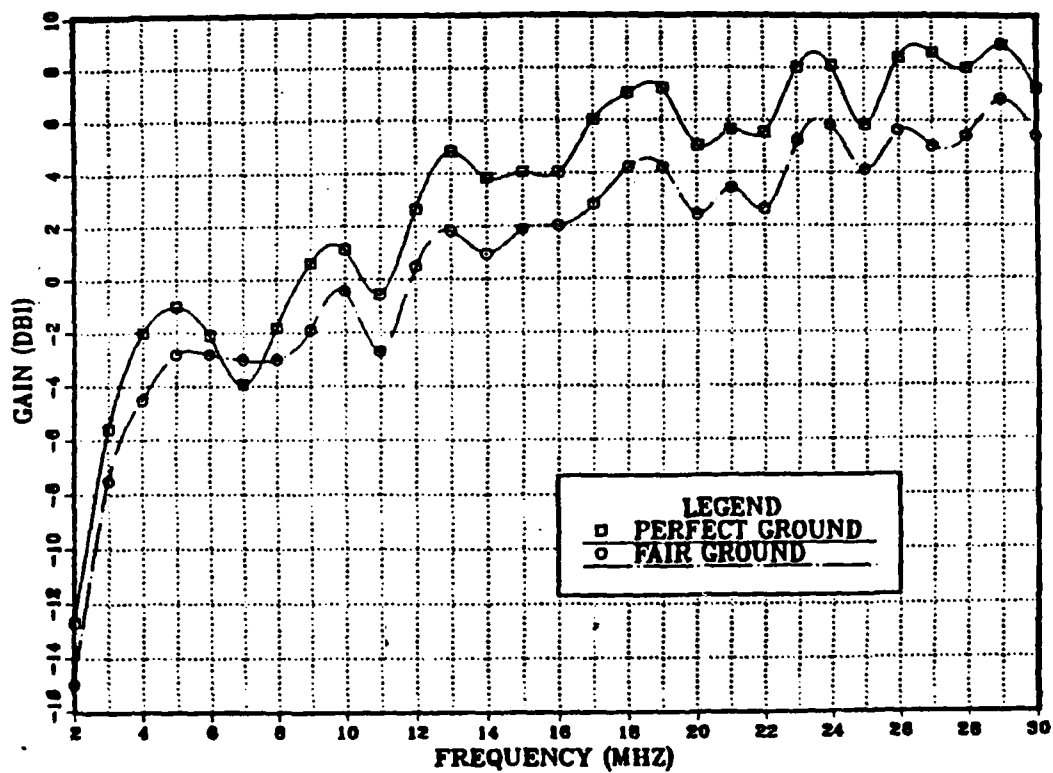


Figure 49. Max. gain vs freq. for the ESI 32A2A Broadband DD antenna over perfect ground and fair ground (boresight)

ESI 32A2A BROADBAND DD ANTENNA

ELEVATION PATTERN (BROADSIDE)

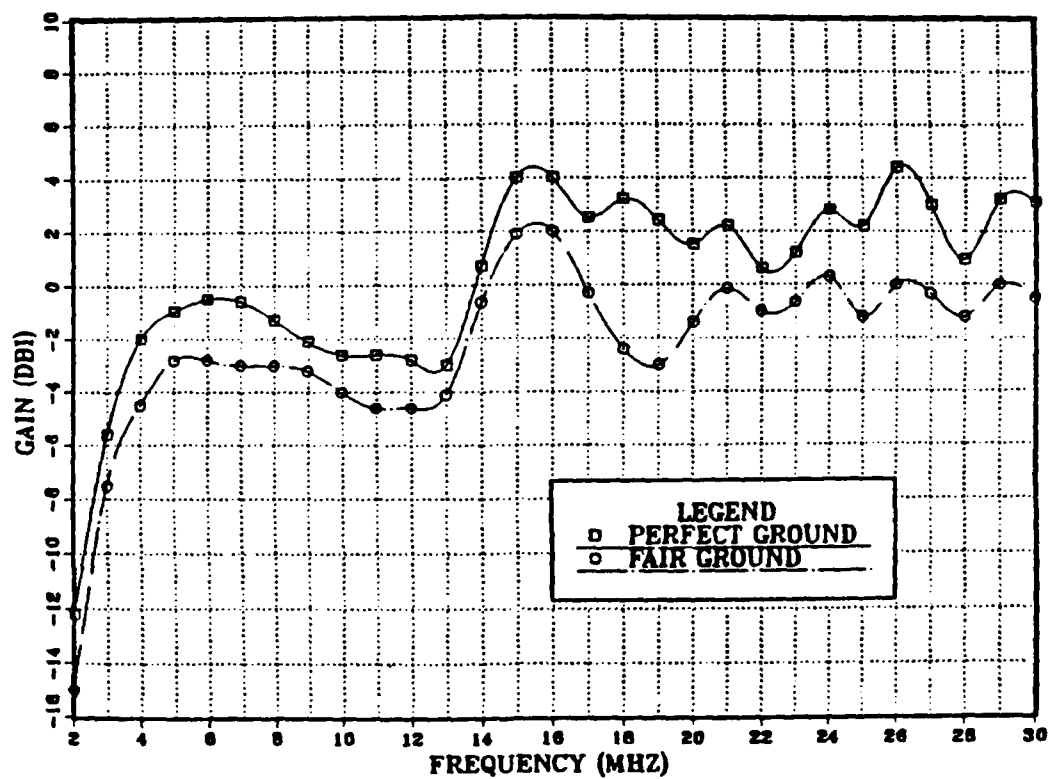
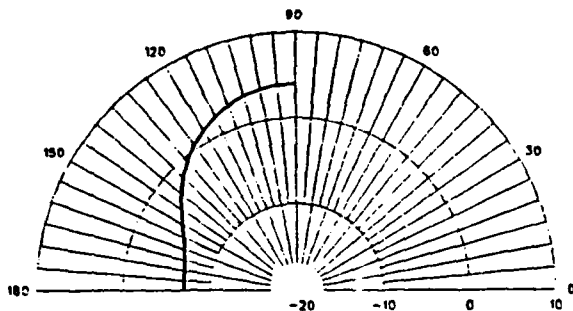
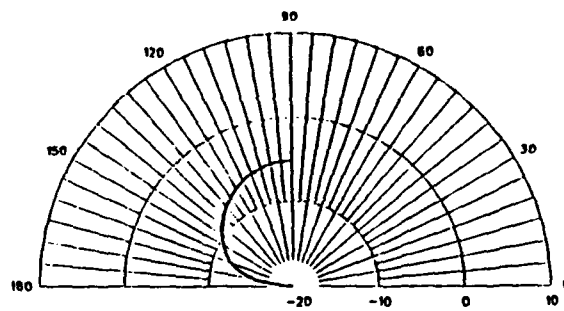


Figure 50. Max. gain vs frequency for the ESI 32A2A Broadband DD antenna over perfect ground and fair ground (broadside)

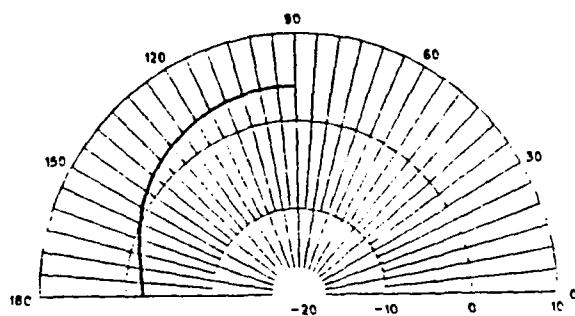
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

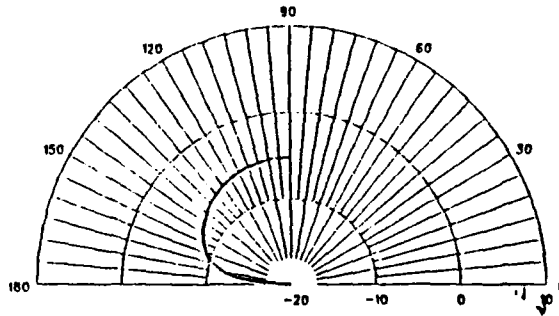
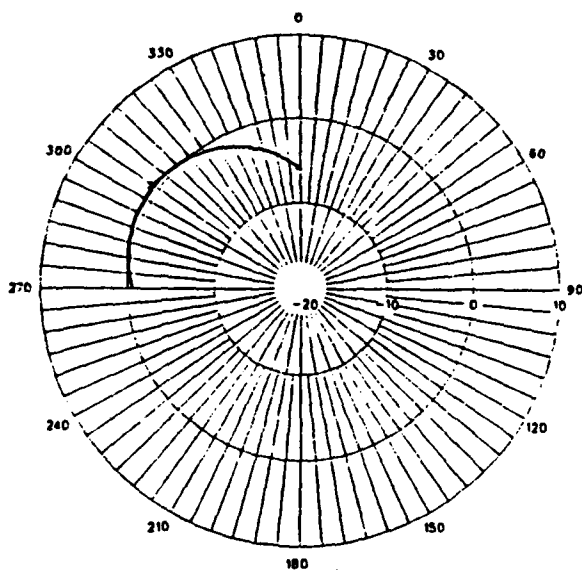
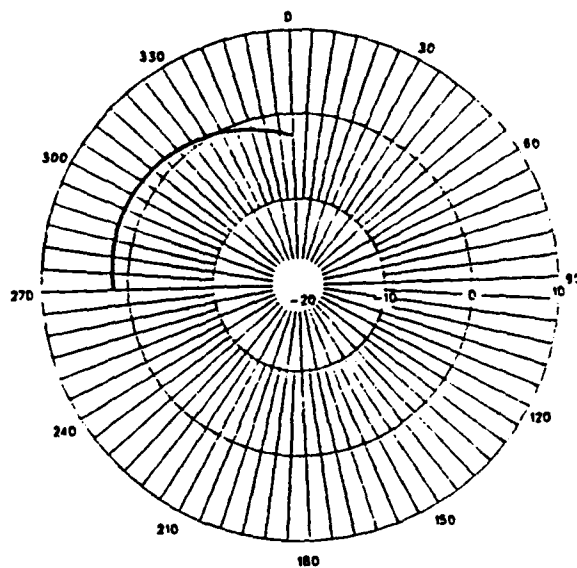


Figure 51. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 2 MHz

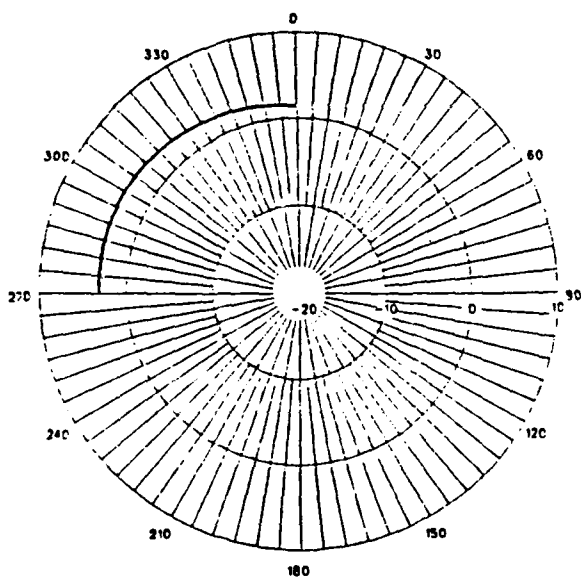
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

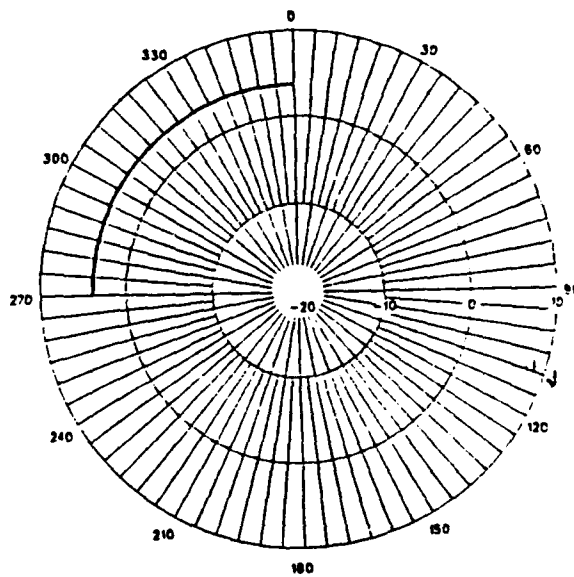
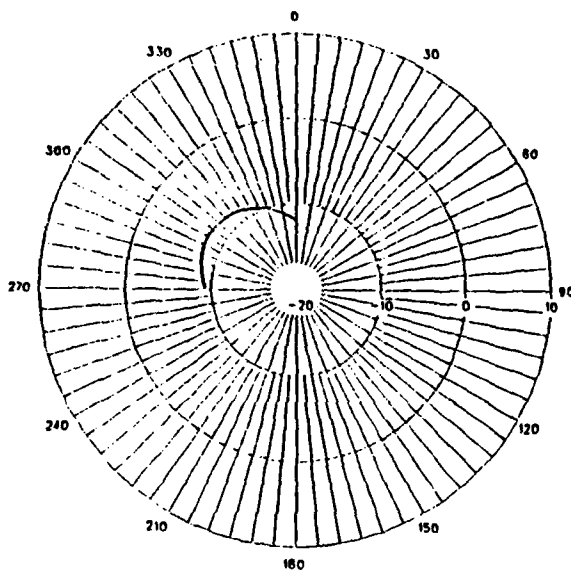
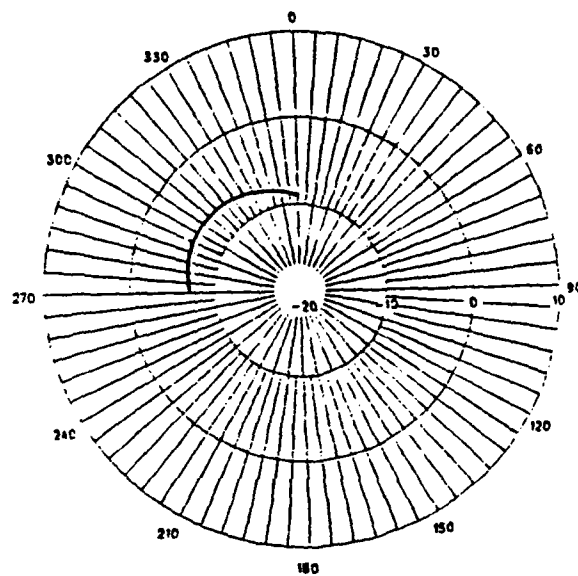


Figure 52. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 2 MHz

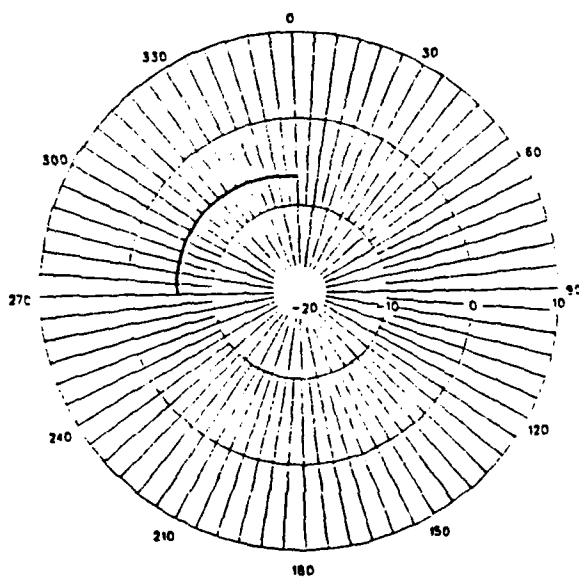
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

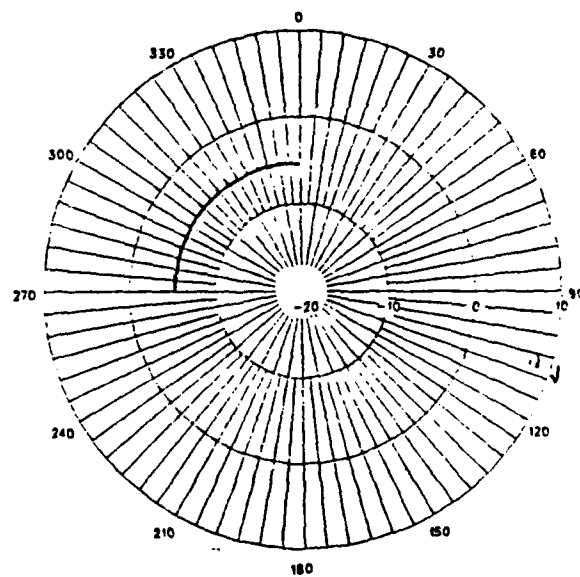


Figure 53. Azimuth patterns of the Army Lowband DD antenna over fair ground at 2 MHz

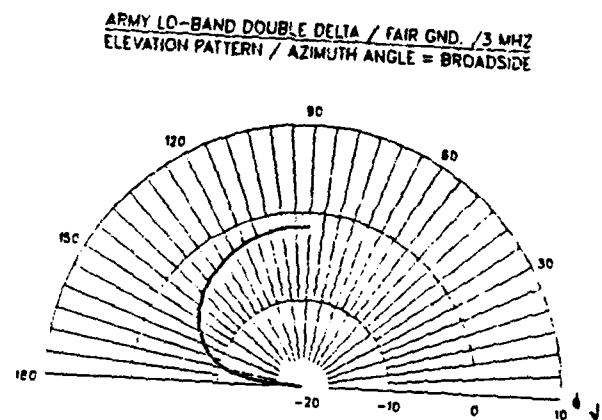
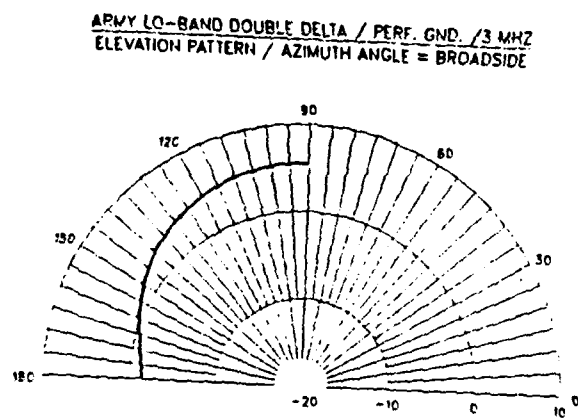
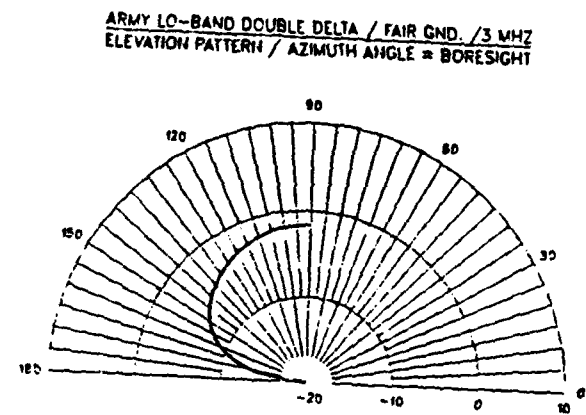
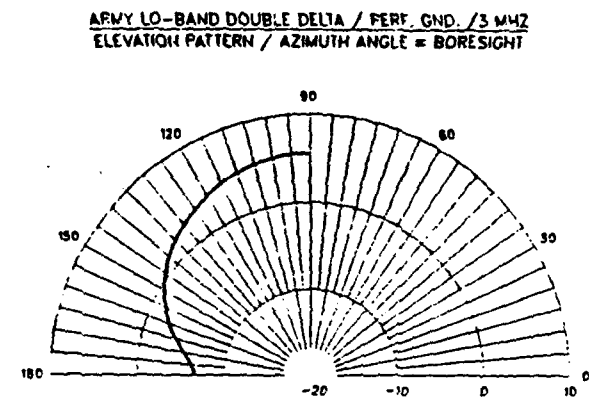
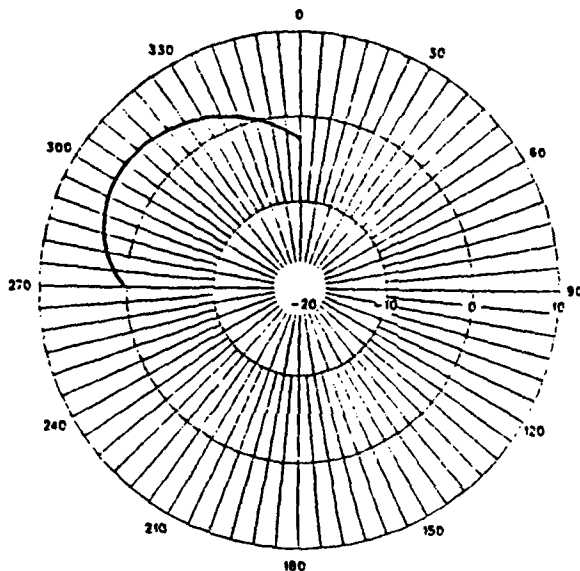
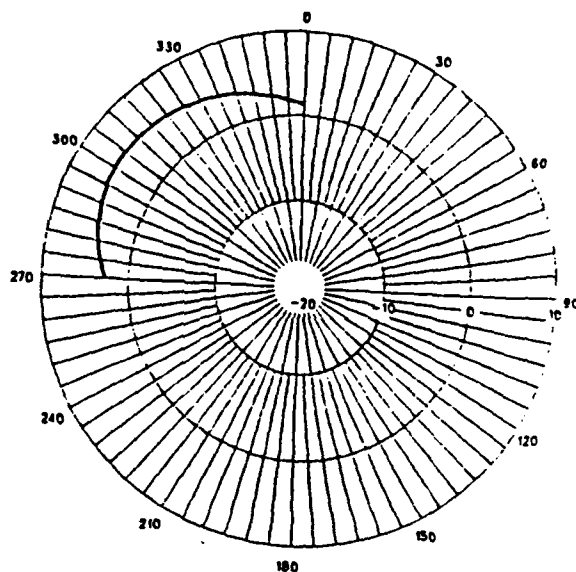


Figure 54. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 3 MHz

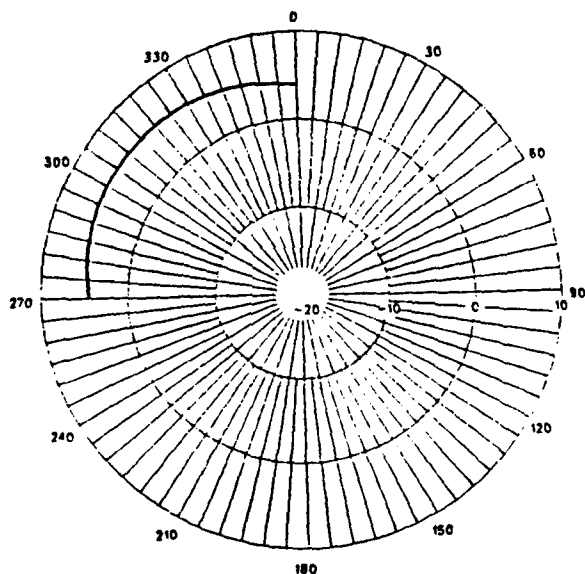
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

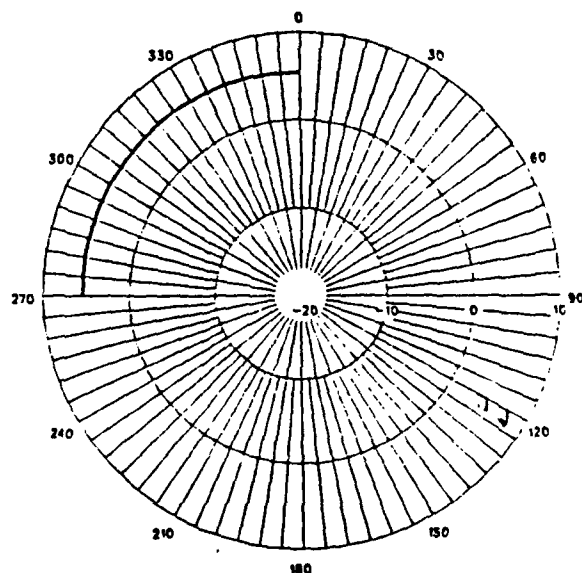
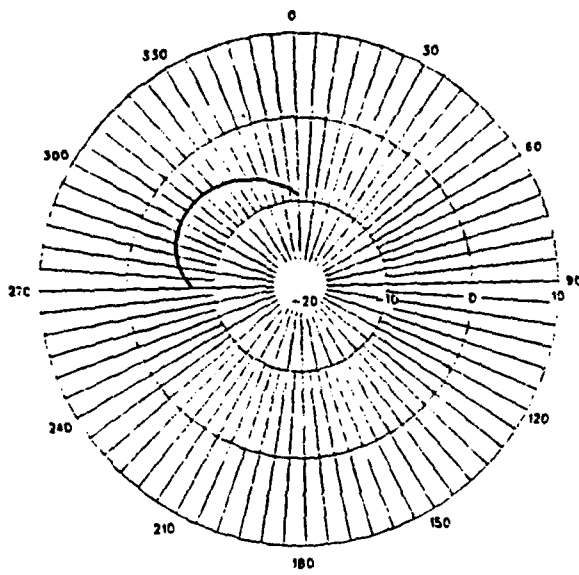
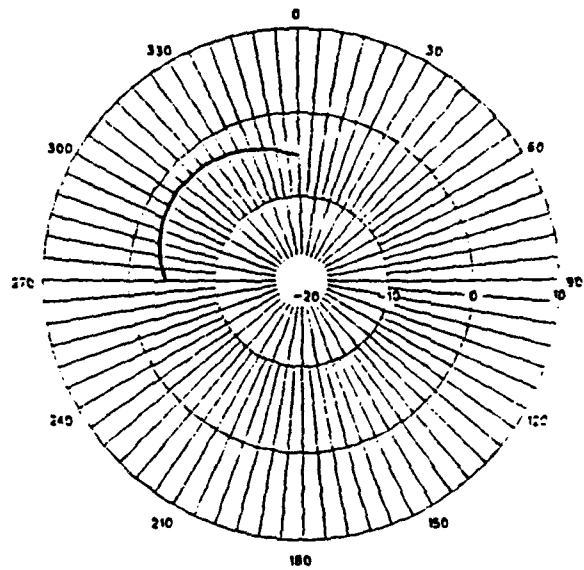


Figure 55. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 3 MHz

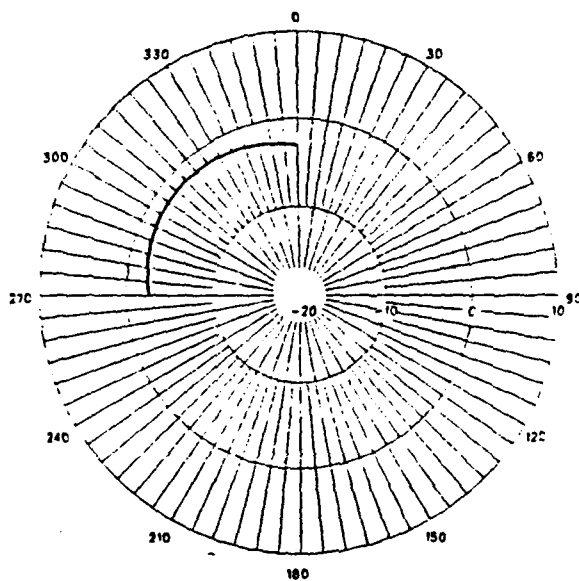
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

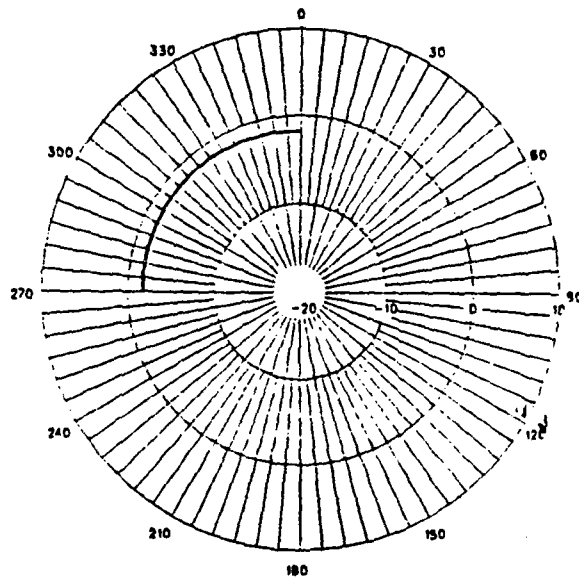
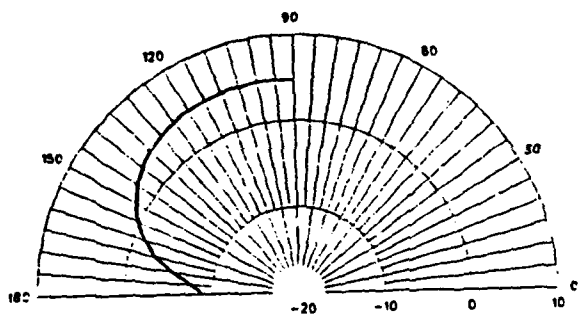
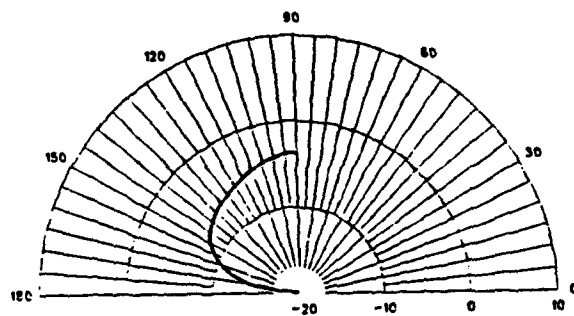


Figure 56. Azimuth patterns of the Army Lowband DD antenna over fair ground at 3 MHz

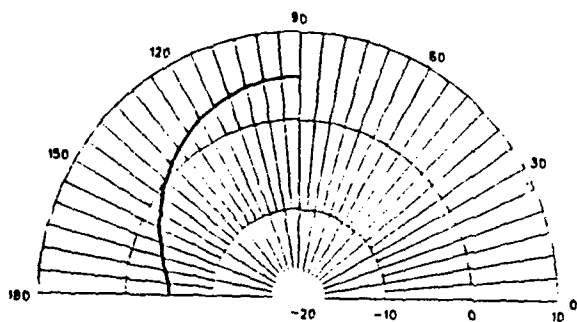
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

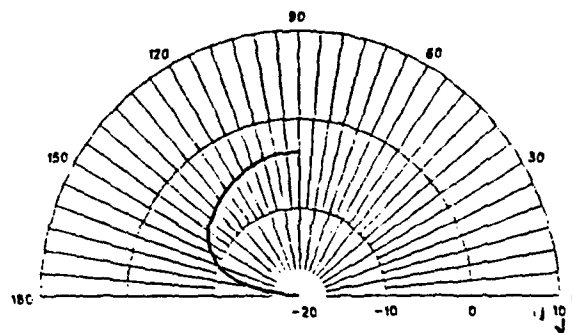
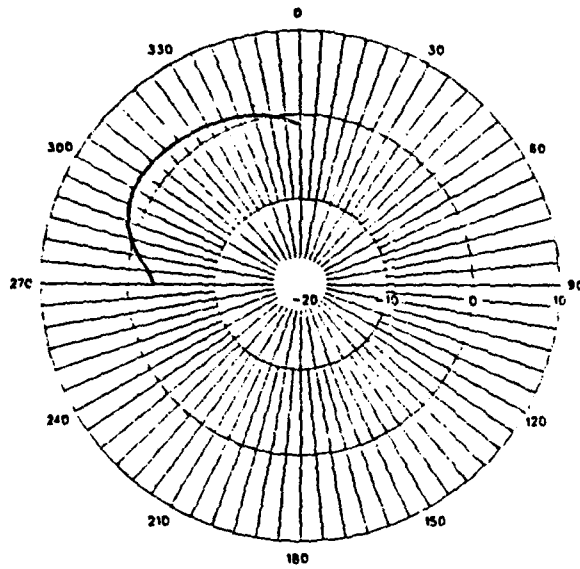
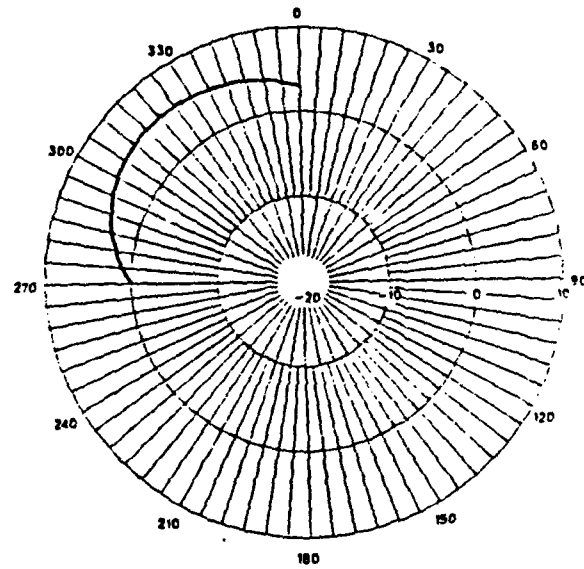


Figure 57. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 4 MHz

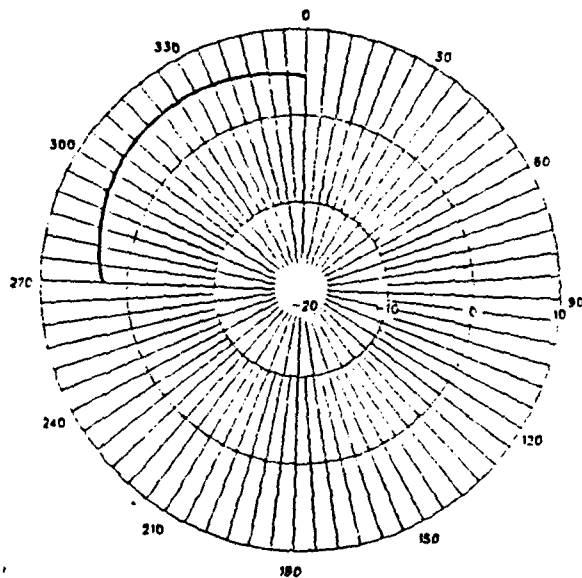
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

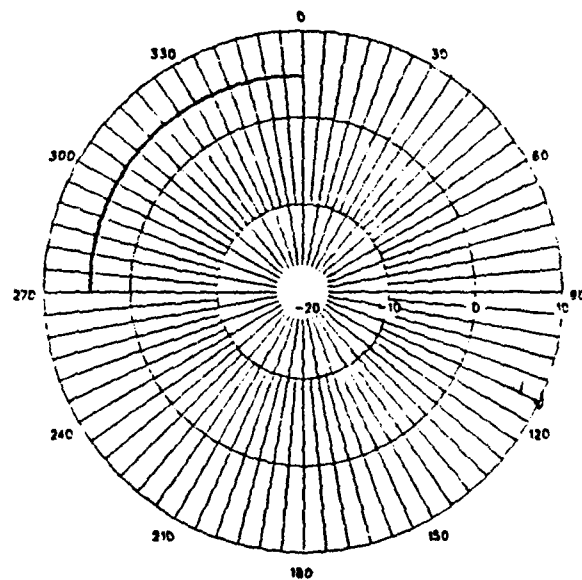
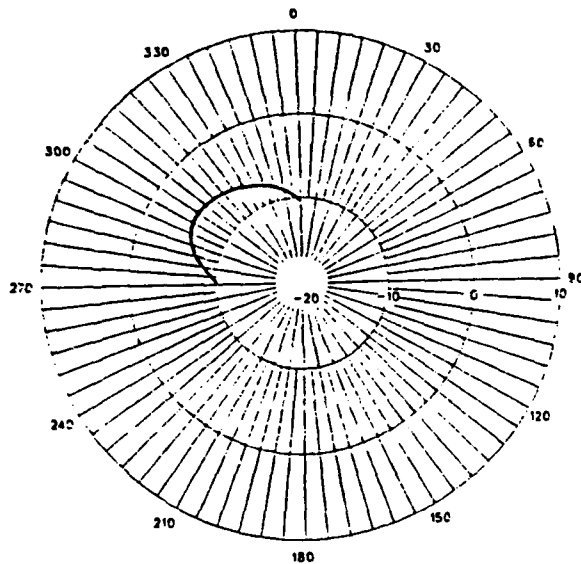
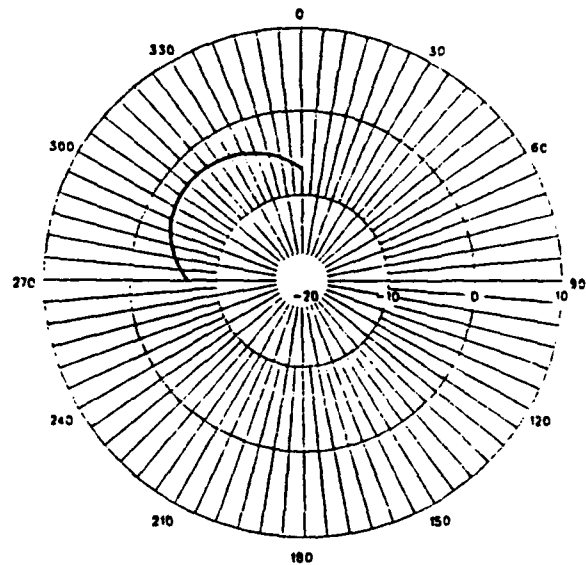


Figure 58. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 4 MHz

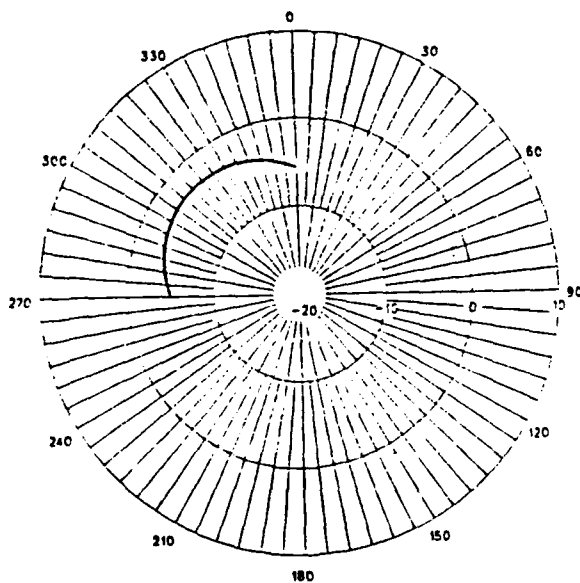
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

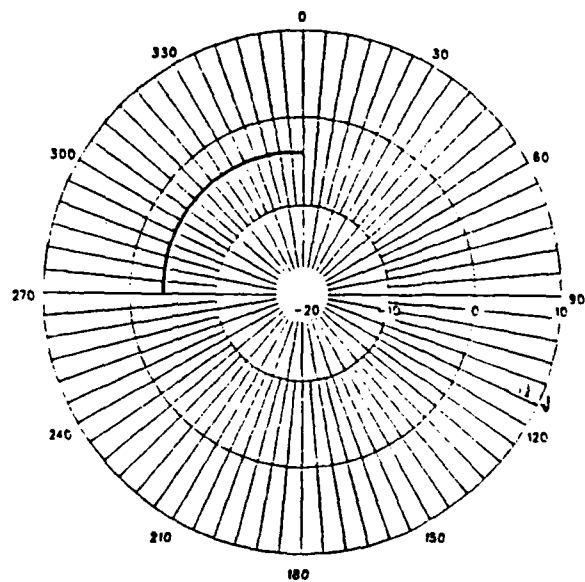
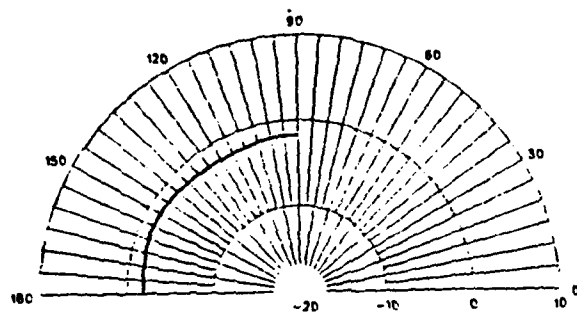
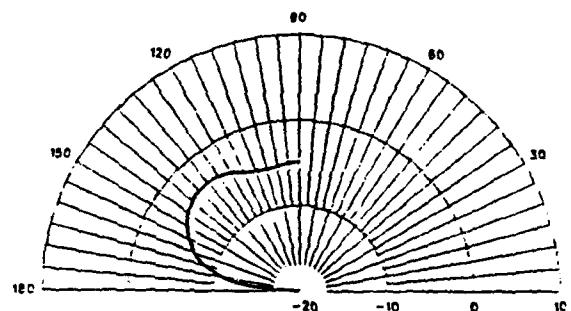


Figure 59. Azimuth patterns of the Army Lowband DD antenna over fair ground at 4 MHz

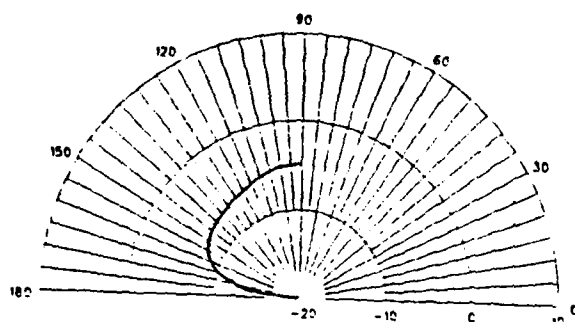
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT

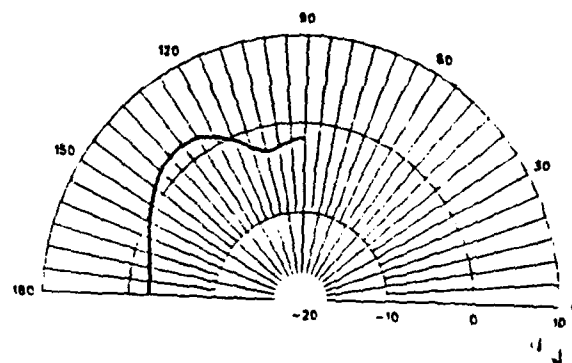
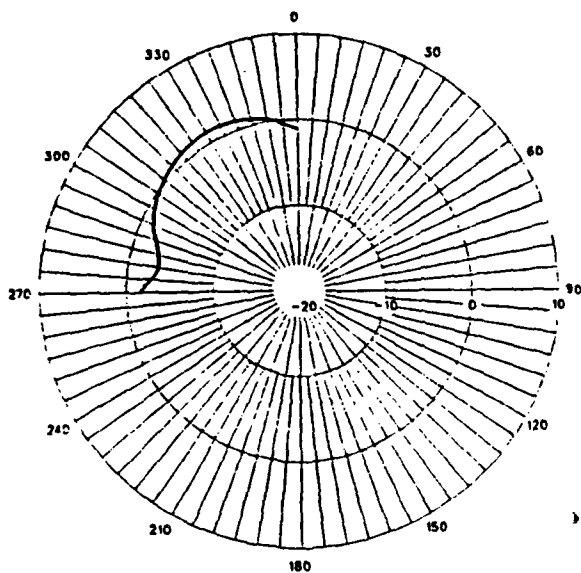
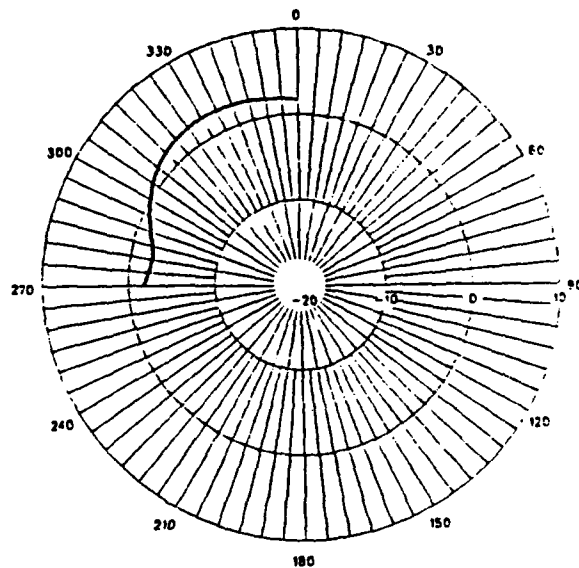


Figure 60. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 5 MHz

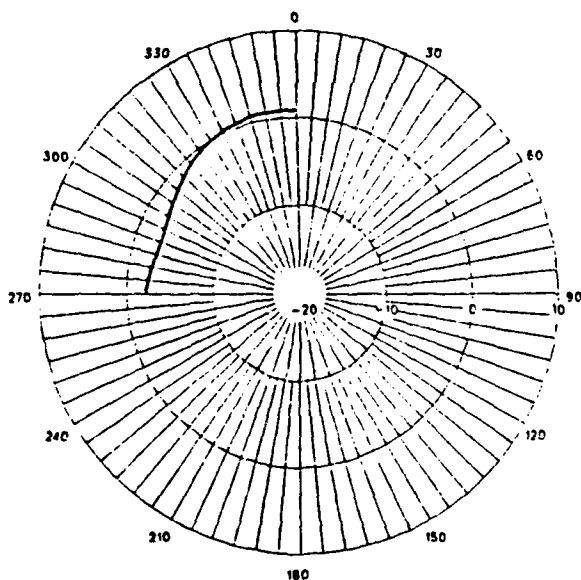
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

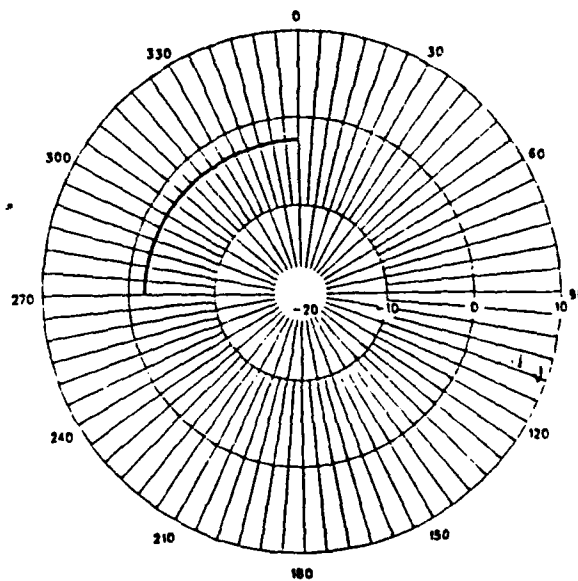
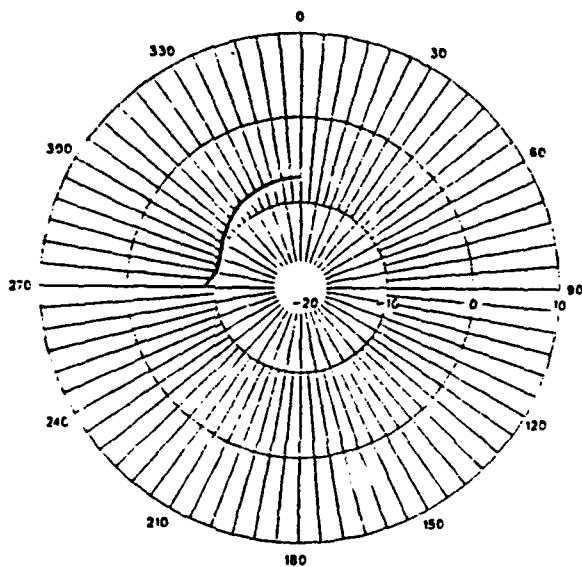
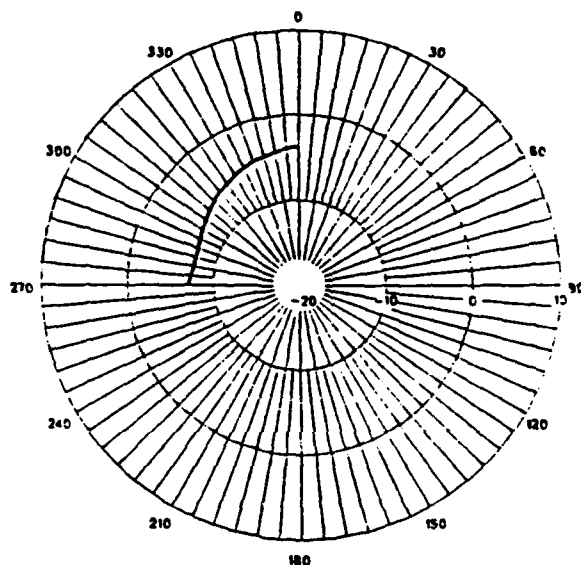


Figure 61. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 5 MHz

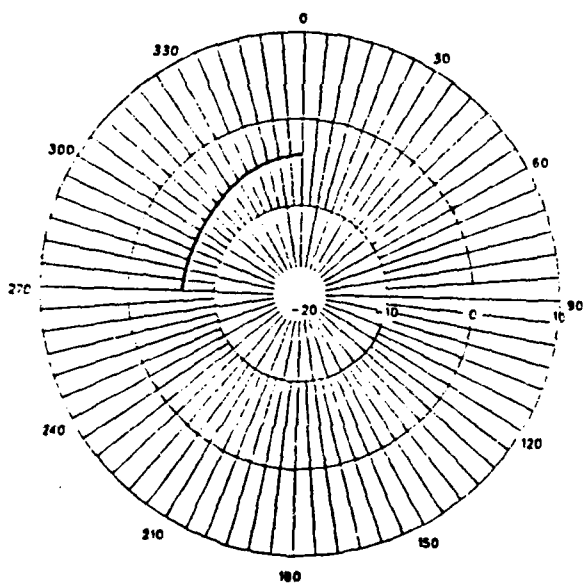
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

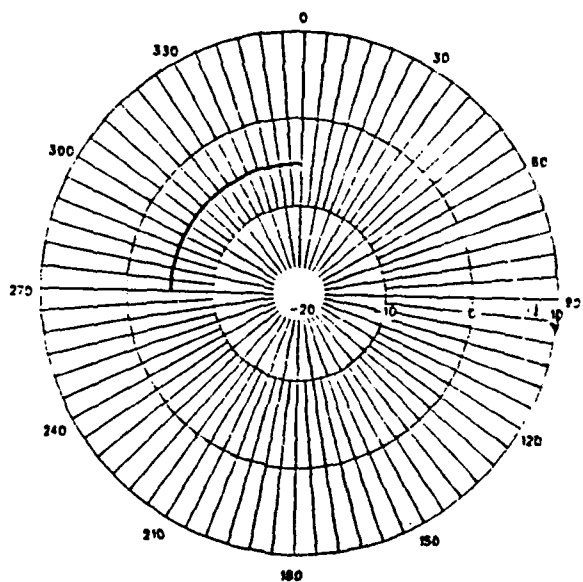
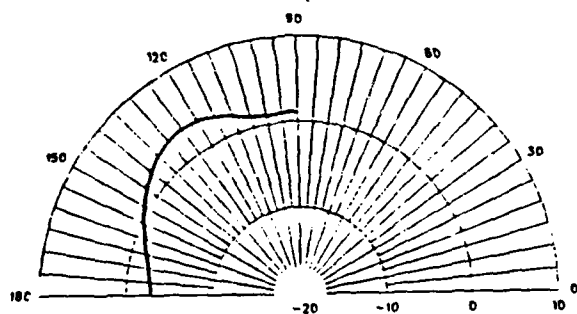
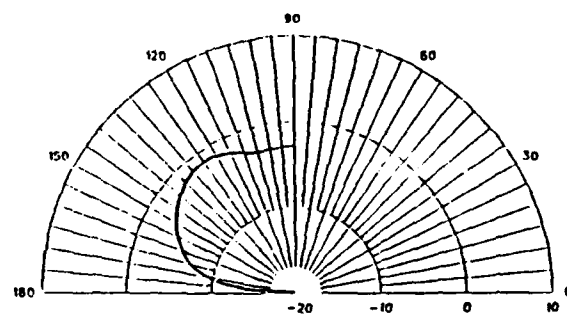


Figure 62. Azimuth patterns of the Army Lowband DD antenna over fair ground at 5 MHz

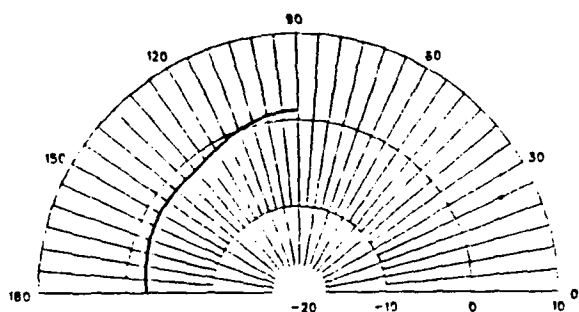
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

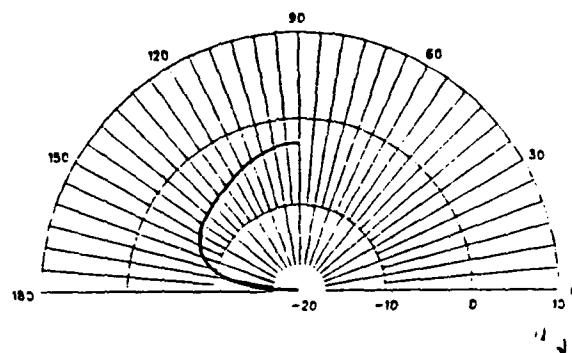
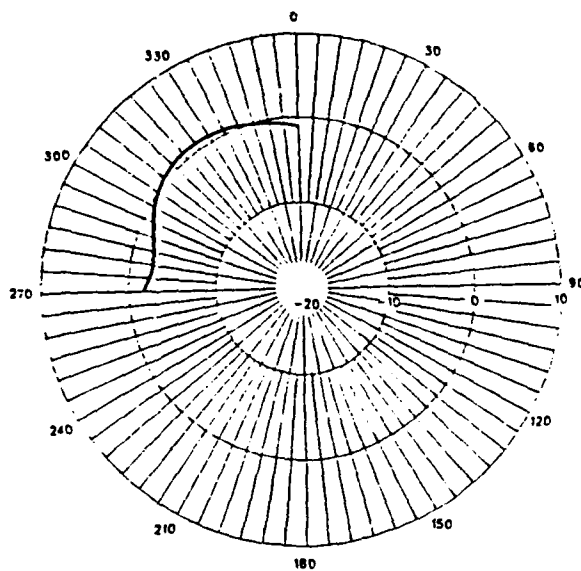
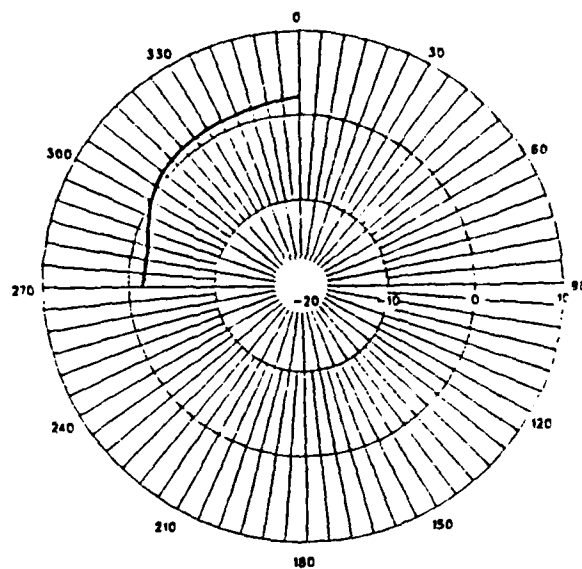


Figure 63. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 6 MHz

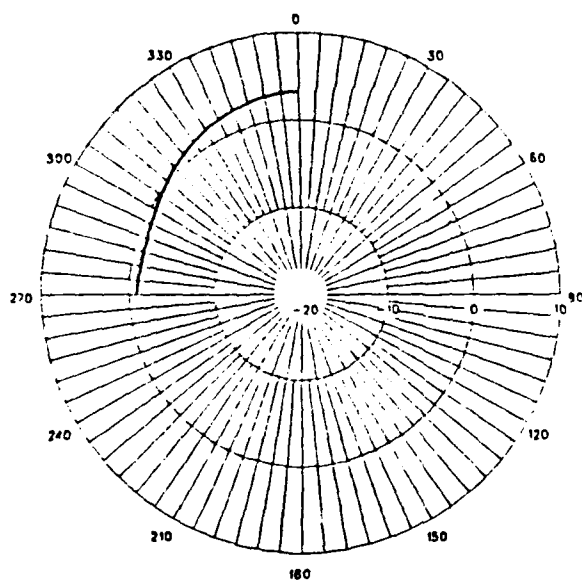
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

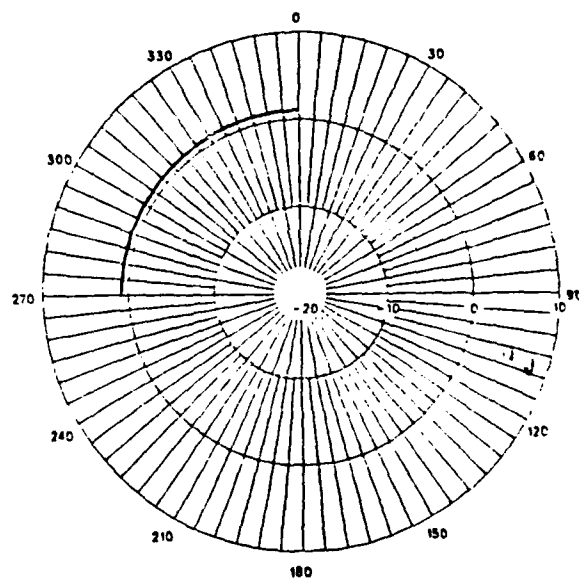
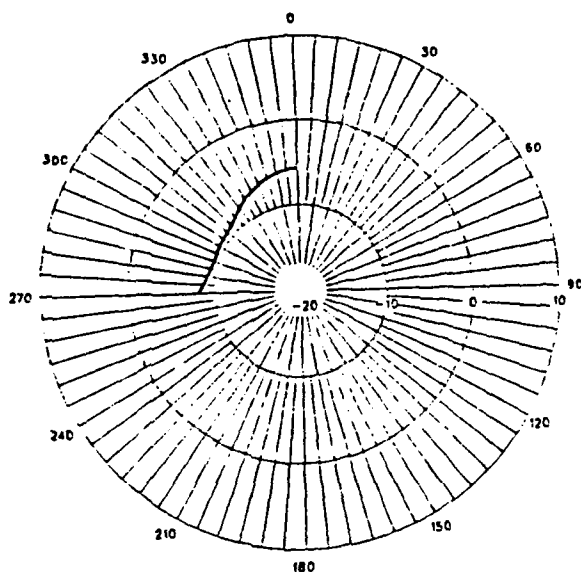
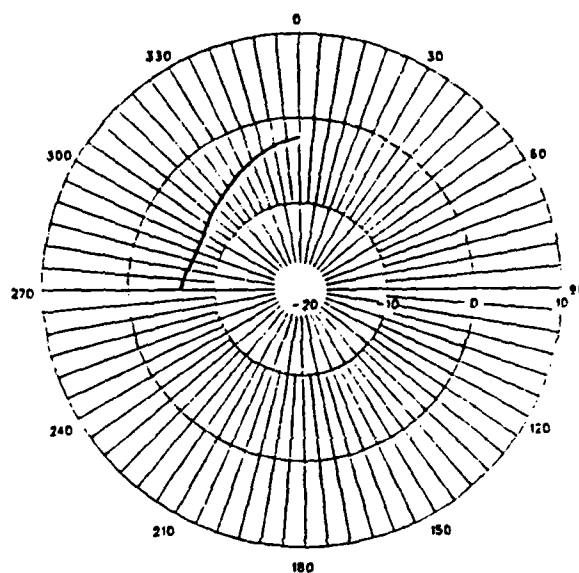


Figure 64. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 6 MHz

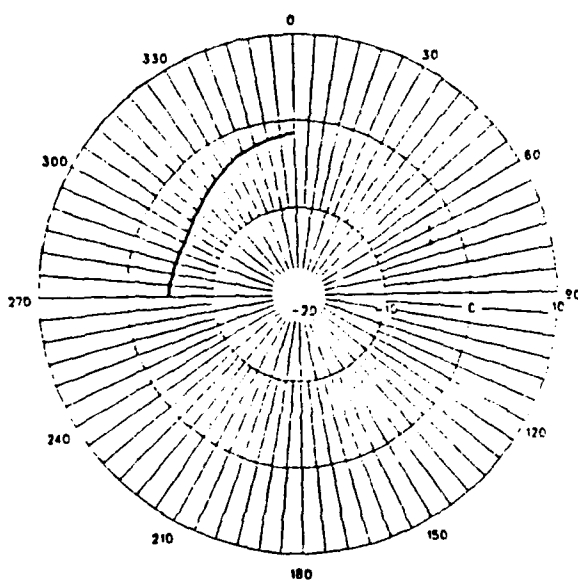
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

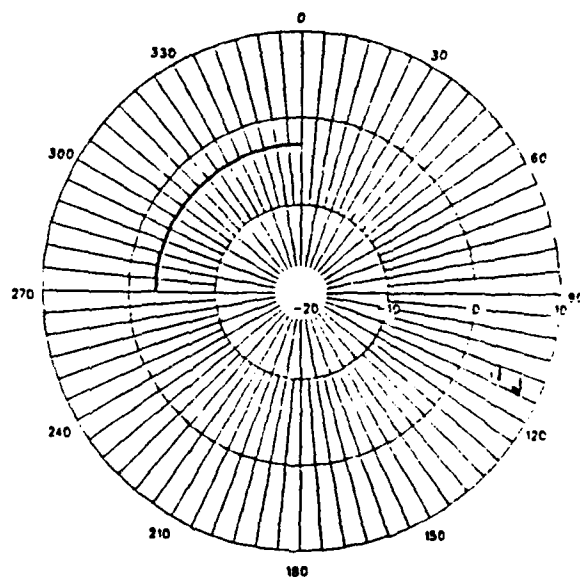
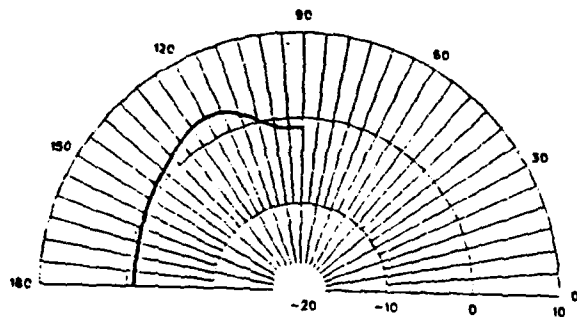
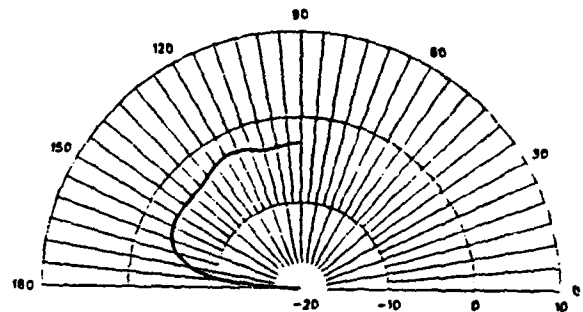


Figure 65. Azimuth patterns of the Army Lowband DD antenna over fair ground at 6 MHz

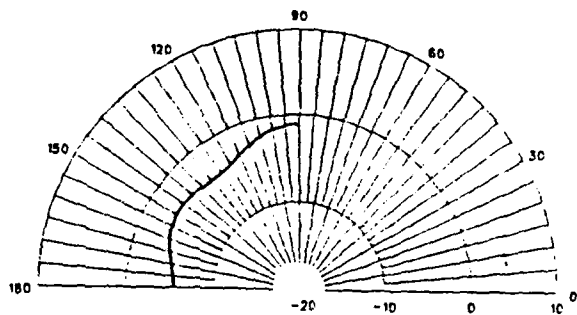
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

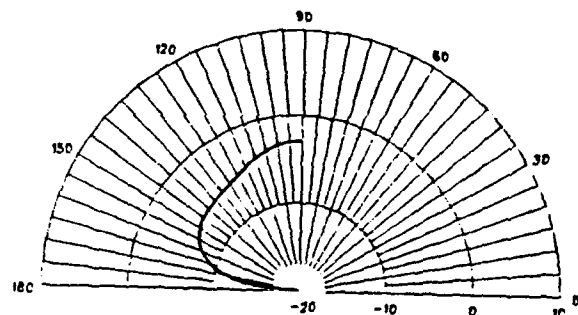
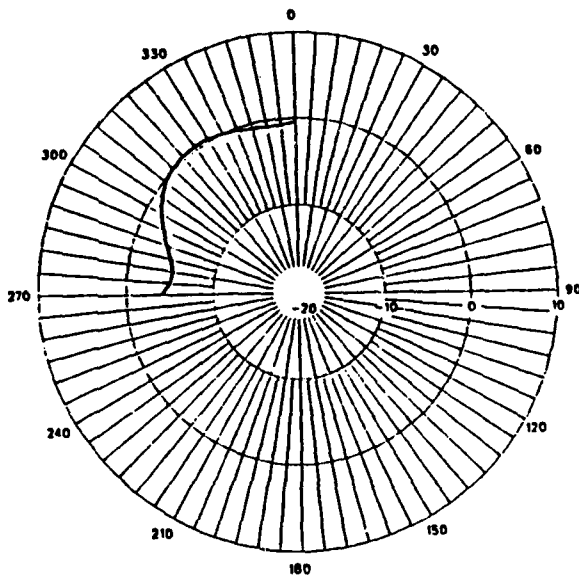
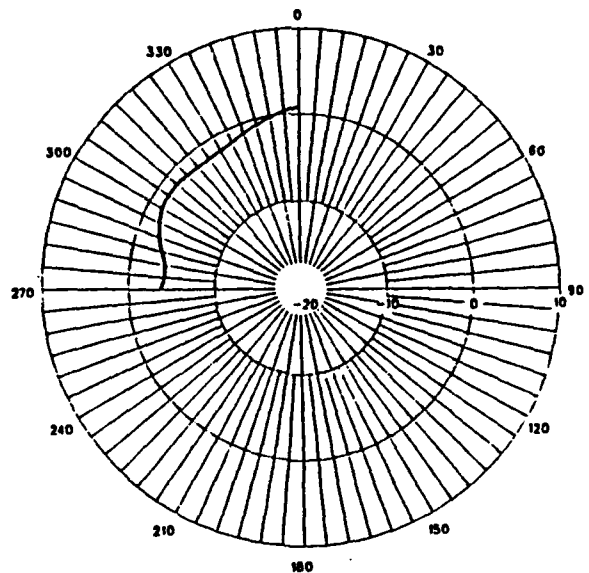


Figure 66. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 7 MHz

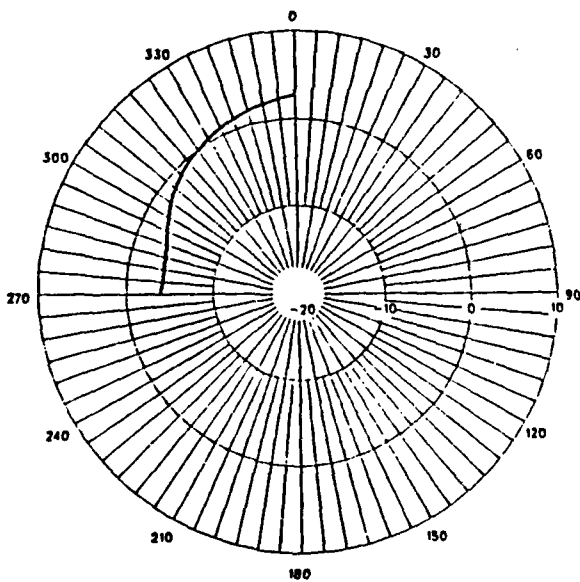
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

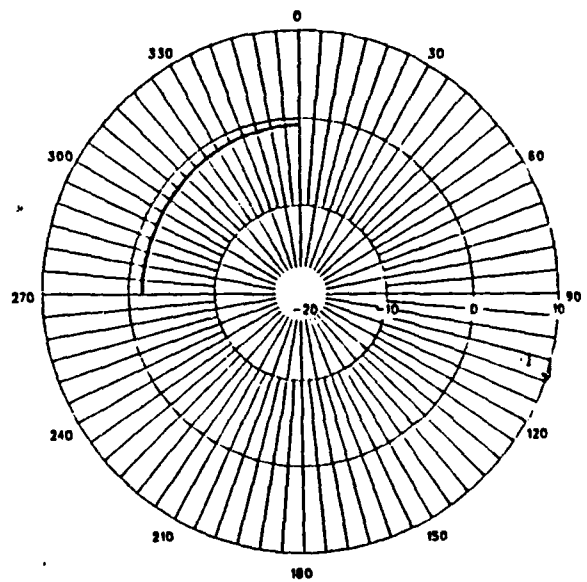
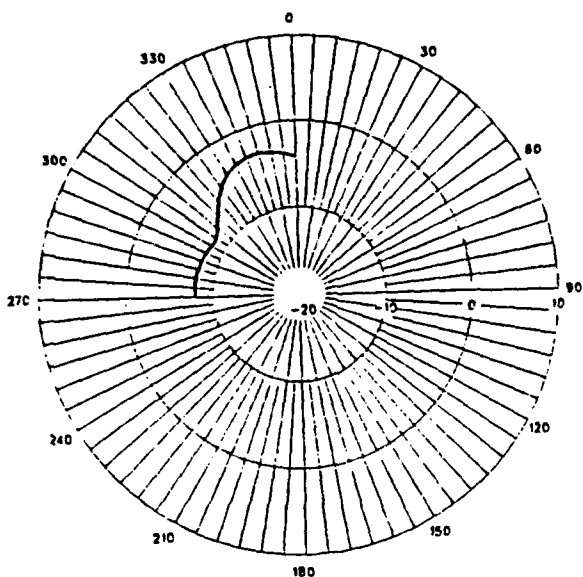
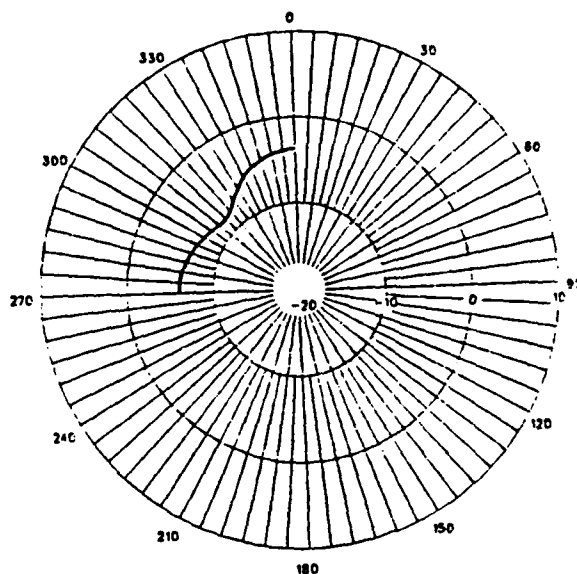


Figure 67. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 7 MHz

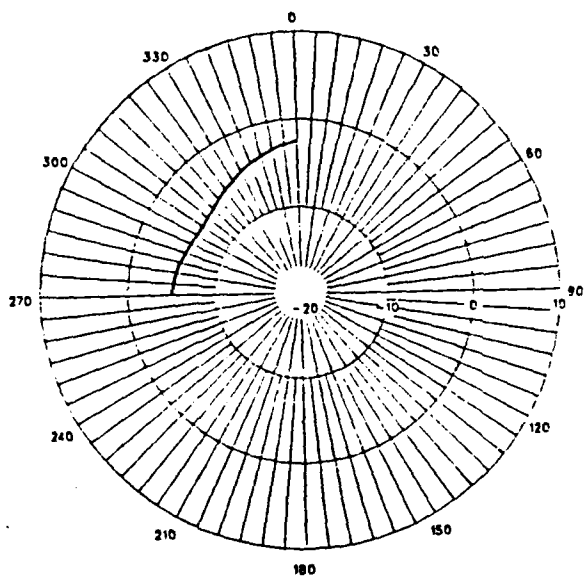
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

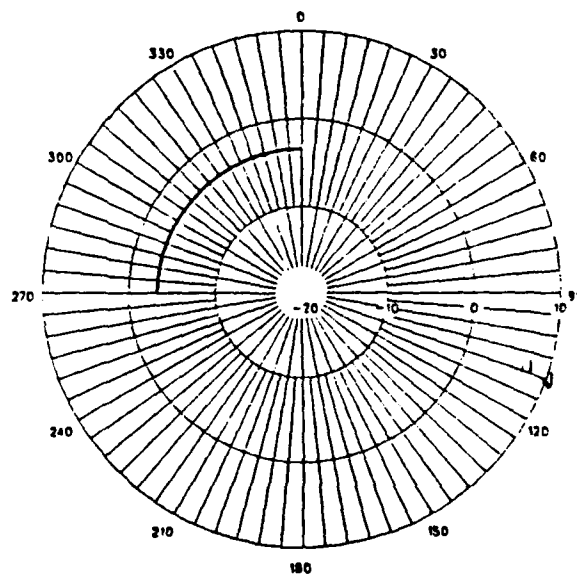
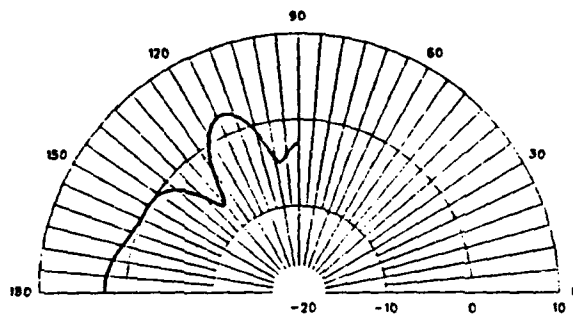
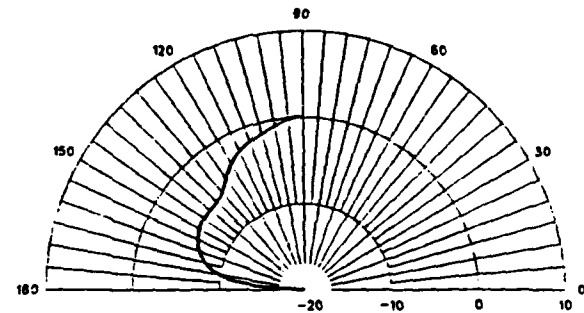


Figure 68. Azimuth patterns of the Army Lowband DD antenna over fair ground at 7 MHz

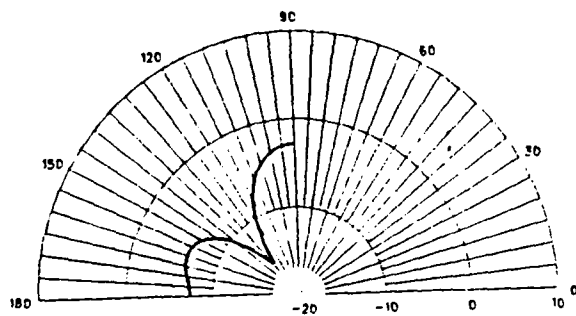
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

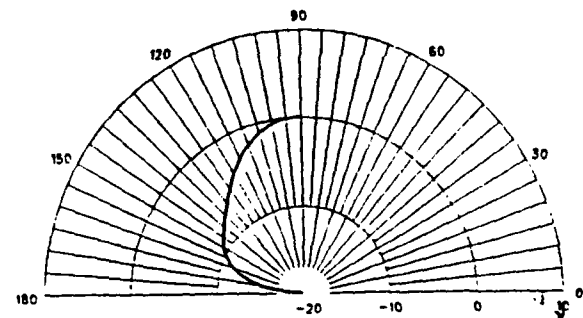
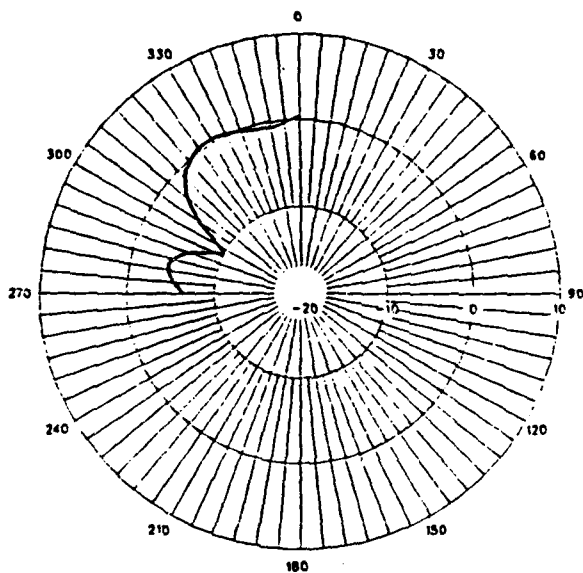
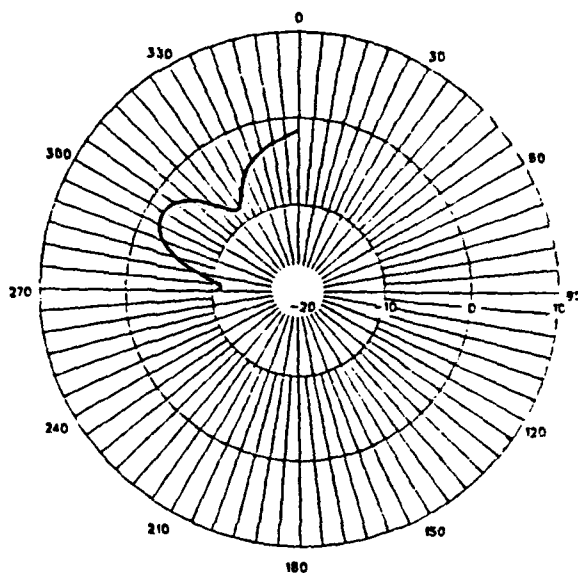


Figure 69. Elevation patterns of the Army Lowband DD antenna over perfect ground and fair ground at 8 MHz

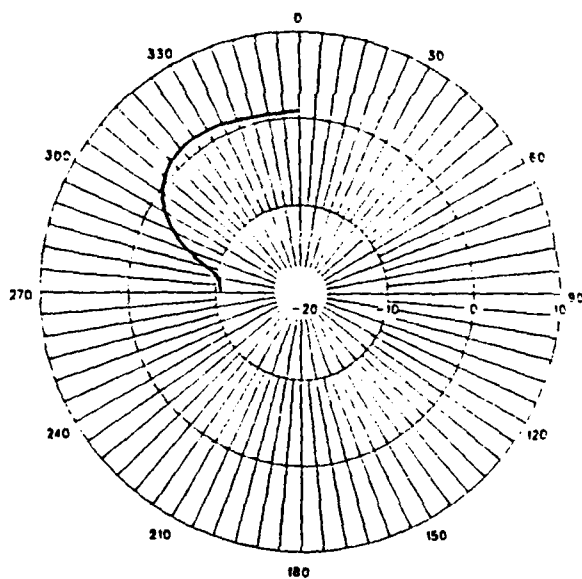
ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

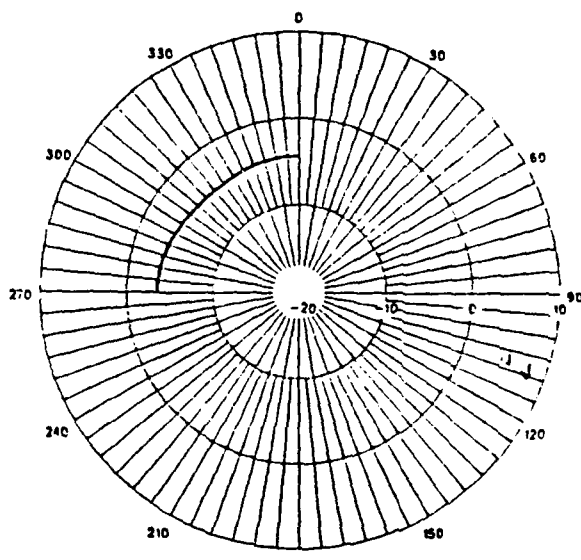
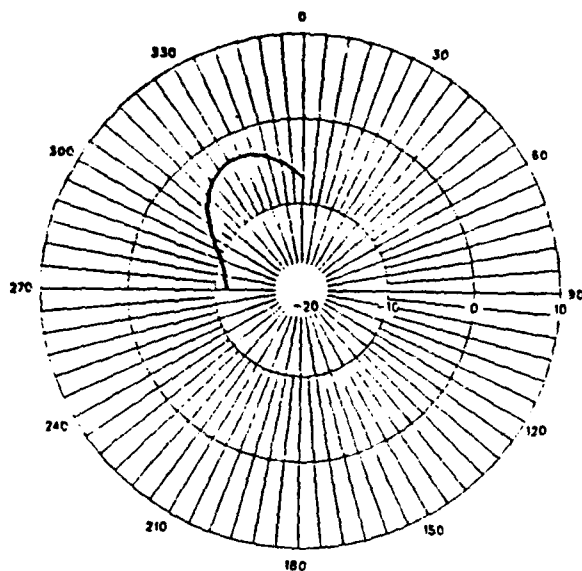
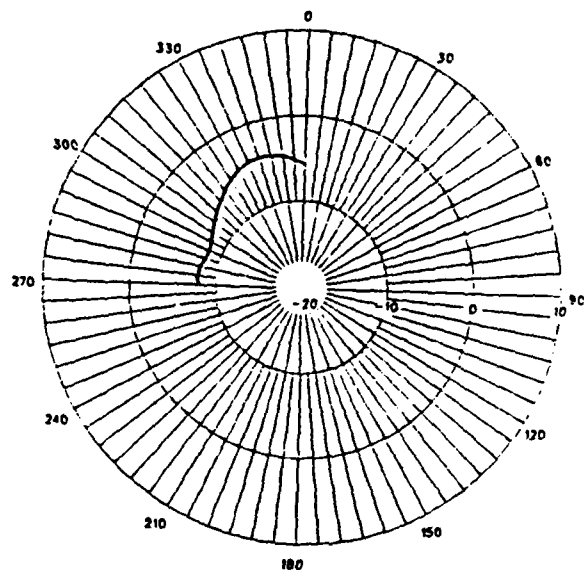


Figure 70. Azimuth patterns of the Army Lowband DD antenna over perfect ground at 8 MHz

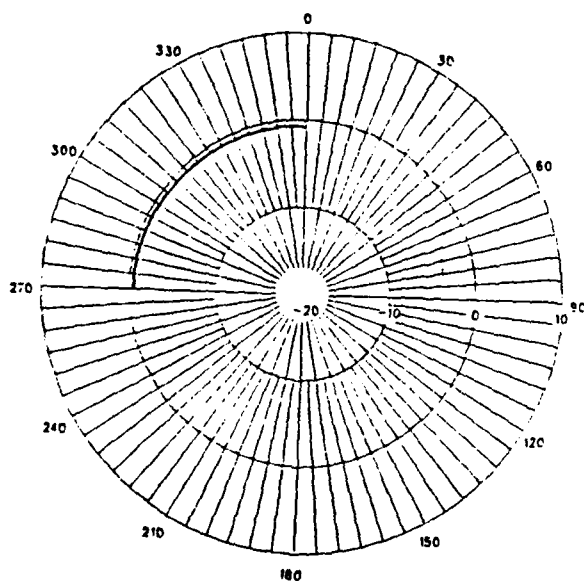
ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

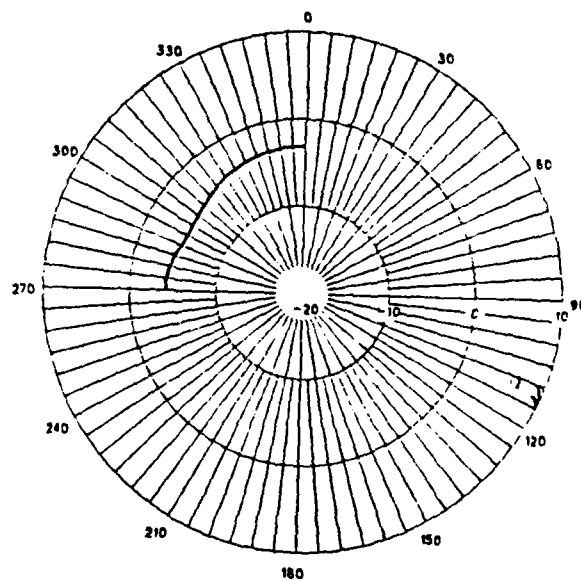
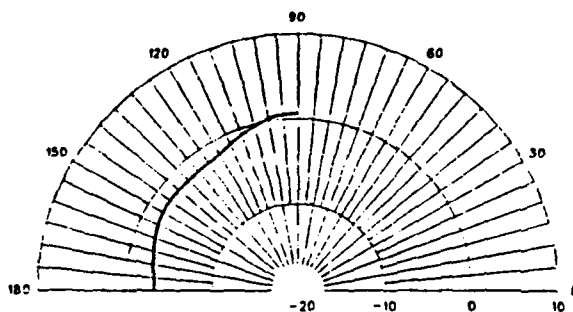
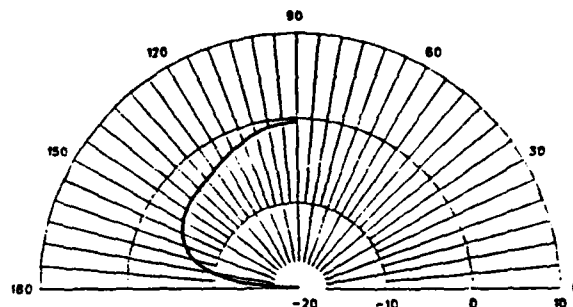


Figure 71. Azimuth patterns of the Army Lowband DD antenna over fair ground at 8 MHz

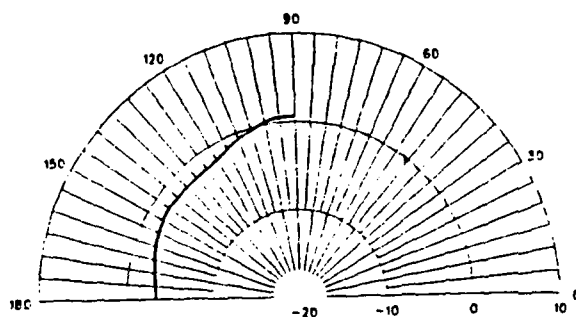
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

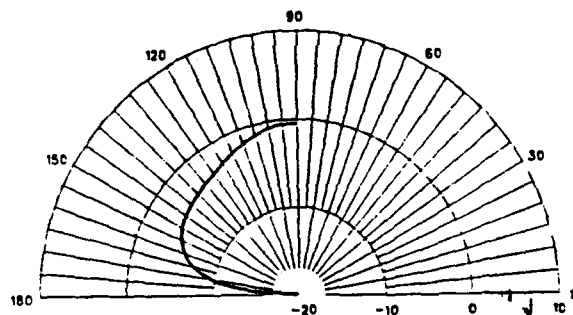
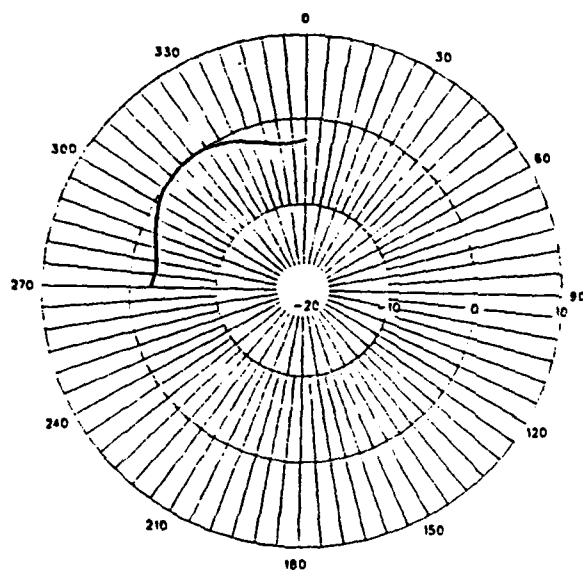
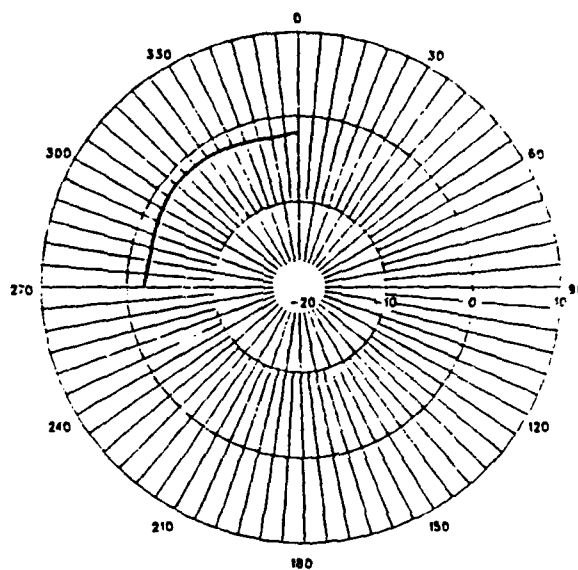


Figure 72. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 8 MHz

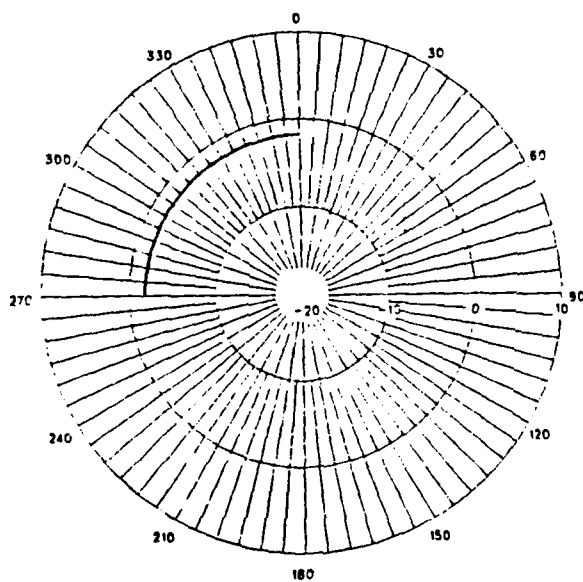
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

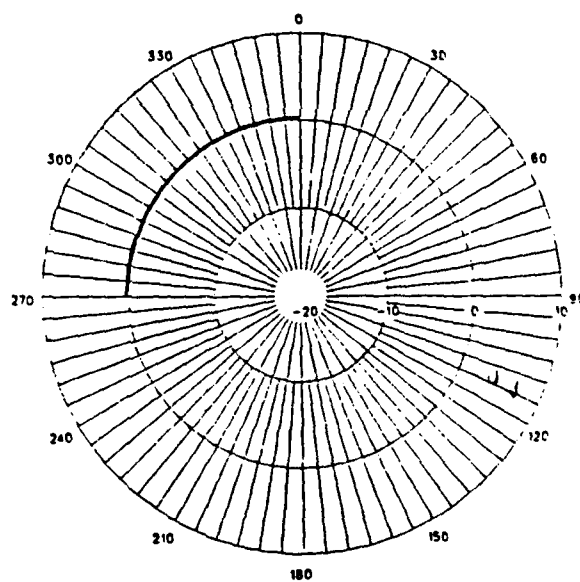
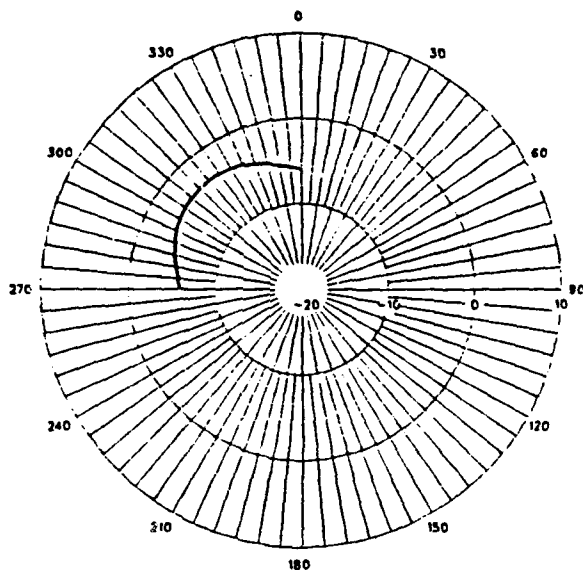
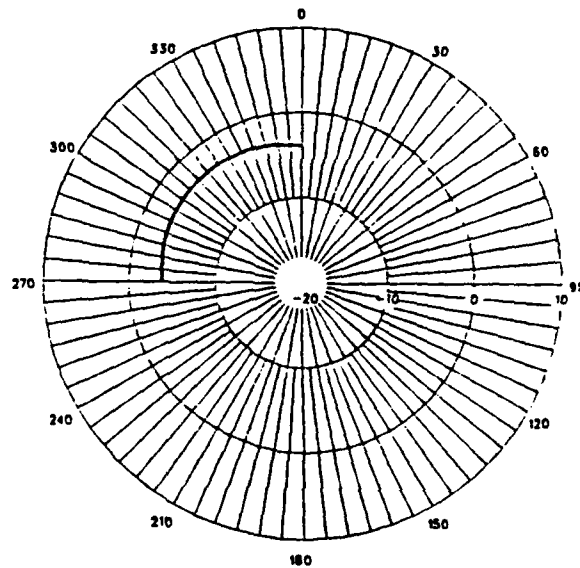


Figure 73. Azimuth patterns of the Army Highband DD antenna over perfect ground at 8 MHz

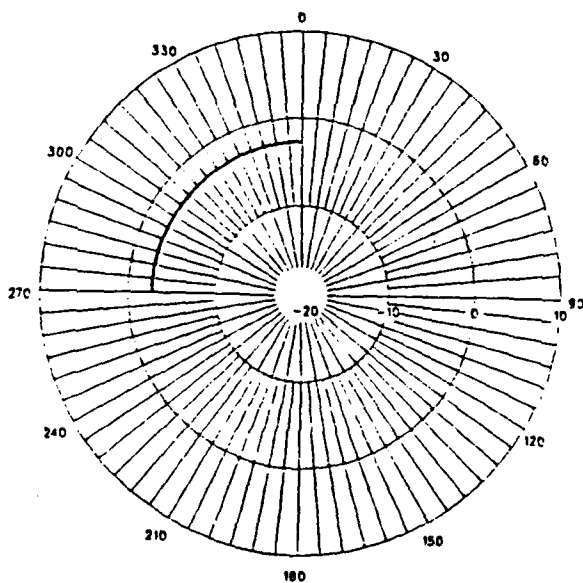
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

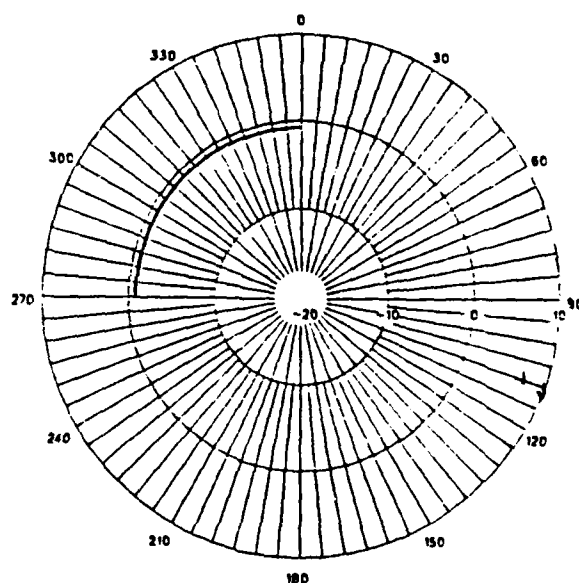
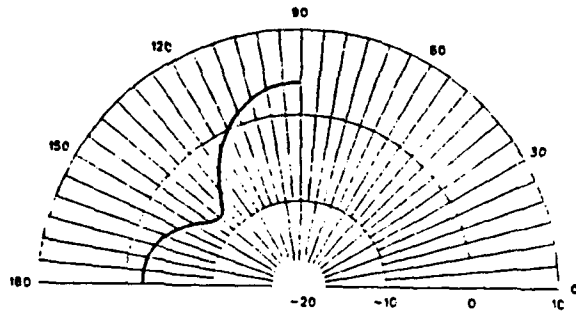
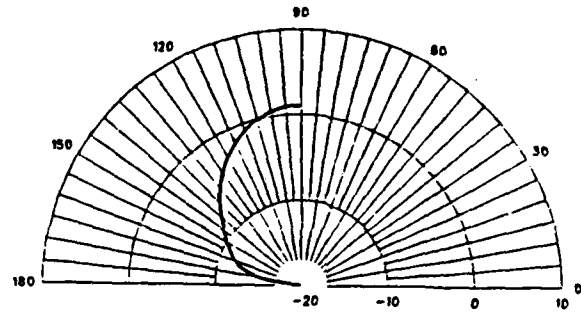


Figure 74. Azimuth patterns of the Army Highband DD antenna over fair ground at 8 MHz

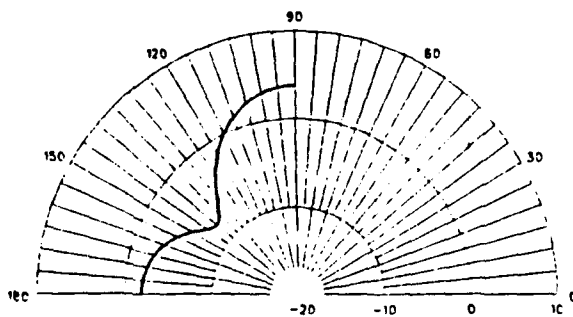
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

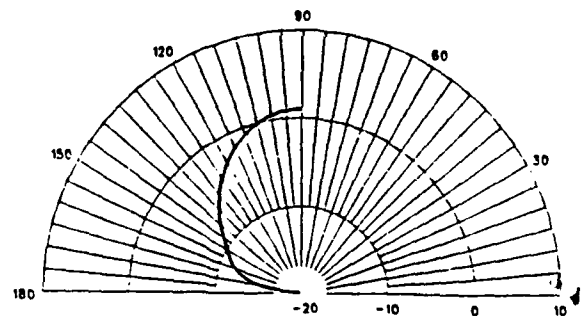


Figure 75. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 9 MHz

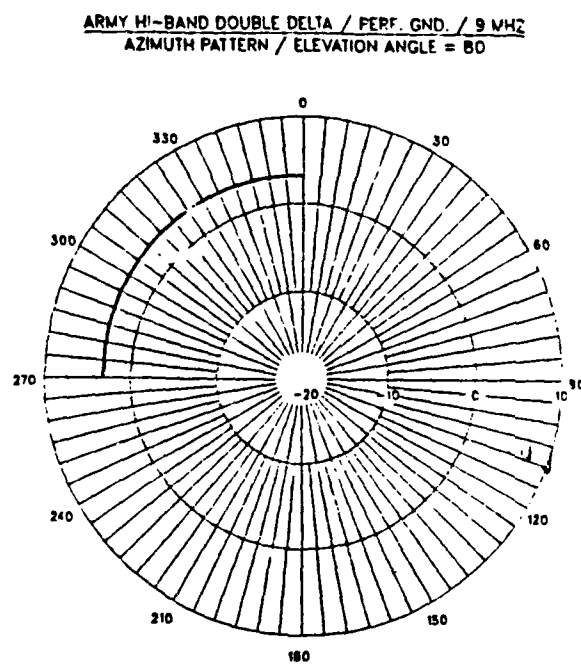
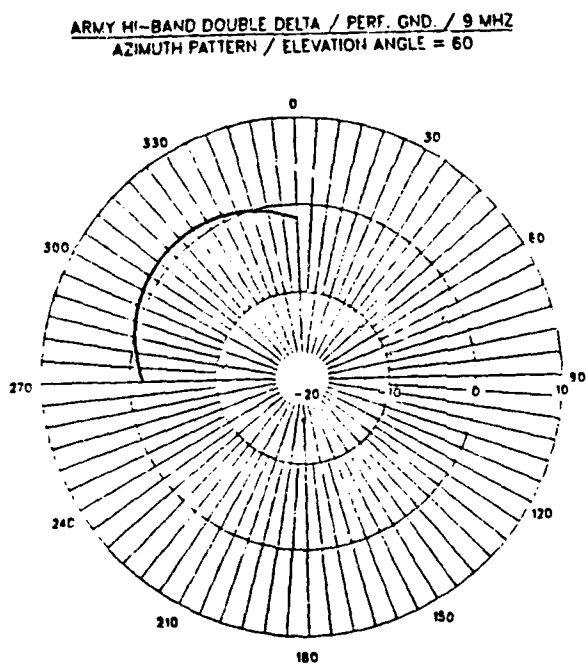
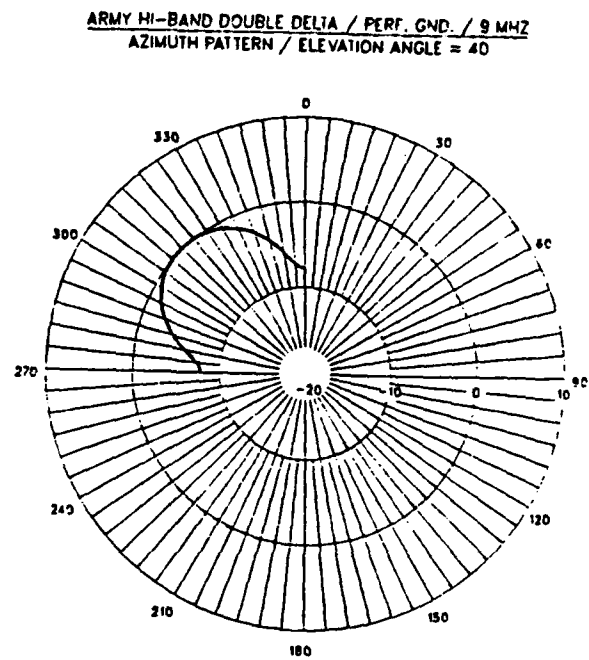
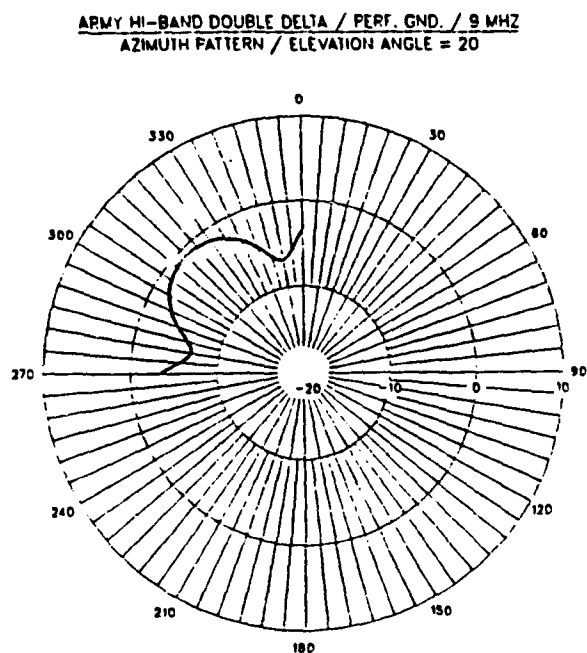
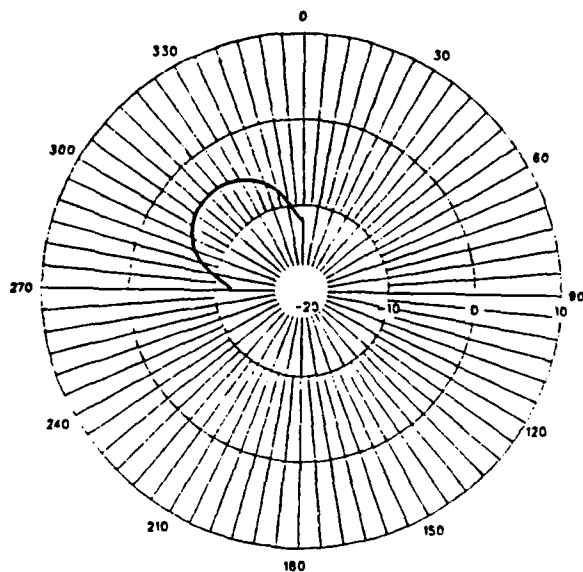
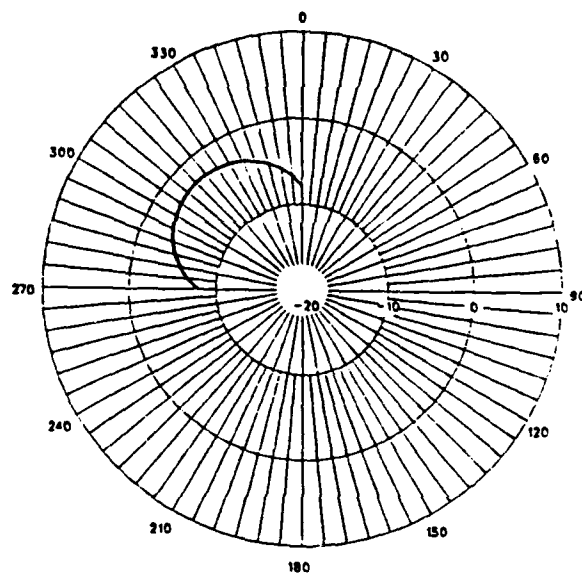


Figure 76. Azimuth patterns of the Army Highband DD antenna over perfect ground at 9 MHz

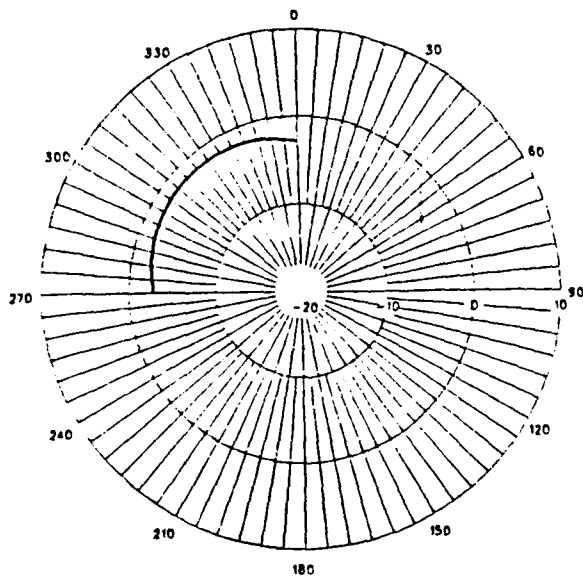
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

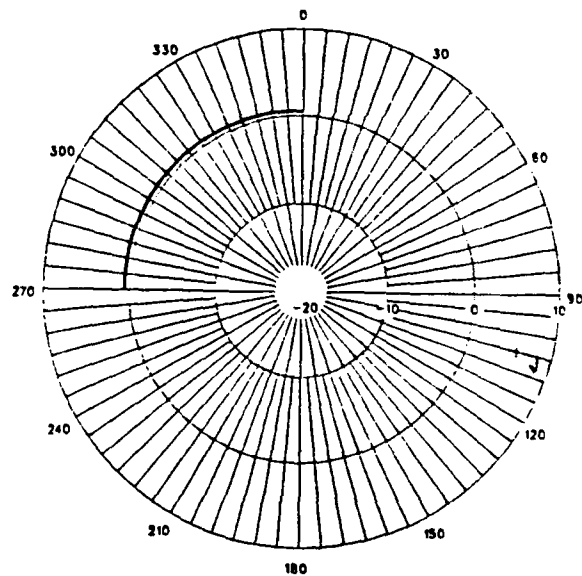


Figure 77. Azimuth patterns of the Army Highband DD antenna over fair ground at 9 MHz

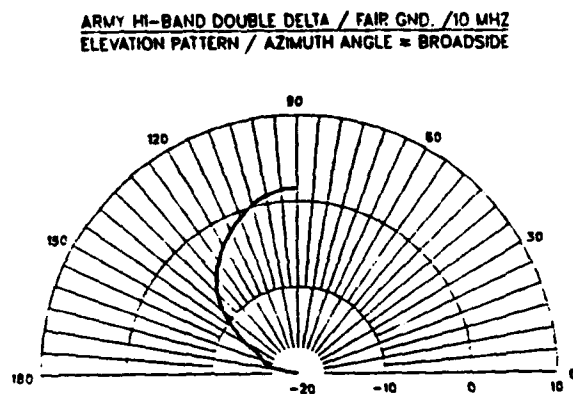
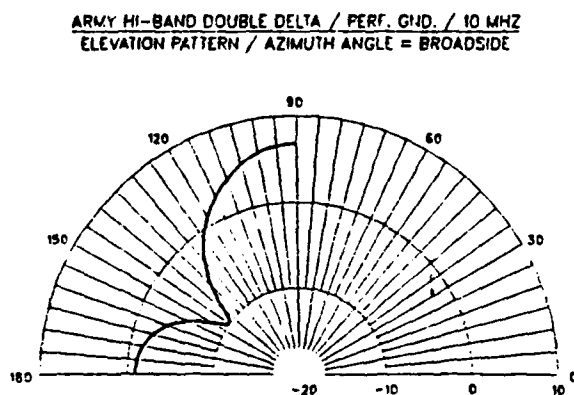
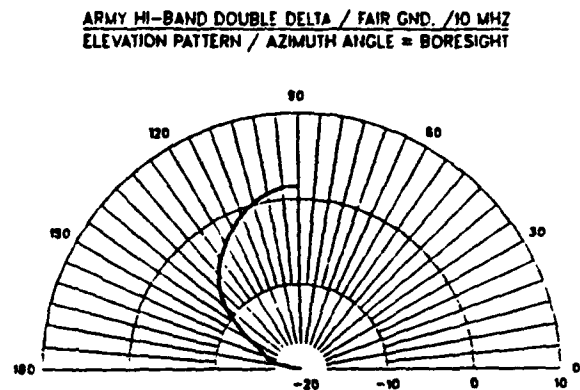
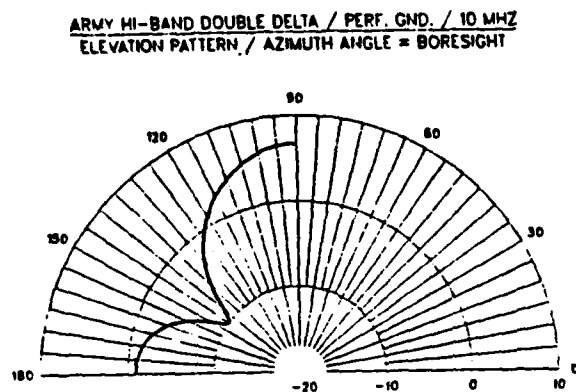
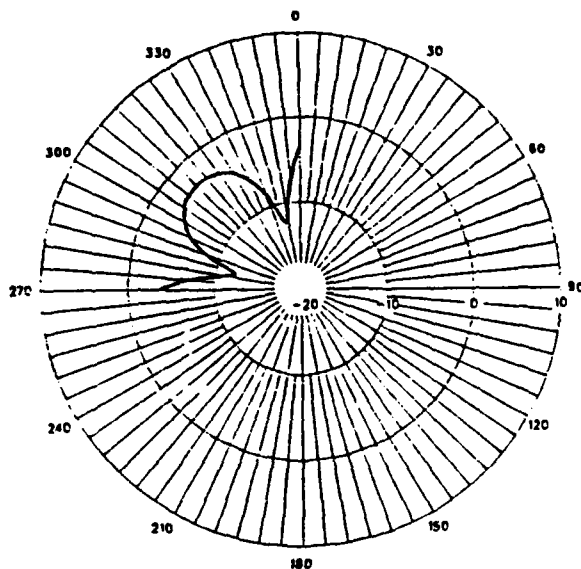
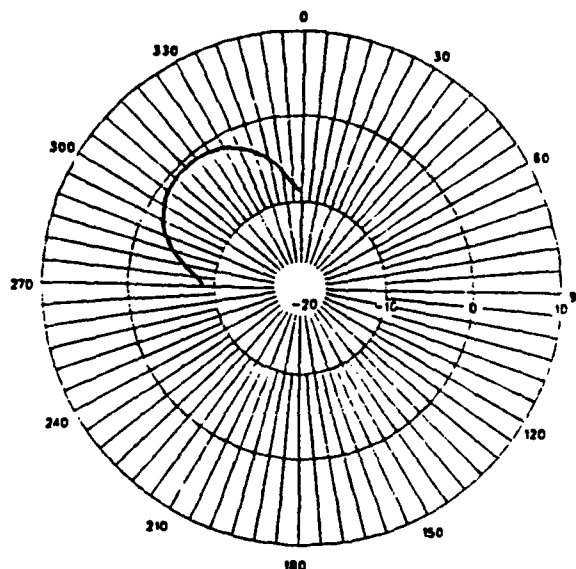


Figure 78. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 10 MHz

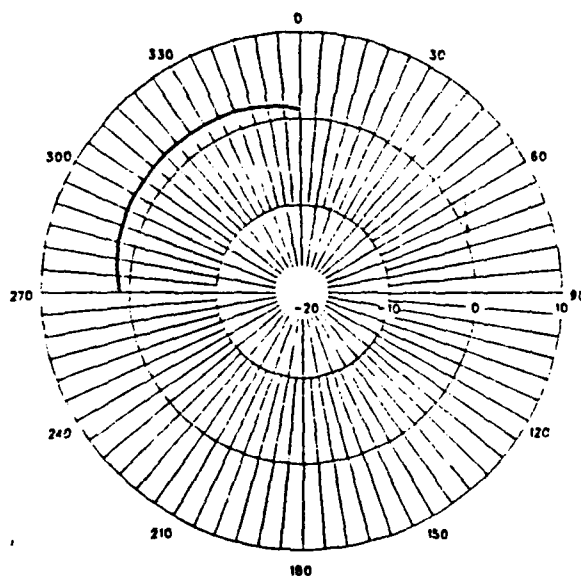
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

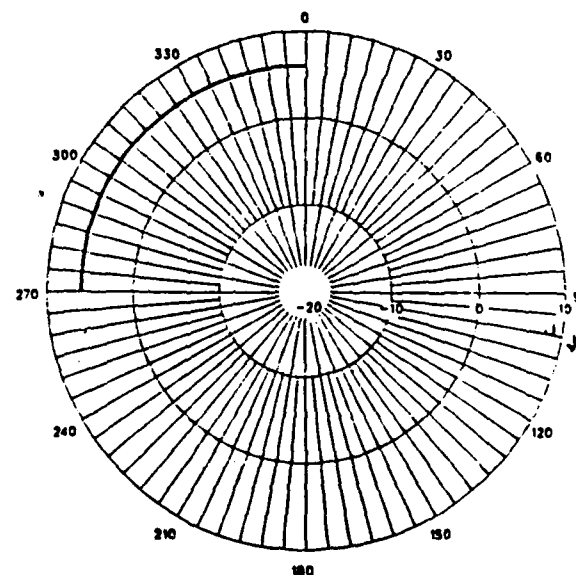
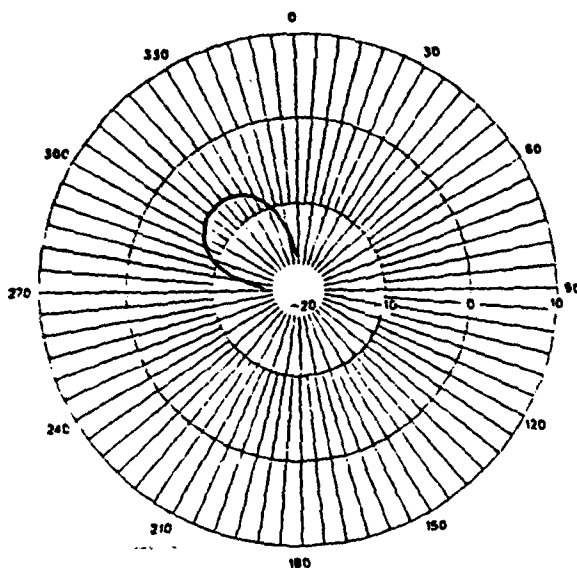
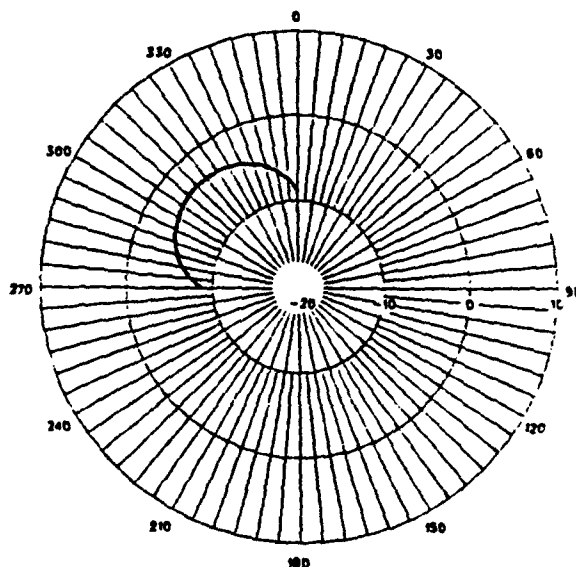


Figure 79. Azimuth patterns of the Army Highband DD antenna over perfect ground at 10 MHz

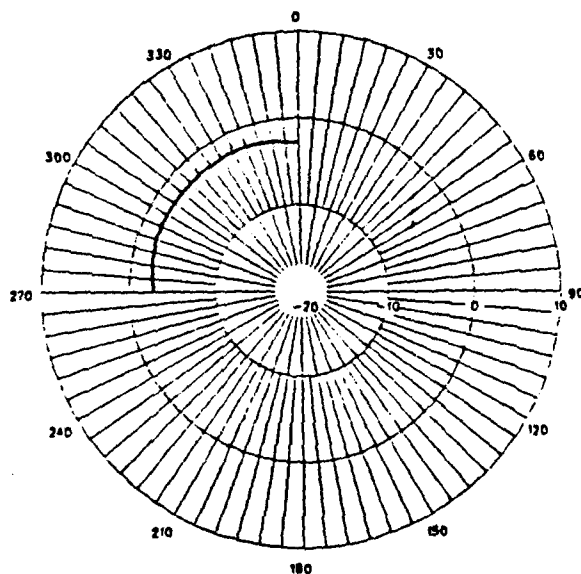
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

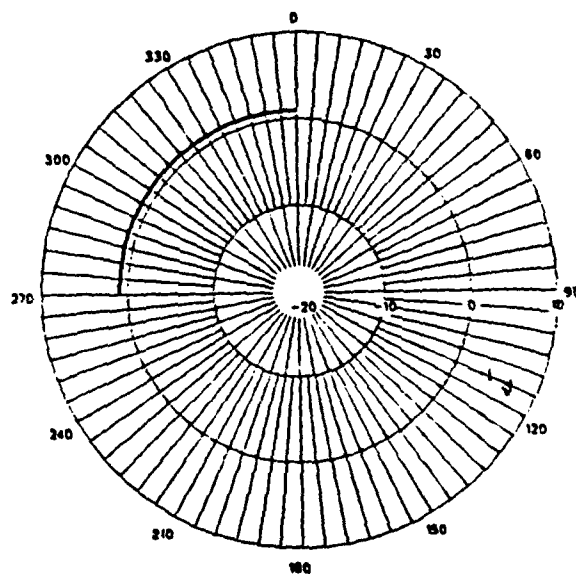
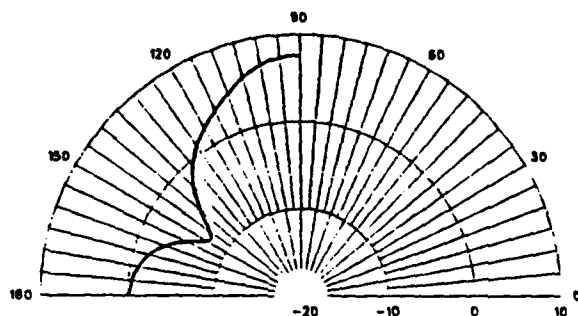
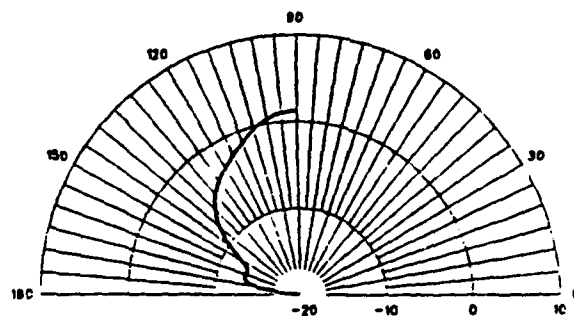


Figure 80. Azimuth patterns of the Army Highband DD antenna over fair ground at 10 MHz

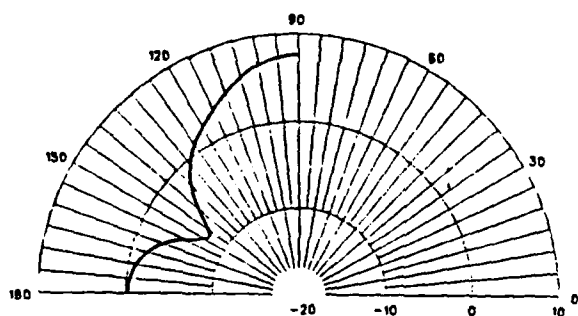
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

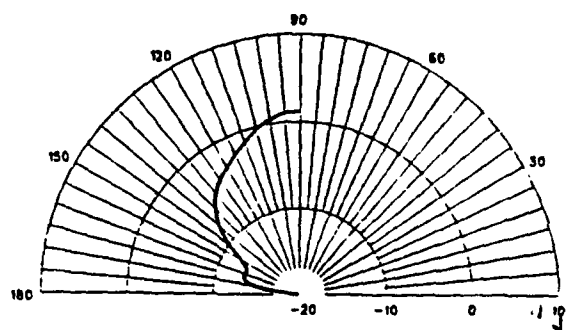
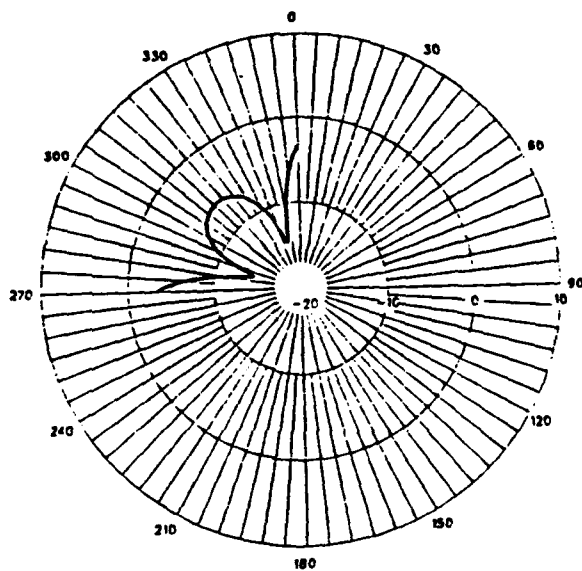
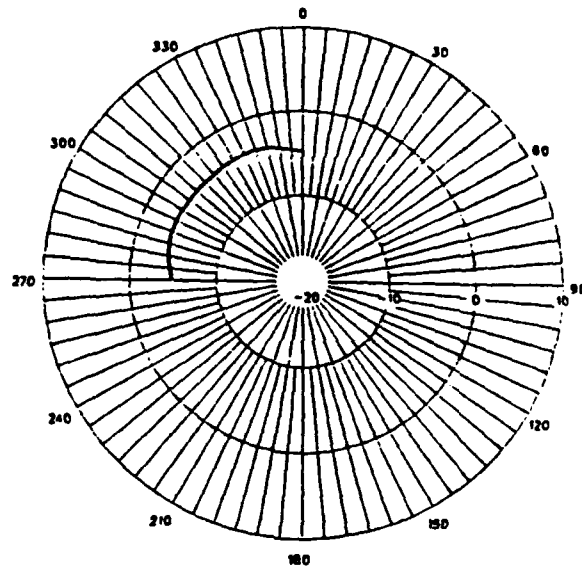


Figure 81. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 11 MHz

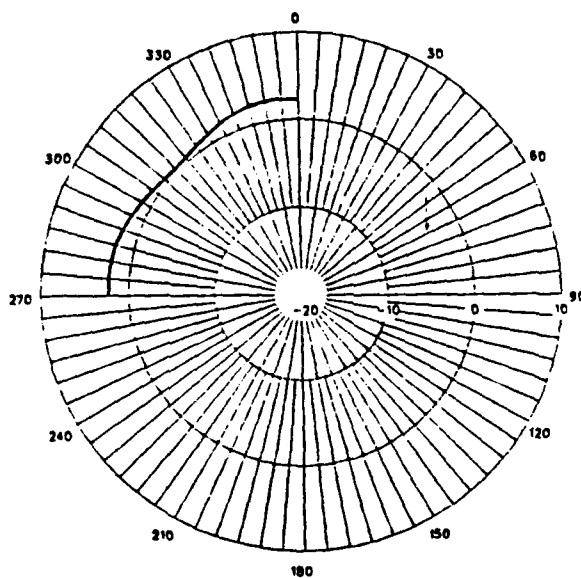
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

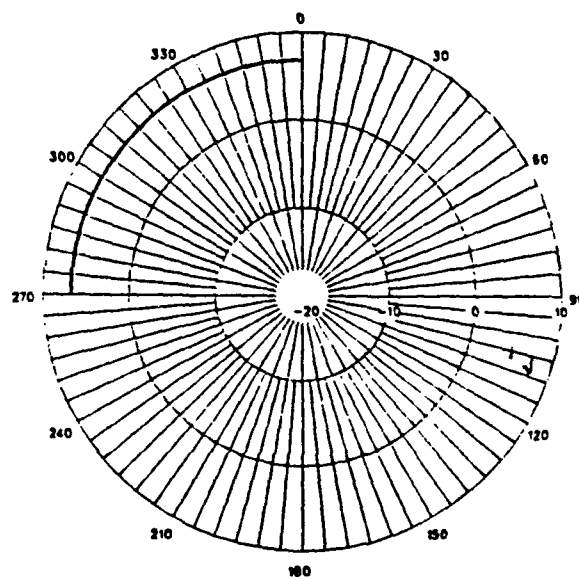
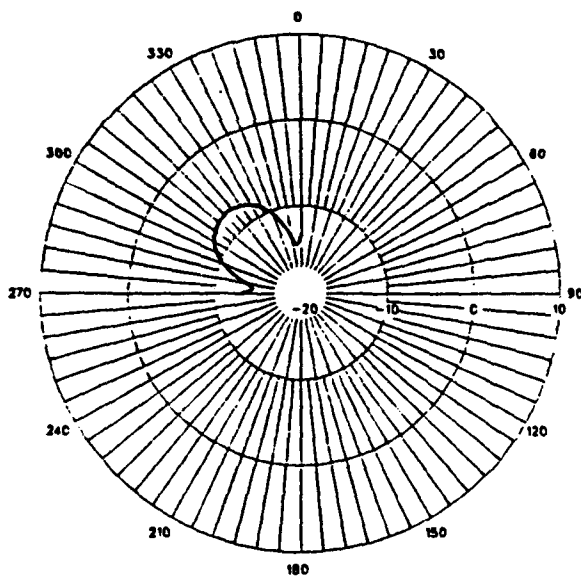
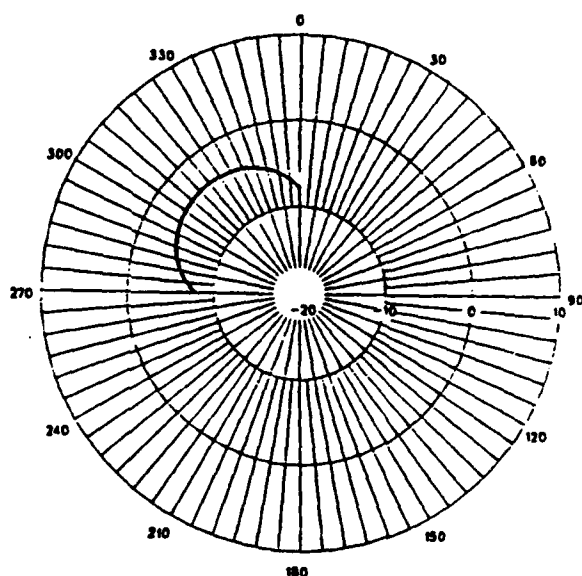


Figure 82. Azimuth patterns of the Army Highband DD antenna over perfect ground at 11 MHz

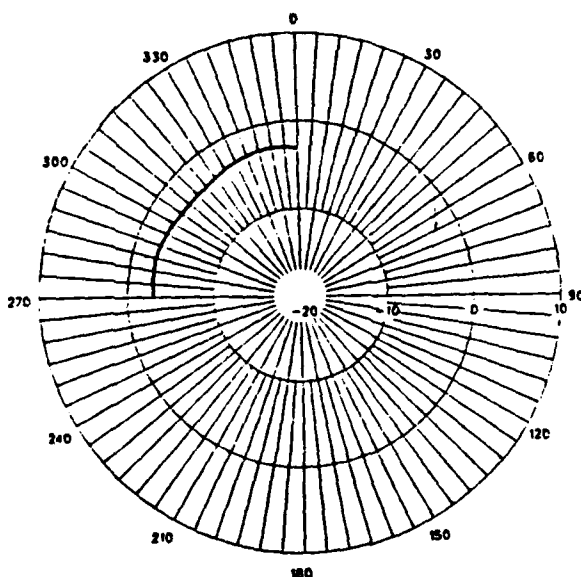
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

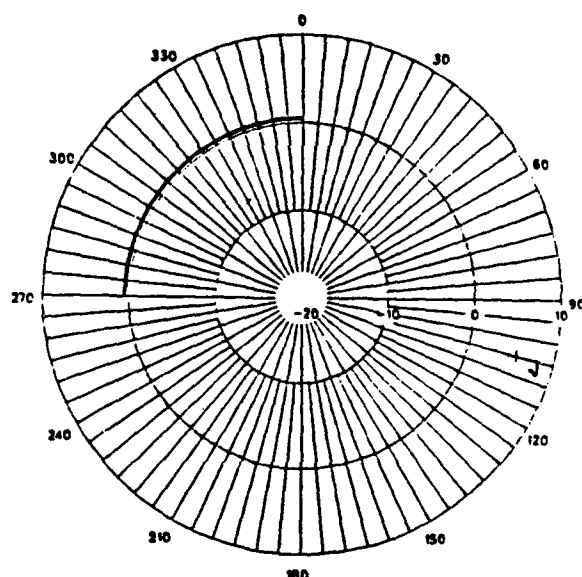


Figure 83. Azimuth patterns of the Army Highband DD antenna over fair ground at 11 MHz

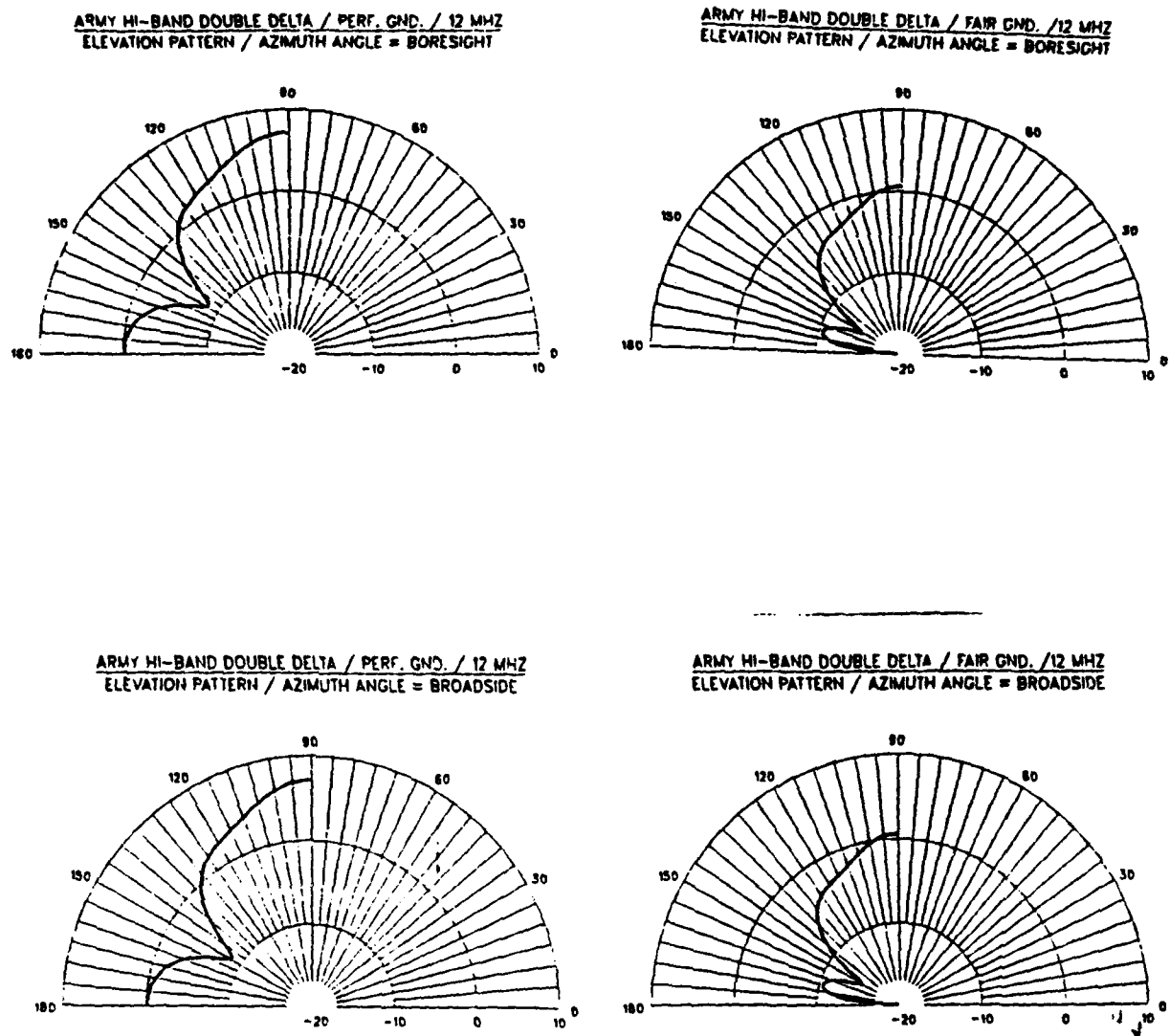
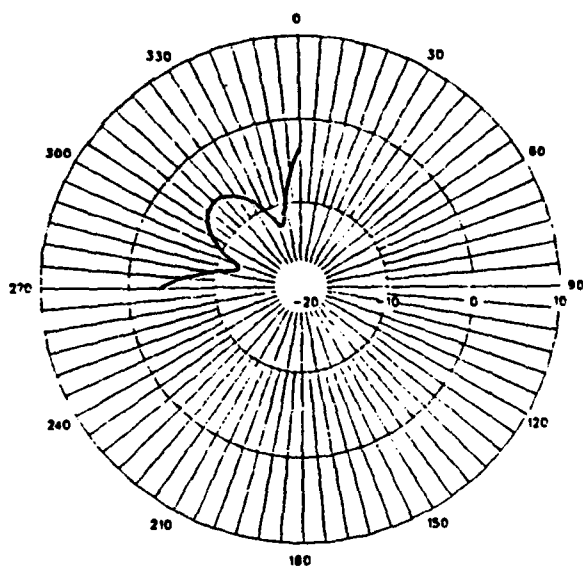
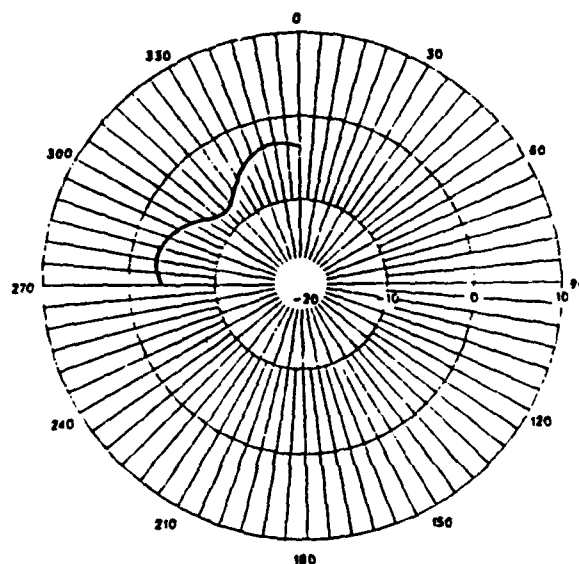


Figure 84. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 12 MHz

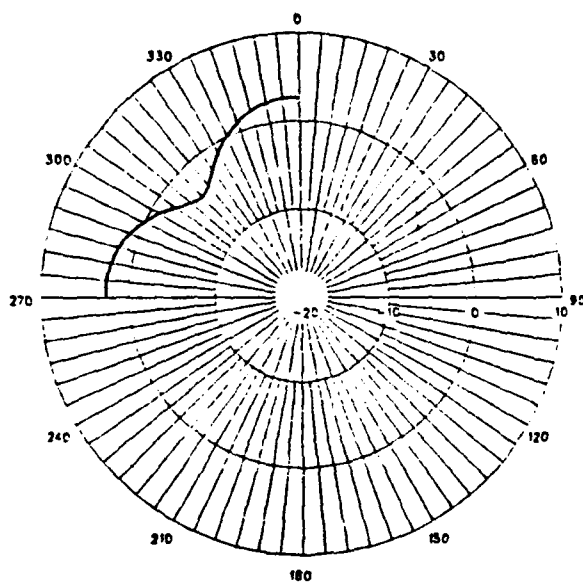
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

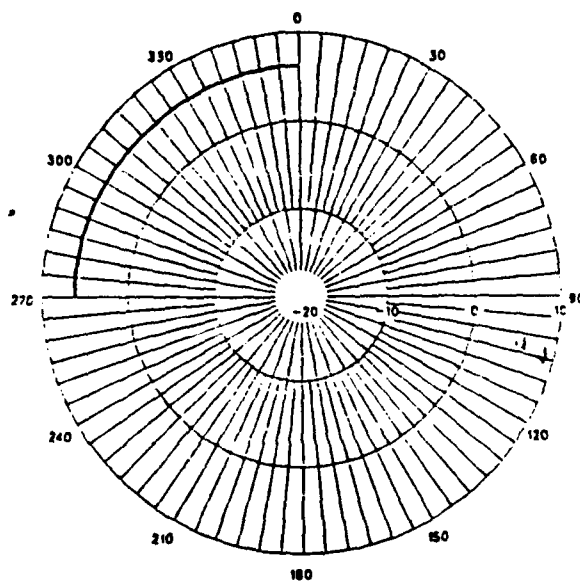
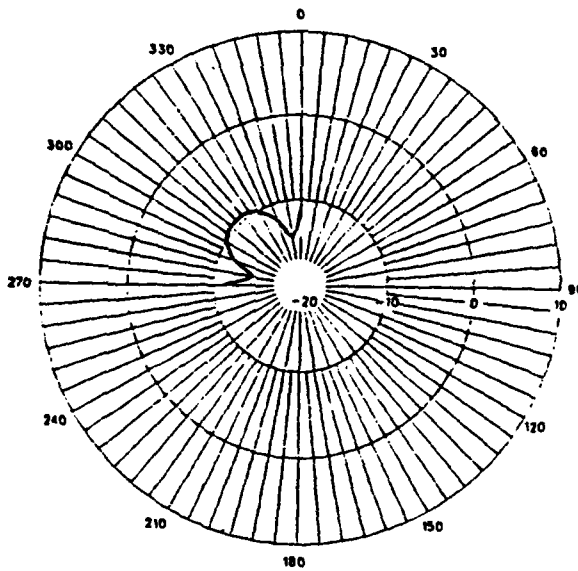
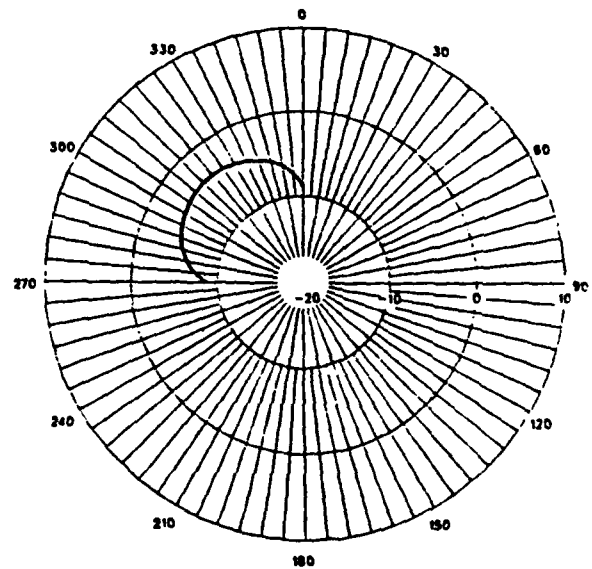


Figure 85. Azimuth patterns of the Army Highband DD antenna over perfect ground at 12 MHz

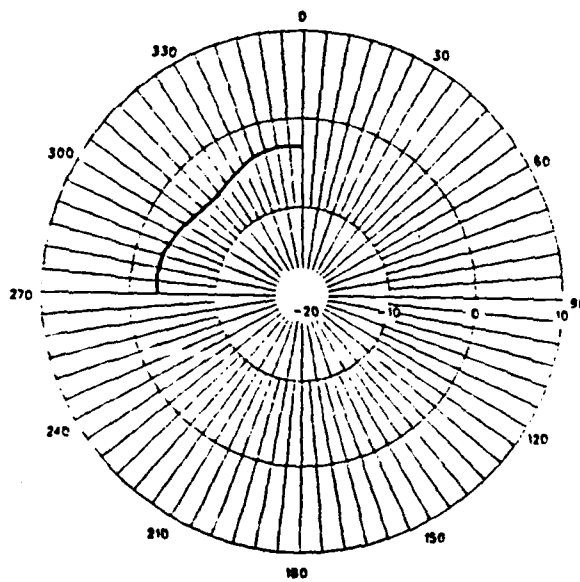
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

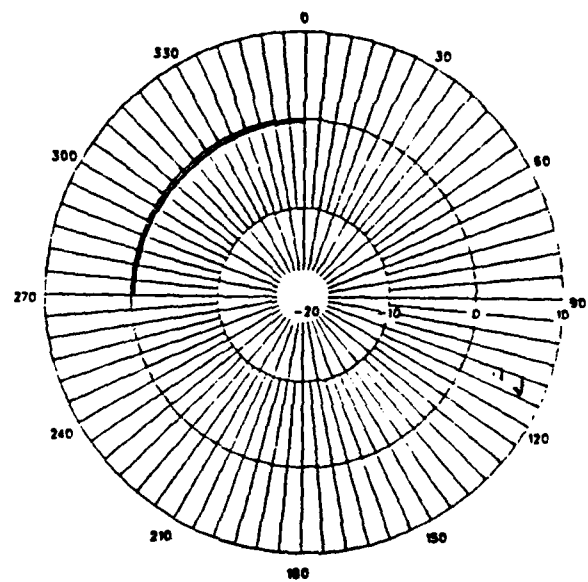


Figure 86. Azimuth patterns of the Army Highband DD antenna over fair ground at 12 MHz

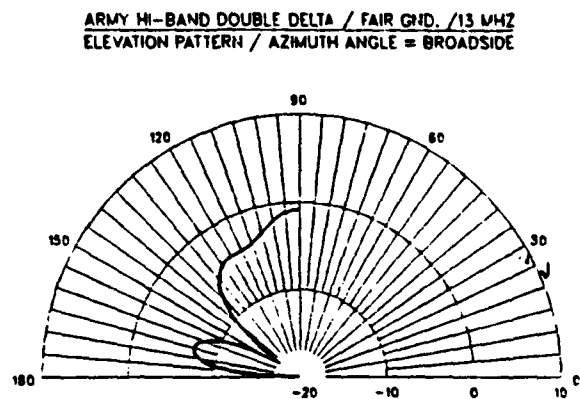
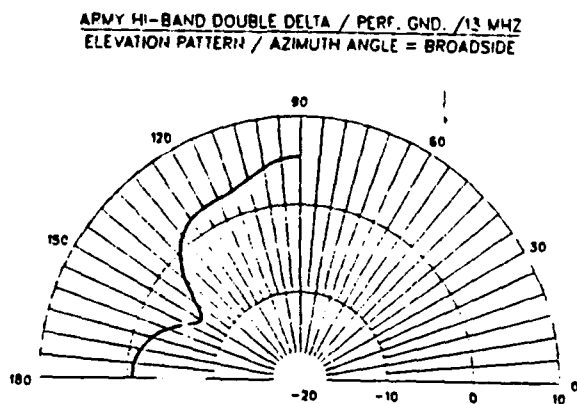
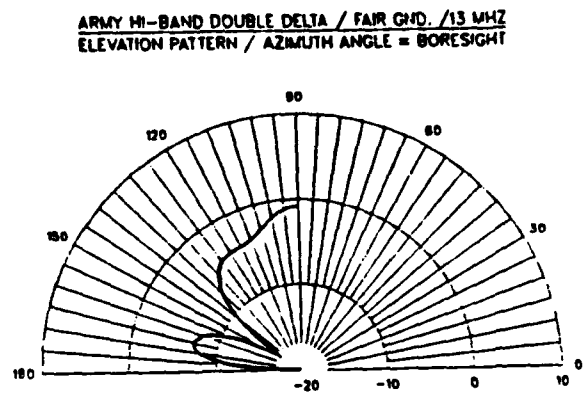
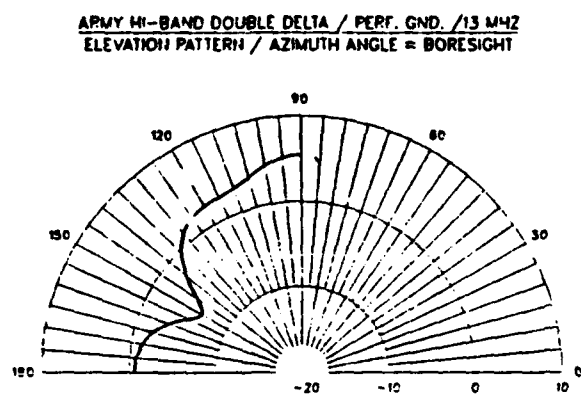
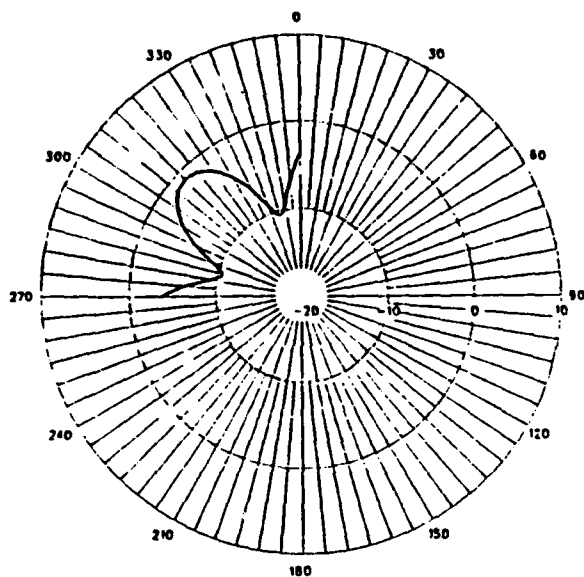
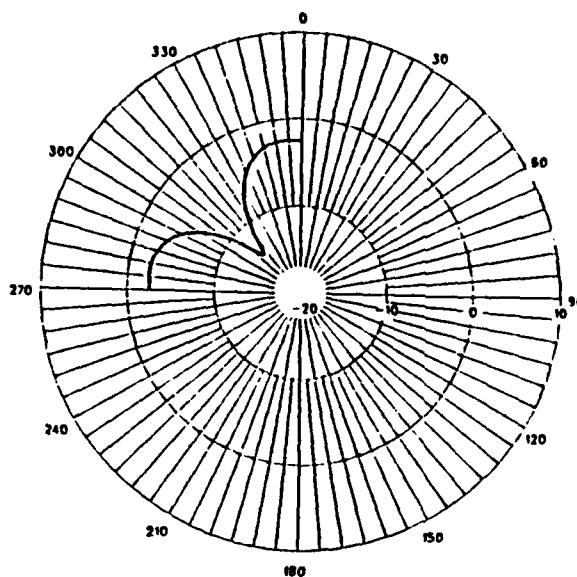


Figure 87. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 13 MHz

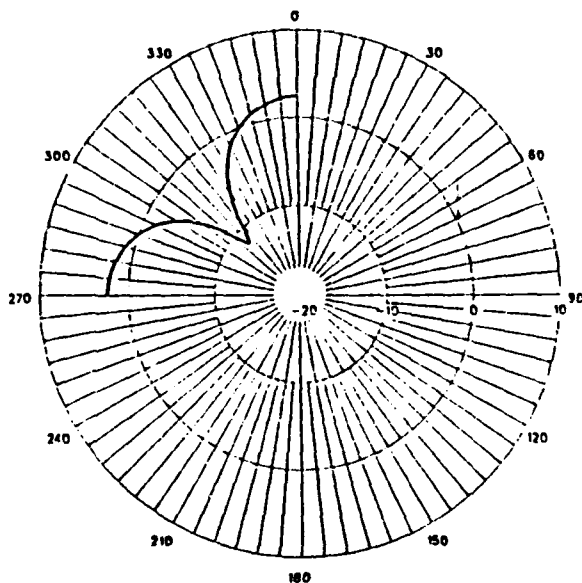
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

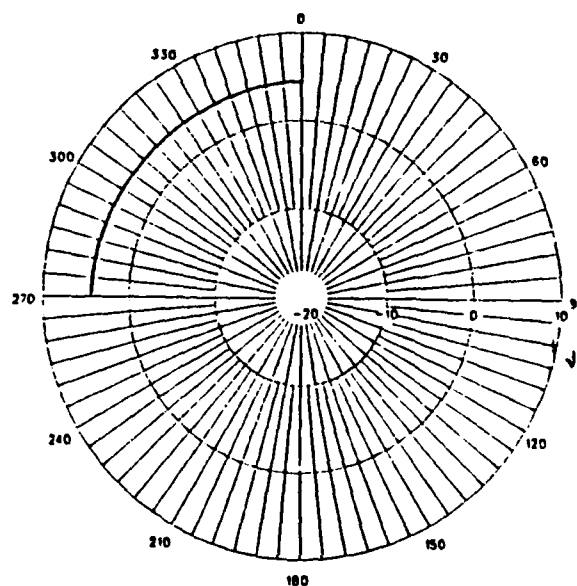
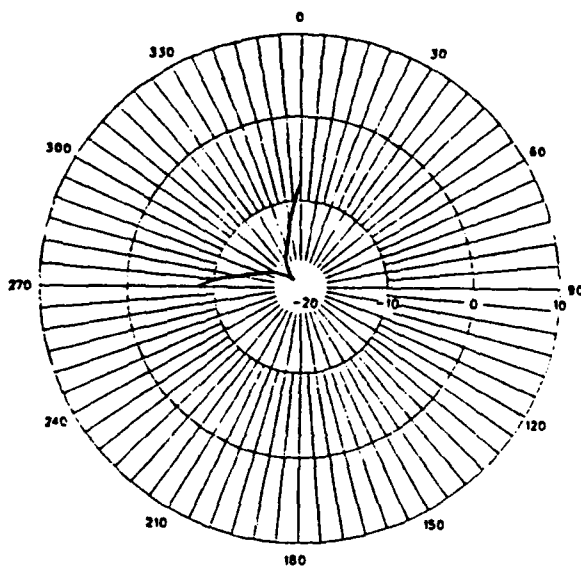
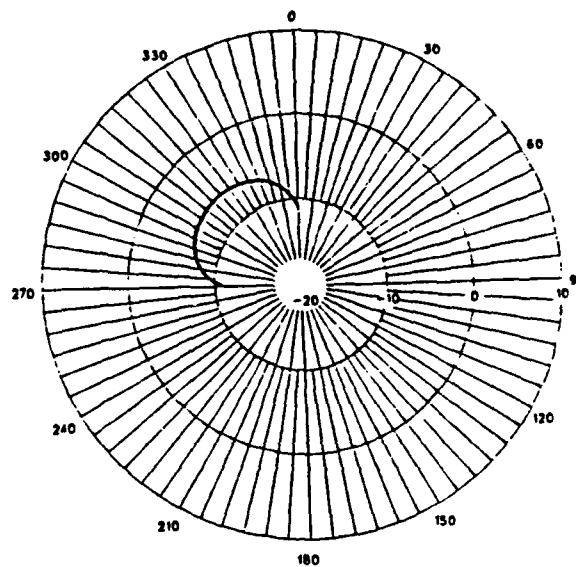


Figure 88. Azimuth patterns of the Army Highband DD antenna over perfect ground at 13 MHz

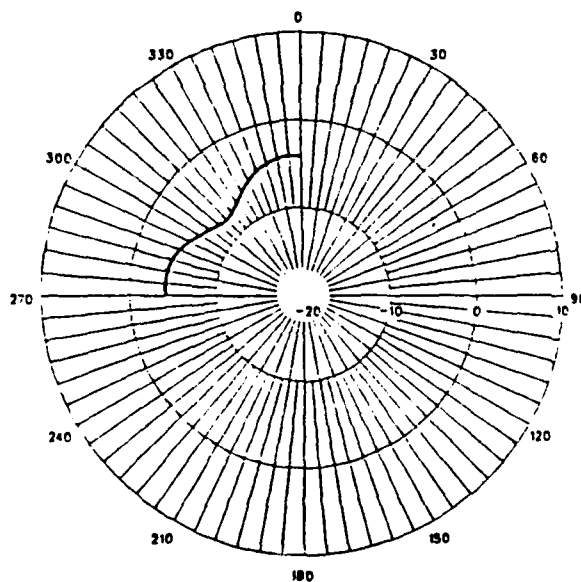
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

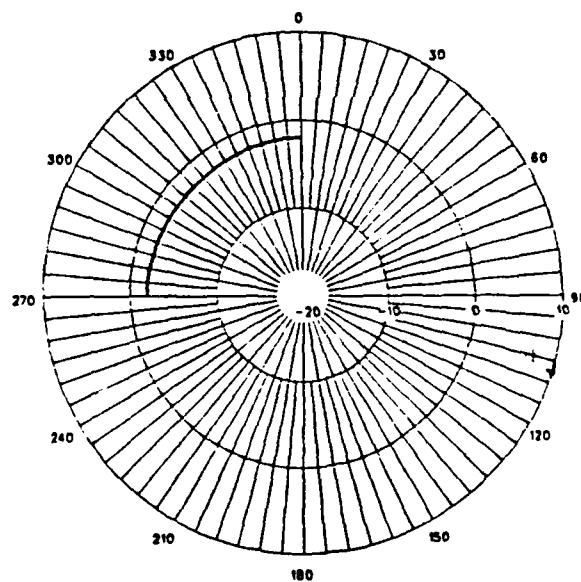


Figure 89. Azimuth patterns of the Army Highband DD antenna over fair ground at 13 MHz

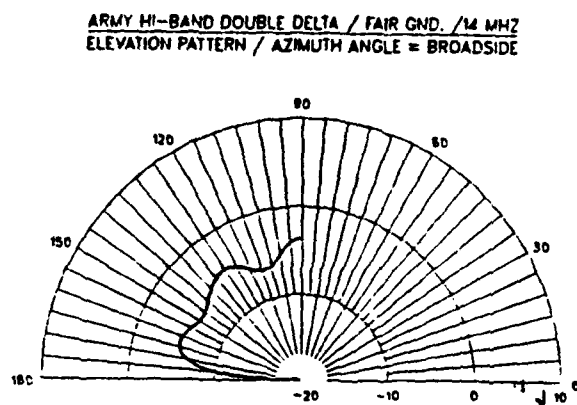
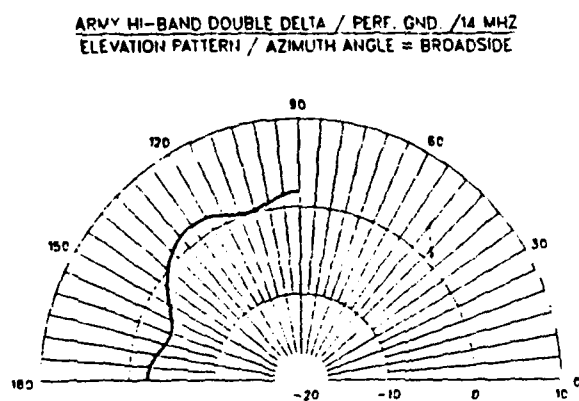
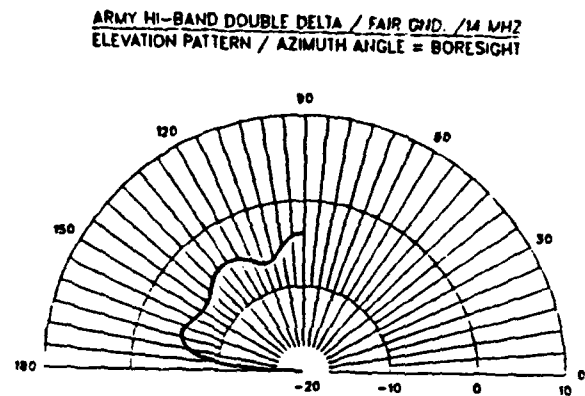
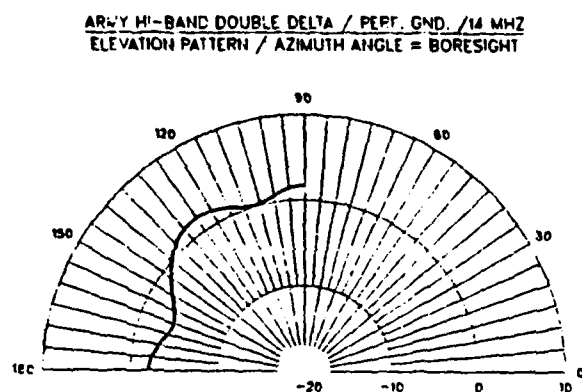
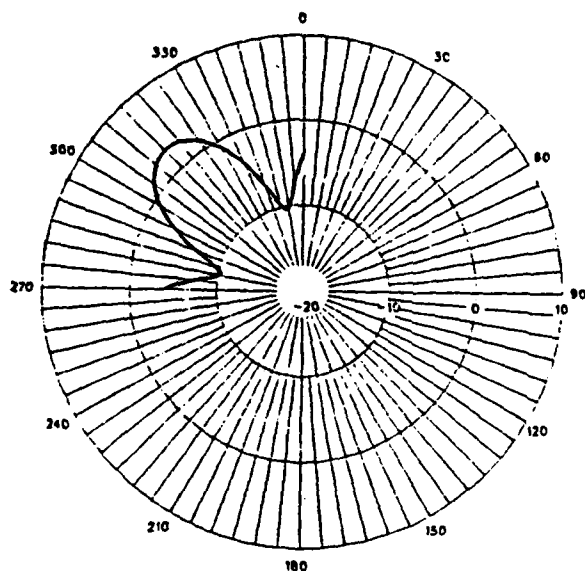
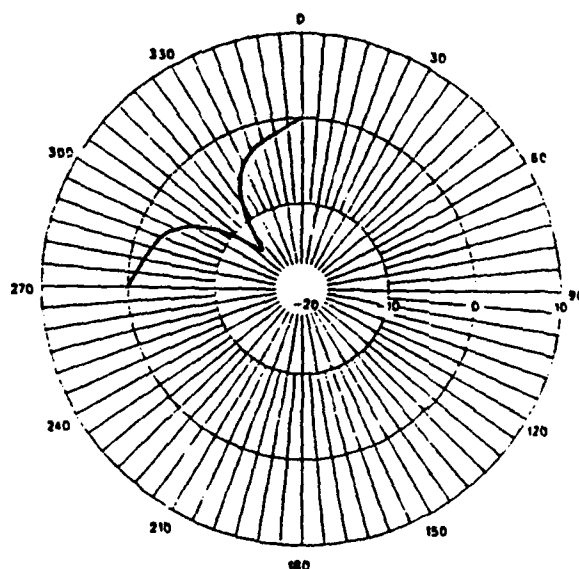


Figure 90. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 14 MHz

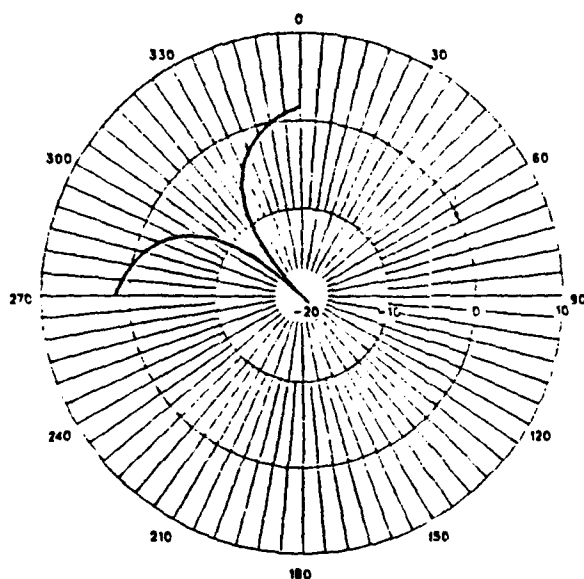
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

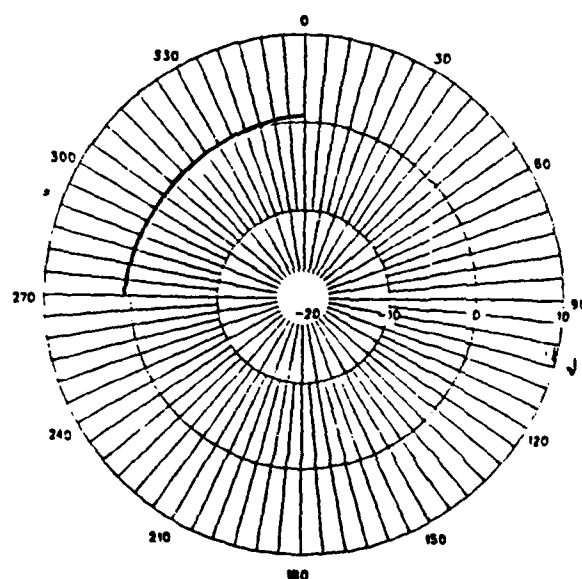
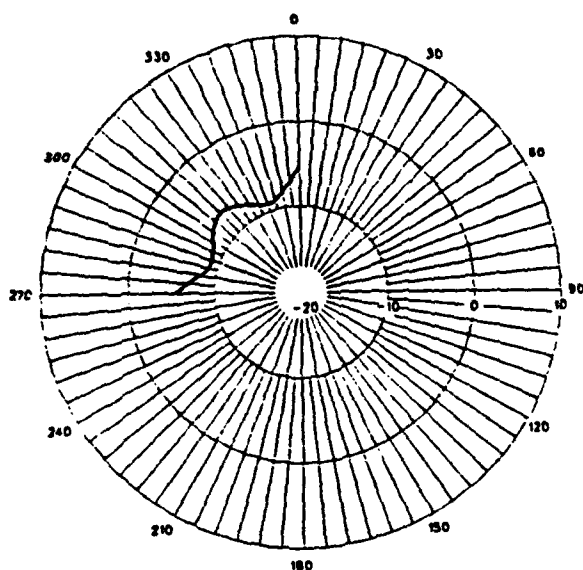
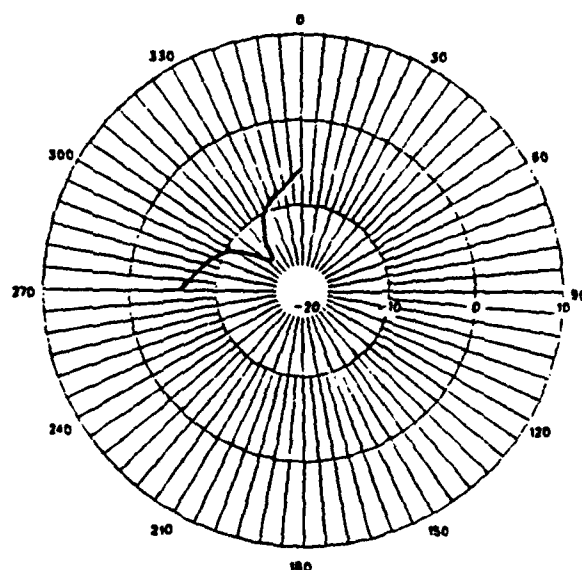


Figure 91. Azimuth patterns of the Army Highband DD antenna over perfect ground at 14 MHz

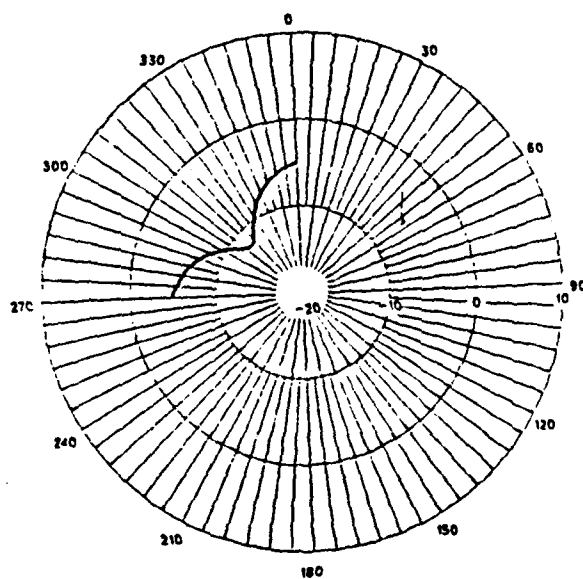
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

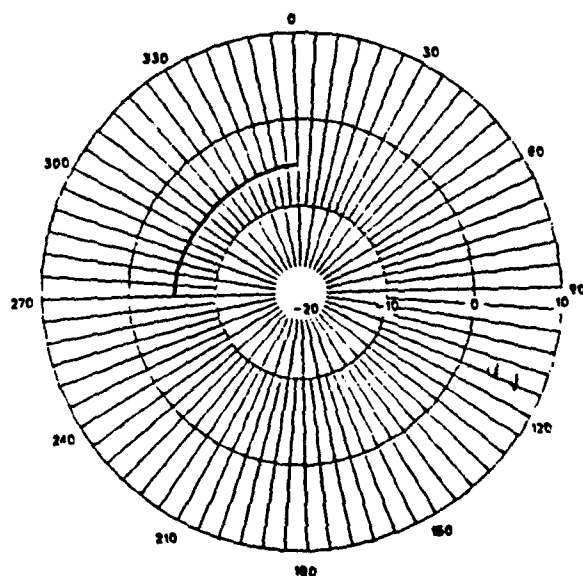
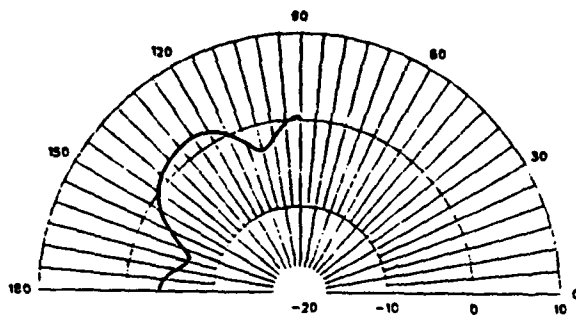
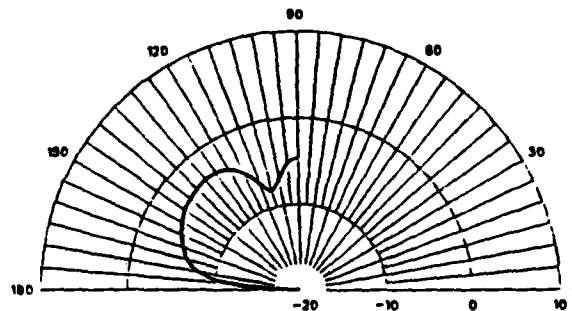


Figure 92. Azimuth patterns of the Army Highband DD antenna over fair ground at 14 MHz

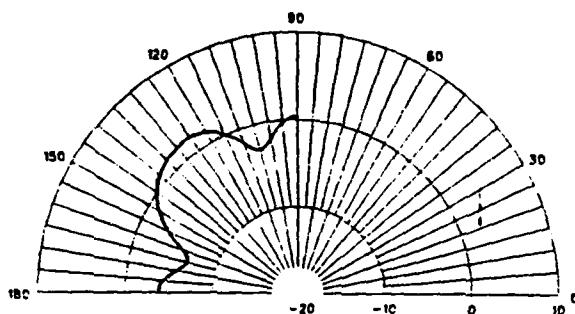
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

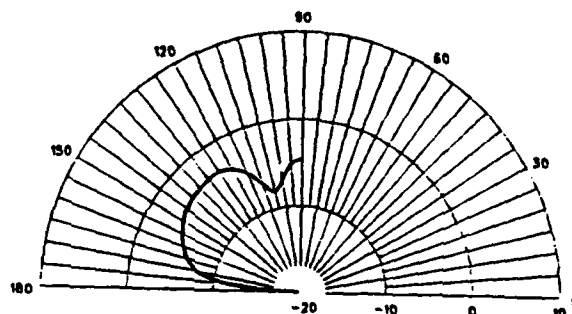
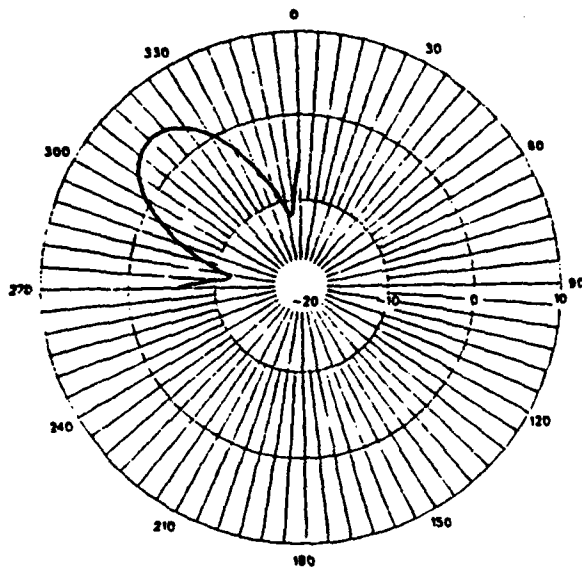
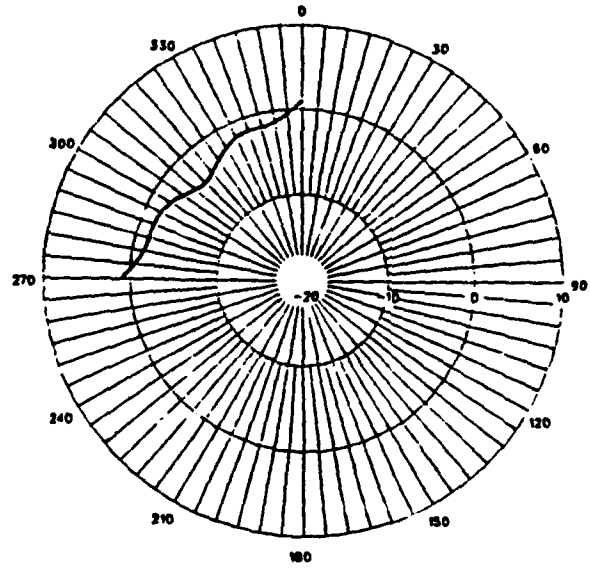


Figure 93. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 15 MHz

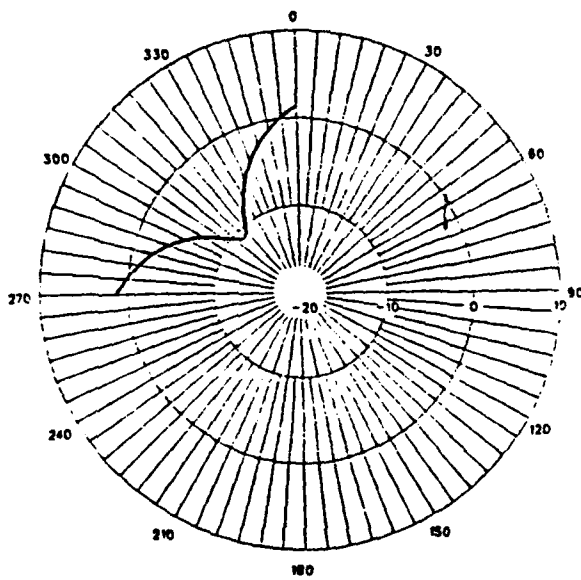
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

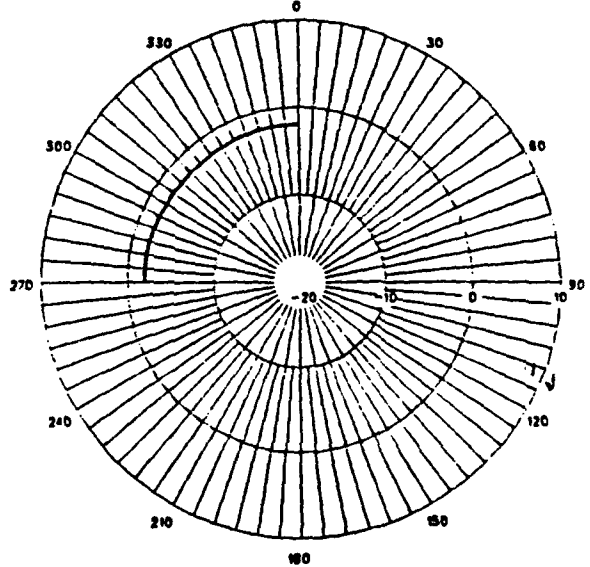
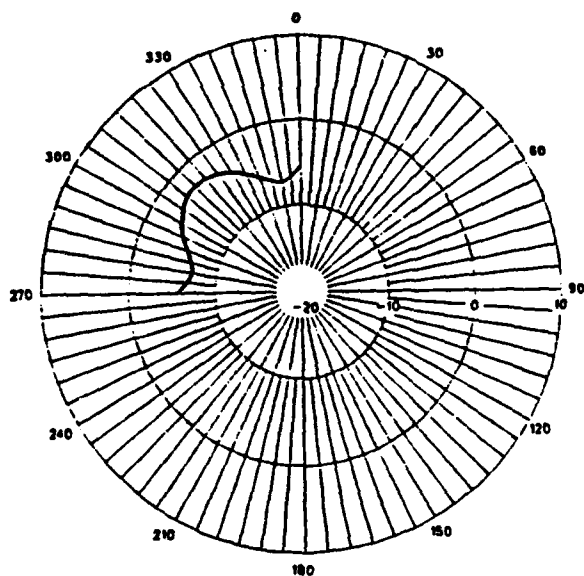
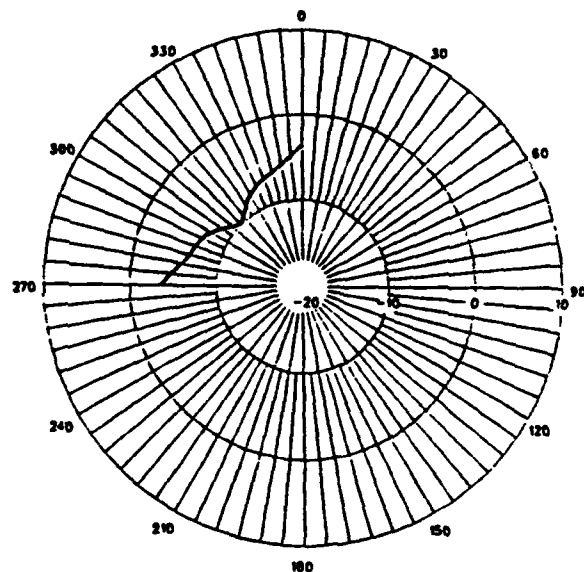


Figure 94. Azimuth patterns of the Army Highband DD antenna over perfect ground at 15 MHz

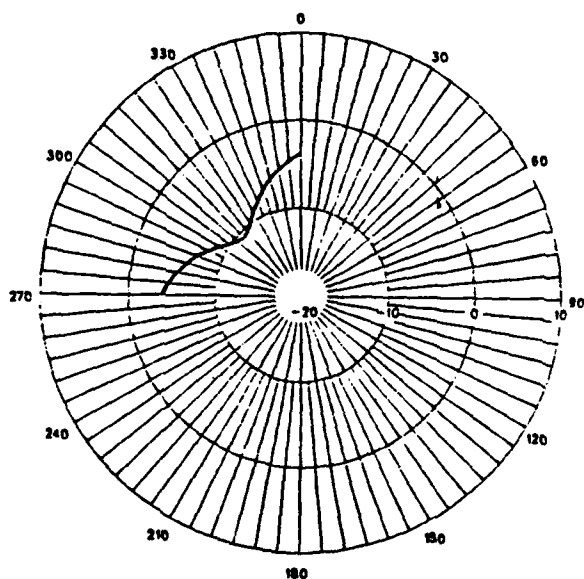
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

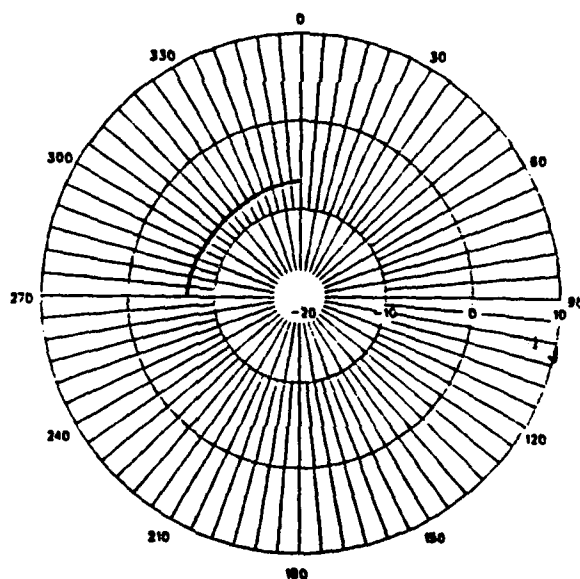
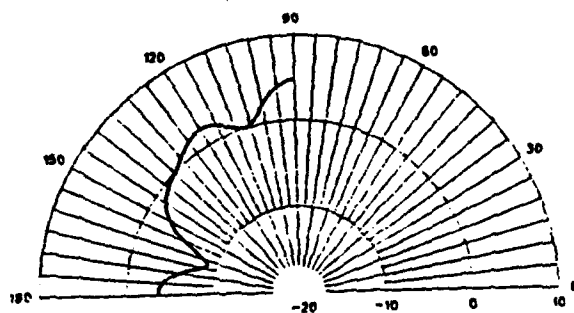
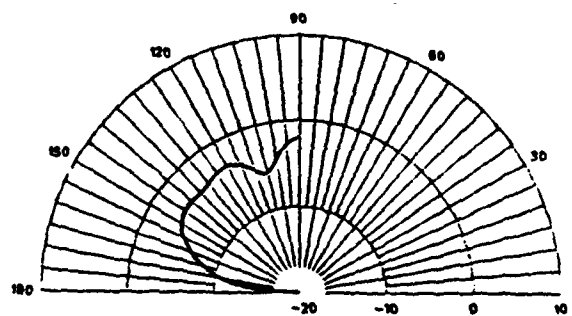


Figure 95. Azimuth patterns of the Army Highband DD antenna over fair ground at 15 MHz

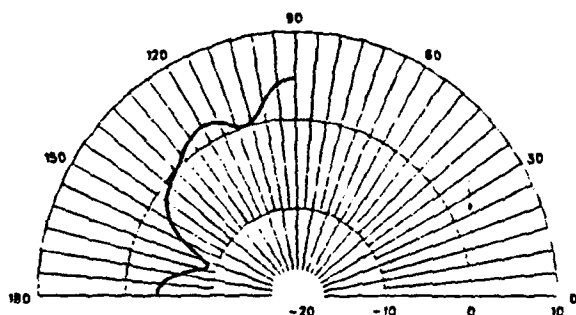
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

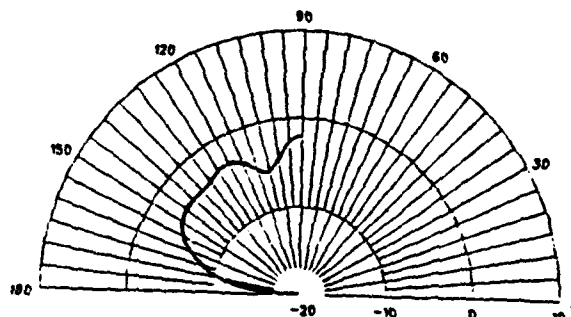
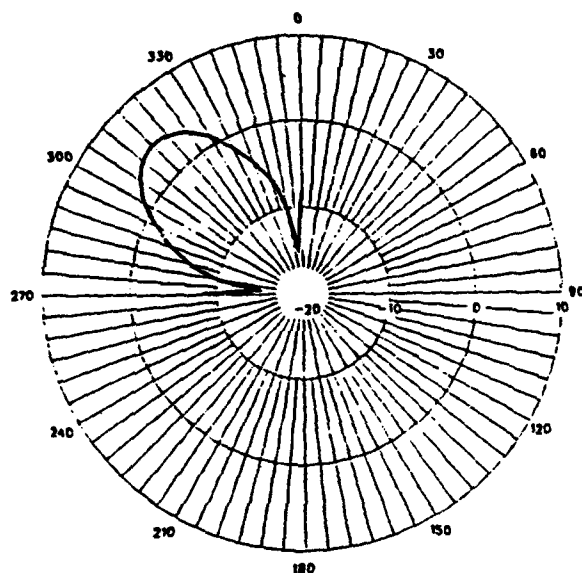
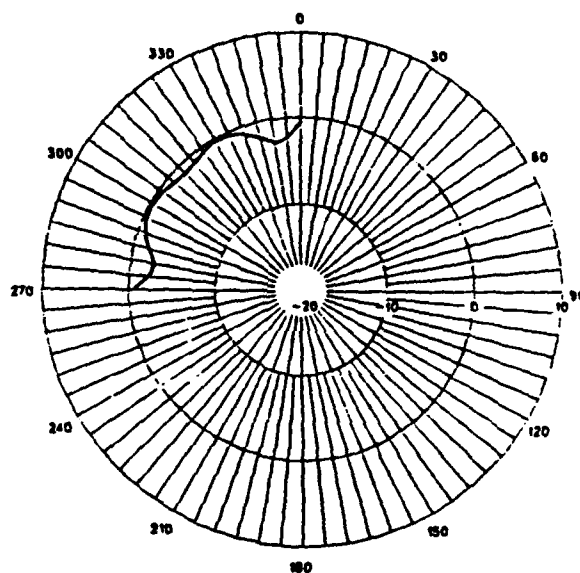


Figure 96. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 16 MHz

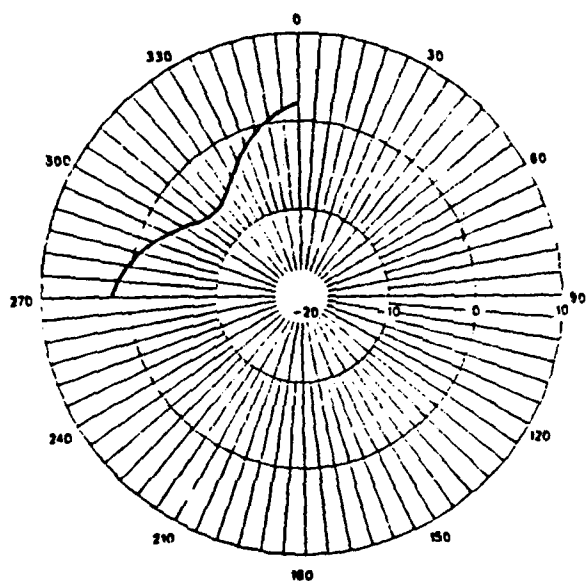
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

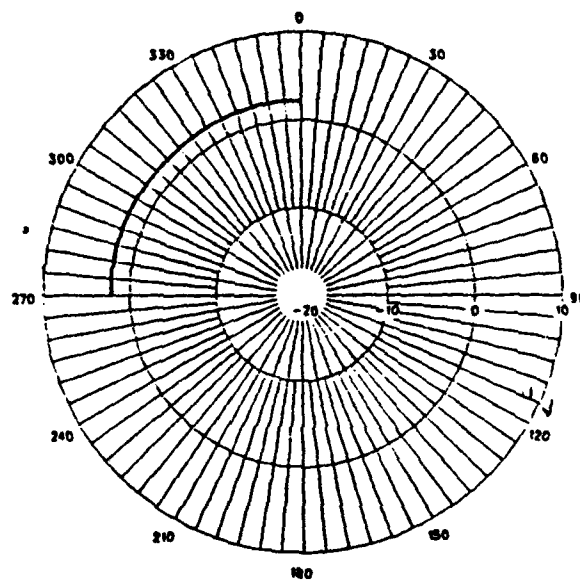
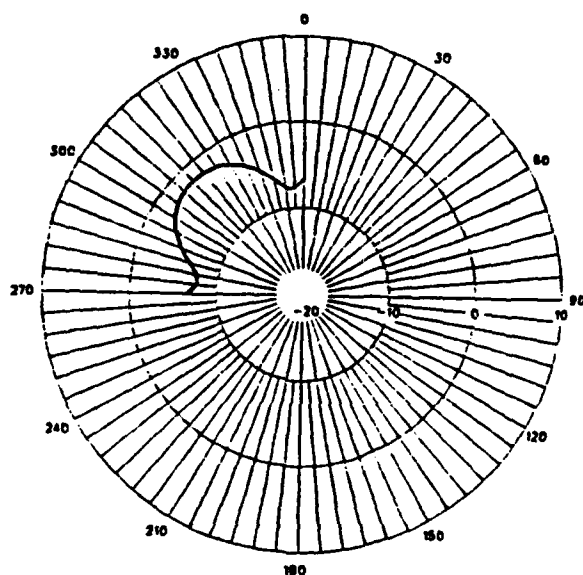
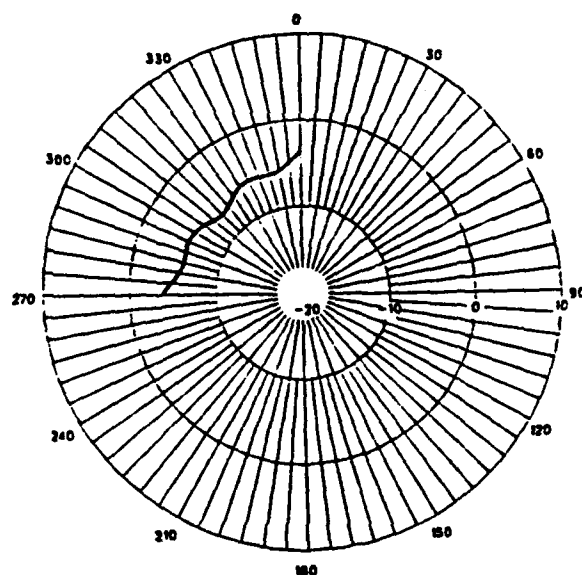


Figure 97. Azimuth patterns of the Army Highband DD antenna over perfect ground at 16 MHz

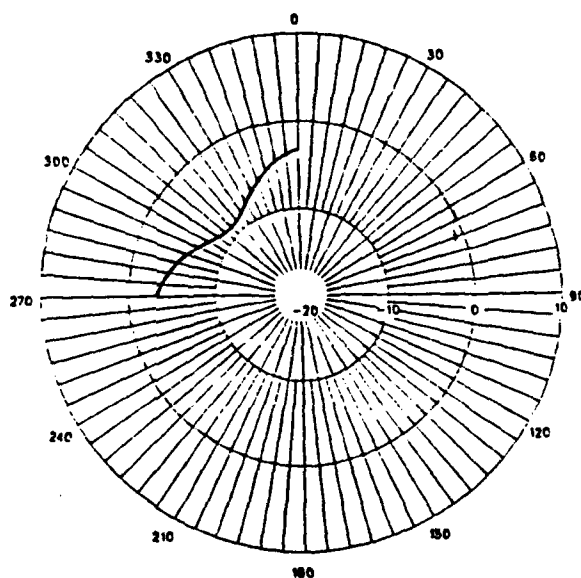
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

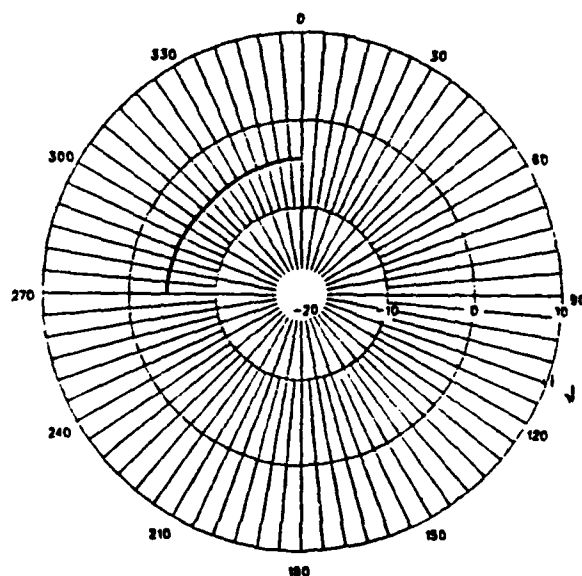
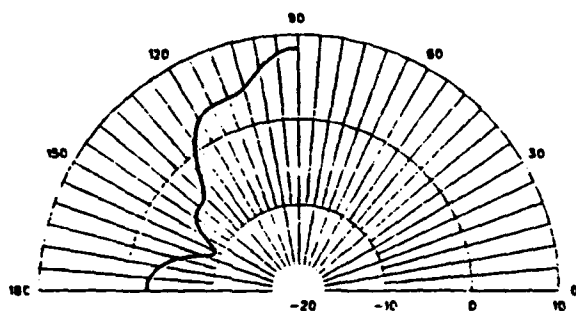
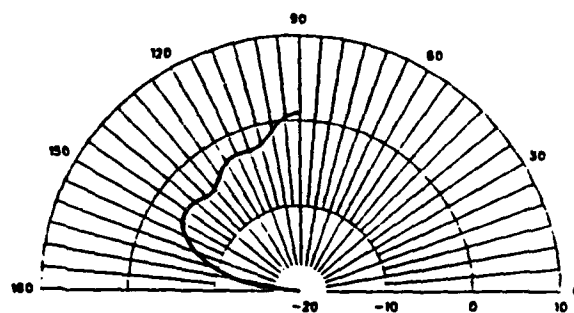


Figure 98. Azimuth patterns of the Army Highband DD antenna over fair ground at 16 MHz

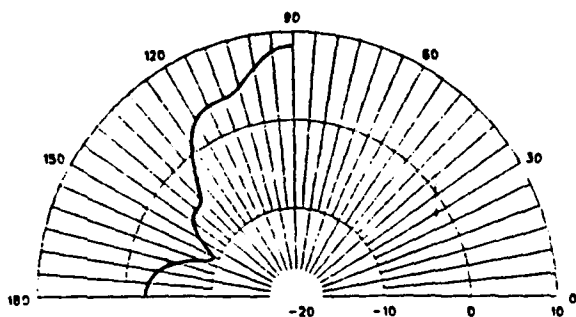
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

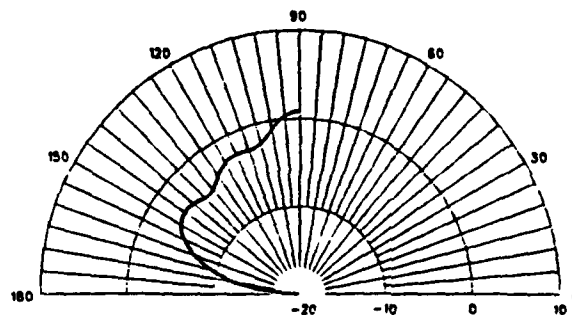
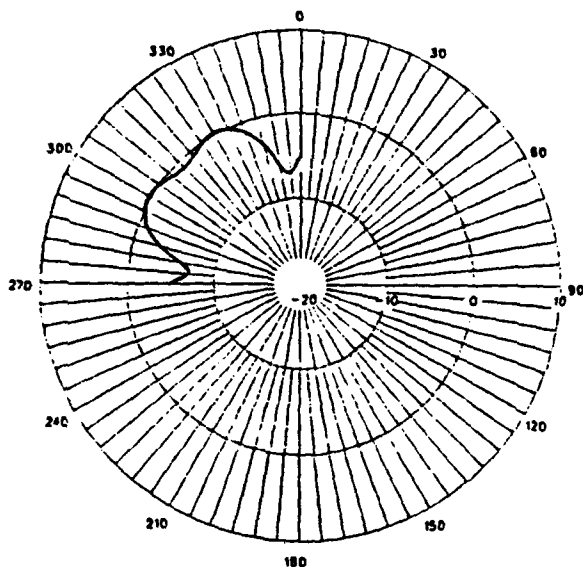
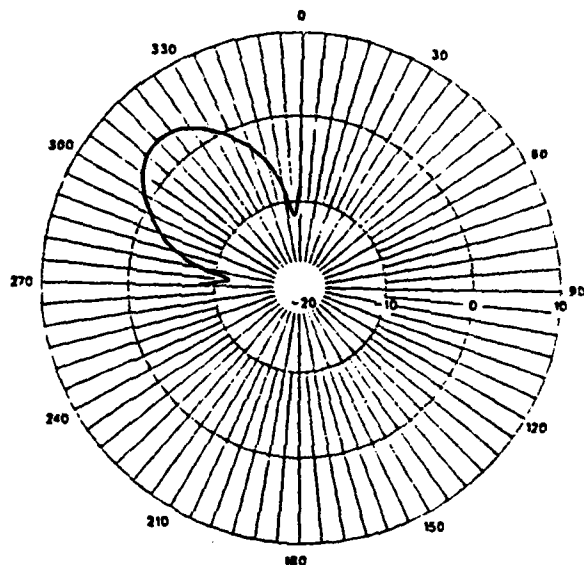


Figure 99. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 17 MHz

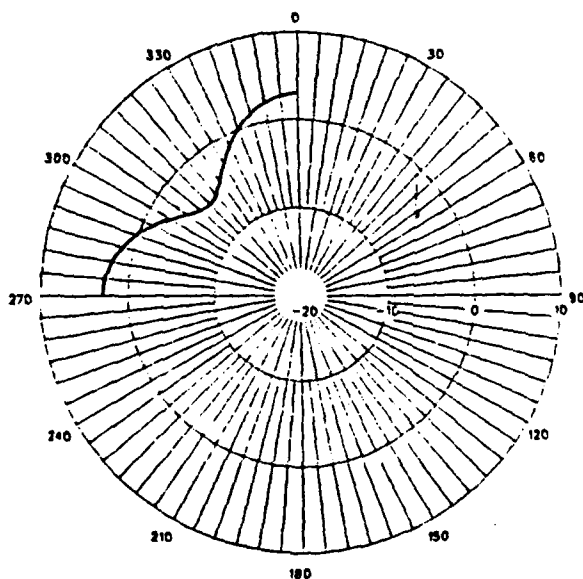
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

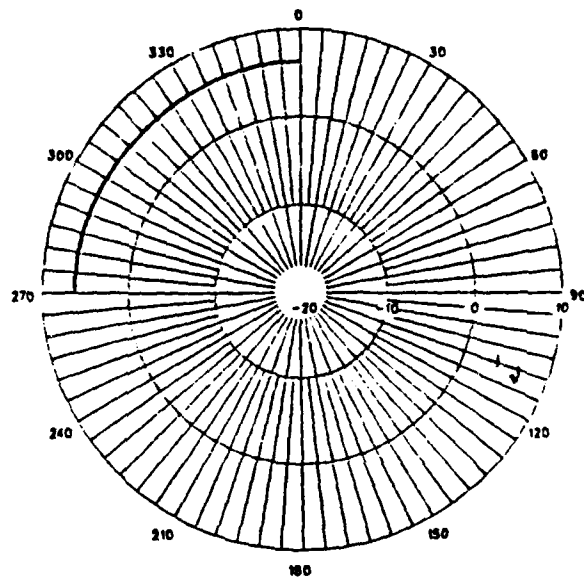
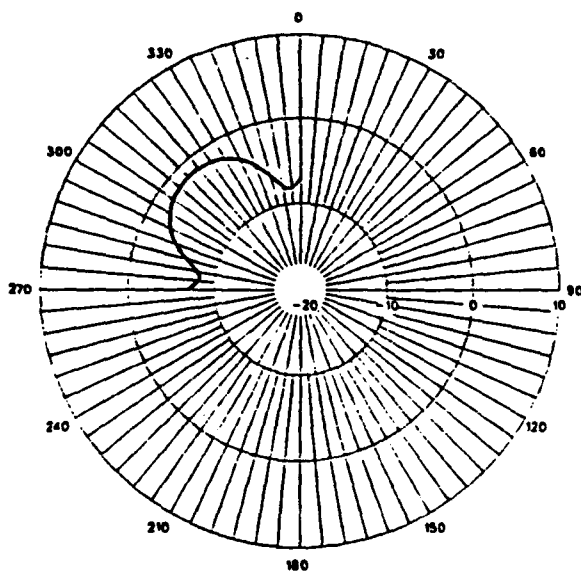
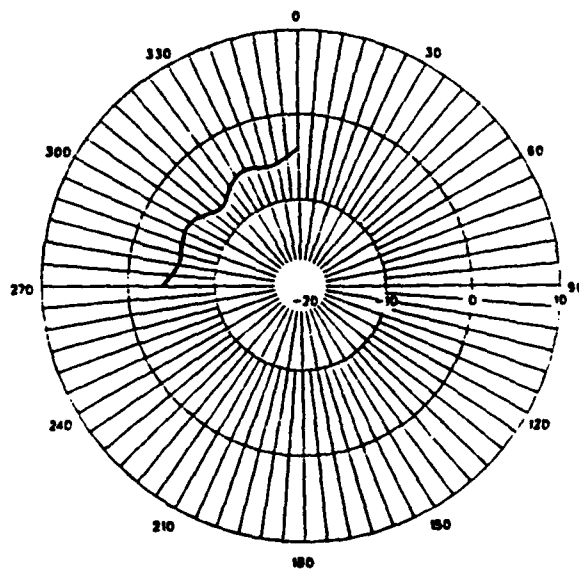


Figure 100. Azimuth patterns of the Army Highband DD antenna over perfect ground at 17 MHz

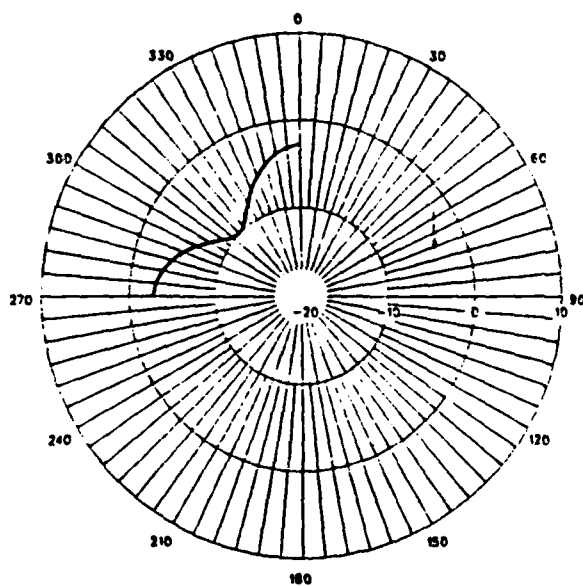
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

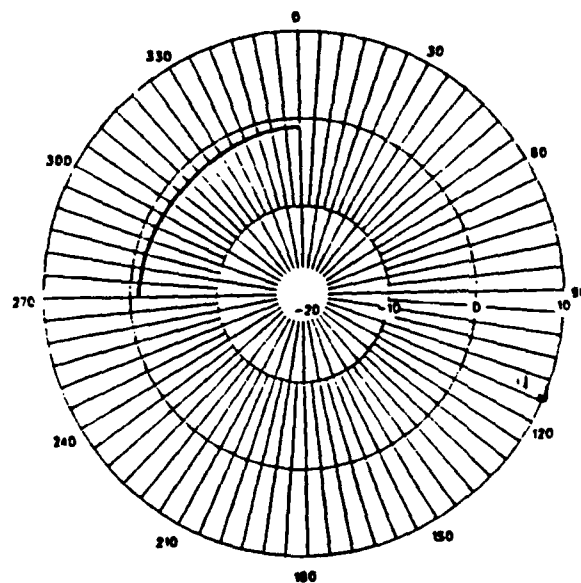
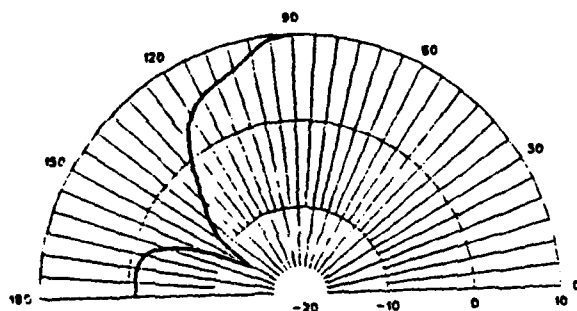
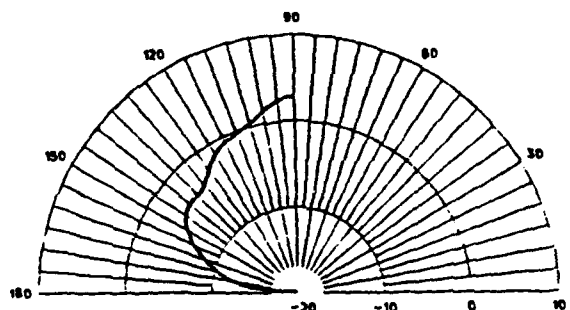


Figure 101. Azimuth patterns of the Army Highband DD antenna over fair ground at 17 MHz

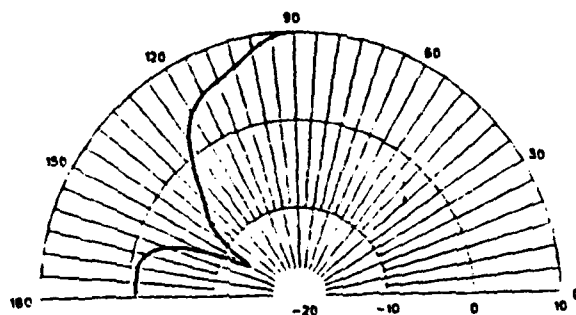
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

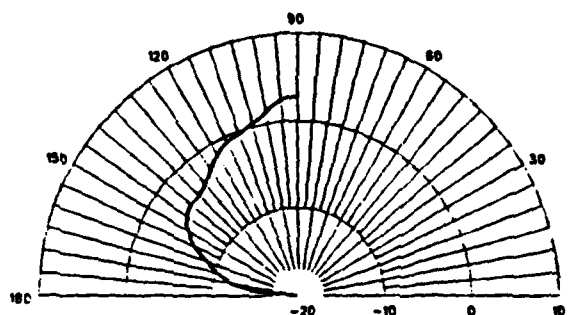


Figure 102. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 18 MHz

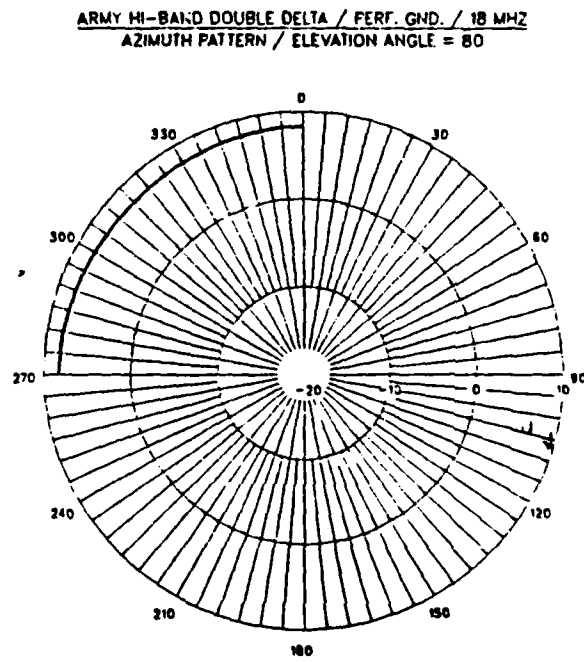
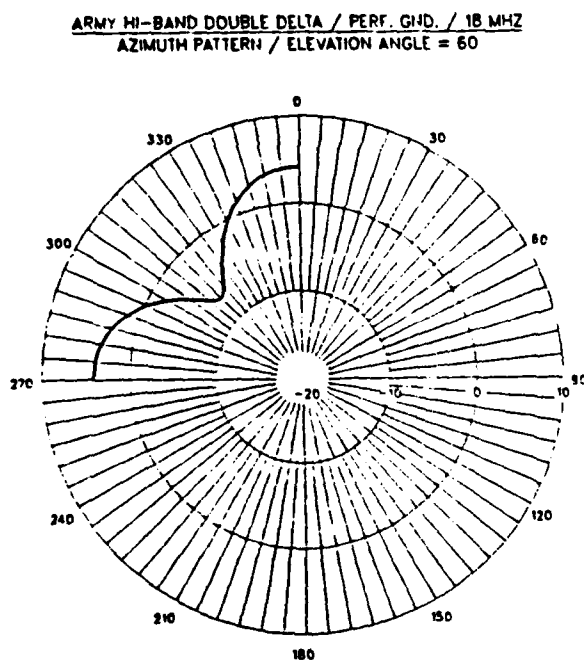
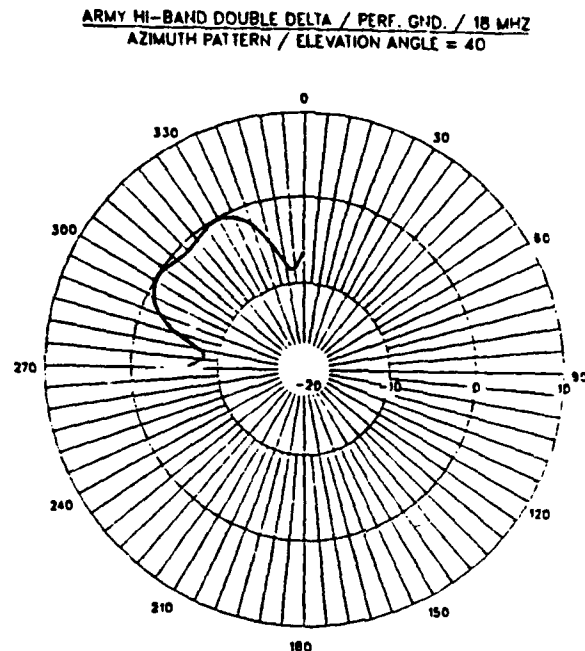
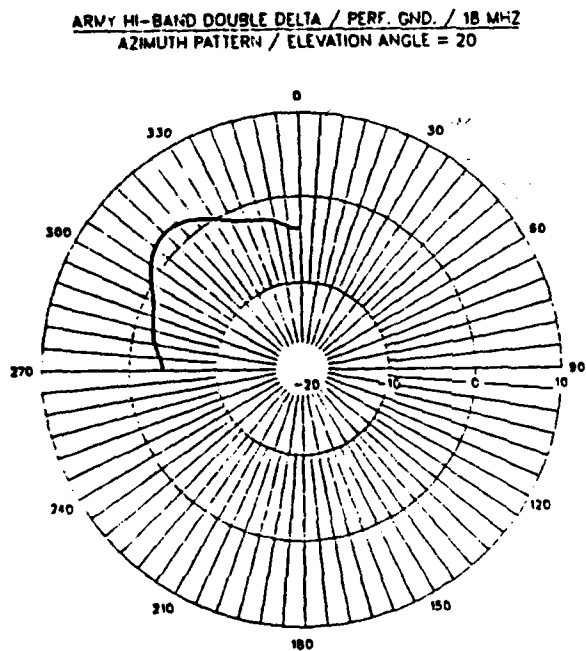
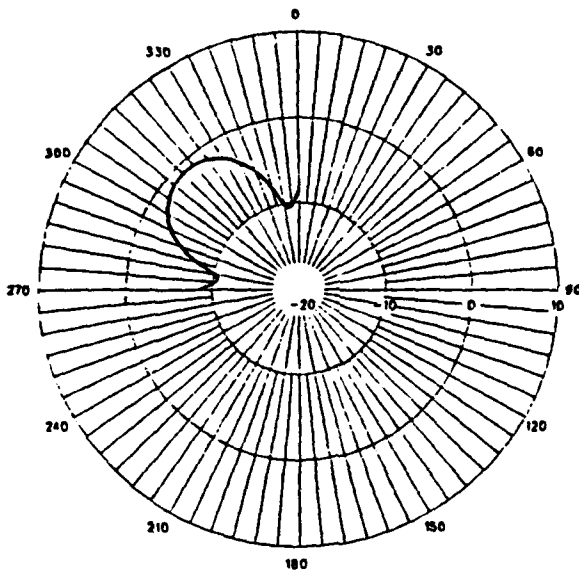
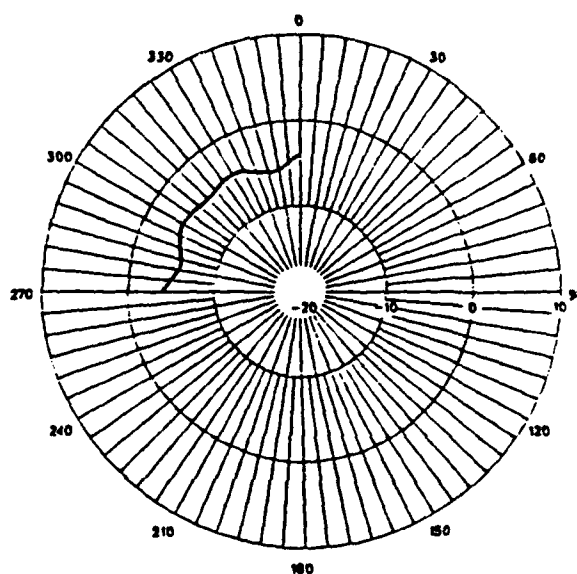


Figure 103. Azimuth patterns of the Army Highband DD antenna over perfect ground at 18 MHz

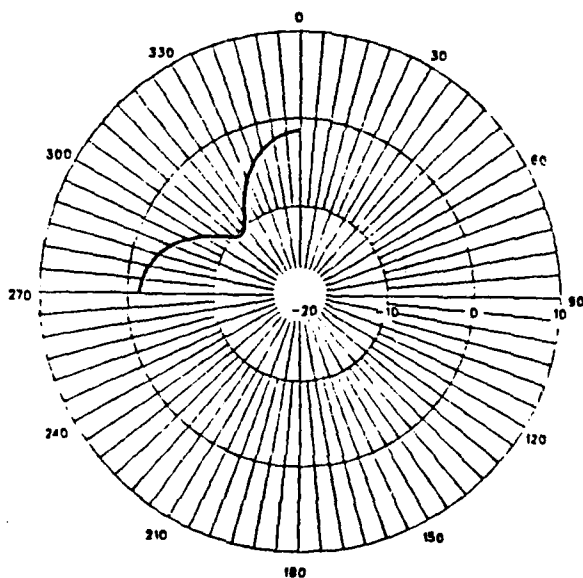
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

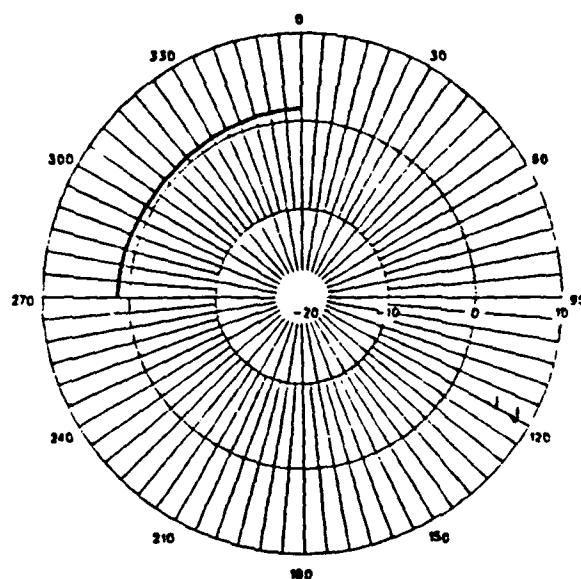
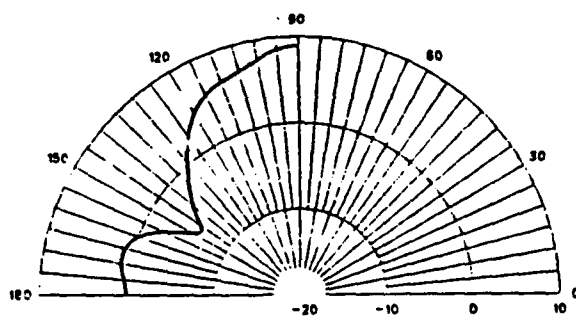
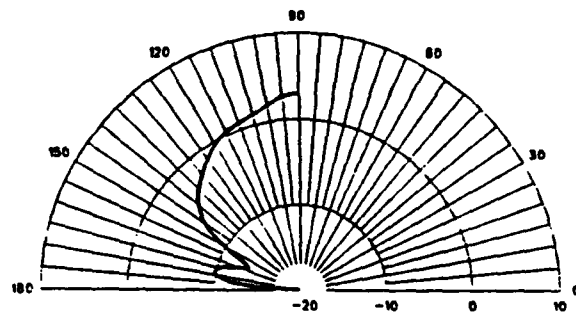


Figure 104. Azimuth patterns of the Army Highband DD antenna over fair ground at 18 MHz

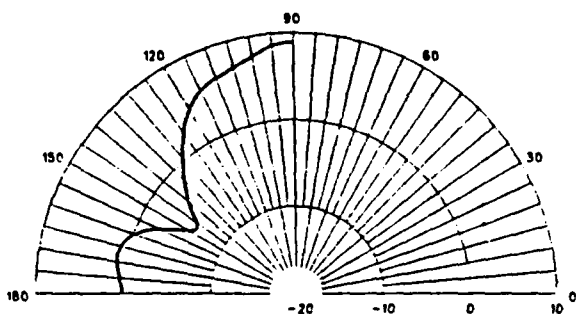
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

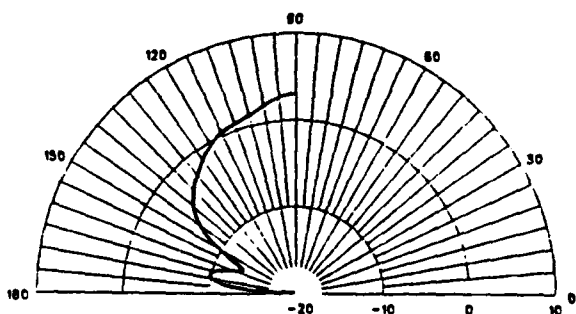
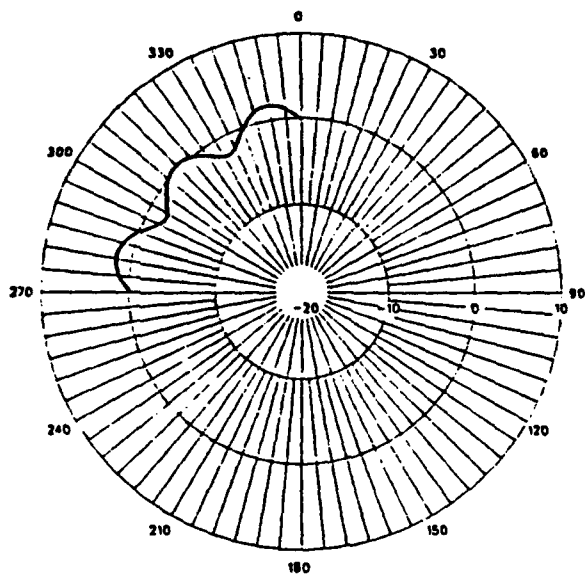
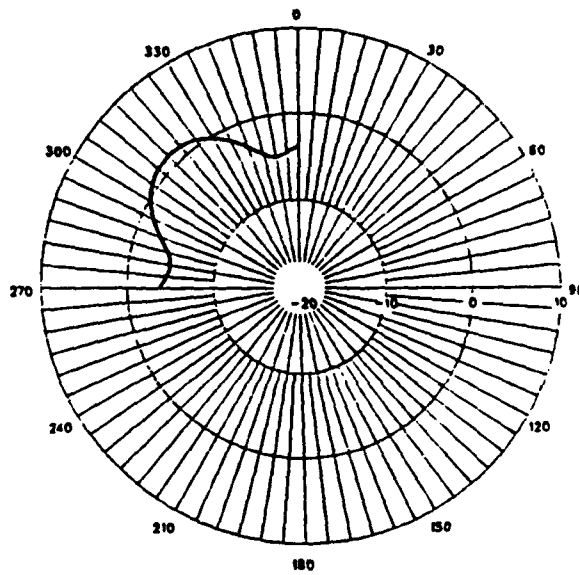


Figure 105. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 19 MHz

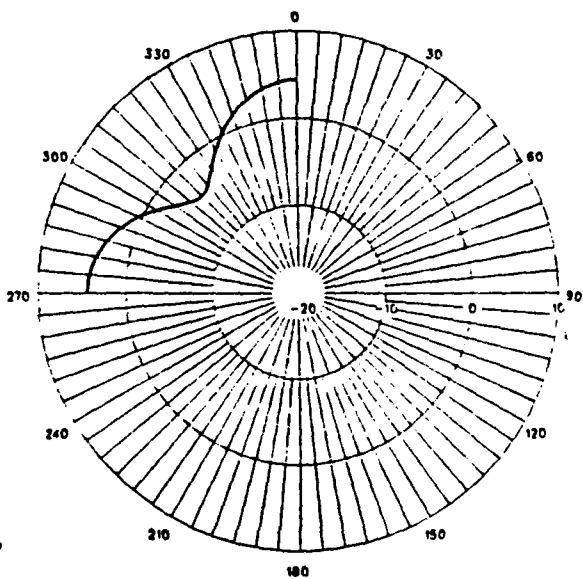
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

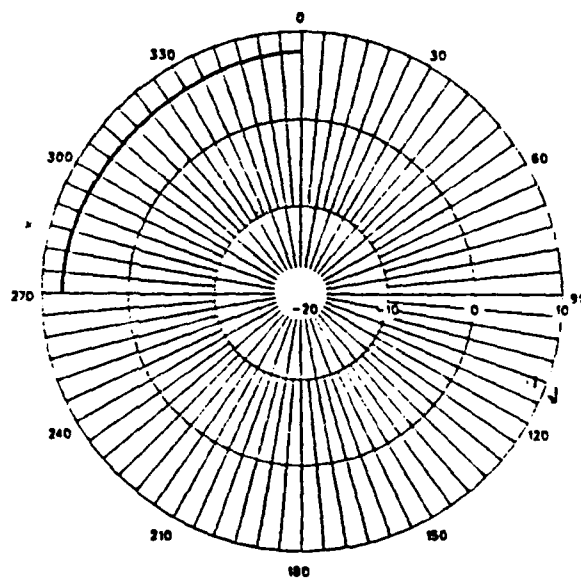
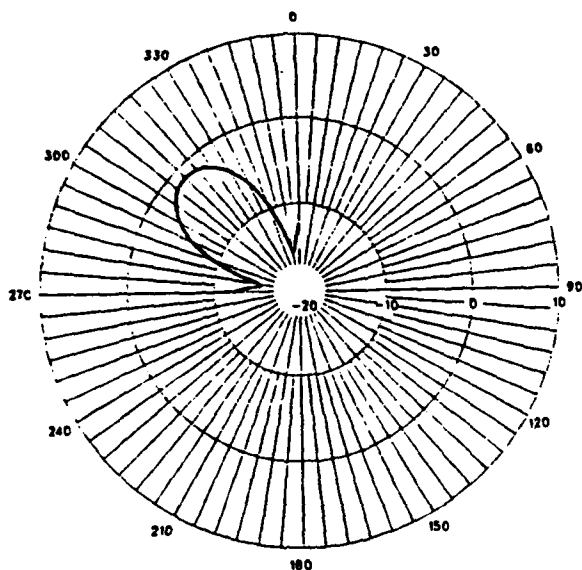
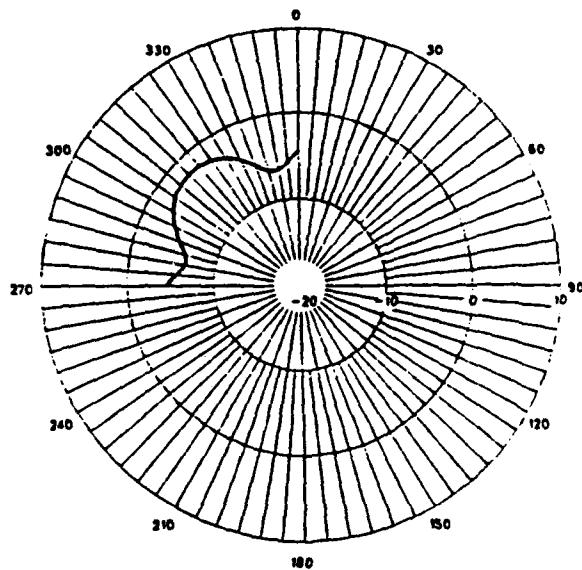


Figure 106. Azimuth patterns of the Army Highband DD antenna over perfect ground at 19 MHz

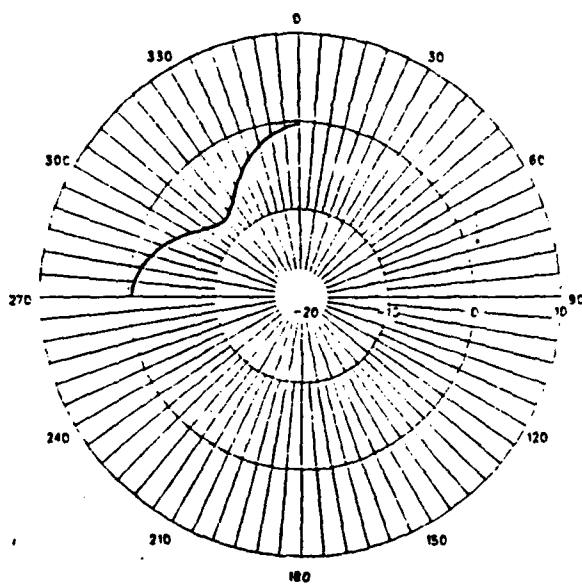
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

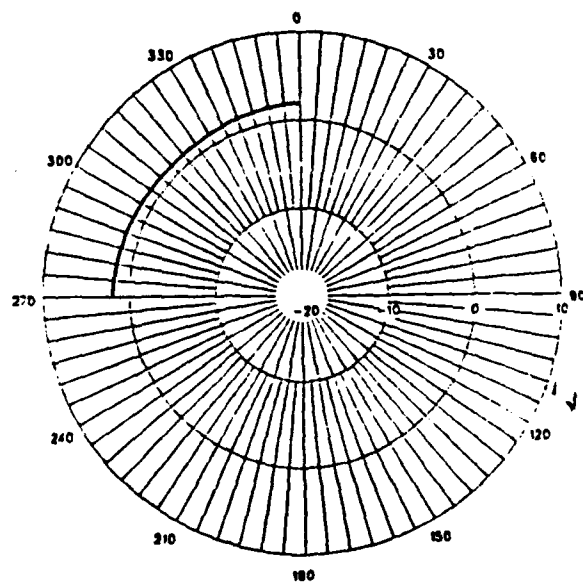
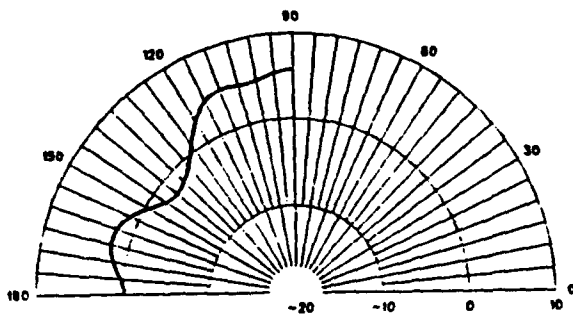
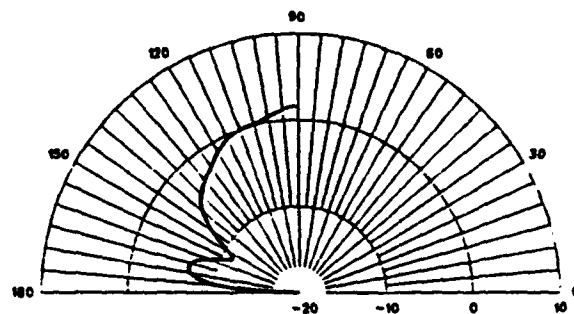


Figure 107. Azimuth patterns of the Army Highband DD antenna over fair ground at 19 MHz

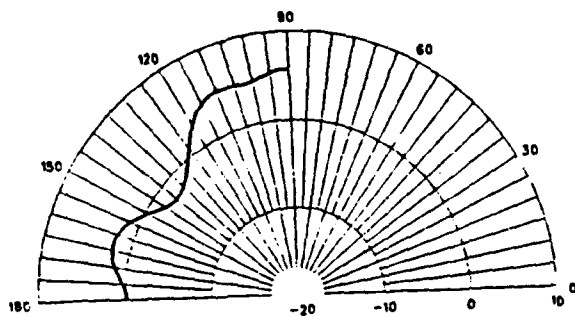
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

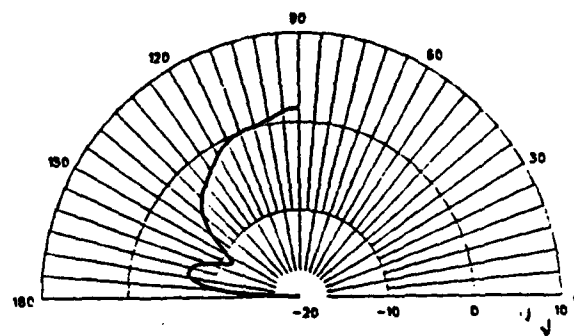
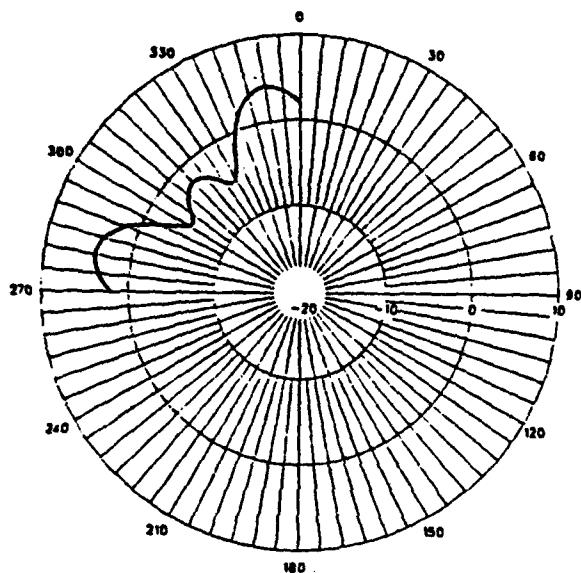
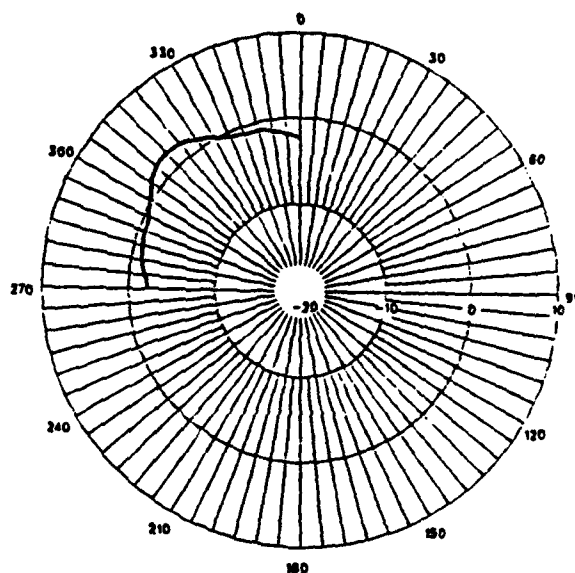


Figure 108. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 20 MHz

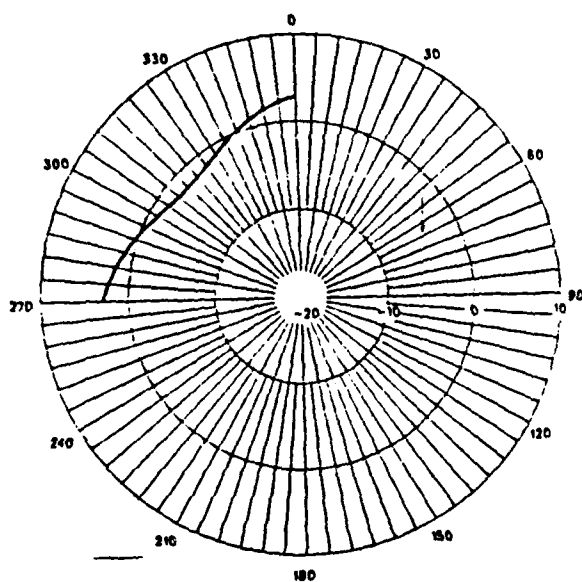
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

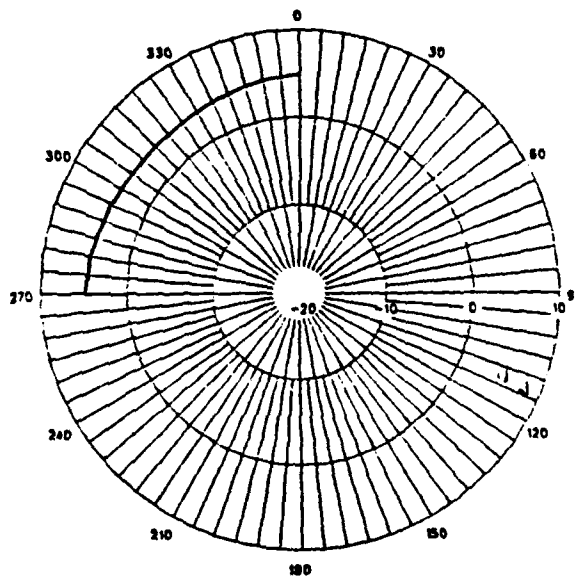
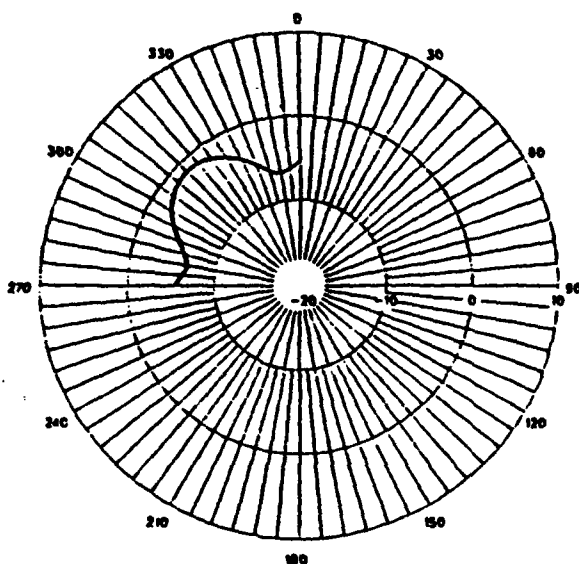
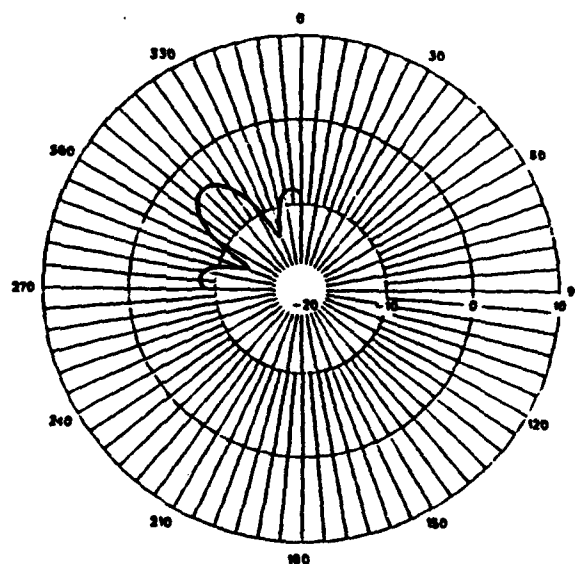


Figure 109. Azimuth patterns of the Army Highband DD antenna over perfect ground at 20 MHz

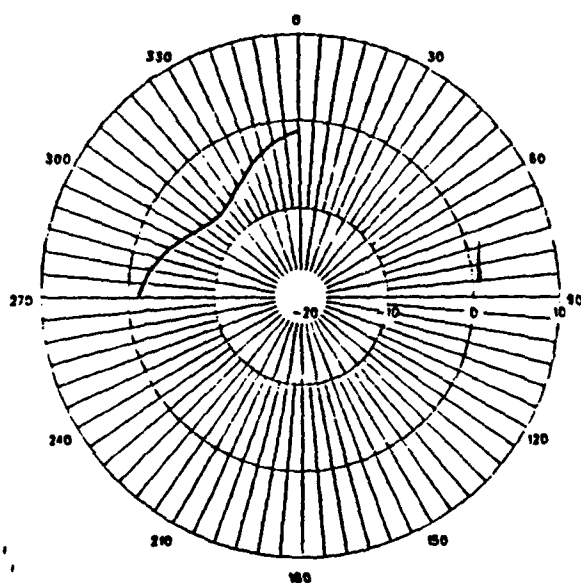
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

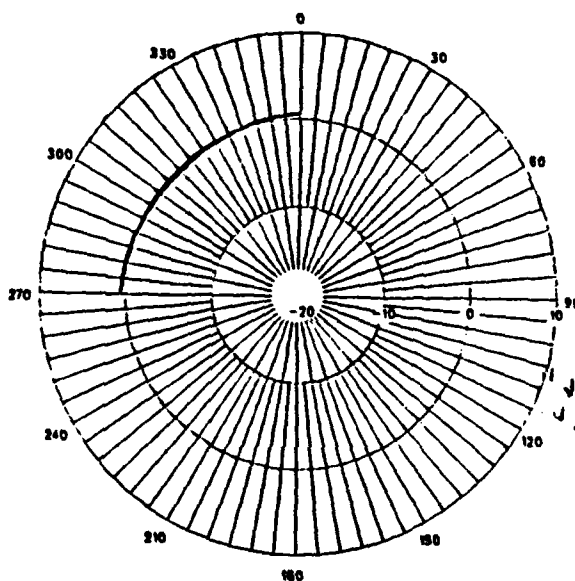
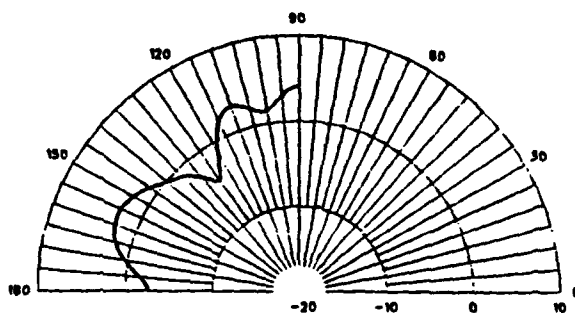
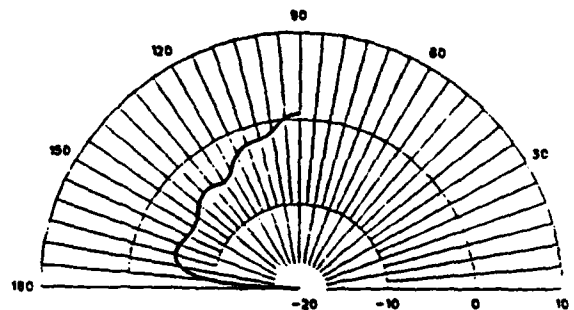


Figure 110. Azimuth patterns of the Army Highband DD antenna over fair ground at 20 MHz

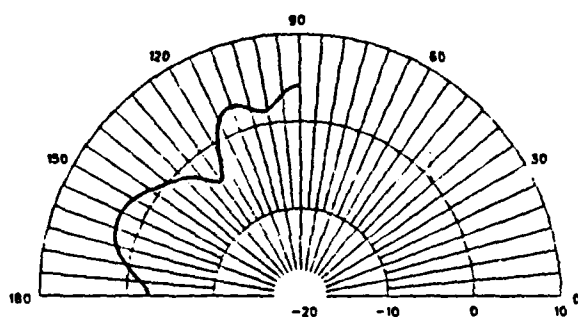
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

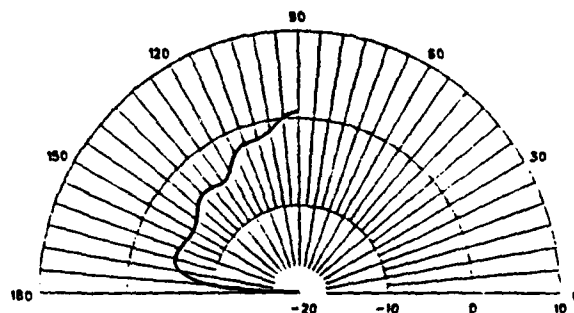
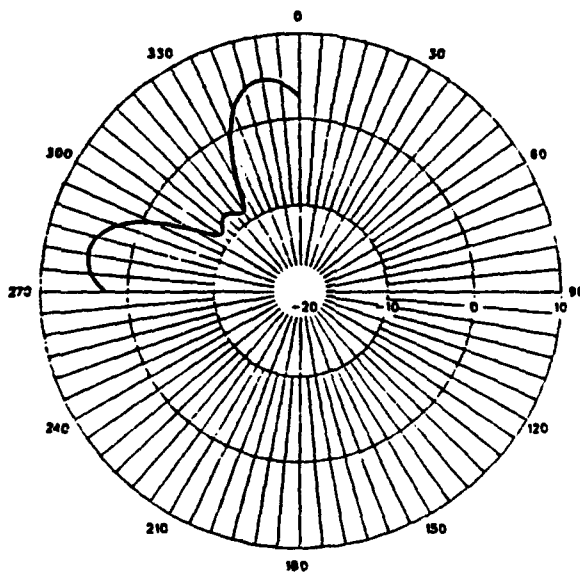
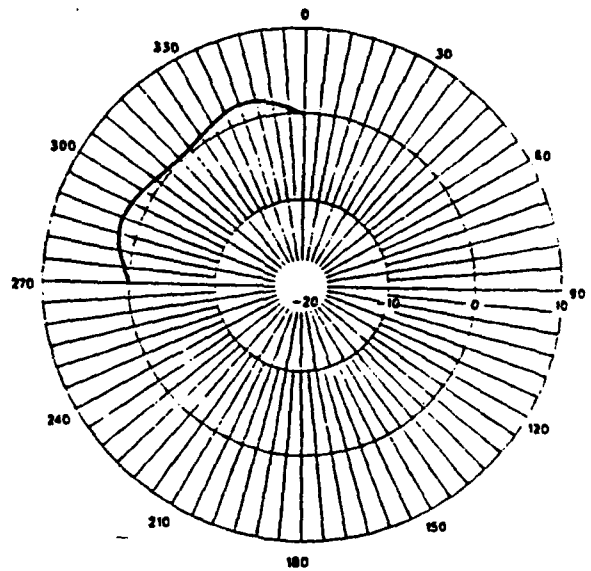


Figure 111. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 21 MHz

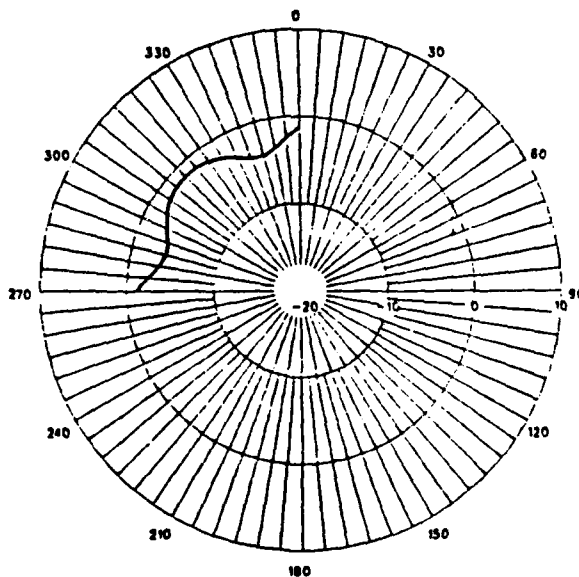
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

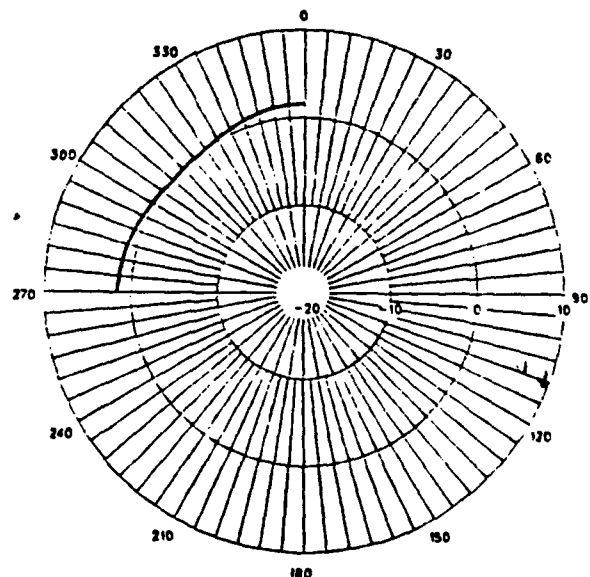
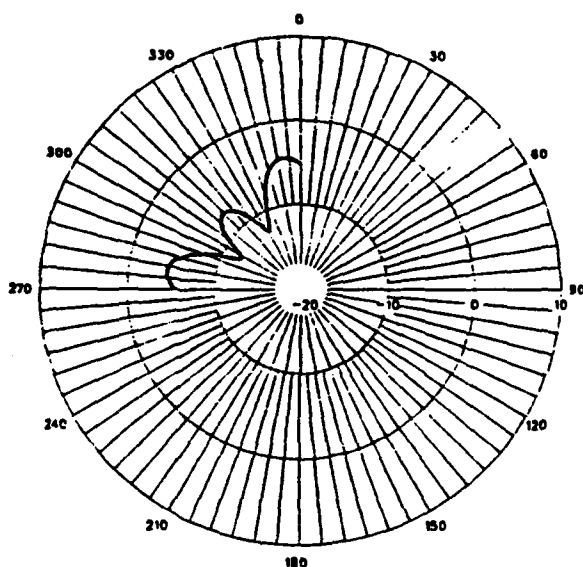
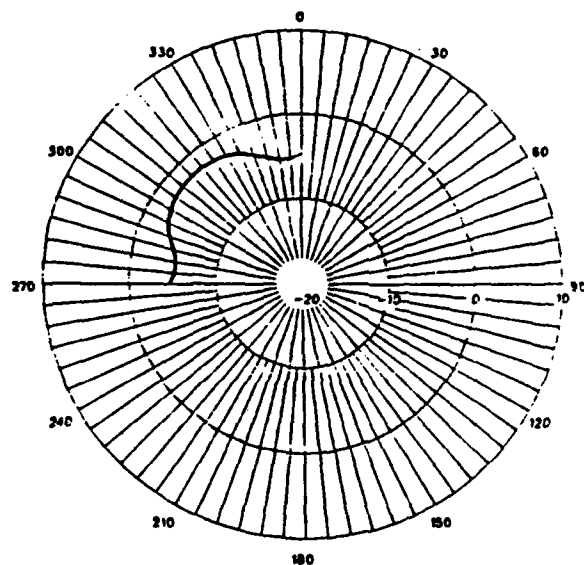


Figure 112. Azimuth patterns of the Army Highband DD antenna over perfect ground at 21 MHz

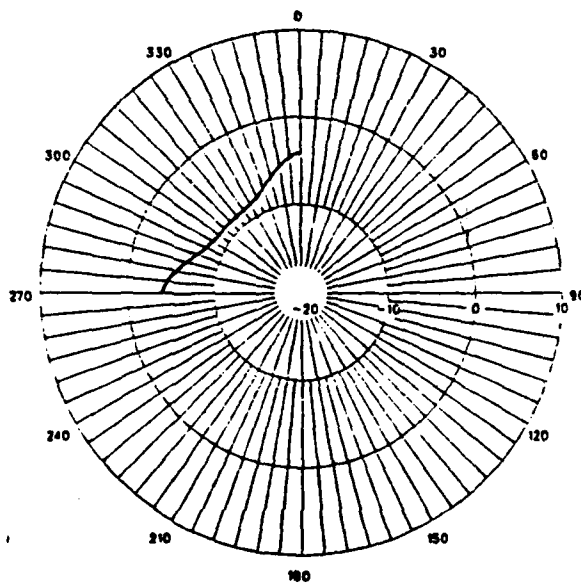
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

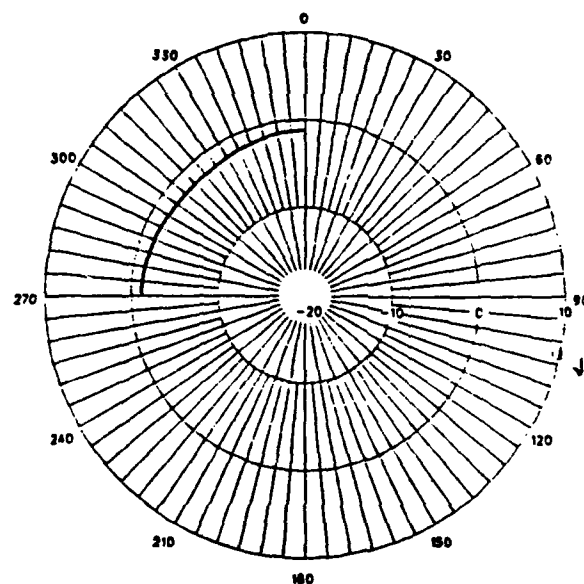
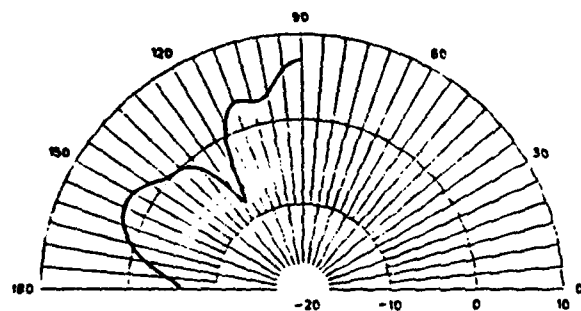
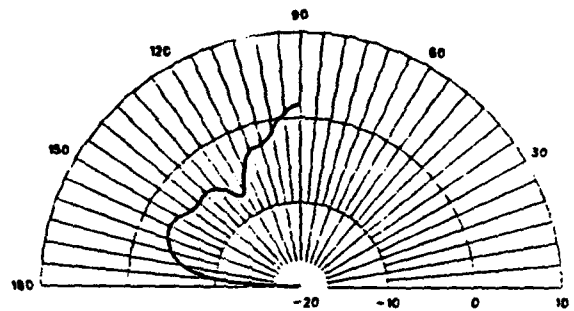


Figure 113. Azimuth patterns of the Army Highband DD antenna over fair ground at 21 MHz

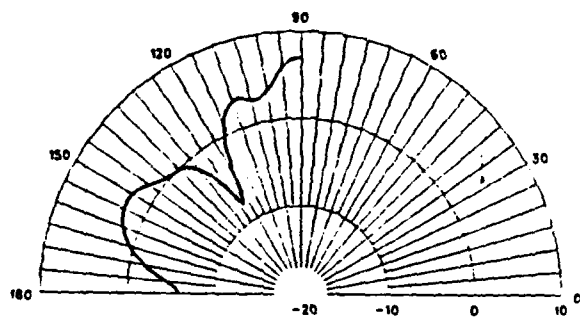
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

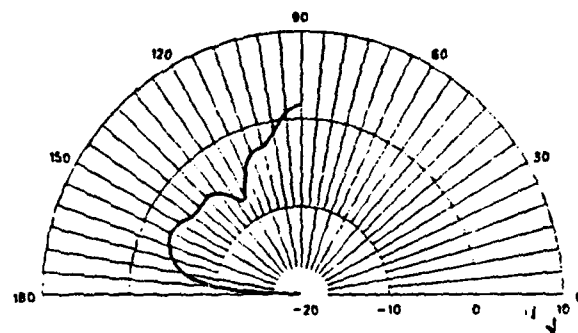
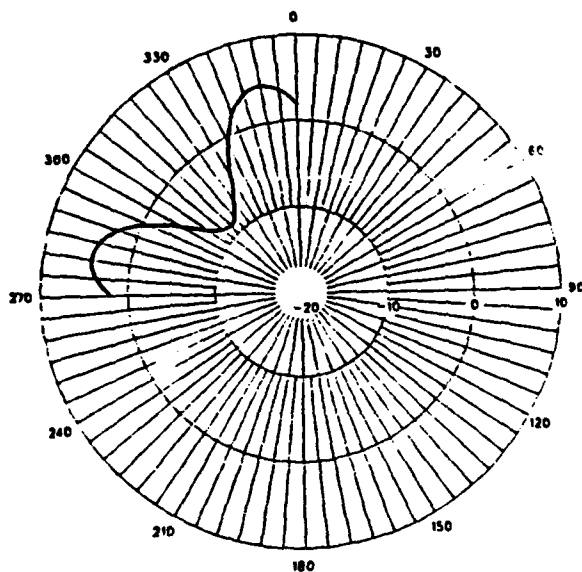
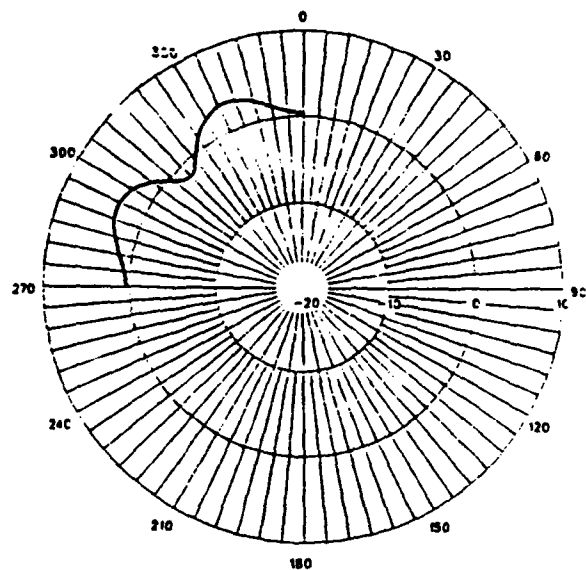


Figure 114. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 22 MHz

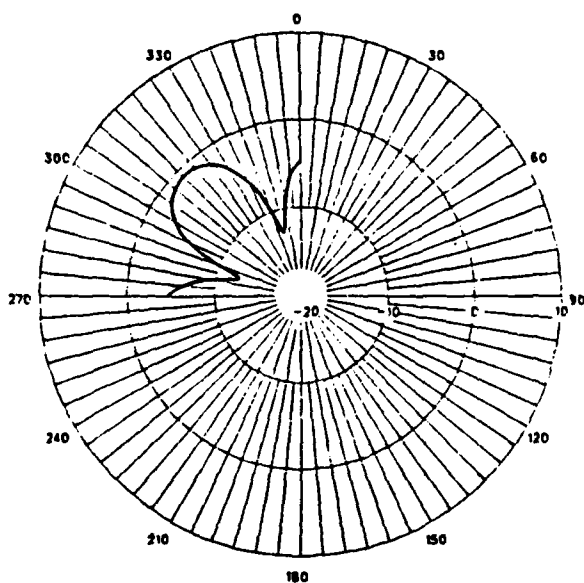
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

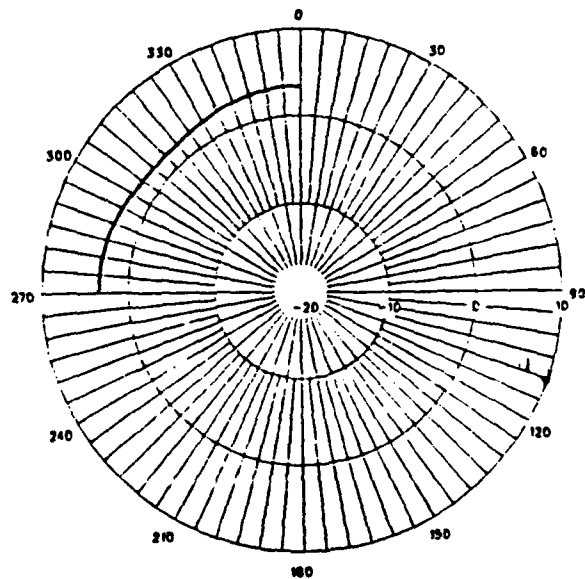


Figure 115. Azimuth patterns of the Army Highband DD antenna over perfect ground at 22 MHz

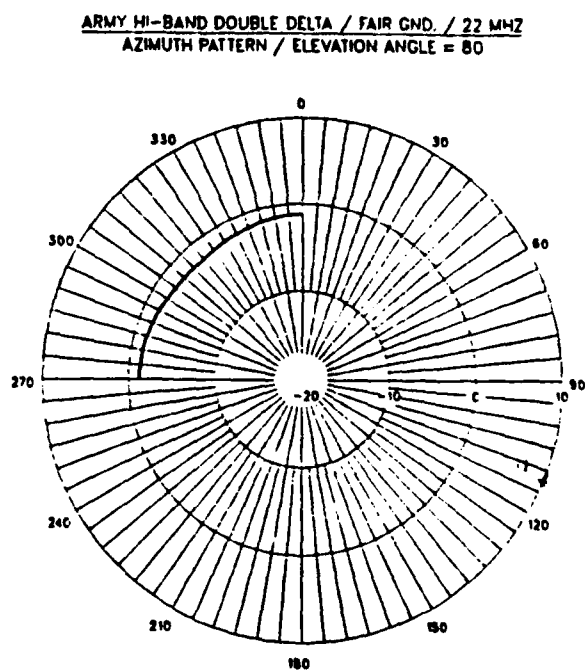
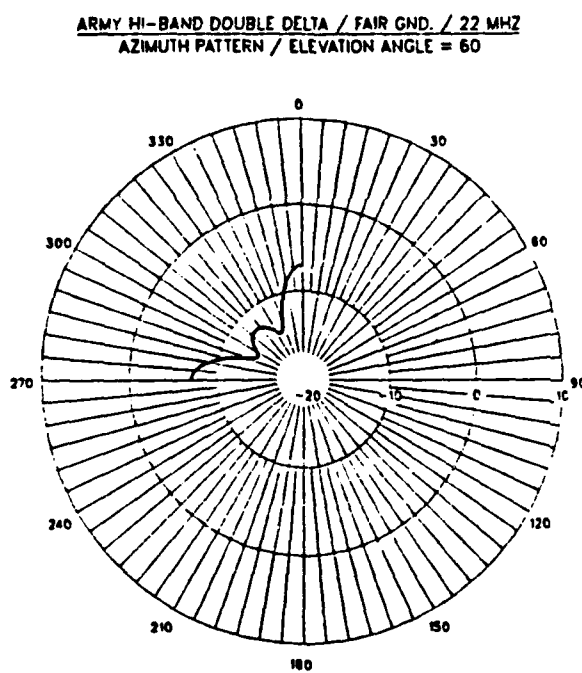
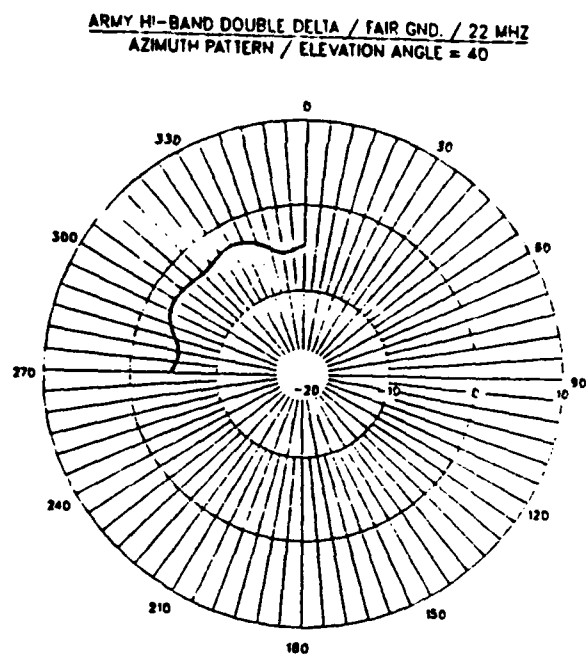
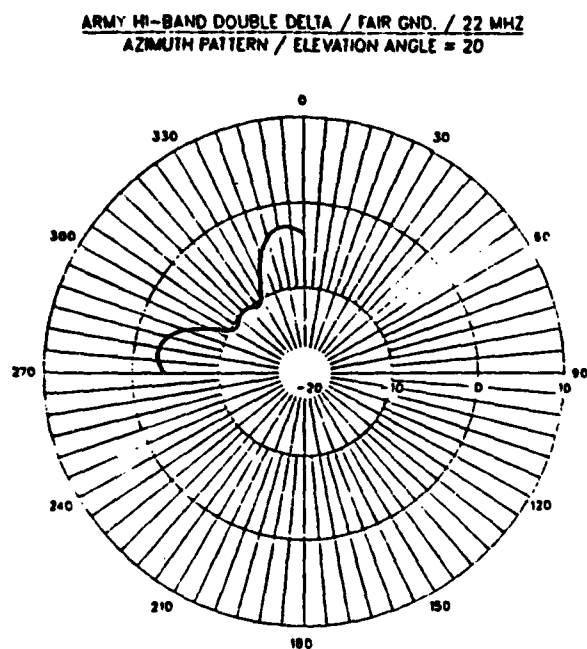
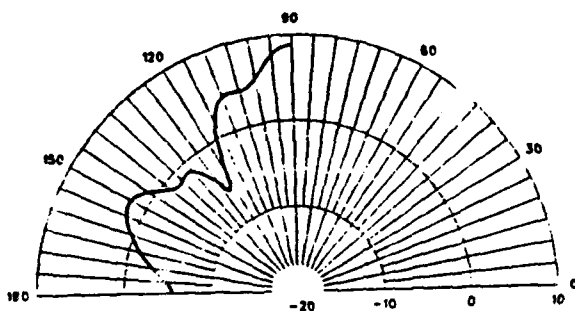
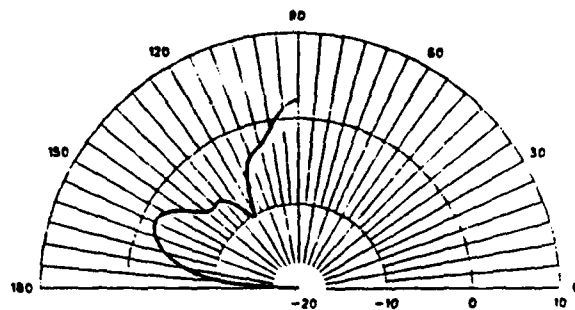


Figure 116. Azimuth patterns of the Army Highband DD antenna over fair ground at 22 MHz

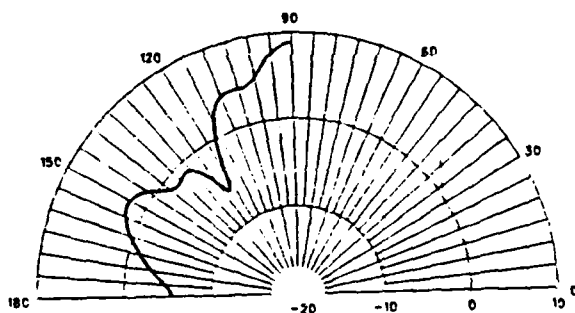
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

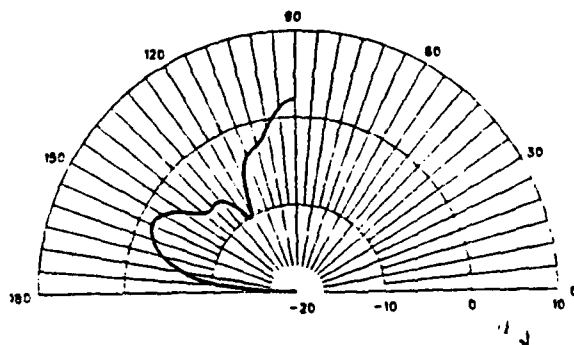
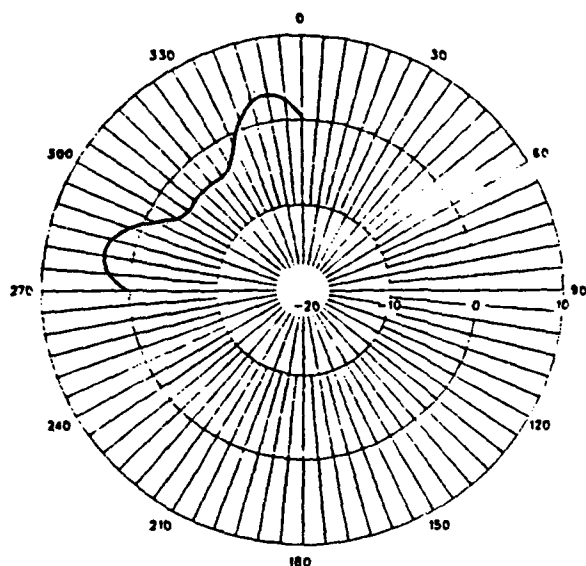
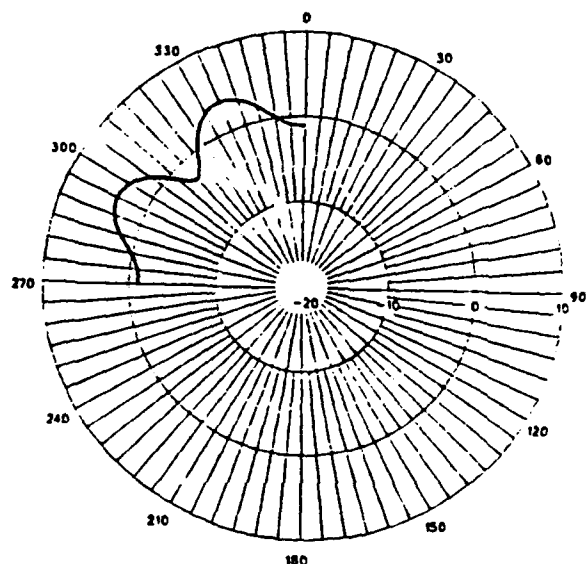


Figure 117. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 23 MHz

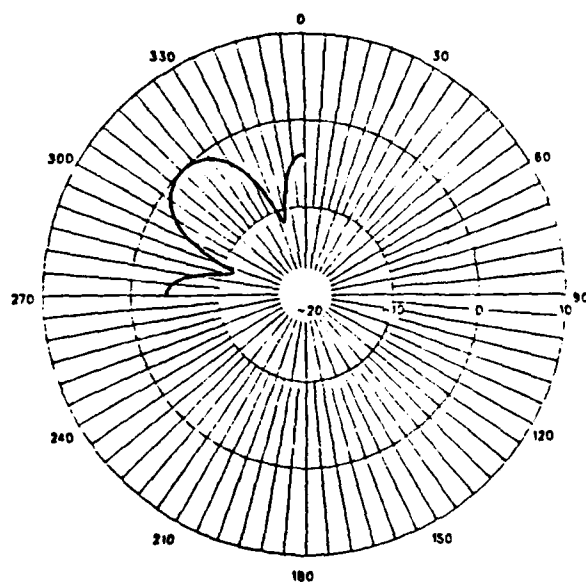
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

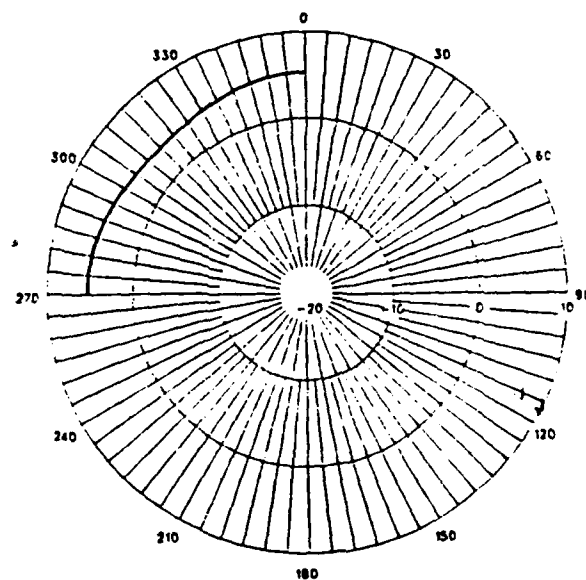
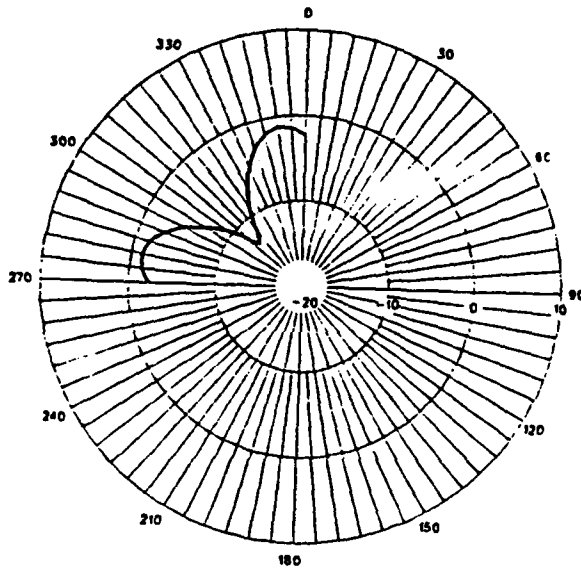
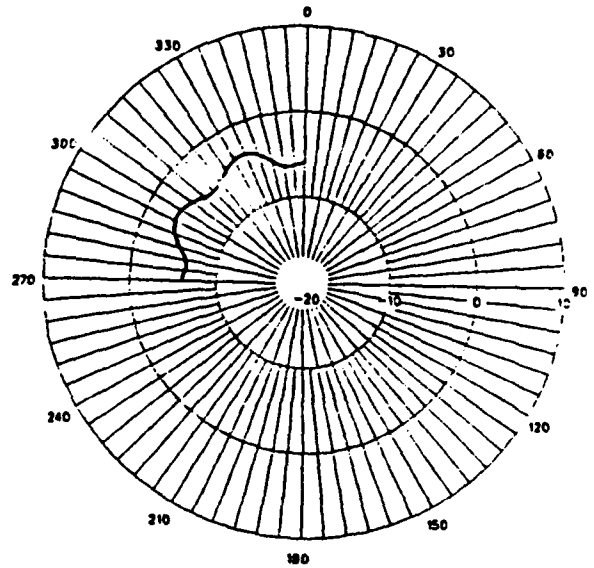


Figure 118. Azimuth patterns of the Army Highband DD antenna over perfect ground at 23 MHz

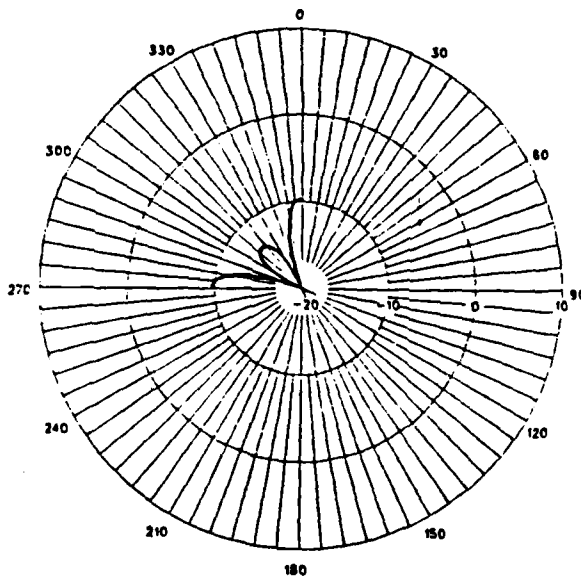
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

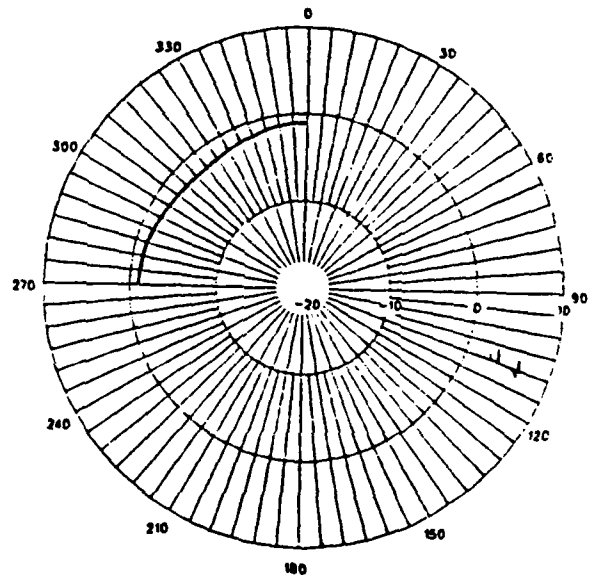
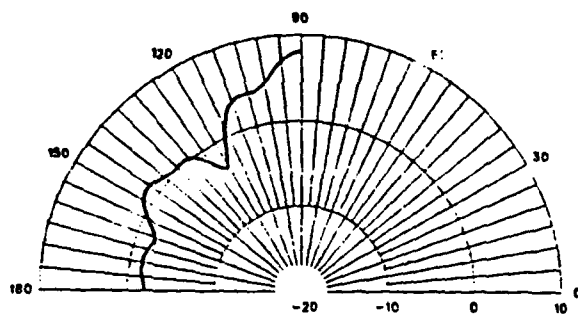
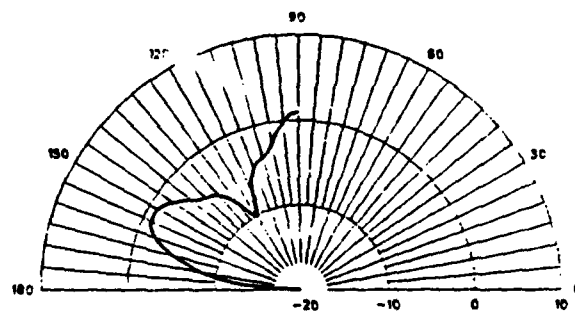


Figure 119. Azimuth patterns of the Army Highband DD antenna over fair ground at 23 MHz

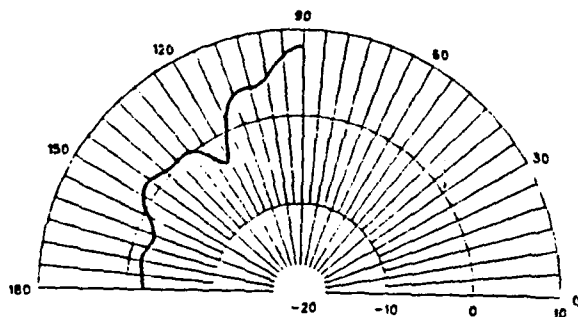
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

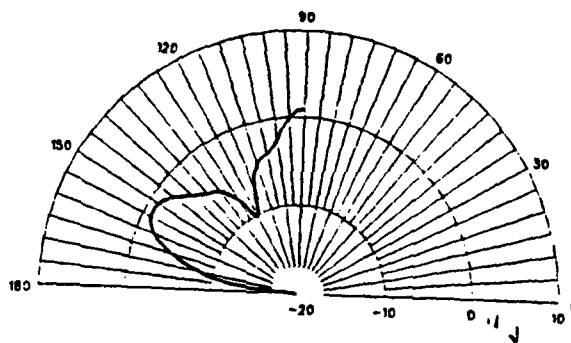
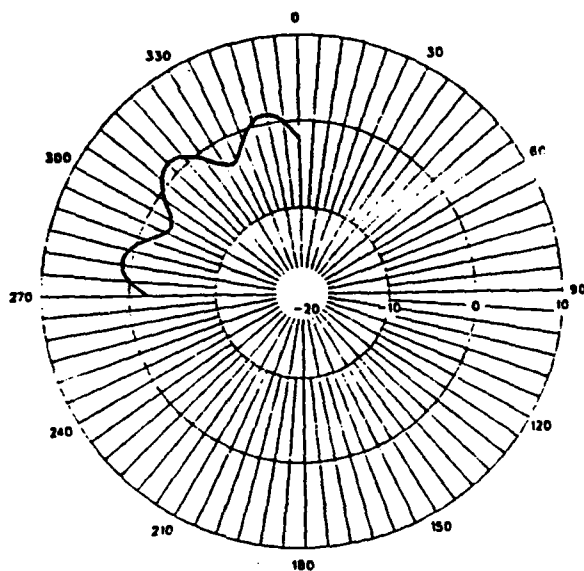
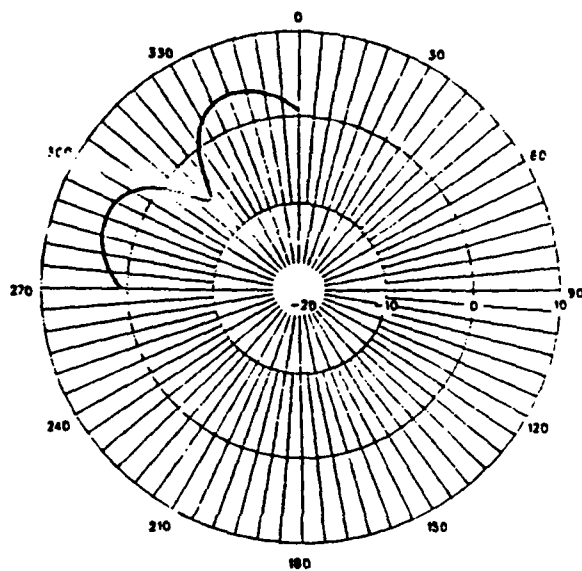


Figure 120. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 24 MHz

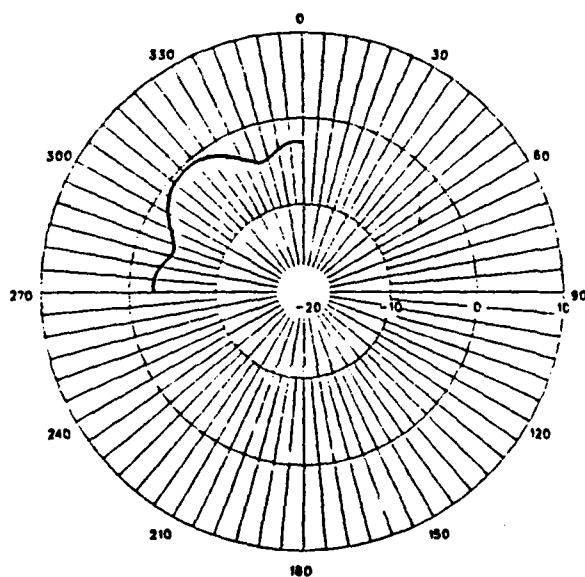
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

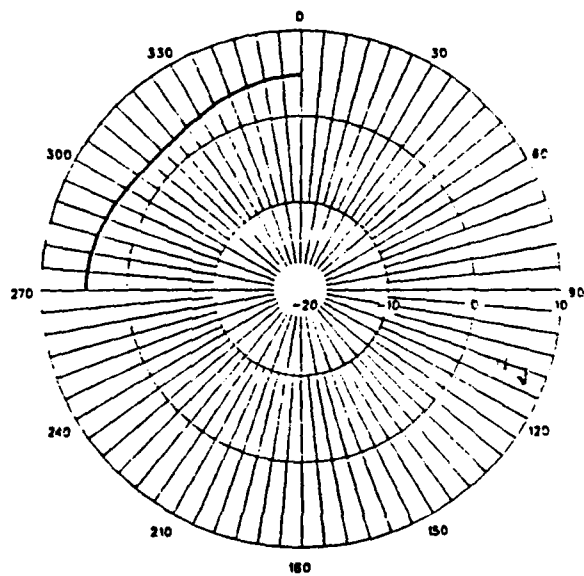
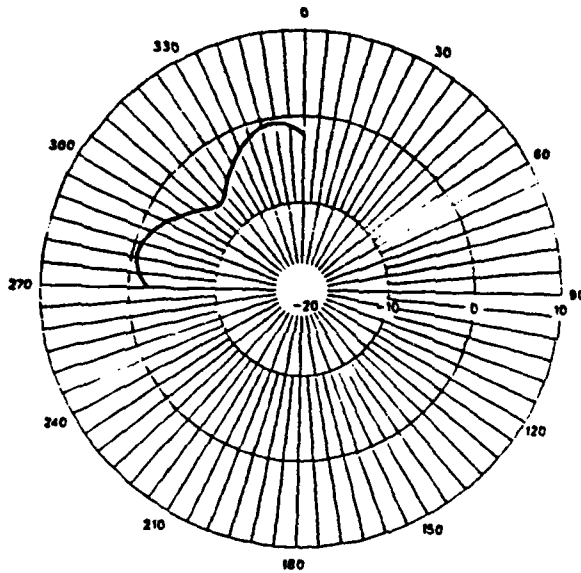
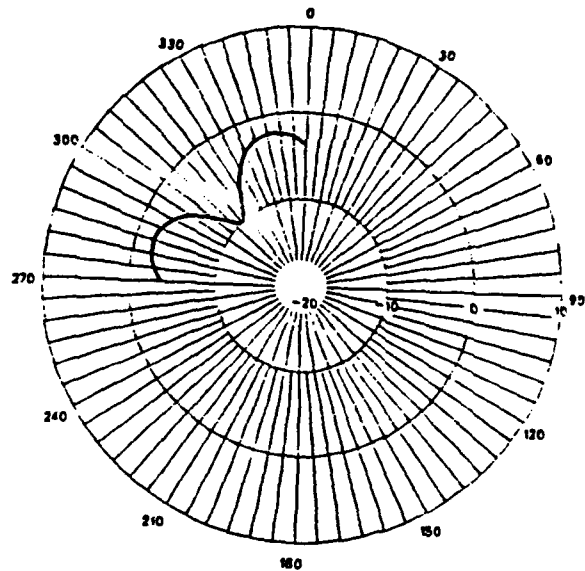


Figure 121. Azimuth patterns of the Army Highband DD antenna over perfect ground at 24 MHz

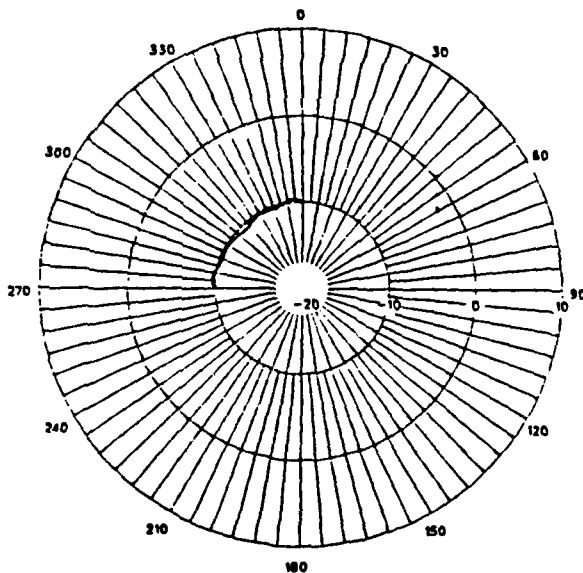
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

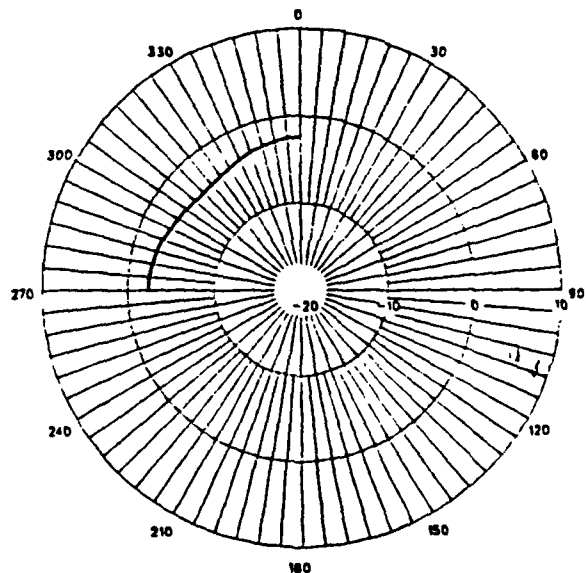
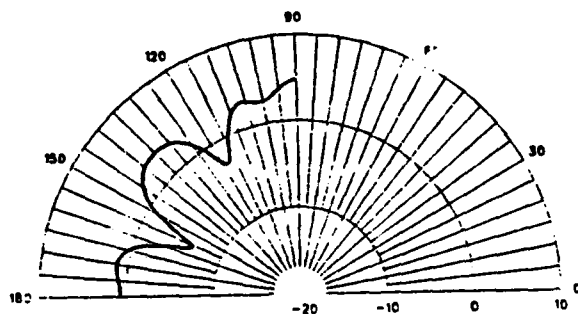
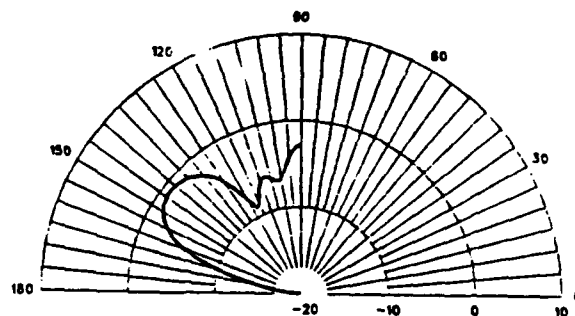


Figure 122. Azimuth patterns of the Army Highband DD antenna over fair ground at 24 MHz

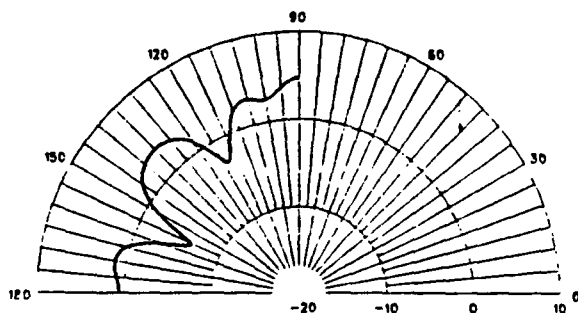
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

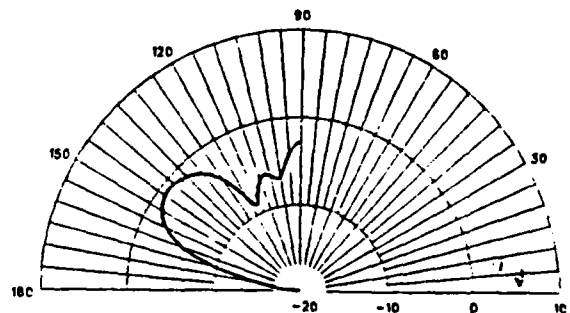
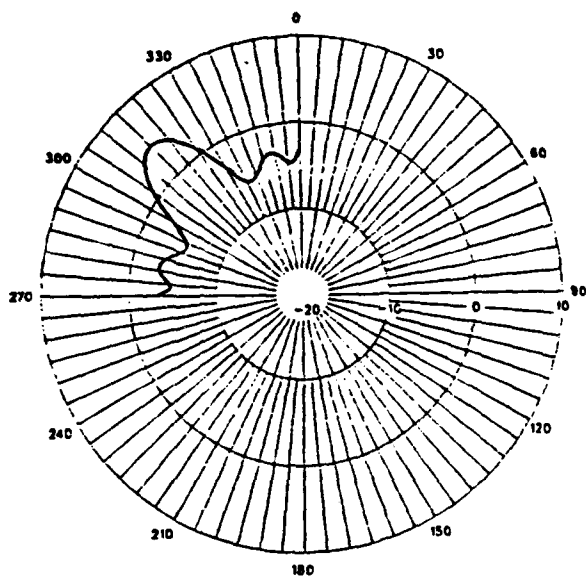
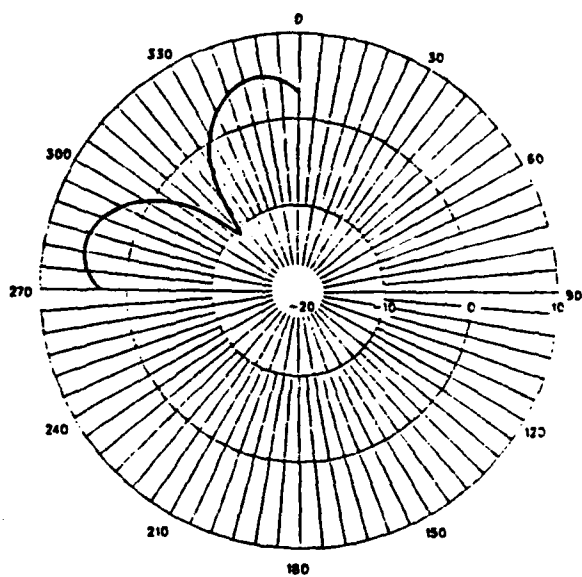


Figure 123. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 25 MHz

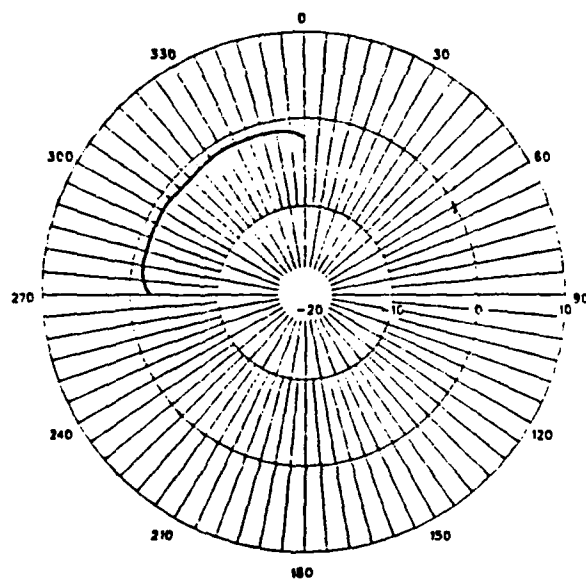
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

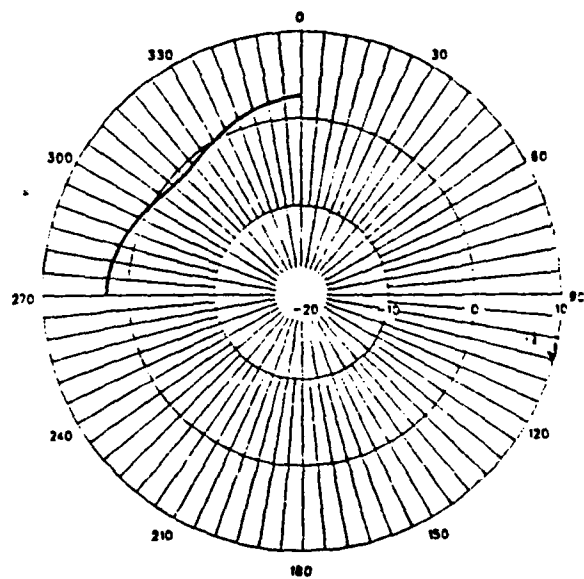
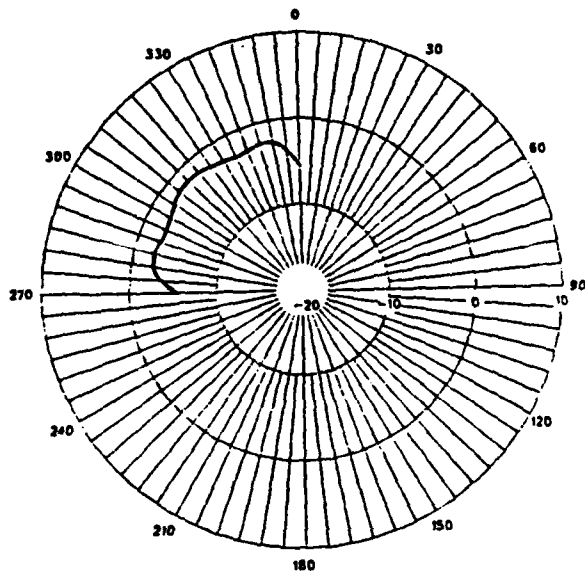
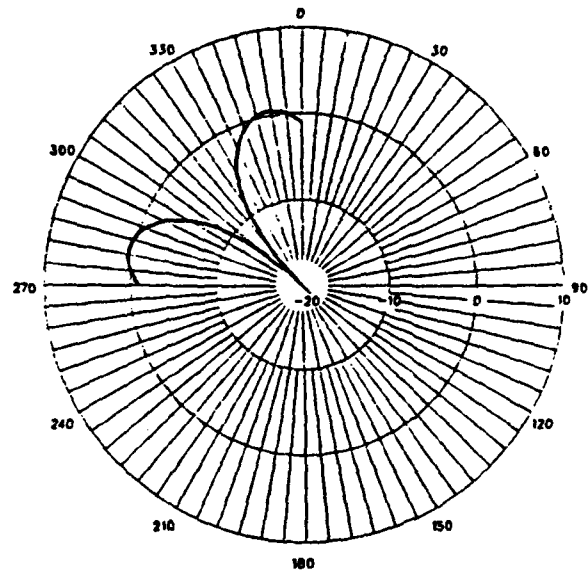


Figure 124. Azimuth patterns of the Army Highband DD antenna over perfect ground at 25 MHz

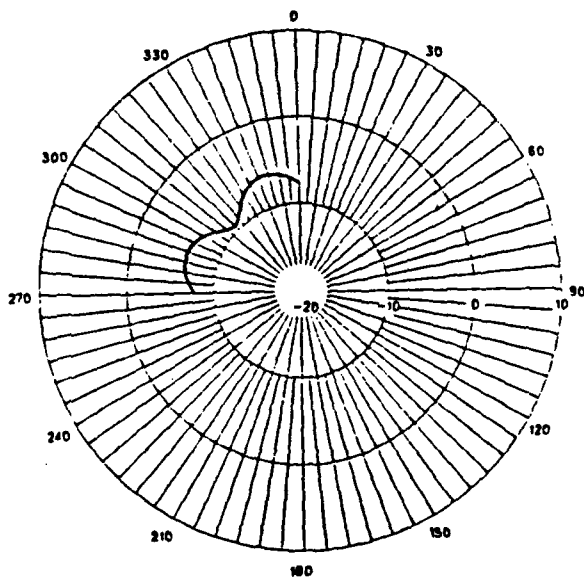
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

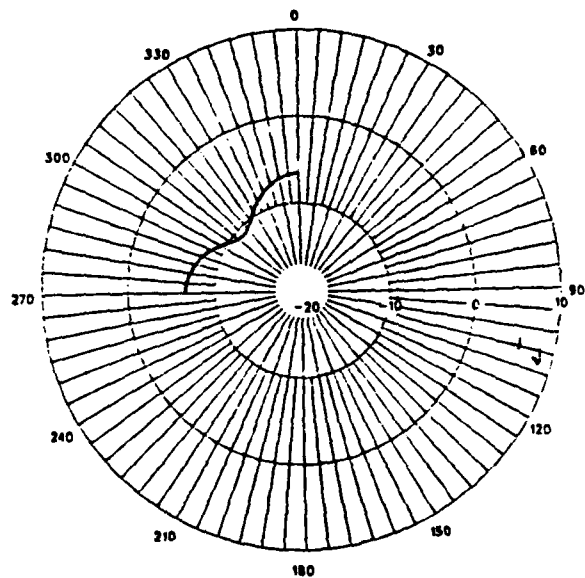
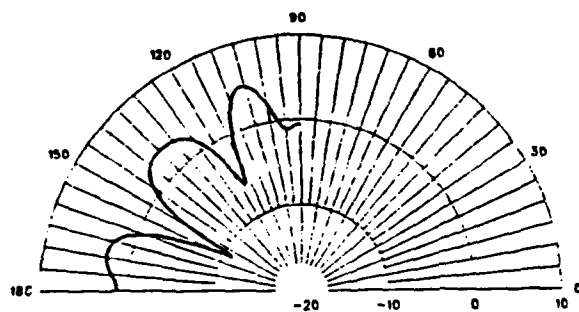
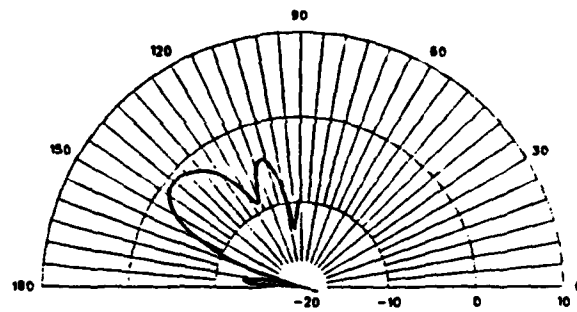


Figure 125. Azimuth patterns of the Army Highband DD antenna over fair ground at 25 MHz

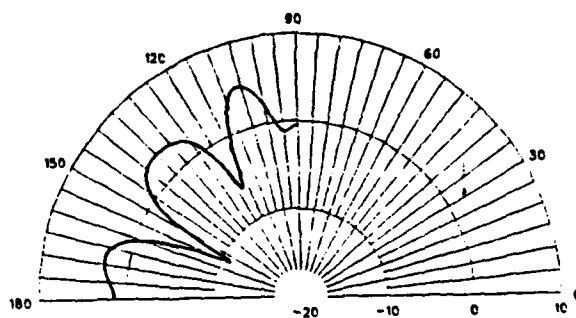
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

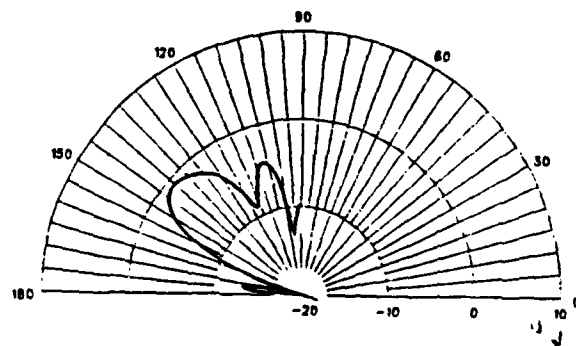
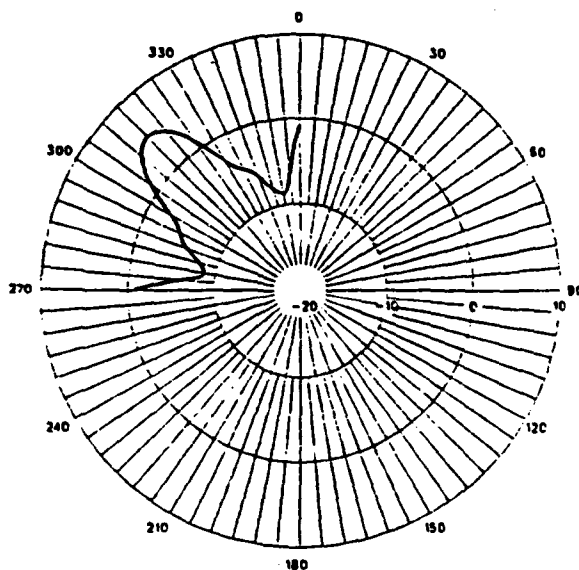
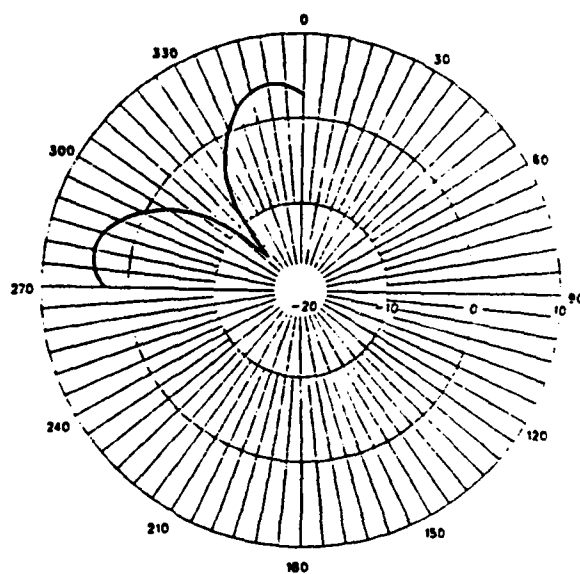


Figure 126. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 26 MHz

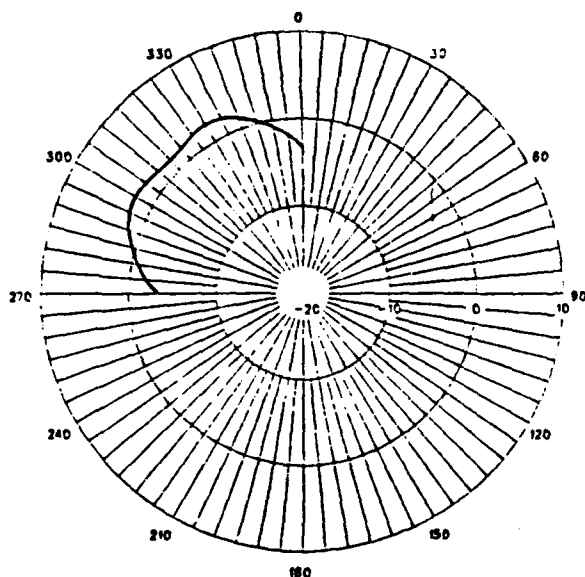
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

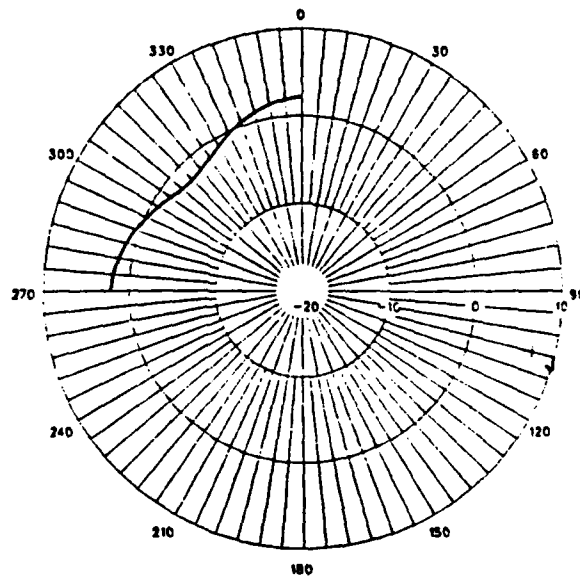
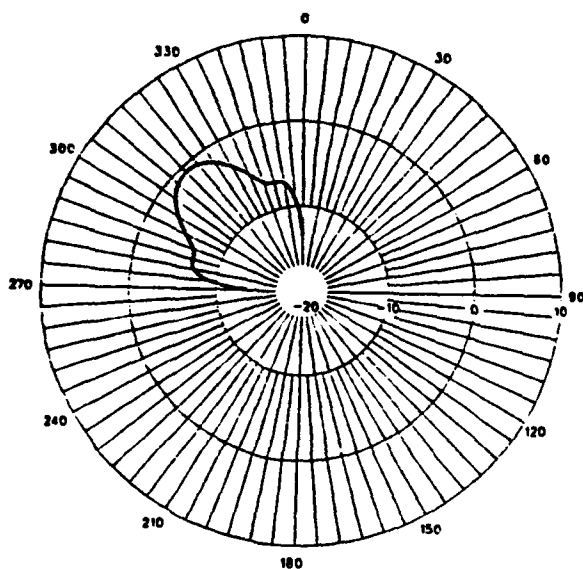
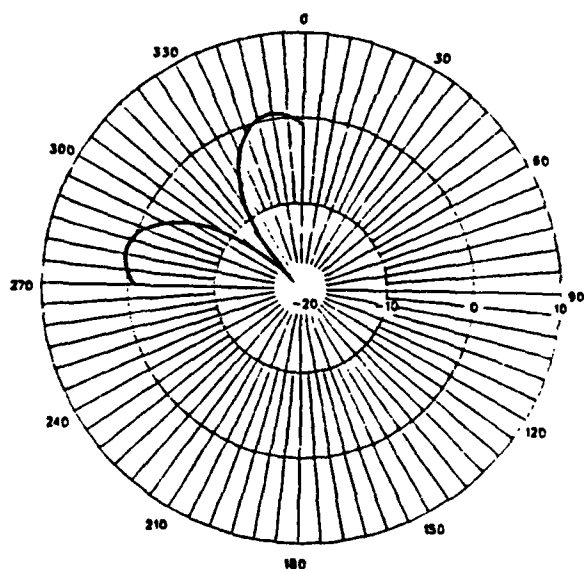


Figure 127. Azimuth patterns of the Army Highband DD antenna over perfect ground at 26 MHz.

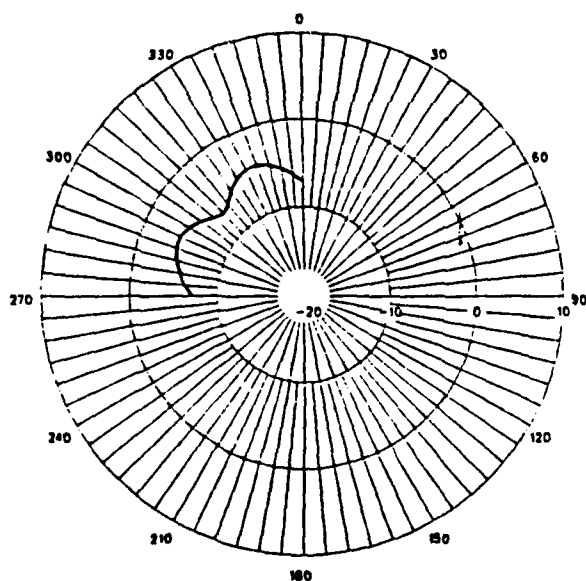
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

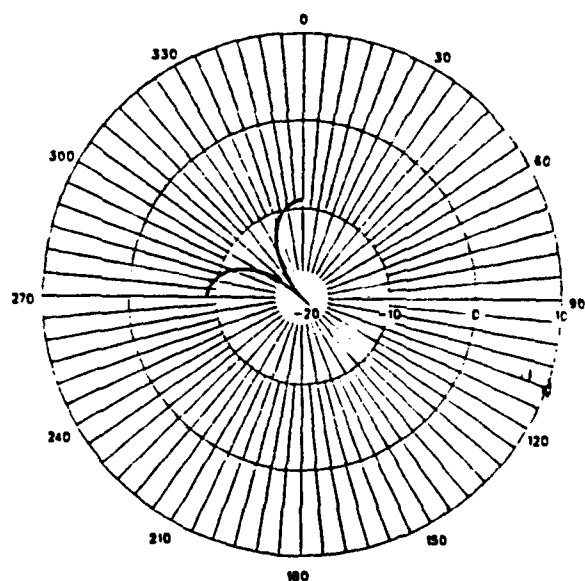
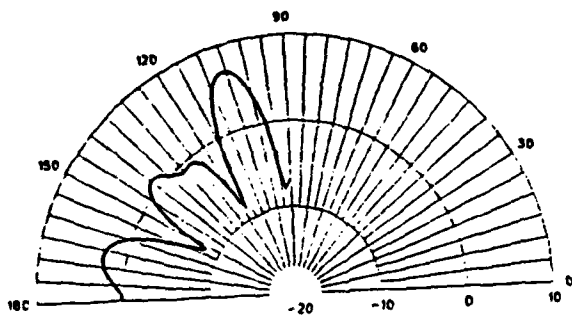
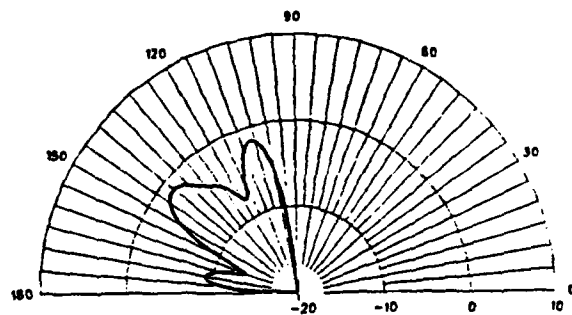


Figure 128. Azimuth patterns of the Army Highband DD antenna over fair ground at 26 MHz

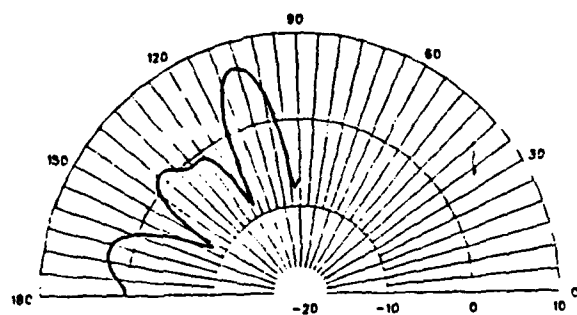
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

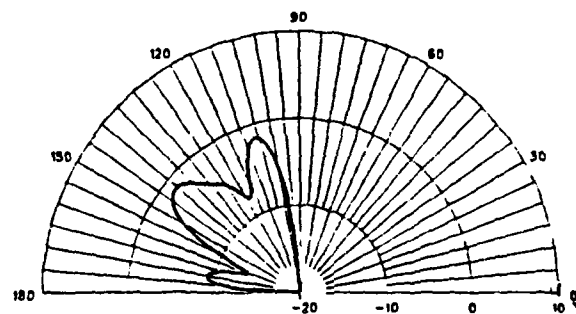
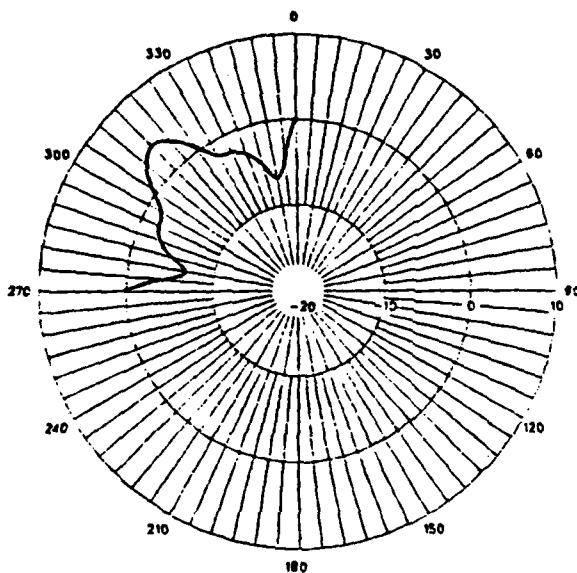
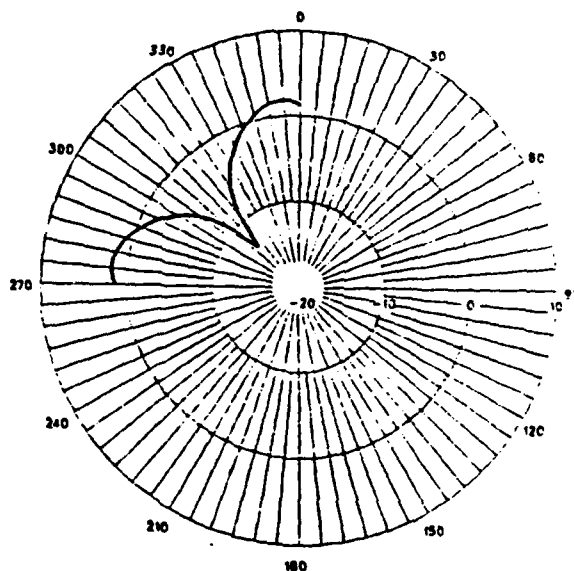


Figure 129. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 27 MHz

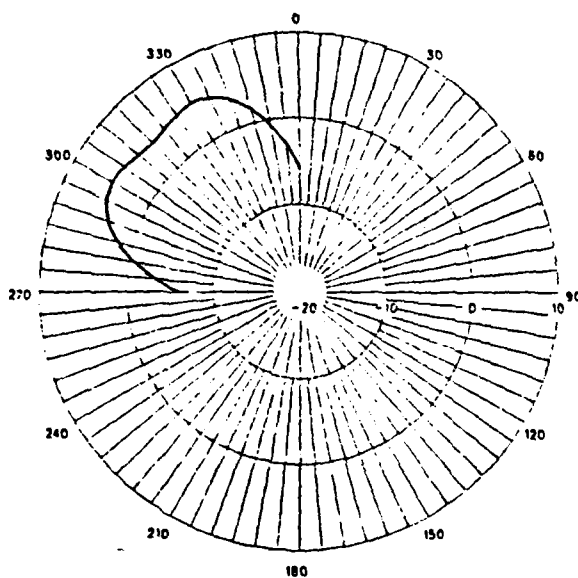
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

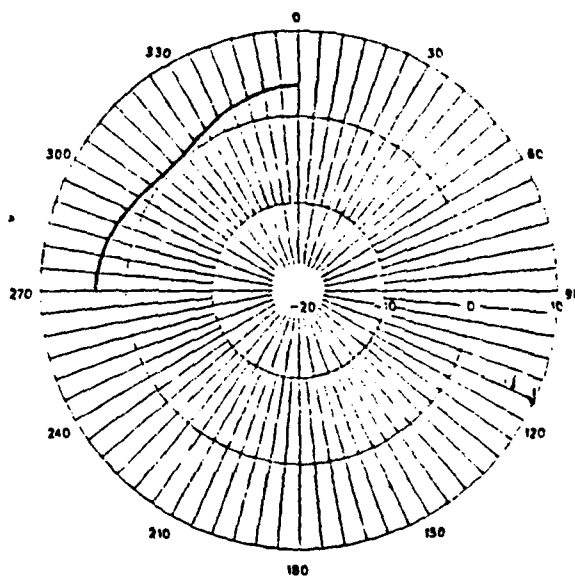
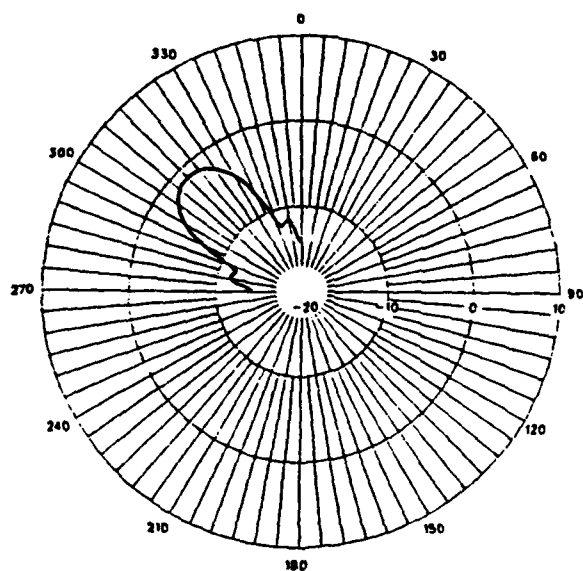
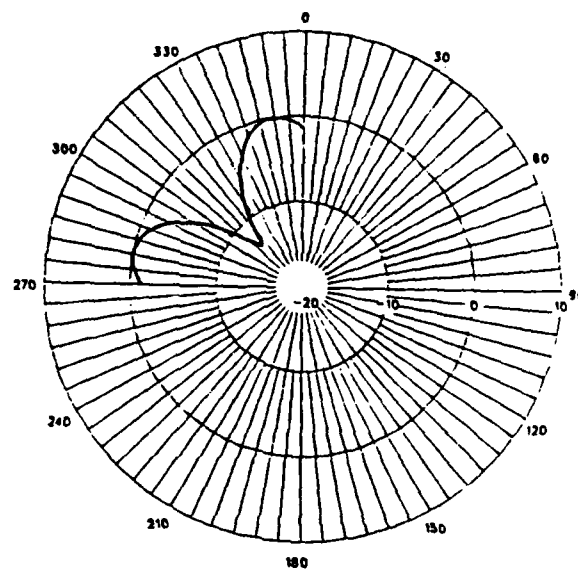


Figure 130. Azimuth patterns of the Army Highband DD antenna over perfect ground at 27 MHz

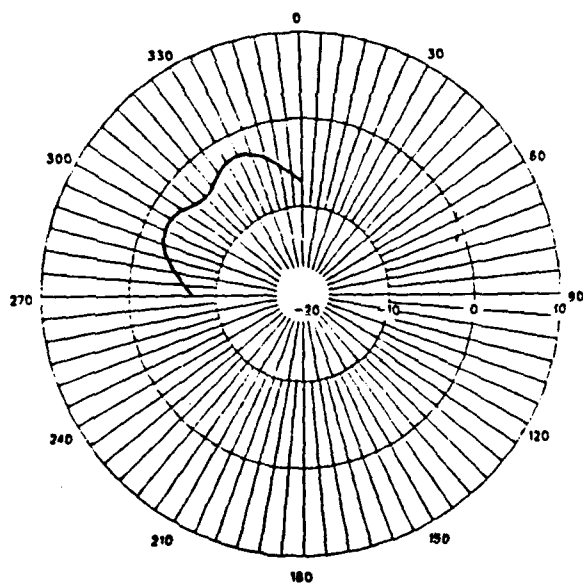
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

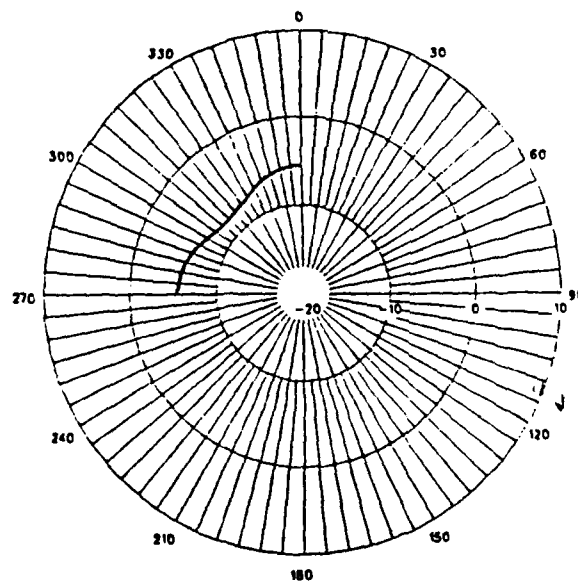
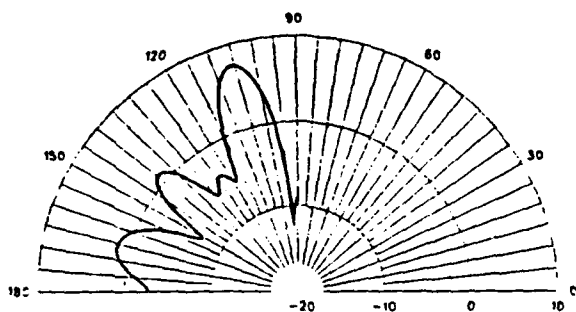
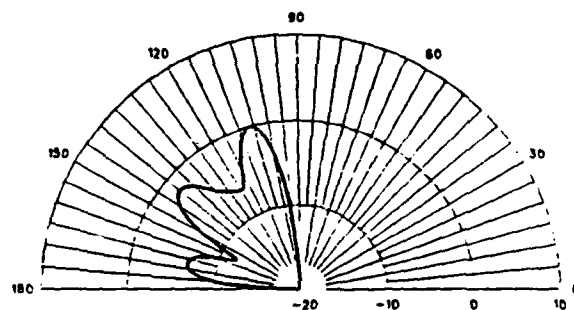


Figure 131. Azimuth patterns of the Army Highband DD antenna over fair ground at 27 MHz

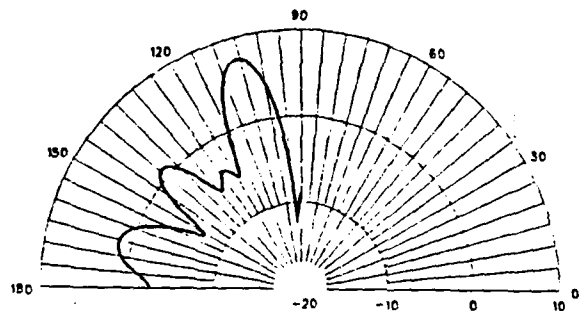
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

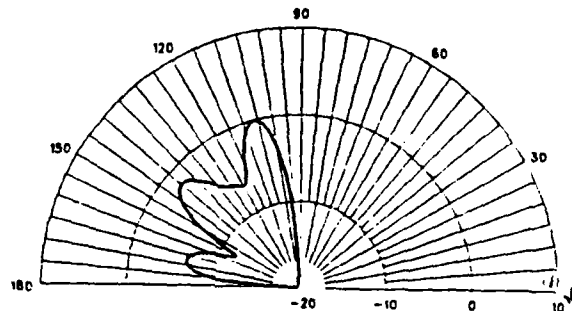
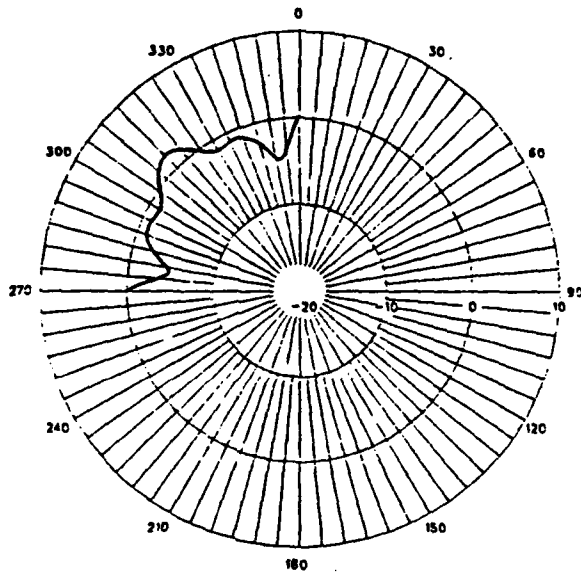
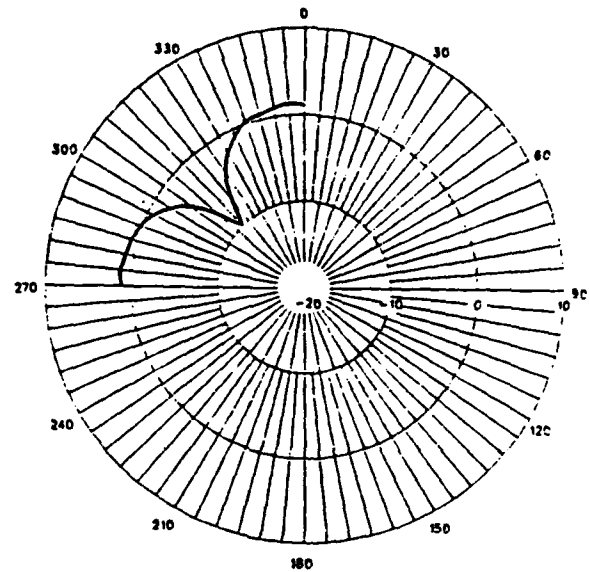


Figure 132. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 28 MHz

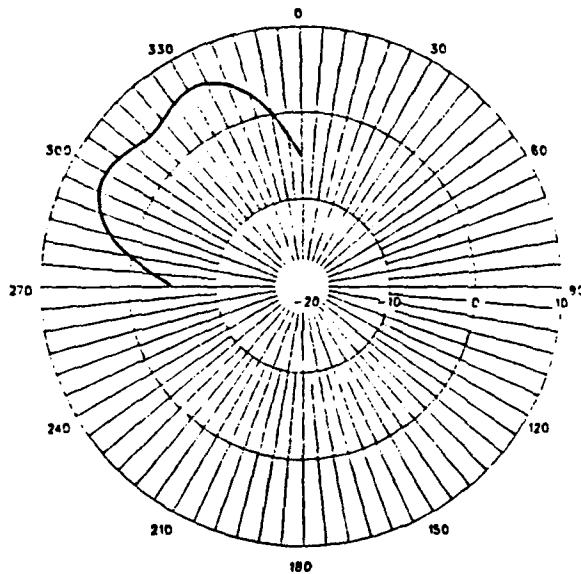
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

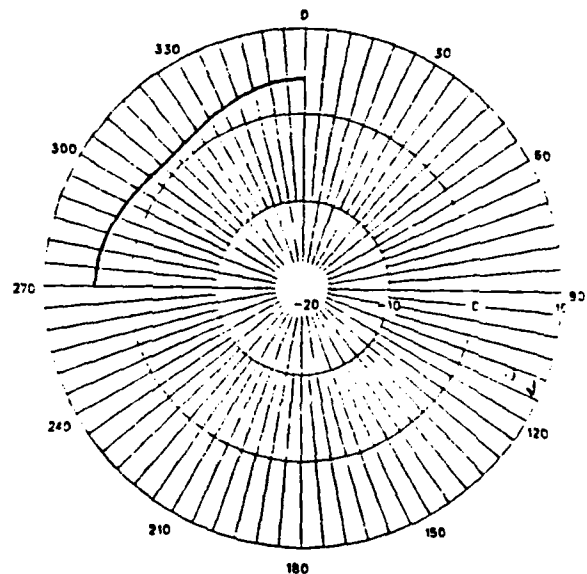
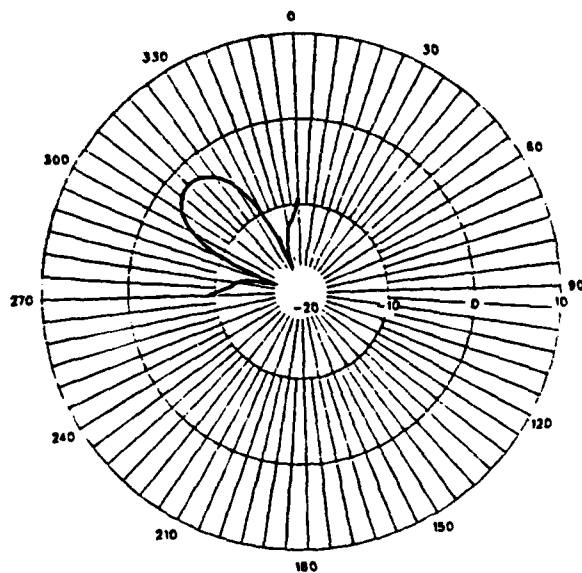
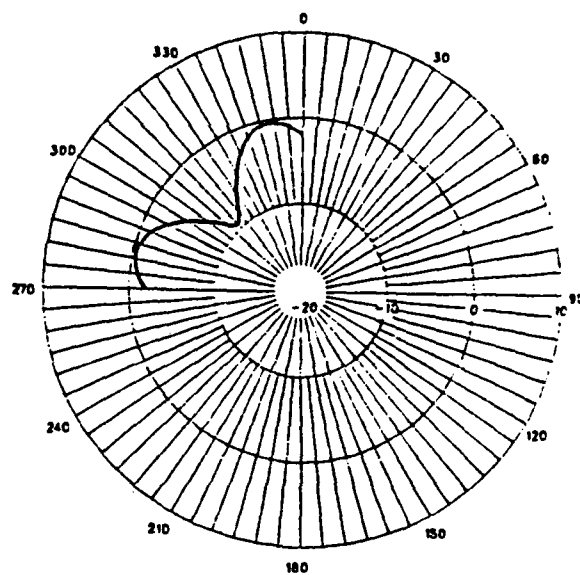


Figure 133. Azimuth patterns of the Army Highband DD antenna over perfect ground at 28 MHz

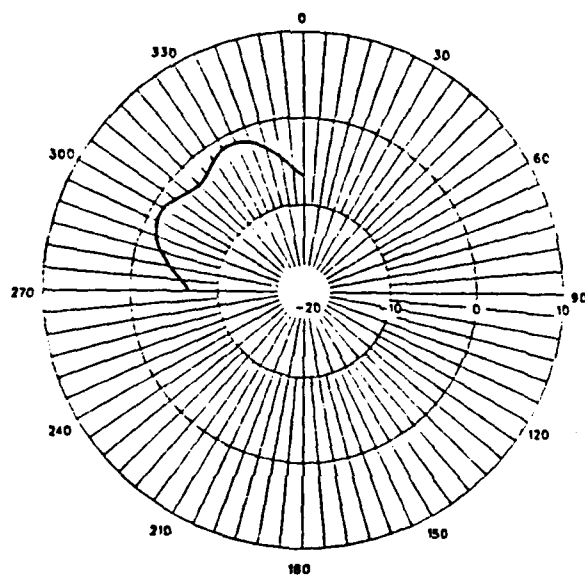
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

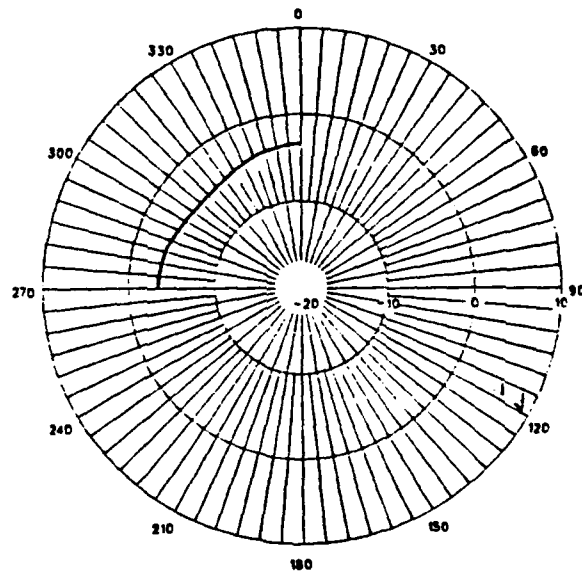


Figure 134. Azimuth patterns of the Army Highband DD antenna over fair ground at 28 MHz

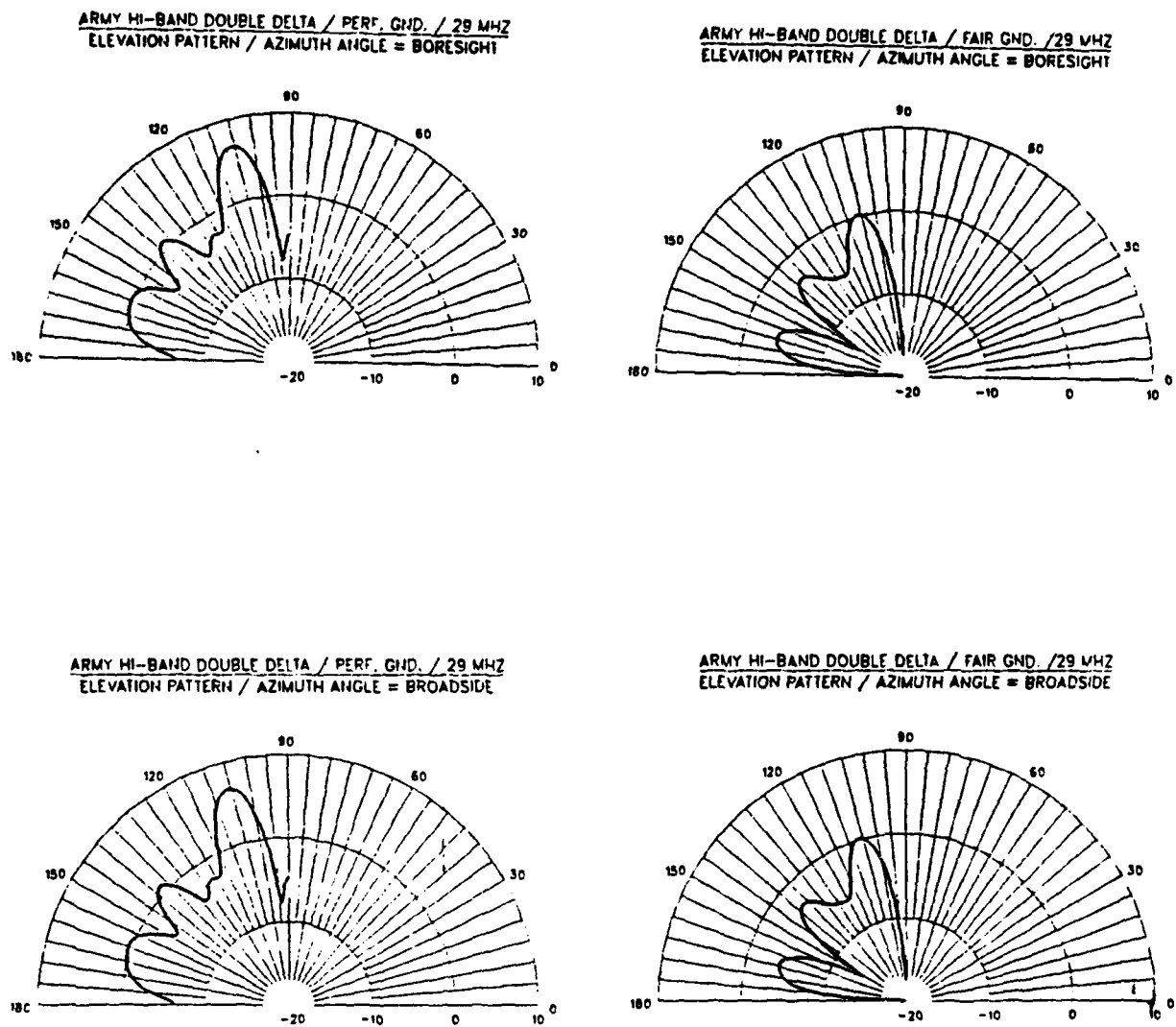


Figure 135. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 29 MHz

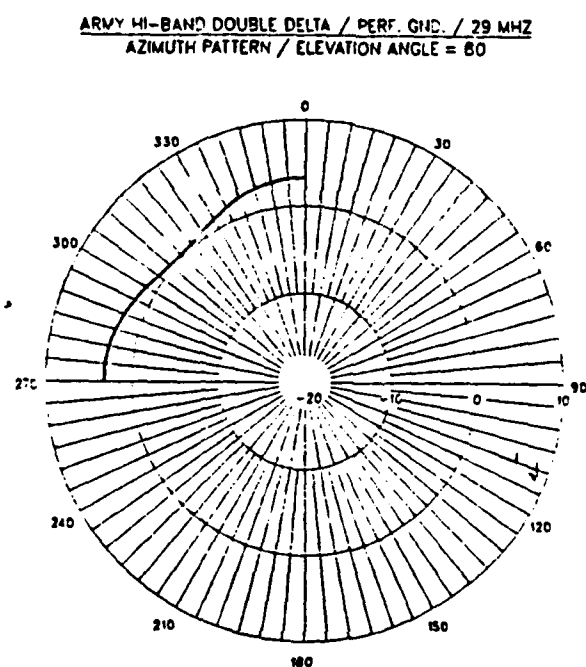
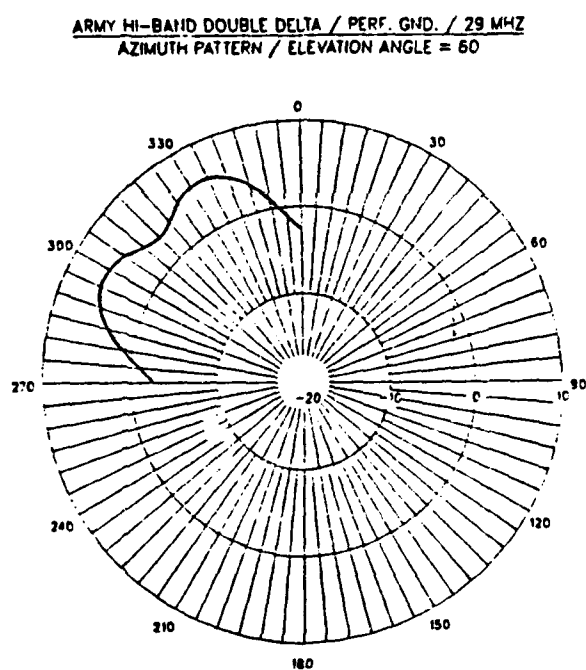
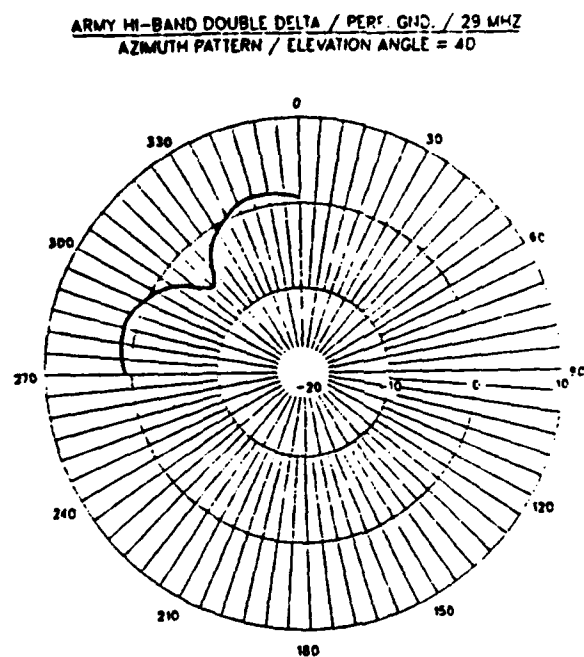
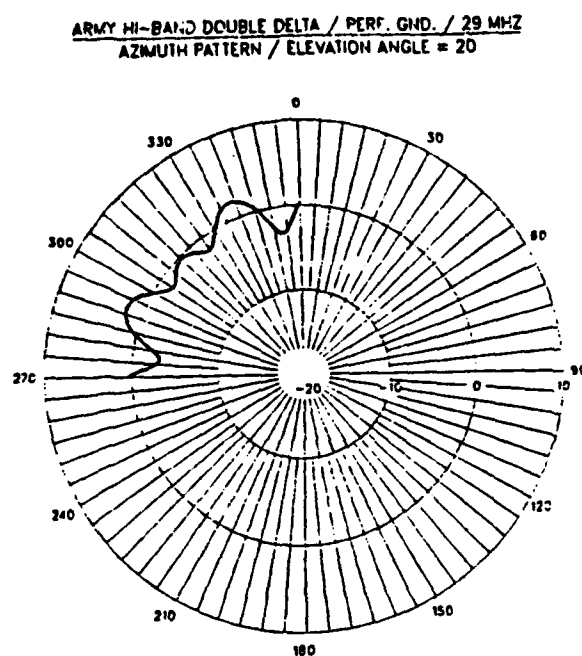
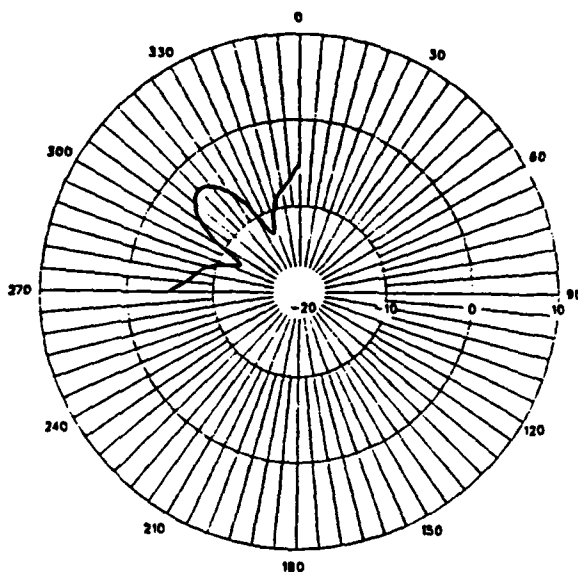
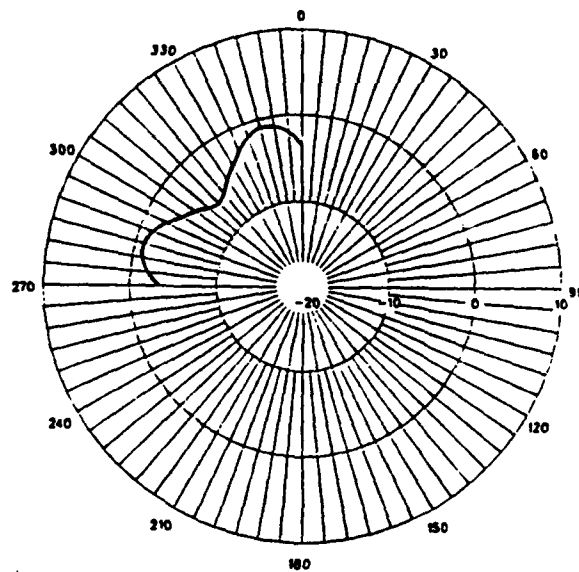


Figure 136. Azimuth patterns of the Army Highband DD antenna over perfect ground at 29 MHz

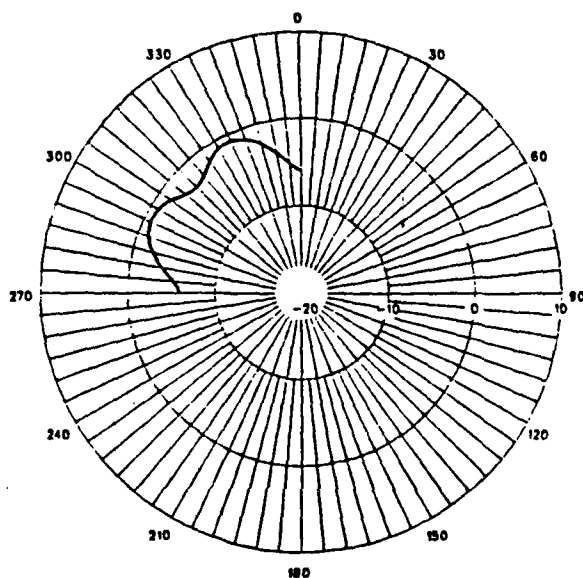
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

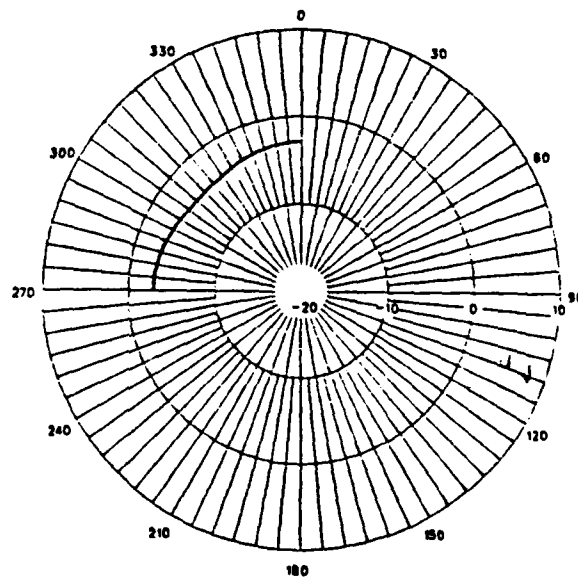
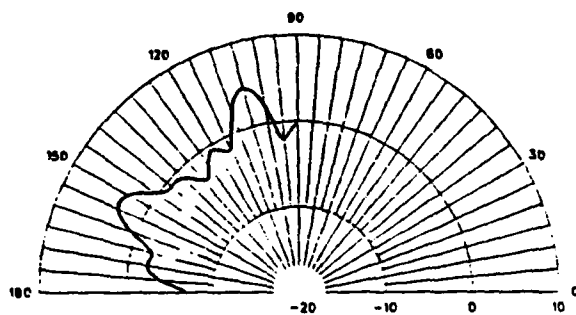
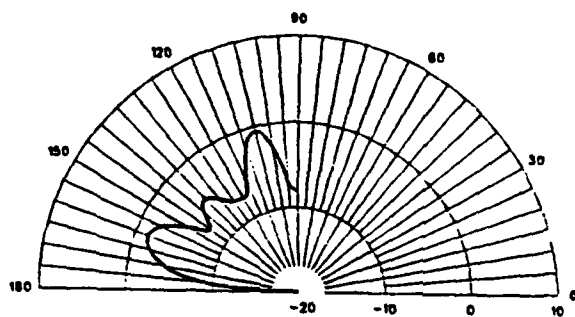


Figure 137. Azimuth patterns of the Army Highband DD antenna over fair ground at 29 MHz

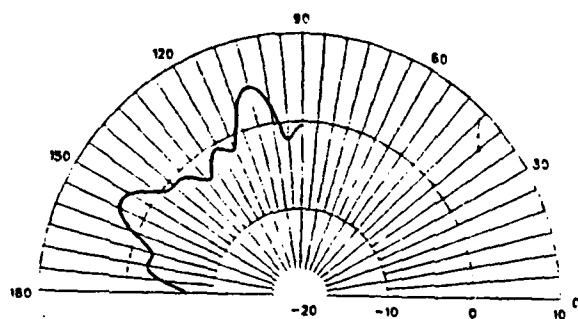
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

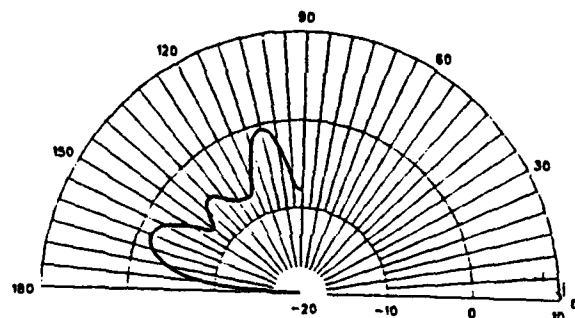
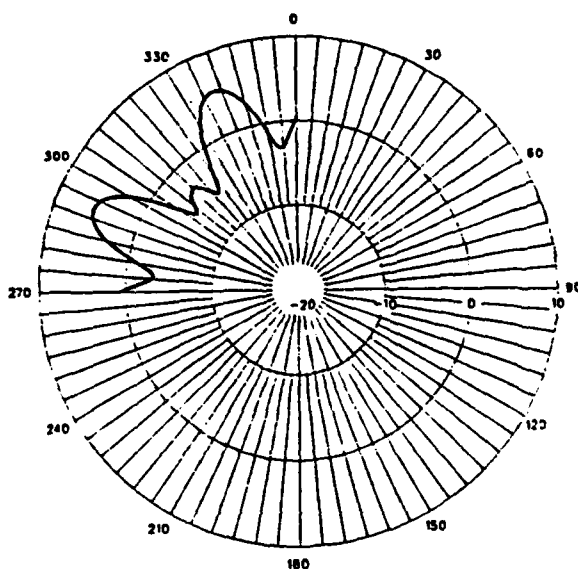
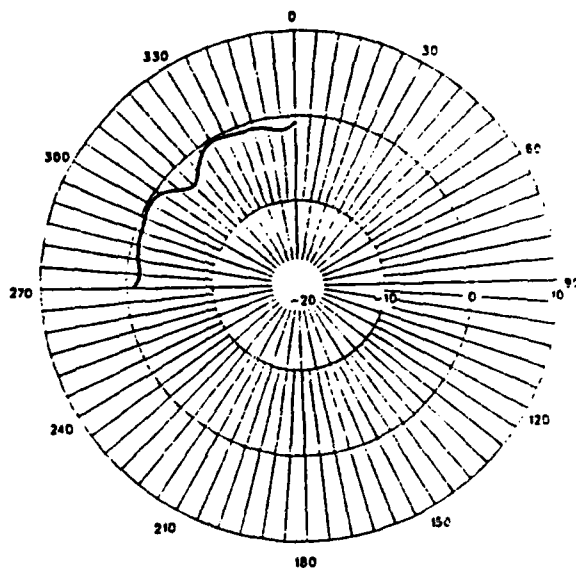


Figure 138. Elevation patterns of the Army Highband DD antenna over perfect ground and fair ground at 30 MHz

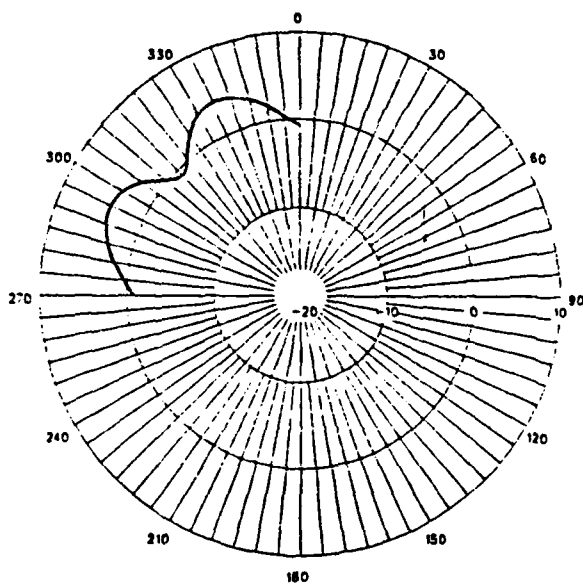
ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 80

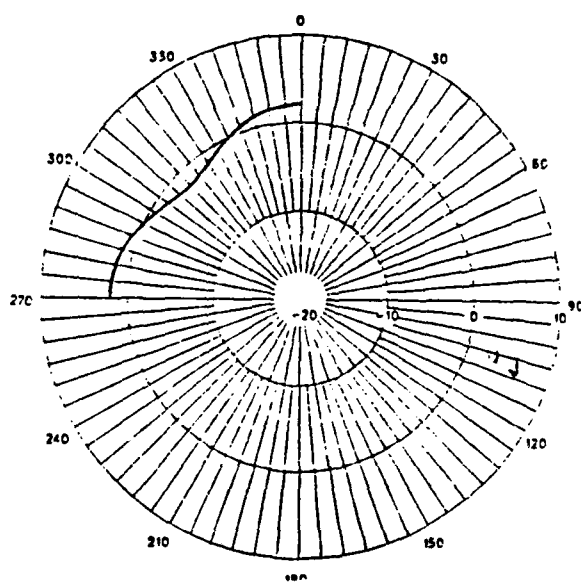
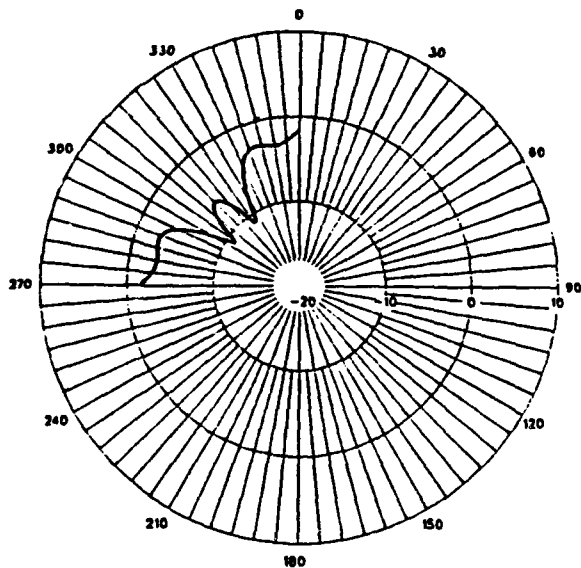
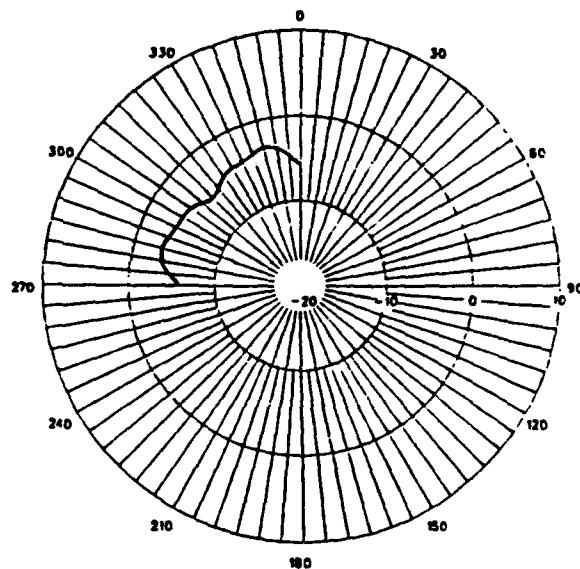


Figure 139. Azimuth patterns of the Army Highband DD antenna over perfect ground at 30 MHz

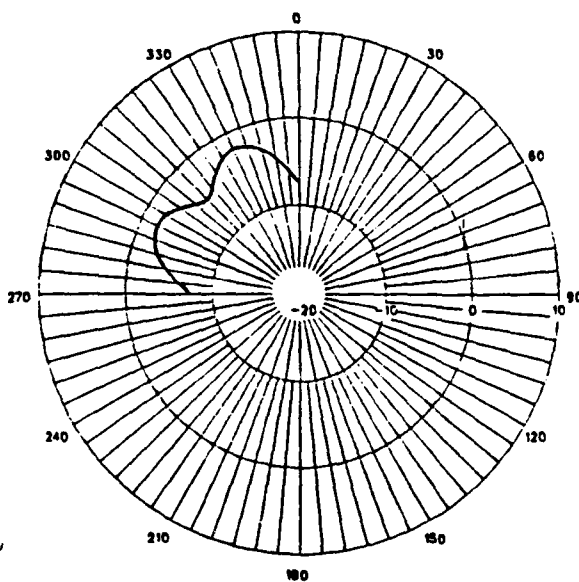
ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ARMY HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

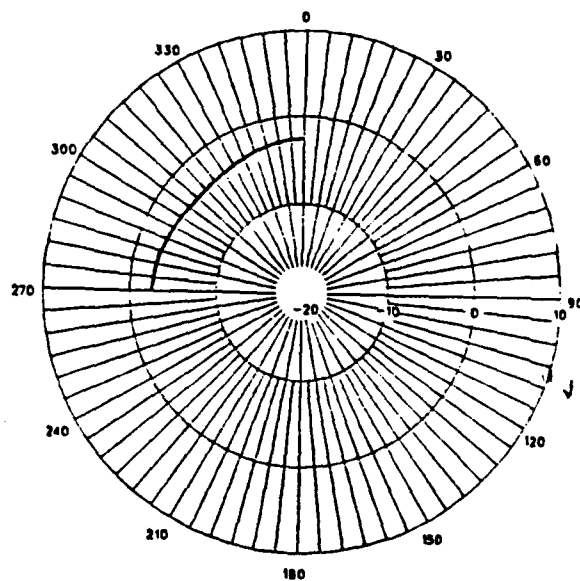


Figure 140. Azimuth patterns of the Army Highband DD antenna over fair ground at 30 MHz

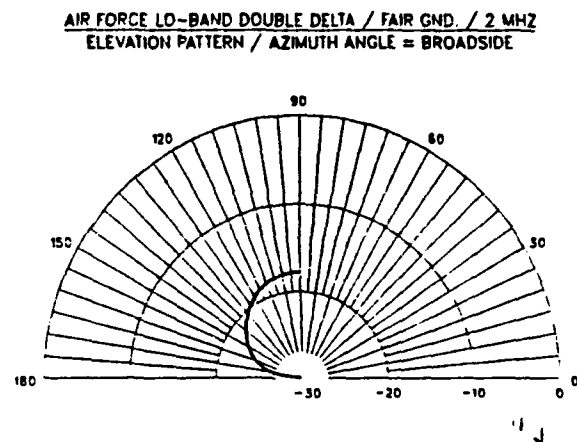
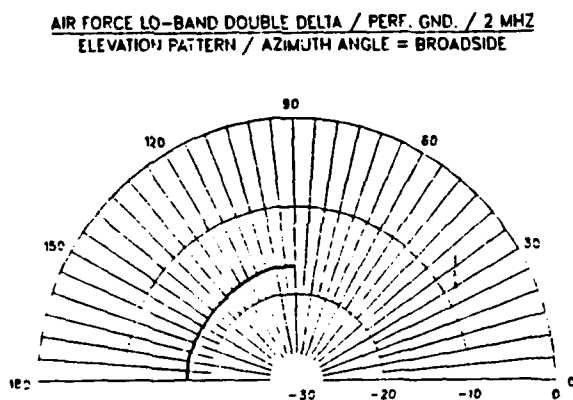
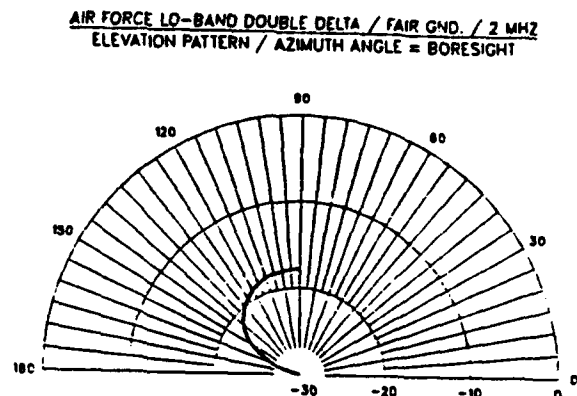
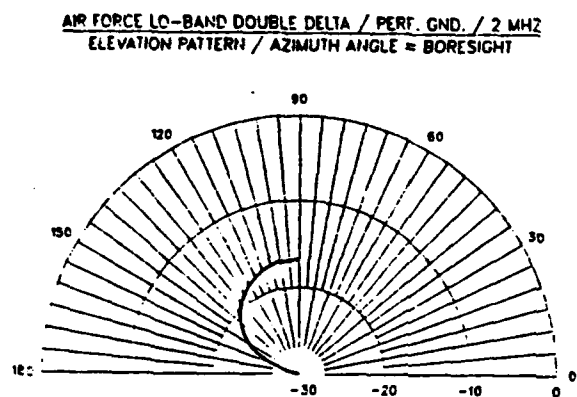
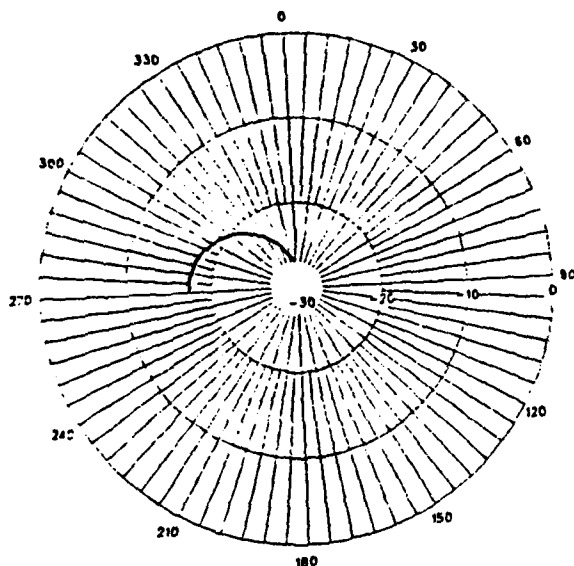
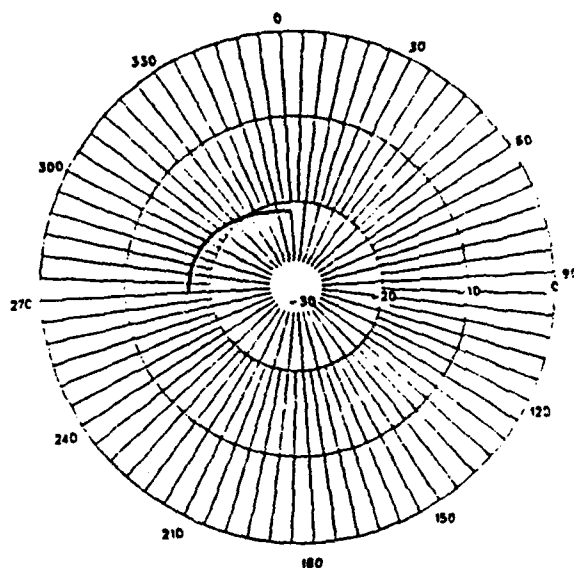


Figure 141. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 2 MHz

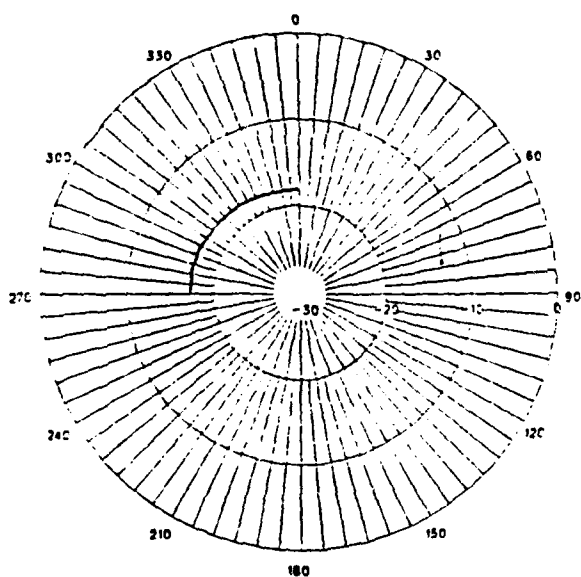
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

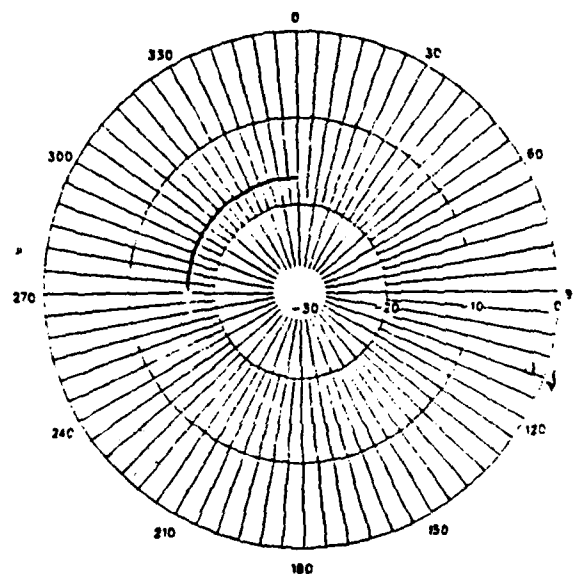
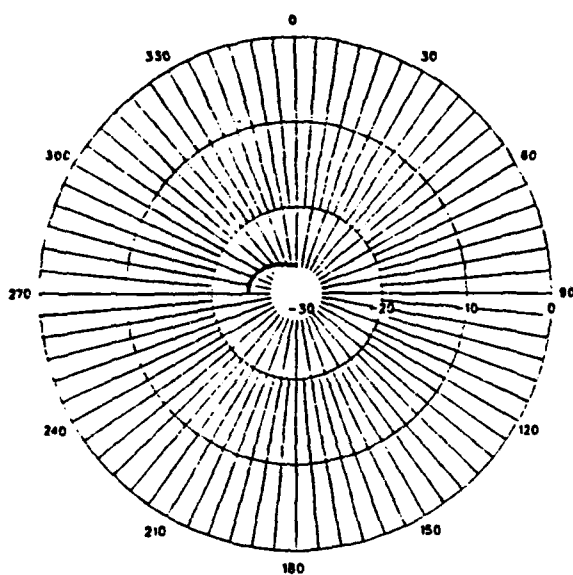
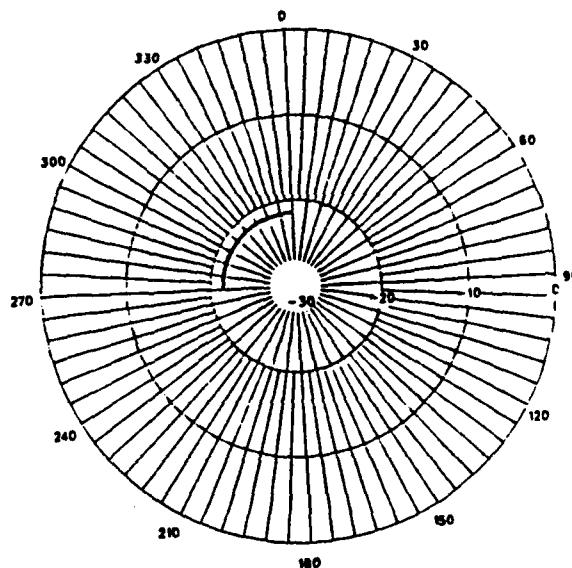


Figure 142. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 2 MHz

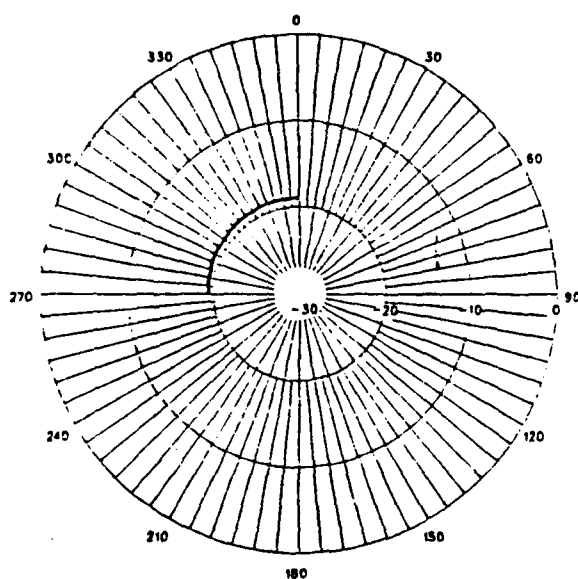
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

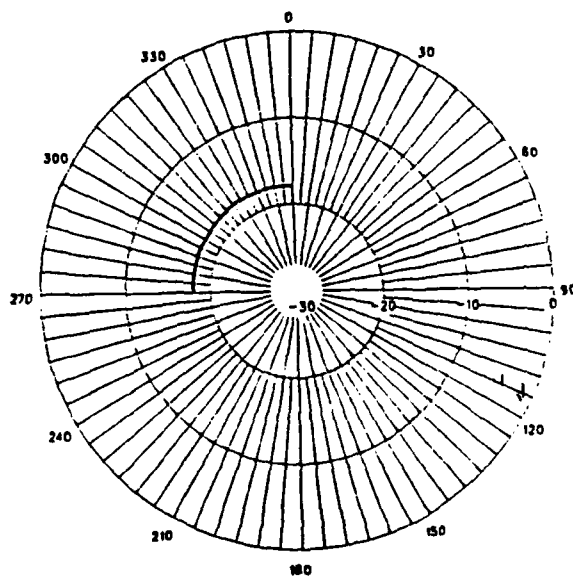


Figure 143. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 2 MHz

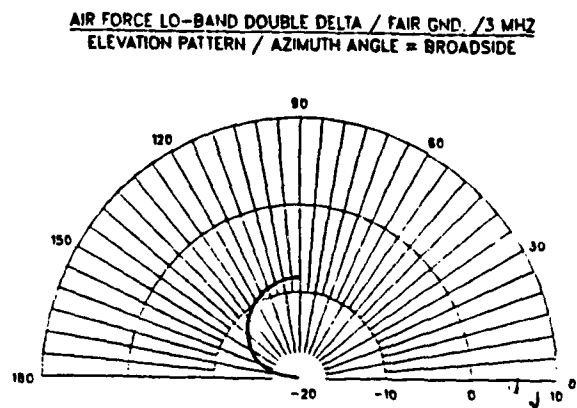
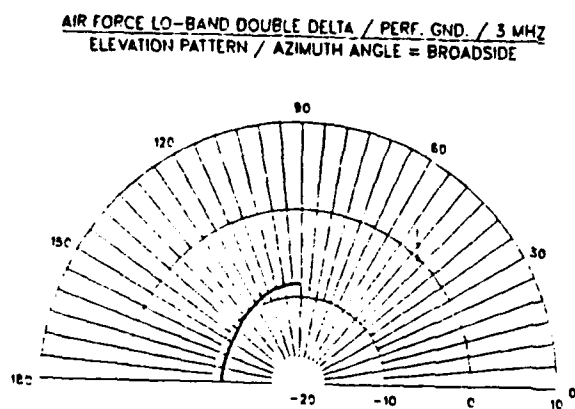
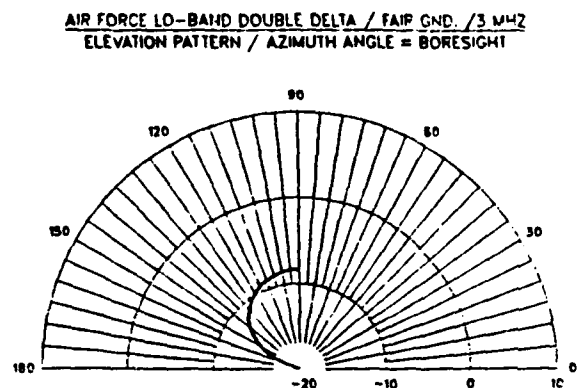
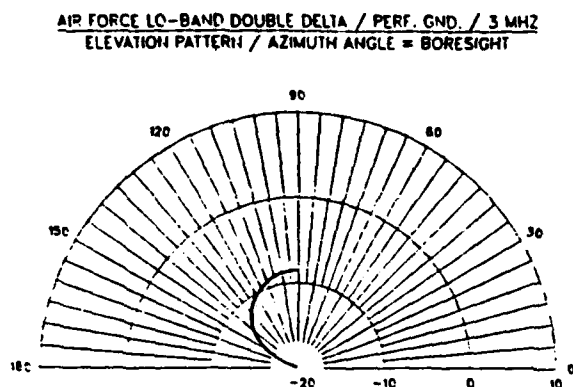
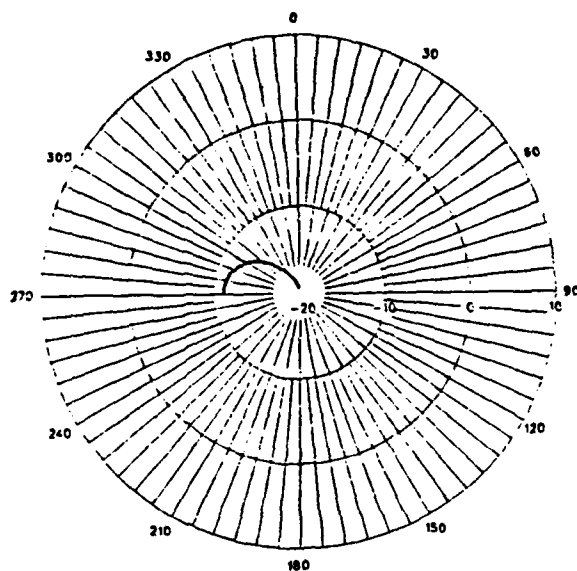
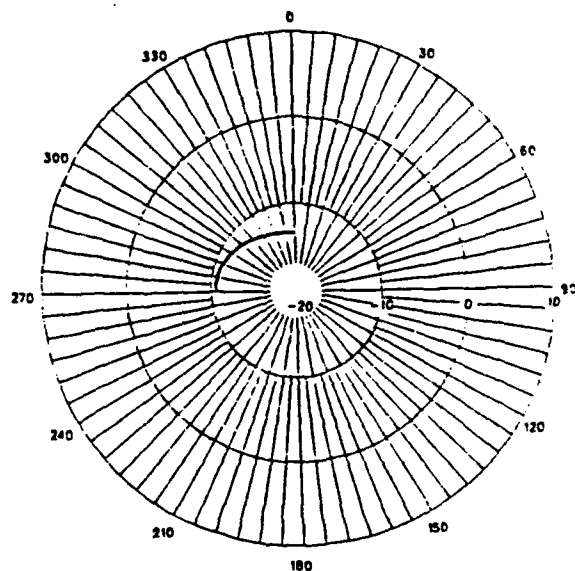


Figure 144. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 3 MHz

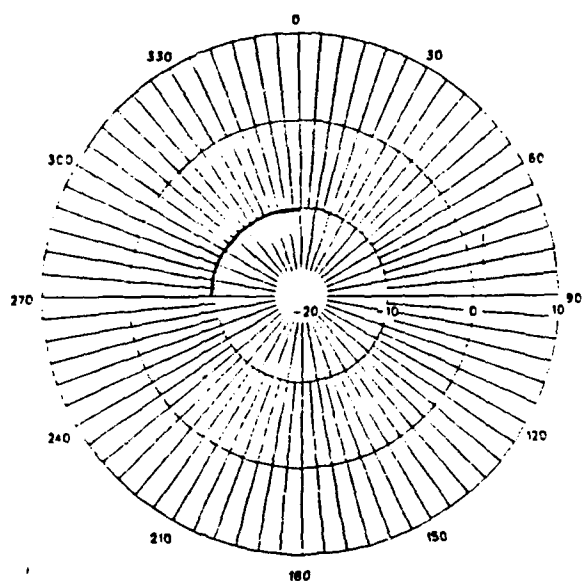
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

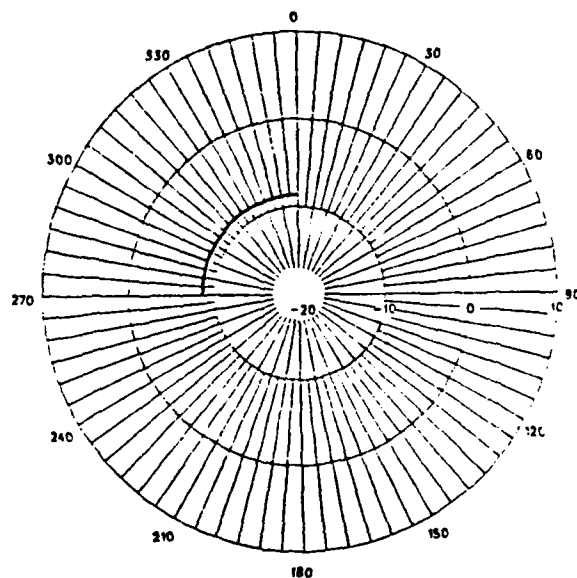
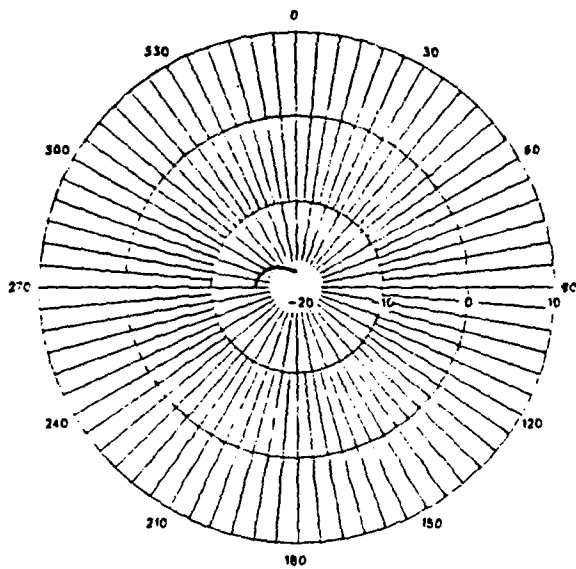
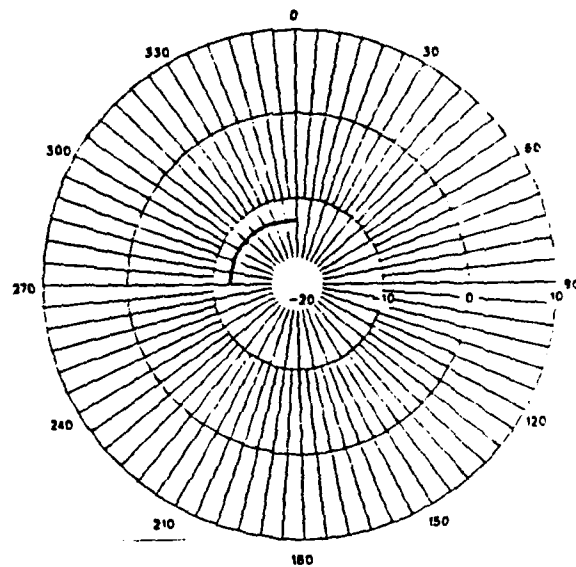


Figure 145. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 3 MHz

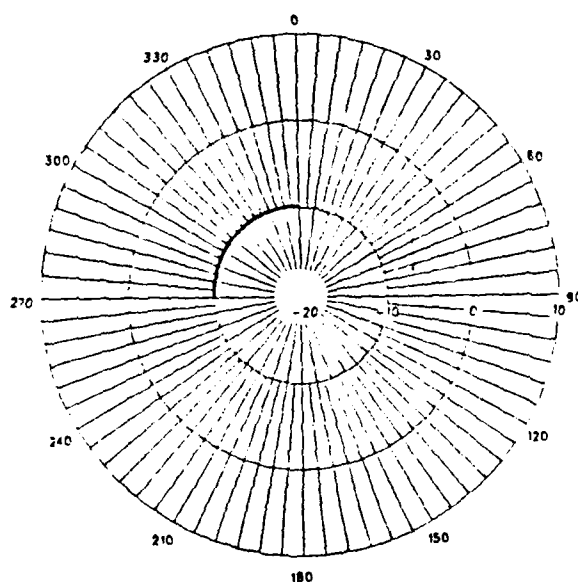
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

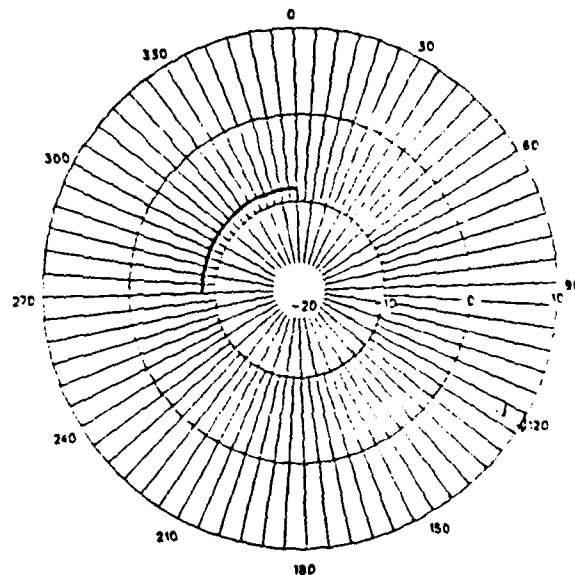
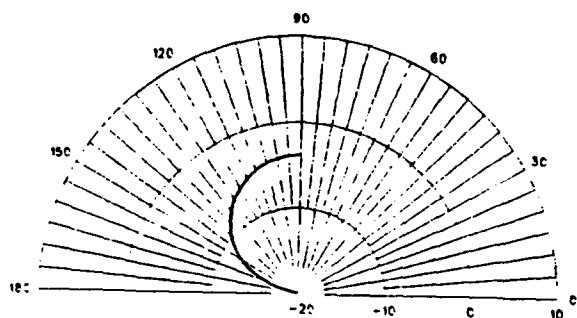
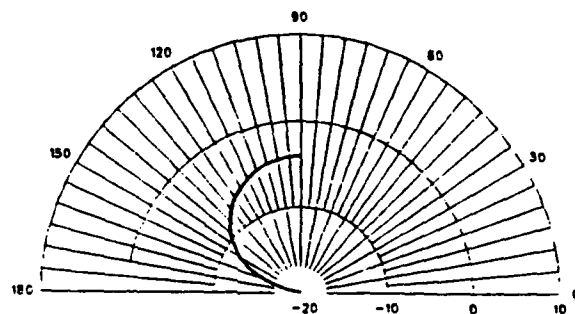


Figure 146. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 3 MHz

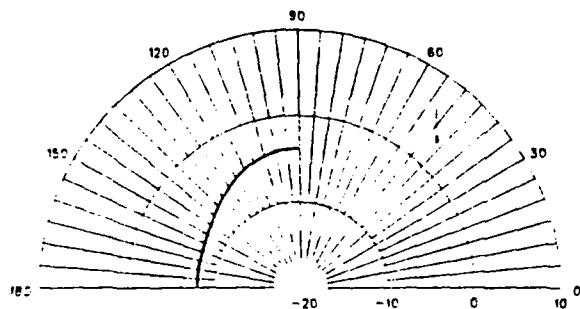
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

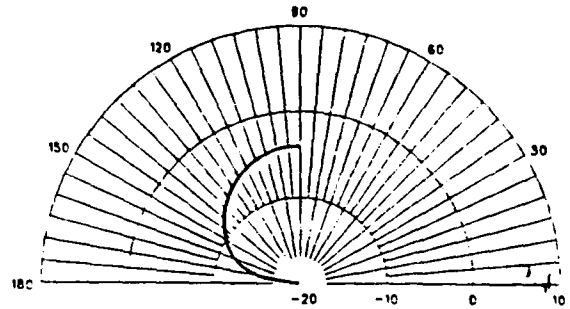
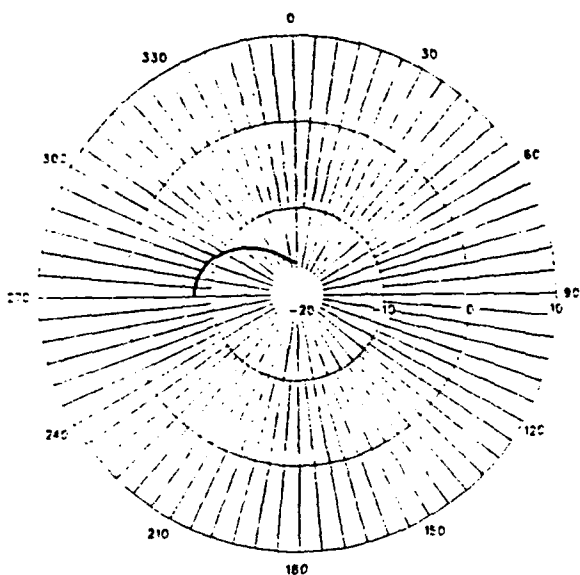
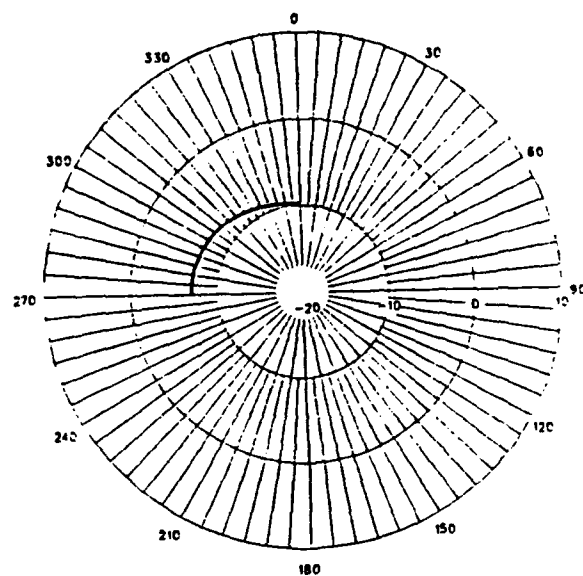


Figure 147. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 4 MHz

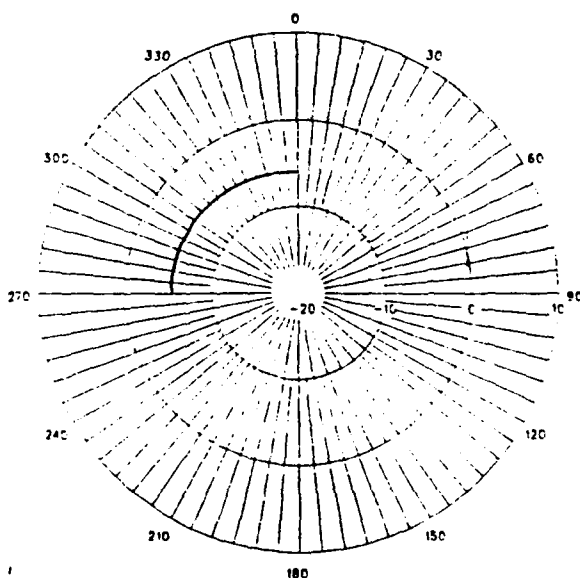
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

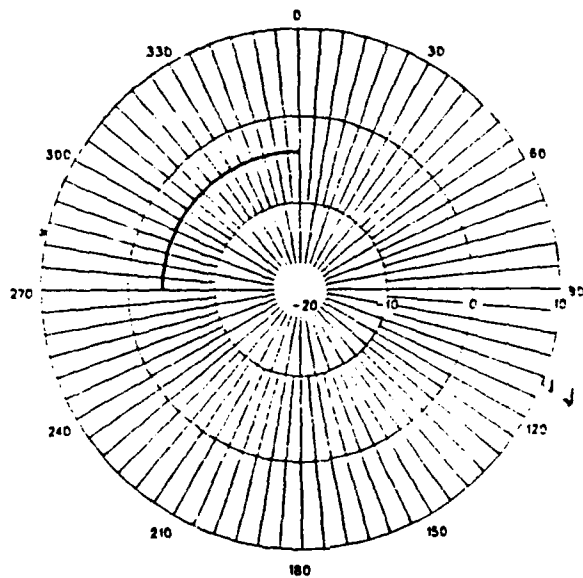
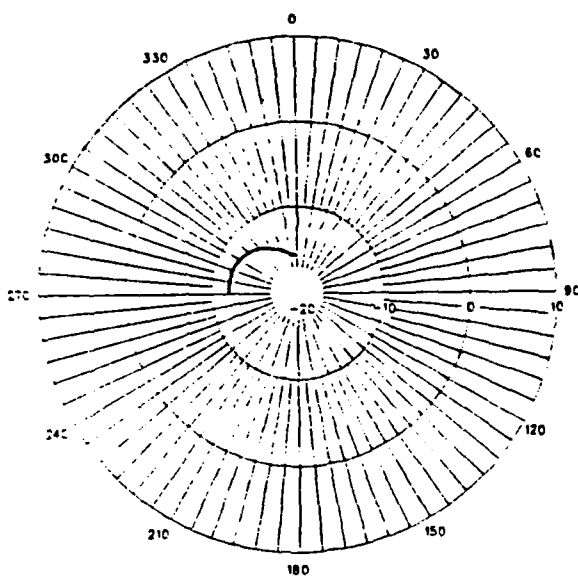
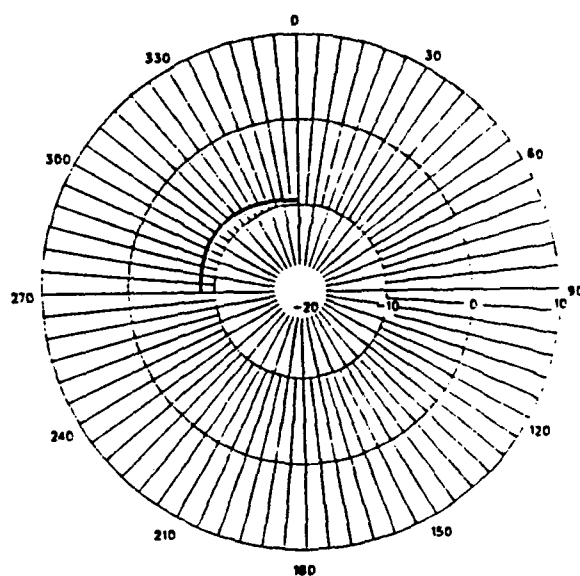


Figure 148. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 4 MHz

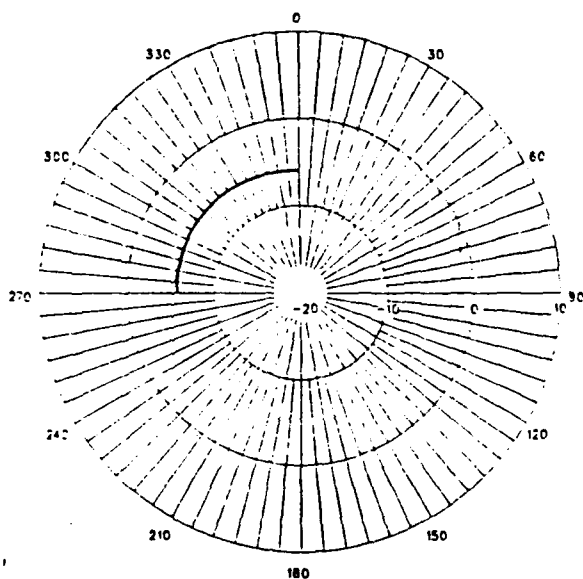
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

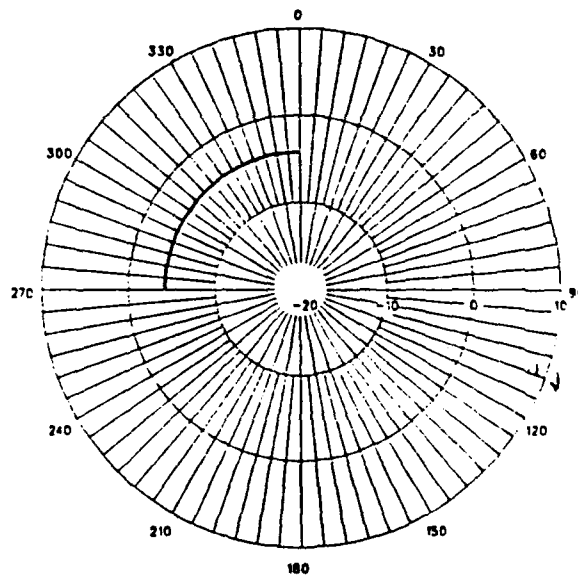
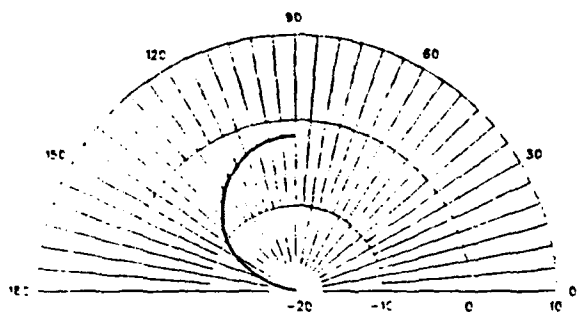
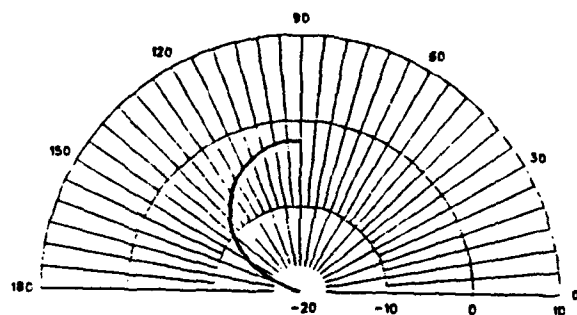


Figure 149. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 4 MHz

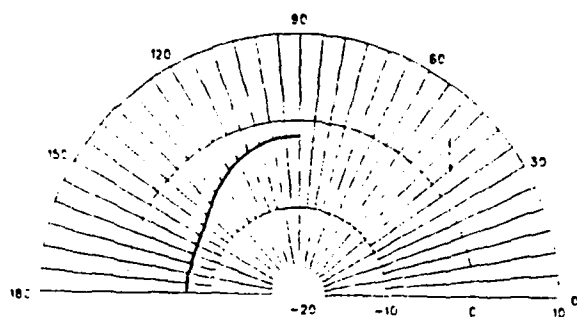
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

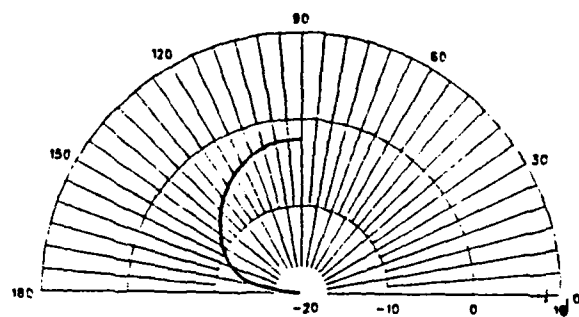
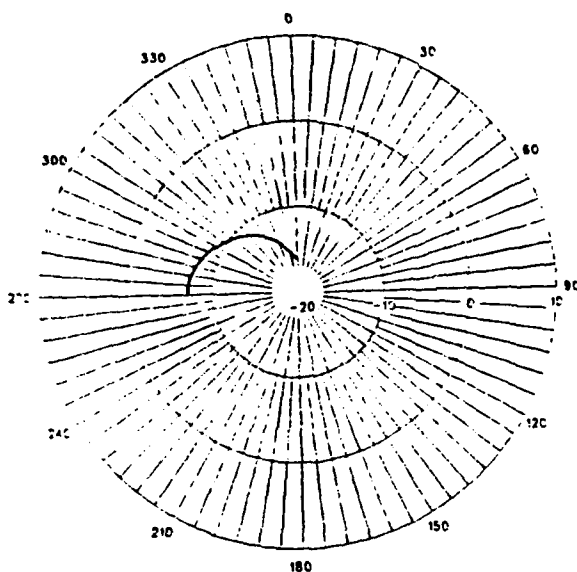
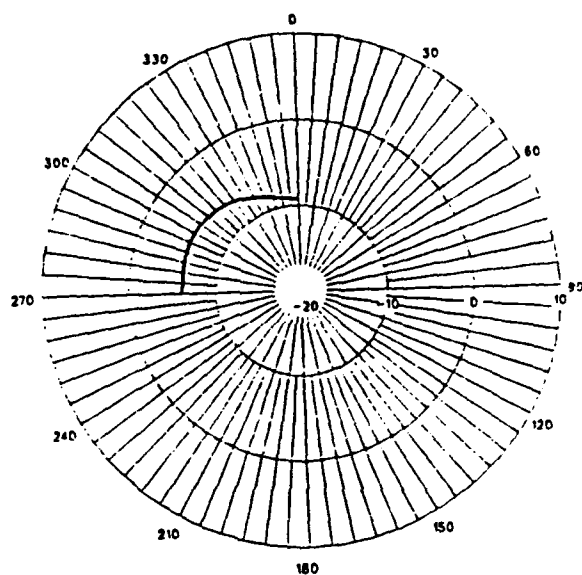


Figure 150. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 5 MHz

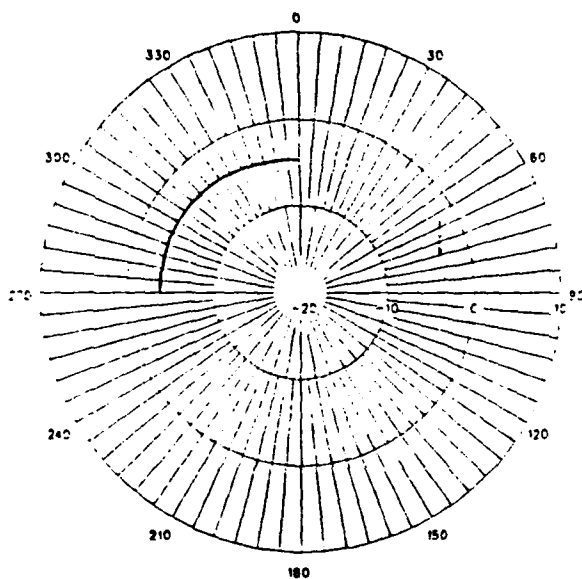
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

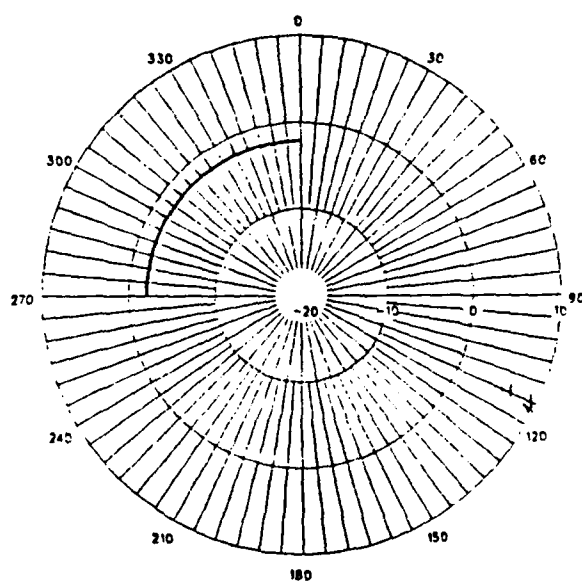
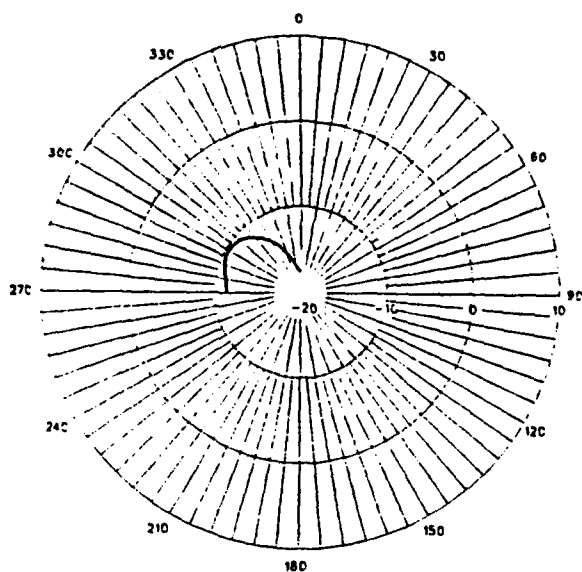
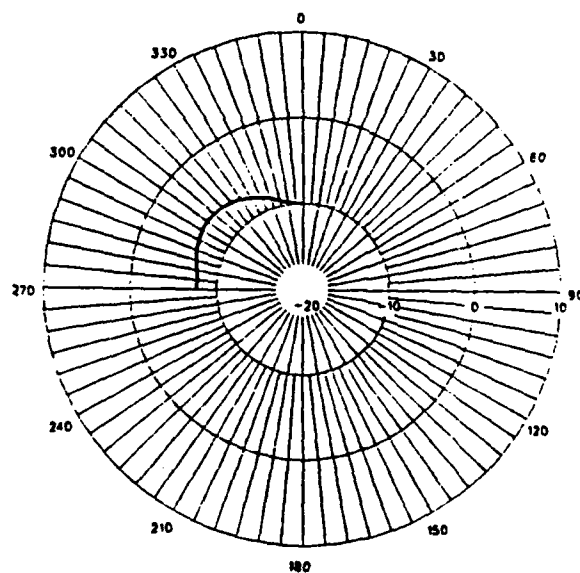


Figure 151. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 5 MHz

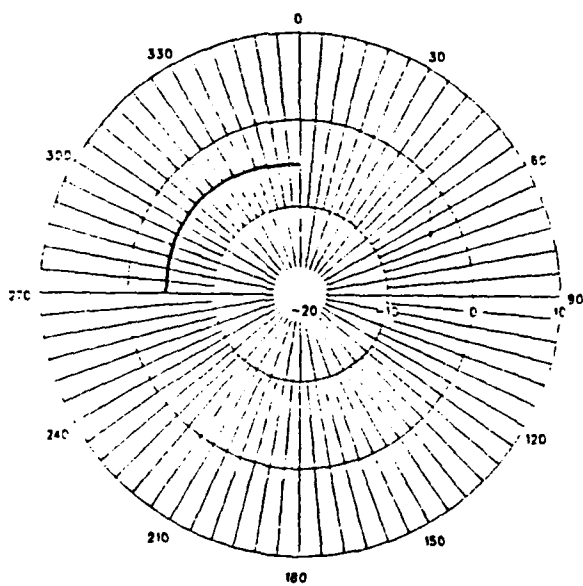
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

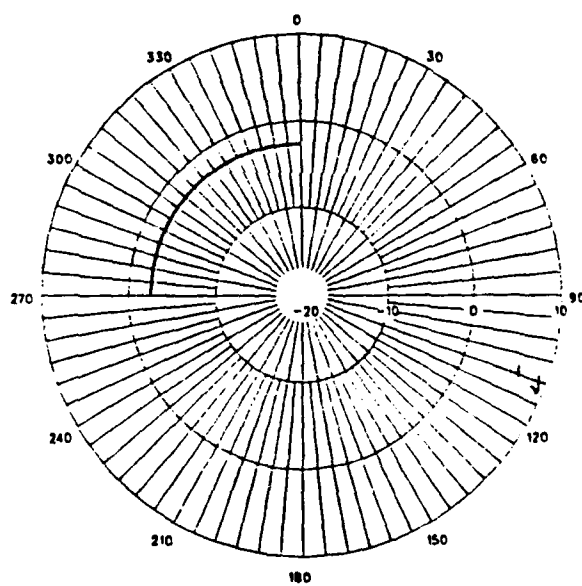


Figure 152. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 5 MHz

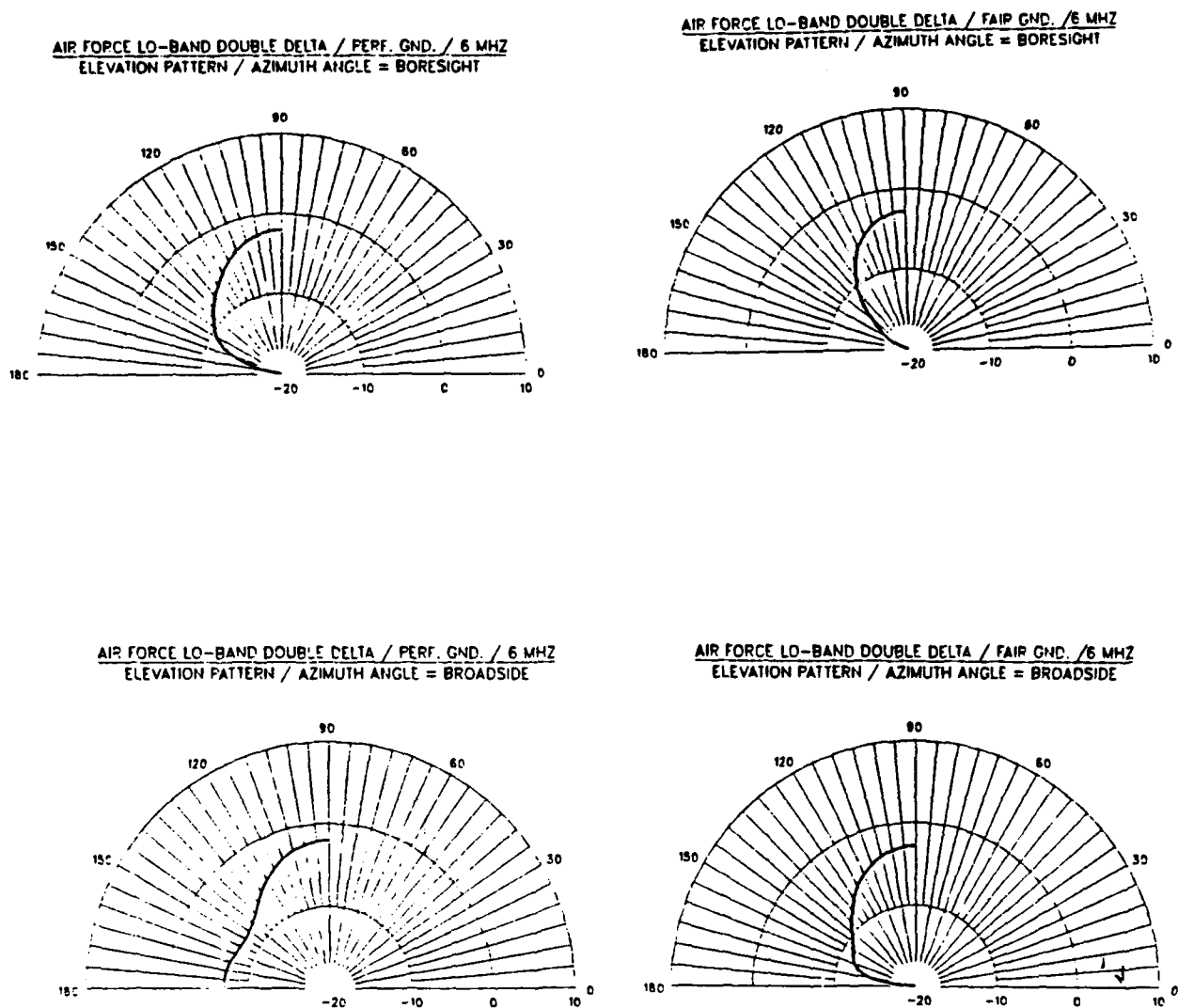
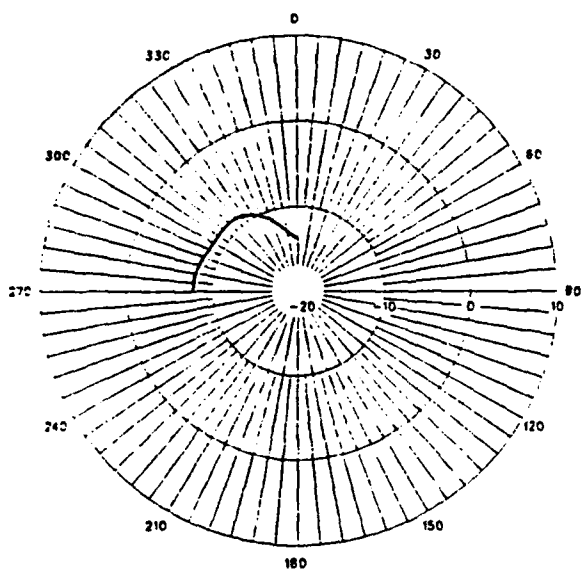
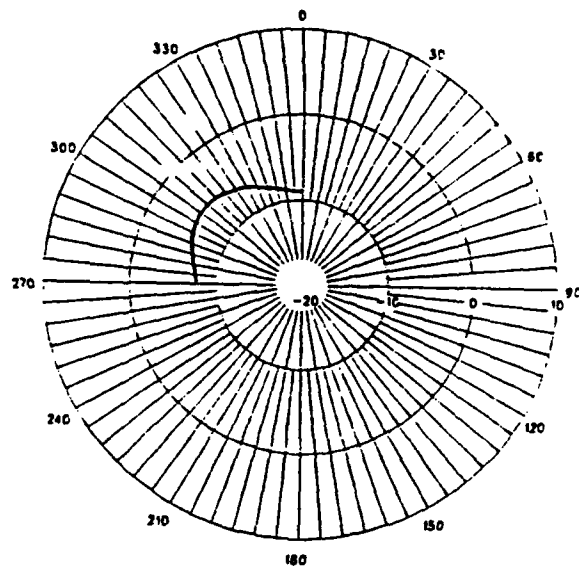


Figure 153. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 6 MHz

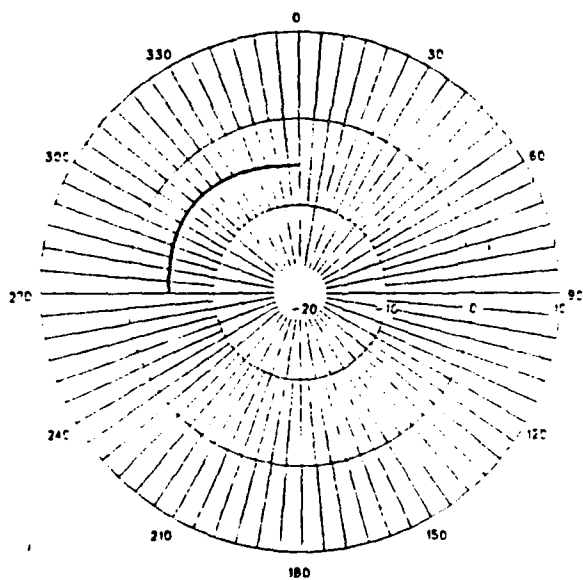
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

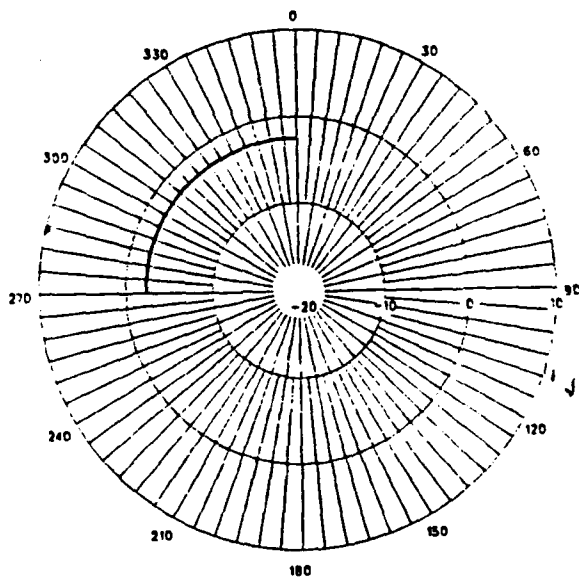
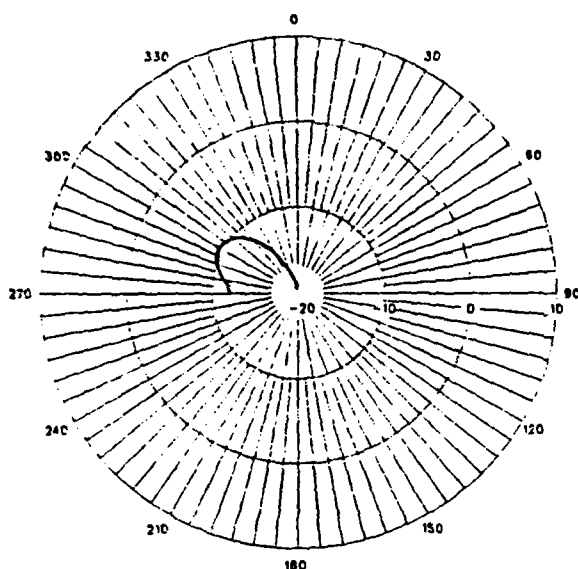
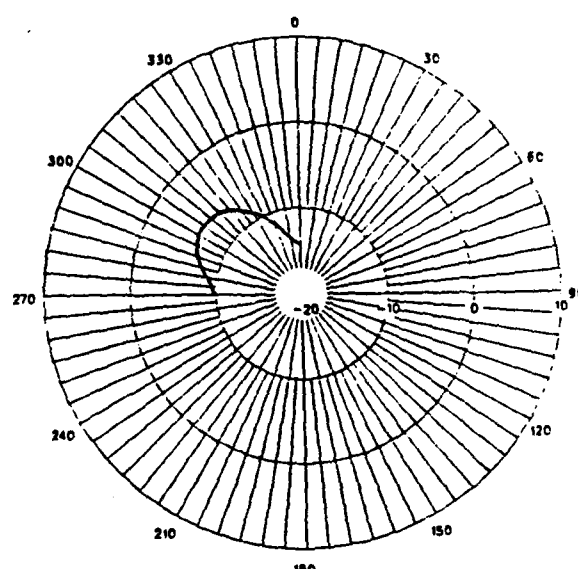


Figure 154. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 6 MHz

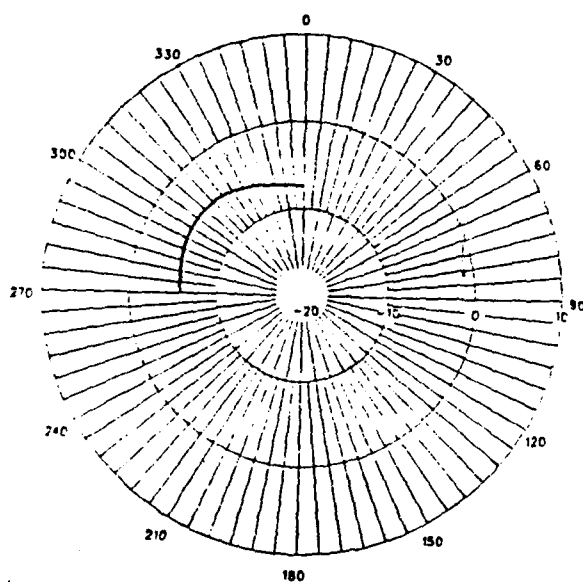
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

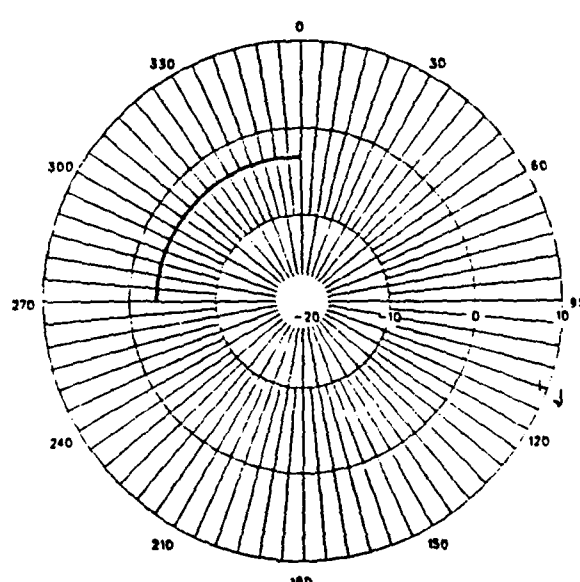
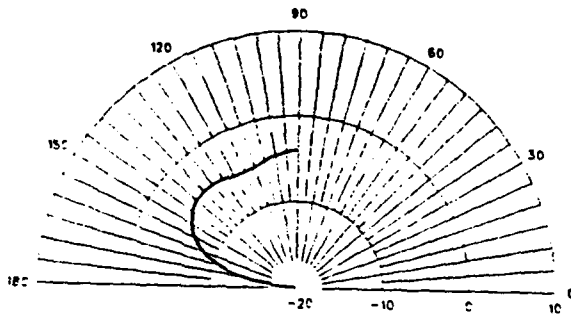
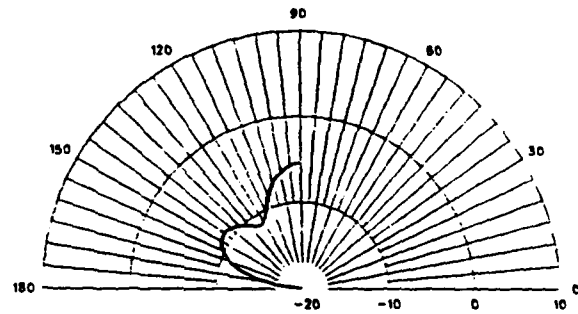


Figure 155. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 6 MHz

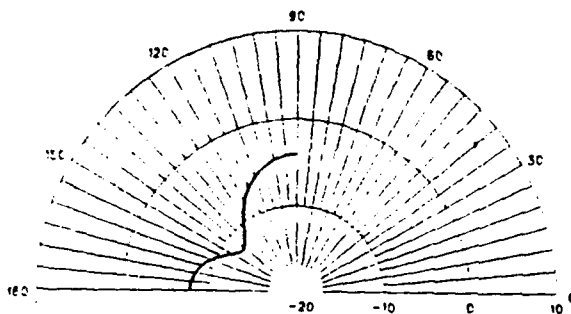
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

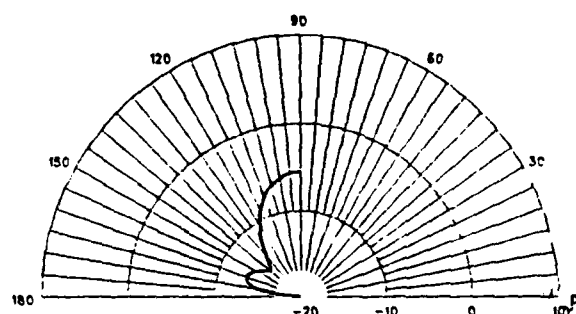
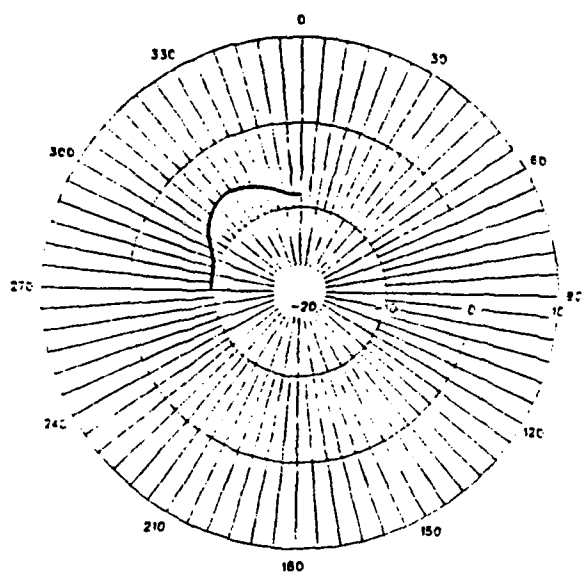
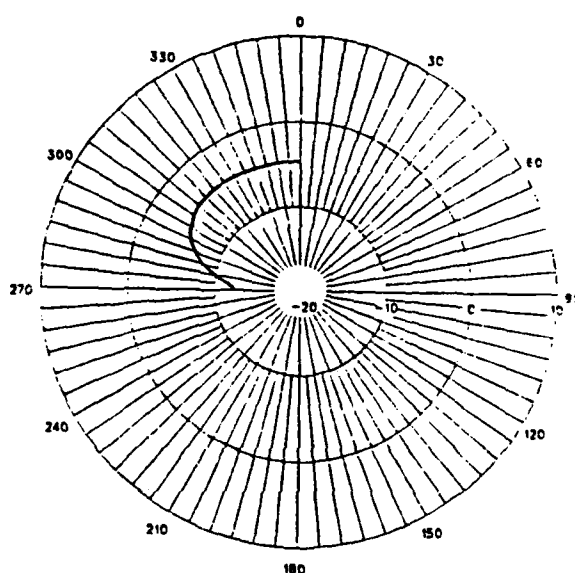


Figure 156. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 7 MHz

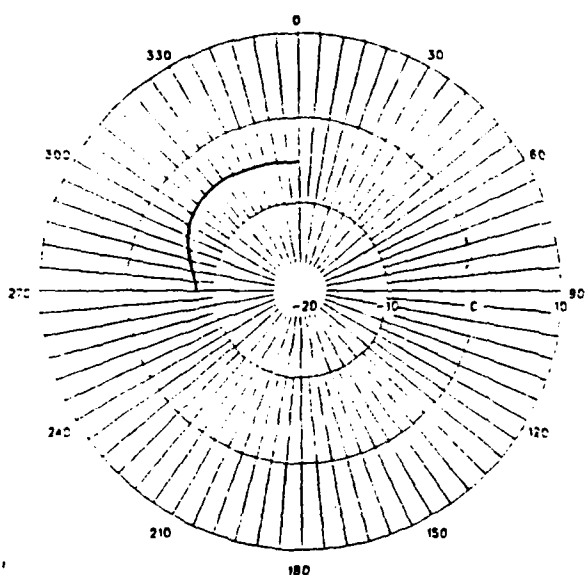
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

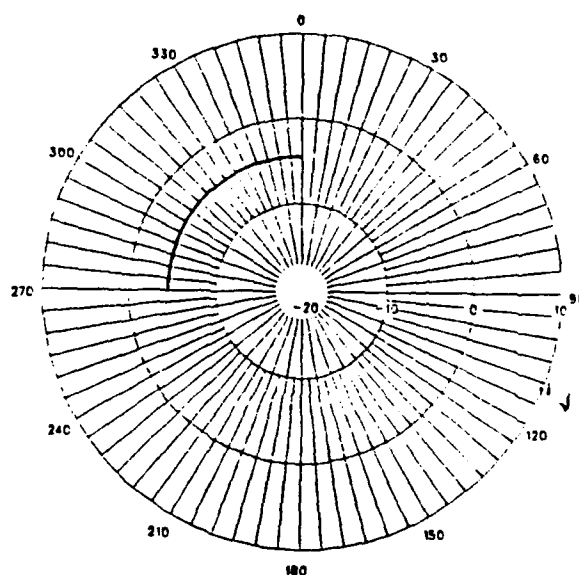
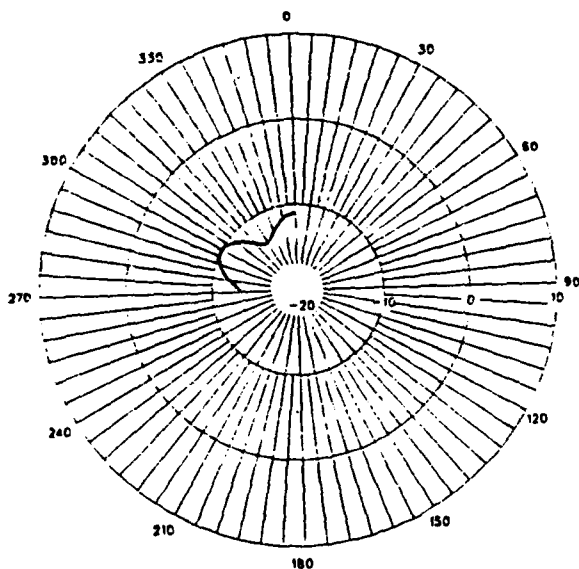
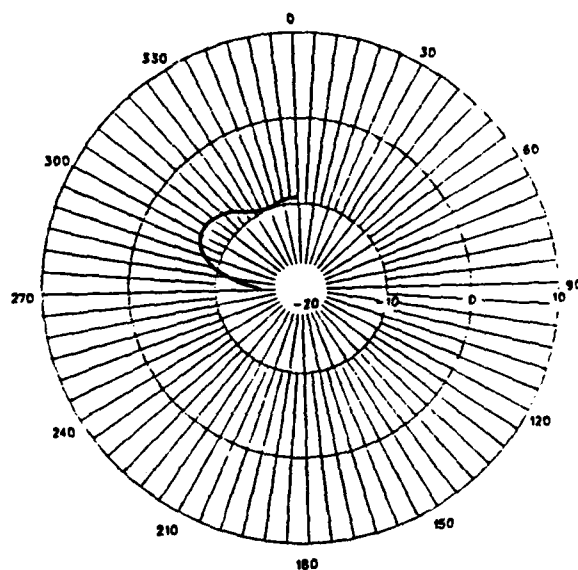


Figure 157. Azimuth patterns of the Air Force Lowband DD antenna over perfect ground at 7 MHz

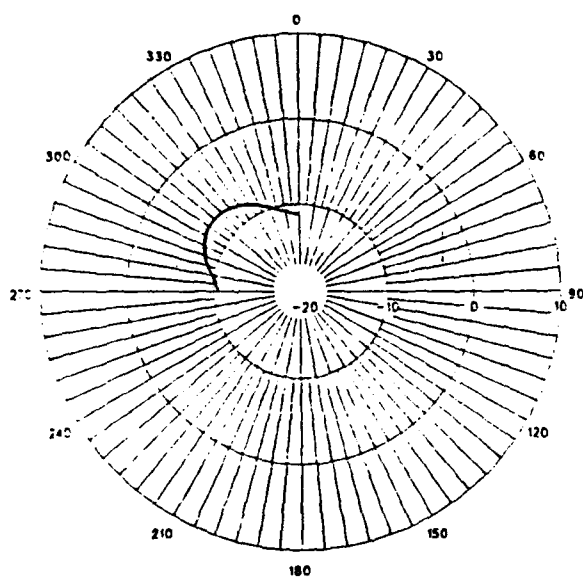
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

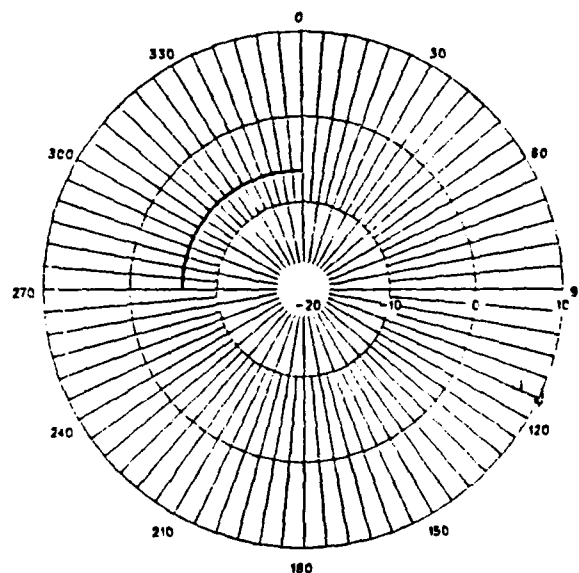


Figure 158. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 7 MHz

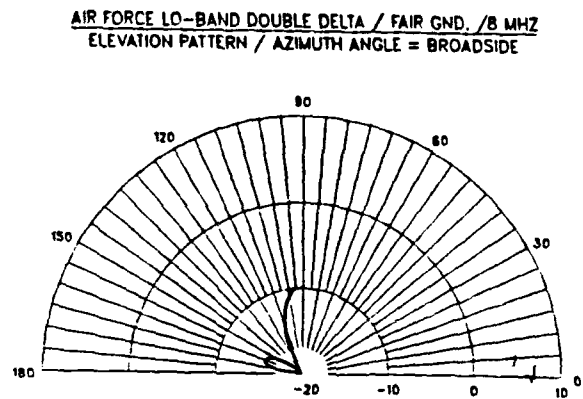
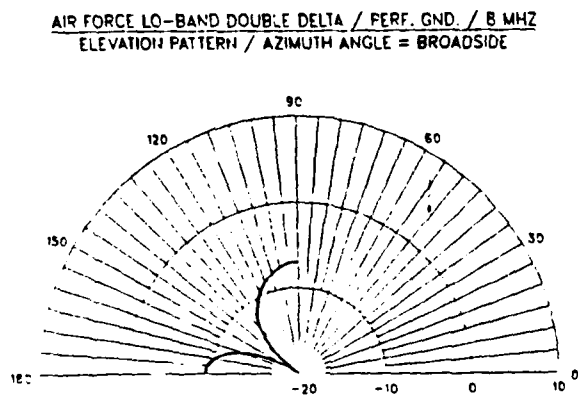
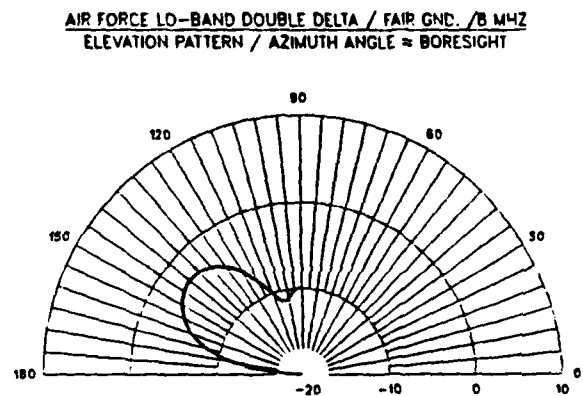
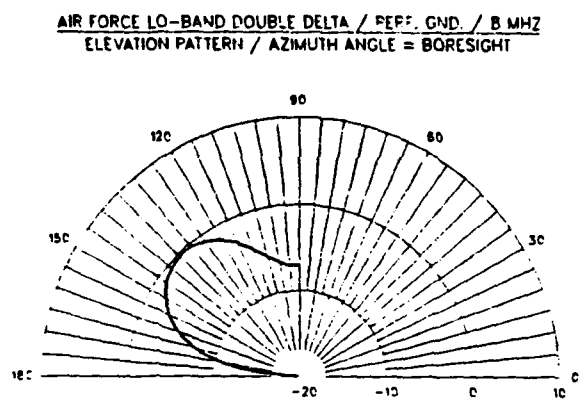
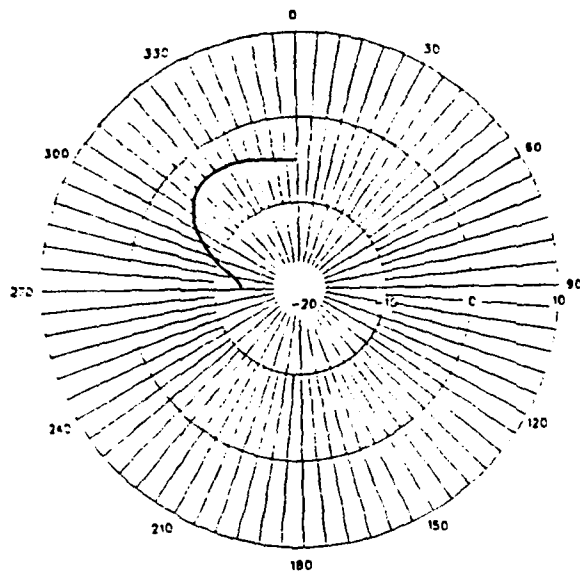
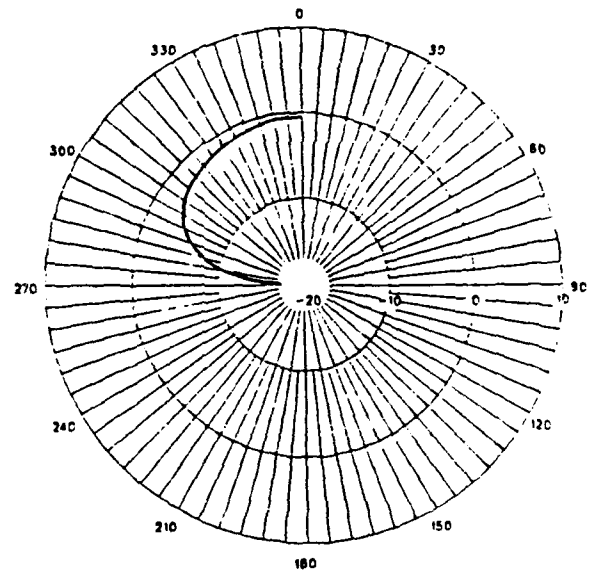


Figure 159. Elevation patterns of the Air Force Lowband DD antenna over perfect ground and fair ground at 8 MHz

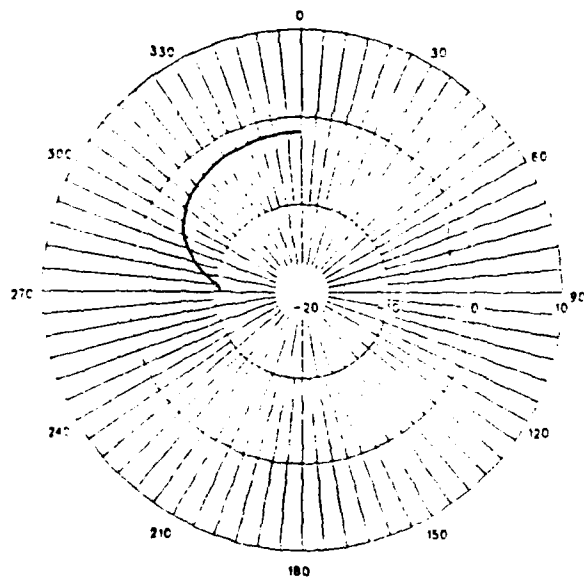
AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

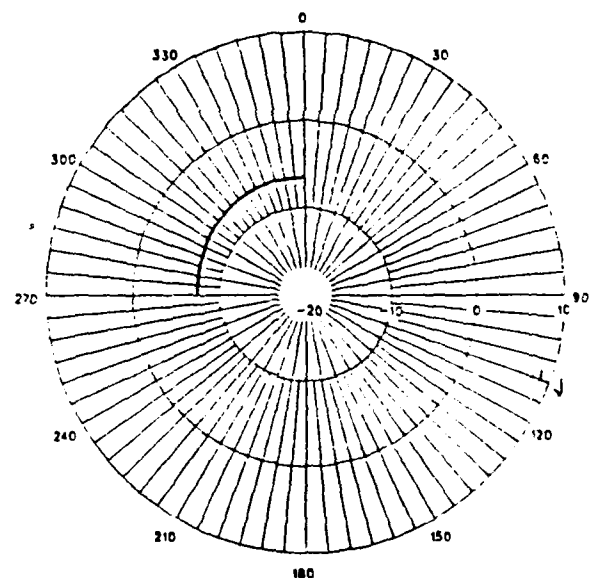
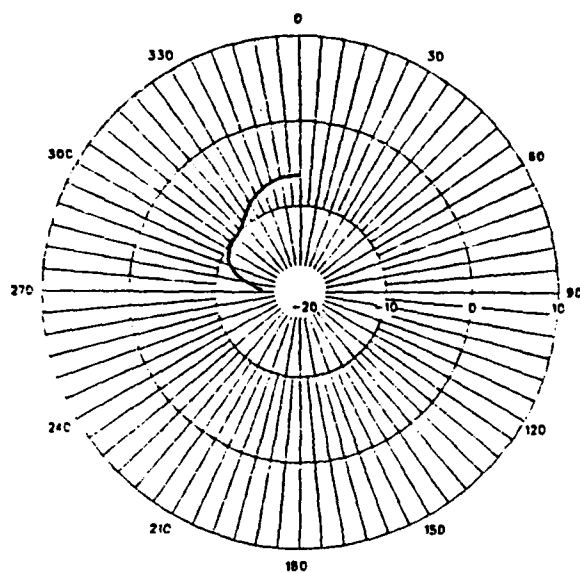
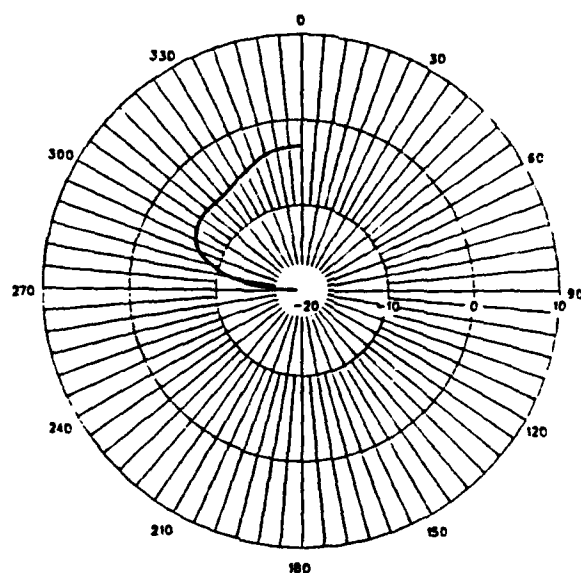


Figure 160. Azimuth patterns of The Air Force Lowband Delta antenna over perfect ground at 8 MHz

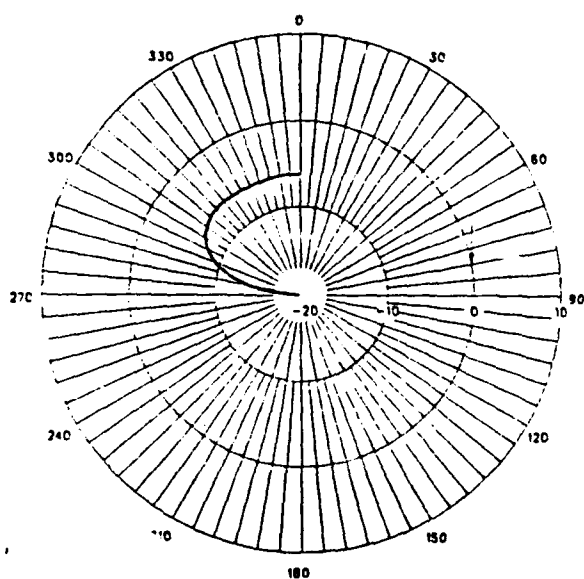
AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE LO-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

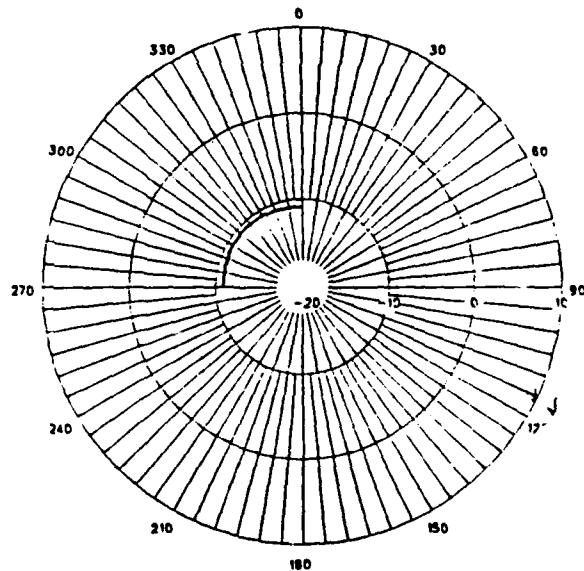
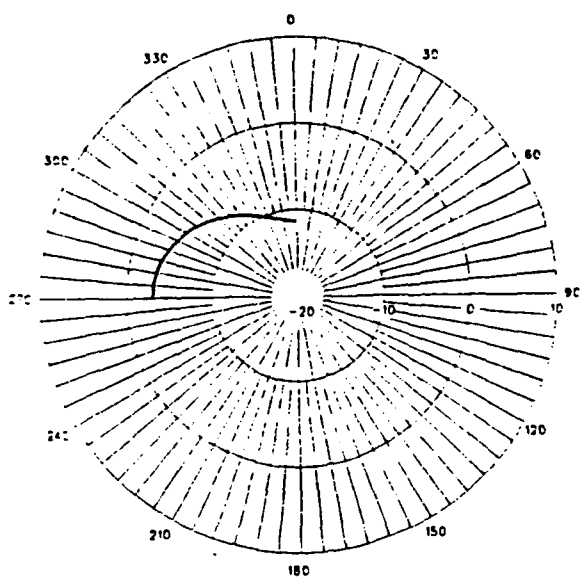
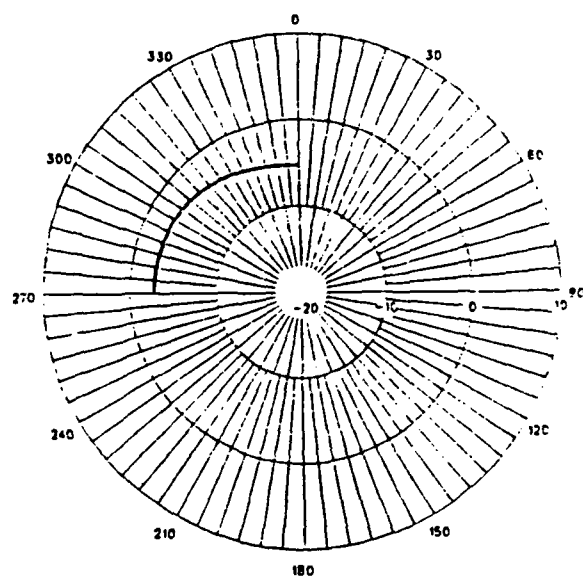


Figure 161. Azimuth patterns of the Air Force Lowband DD antenna over fair ground at 8 MHz

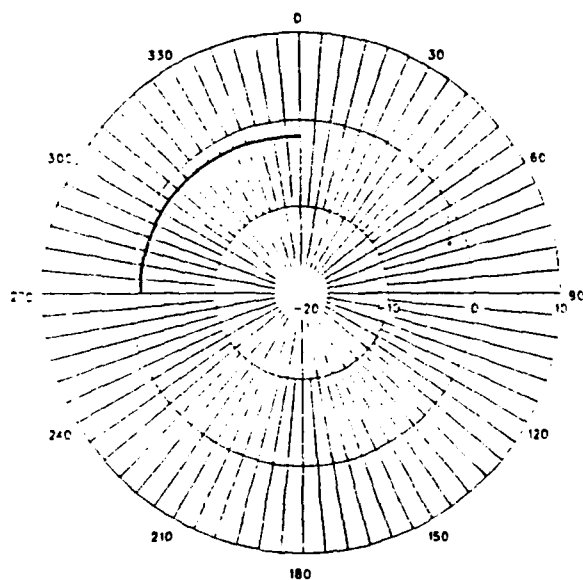
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

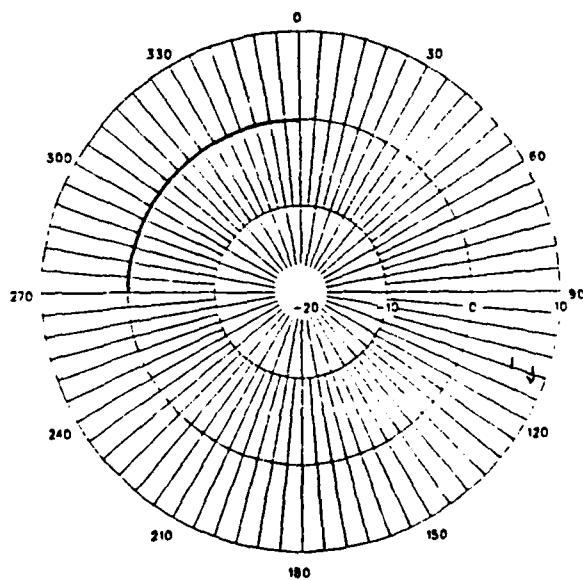
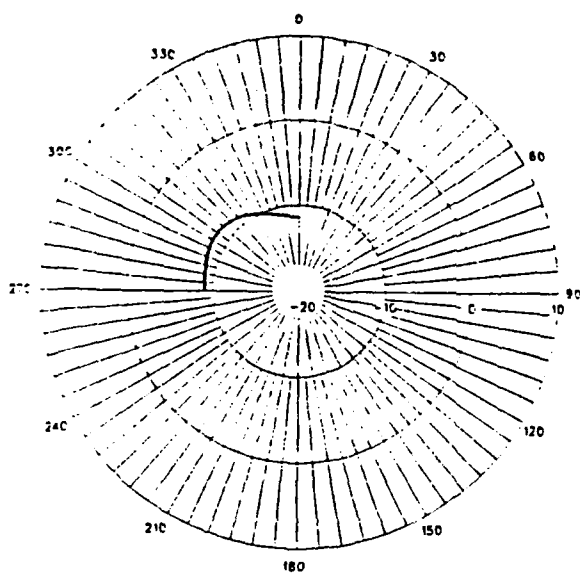
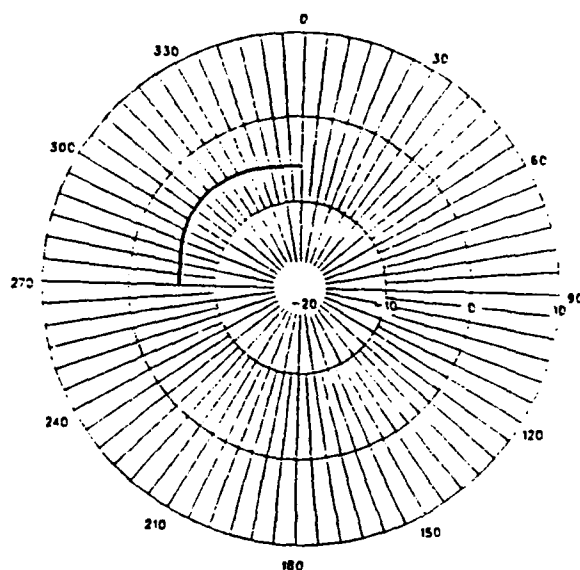


Figure 163. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 8 MHz

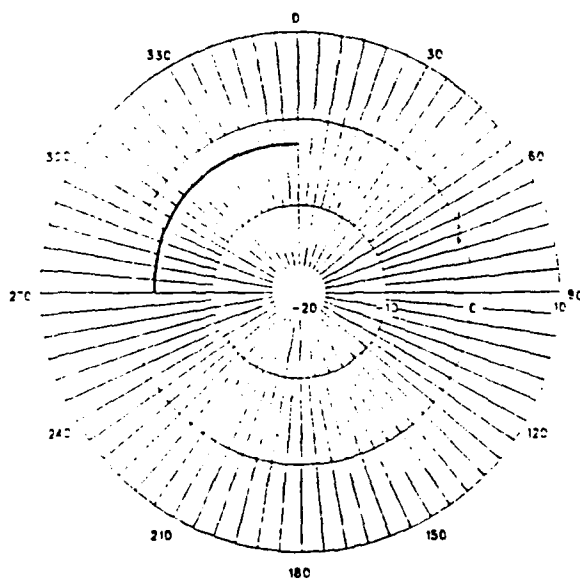
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

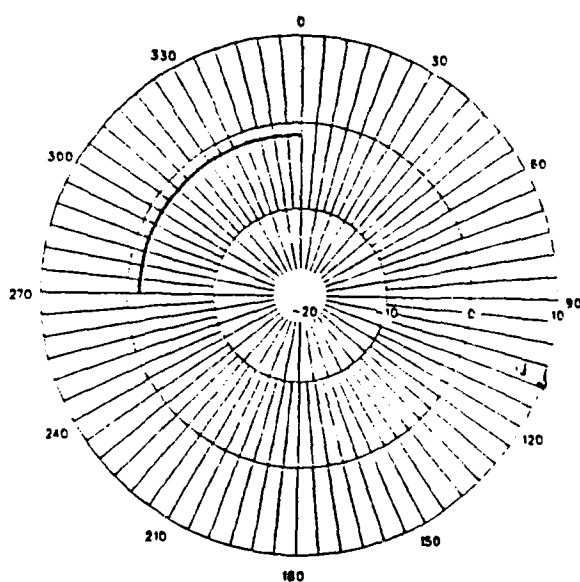
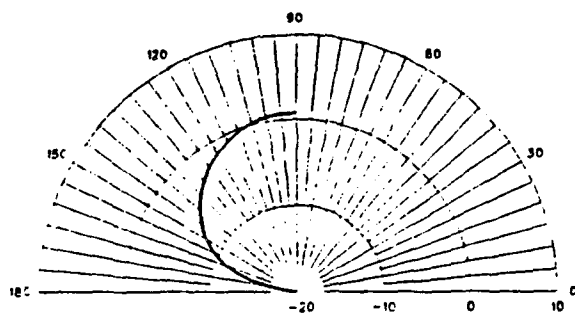
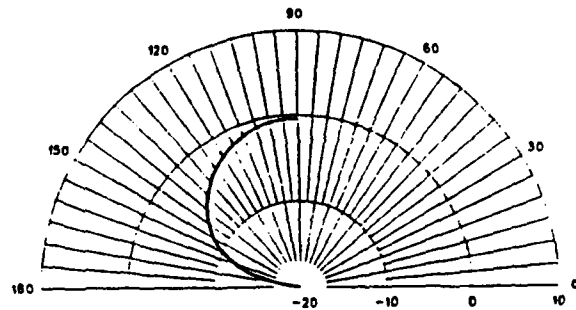


Figure 164. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 8 MHz

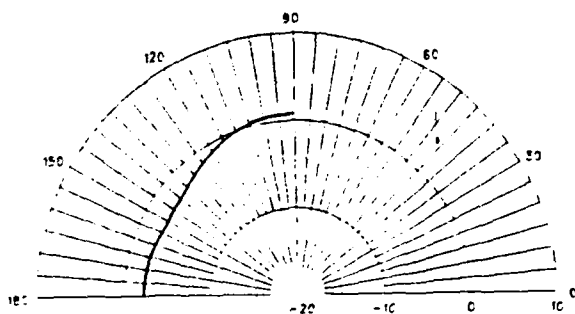
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

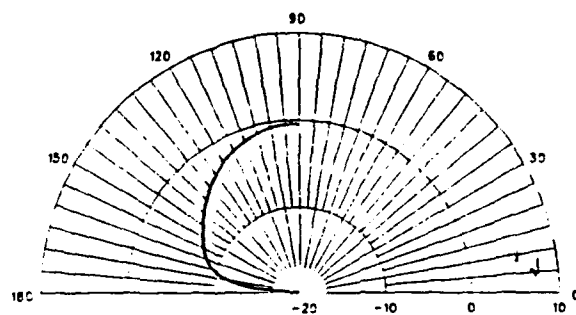
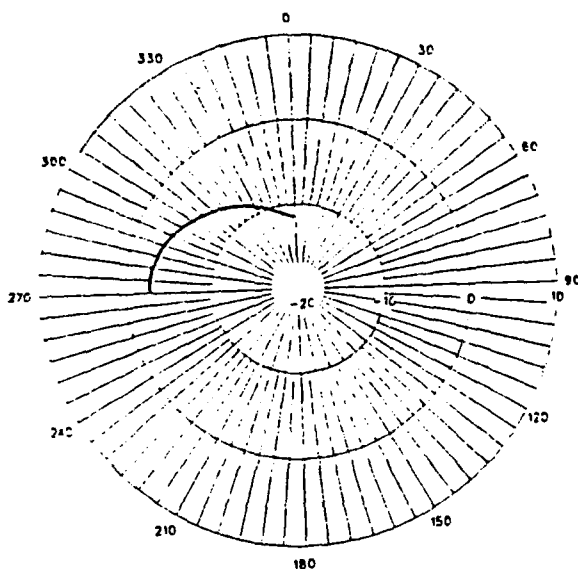
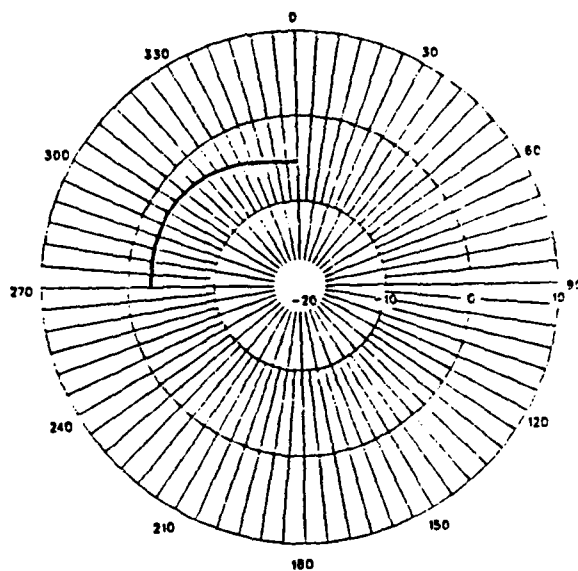


Figure 165. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 9 MHz

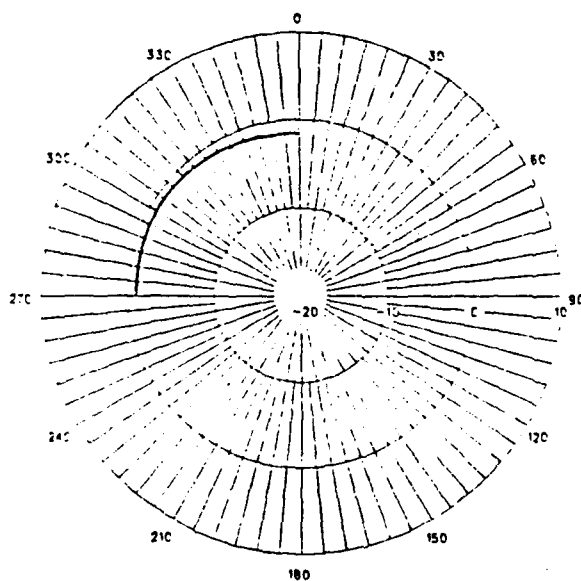
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

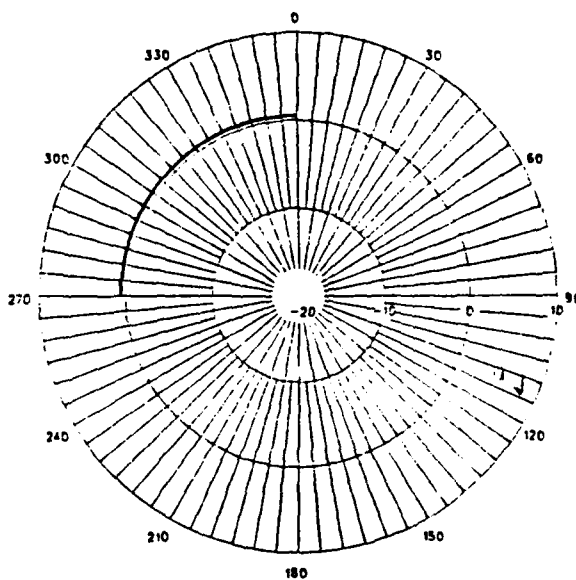
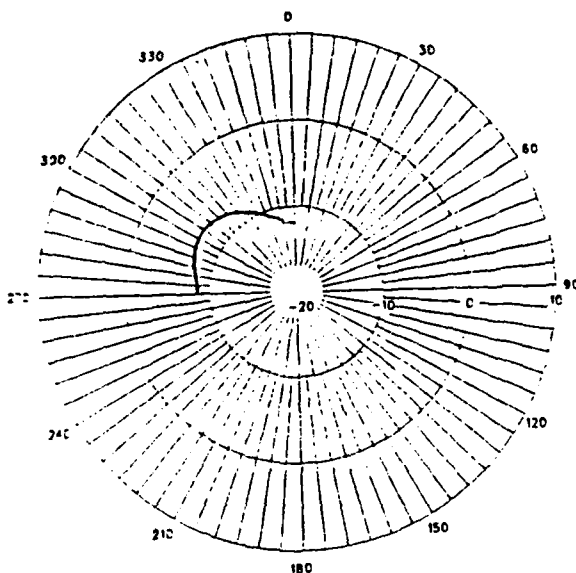
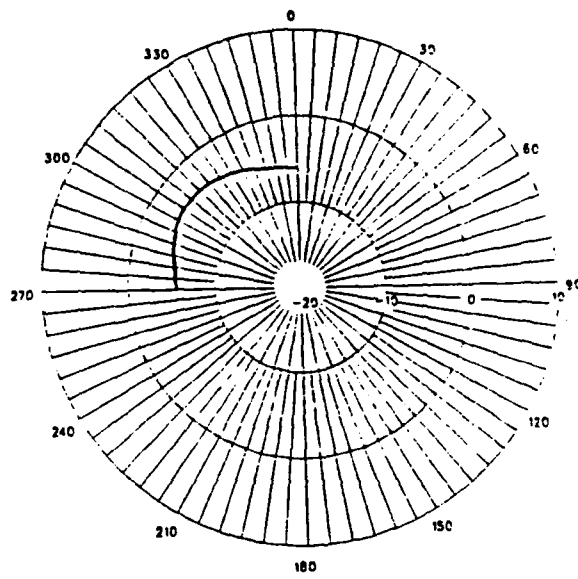


Figure 166. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 9 MHz

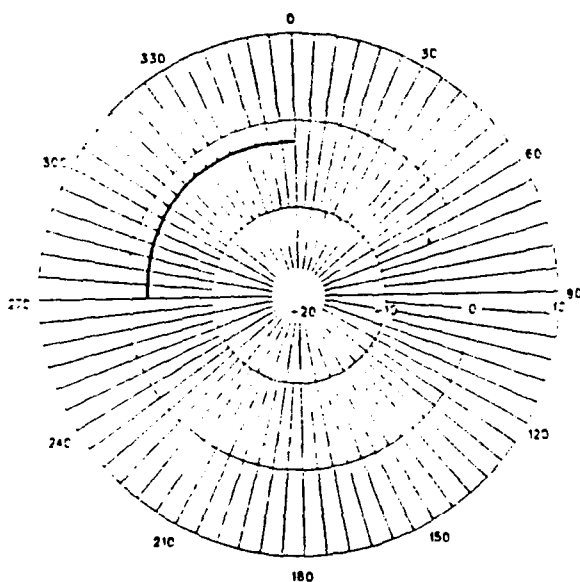
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

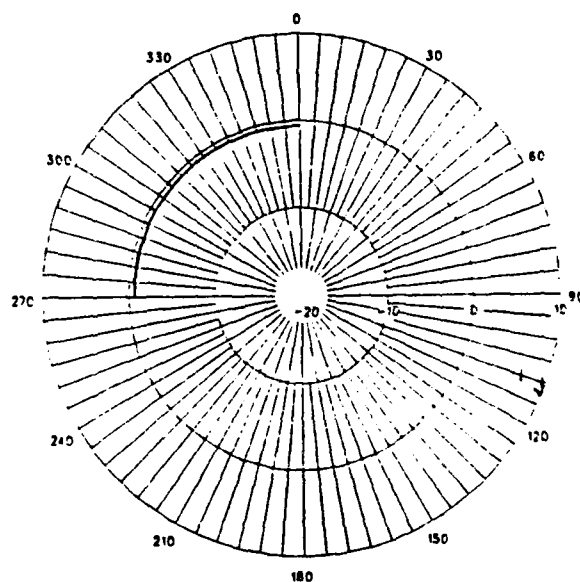


Figure 167. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 9 MHz

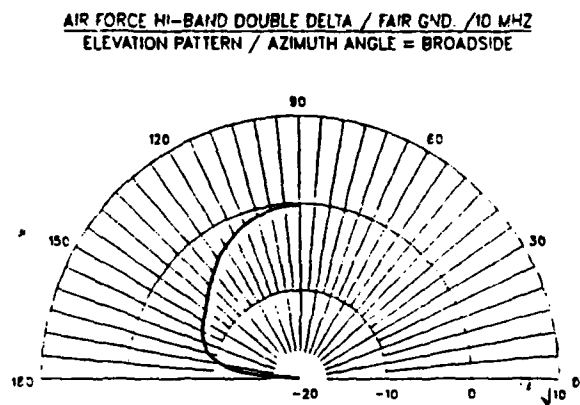
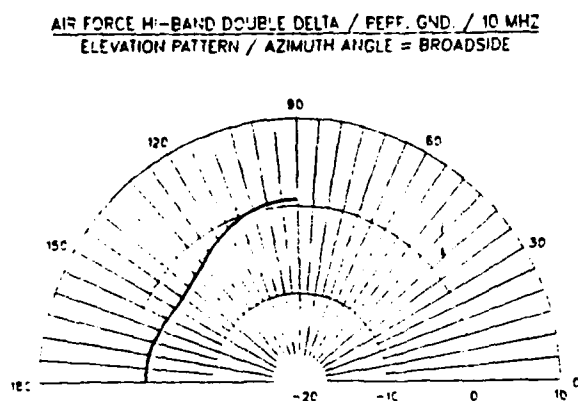
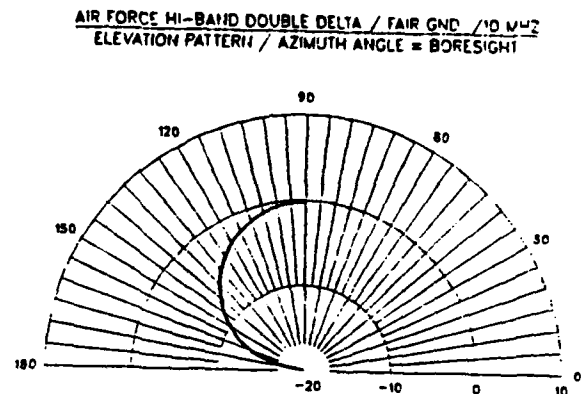
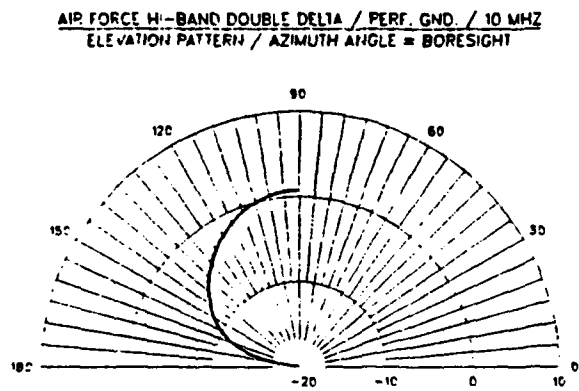
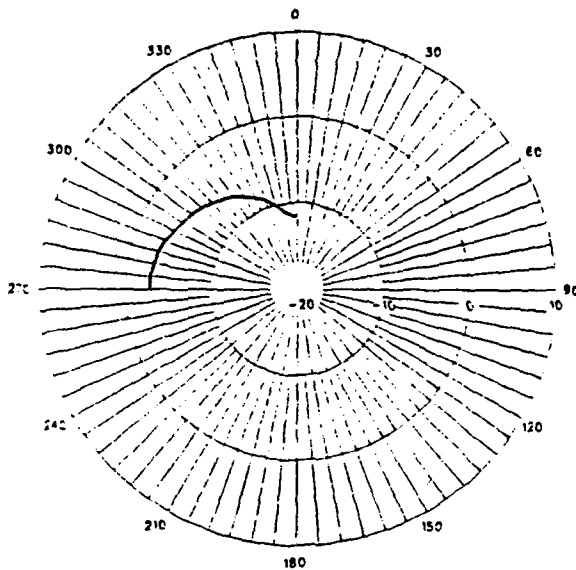
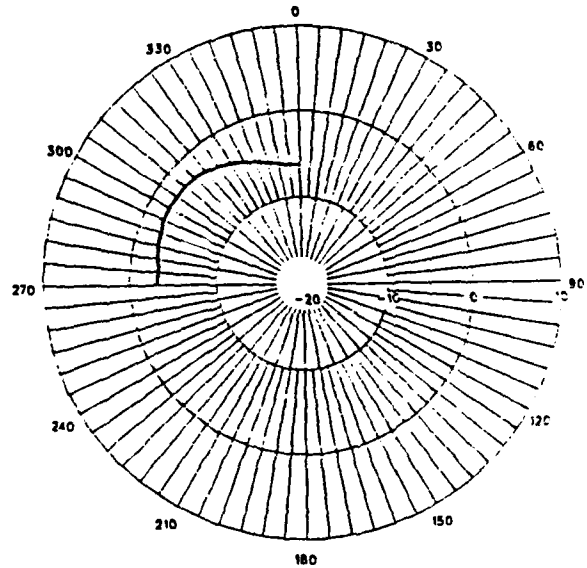


Figure 168. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 10 MHz

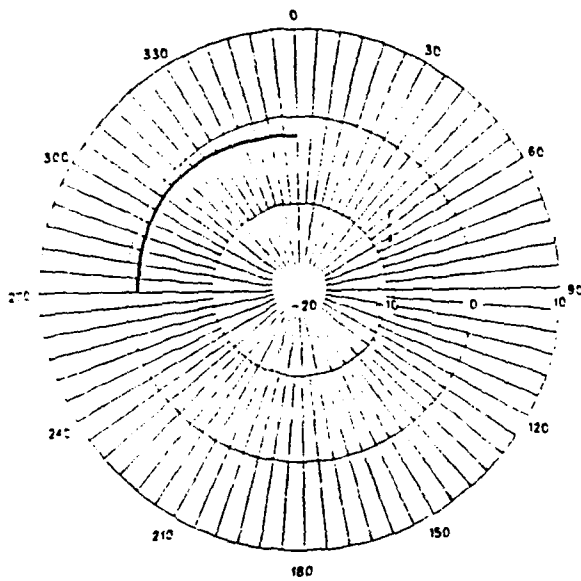
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

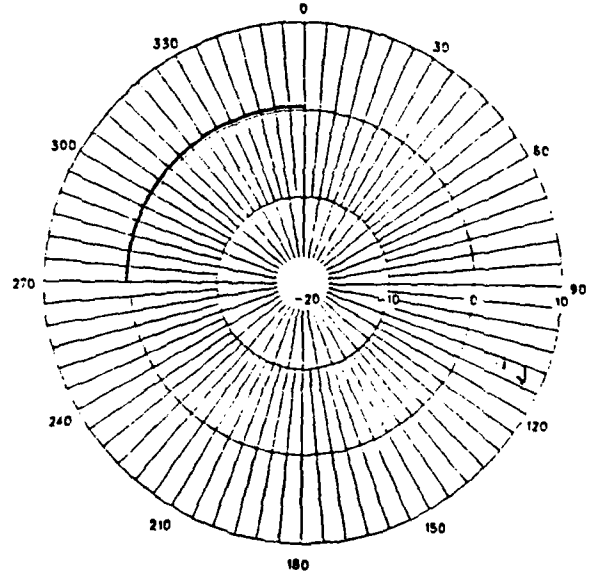
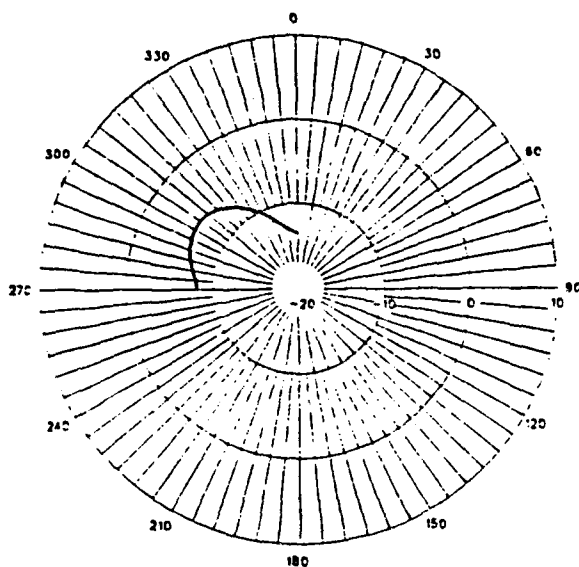
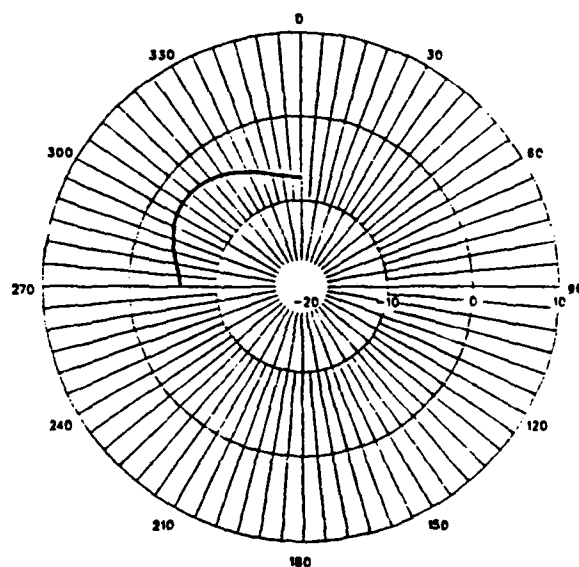


Figure 169. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 10 MHz

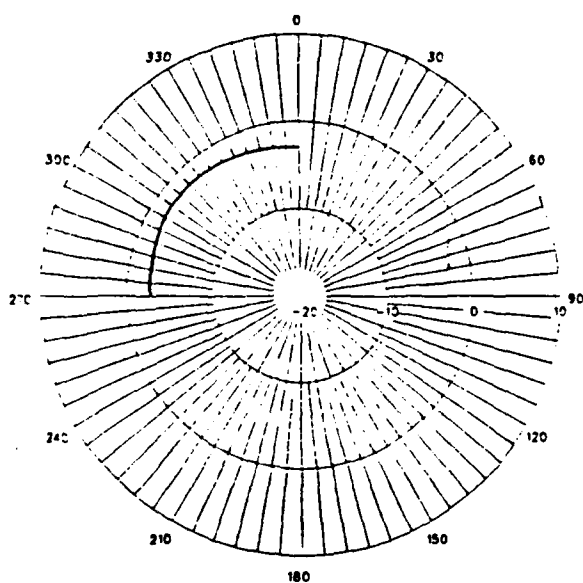
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

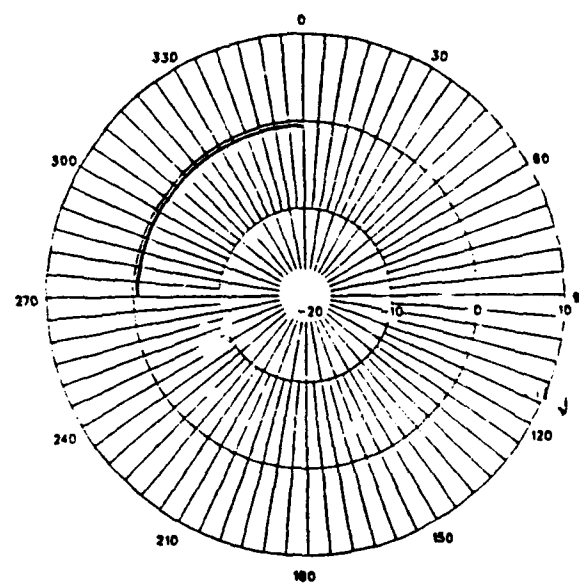
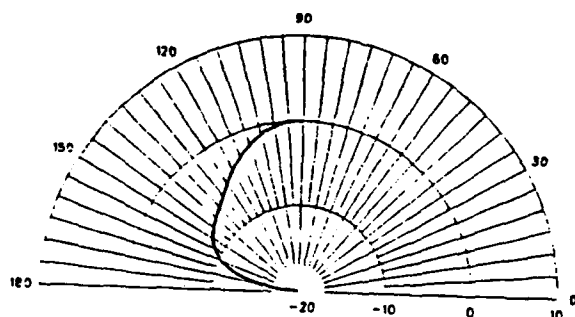
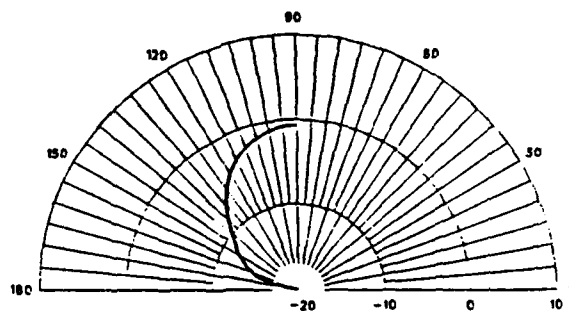


Figure 170. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 10 MHz

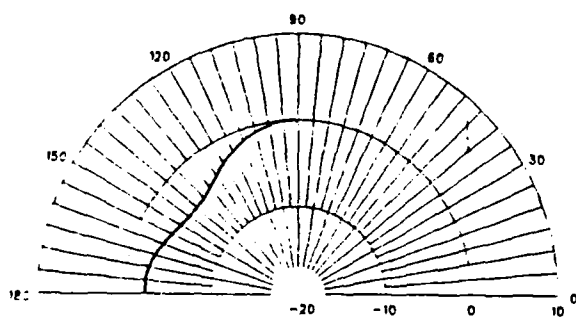
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

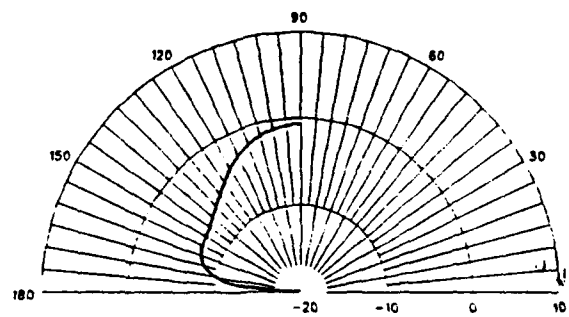
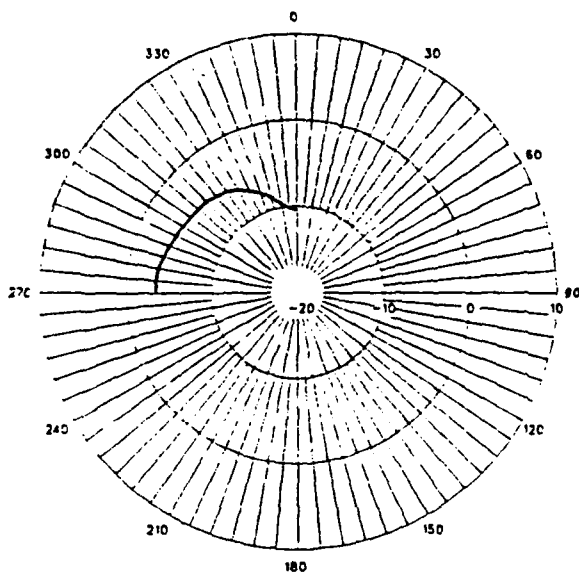
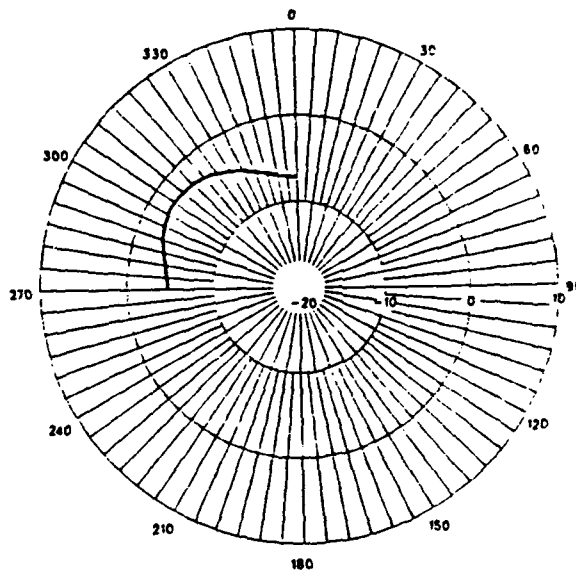


Figure 171. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 11 MHz

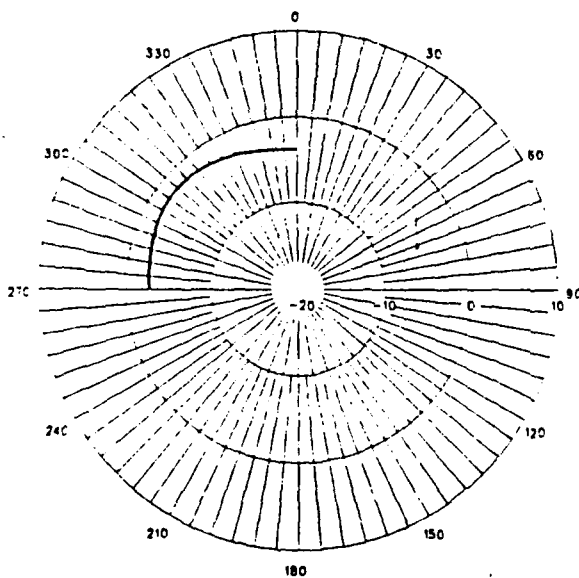
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

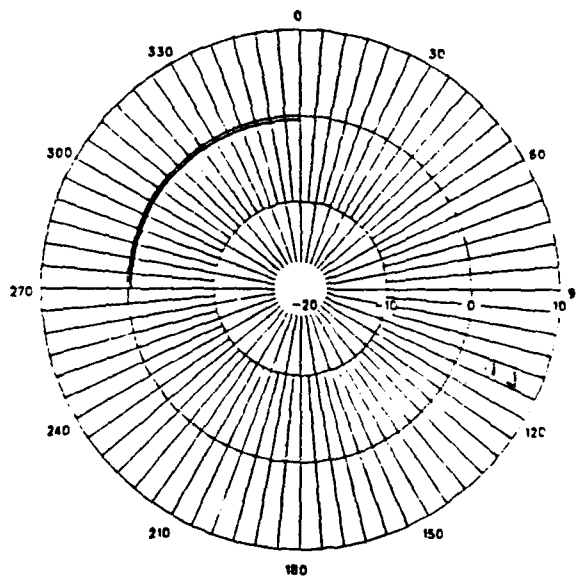
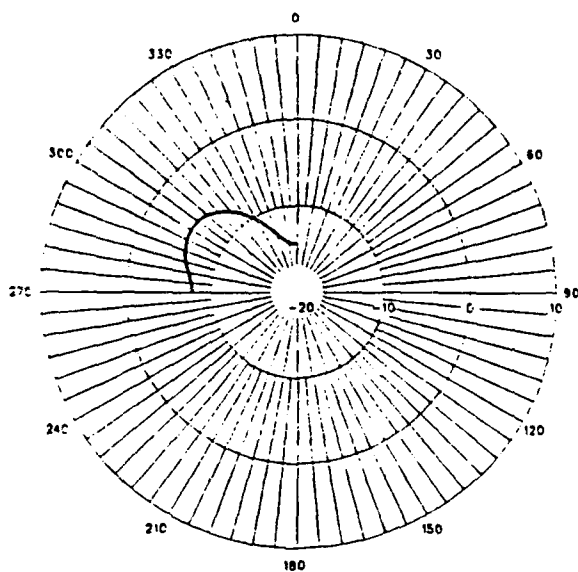
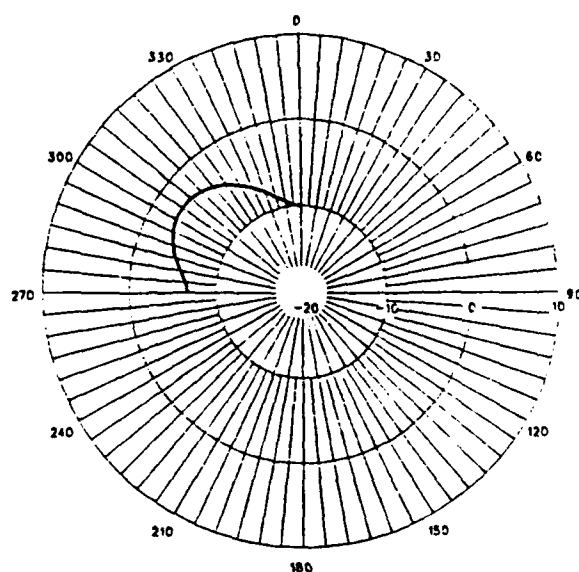


Figure 172. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 11 MHz

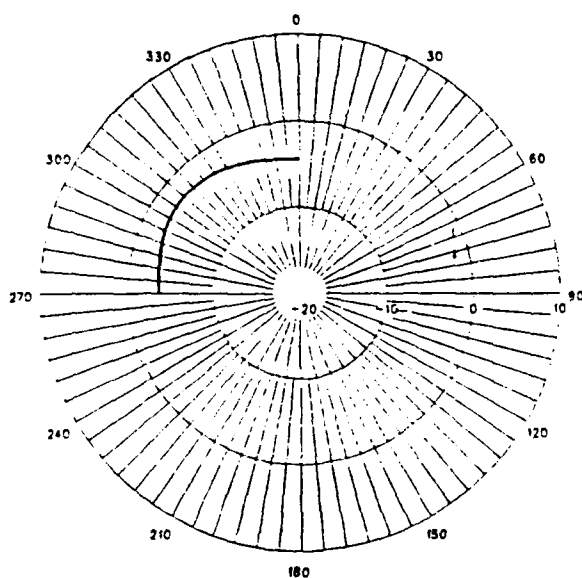
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

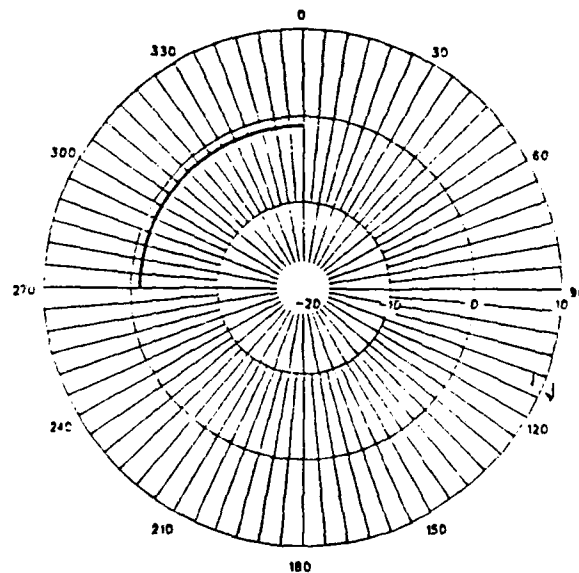
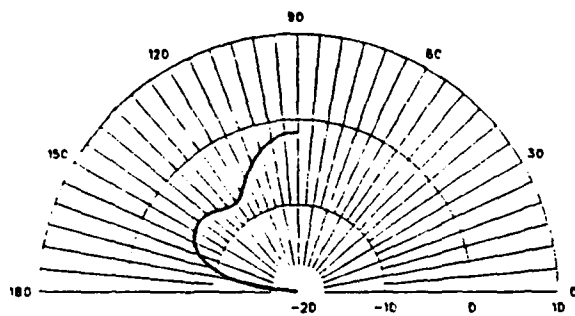
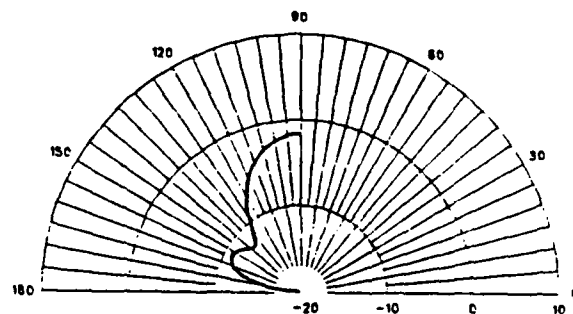


Figure 173. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 11 MHz

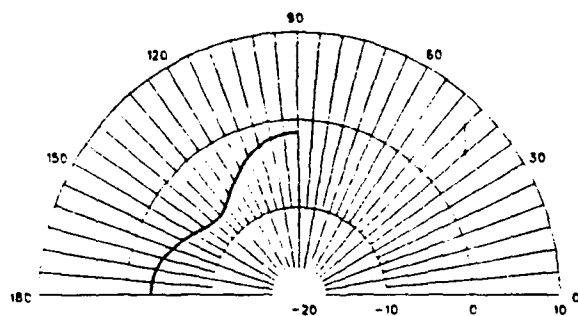
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. /12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. /12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. /12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. /12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

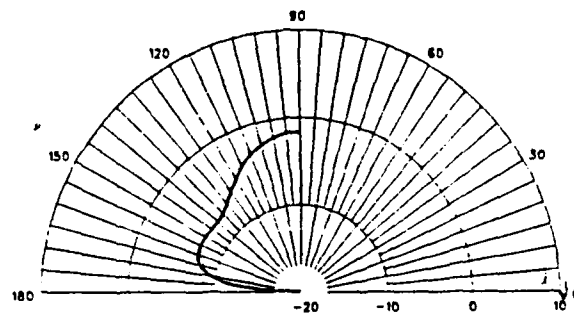
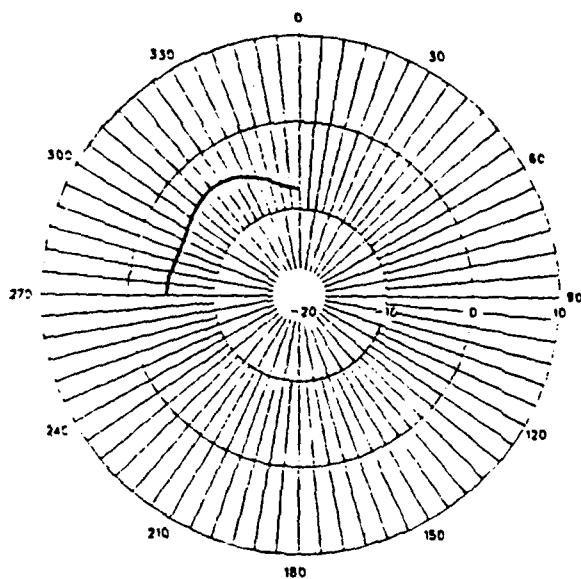
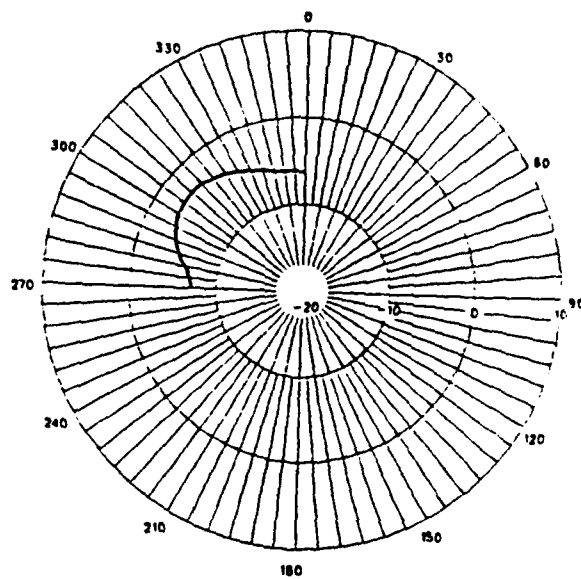


Figure 174. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 12 MHz

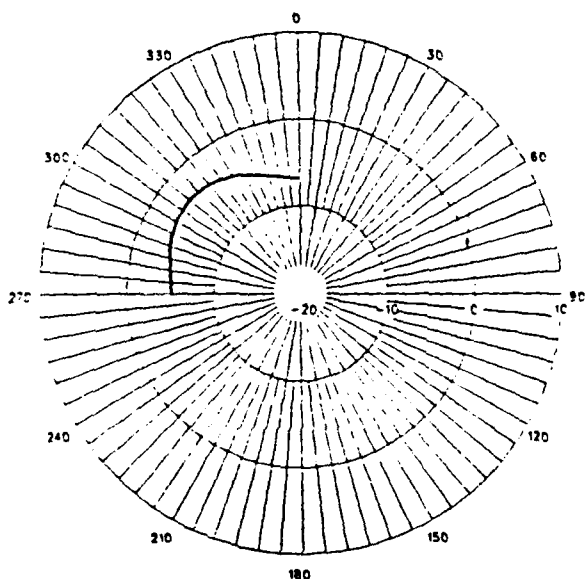
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

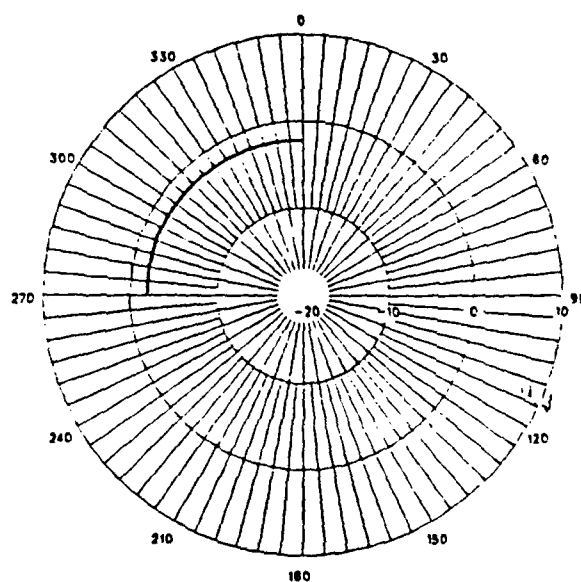
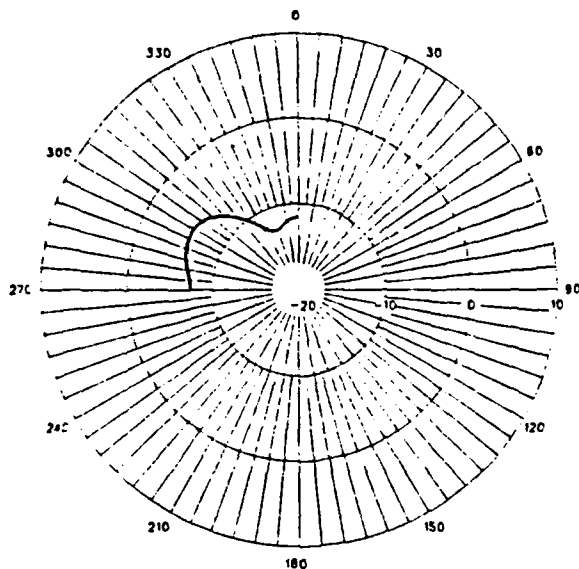
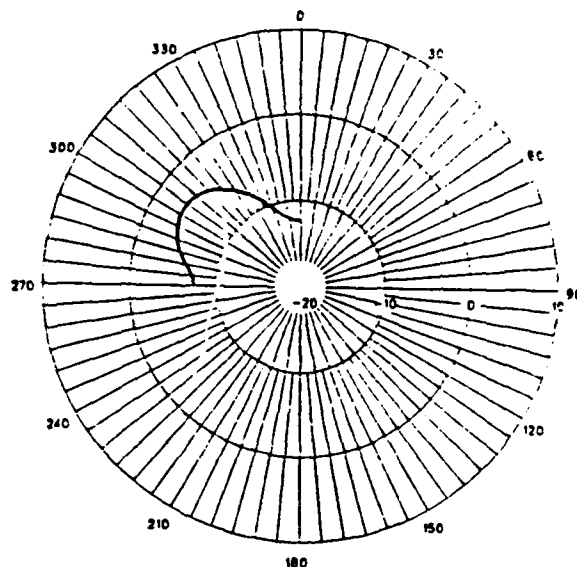


Figure 175. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 12 MHz

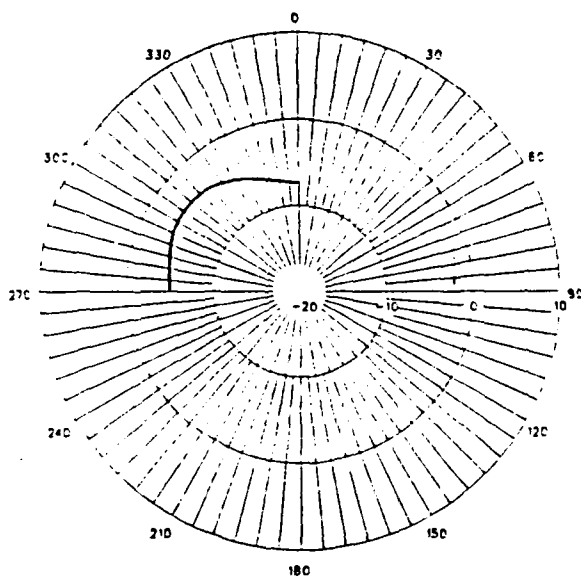
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

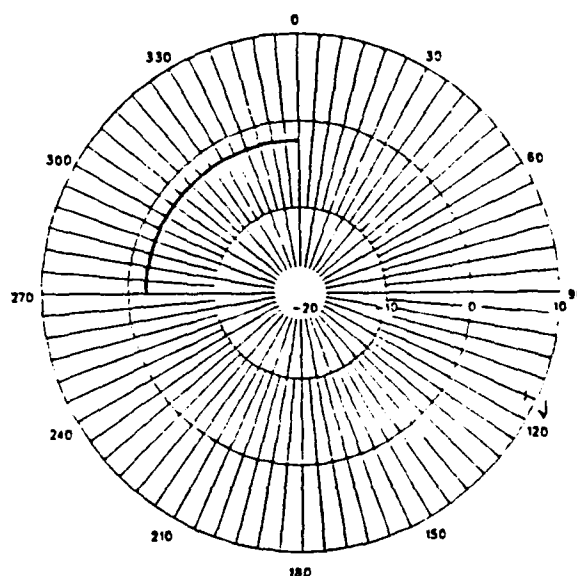
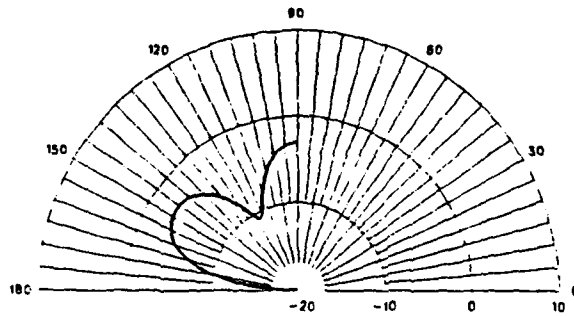
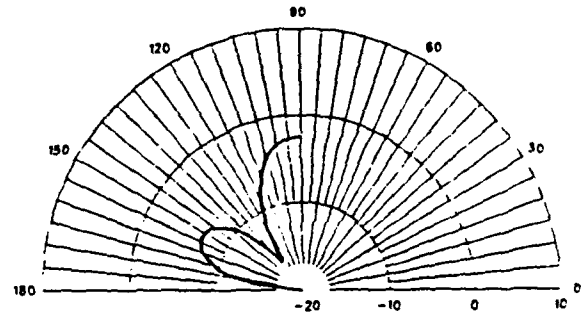


Figure 176. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 12 MHz

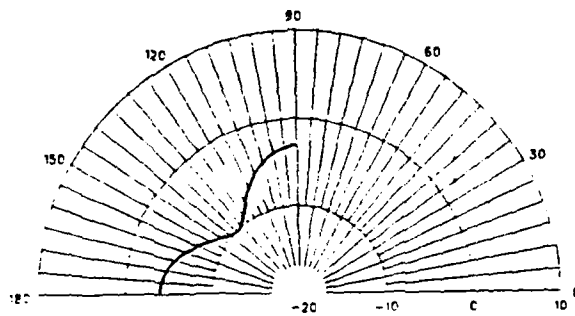
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE $\approx$ BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE $\approx$ BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE $\approx$ BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE $\approx$ BROADSIDE

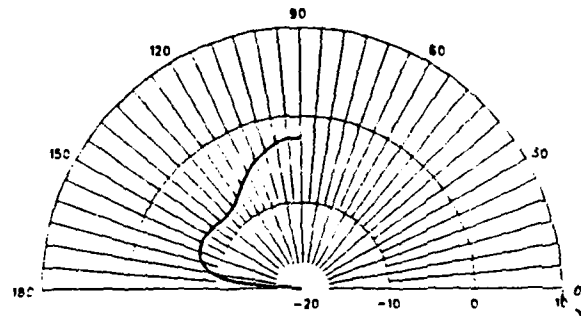
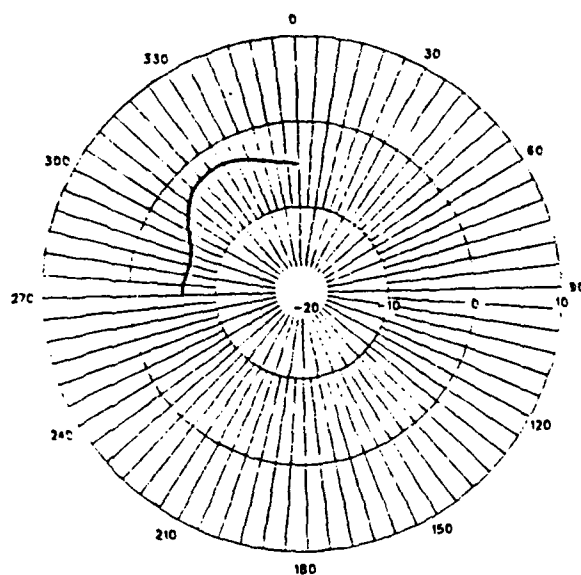
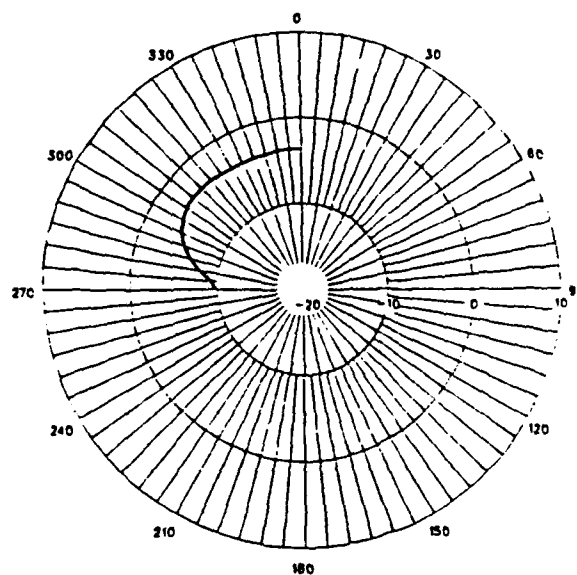


Figure 177. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 13 MHz

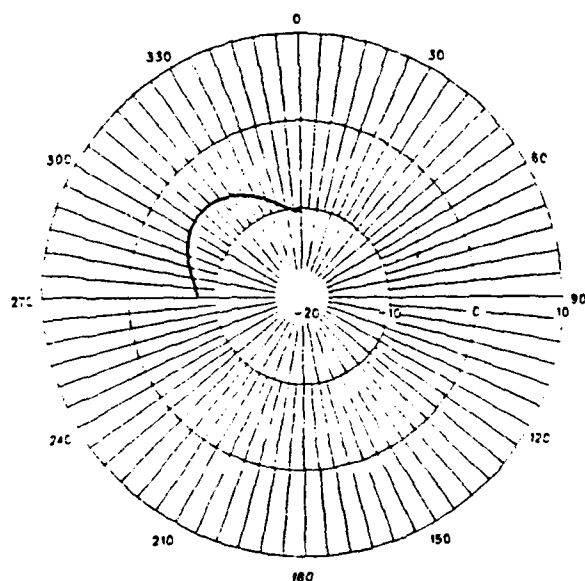
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

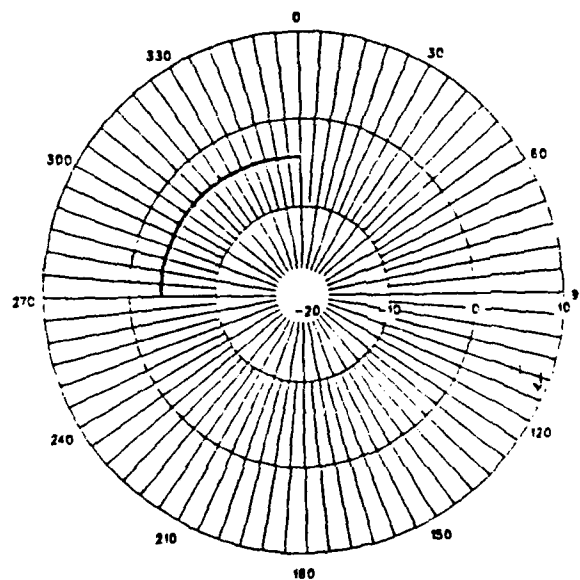
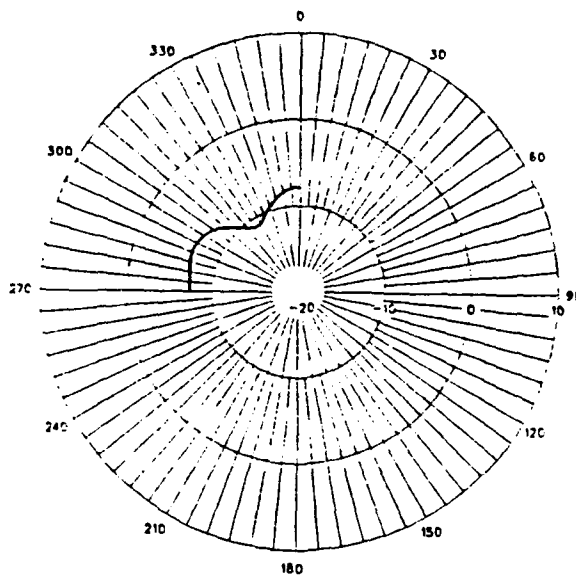
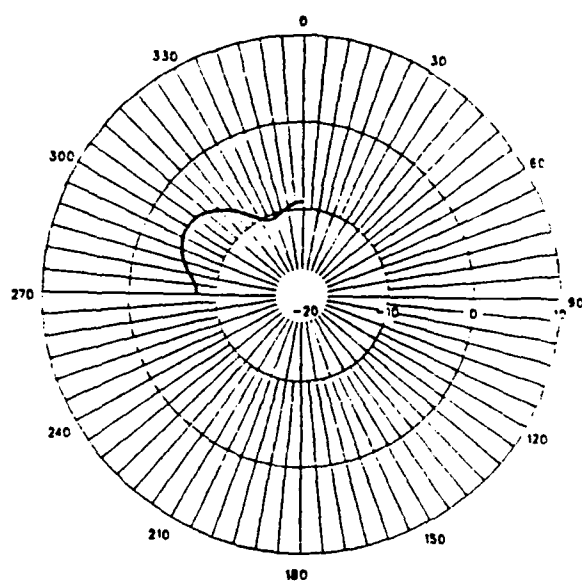


Figure 178. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 13 MHz

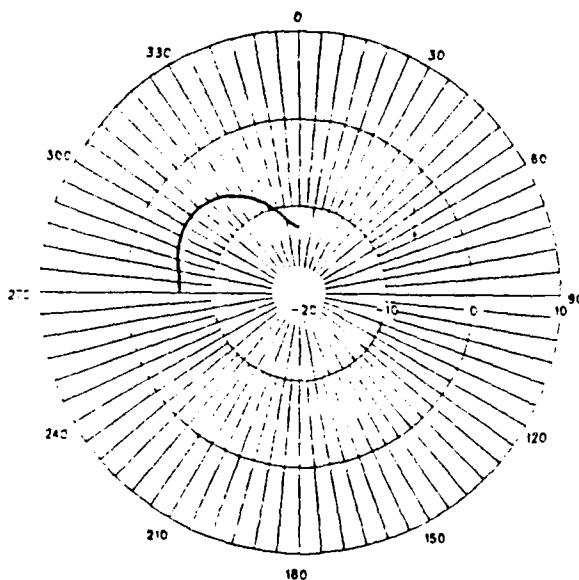
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

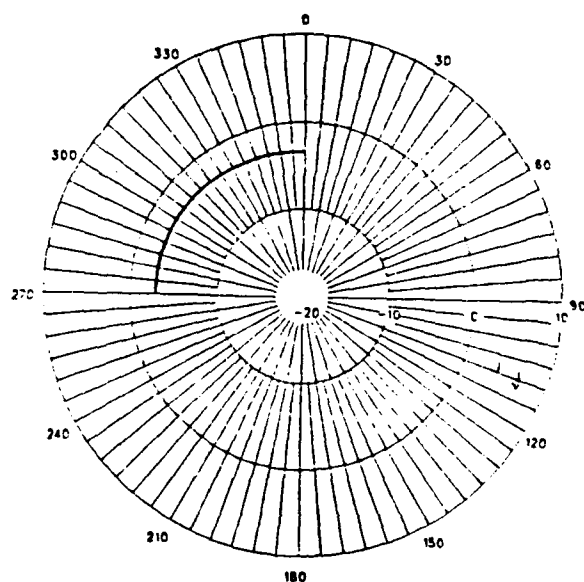


Figure 179. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 13 MHz

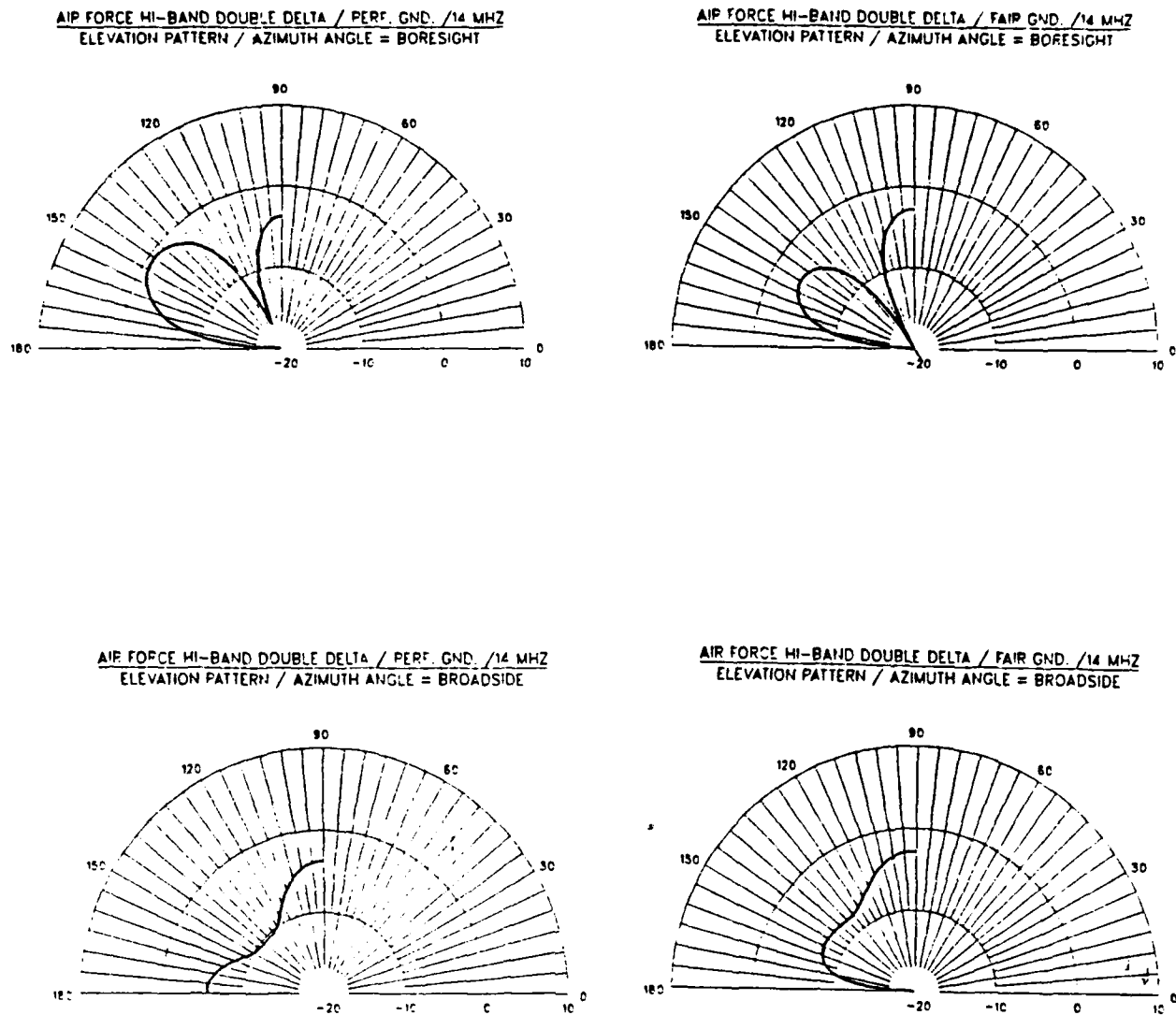
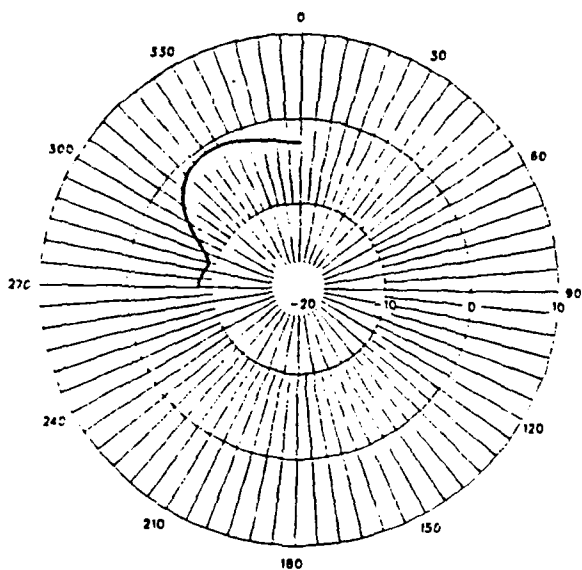
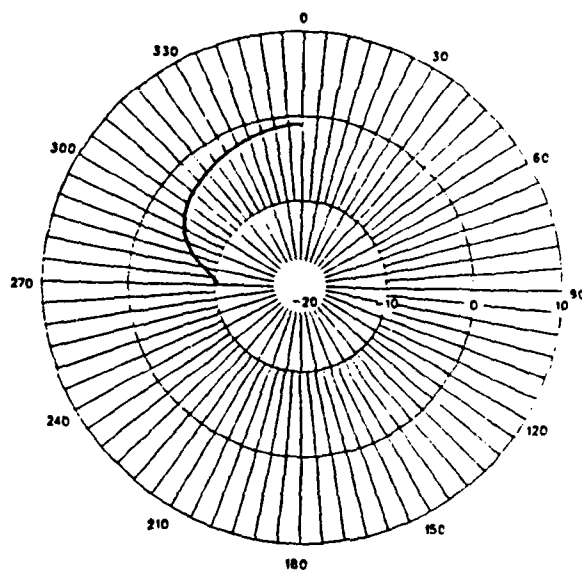


Figure 180. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 14 MHz

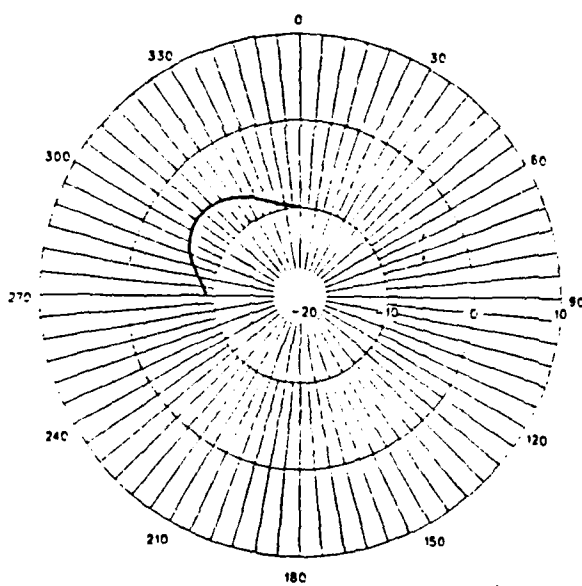
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

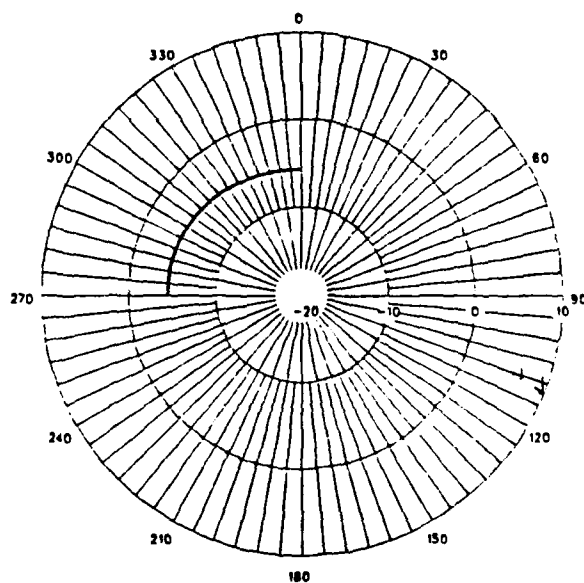
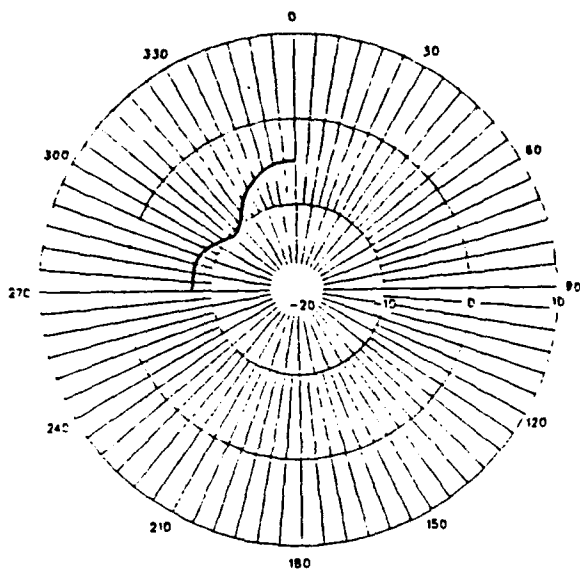
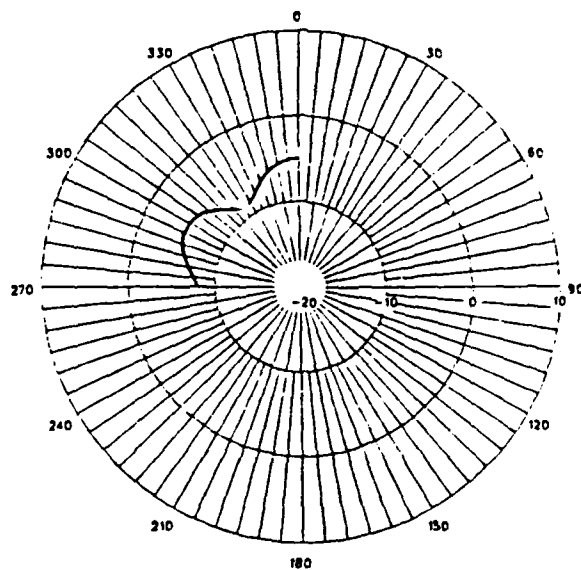


Figure 181. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 14 MHz

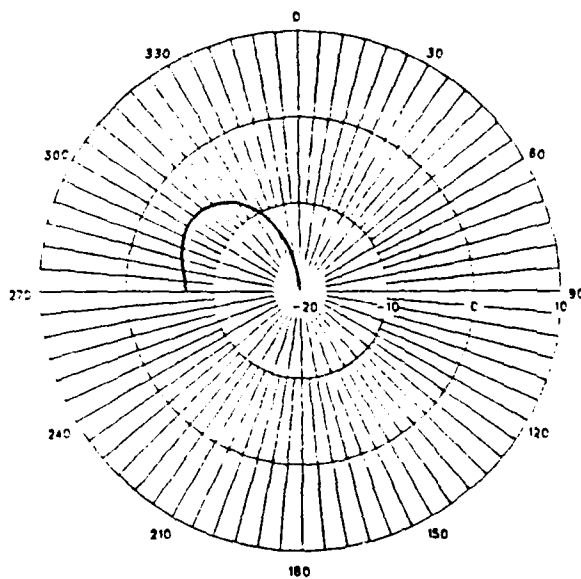
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

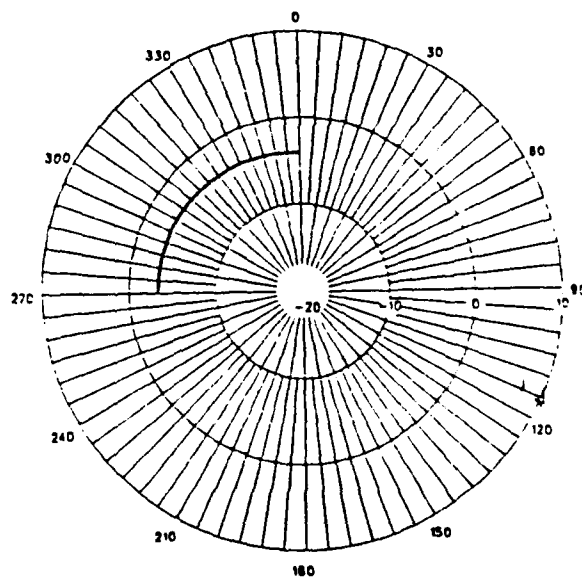


Figure 182. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 14 MHz

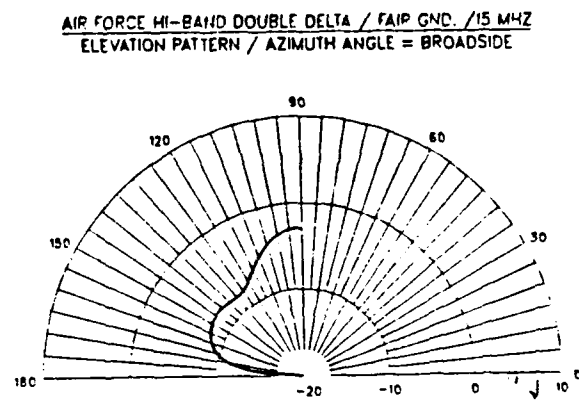
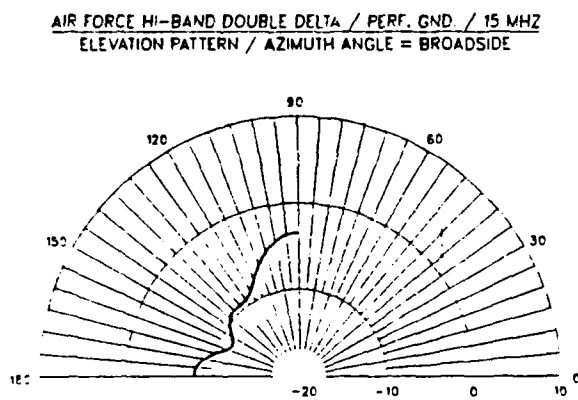
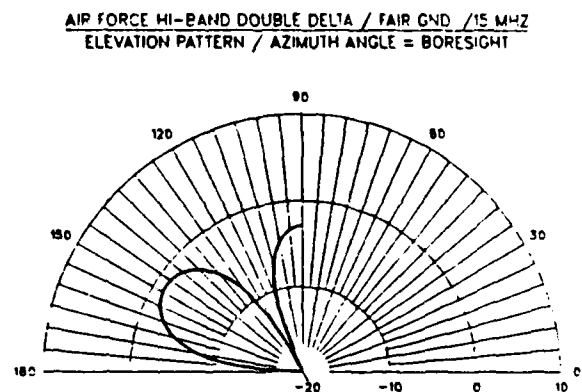
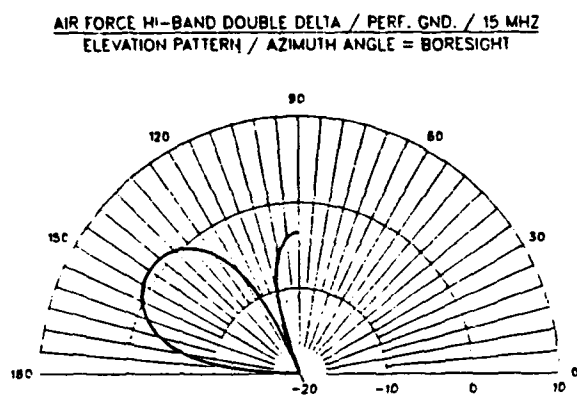
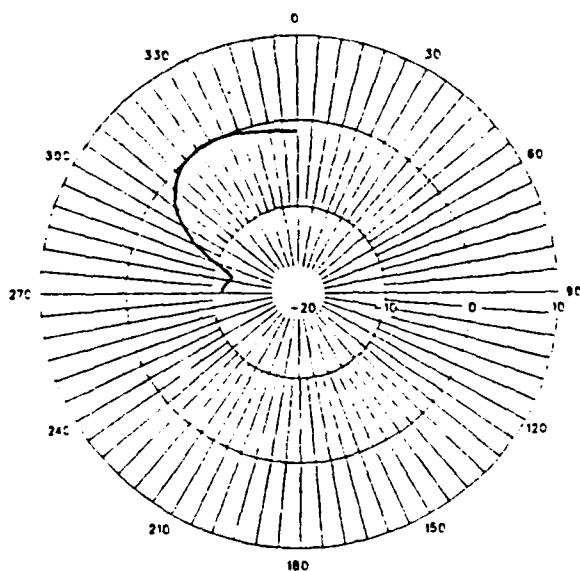
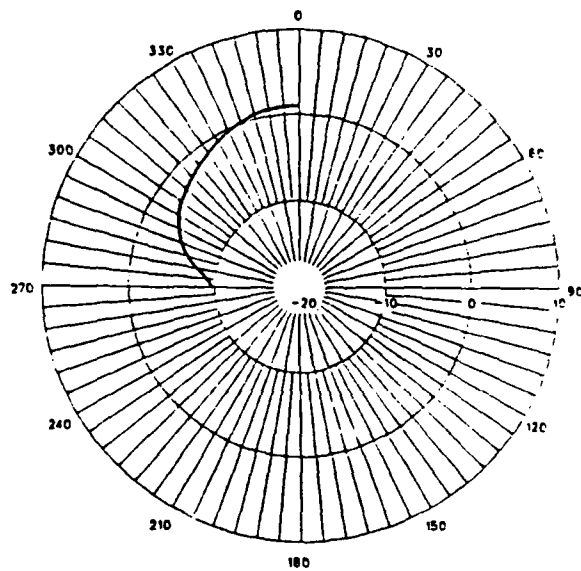


Figure 183. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 15 MHz

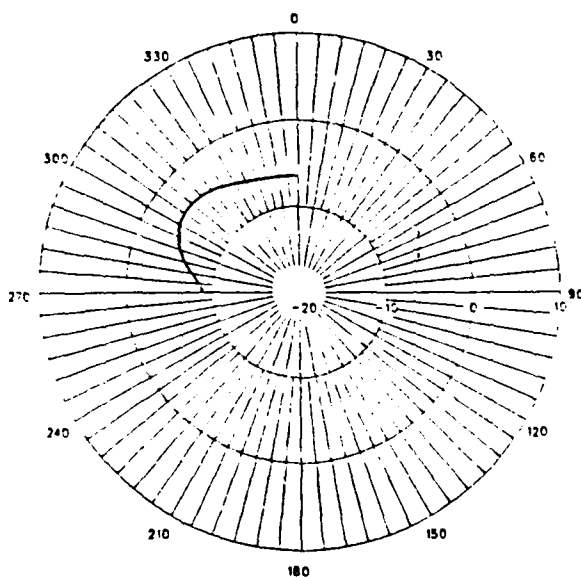
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

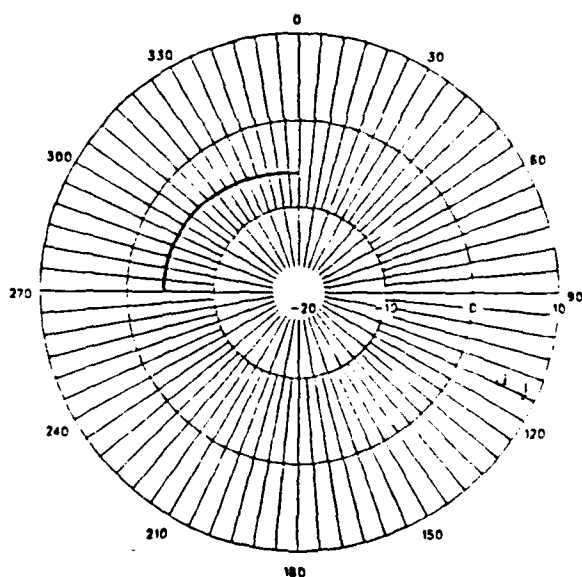
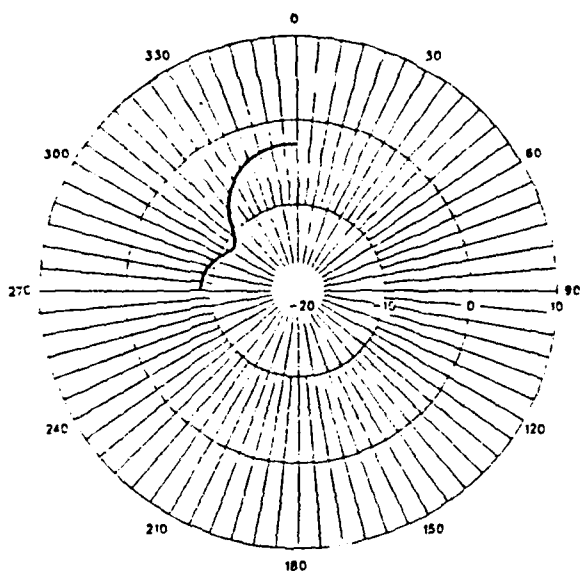
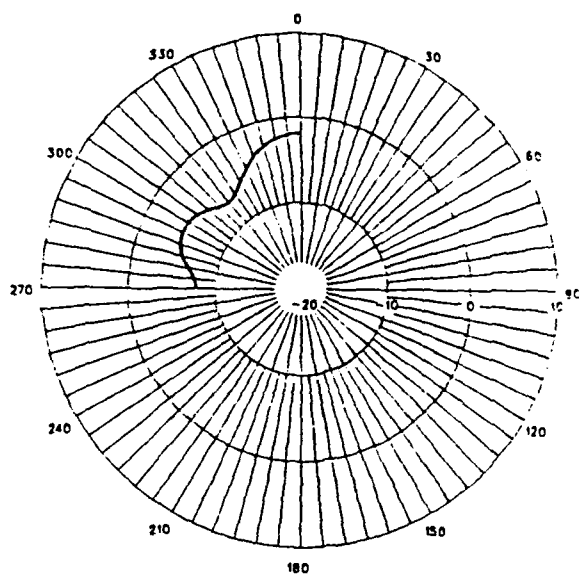


Figure 184. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 15 MHz

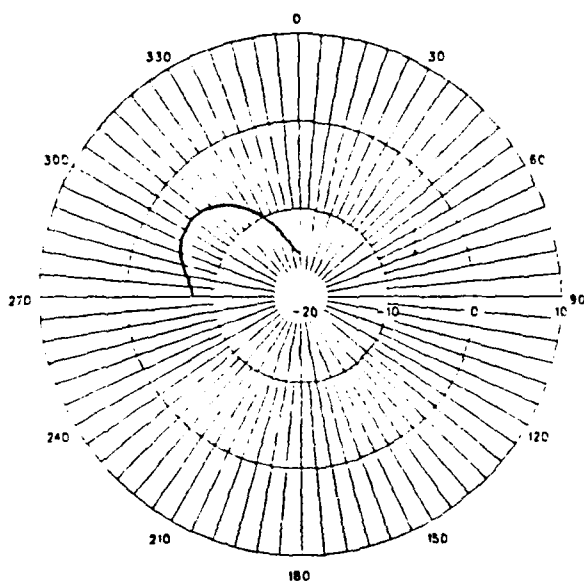
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

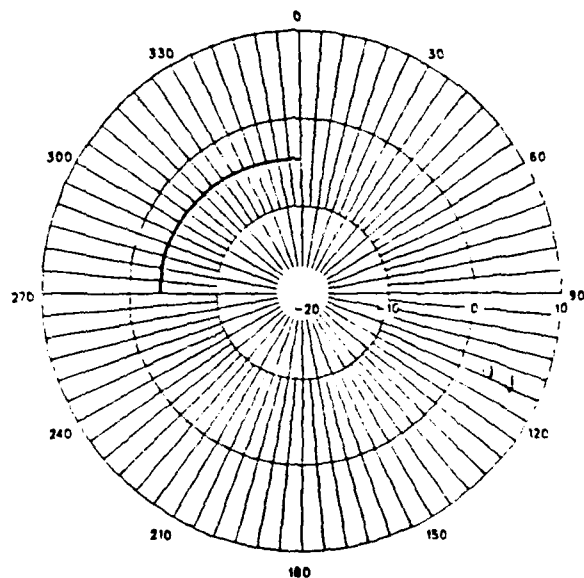


Figure 185. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 15 MHz

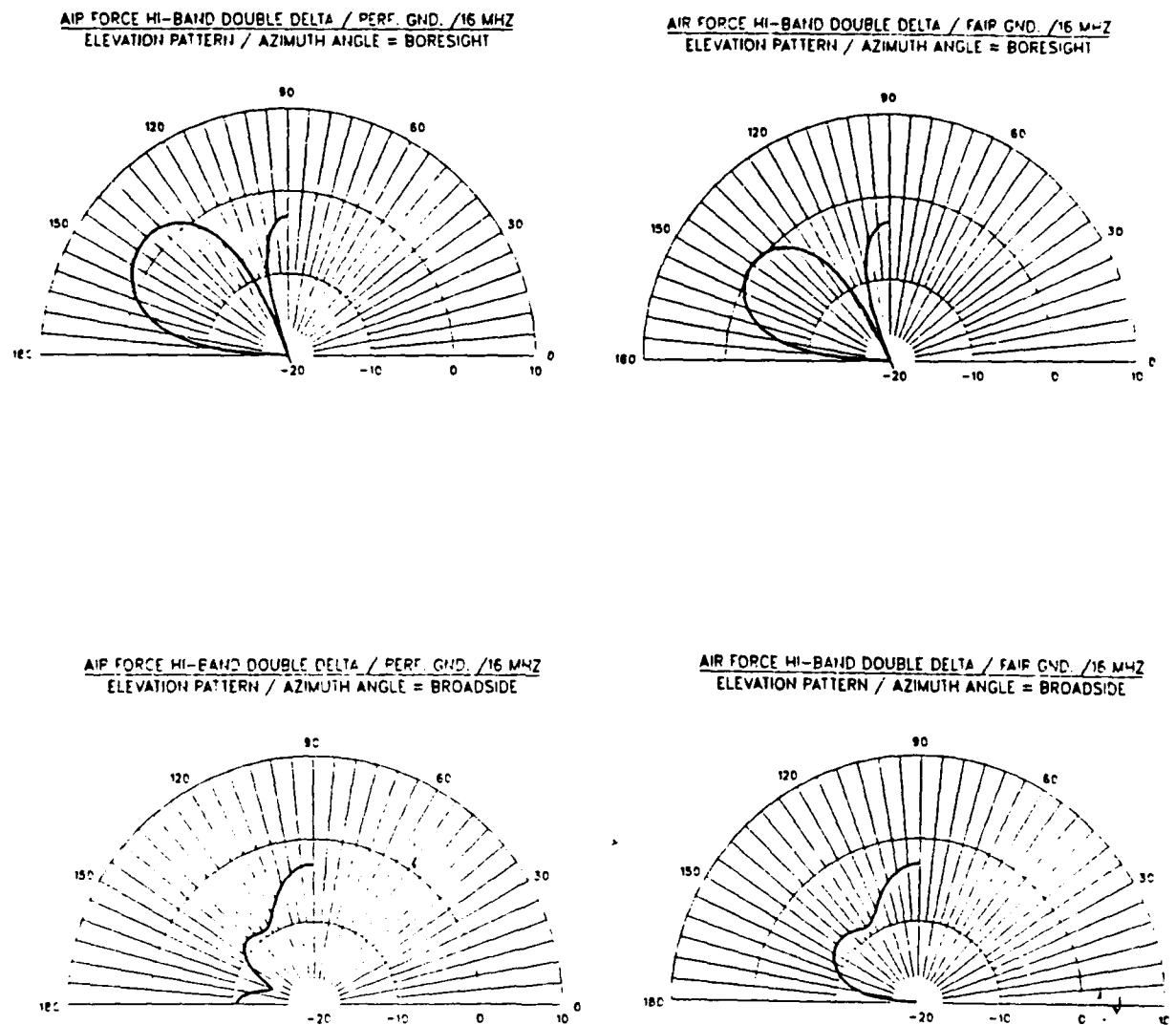
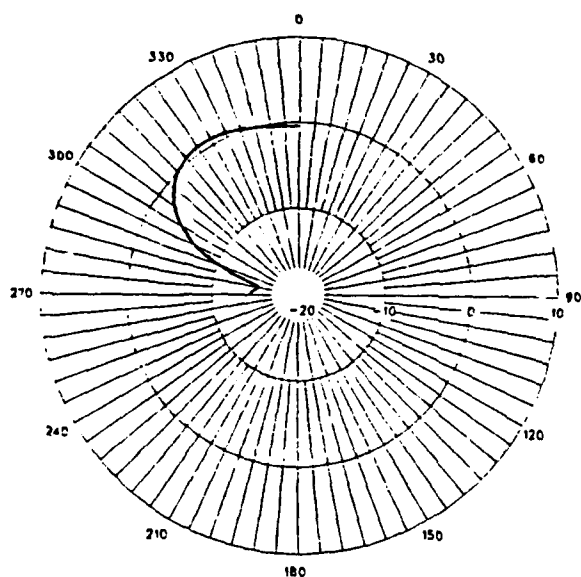
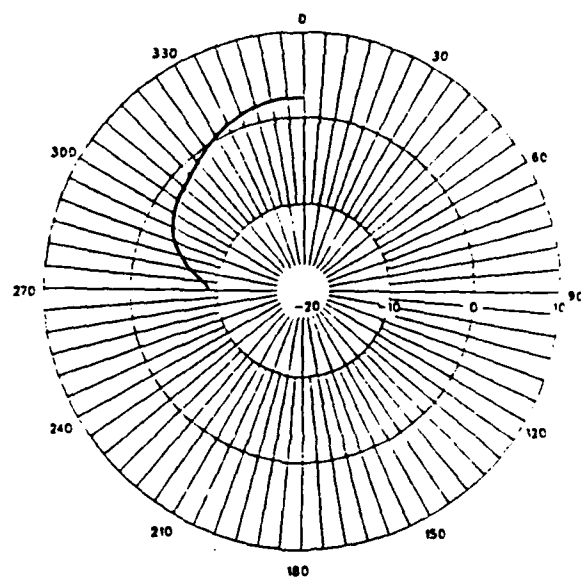


Figure 186. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 16 MHz

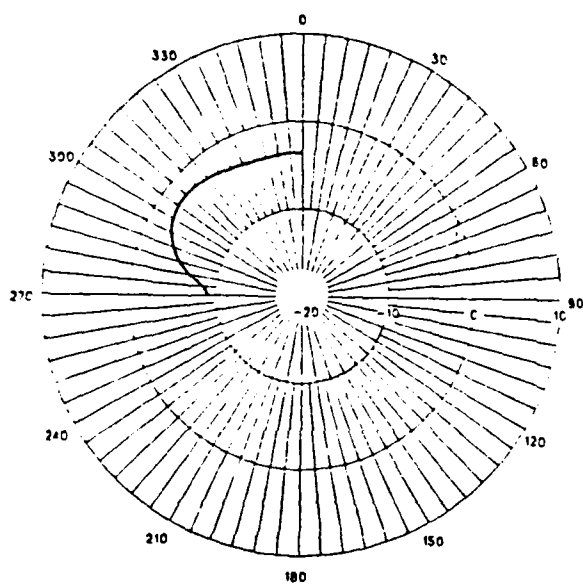
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

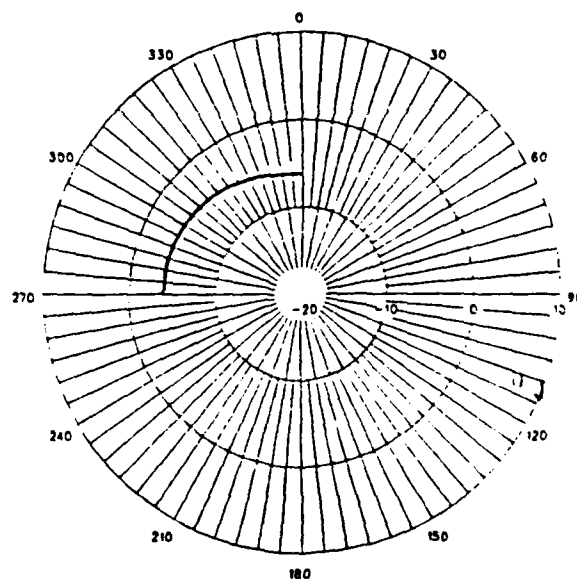
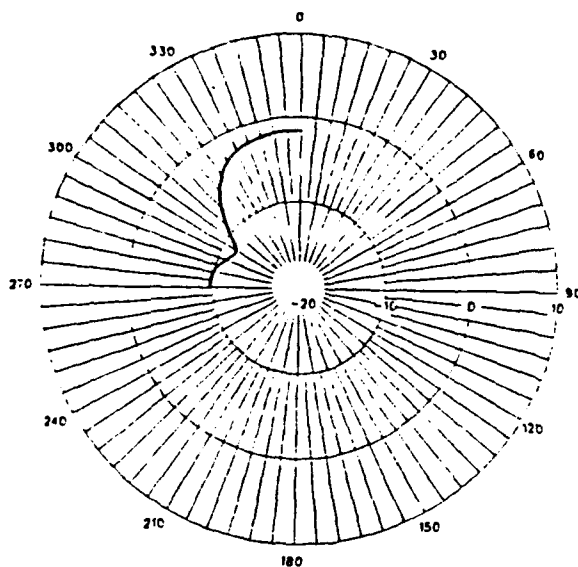
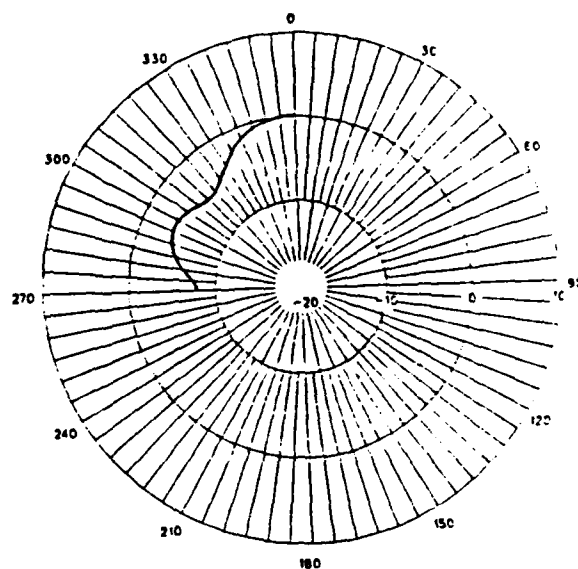


Figure 187. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 16 MHz

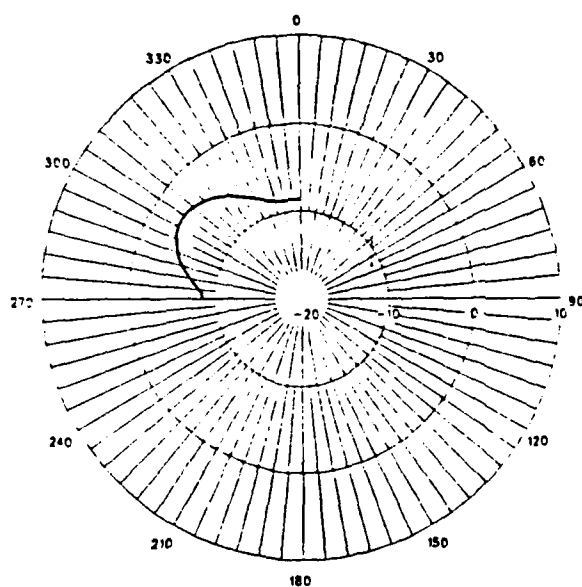
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

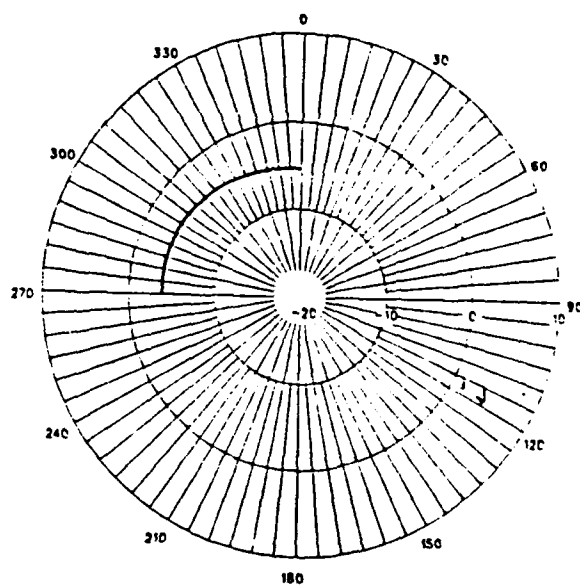


Figure 188. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 16 MHz

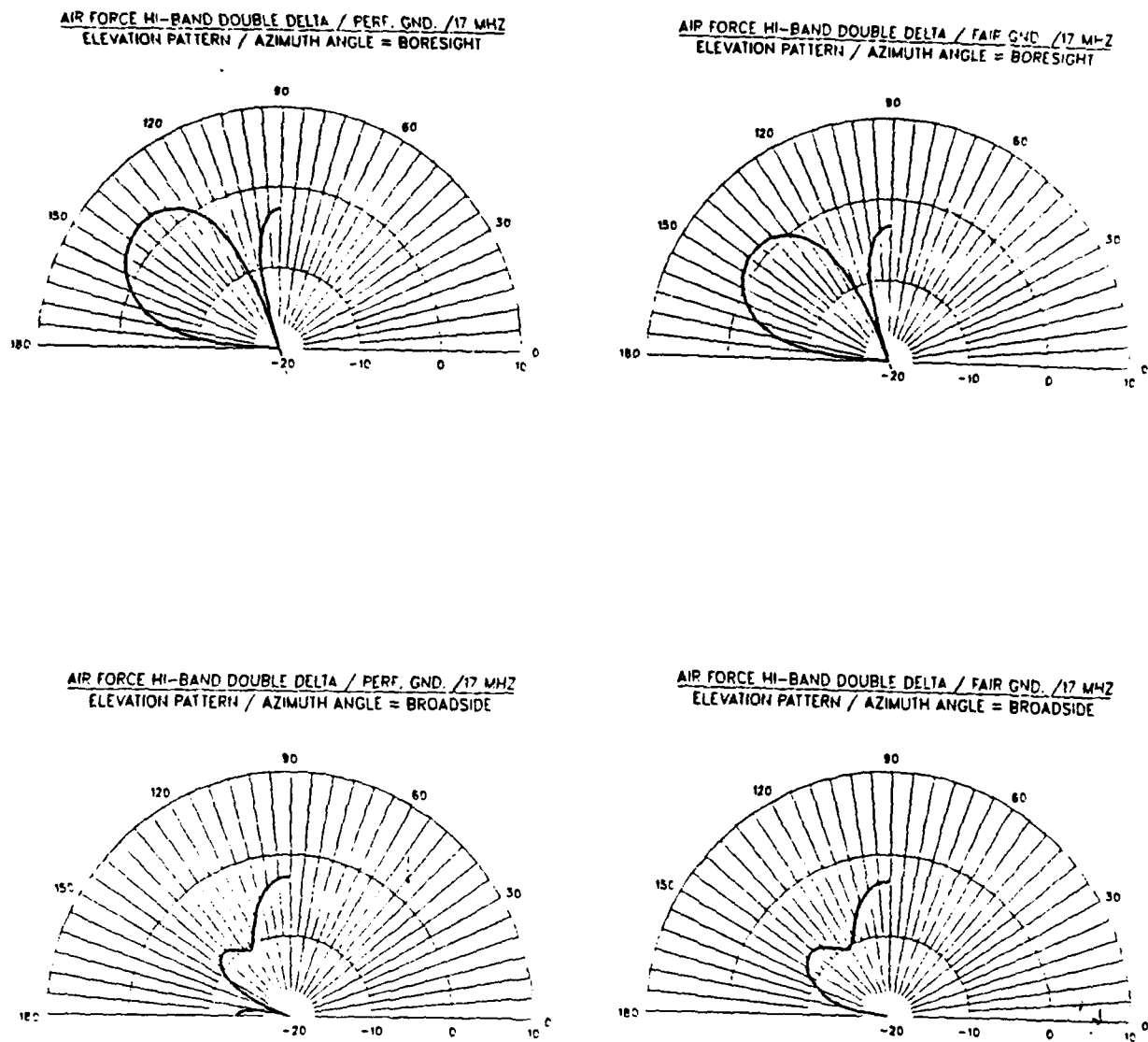
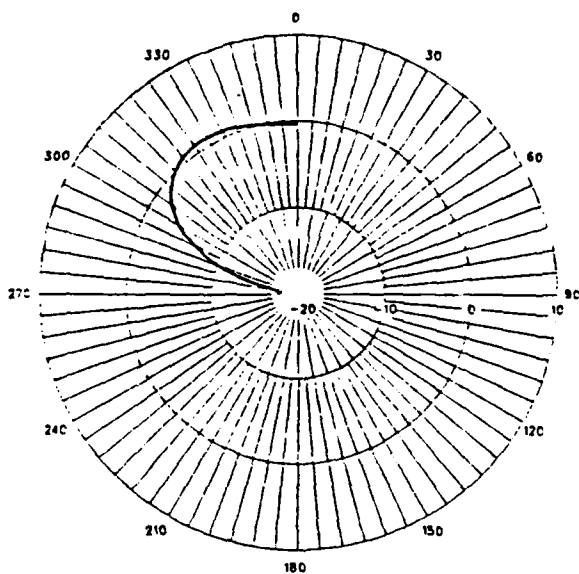
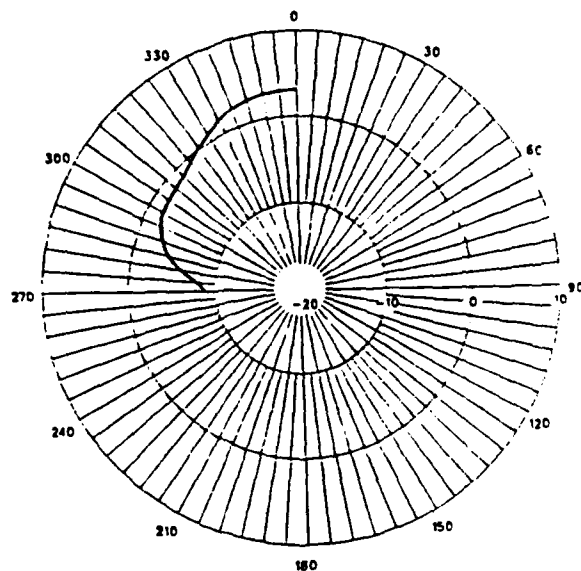


Figure 189. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 17 MHz

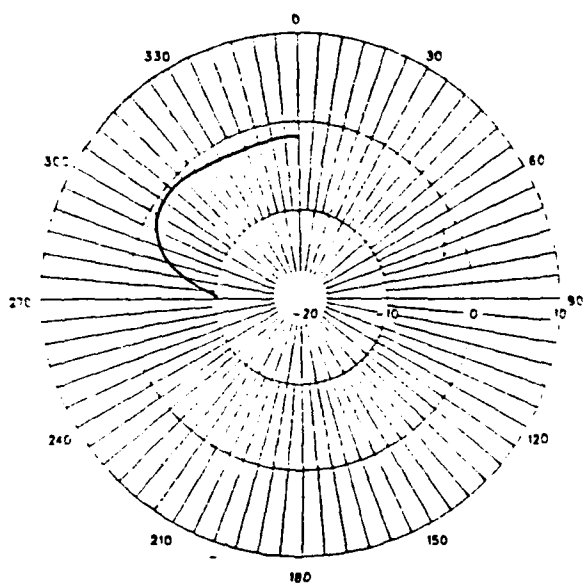
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

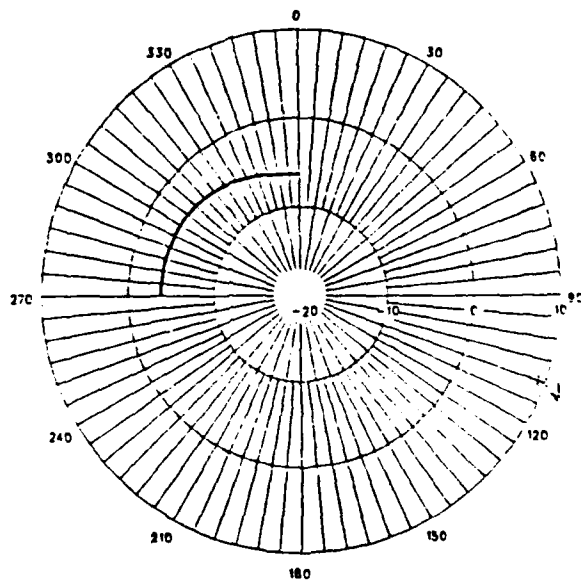
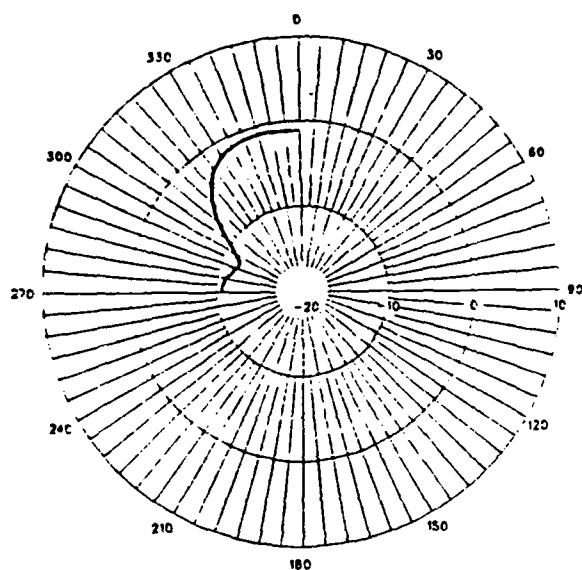
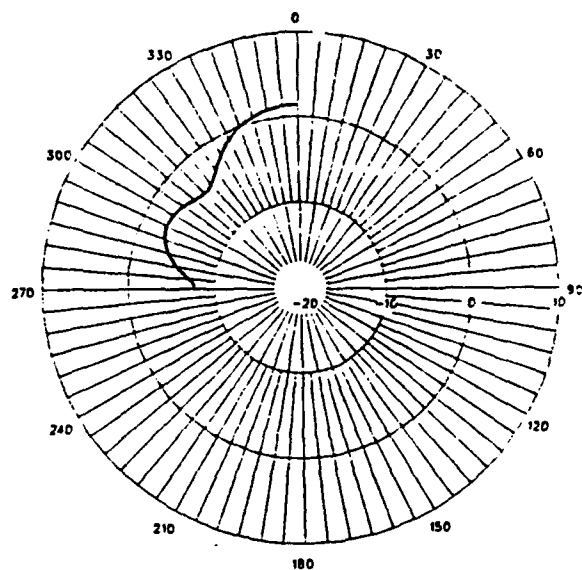


Figure 190. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 17 MHz

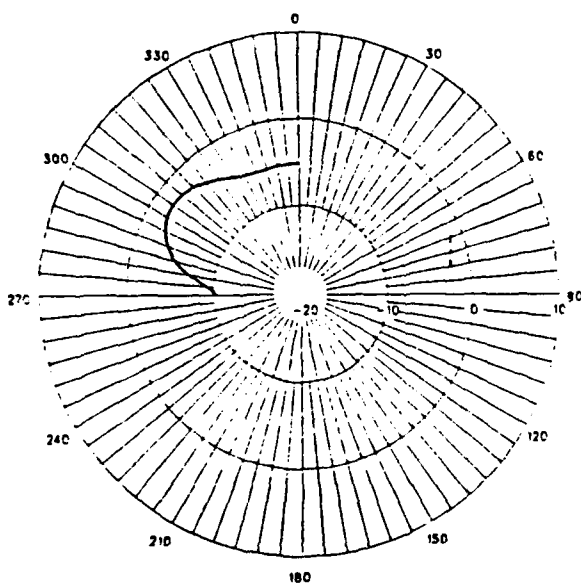
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

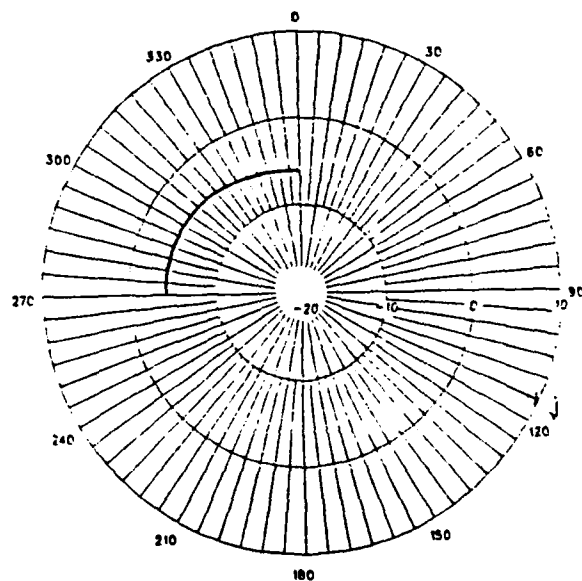


Figure 191. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 17 MHz

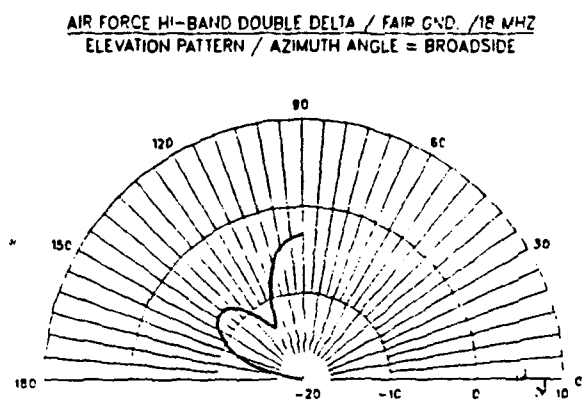
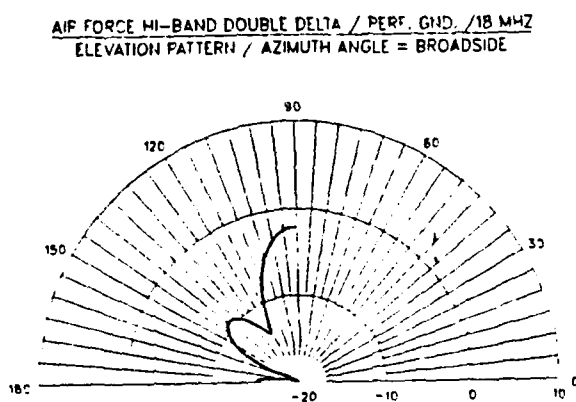
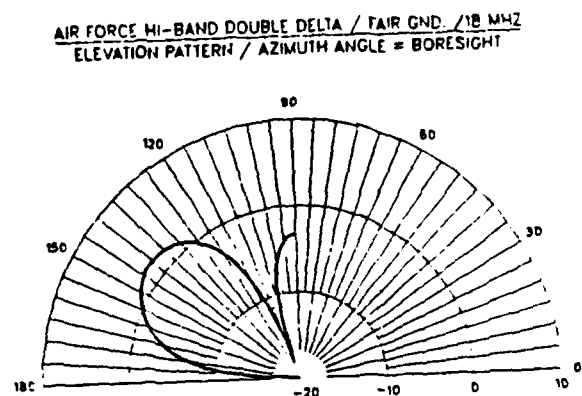
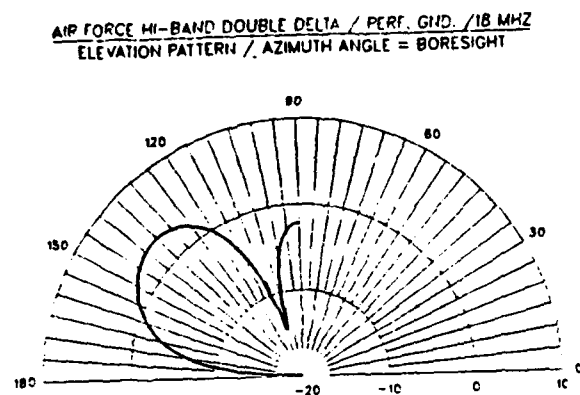


Figure 192. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 18 MHz

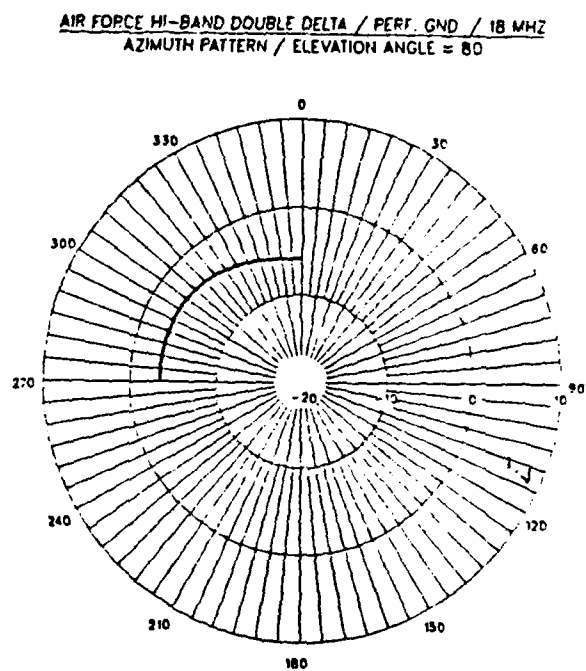
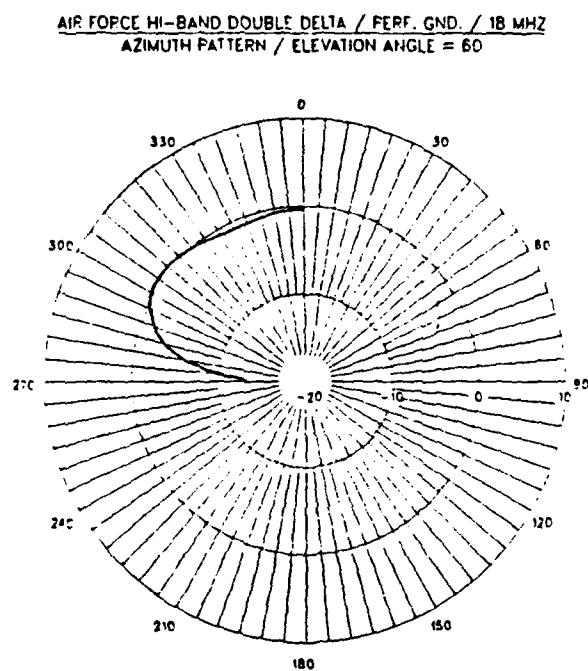
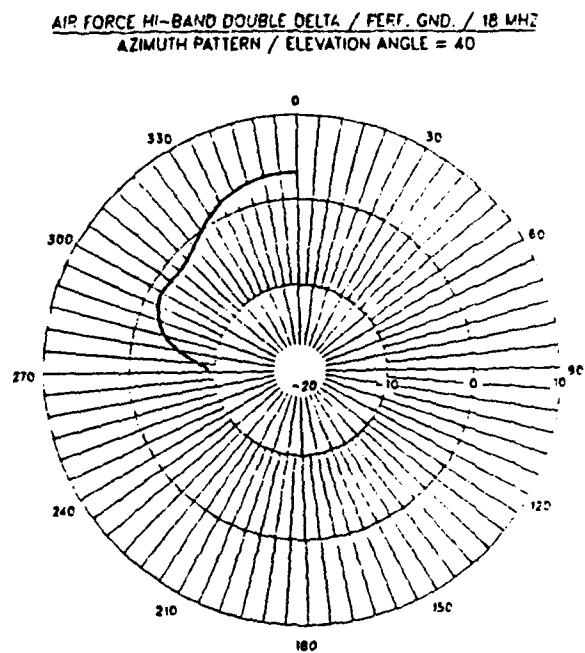
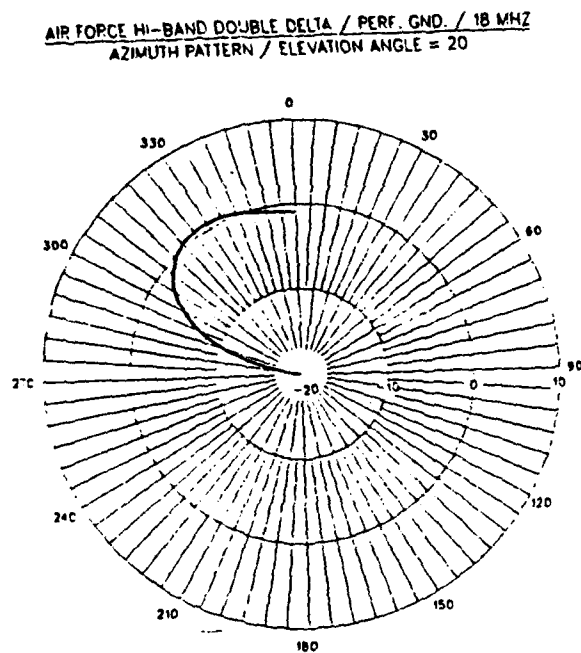
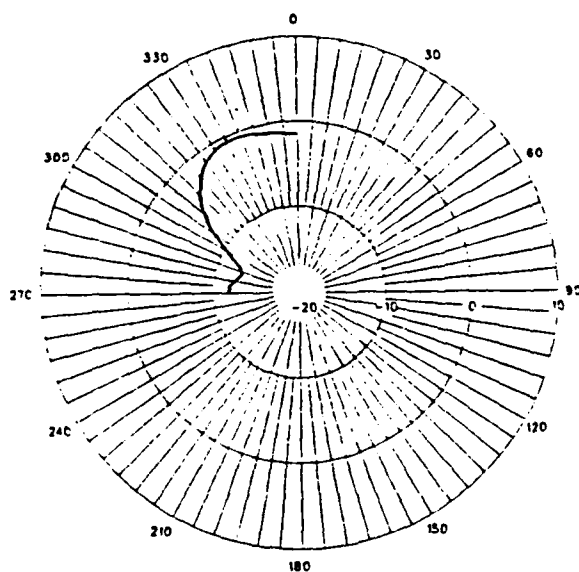
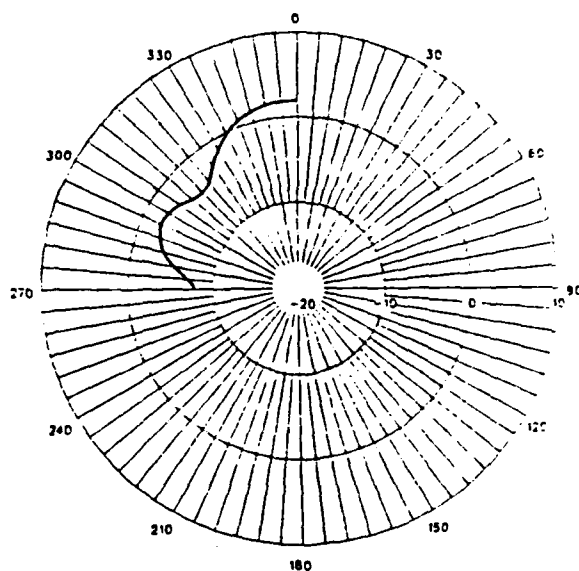


Figure 193. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 18 MHz

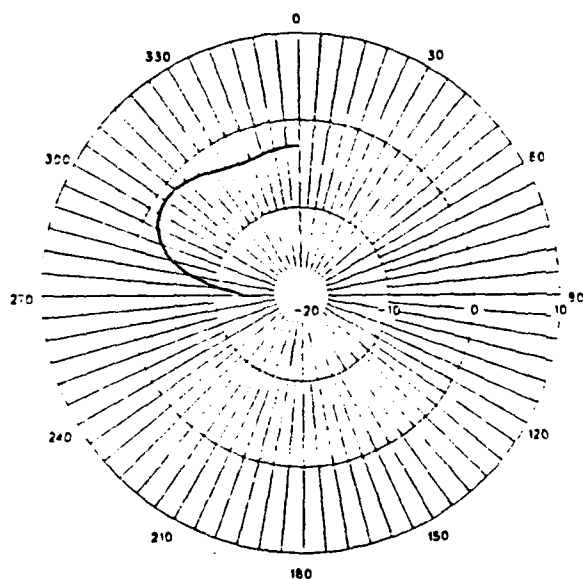
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

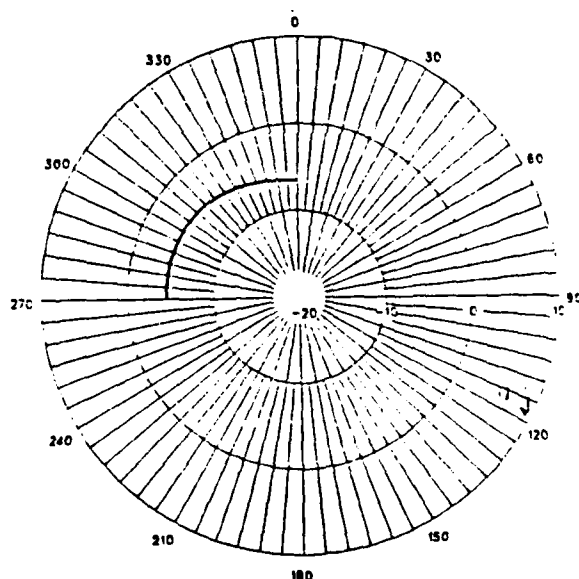
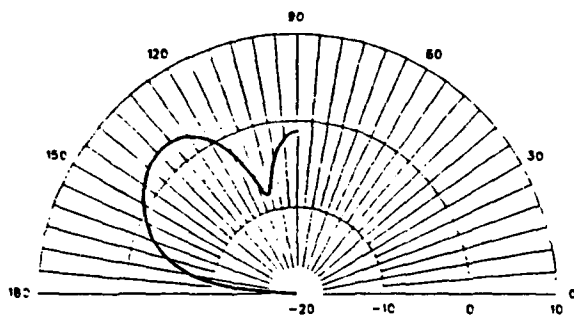
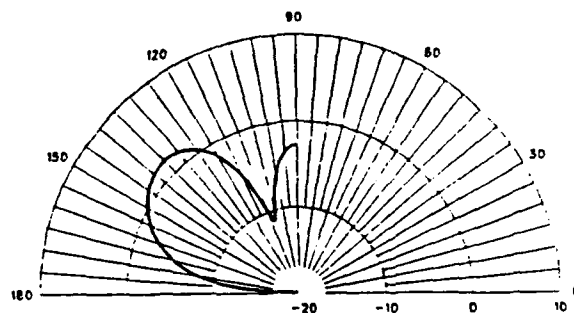


Figure 194. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 18 MHz

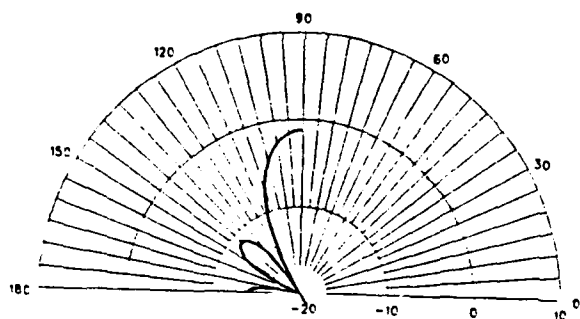
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

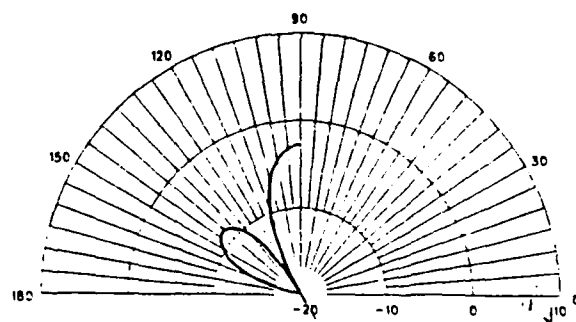
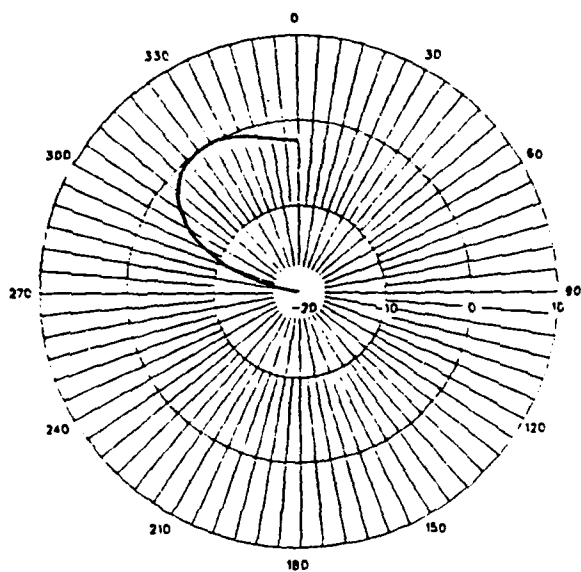
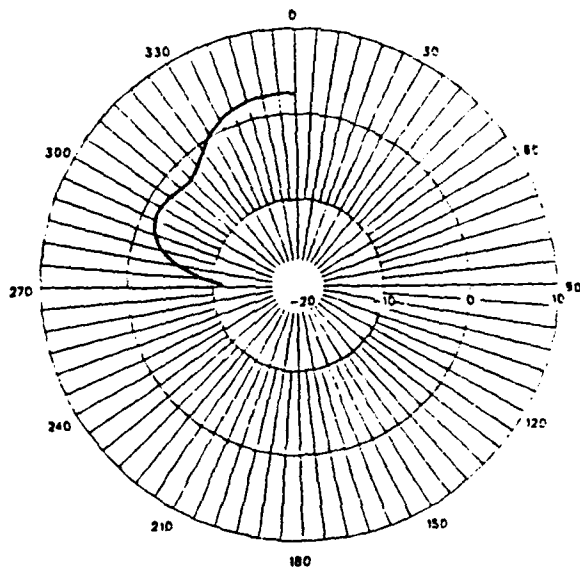


Figure 195. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 19 MHz

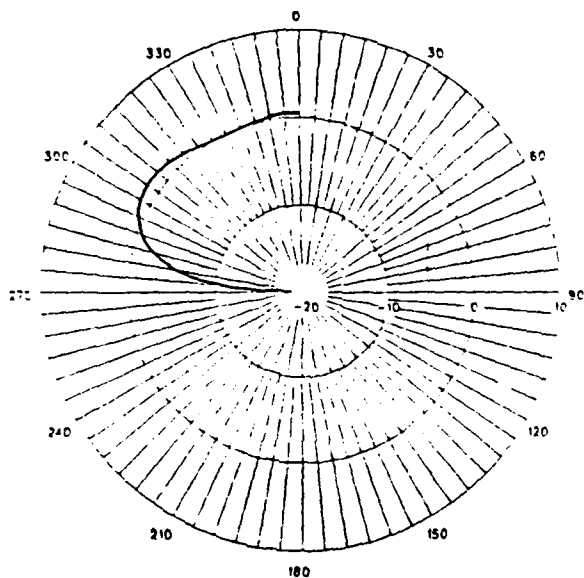
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 19 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 80

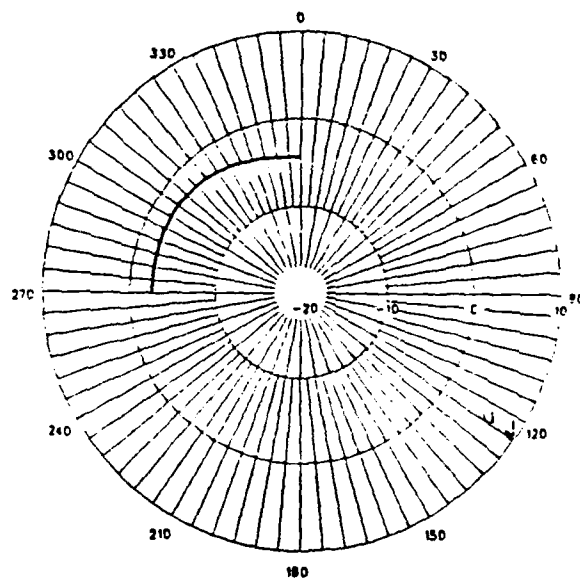
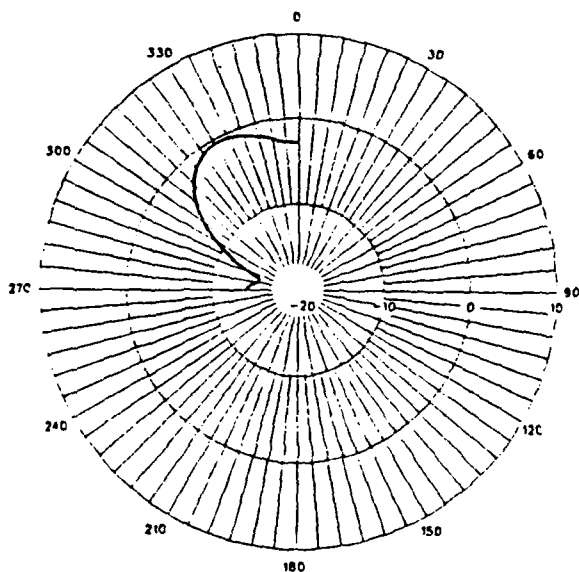
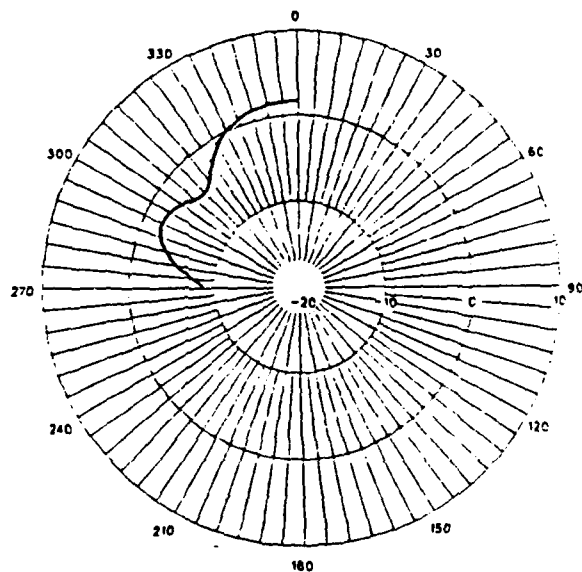


Figure 196. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 19 MHz

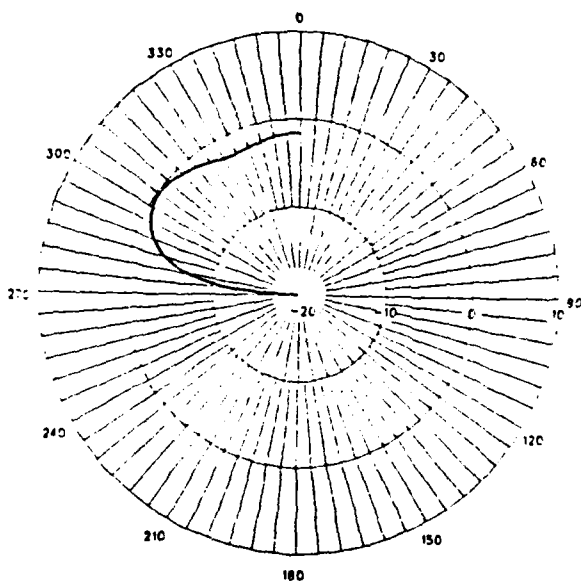
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

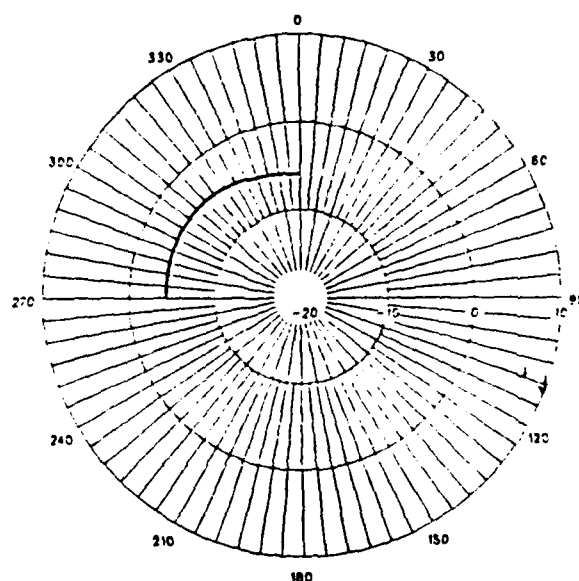
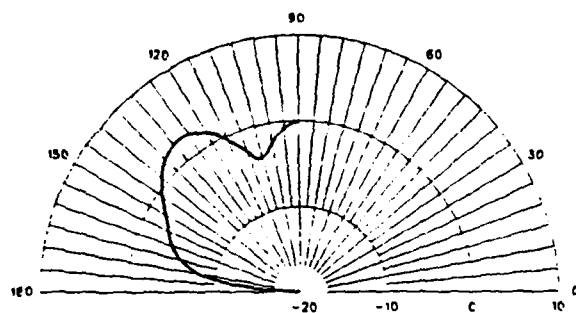
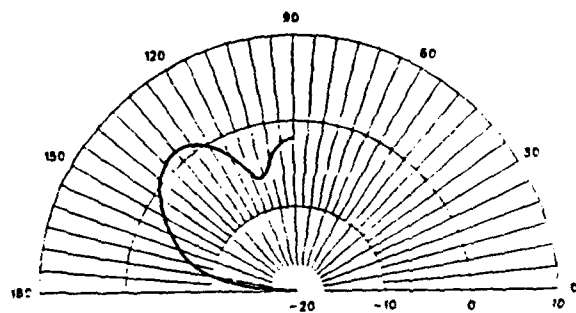


Figure 197. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 19 MHz

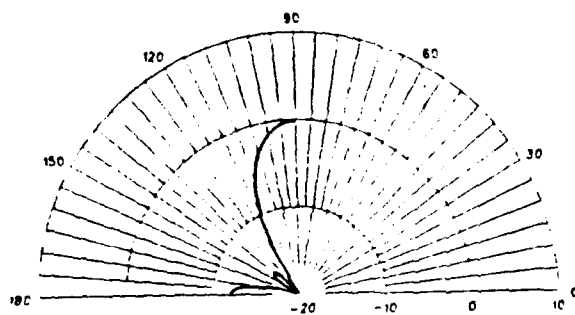
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

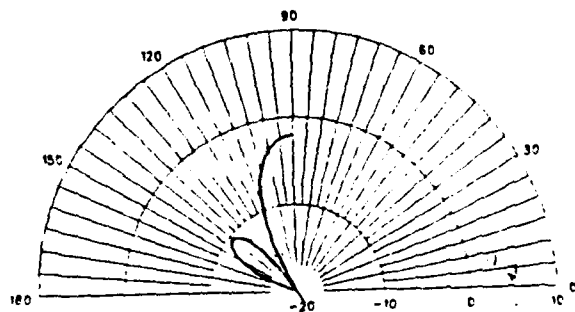
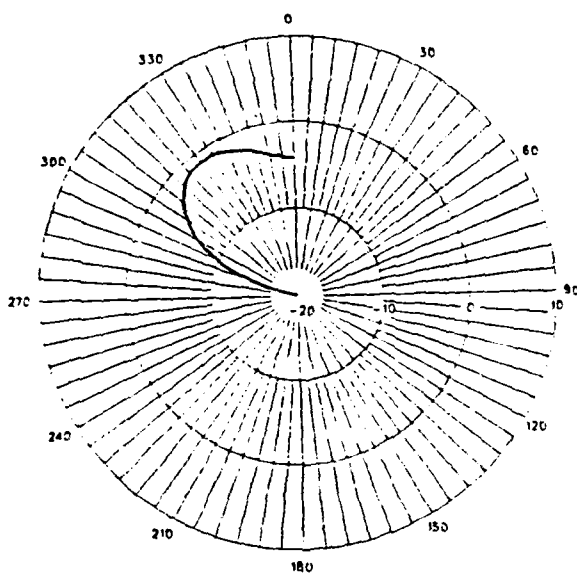
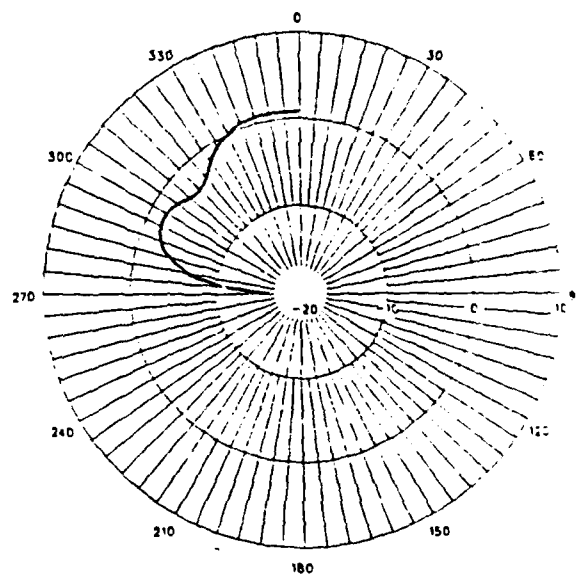


Figure 198. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 20 MHz

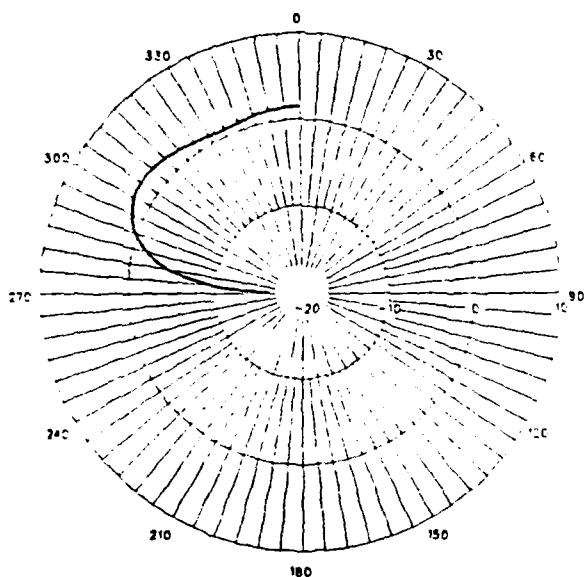
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 20 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 80

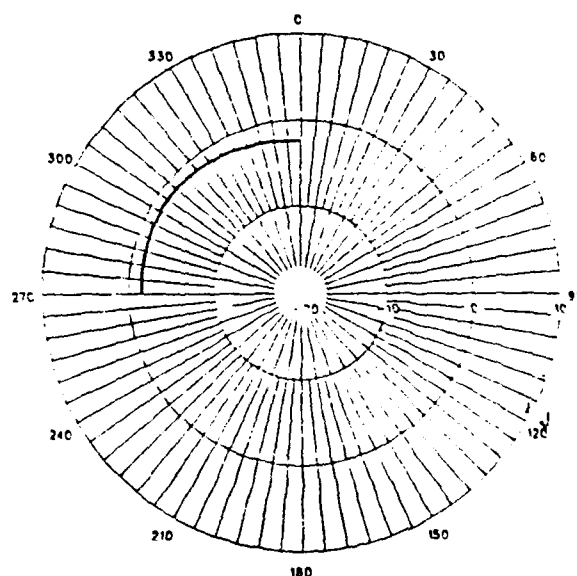
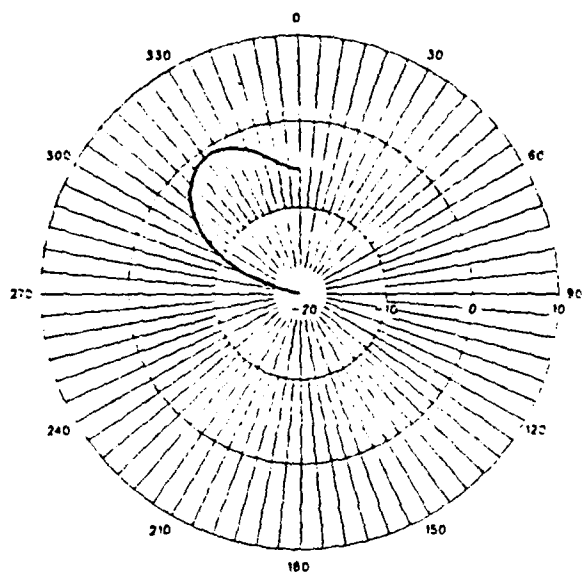
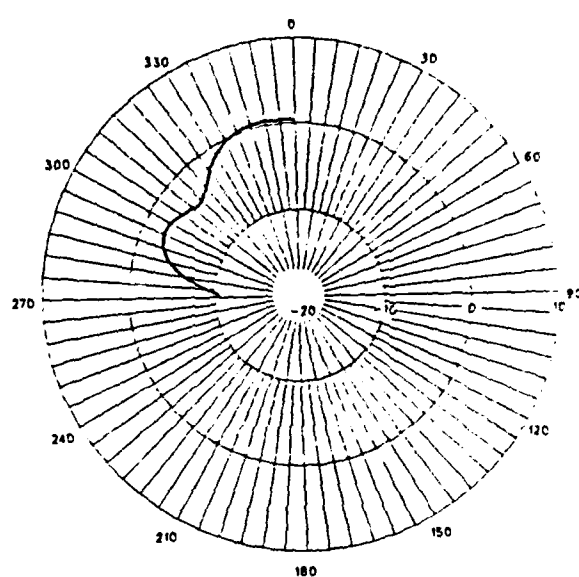


Figure 199. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 20 MHz

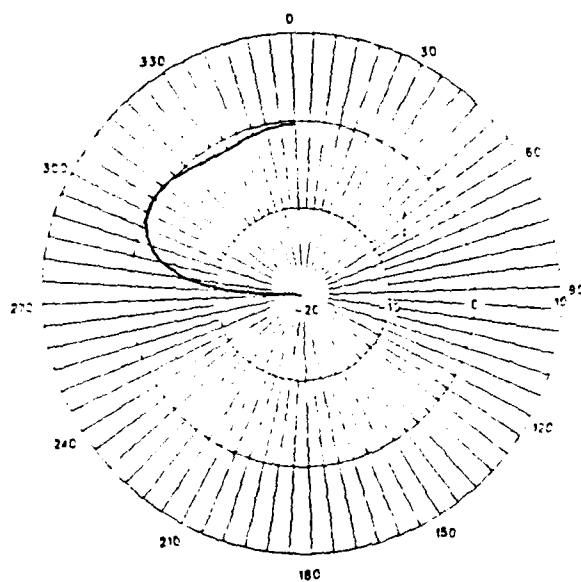
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

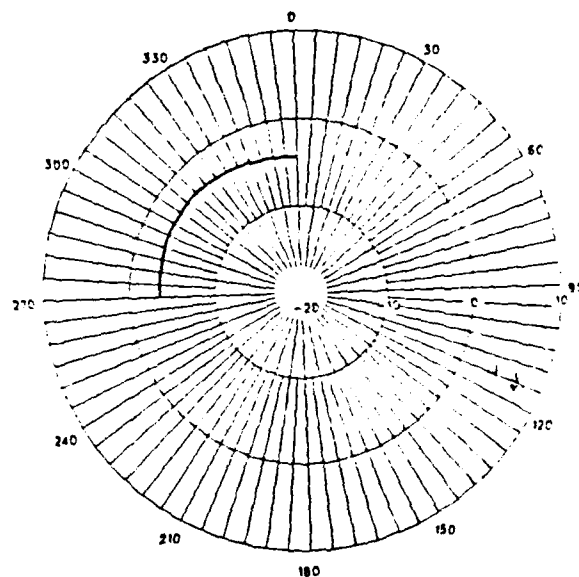
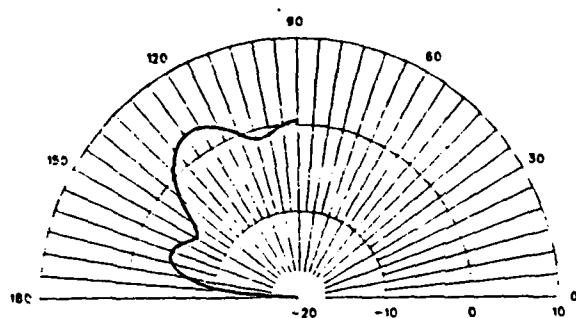
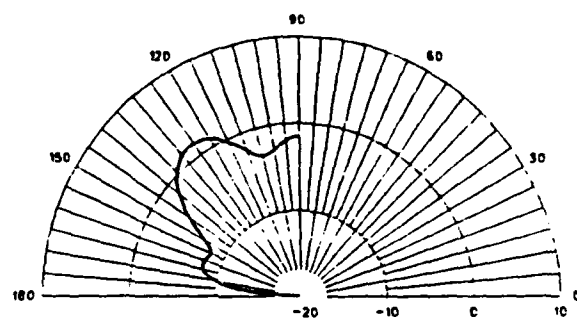


Figure 200. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 20 MHz

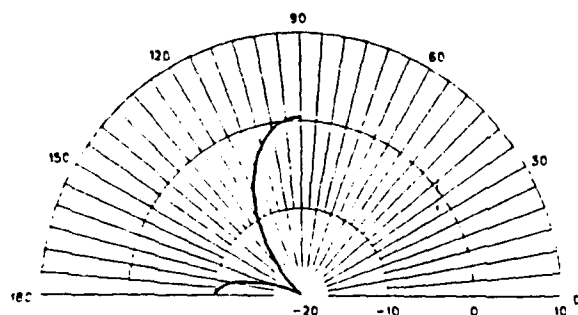
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

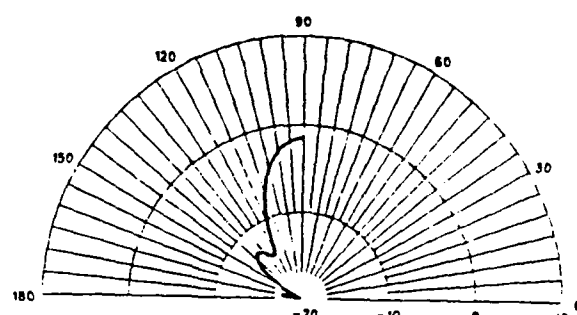
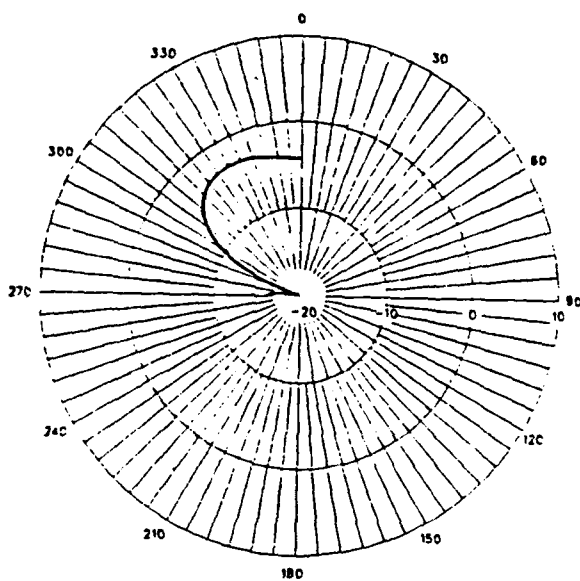
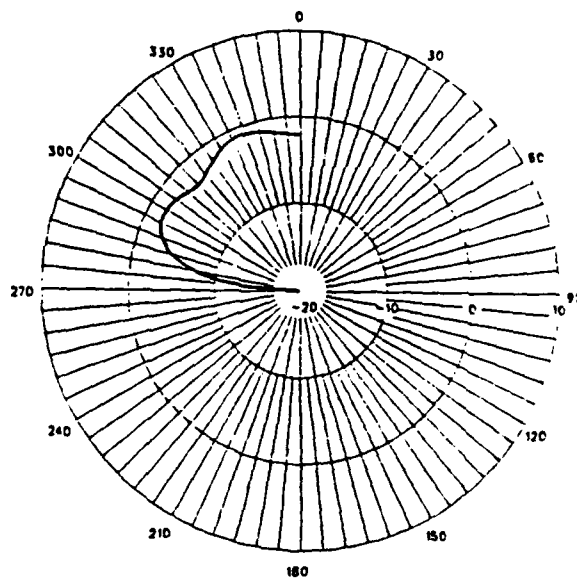


Figure 201. Elevation patterns of the Air Force highband DD antenna over perfect ground and fair ground at 21 MHz

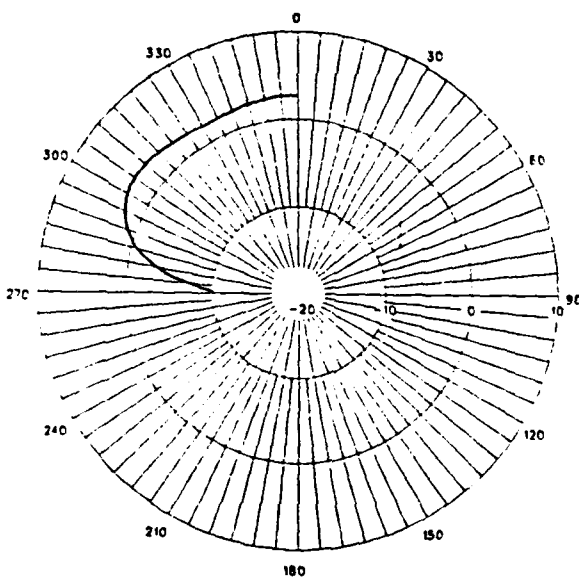
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

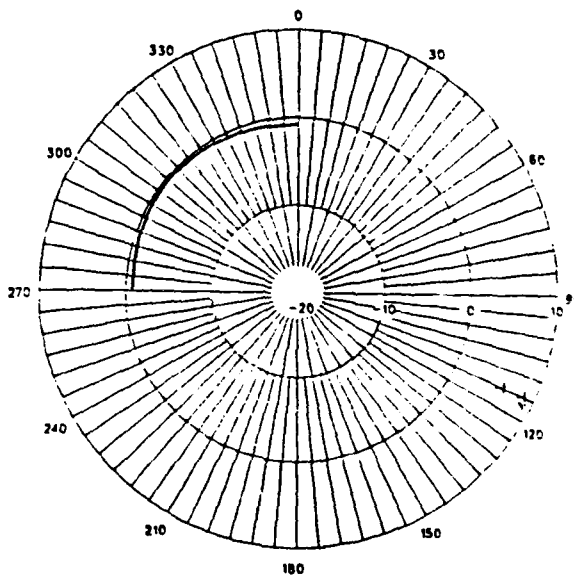
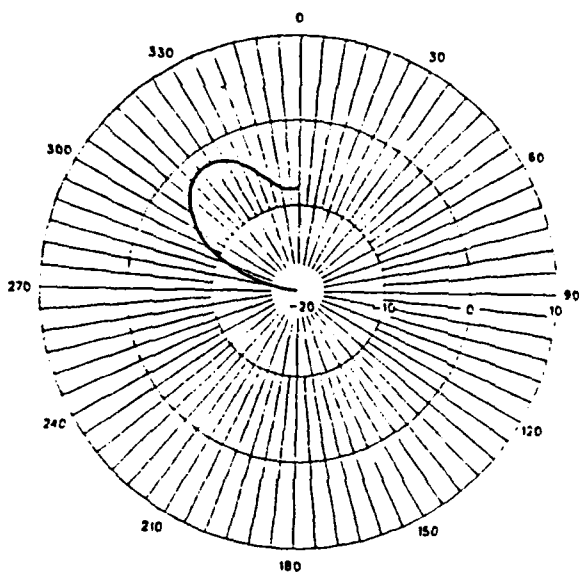
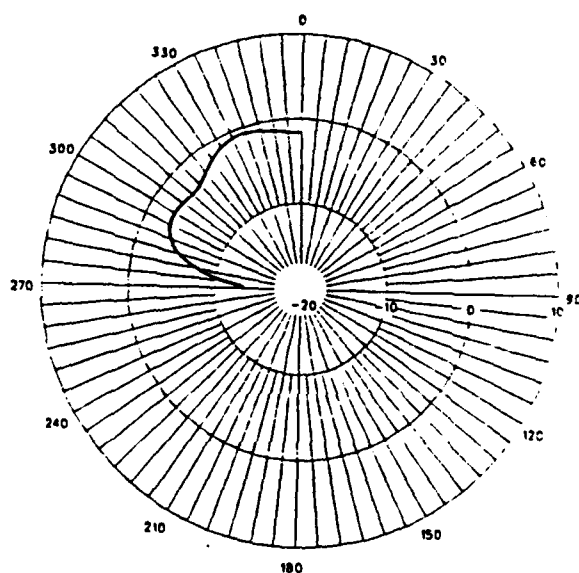


Figure 202. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 21 MHz

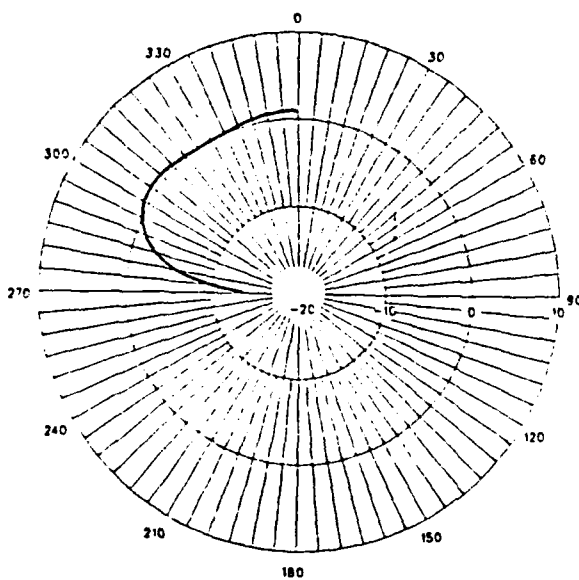
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

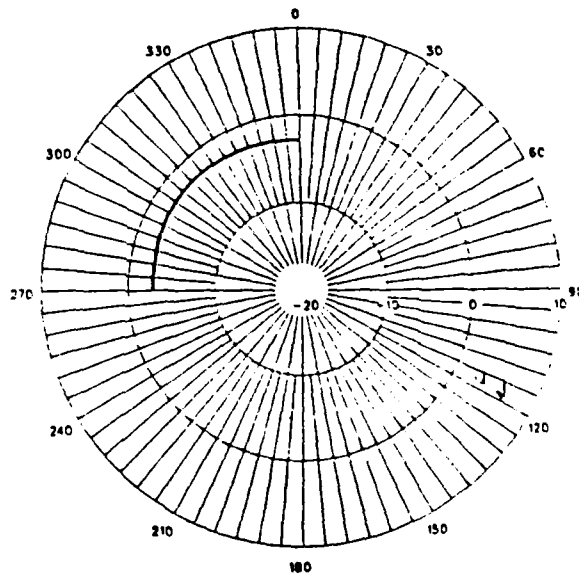


Figure 203. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 21 MHz

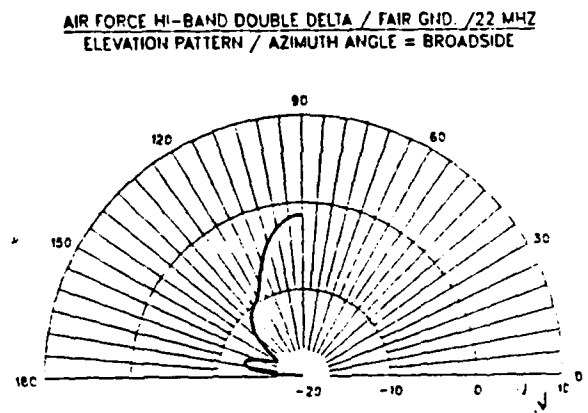
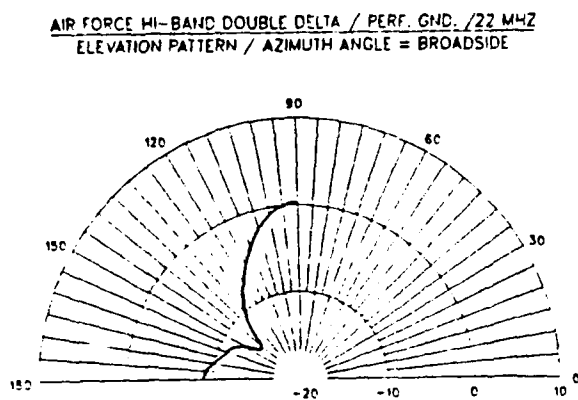
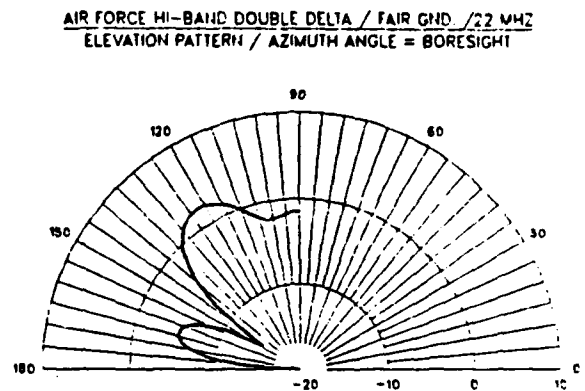
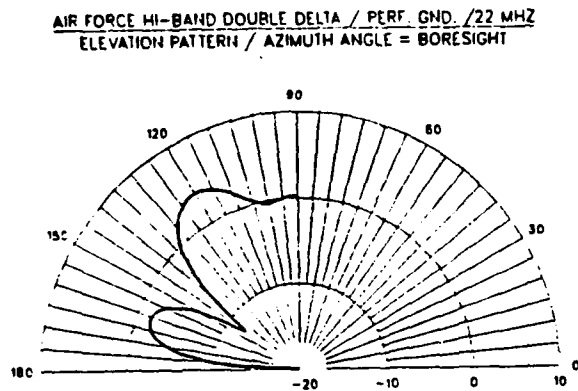
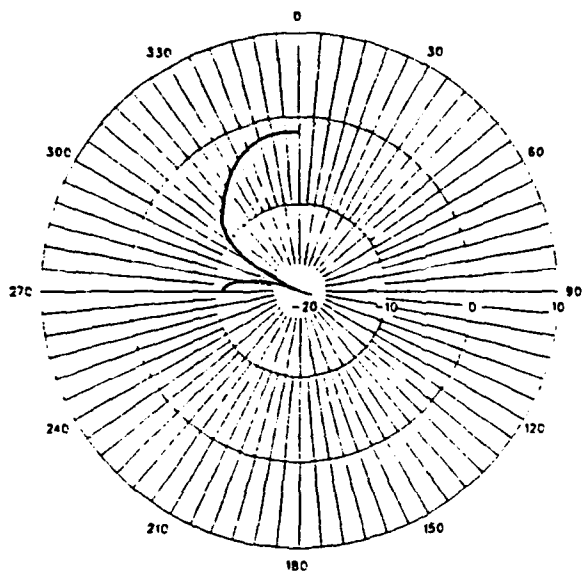
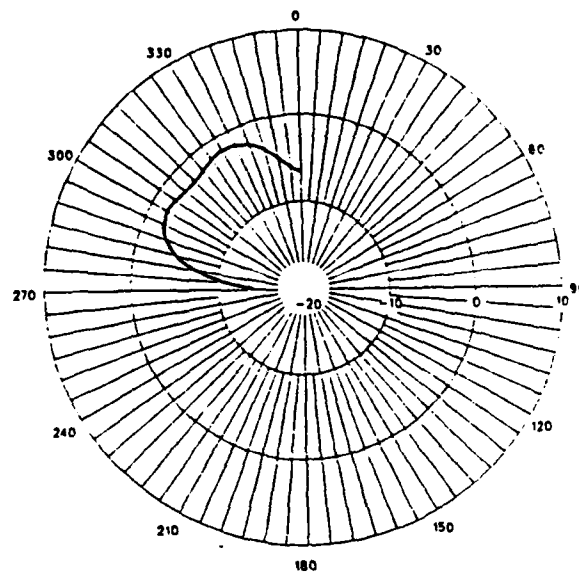


Figure 204. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 22 MHz

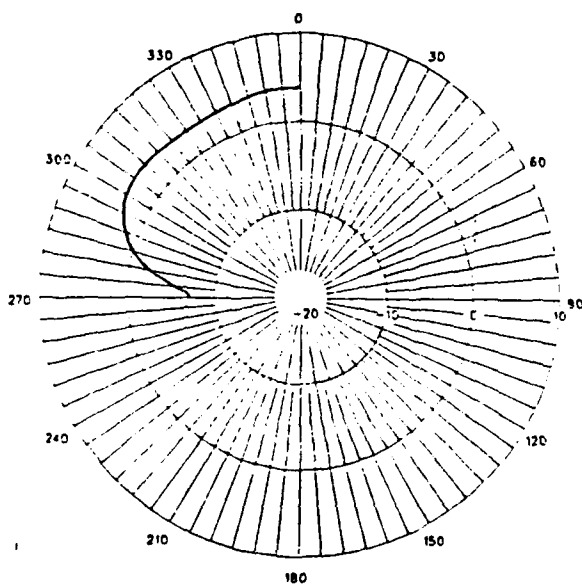
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

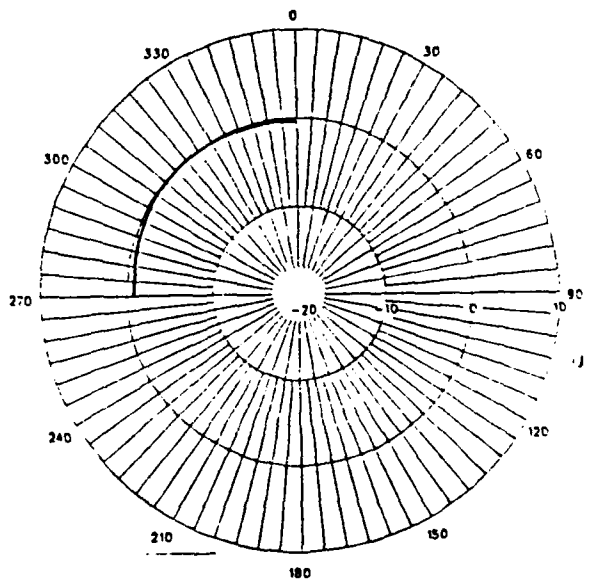
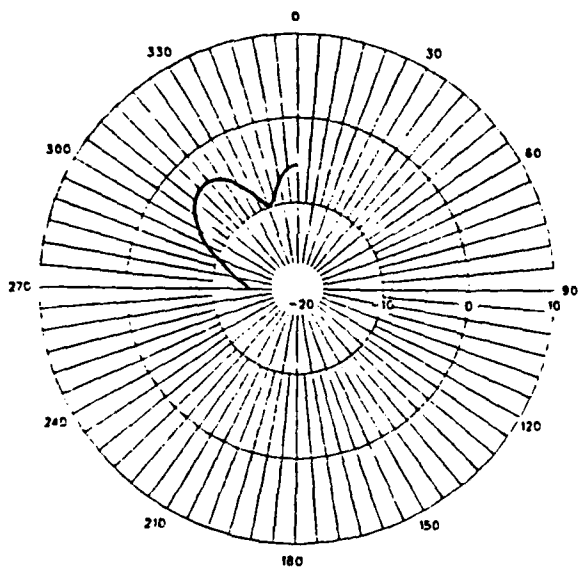
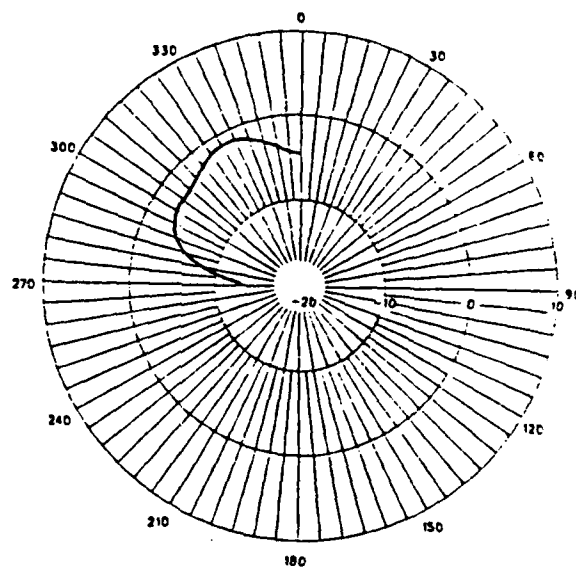


Figure 205. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 22 MHz

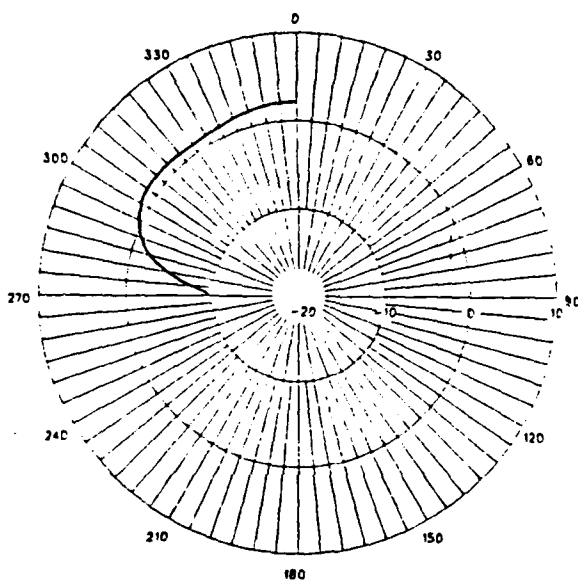
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

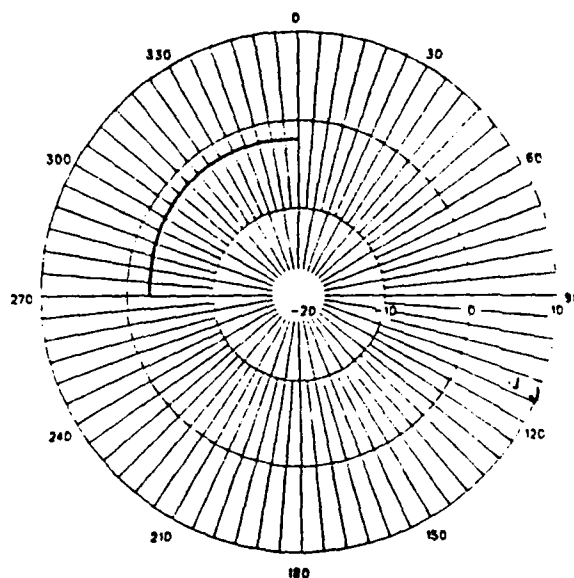


Figure 206. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 22 MHz

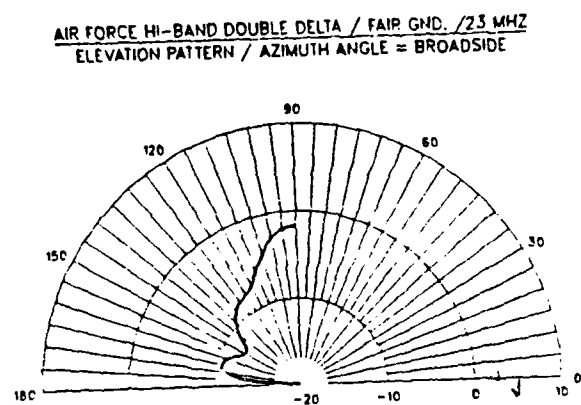
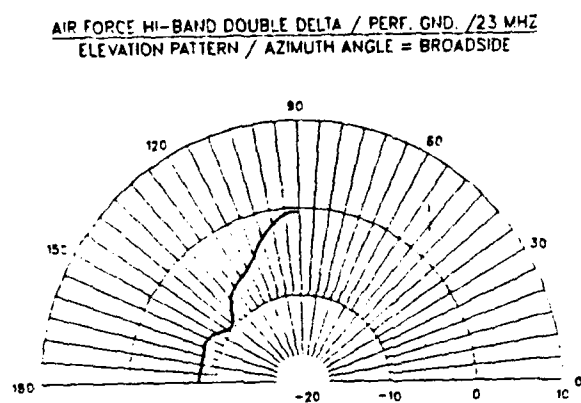
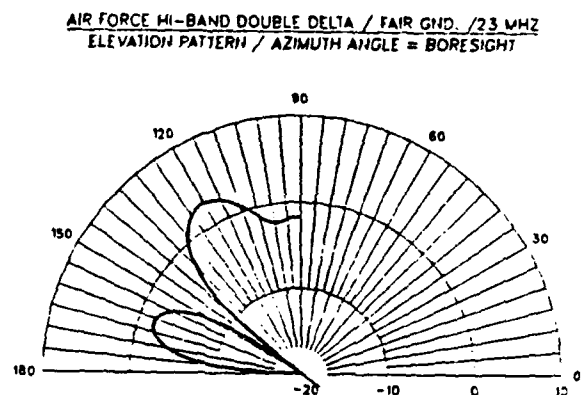
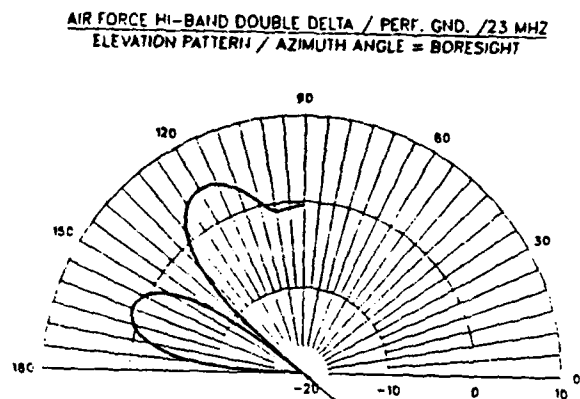
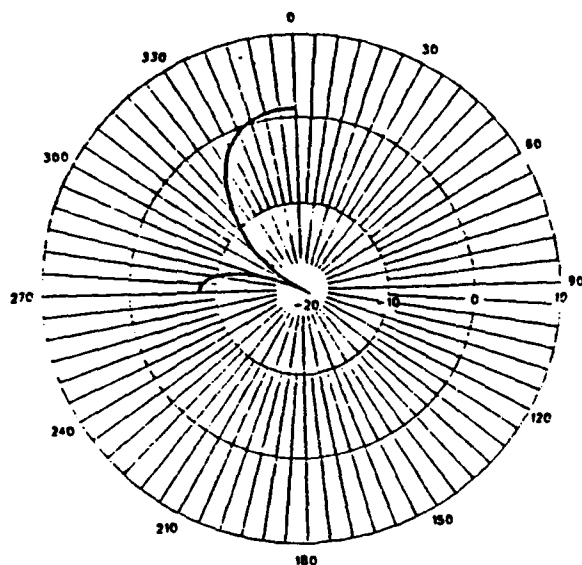
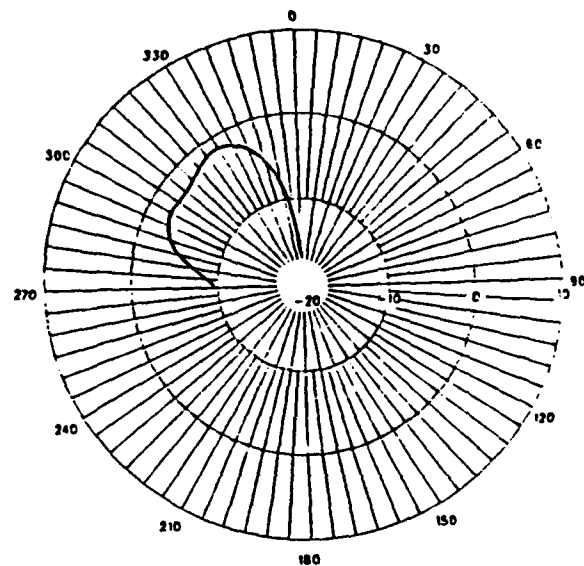


Figure 207. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 23 MHz

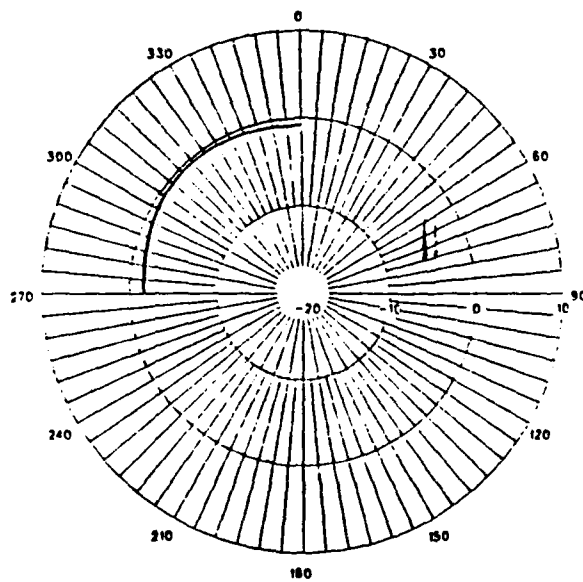
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

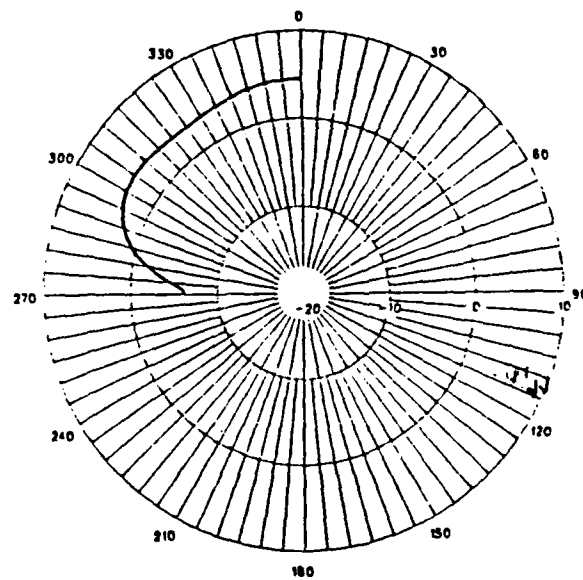
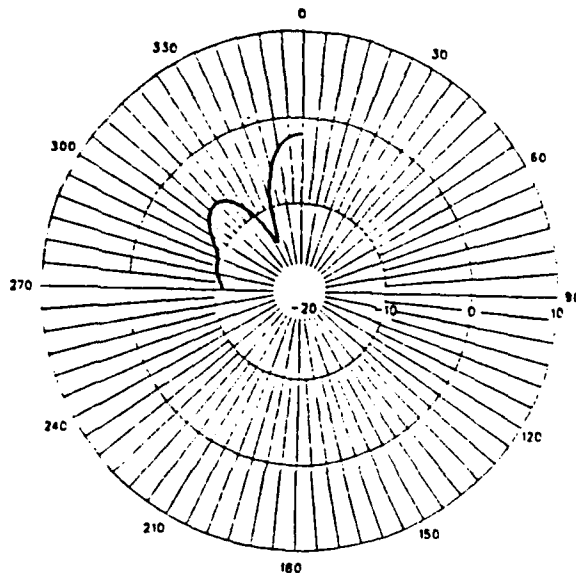
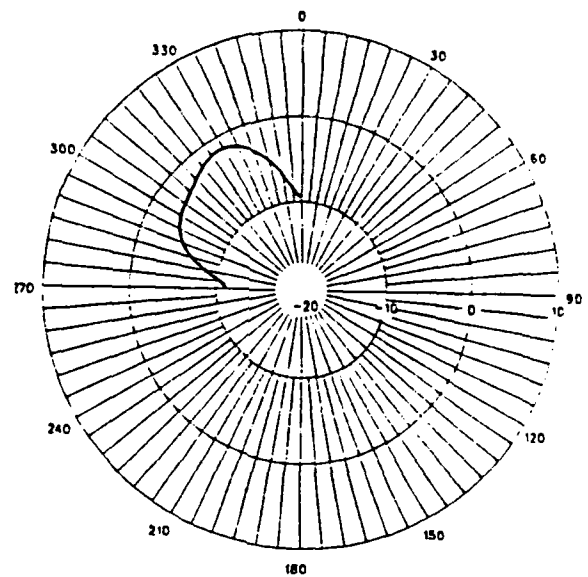


Figure 208. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 23 MHz

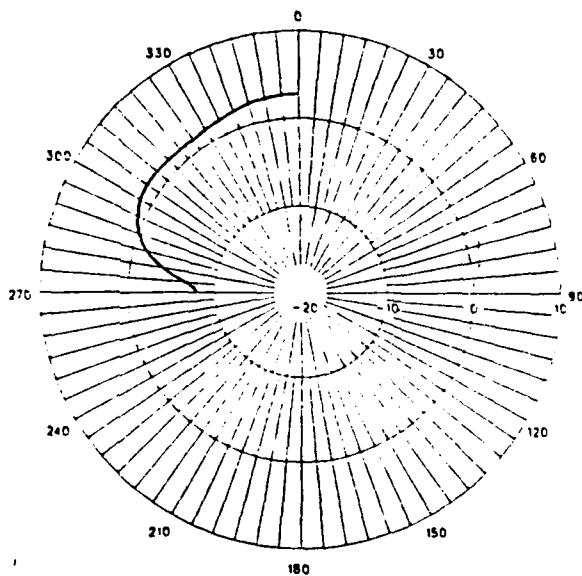
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 23 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 80

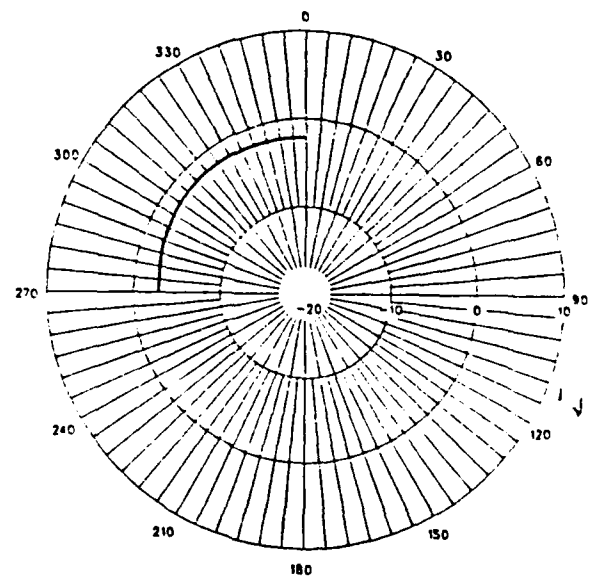


Figure 209. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 23 MHz

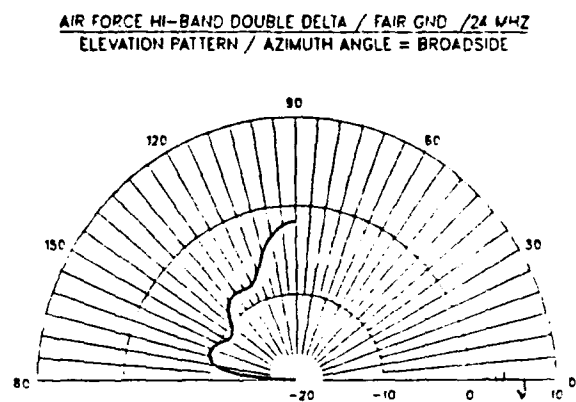
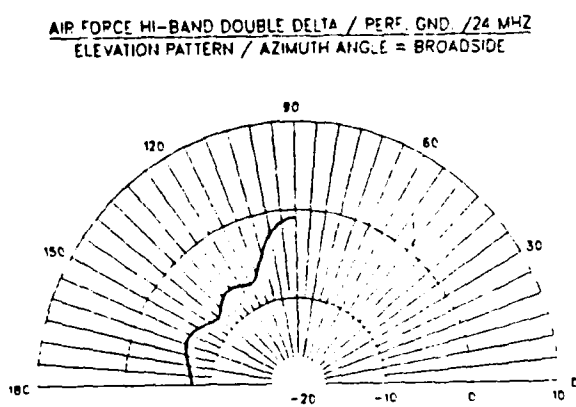
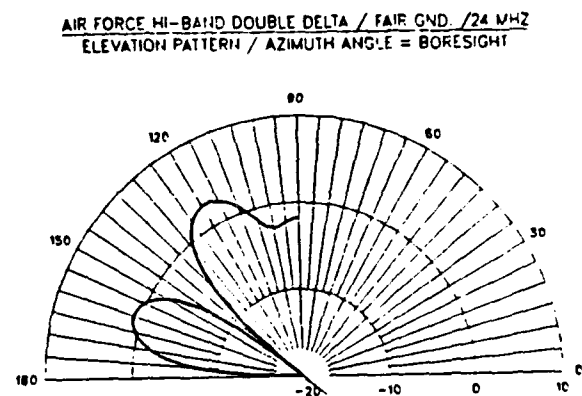
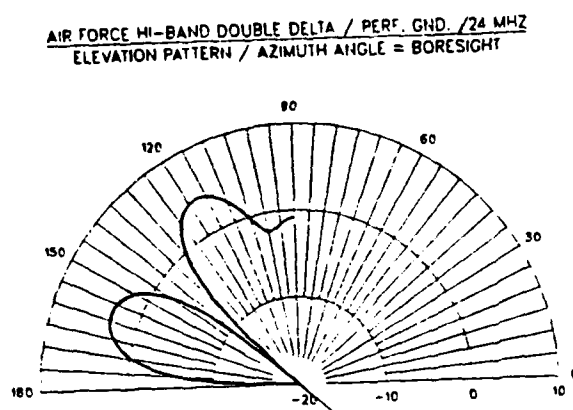
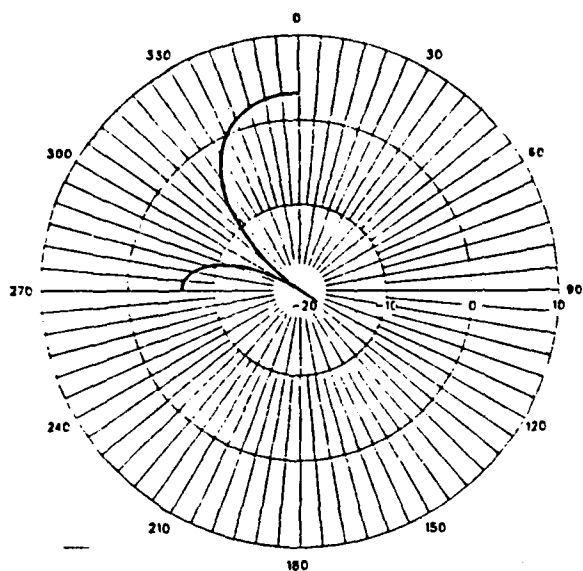
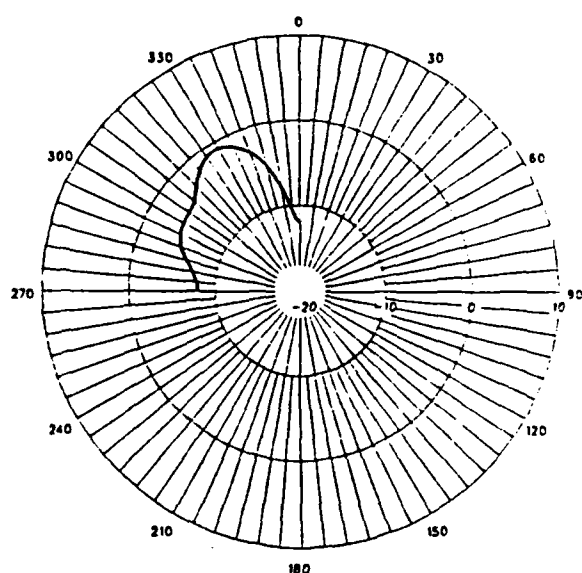


Figure 210. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 24 MHz

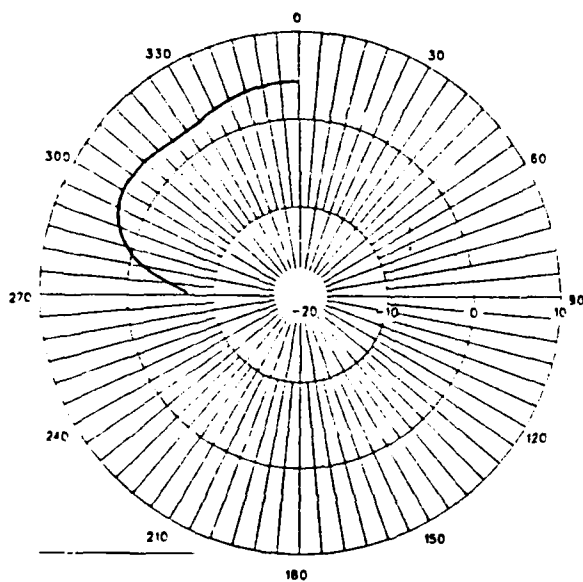
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

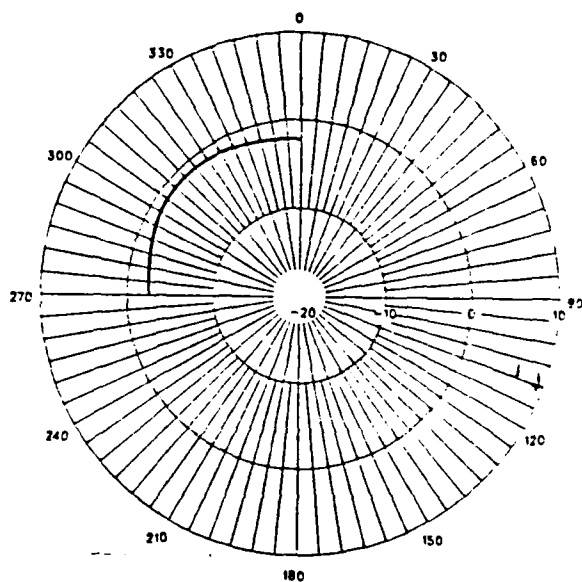
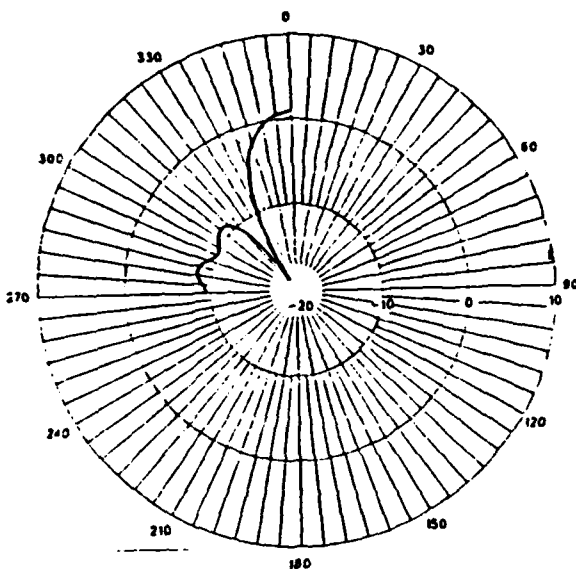
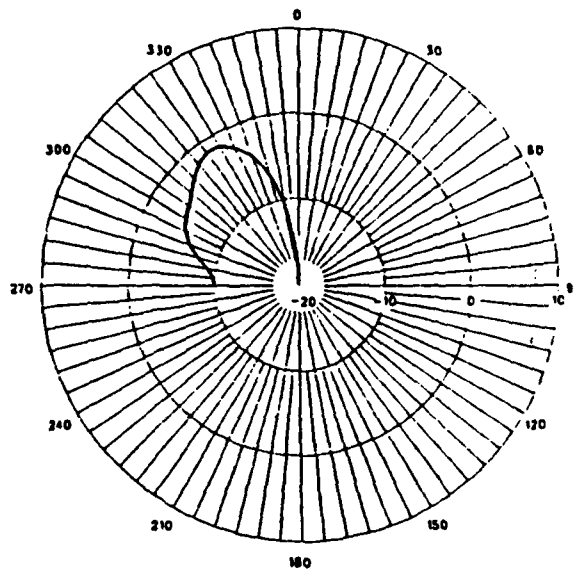


Figure 211. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 24 MHz

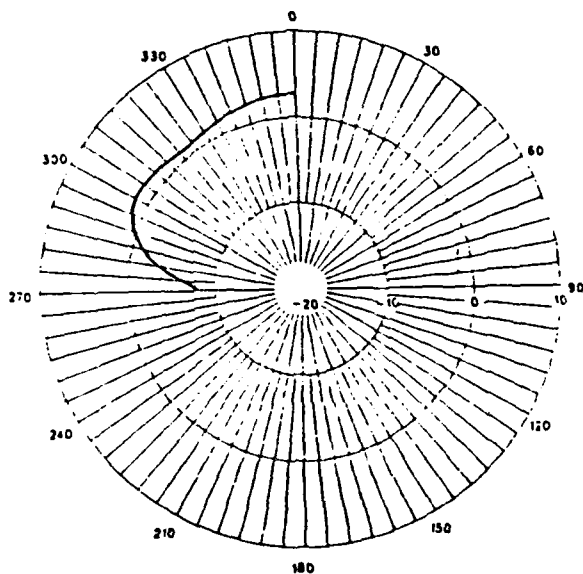
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

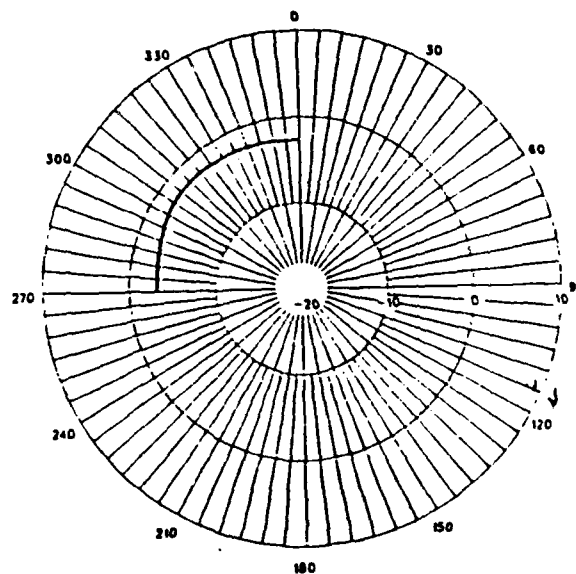
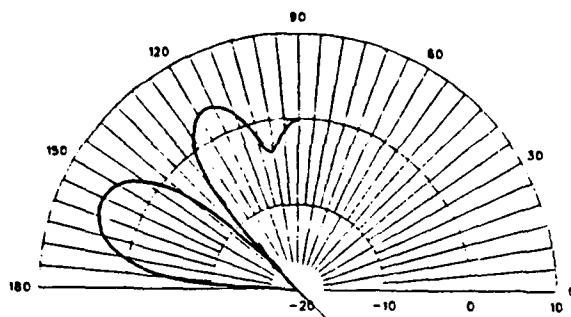
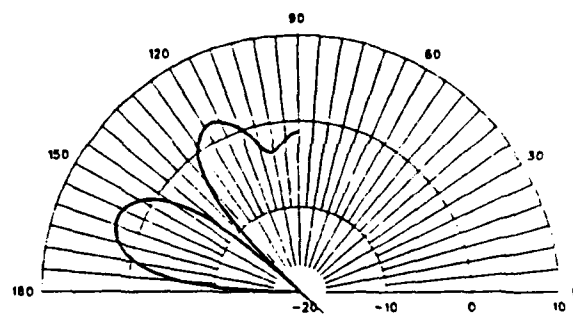


Figure 212. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 24 MHz

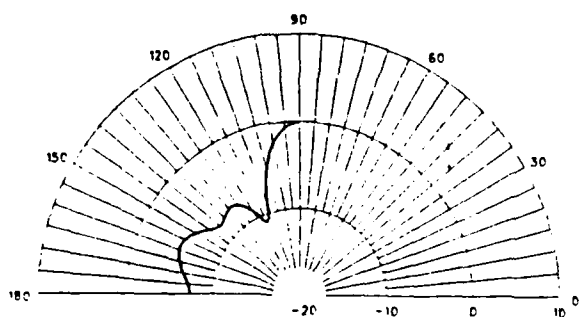
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. /25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. /25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. /25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. /25 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

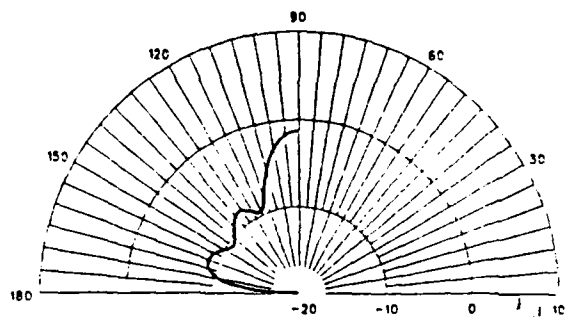
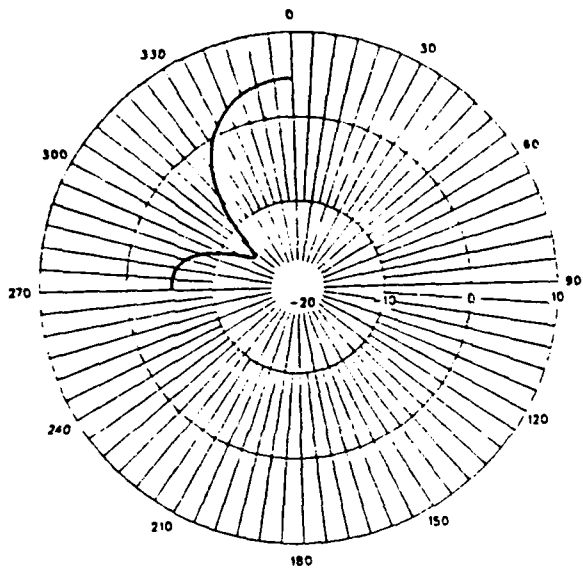
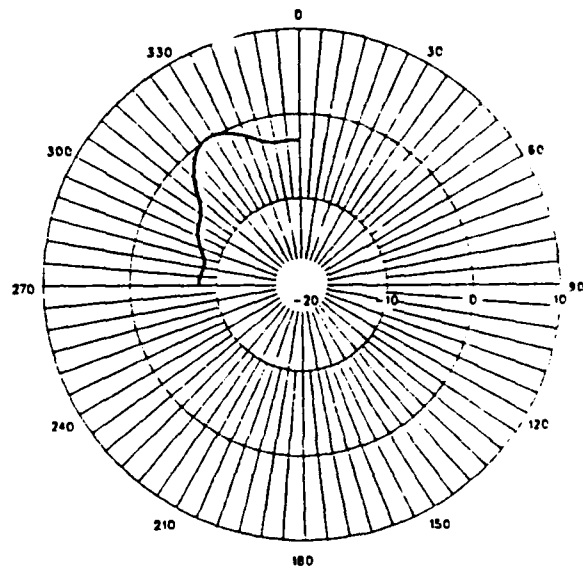


Figure 213. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 25 MHz

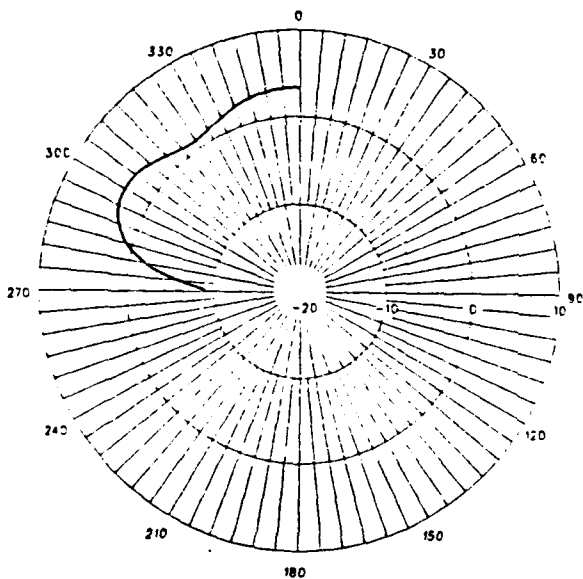
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

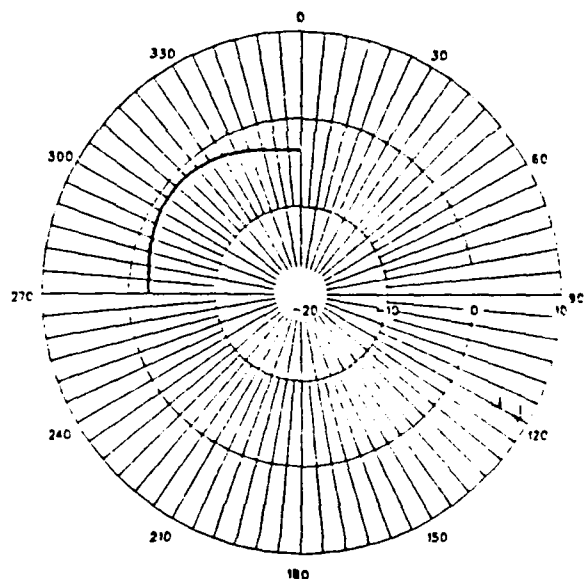
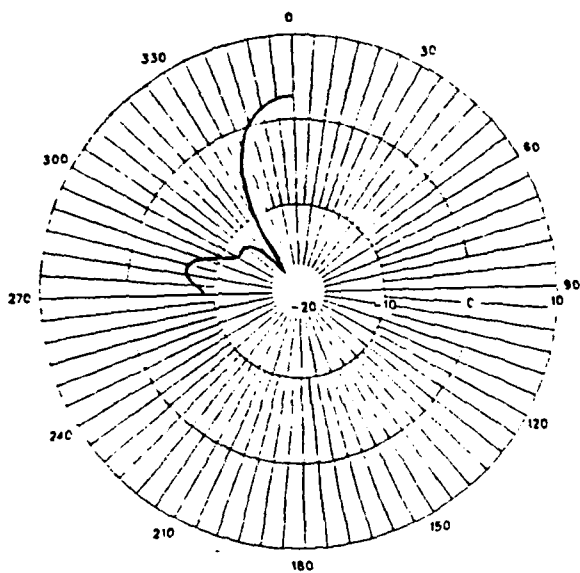
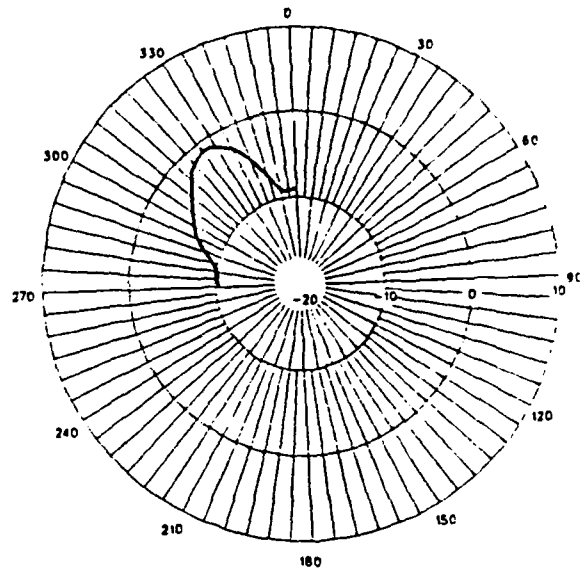


Figure 214. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 25 MHz

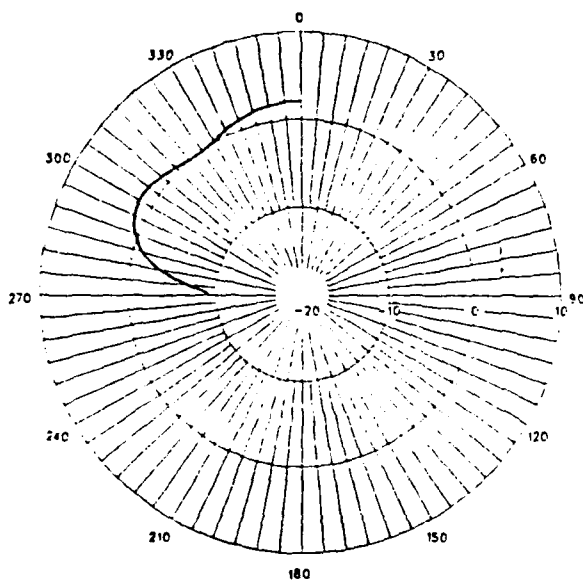
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 25 MHz
AZIMUTH PATTERN / ELEVATION ANGLE = 80

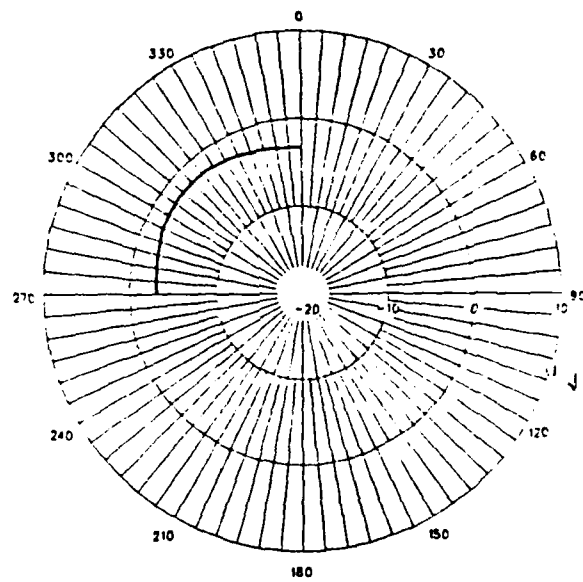


Figure 215. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 25 MHz

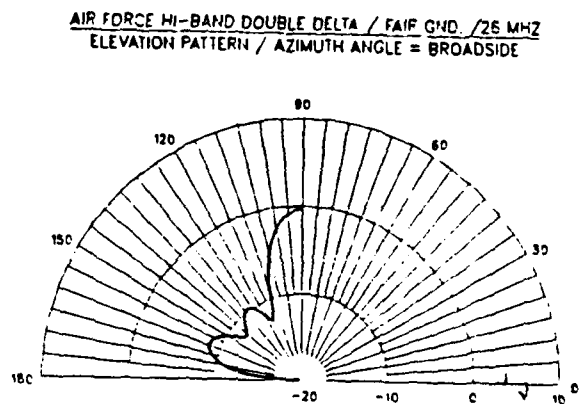
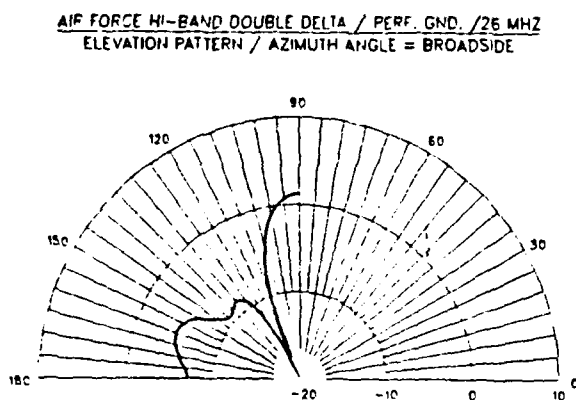
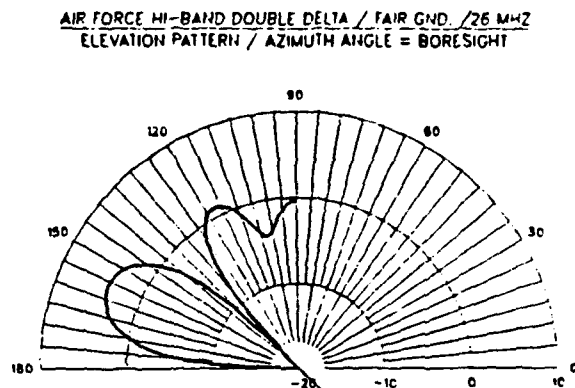
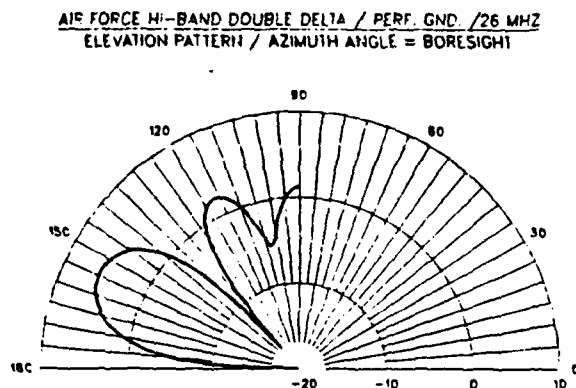
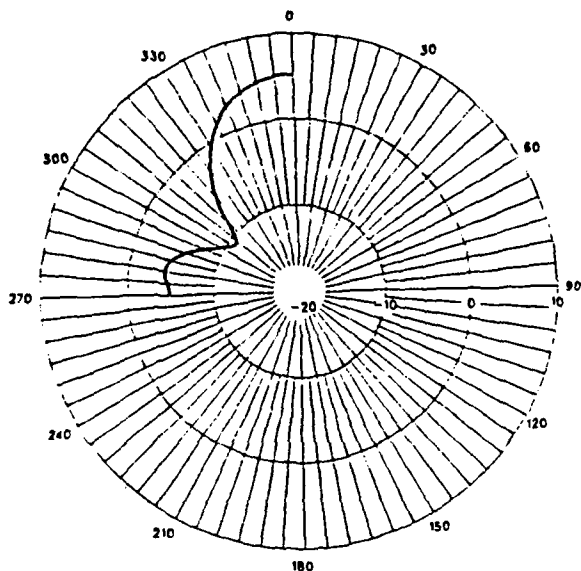
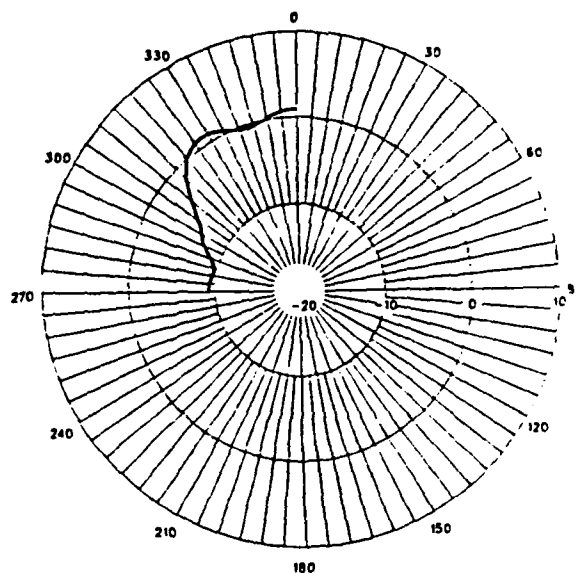


Figure 216. Elevation patterns of the Air Force highband DD antenna over perfect ground and fair ground at 26 MHz

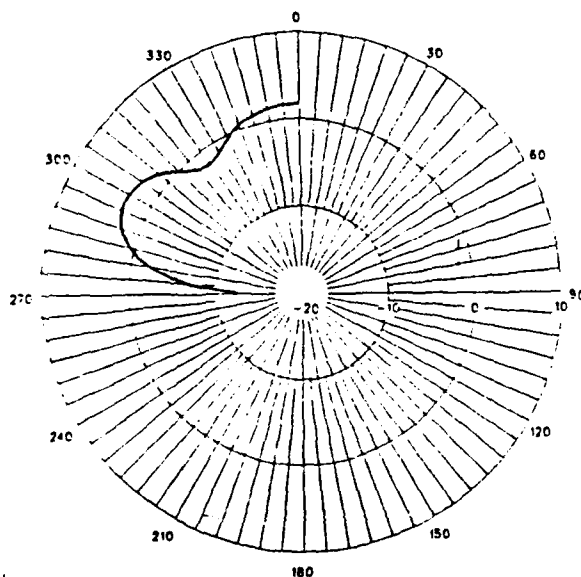
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

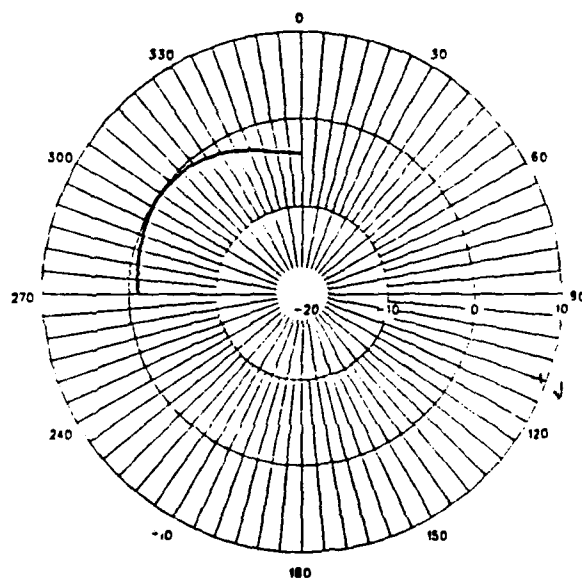
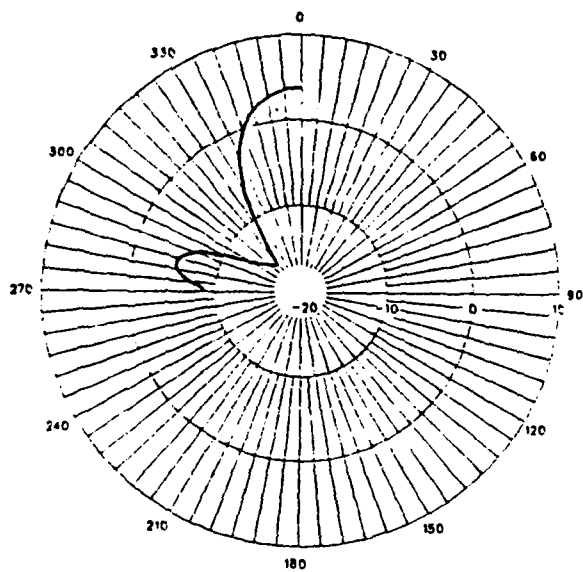
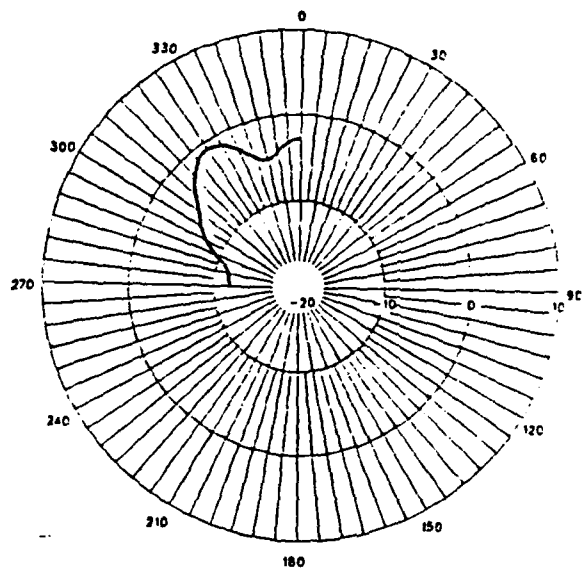


Figure 217. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 26 MHz

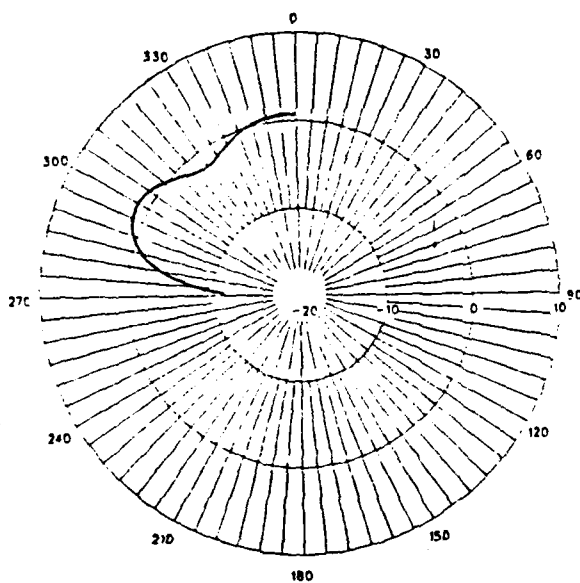
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

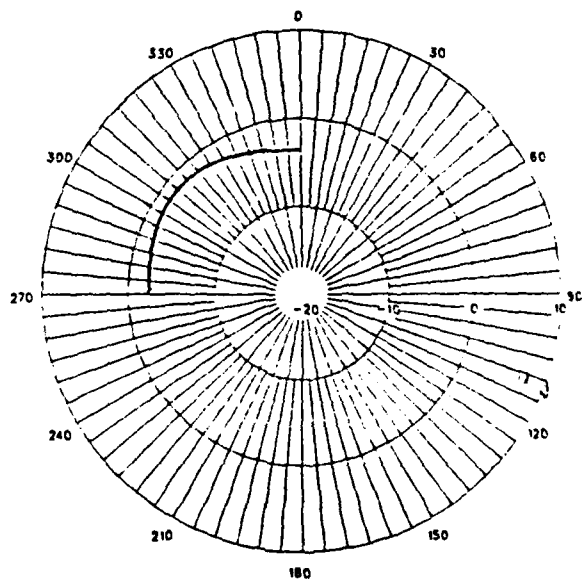


Figure 218. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 26 MHz

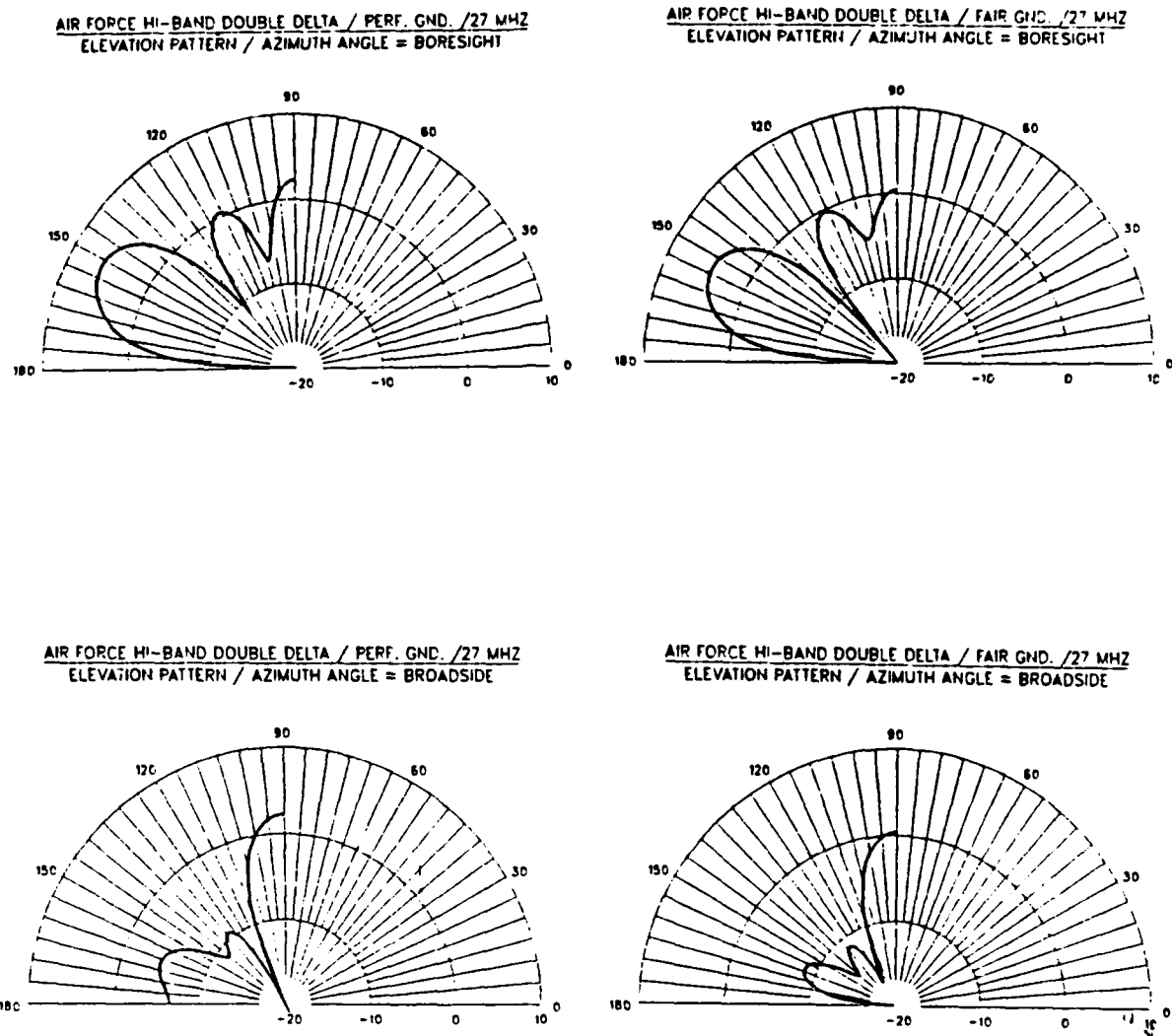
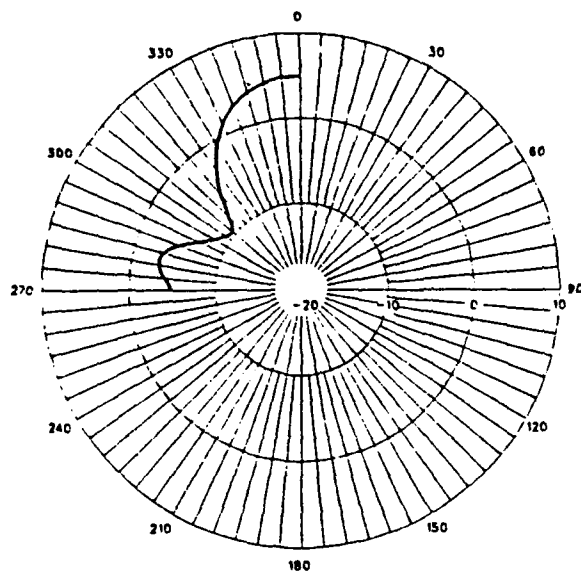
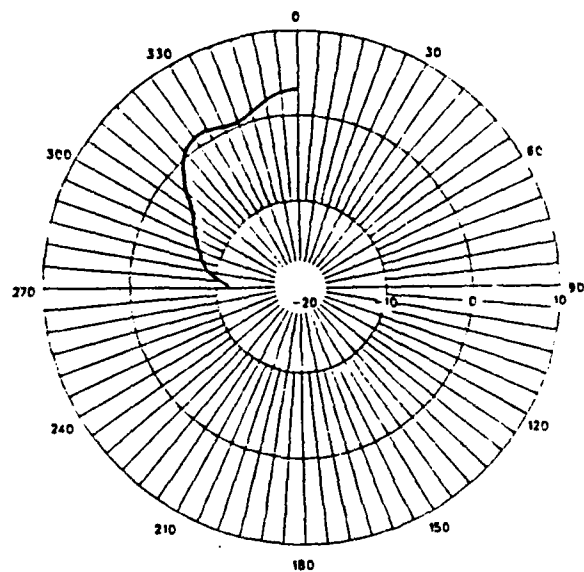


Figure 219. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 27 MHz

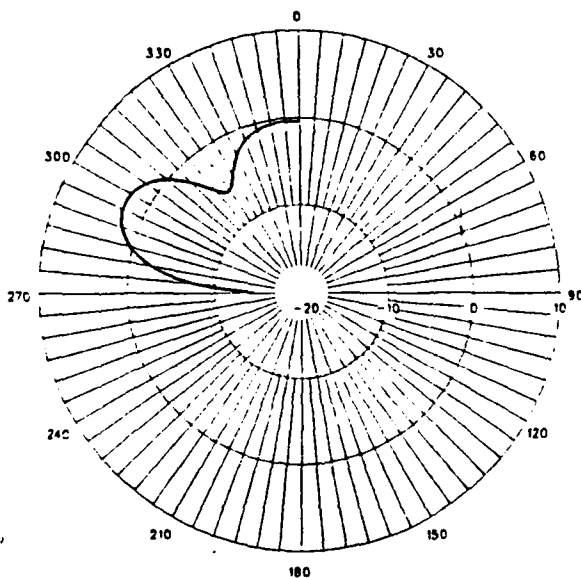
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

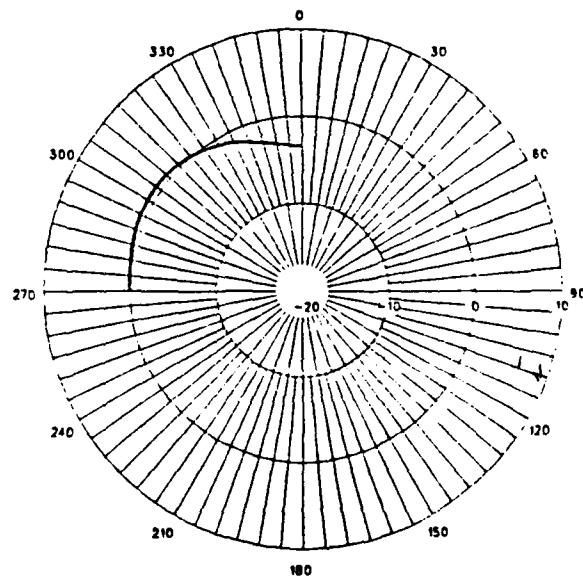
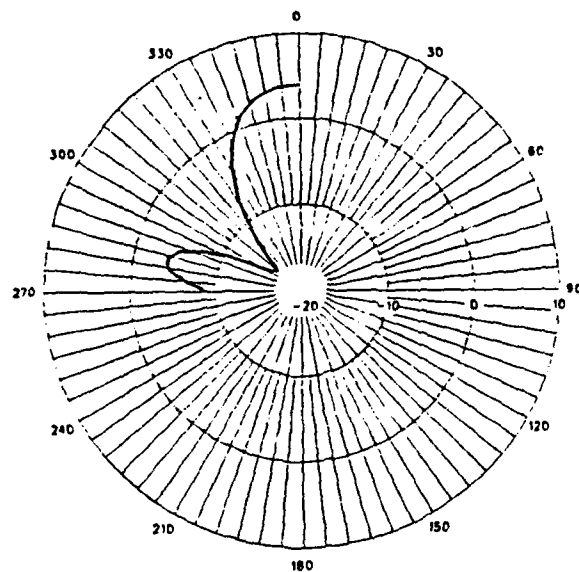
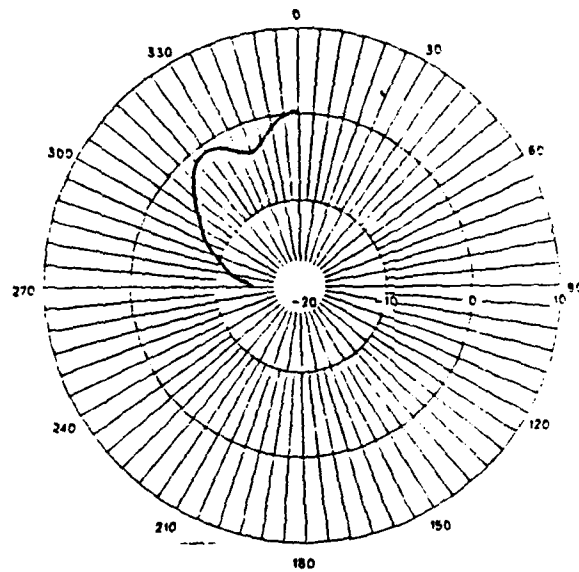


Figure 220. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 27 MHz

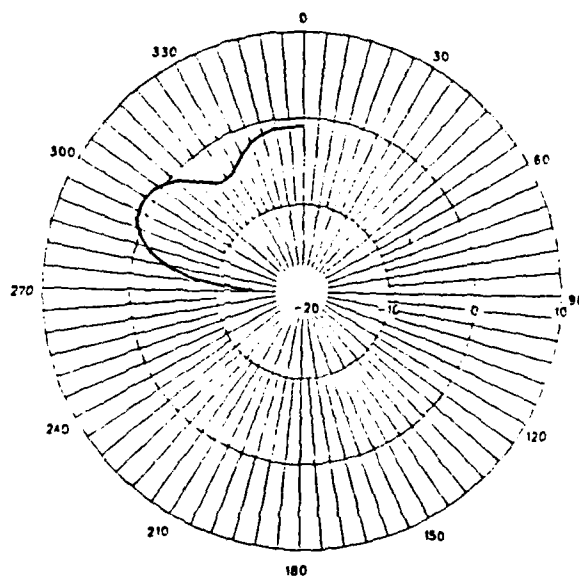
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

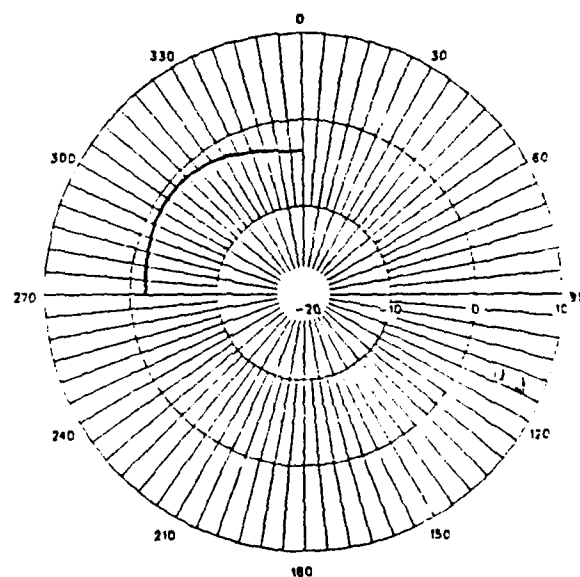


Figure 221. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 27 MHz

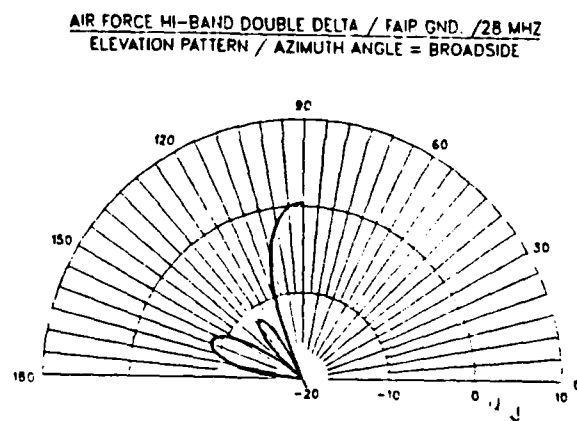
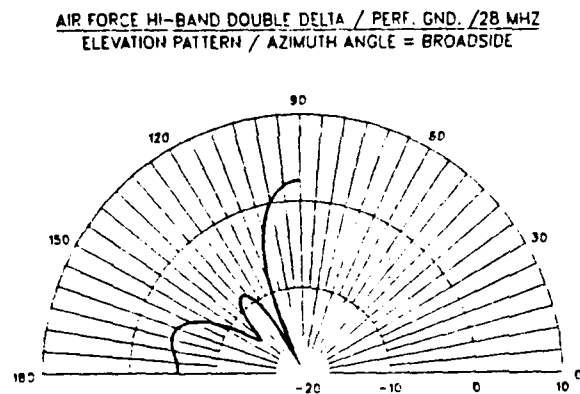
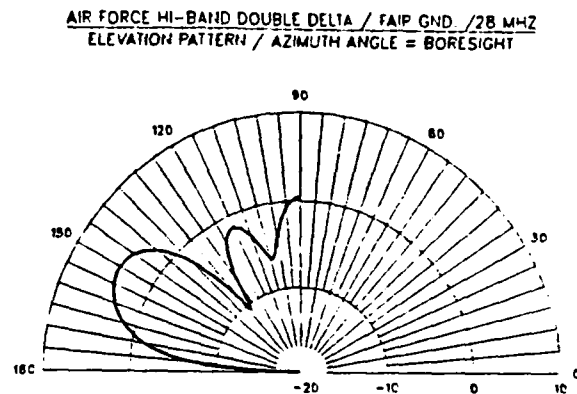
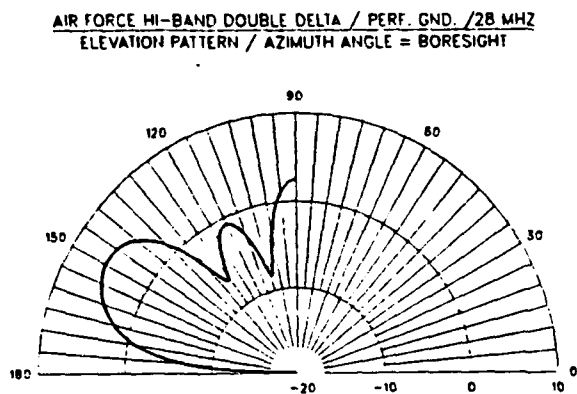
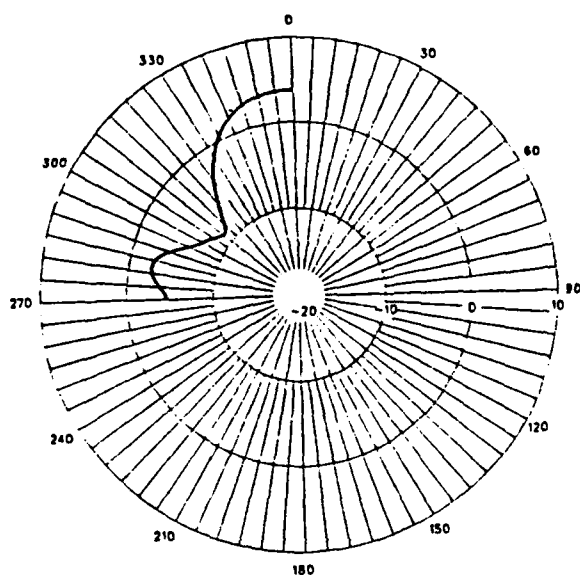
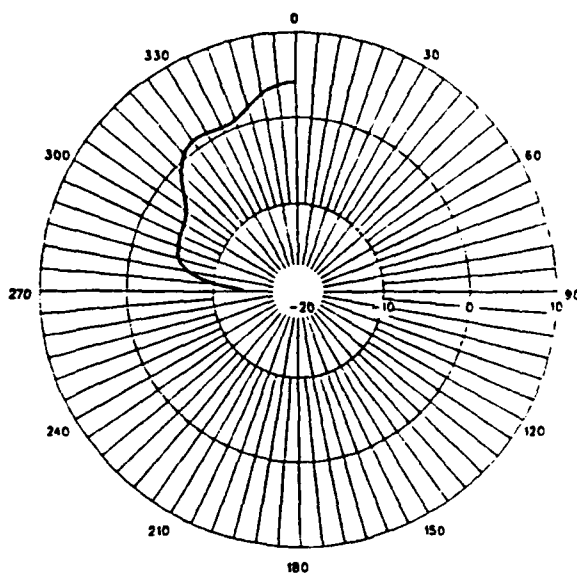


Figure 222. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 28 MHz

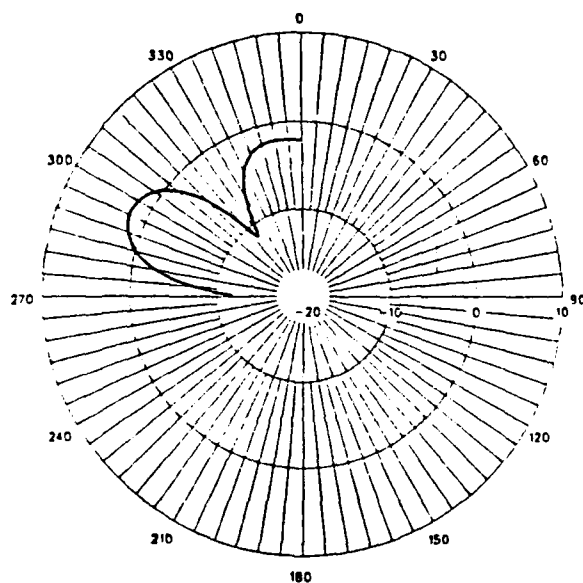
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

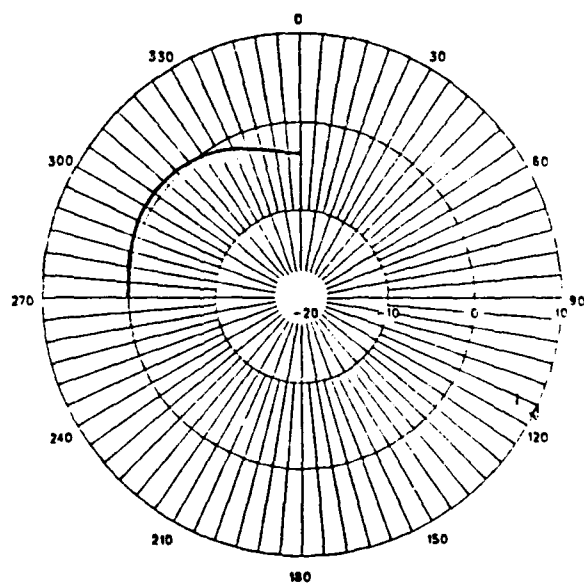
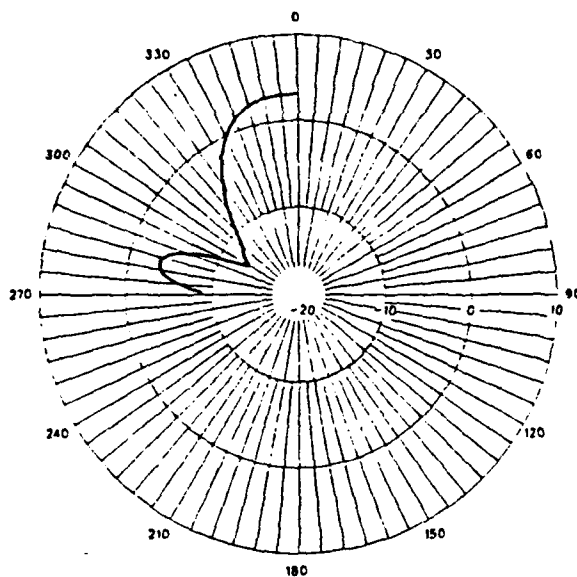
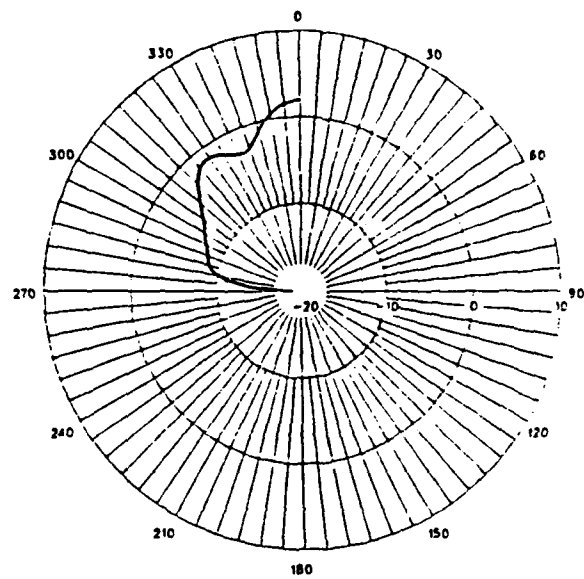


Figure 223. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 28 MHz

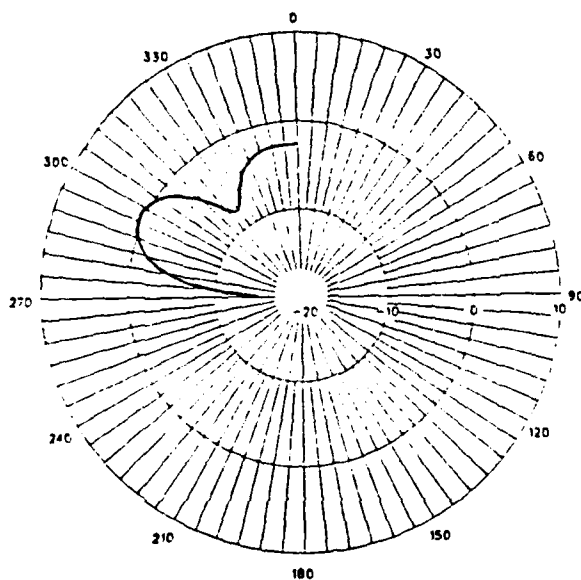
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

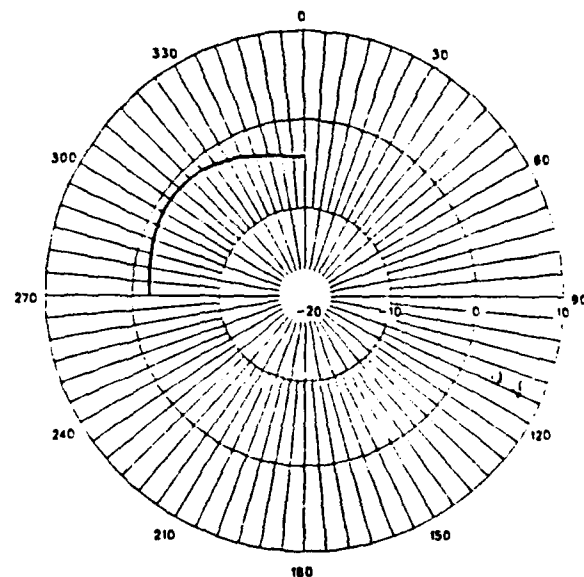
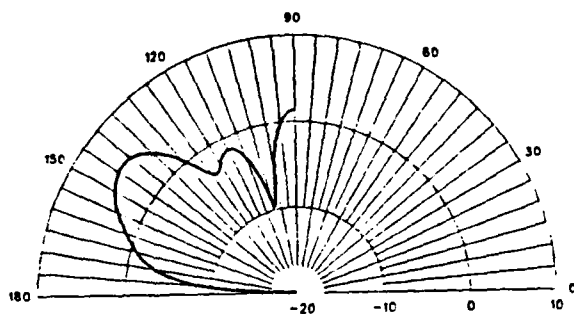
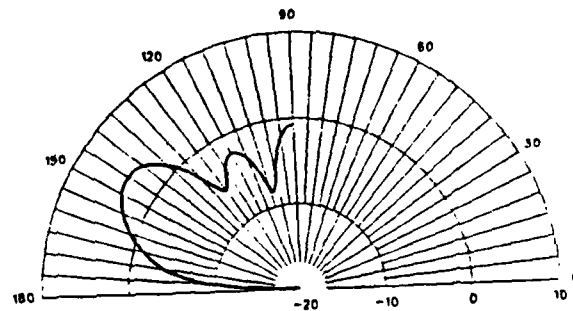


Figure 224. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 28 MHz

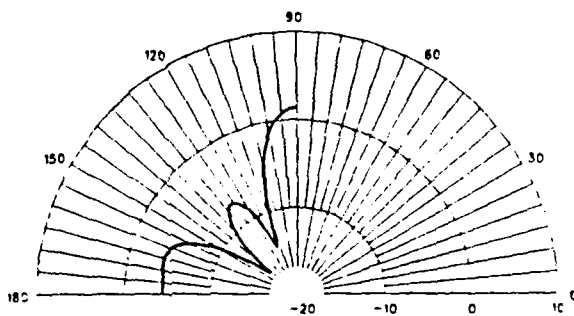
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

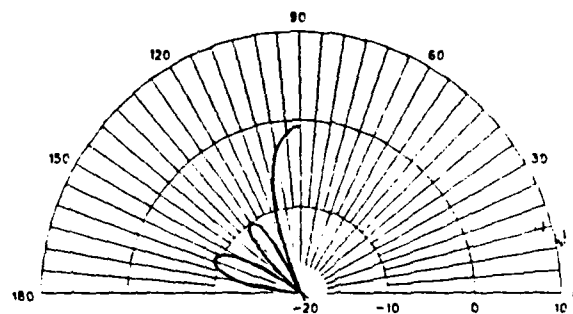


Figure 225. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 29 MHz

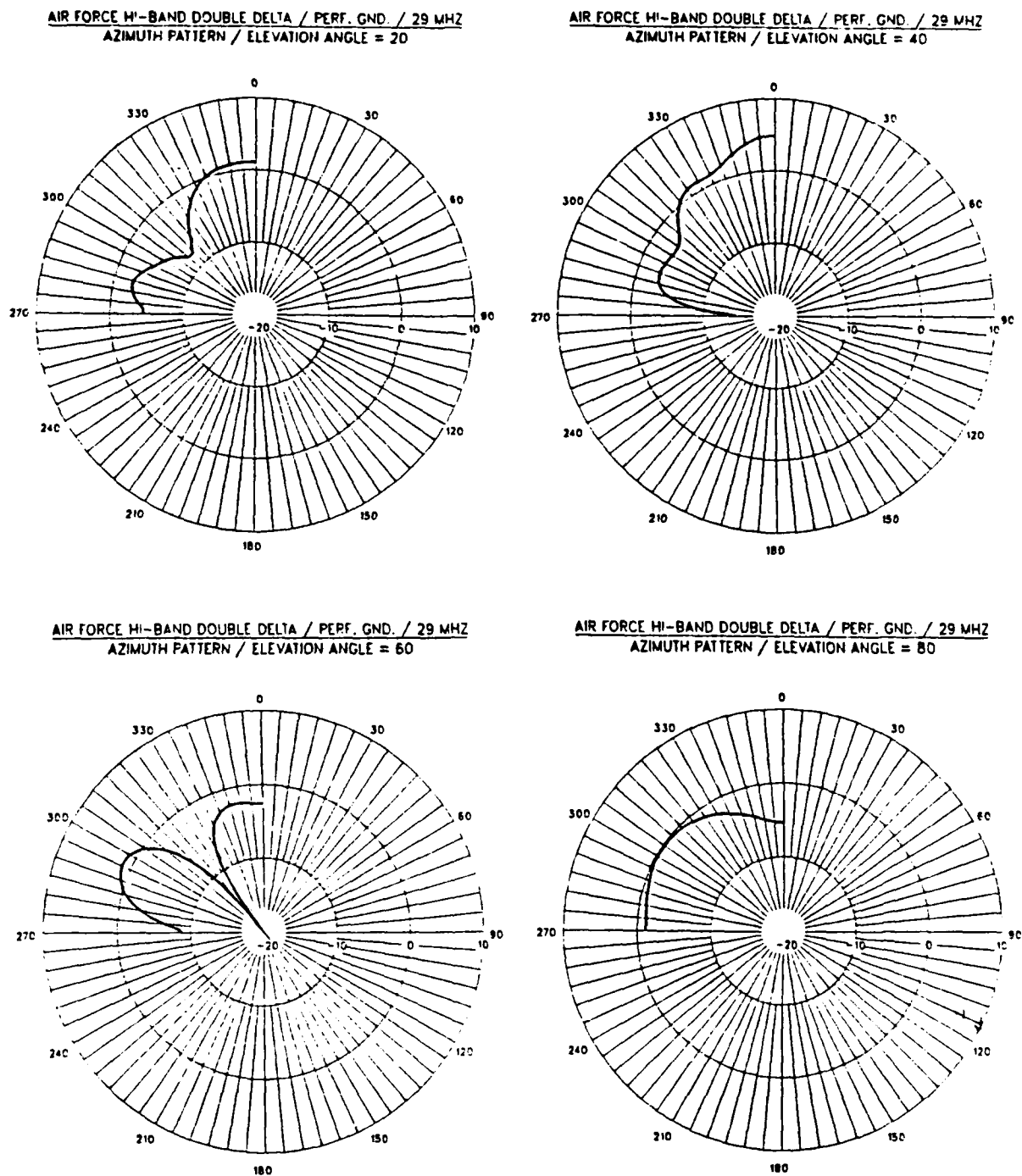
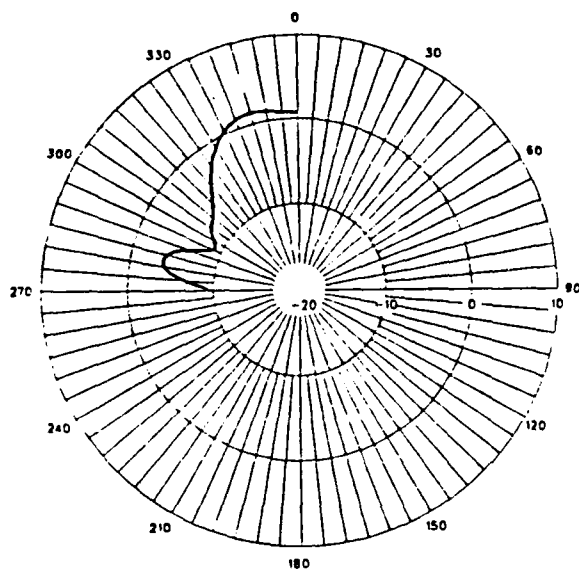
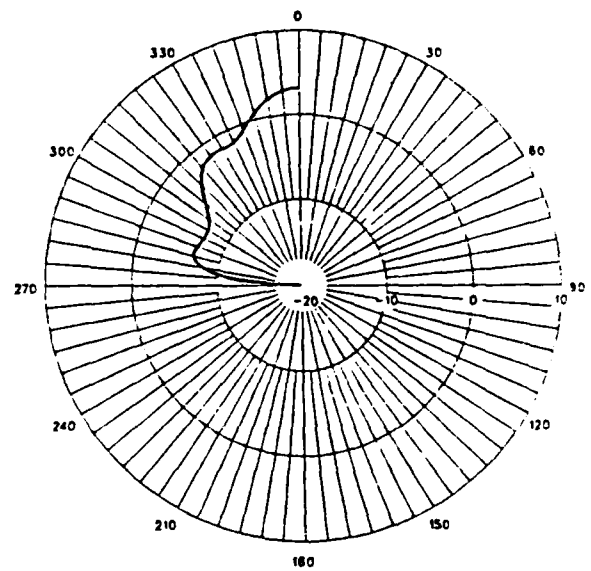


Figure 226. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 29 MHz

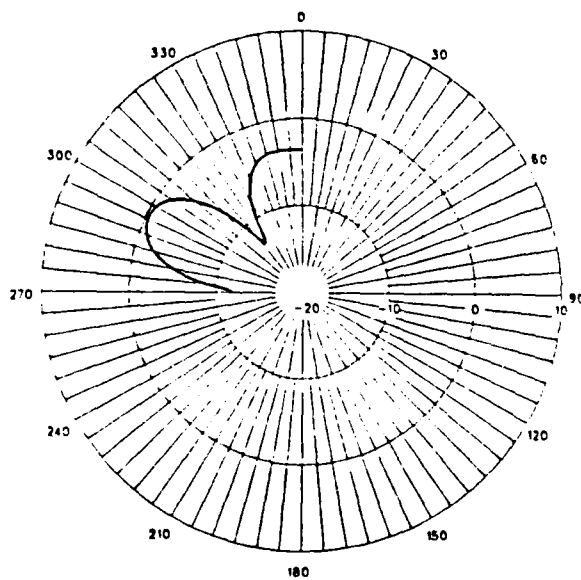
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

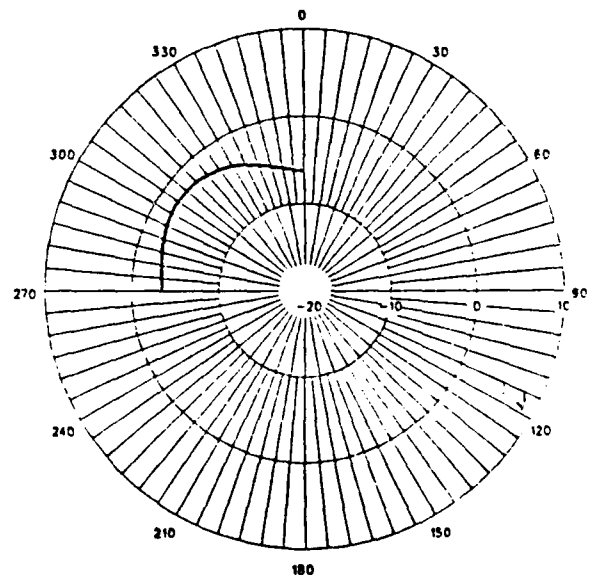
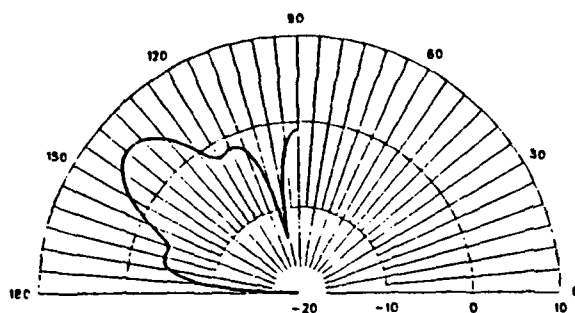
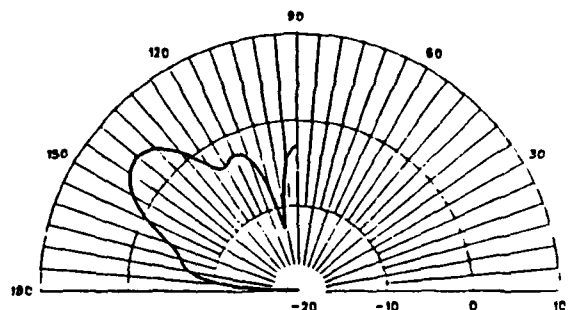


Figure 227. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 29 MHz

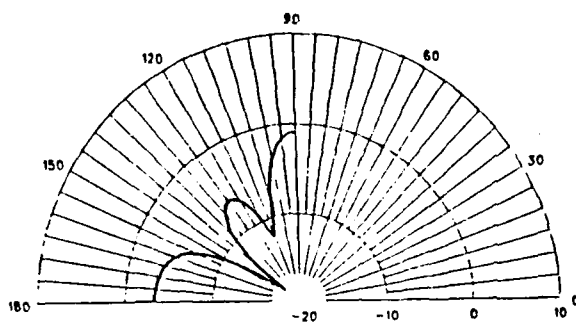
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

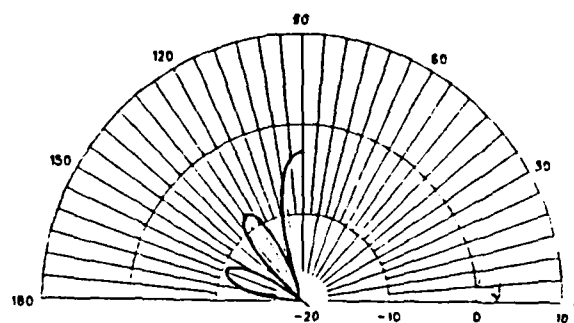
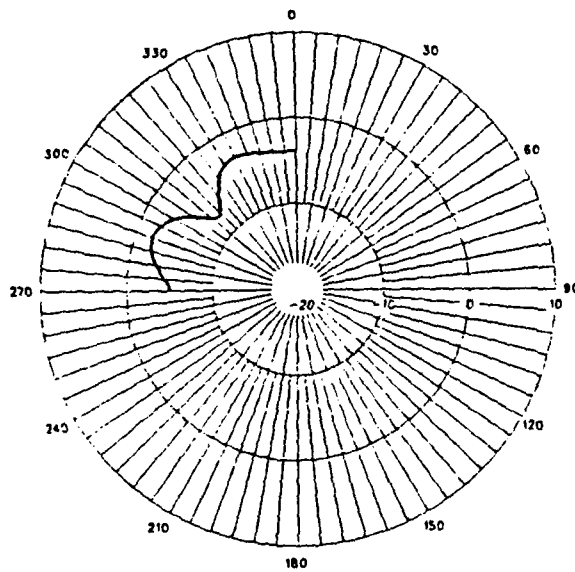
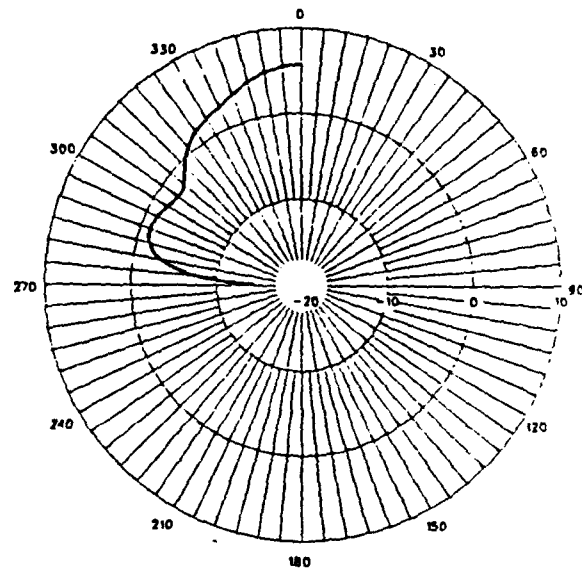


Figure 228. Elevation patterns of the Air Force Highband DD antenna over perfect ground and fair ground at 30 MHz

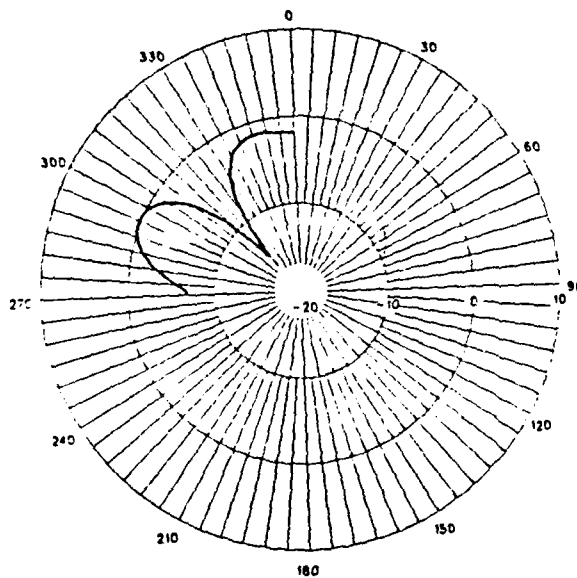
AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

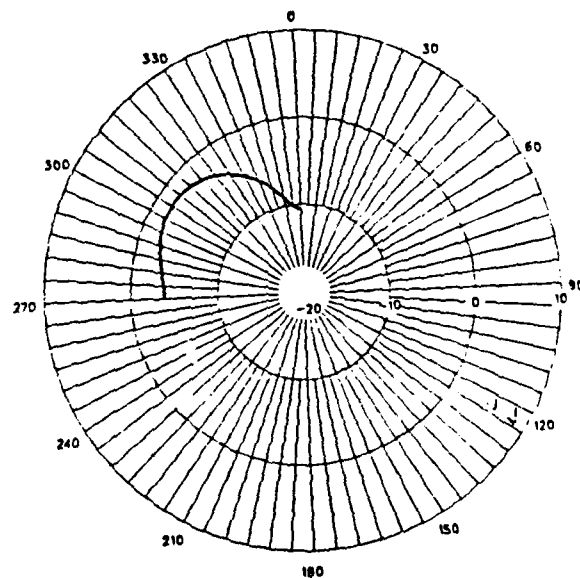
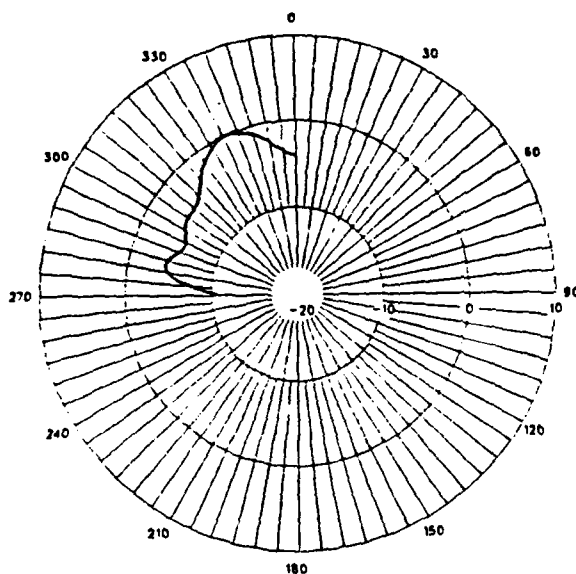
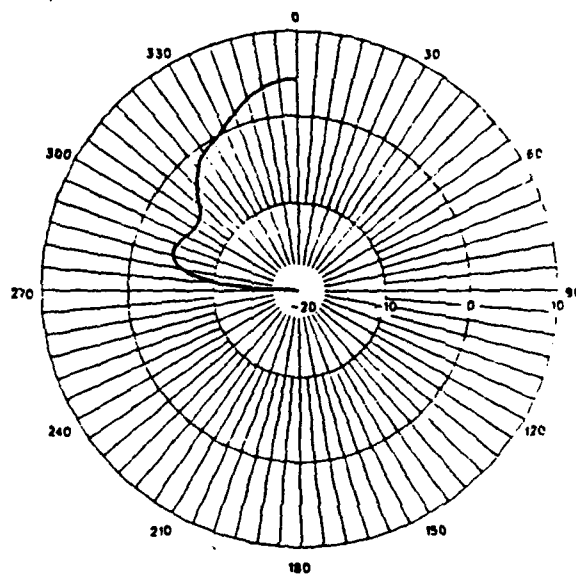


Figure 229. Azimuth patterns of the Air Force Highband DD antenna over perfect ground at 30 MHz

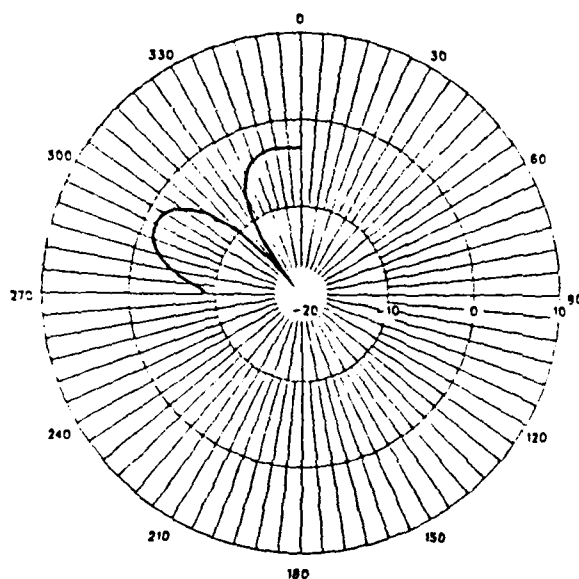
AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



AIR FORCE HI-BAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

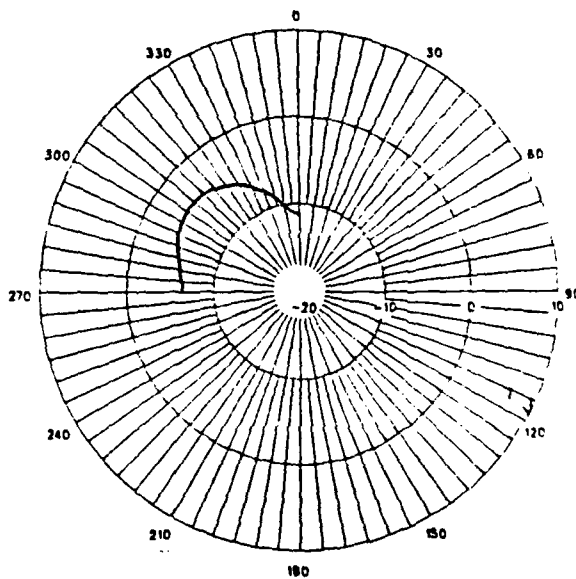
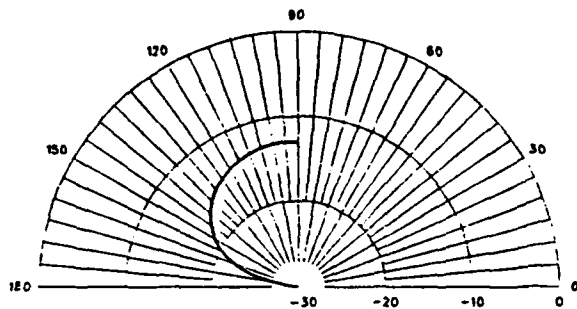
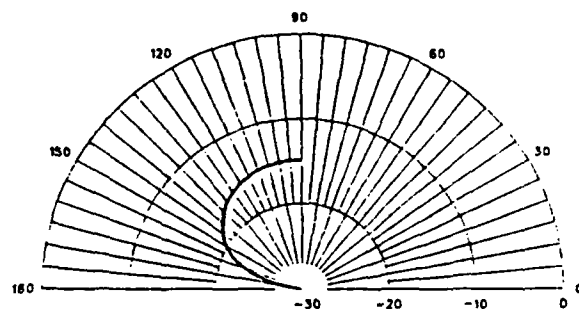


Figure 230. Azimuth patterns of the Air Force Highband DD antenna over fair ground at 30 MHz

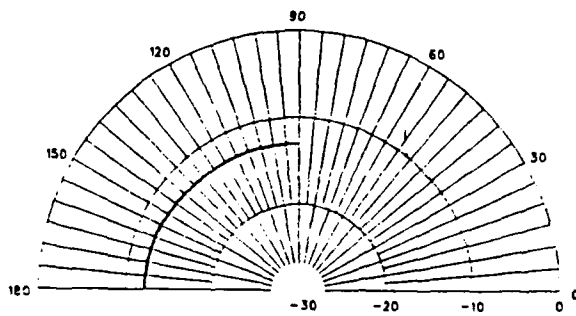
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 2 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

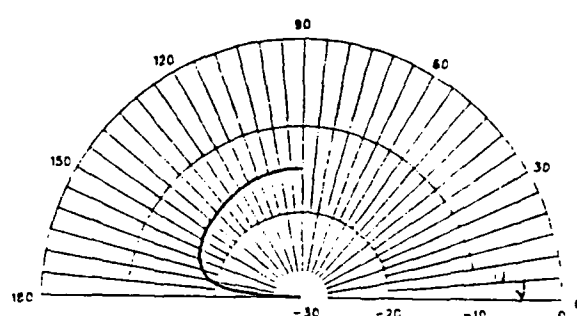
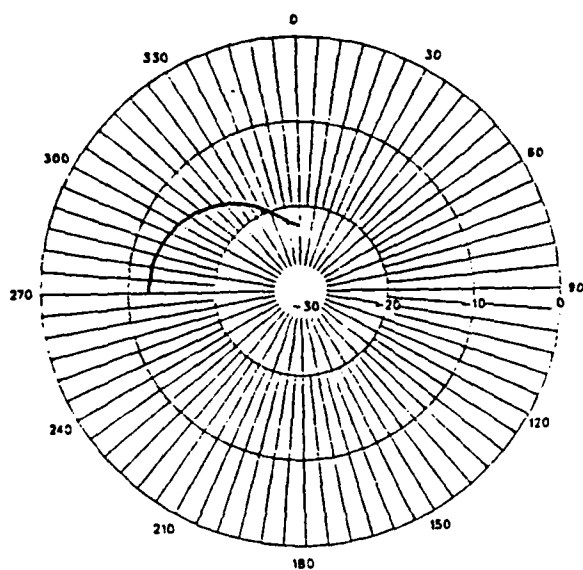
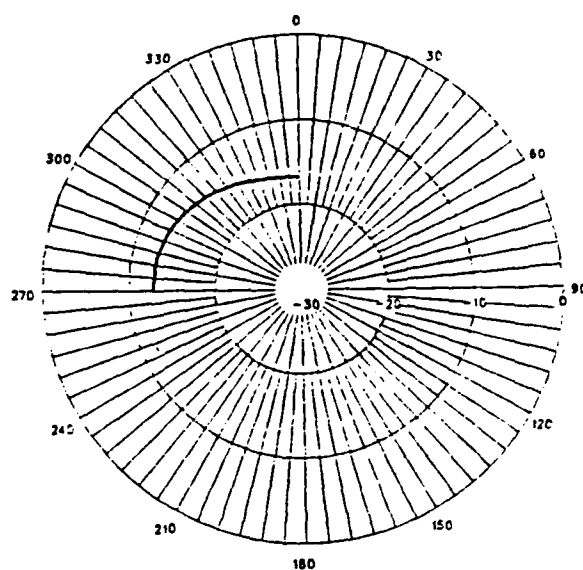


Figure 231. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 2 MHz

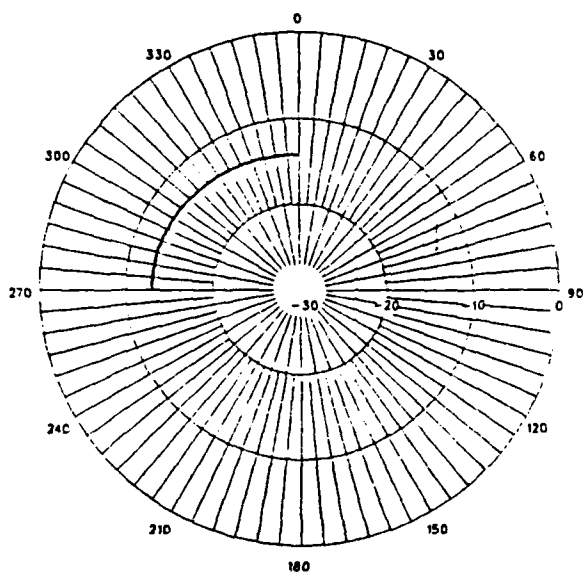
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

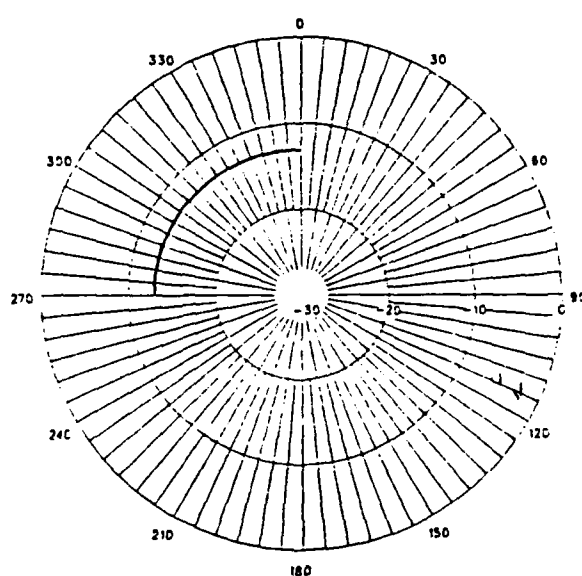
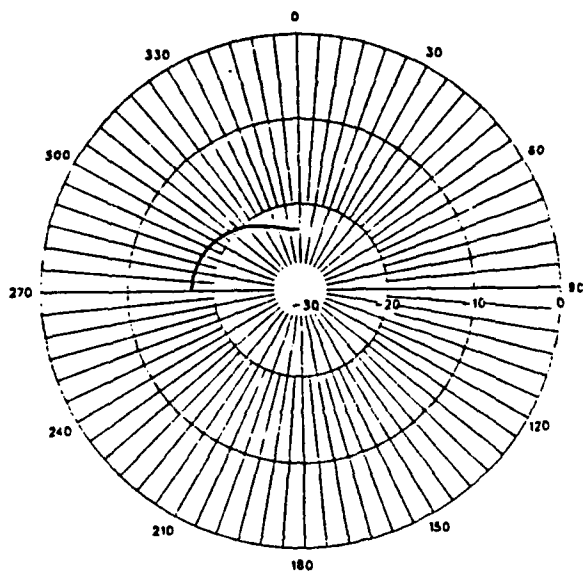
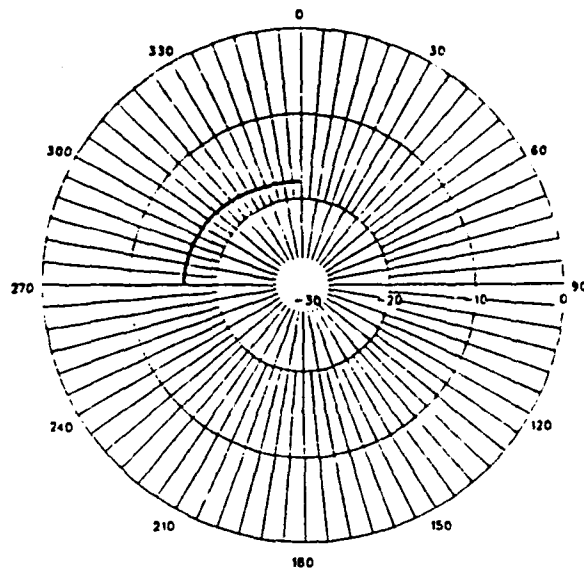


Figure 232. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 2 MHz

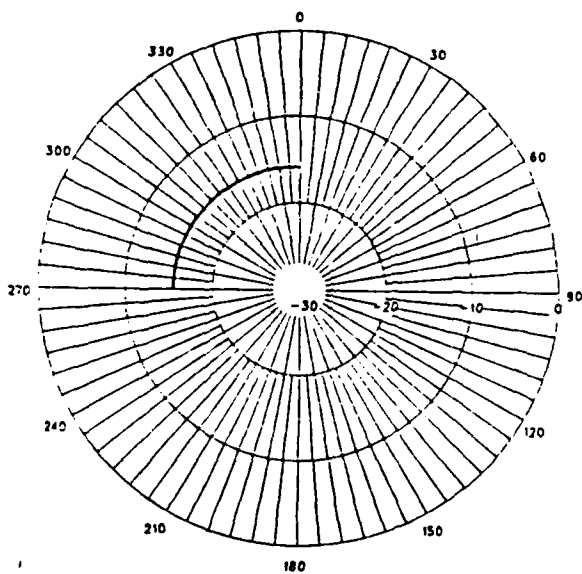
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 2 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

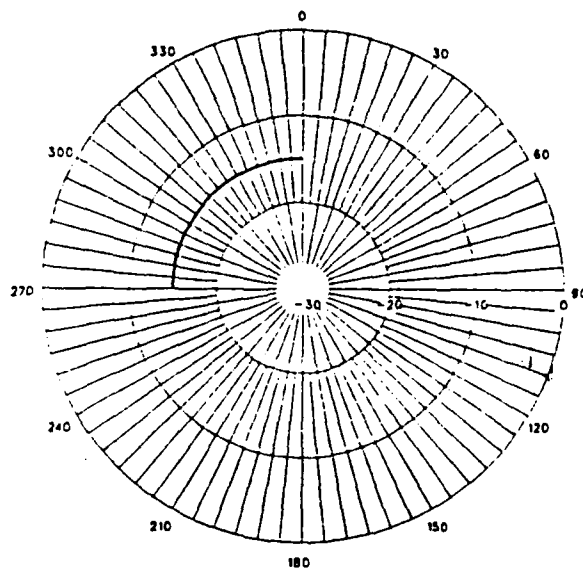


Figure 233. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 2 MHz

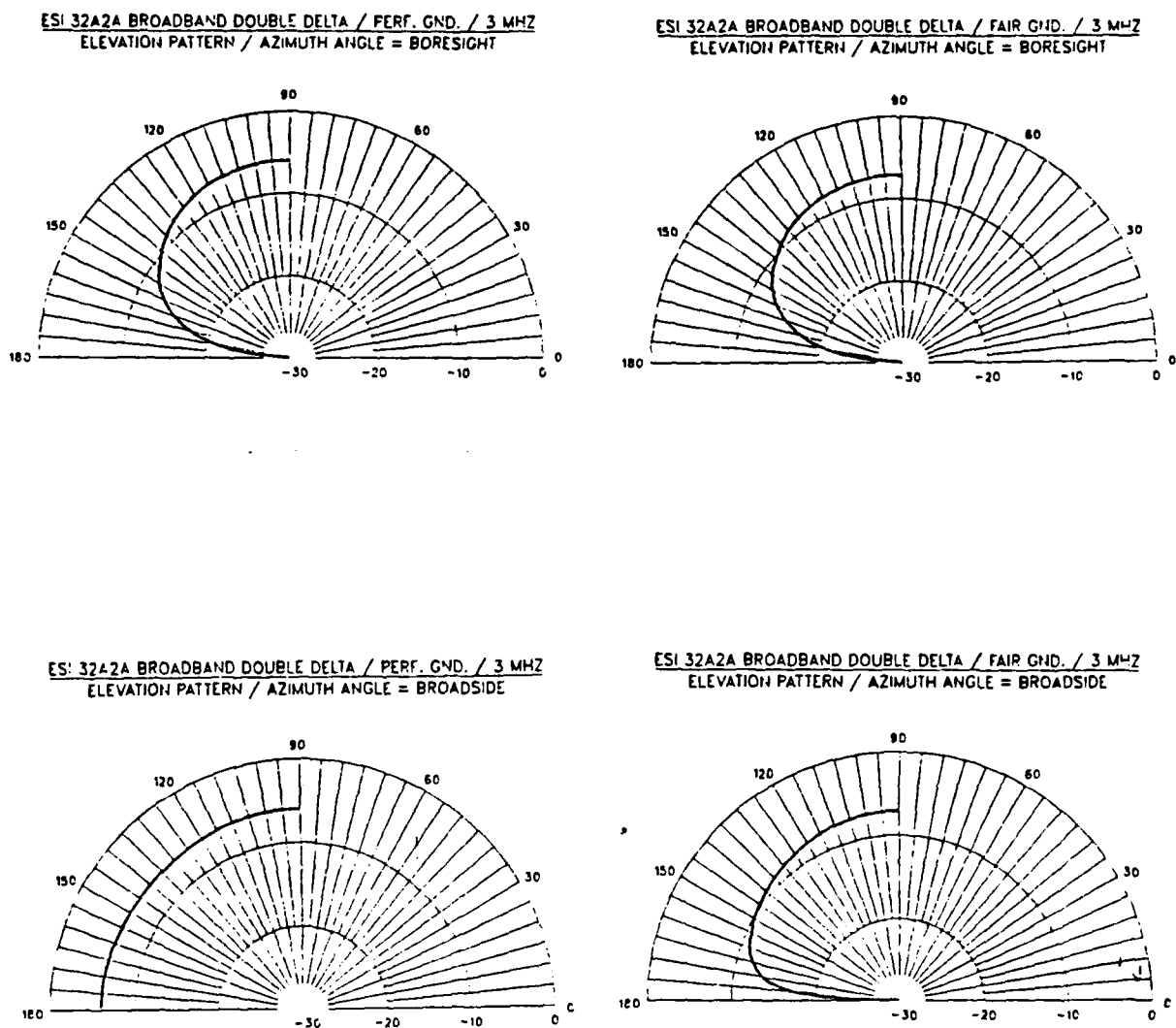
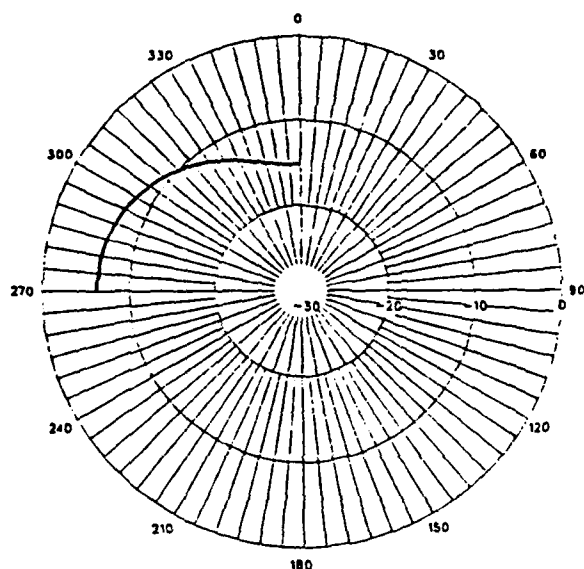
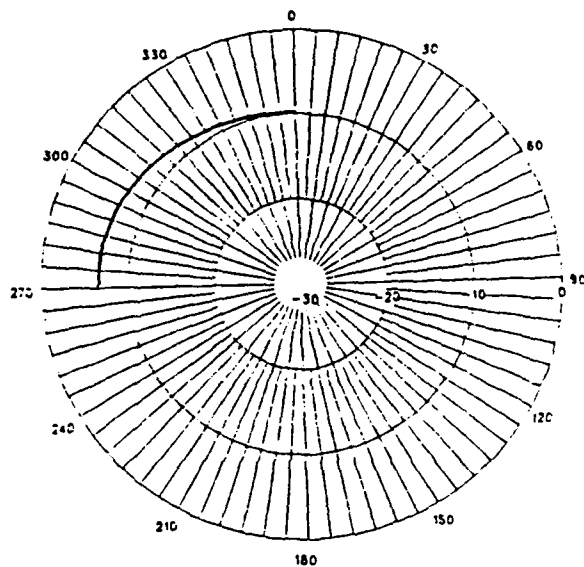


Figure 234. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 3 MHz

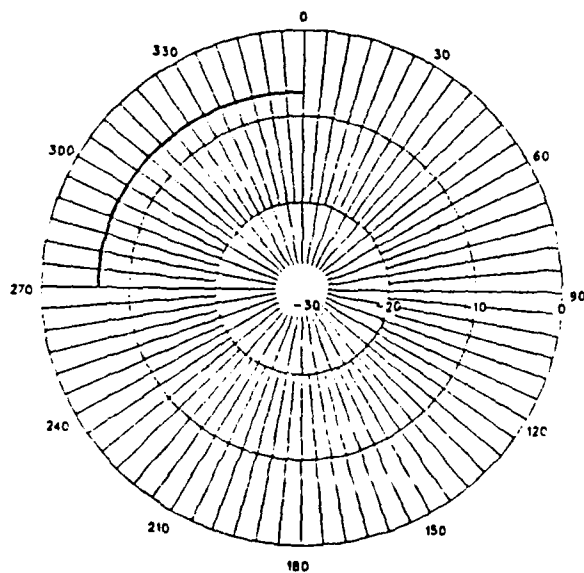
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

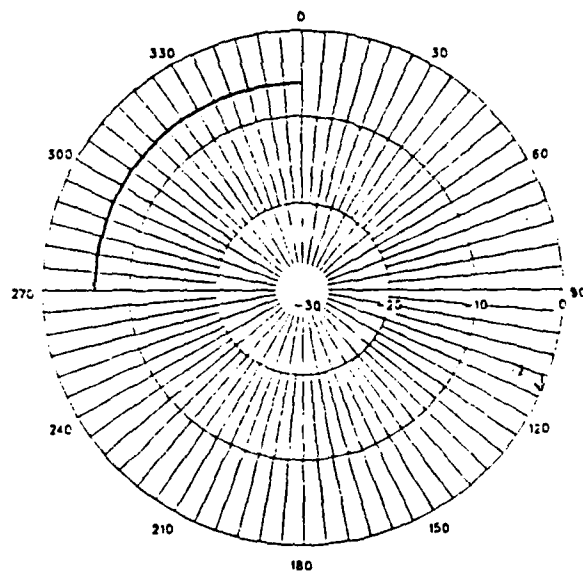
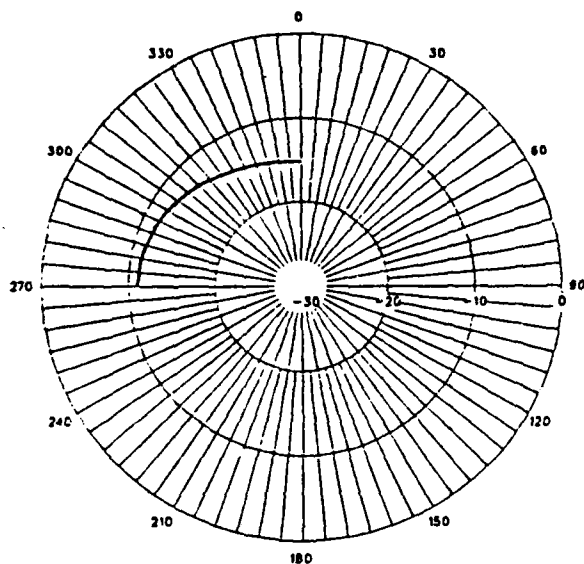
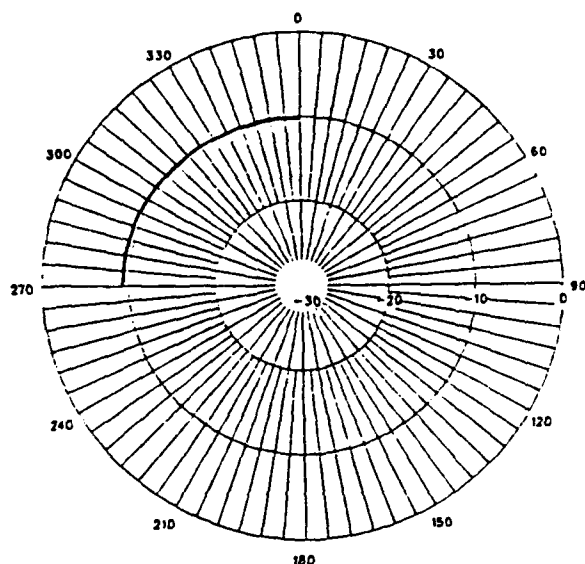


Figure 235. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 3 MHz

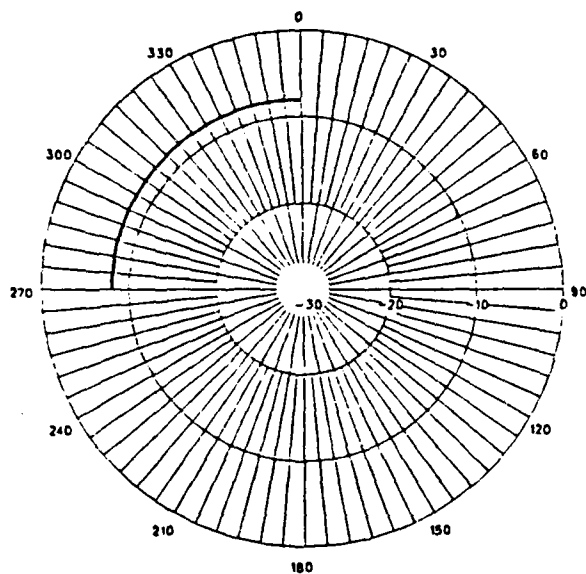
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 3 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

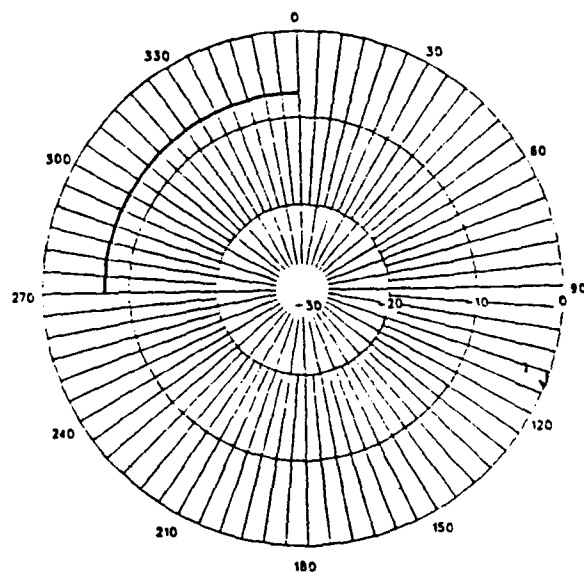
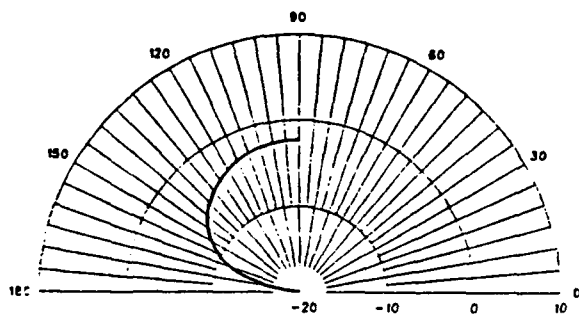
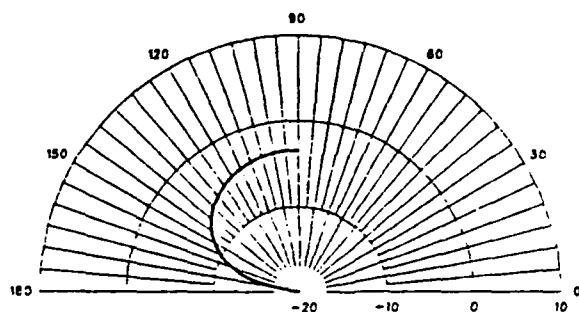


Figure 236. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 3 MHz

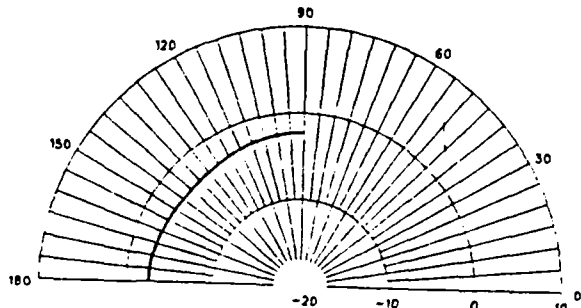
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 4 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

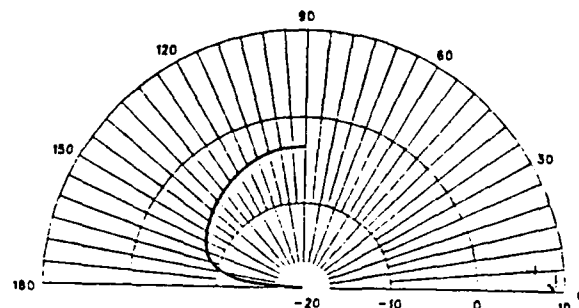
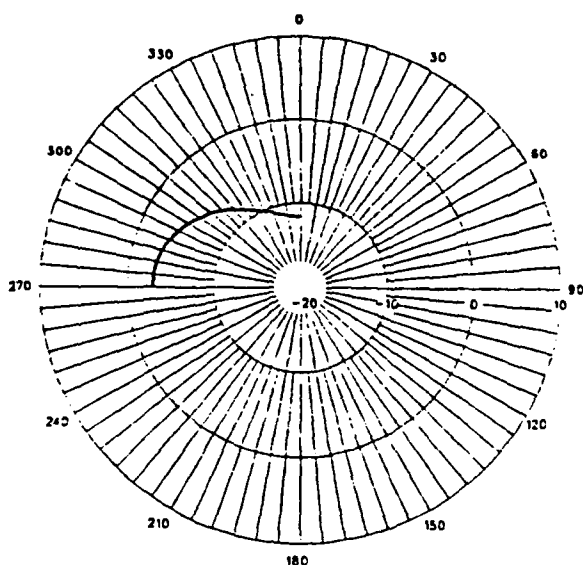
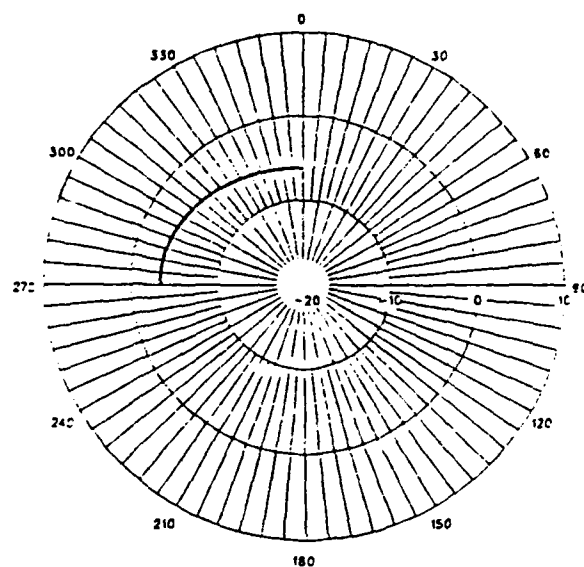


Figure 237. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 4 MHz

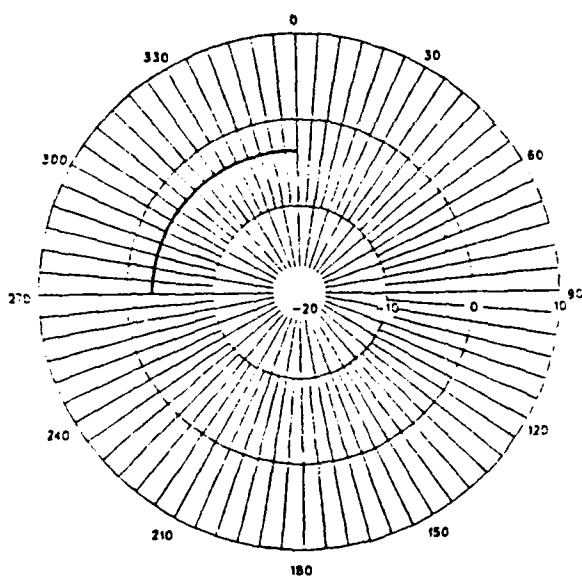
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

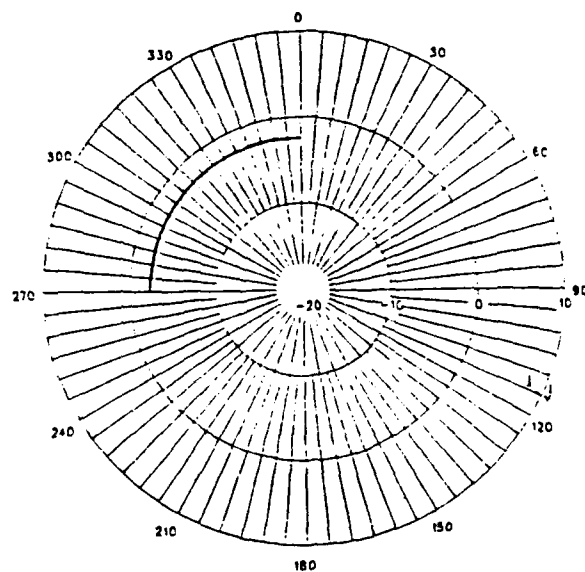
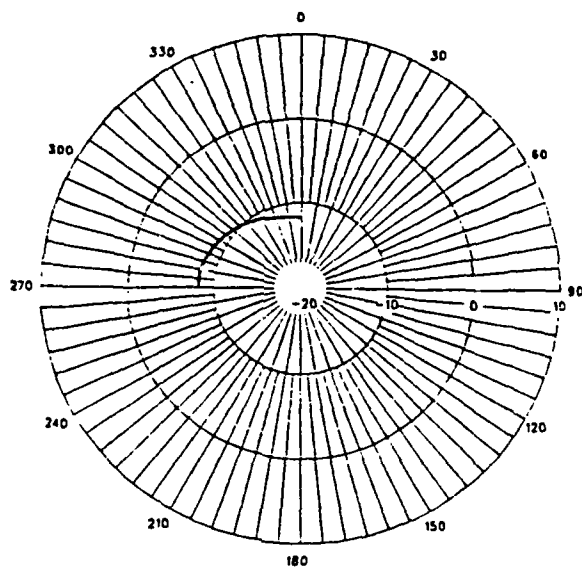
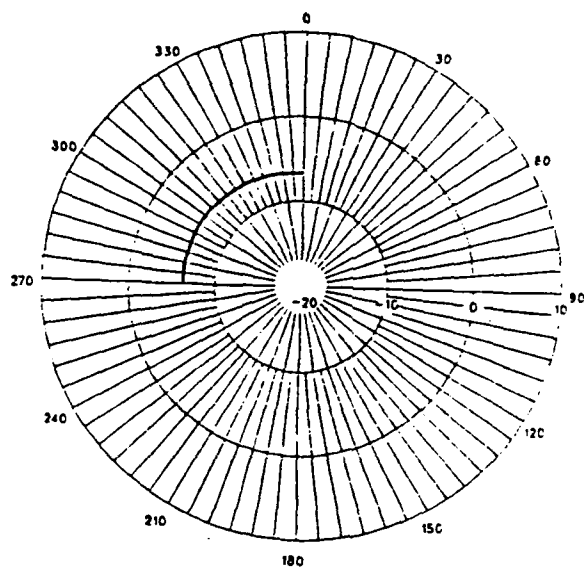


Figure 238. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 4 MHz

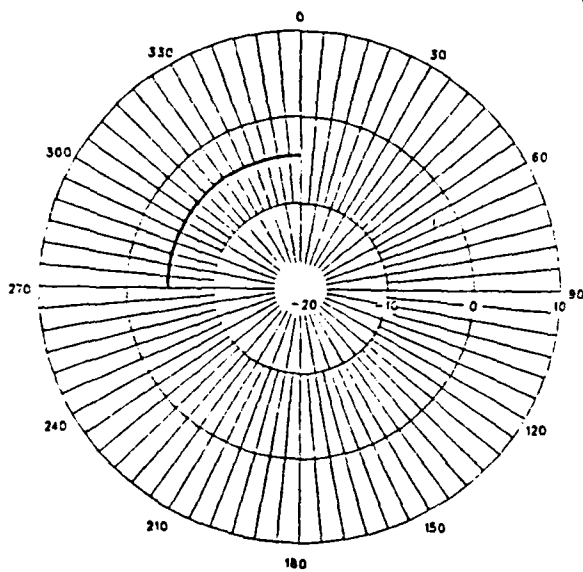
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 4 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

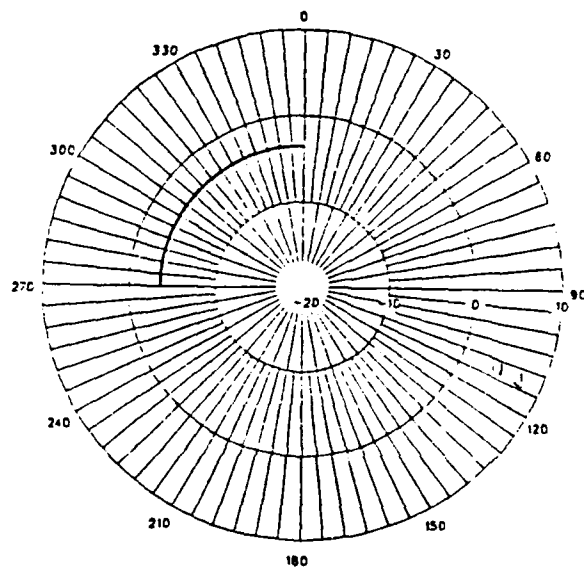
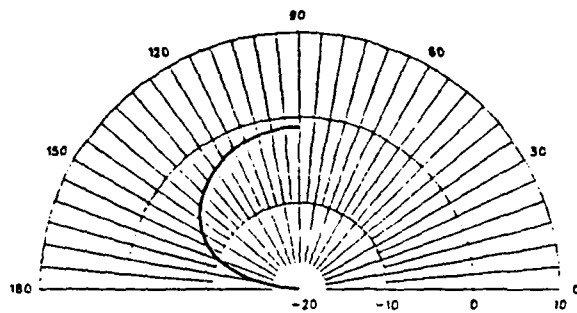
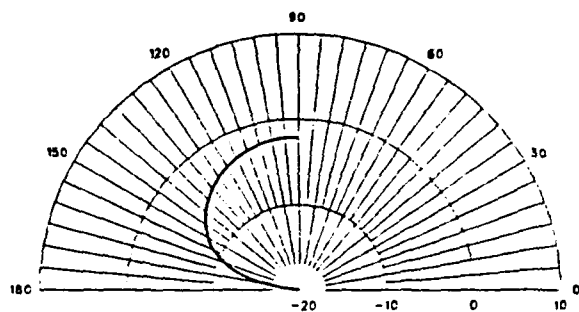


Figure 239. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 4 MHz

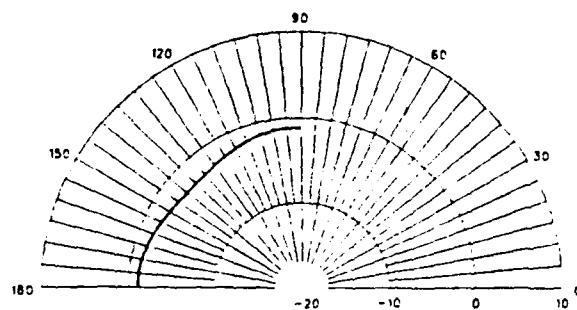
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 5 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

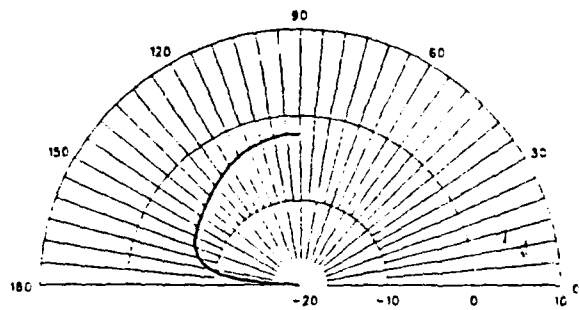
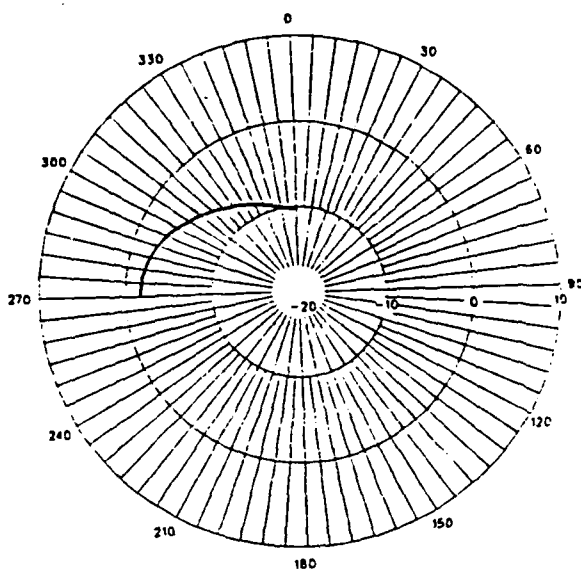
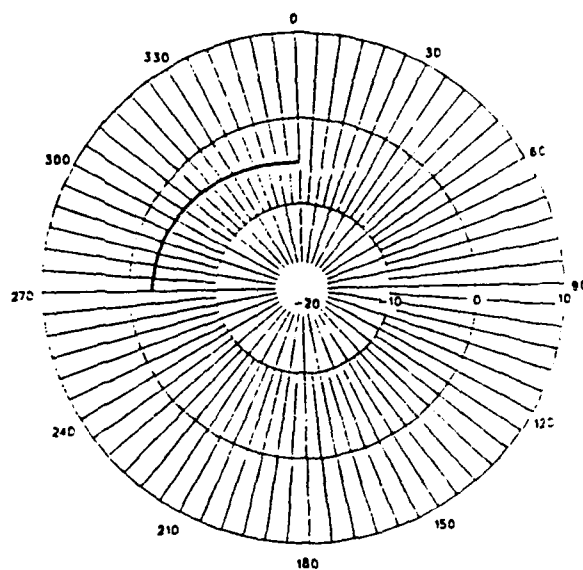


Figure 240. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 5 MHz

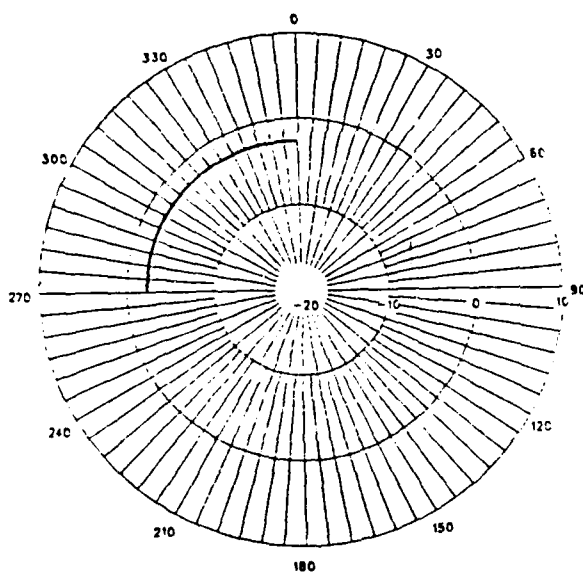
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

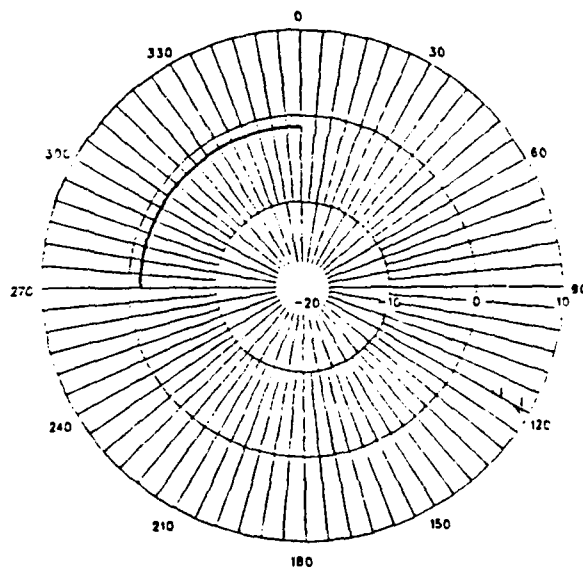
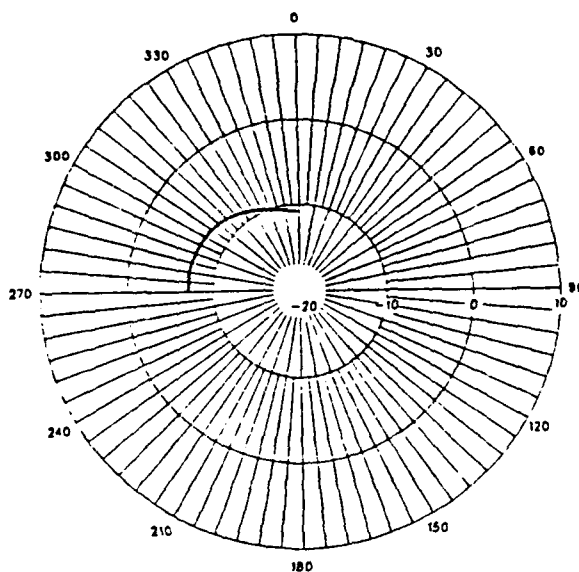
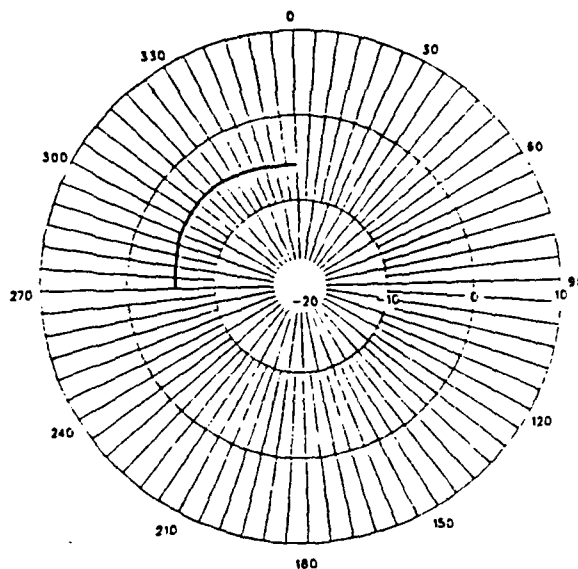


Figure 241. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 5 MHz

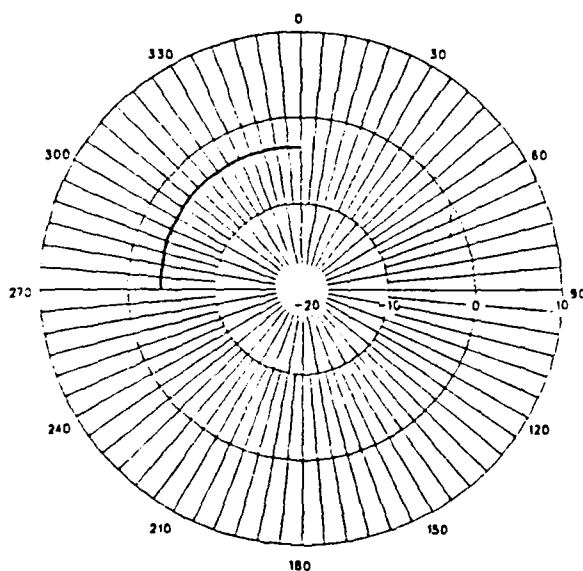
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 5 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

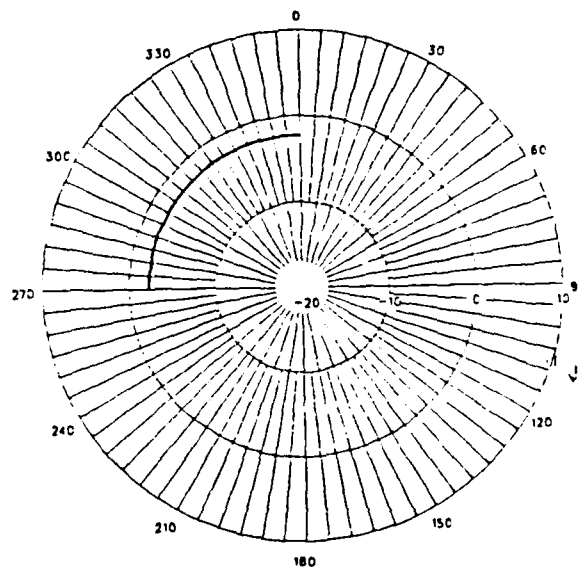
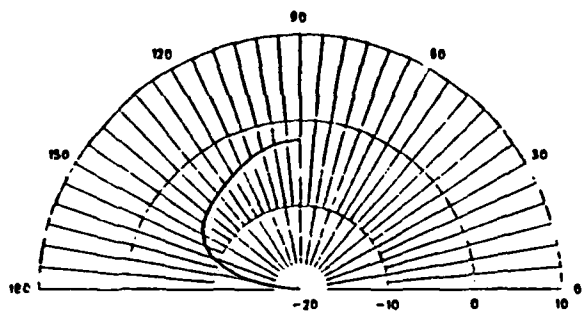
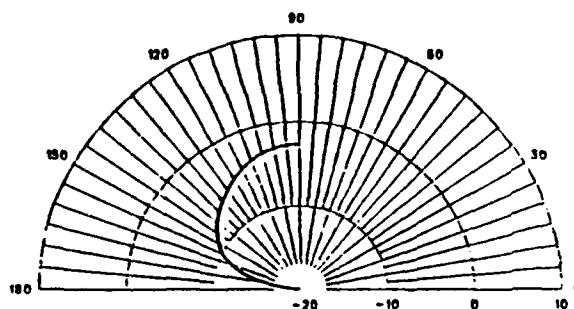


Figure 242. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 5 MHz

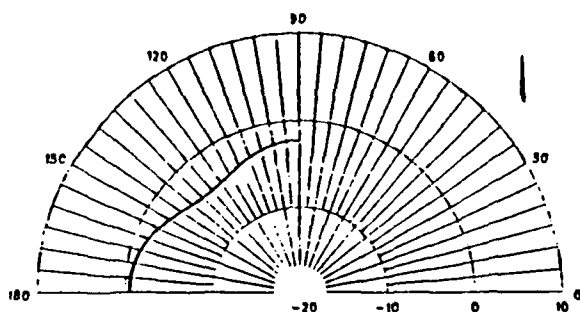
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 6 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

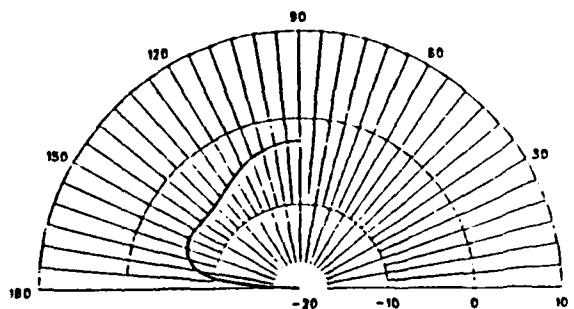
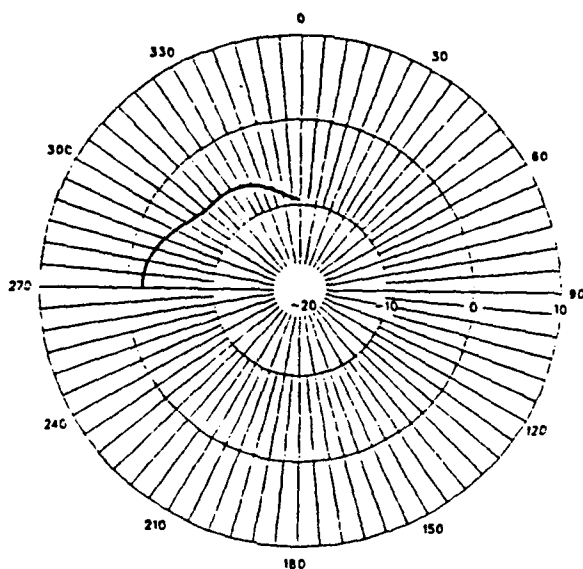
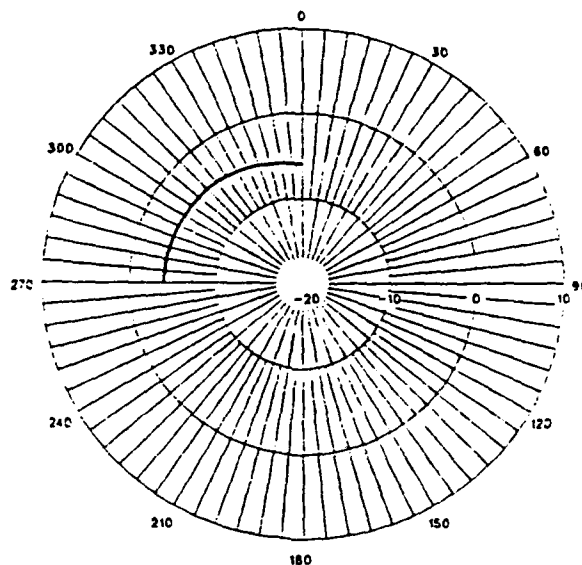


Figure 243. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 6 MHz

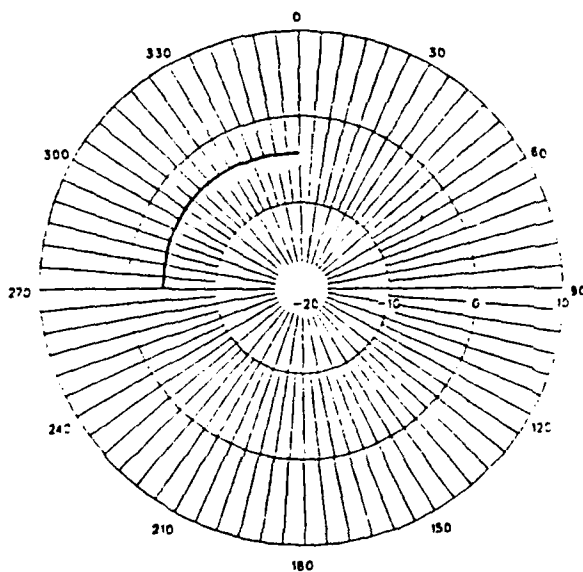
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

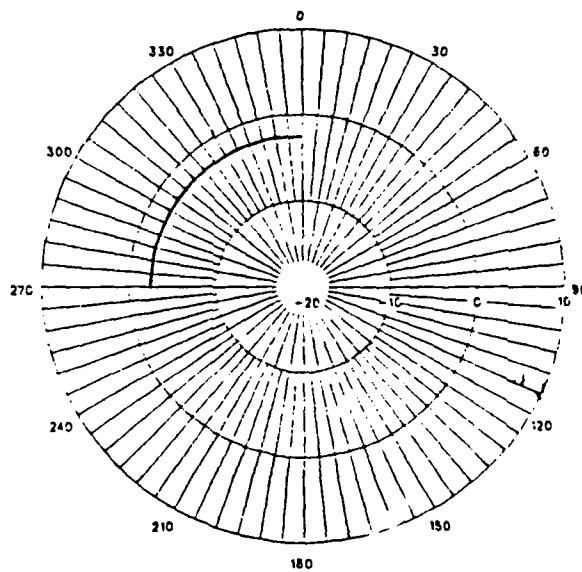
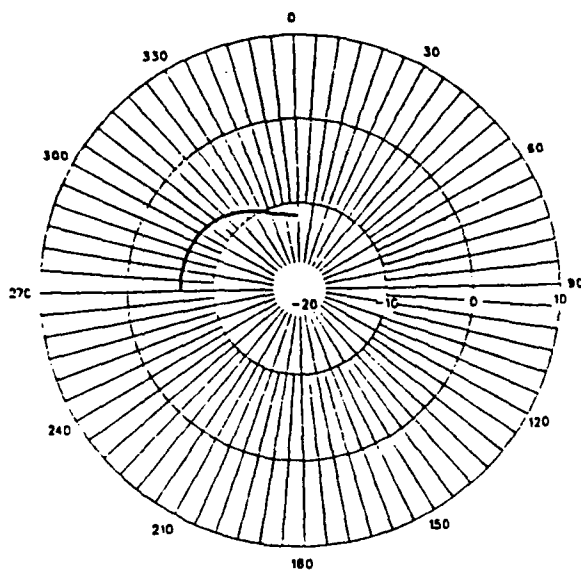
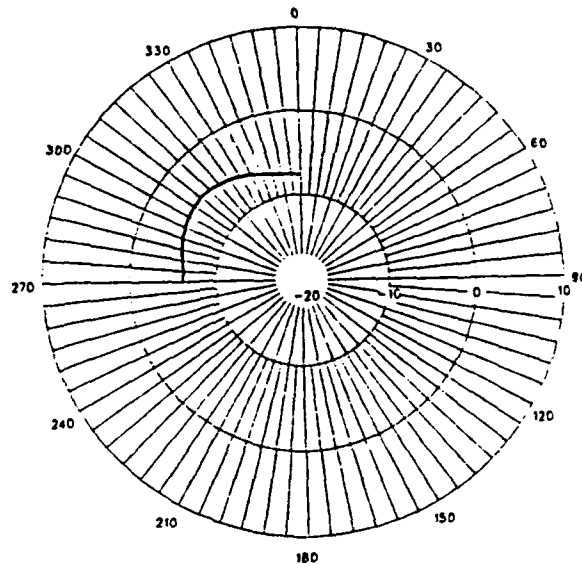


Figure 244. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 6 MHz

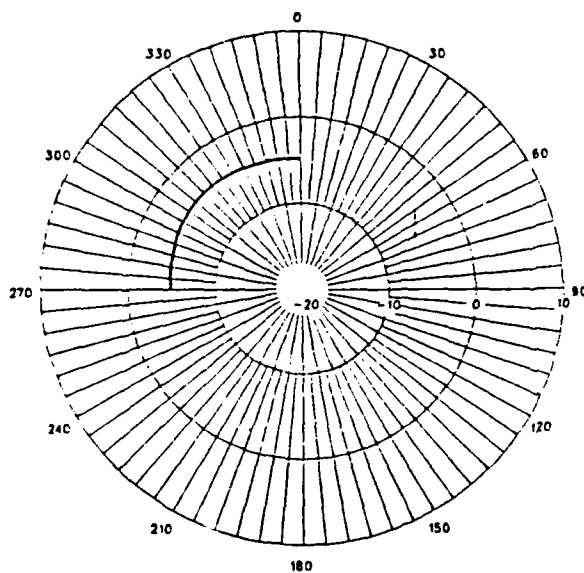
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 6 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

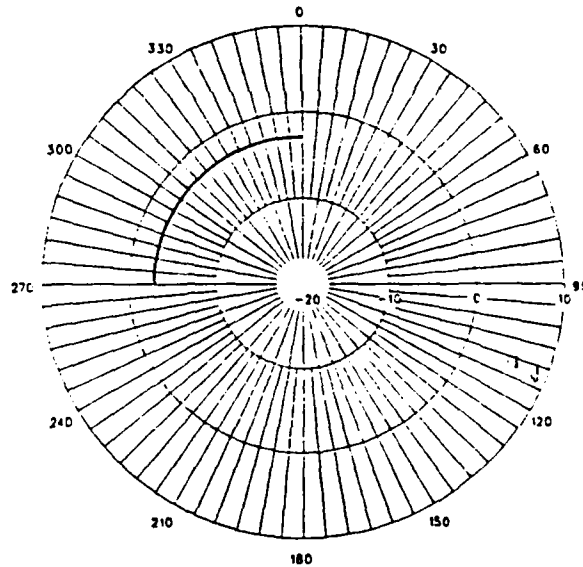


Figure 245. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 6 MHz

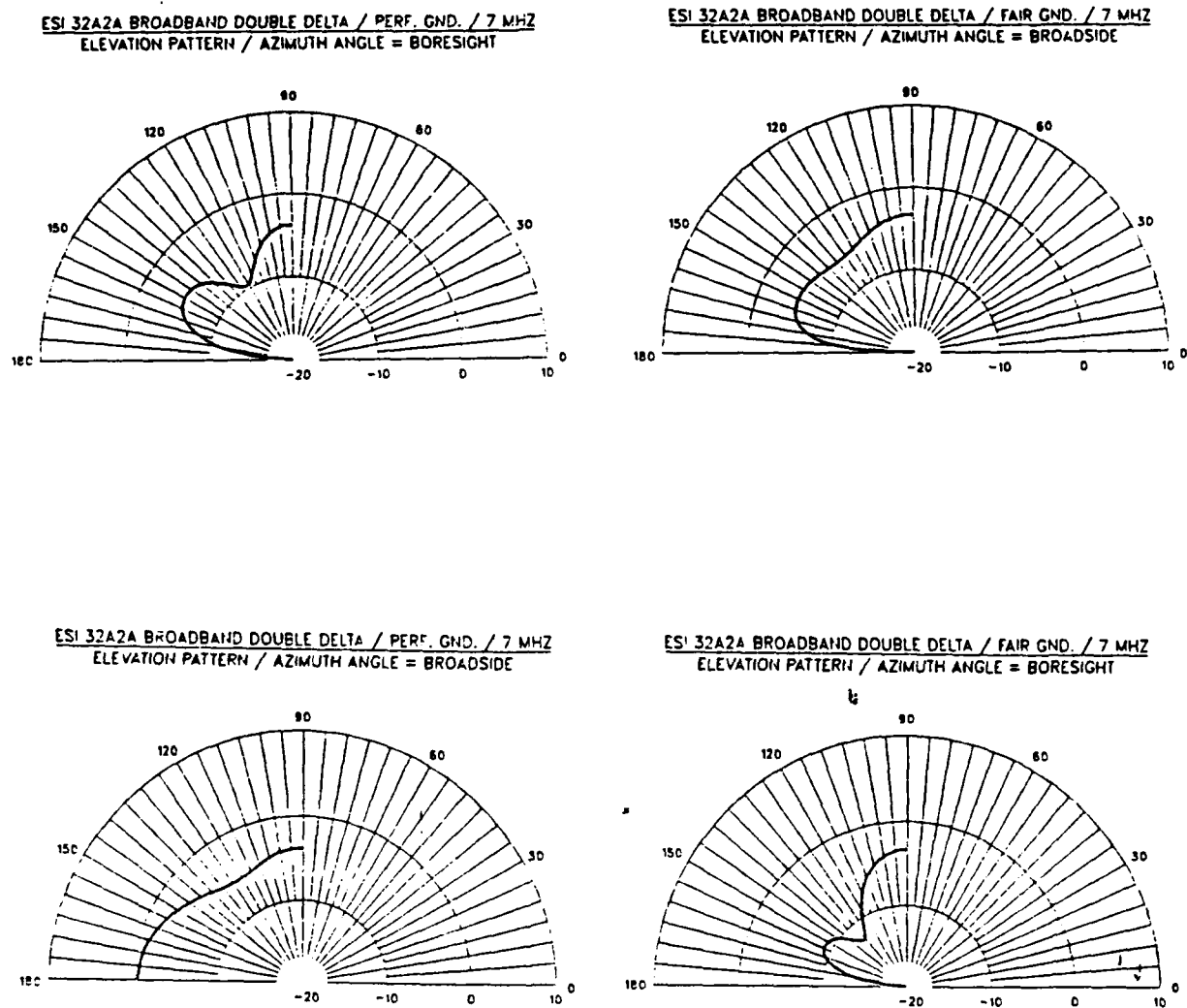
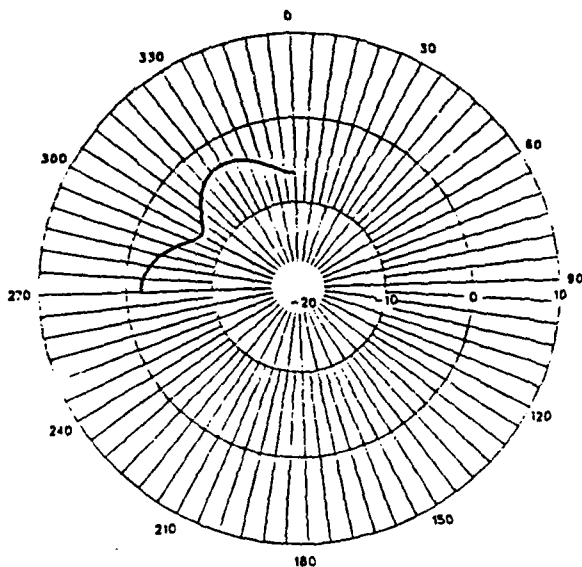
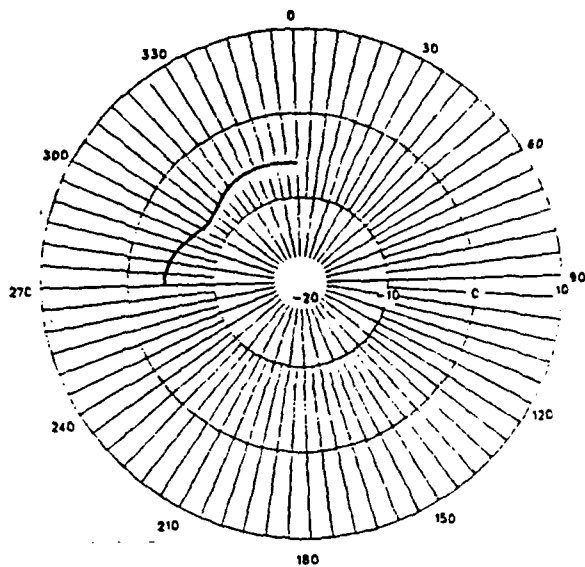


Figure 246. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 7 MHz

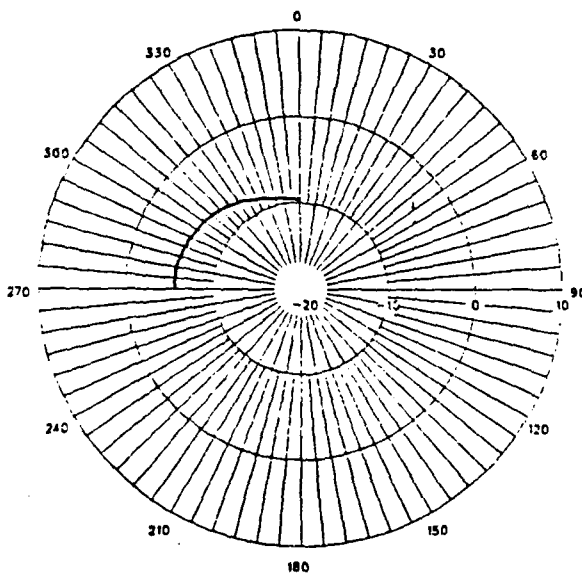
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

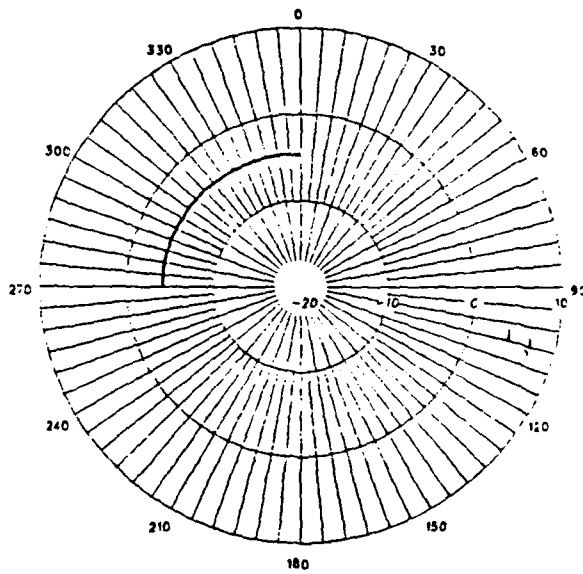
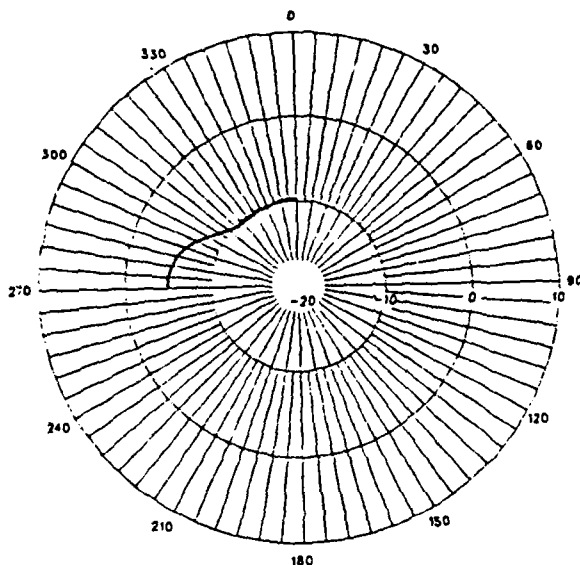
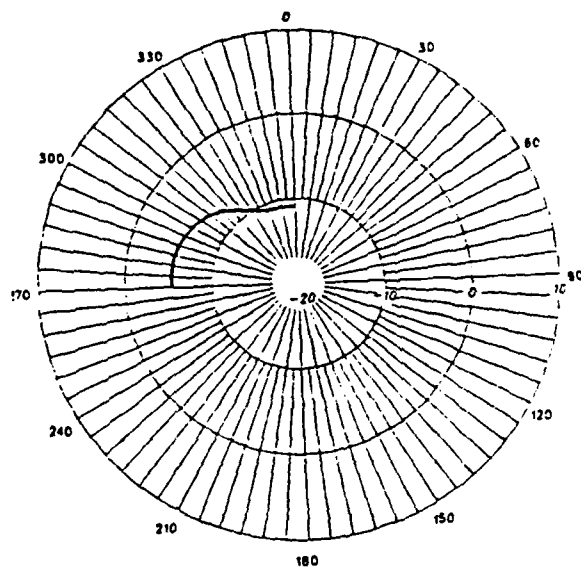


Figure 247. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 7 MHz

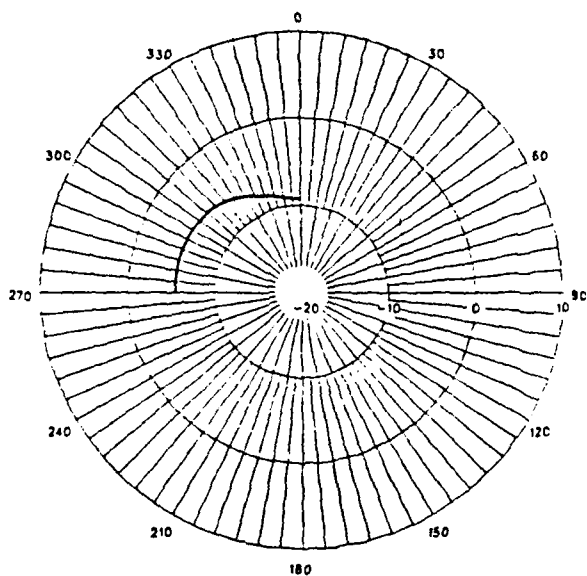
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 7 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

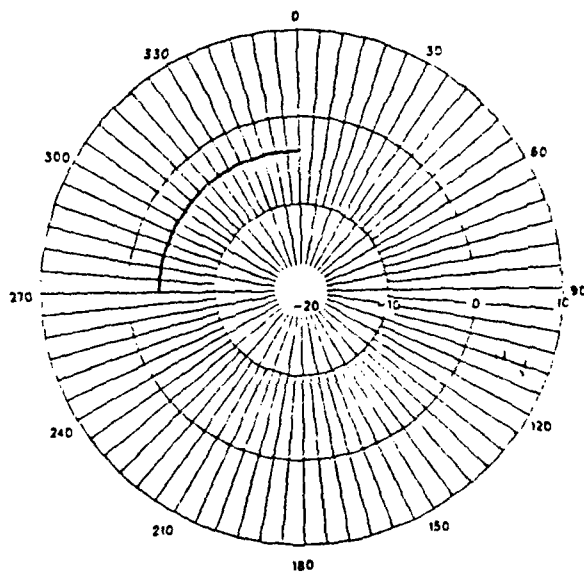
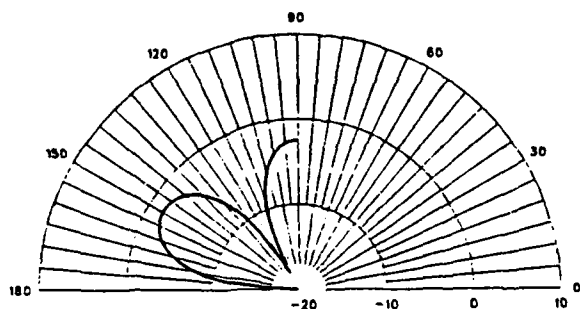
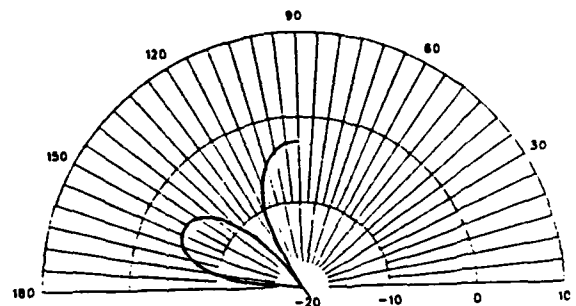


Figure 248. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 7 MHz

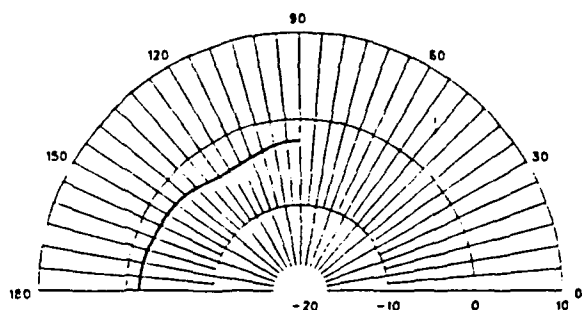
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 8 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

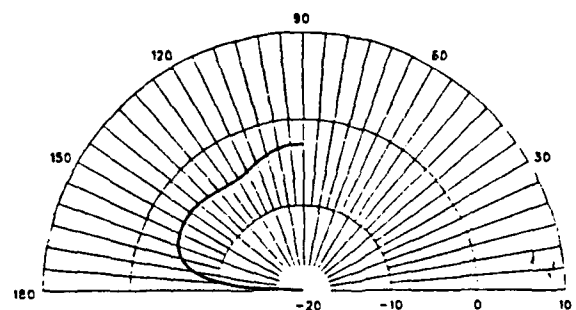
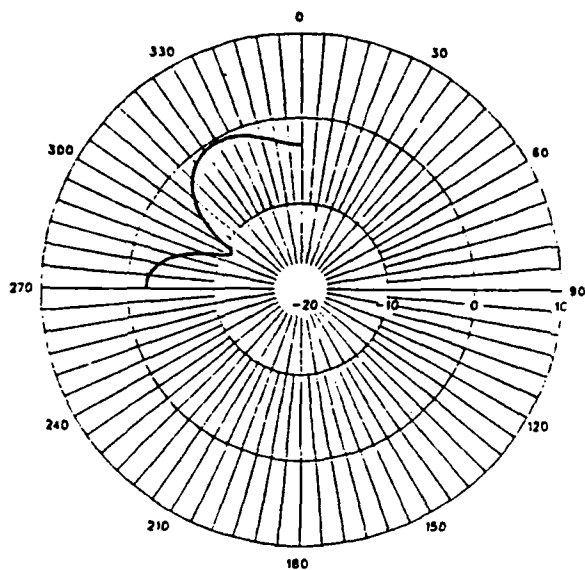
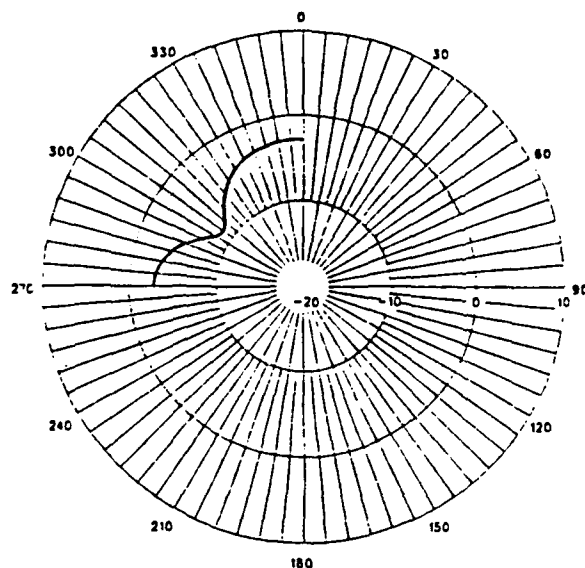


Figure 249. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 8 MHz

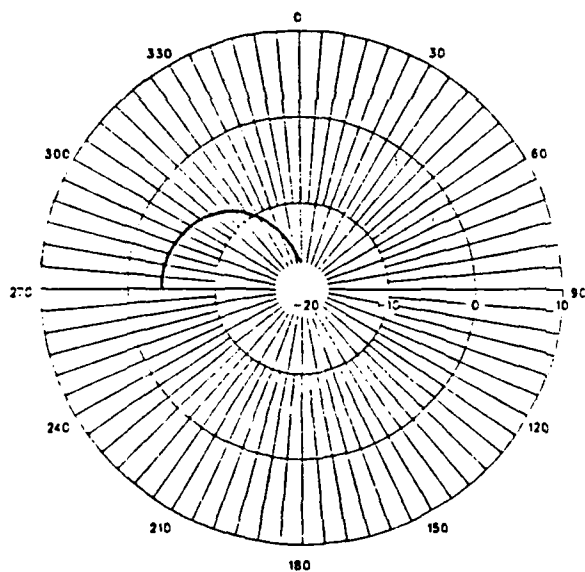
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

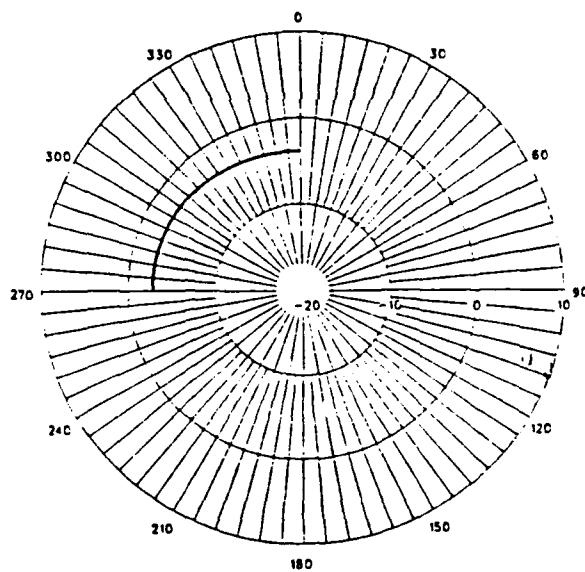
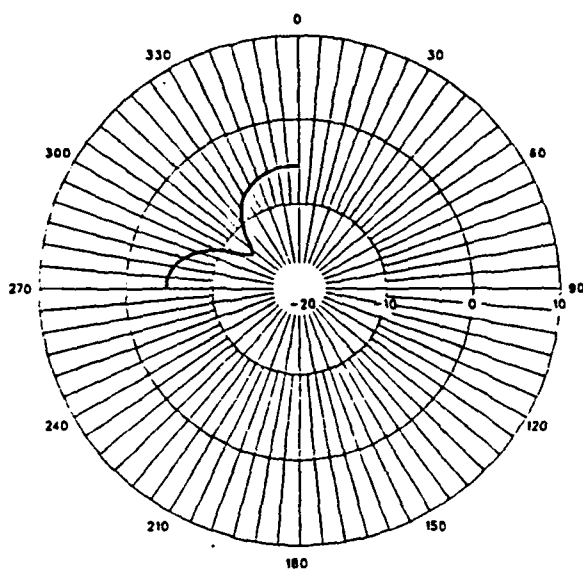
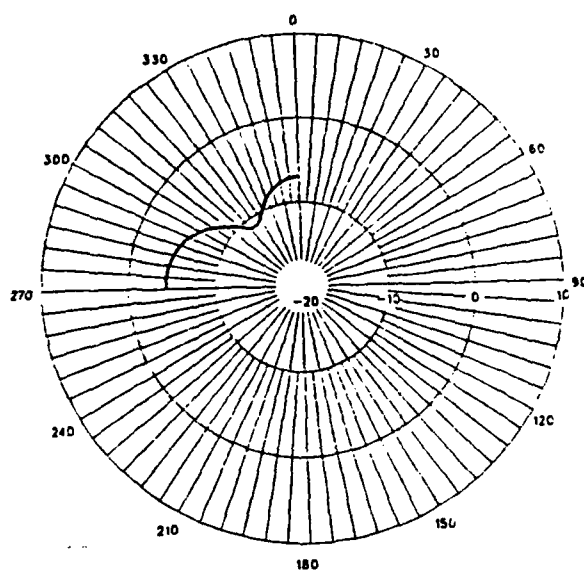


Figure 250. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 8 MHz

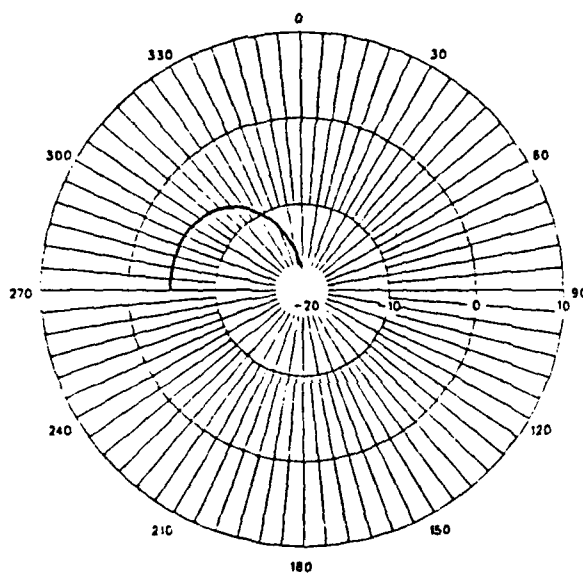
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 8 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

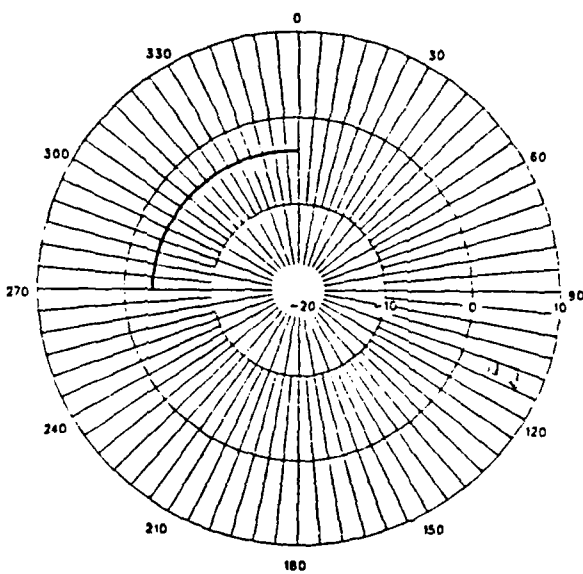
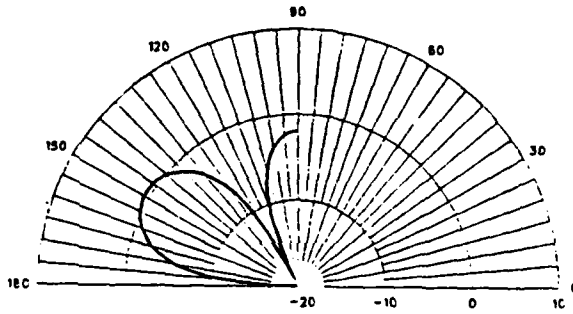
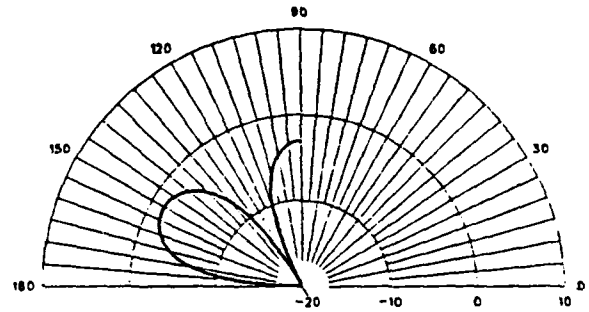


Figure 251. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 8 MHz

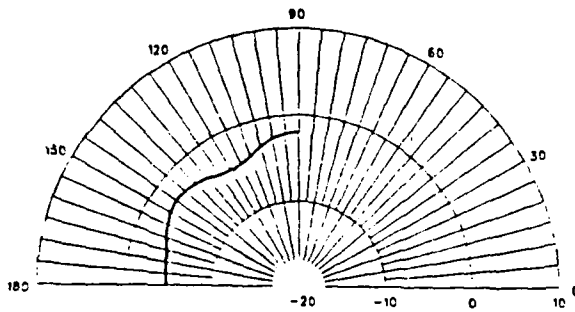
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 9 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

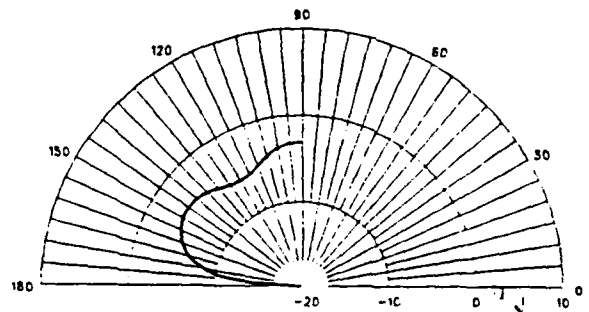
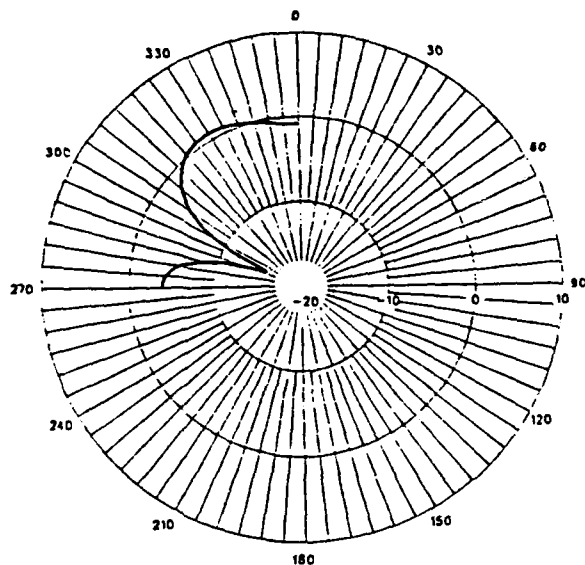
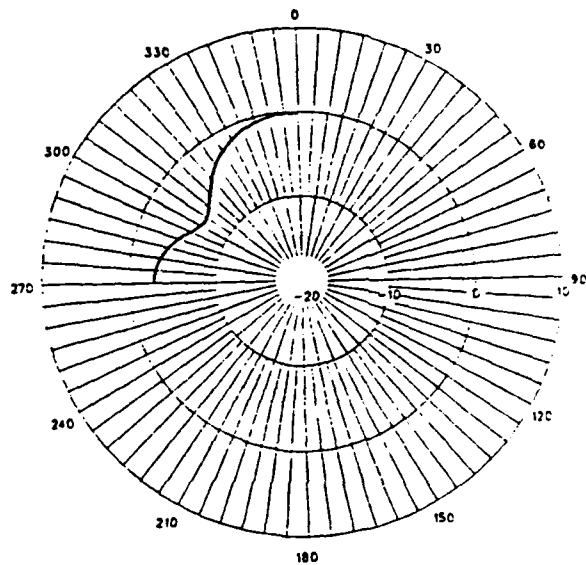


Figure 252. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 9 MHz

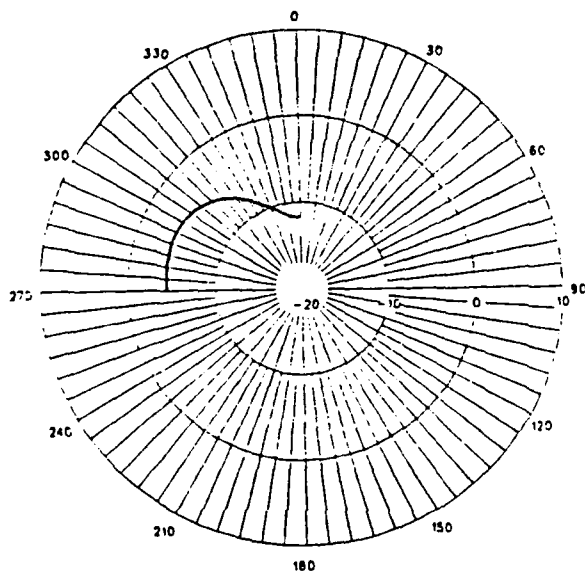
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

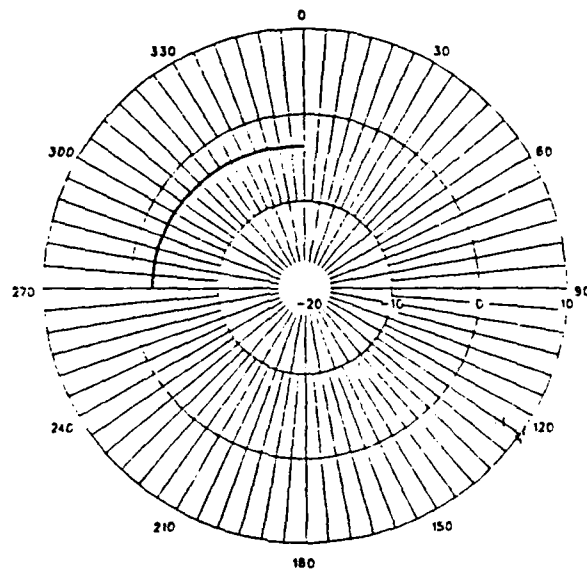
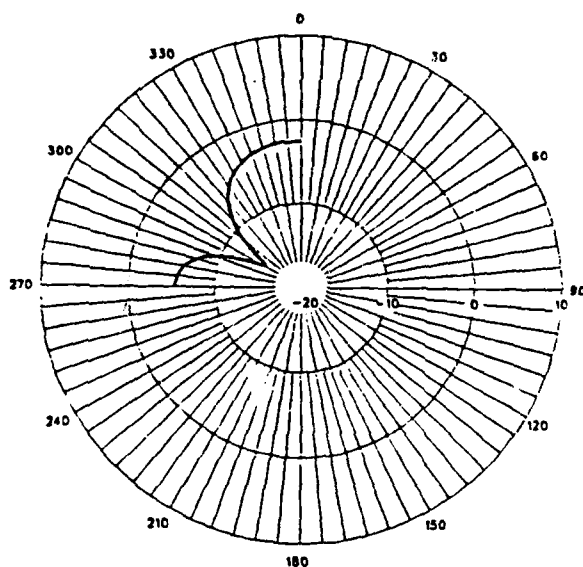
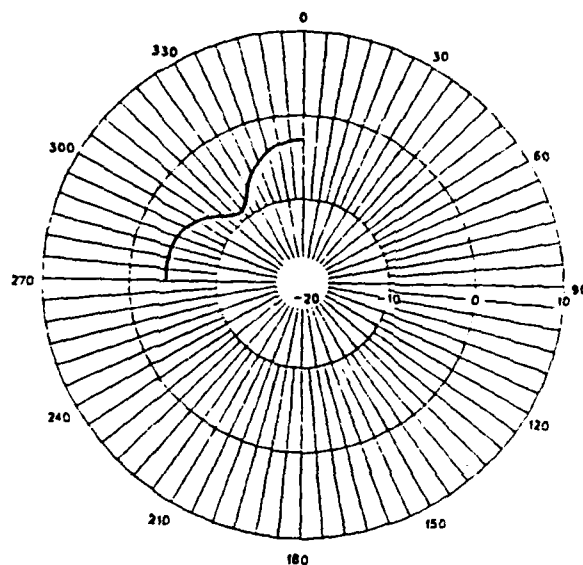


Figure 253. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 9 MHz

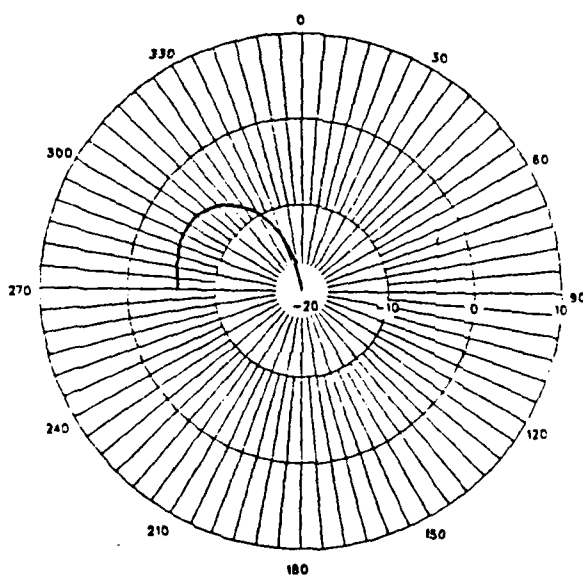
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 9 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

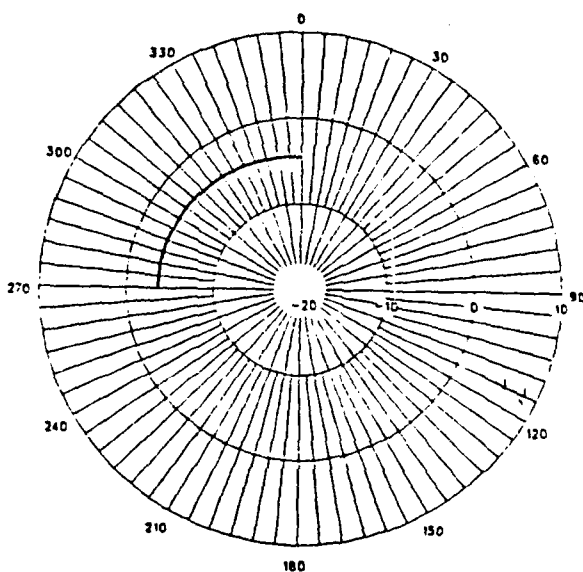
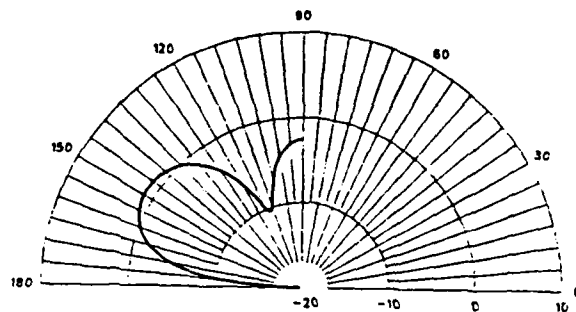
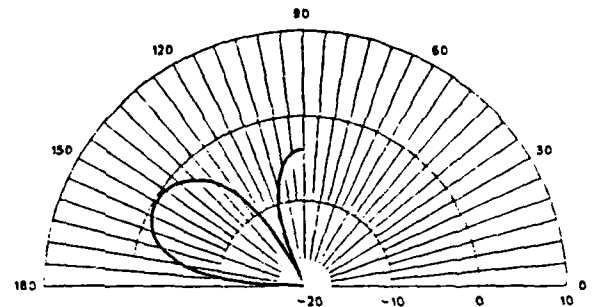


Figure 254. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 9 MHz

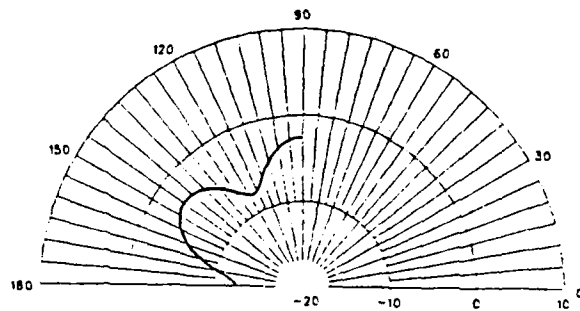
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 10 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 10 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 10 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 10 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

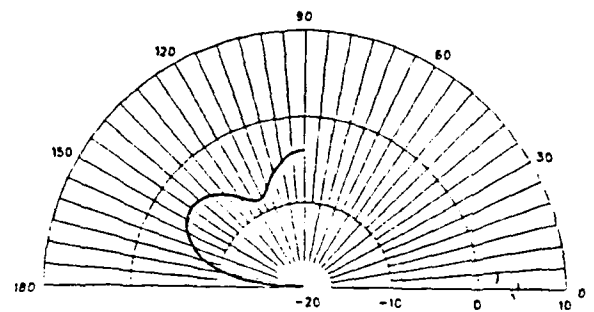
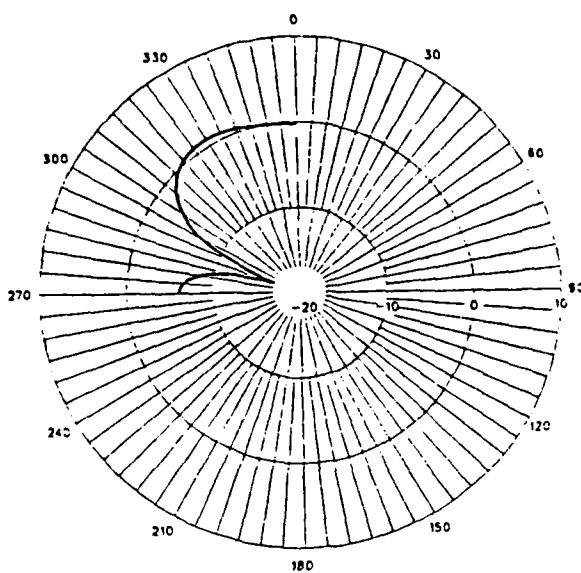
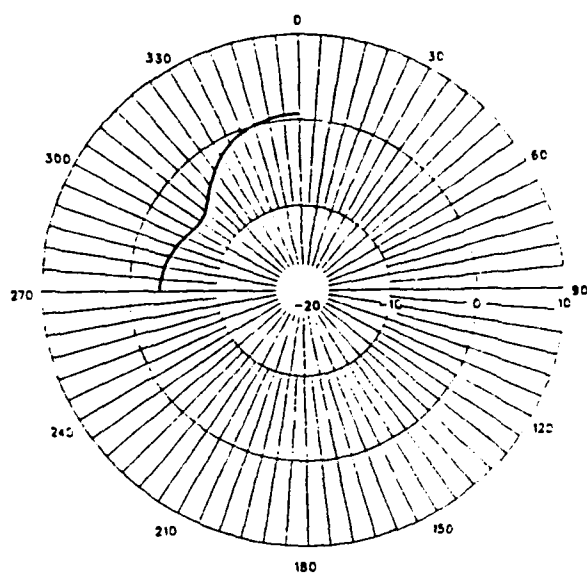


Figure 255. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 10 MHz

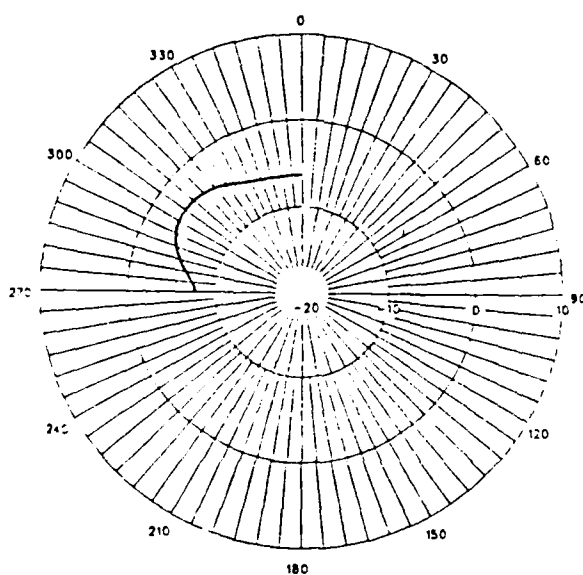
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

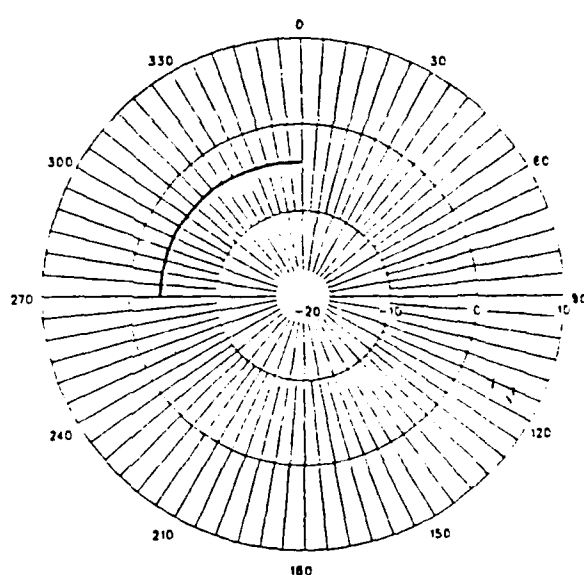
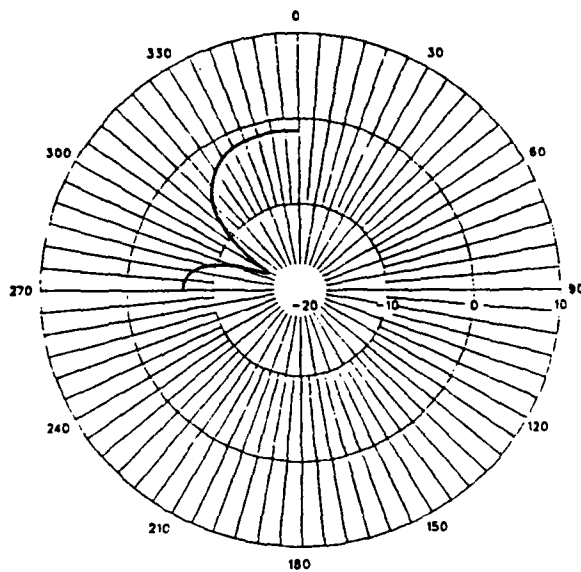
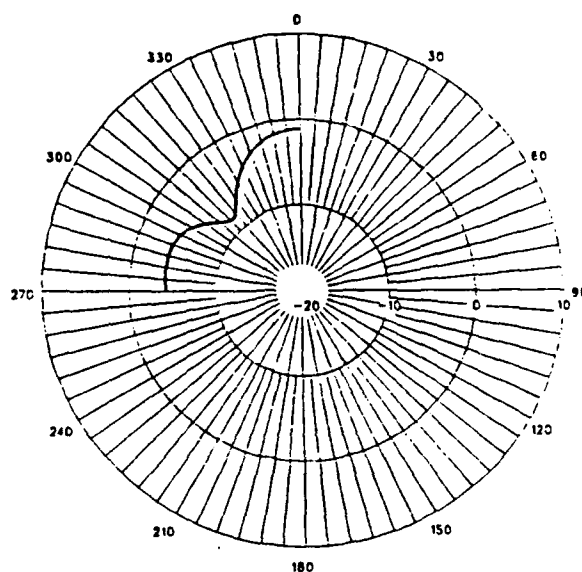


Figure 256. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 10 MHz

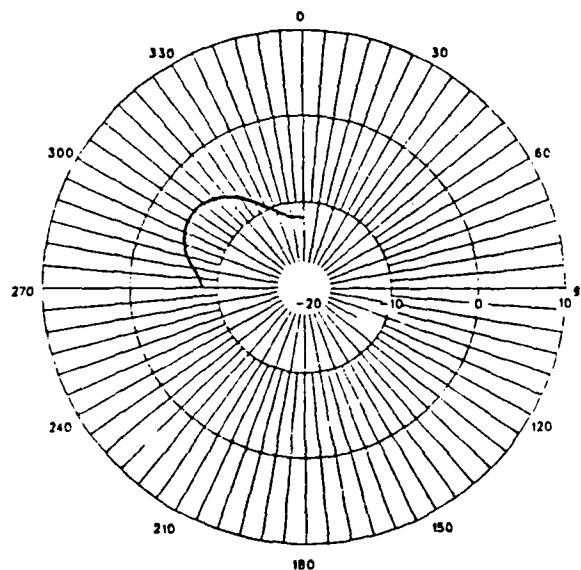
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 10 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

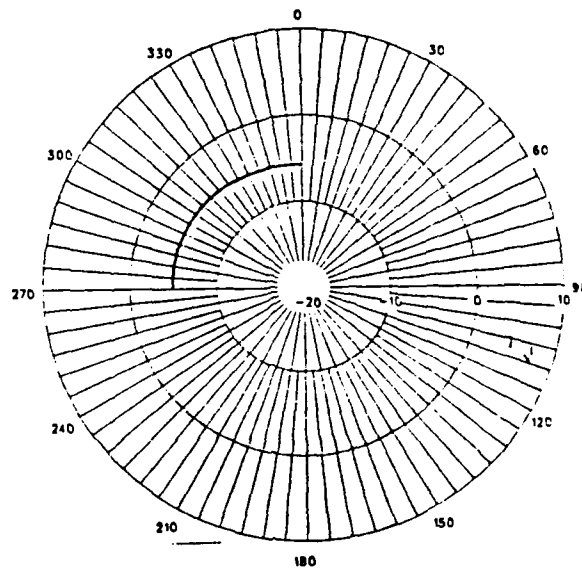
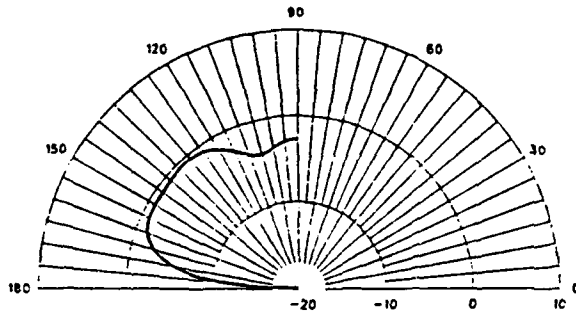
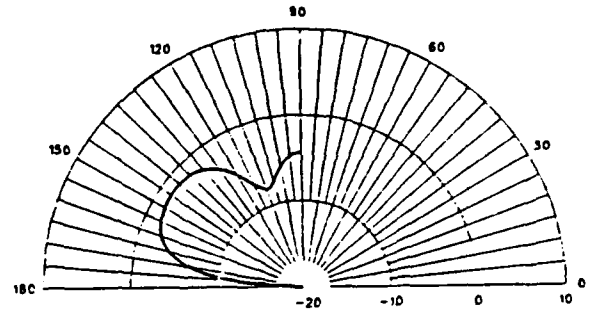


Figure 257. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 10 MHz

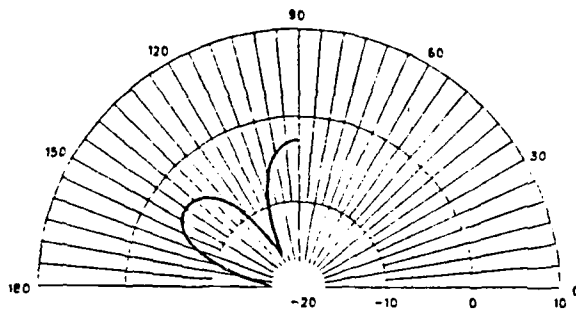
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 11 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

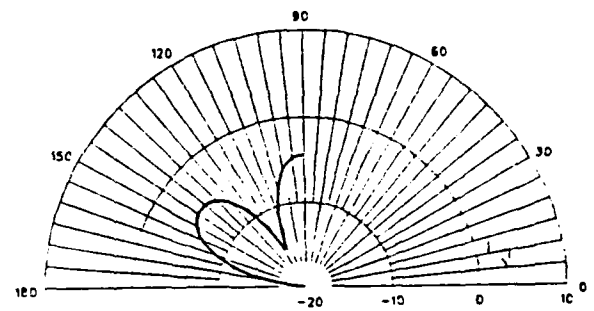
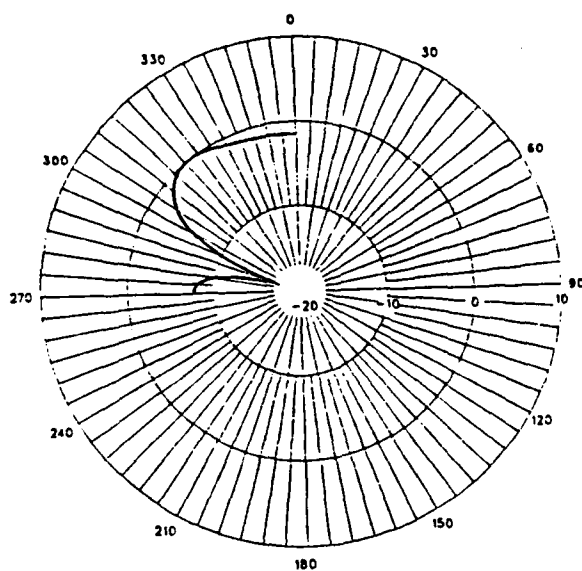
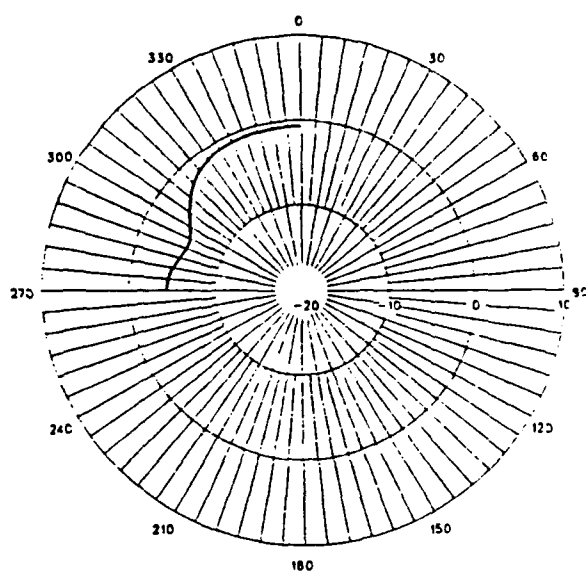


Figure 258. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 11 MHz

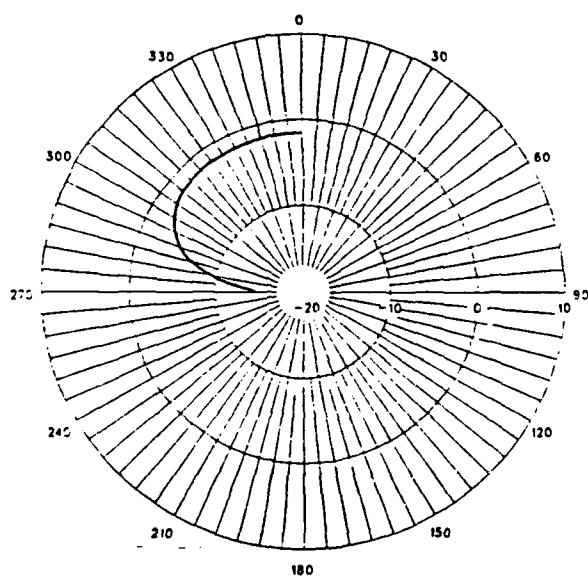
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

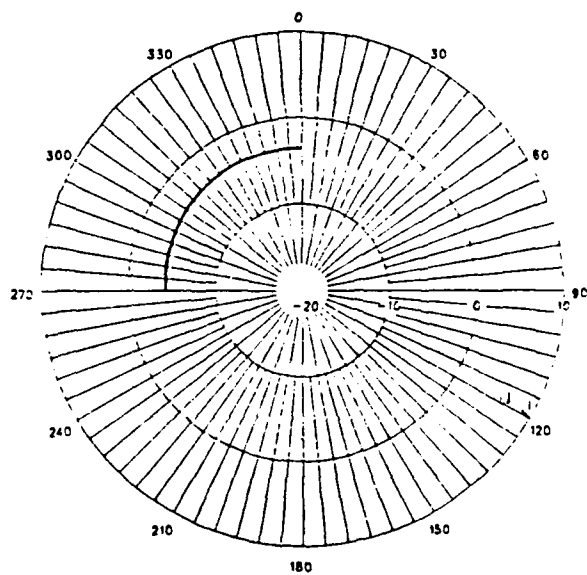
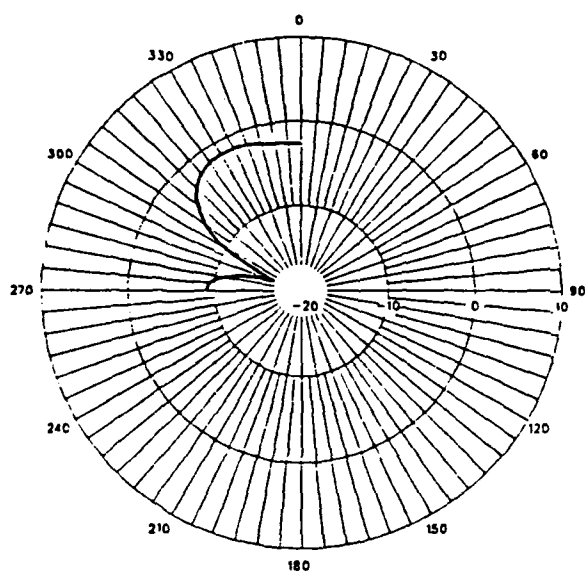
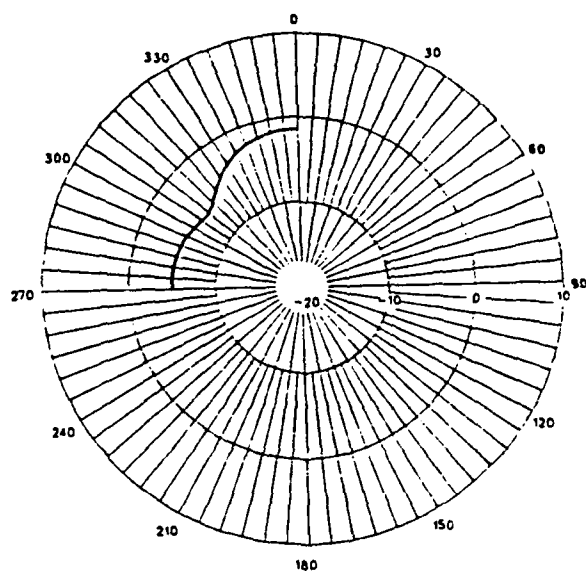


Figure 259. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 11 MHz

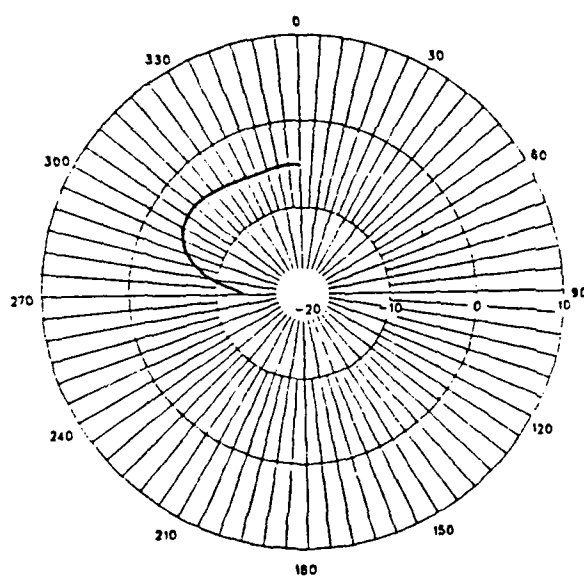
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 11 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

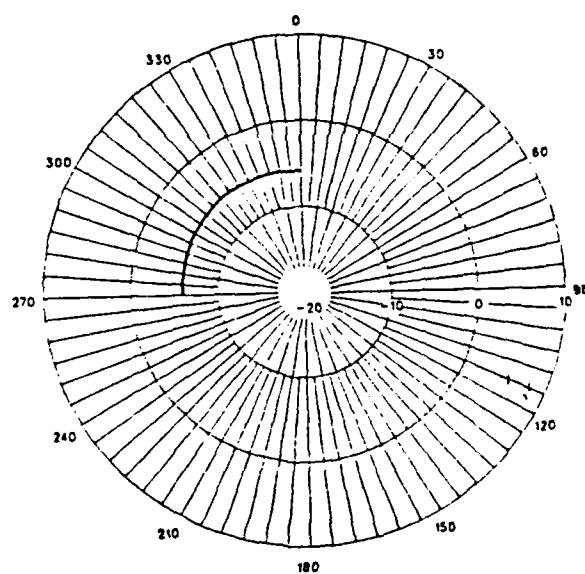
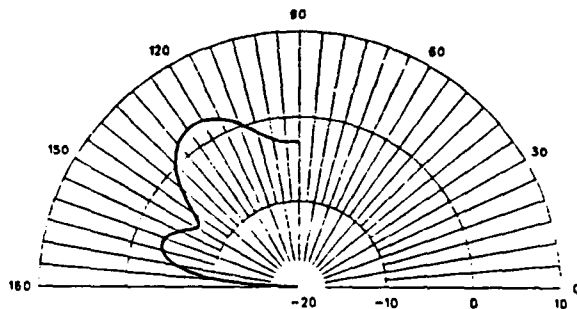
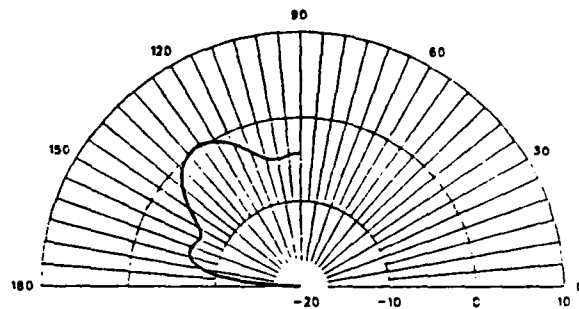


Figure 260. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 11 MHz

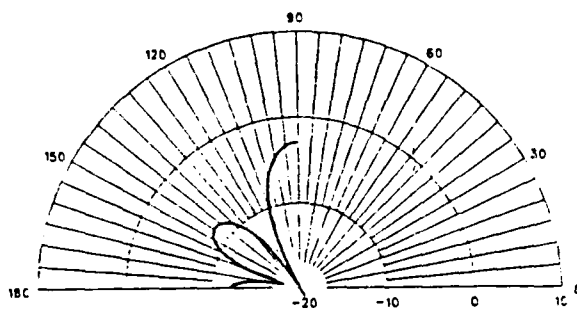
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 12 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

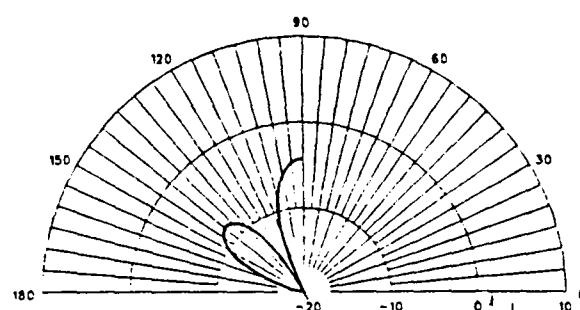
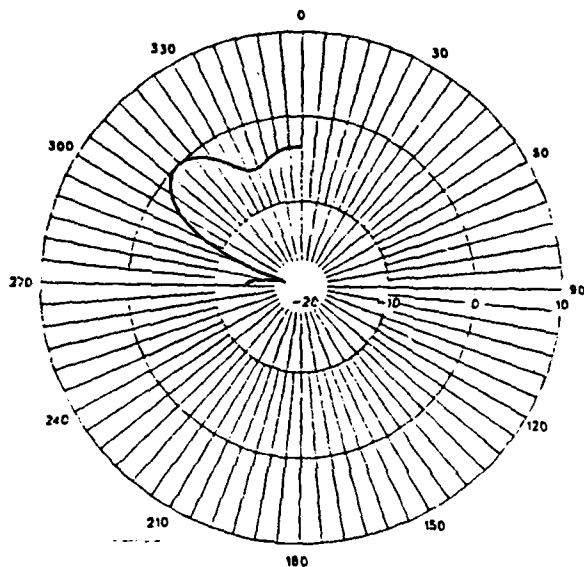
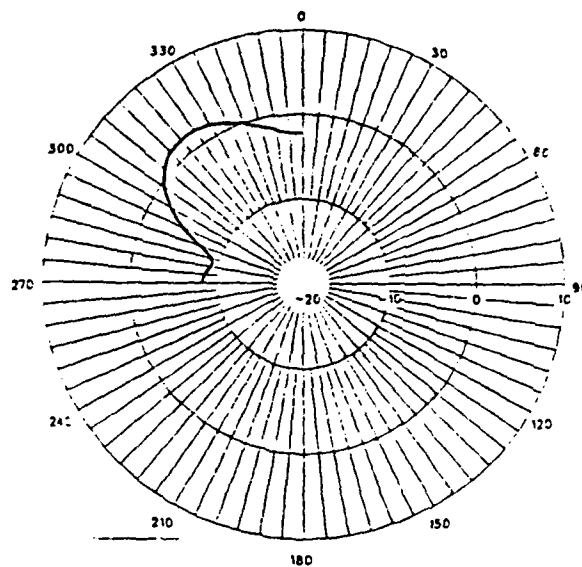


Figure 261. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 12 MHz

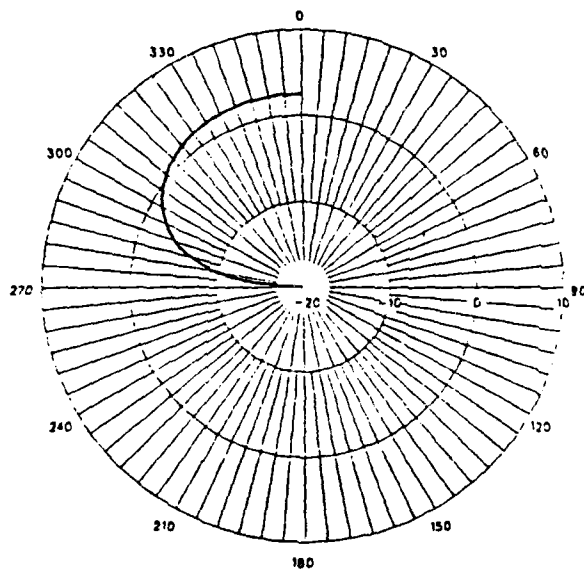
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

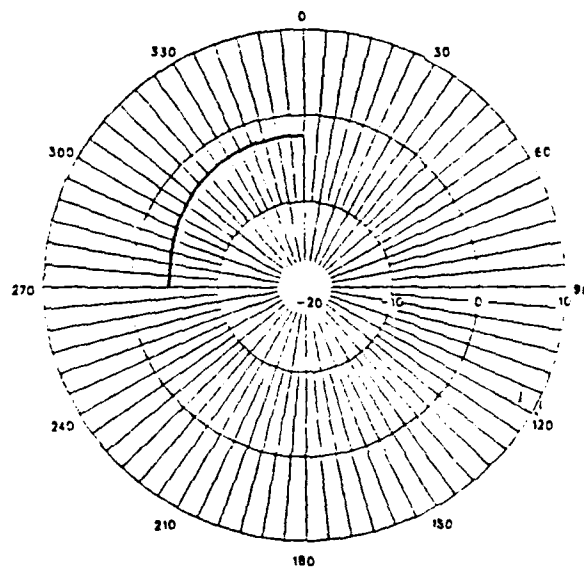
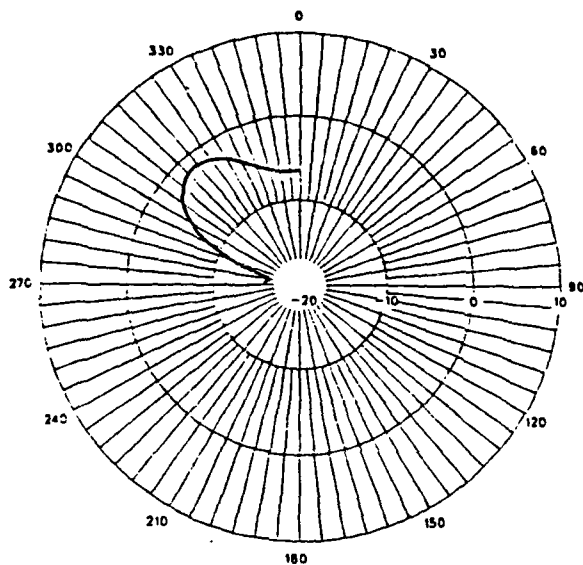
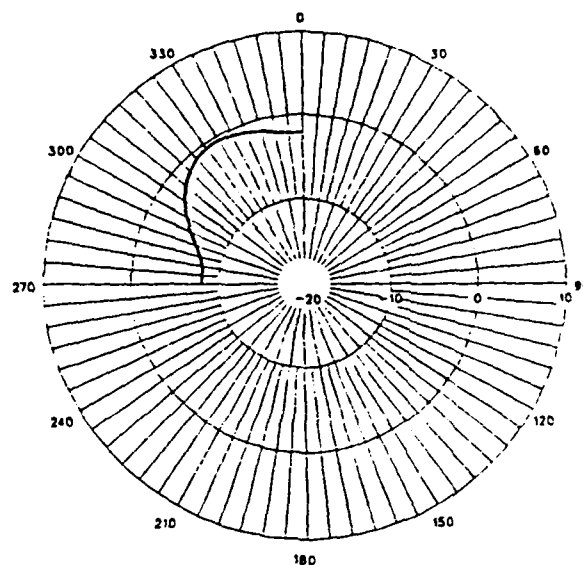


Figure 262. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 12 MHz

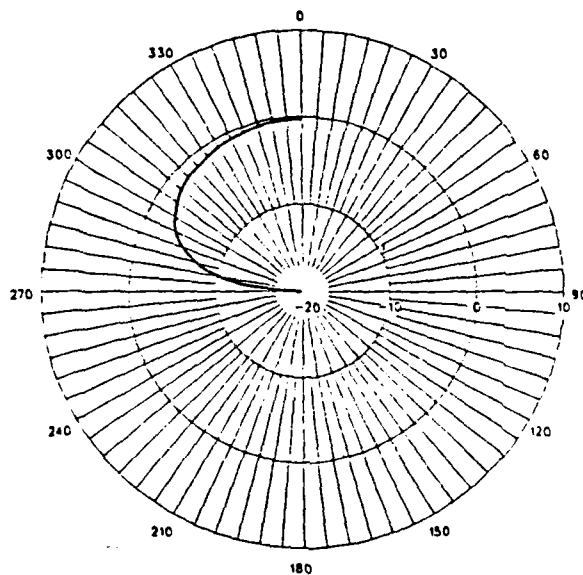
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 12 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

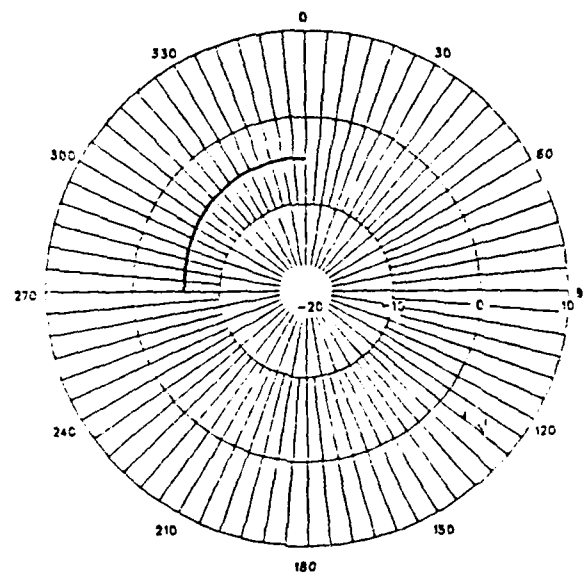
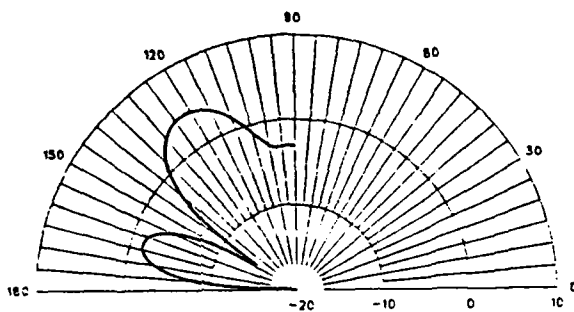
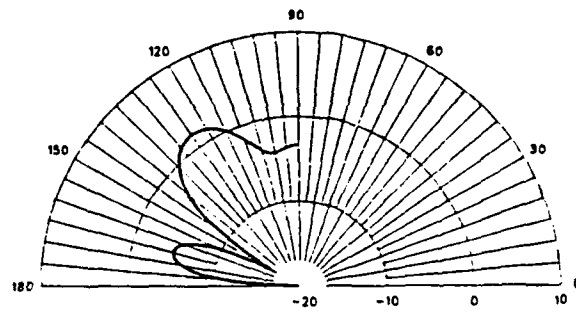


Figure 263. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 12 MHz

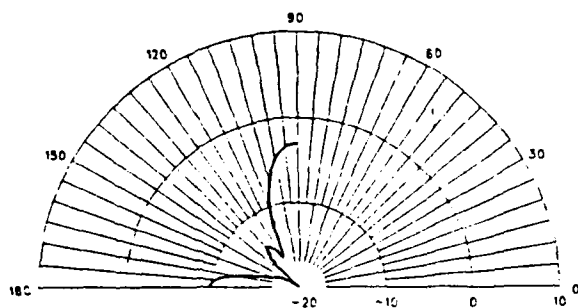
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 13 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

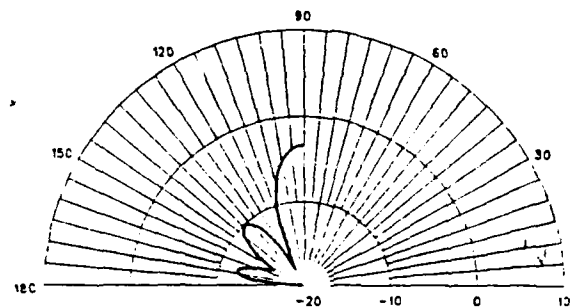
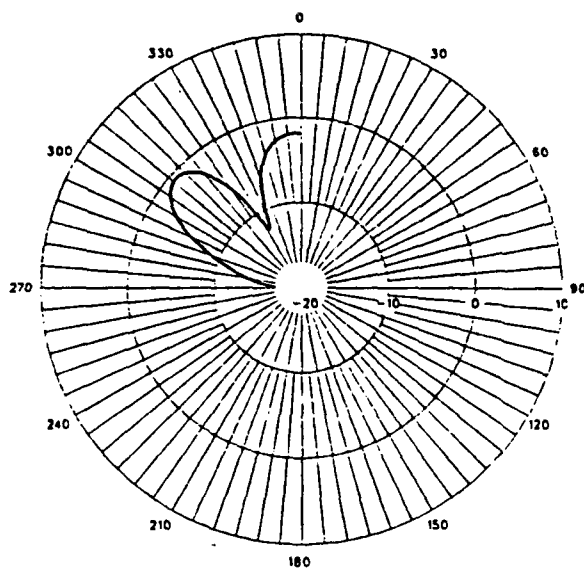
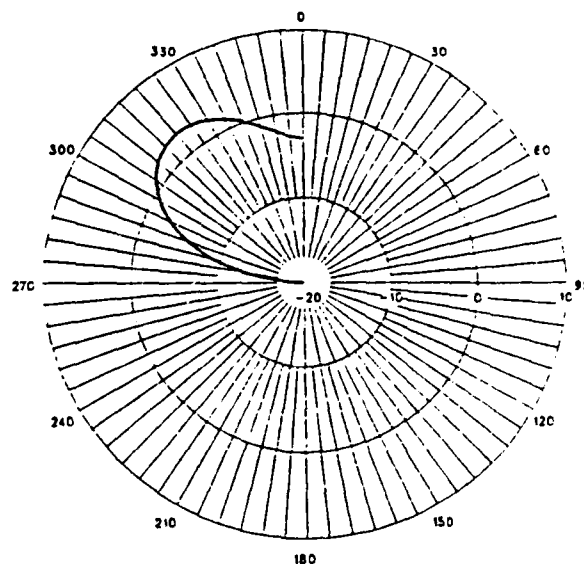


Figure 264. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 13 MHz

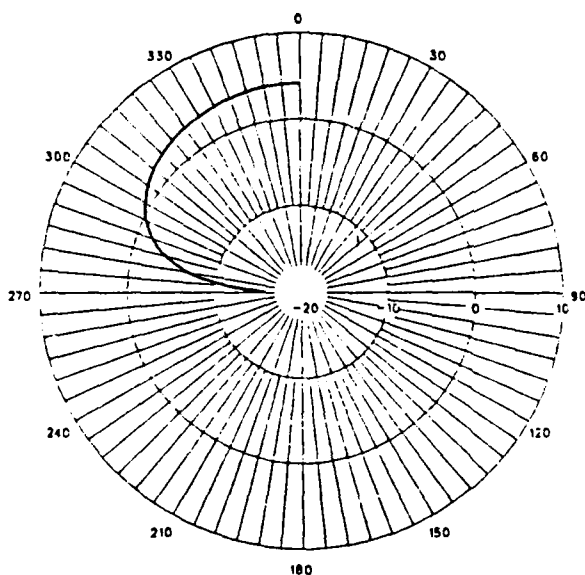
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

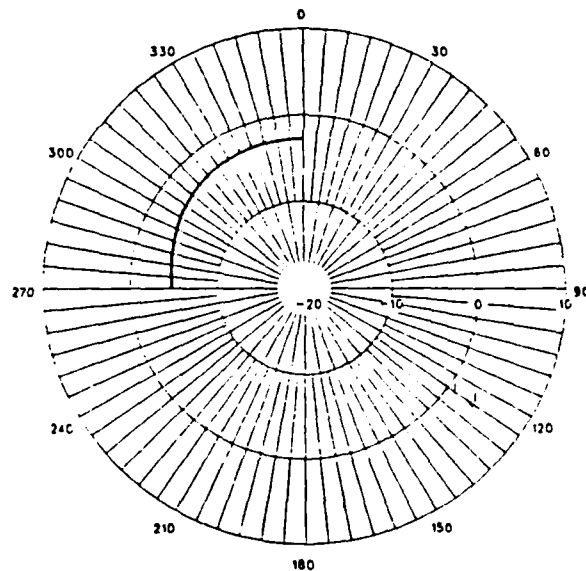
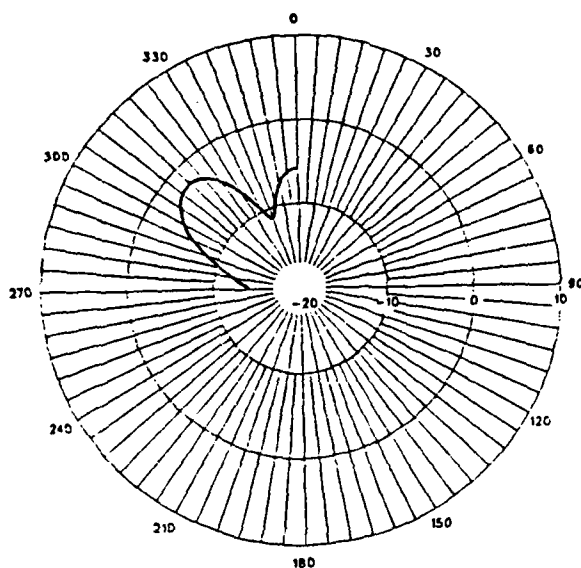
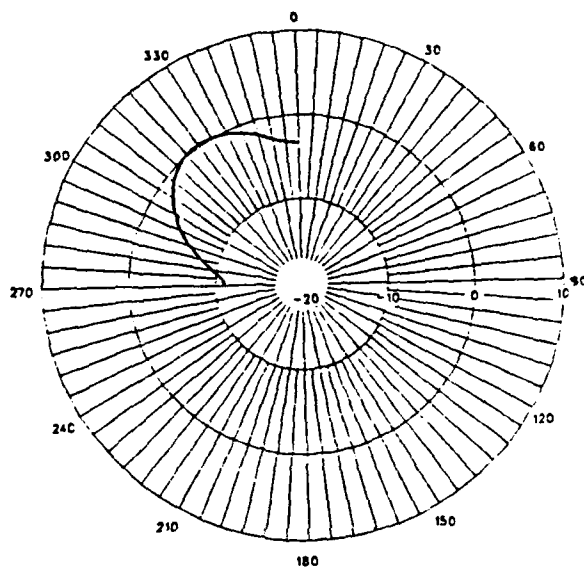


Figure 265. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 13 MHz

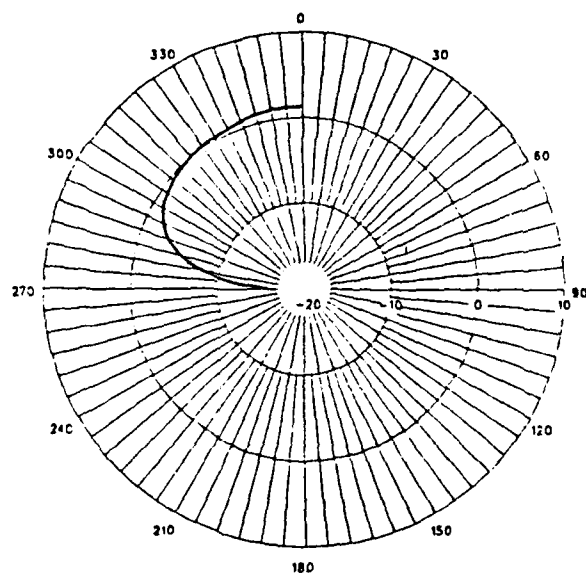
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 13 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

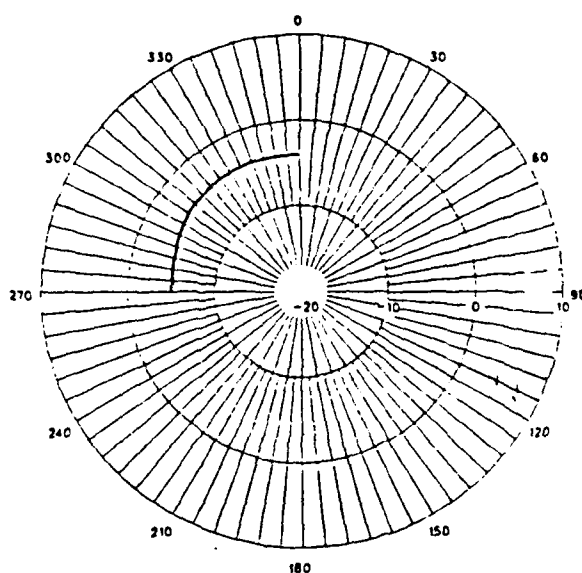
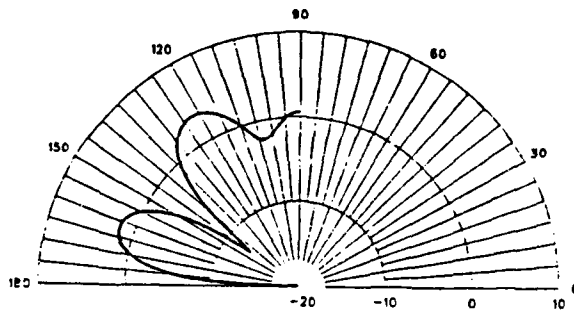
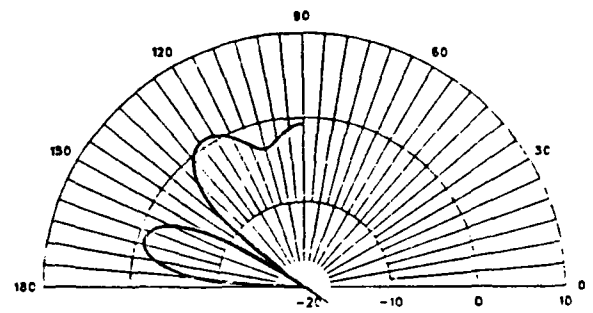


Figure 266. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 13 MHz

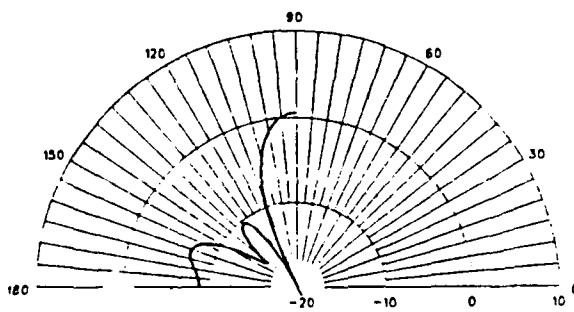
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 14 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 14 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 14 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 14 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

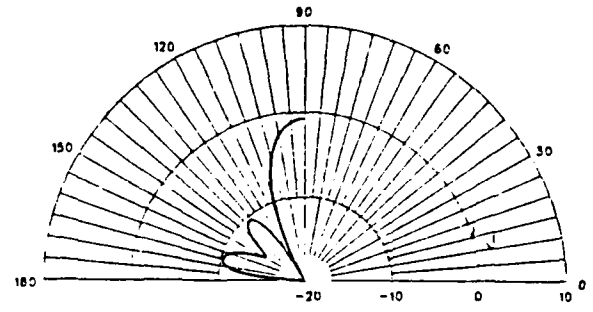
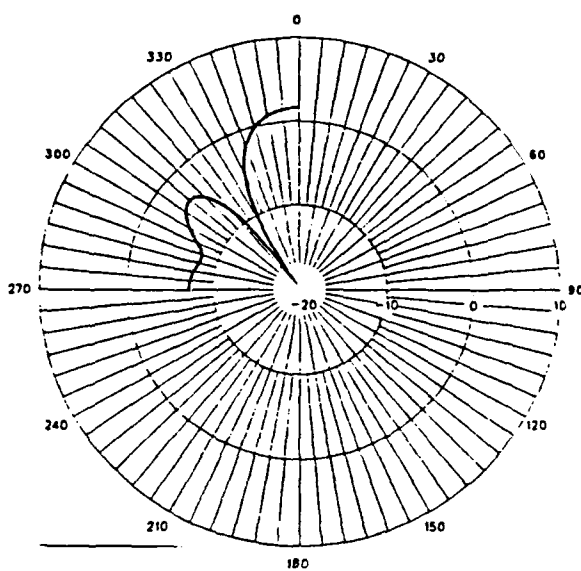
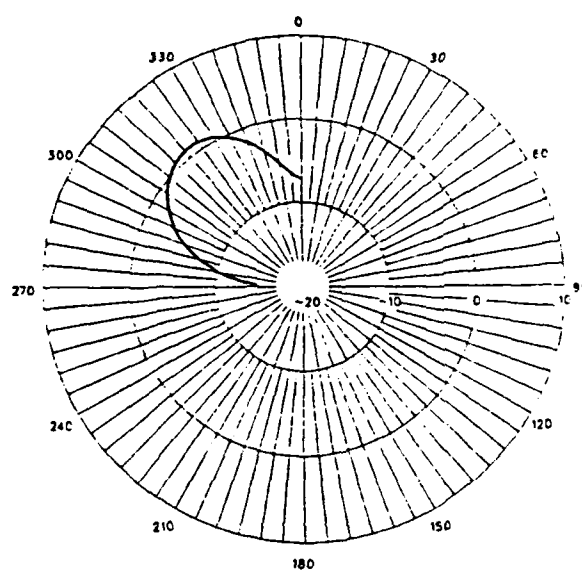


Figure 267. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 14 MHz

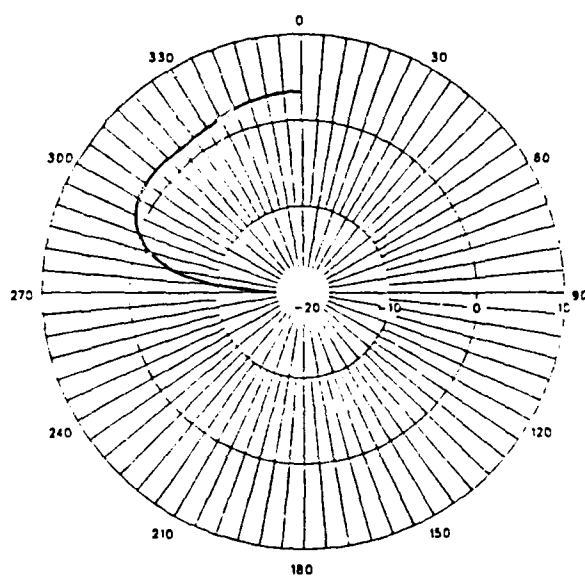
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

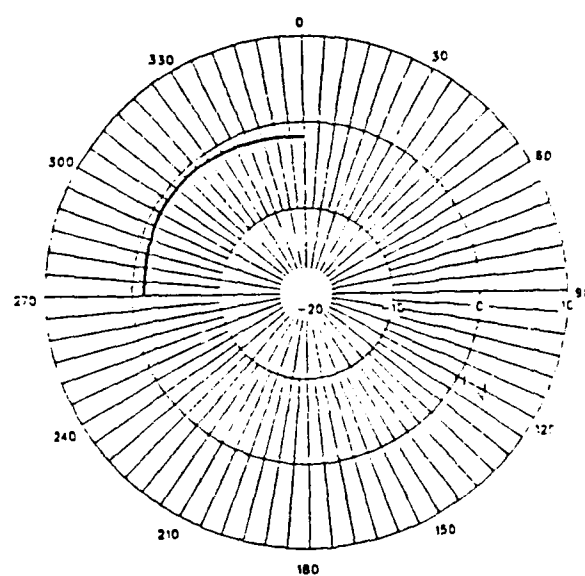
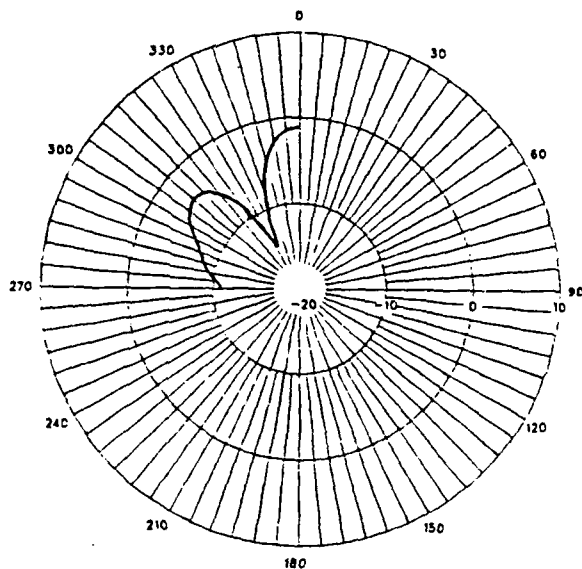
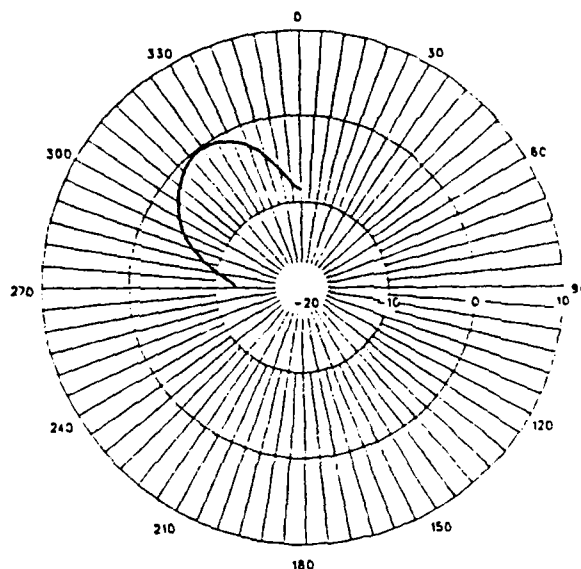


Figure 268. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 14 MHz

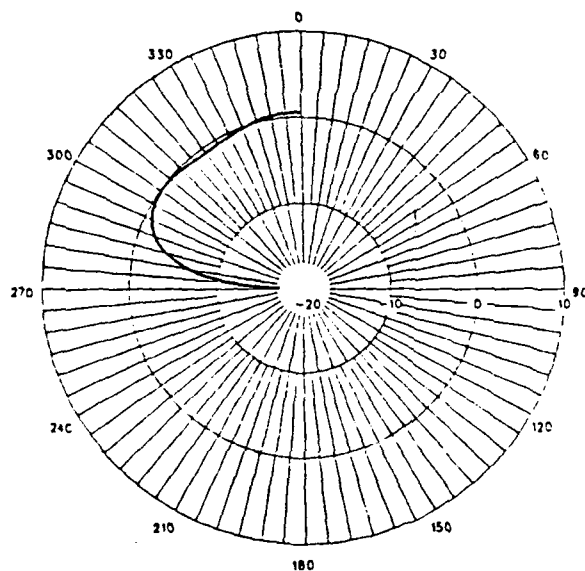
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 14 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

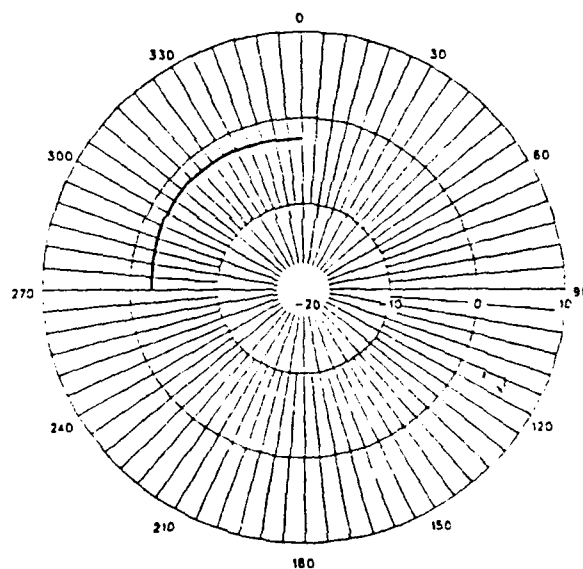
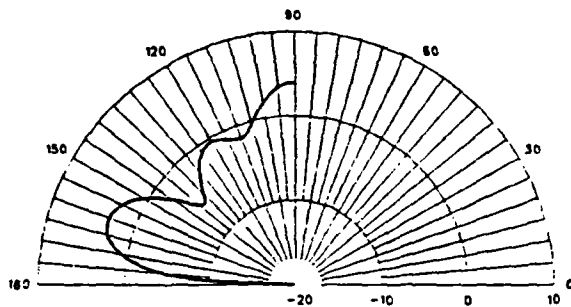
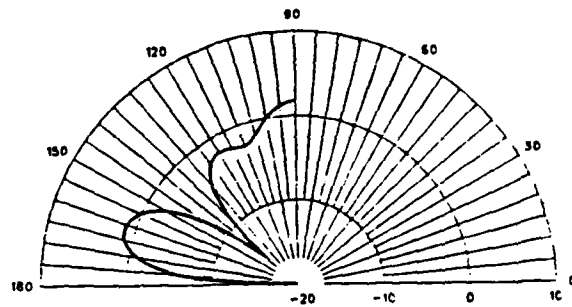


Figure 269. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 14 MHz

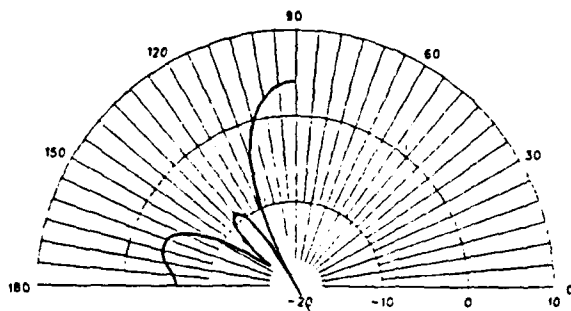
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 15 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

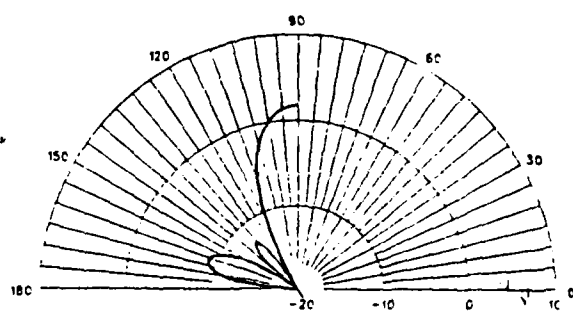
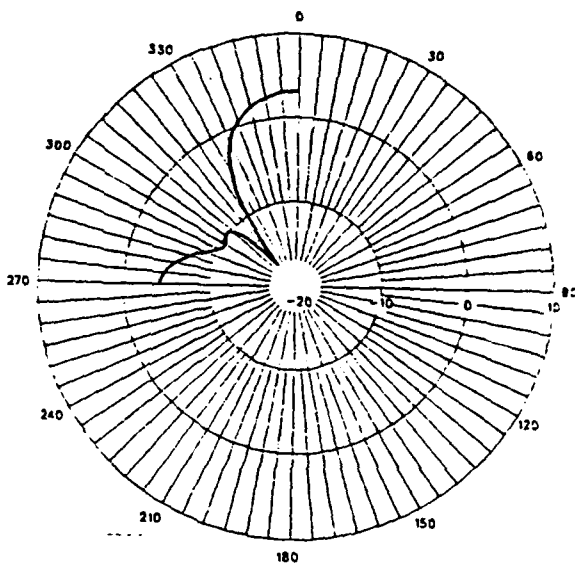
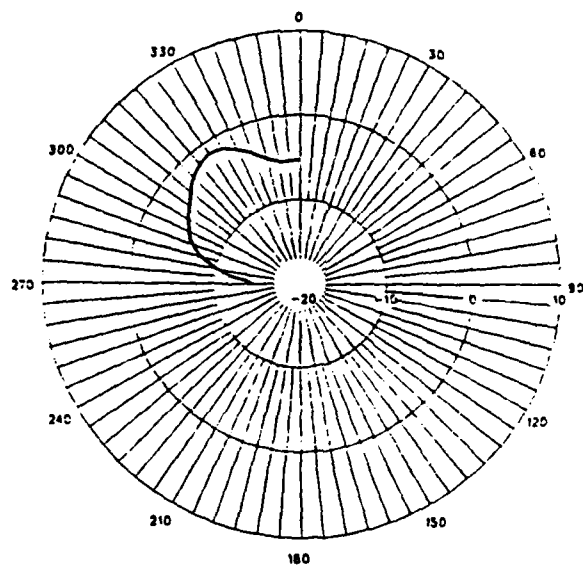


Figure 270. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 15 MHz

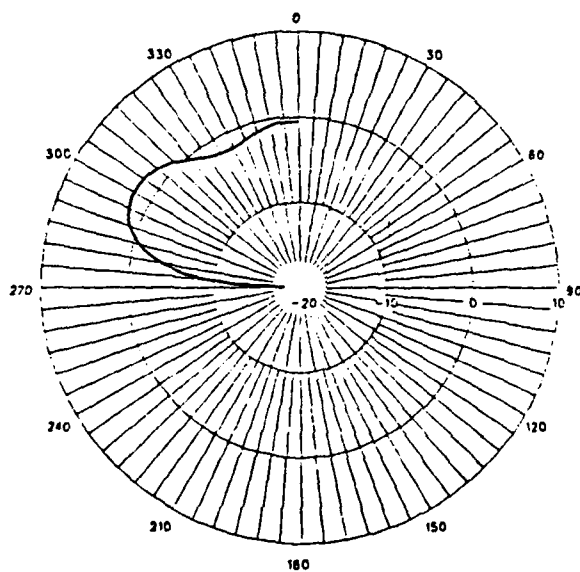
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE $\approx 20^\circ$



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE $\approx 40^\circ$



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE $\approx 60^\circ$



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE $\approx 80^\circ$

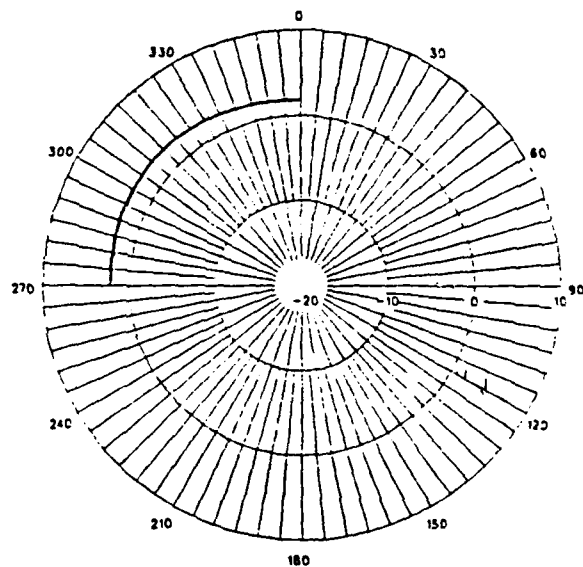
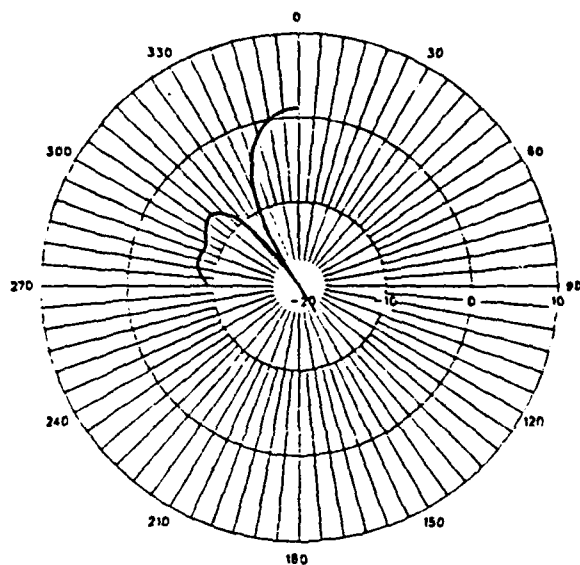
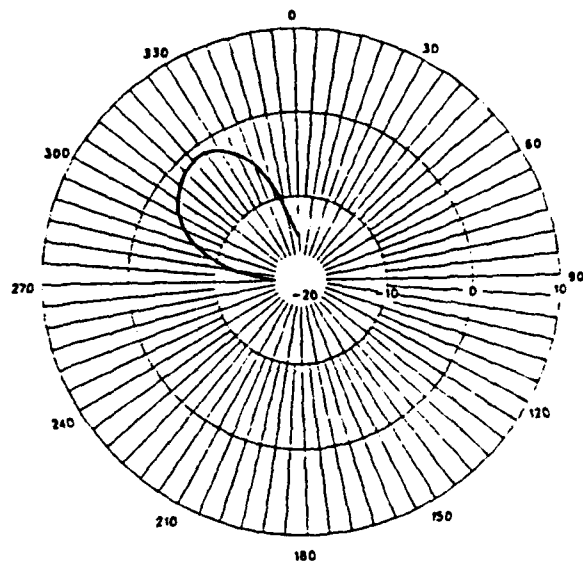


Figure 271. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 15 MHz

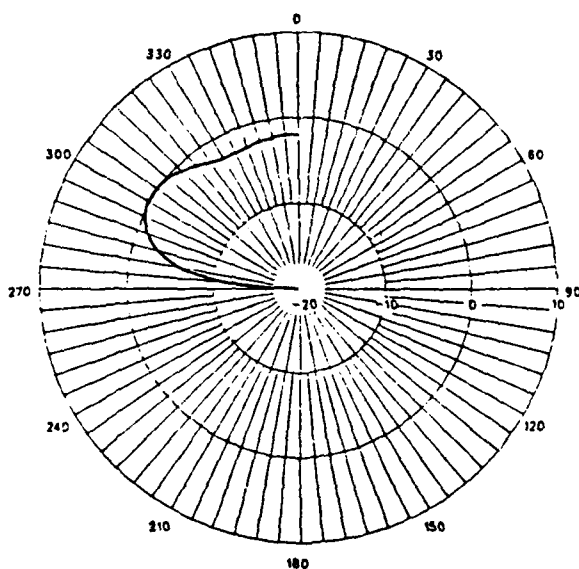
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 15 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

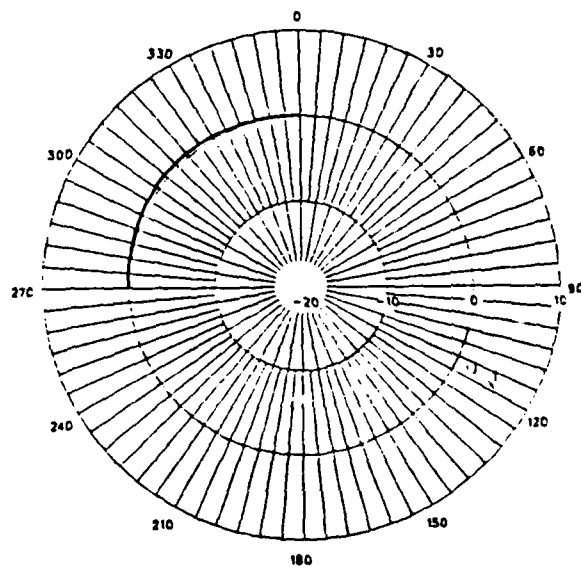
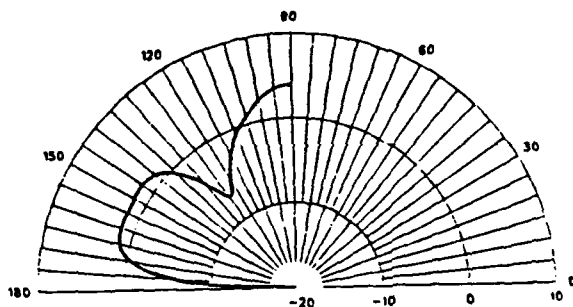
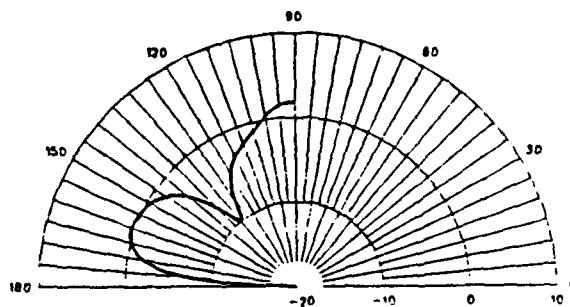


Figure 272. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 15 MHz

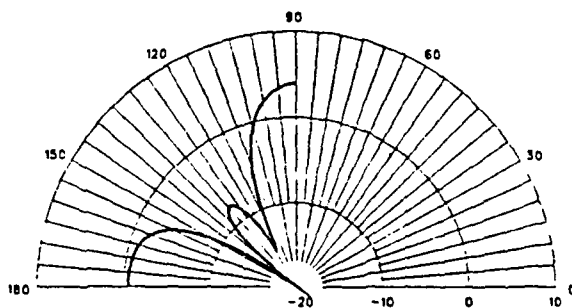
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 16 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

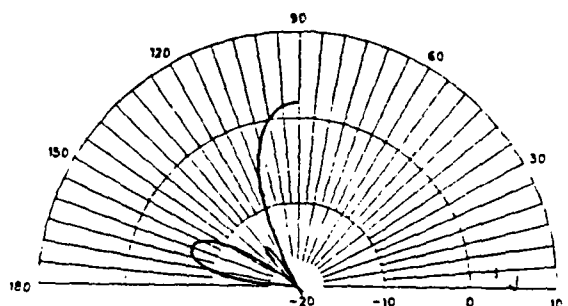
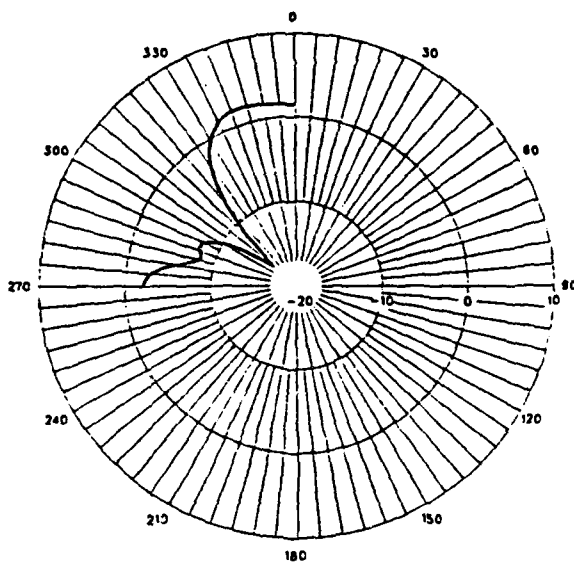
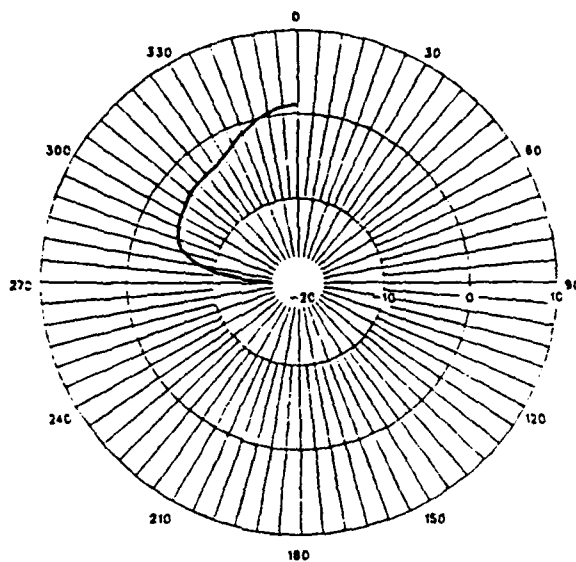


Figure 273. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 16 MHz

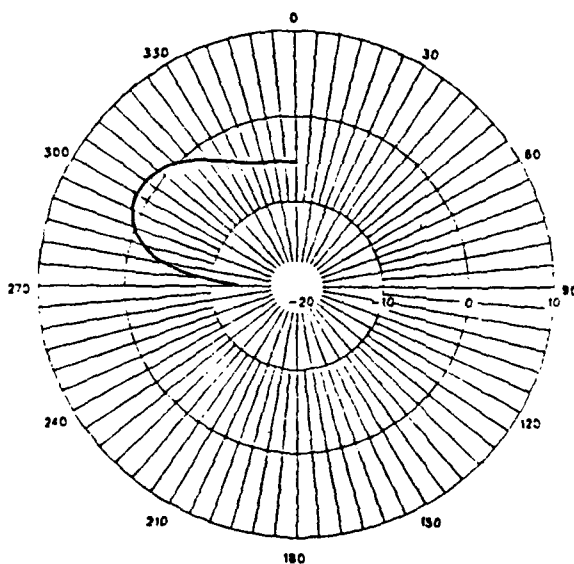
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

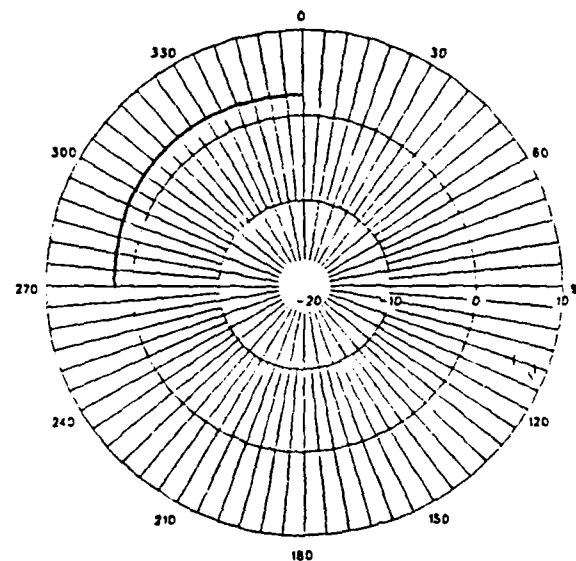
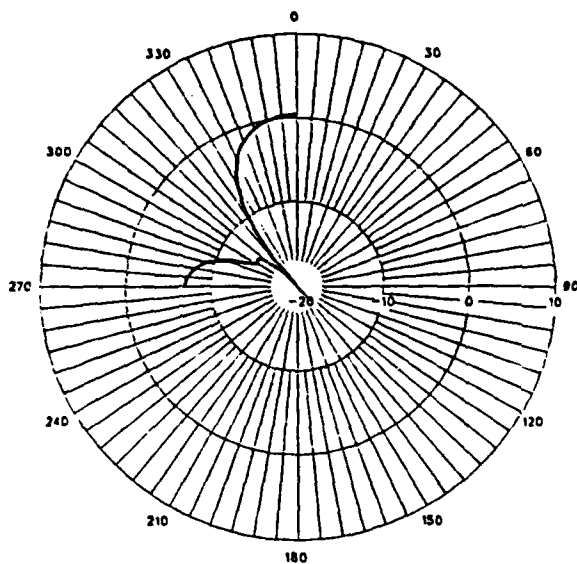
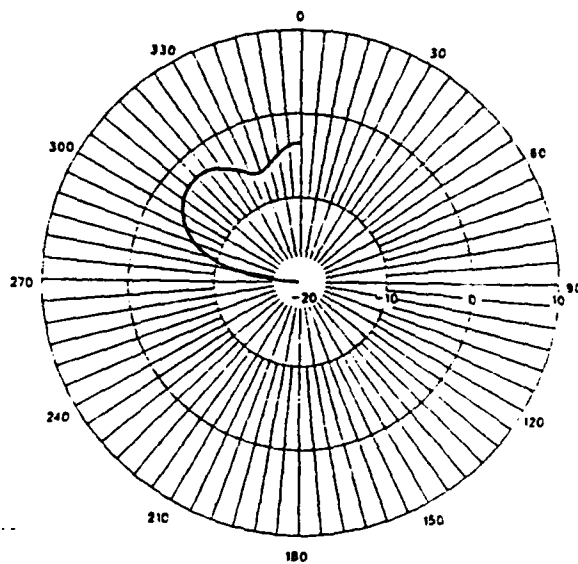


Figure 274. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 16 MHz

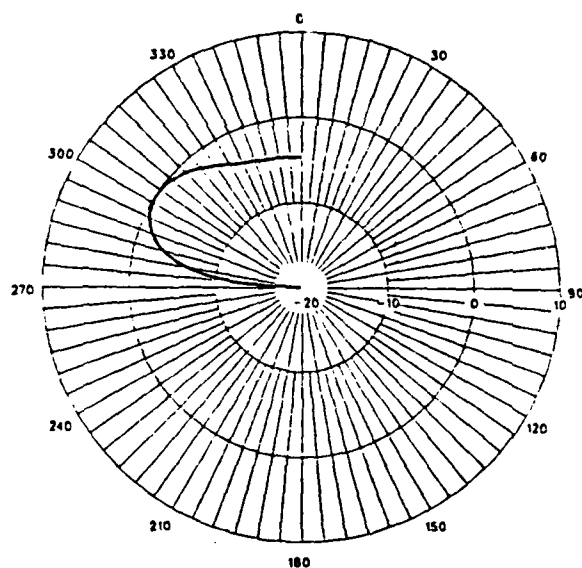
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 16 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

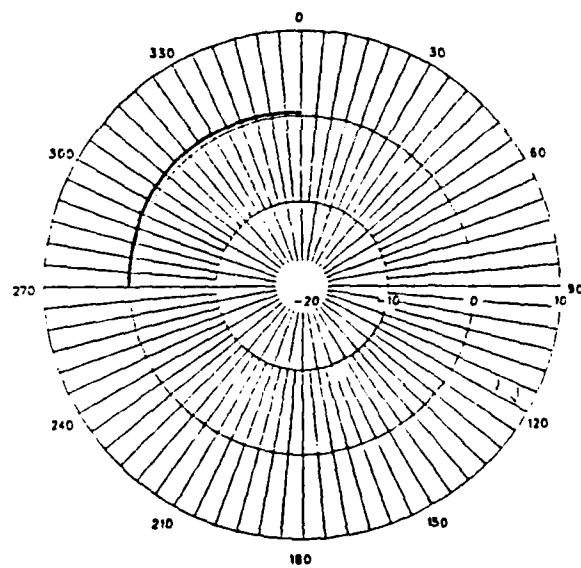
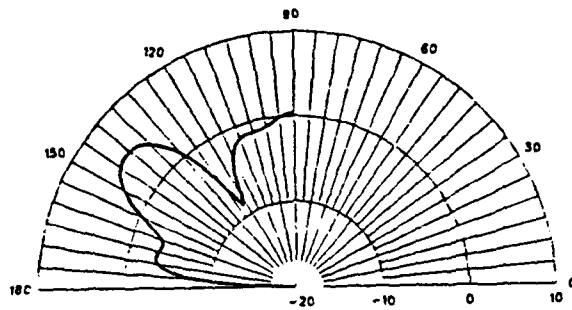
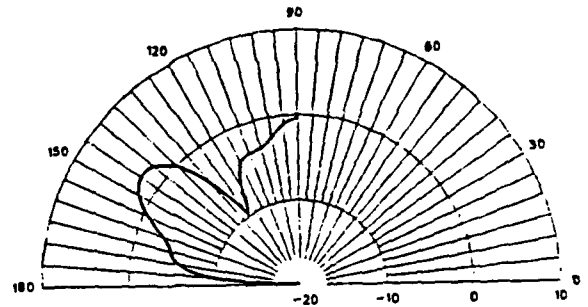


Figure 275. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 16 MHz

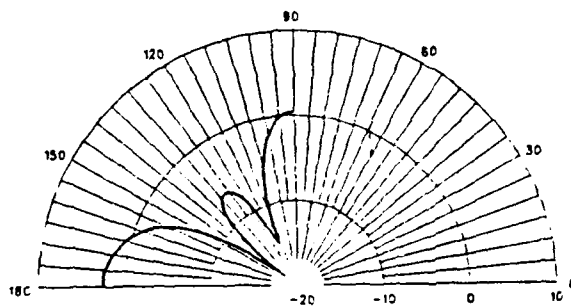
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 17 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

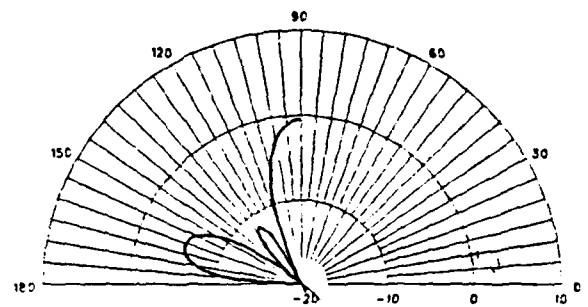
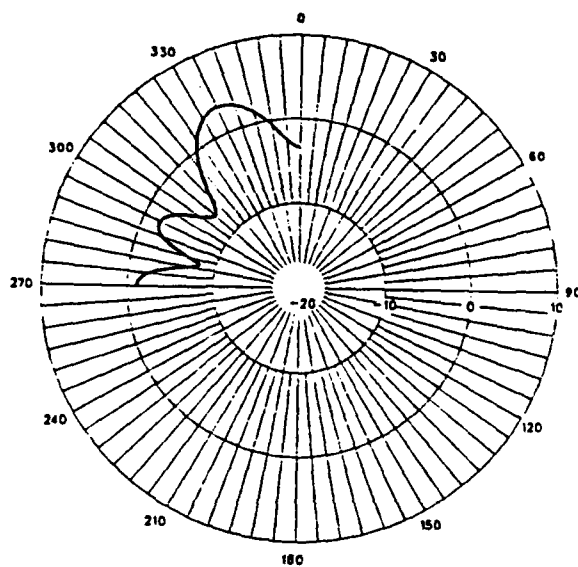
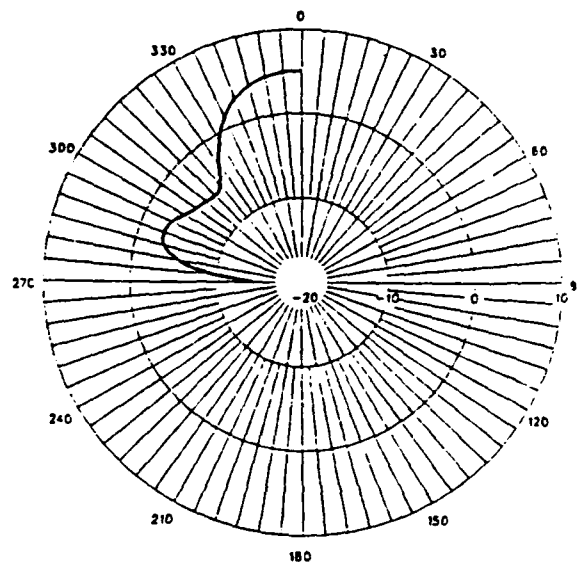


Figure 276. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 17 MHz

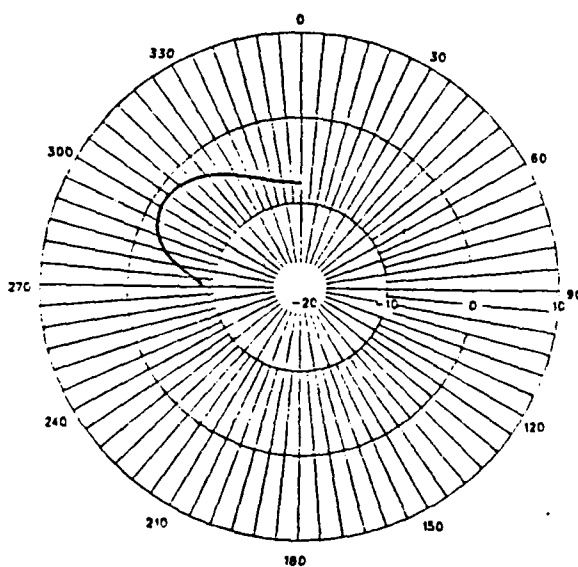
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

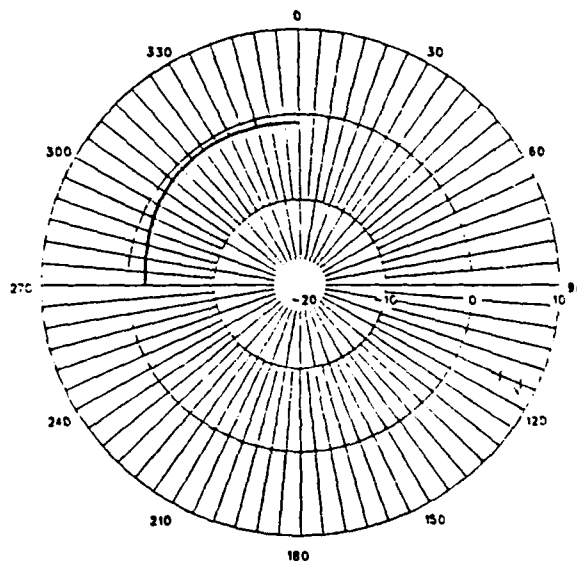
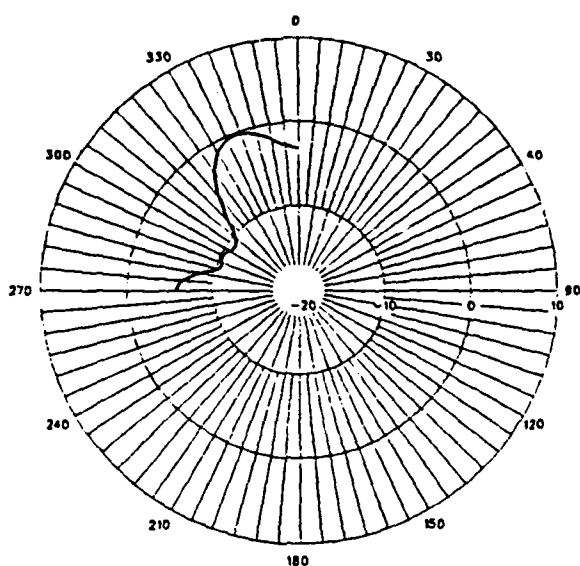
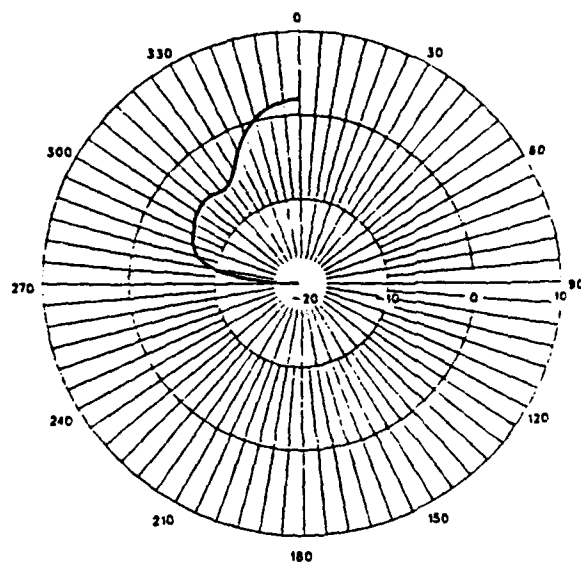


Figure 277. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 17 MHz

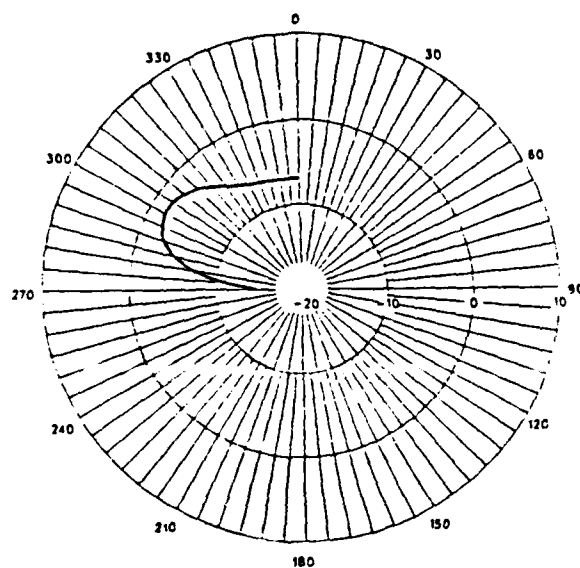
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 17 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

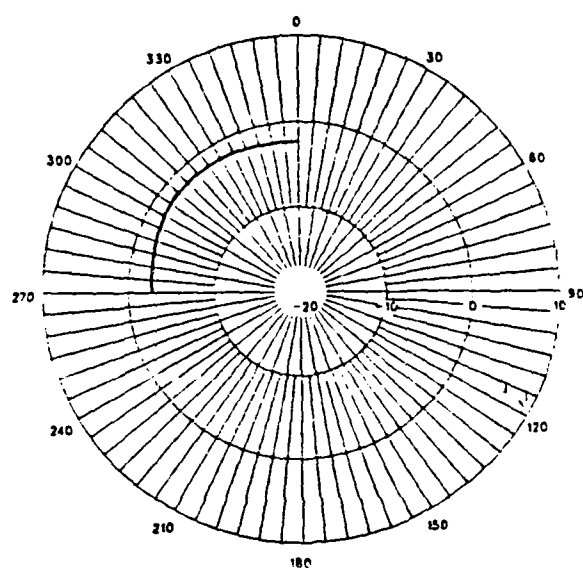
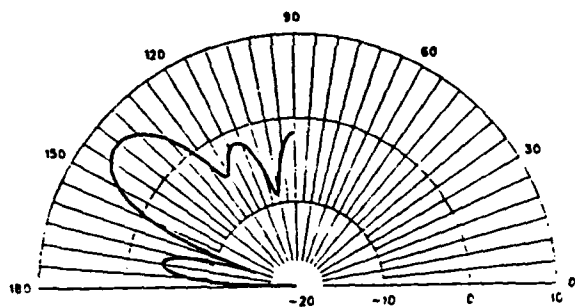
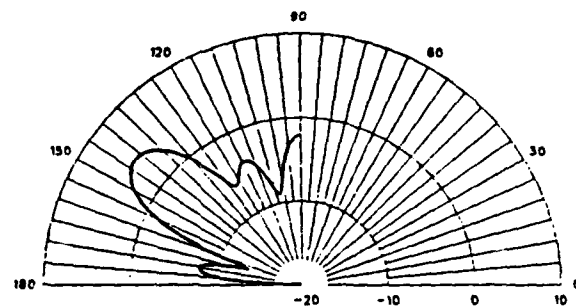


Figure 278. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 17 MHz

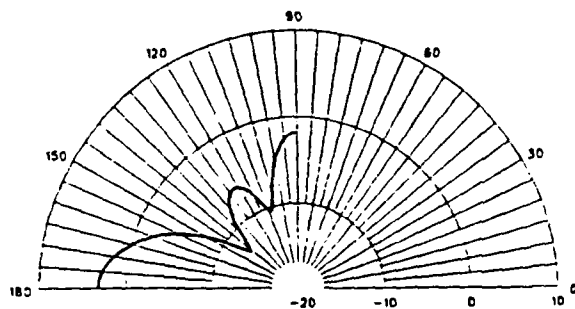
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 18 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

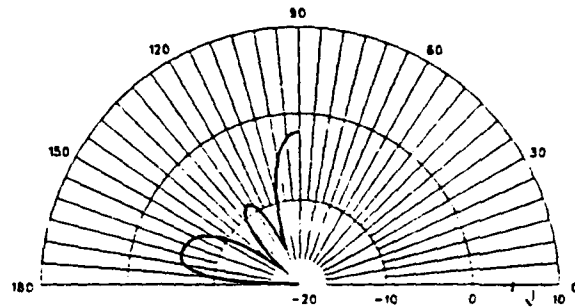
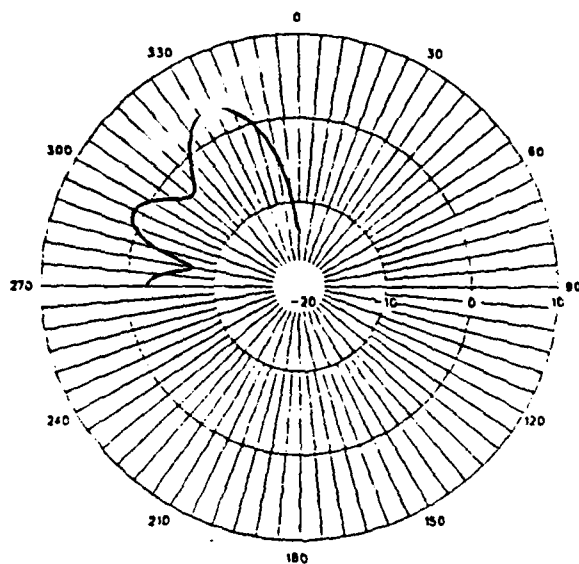
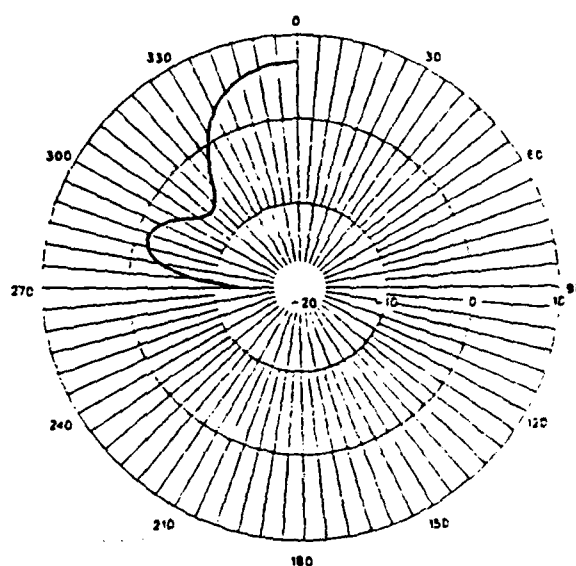


Figure 279. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 18 MHz

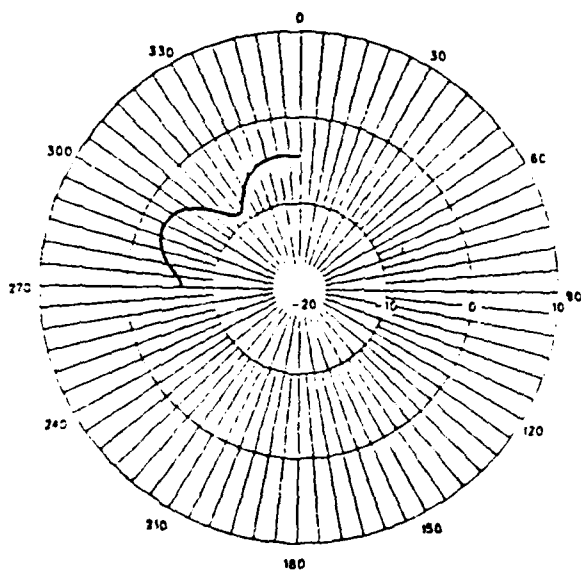
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

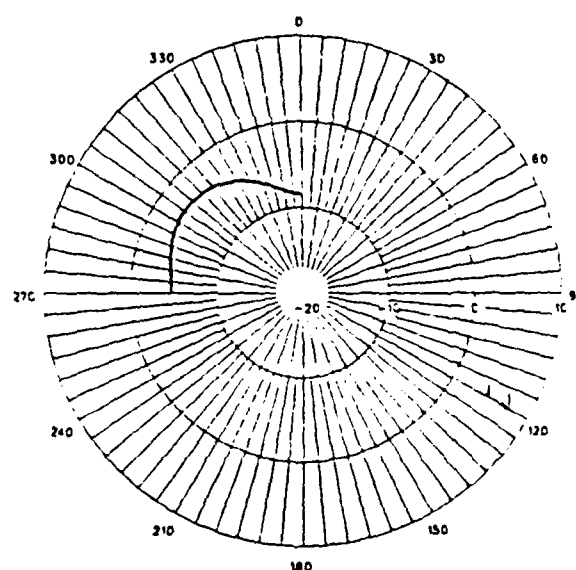
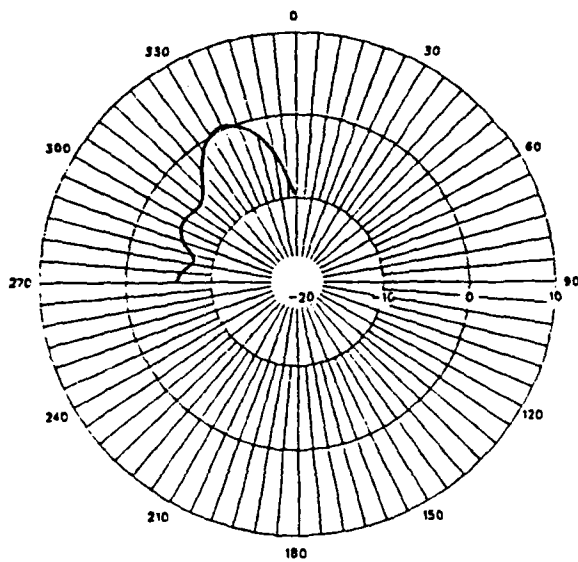
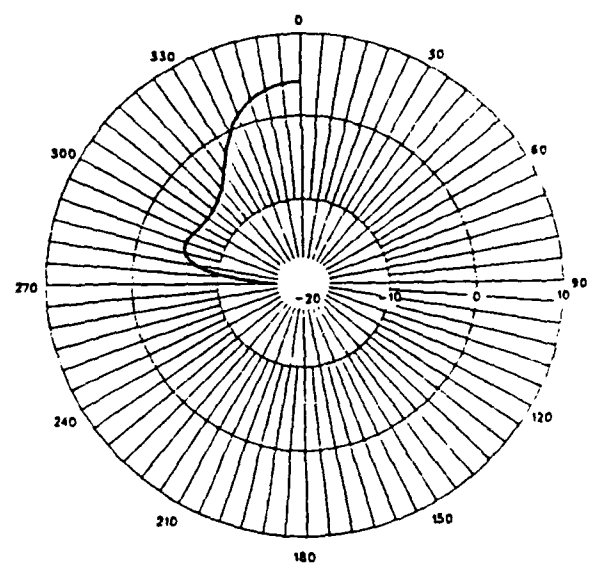


Figure 280. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 18 MHz

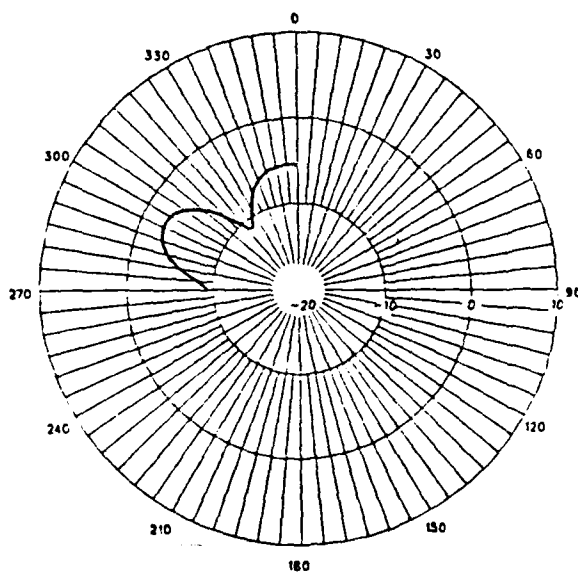
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 18 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

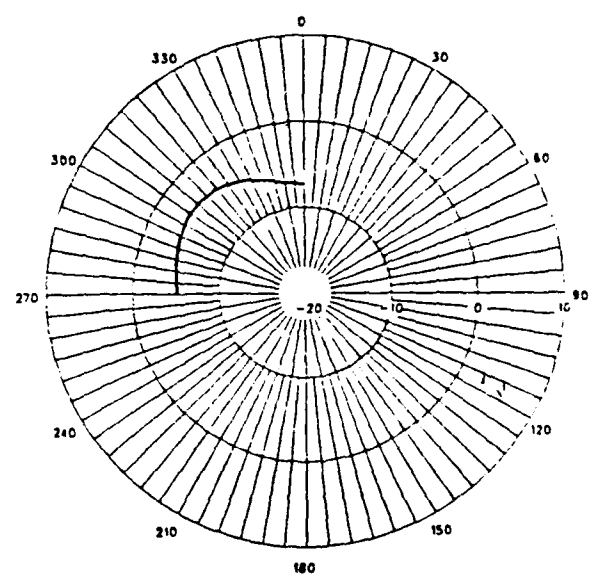
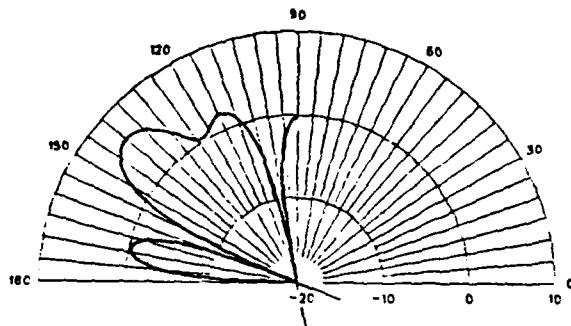
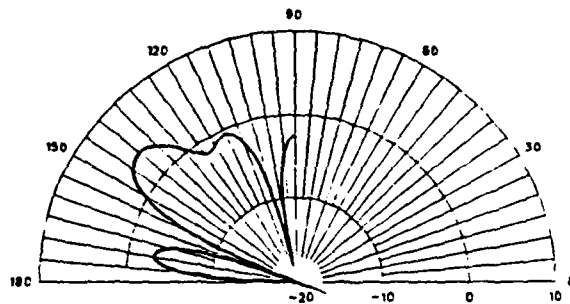


Figure 281. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 18 MHz

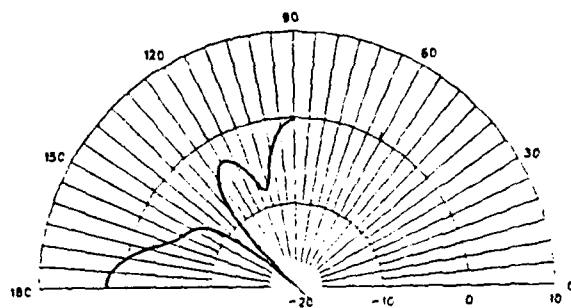
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 19 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

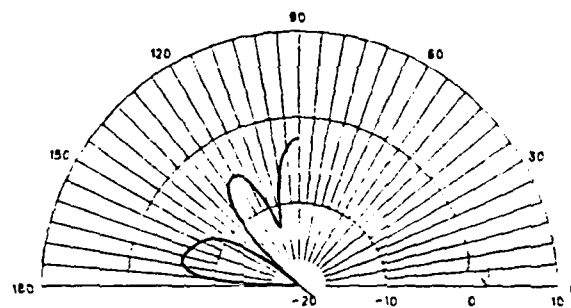
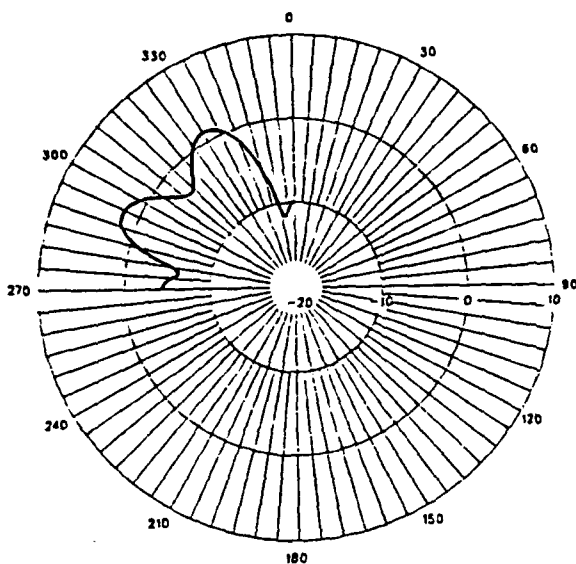
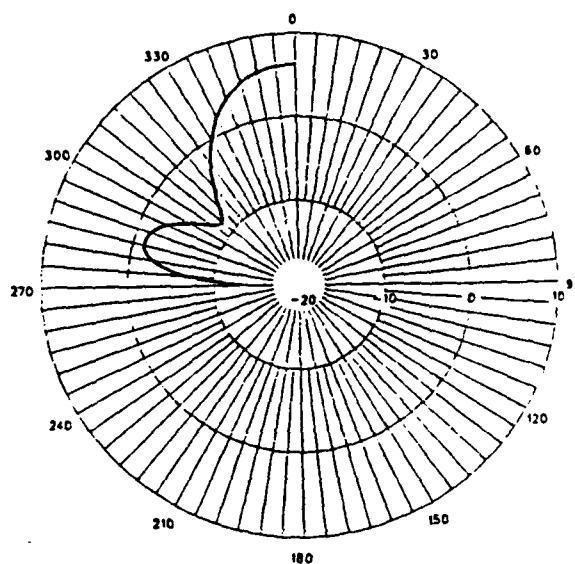


Figure 282. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 19 MHz

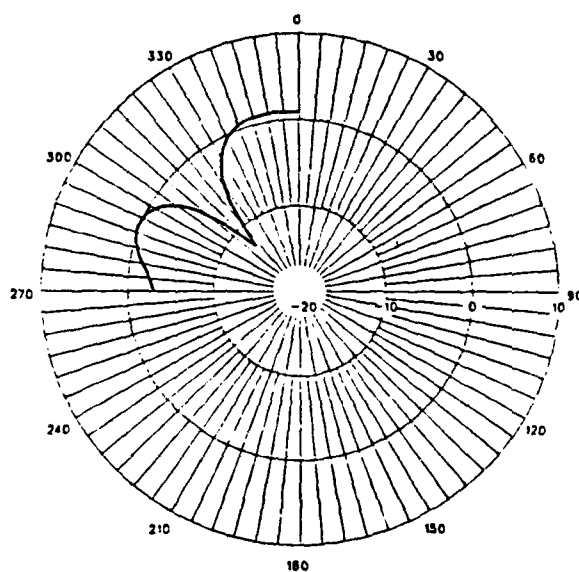
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

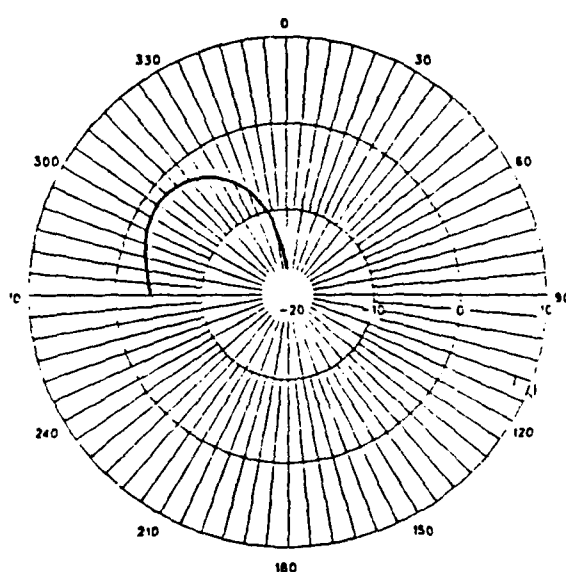
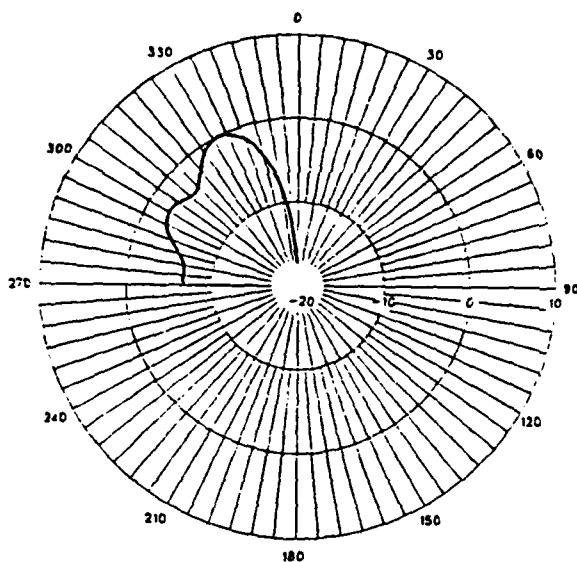
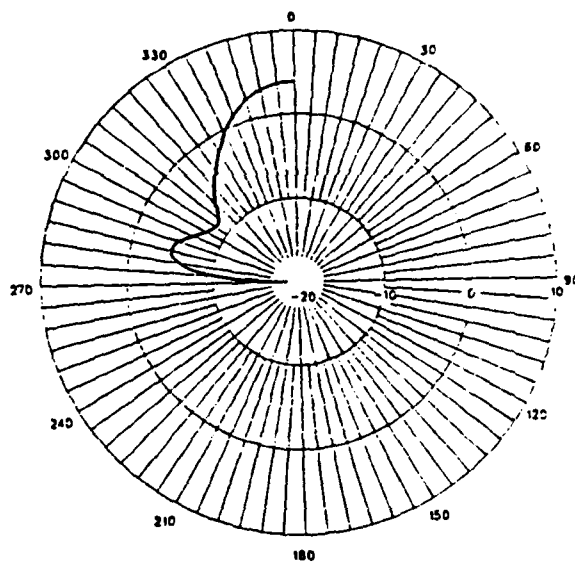


Figure 283. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 19 MHz

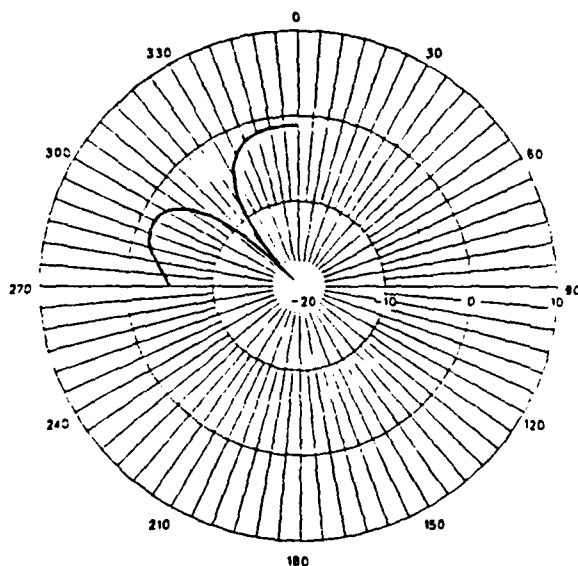
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 19 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

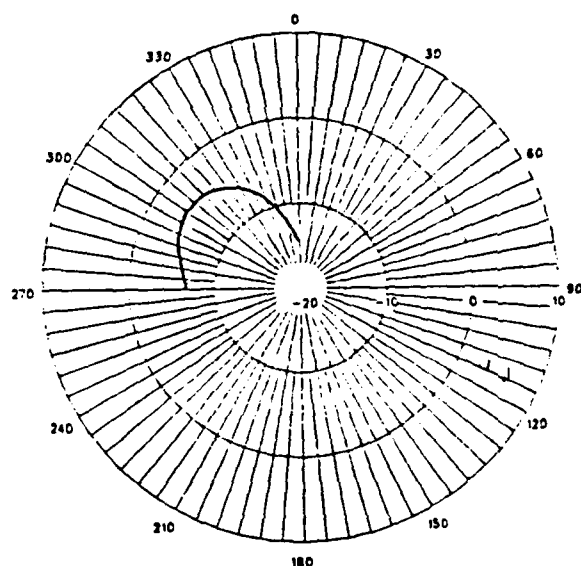
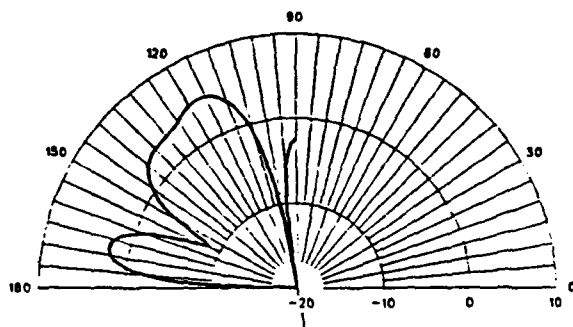
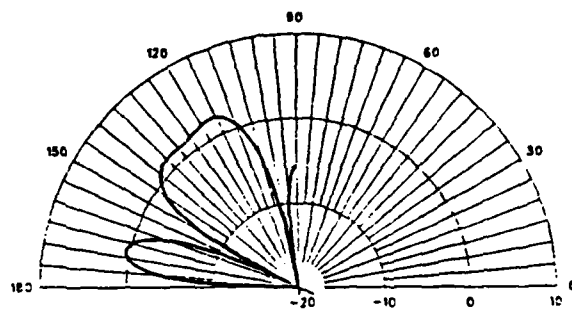


Figure 284. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 19 MHz

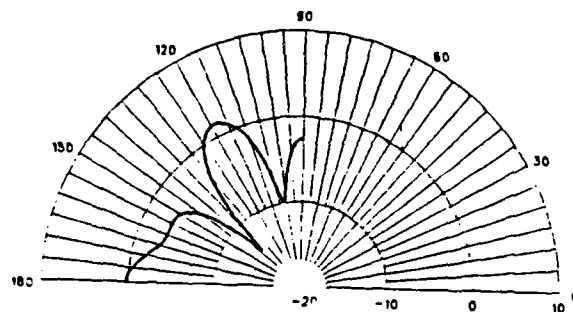
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 20 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

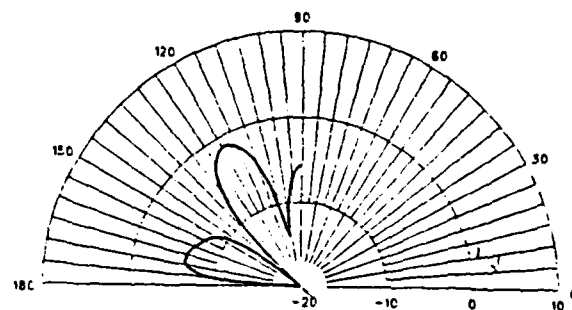
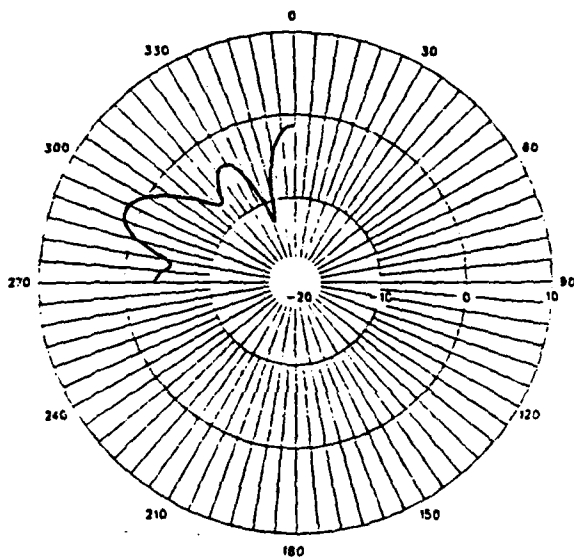
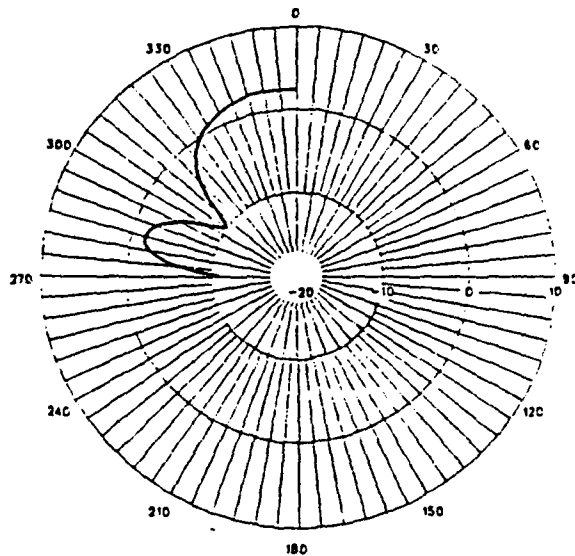


Figure 285. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 20 MHz

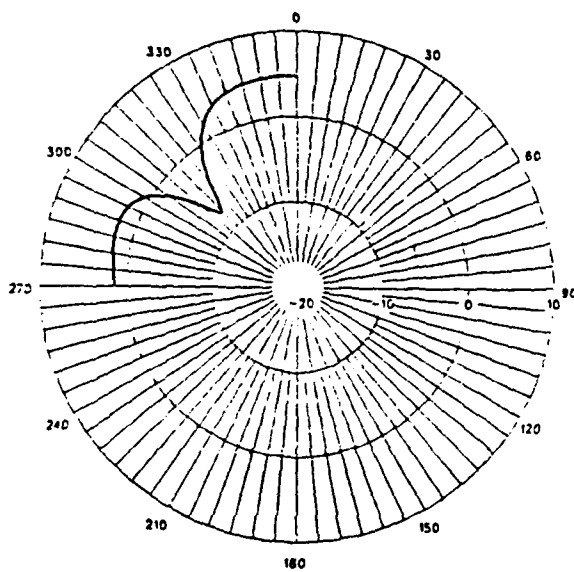
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

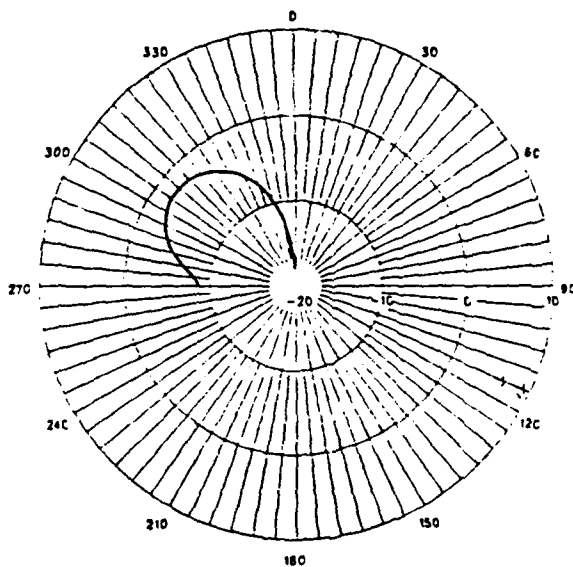
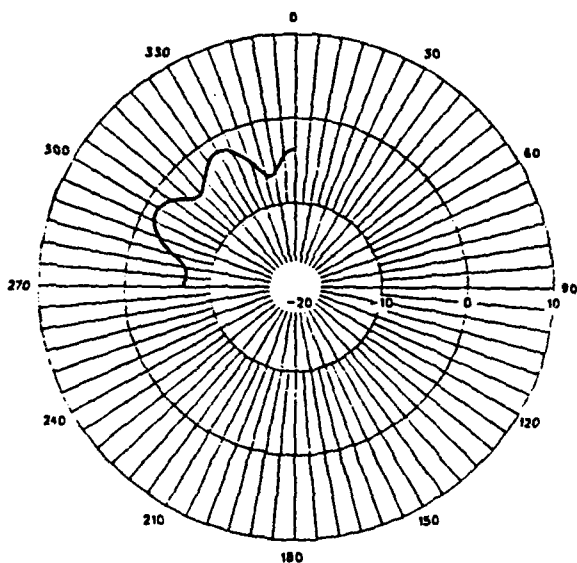
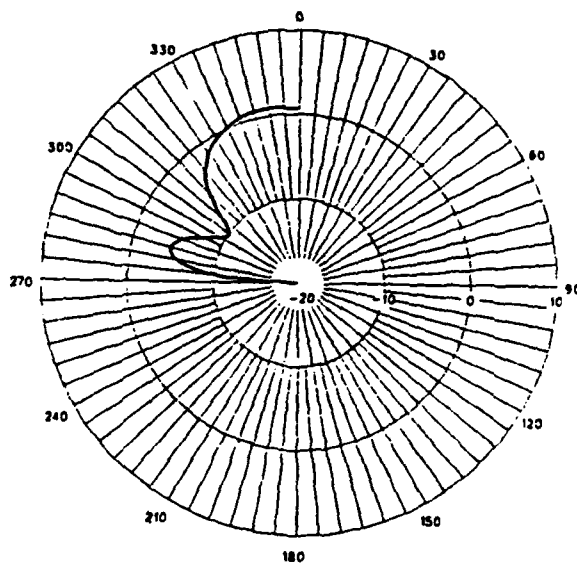


Figure 286. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 20 MHz

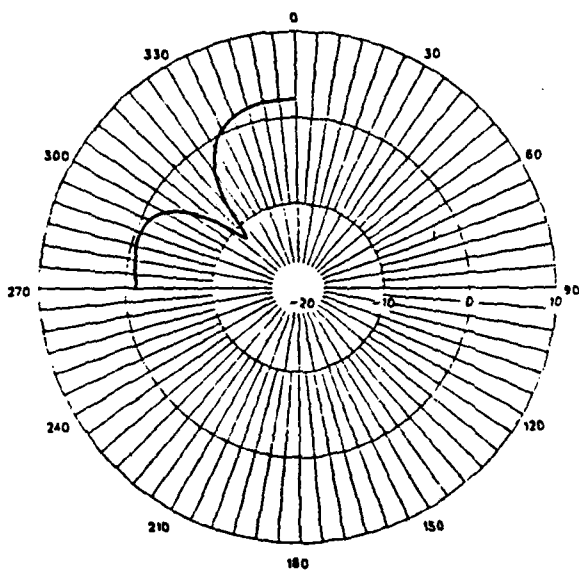
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 20 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

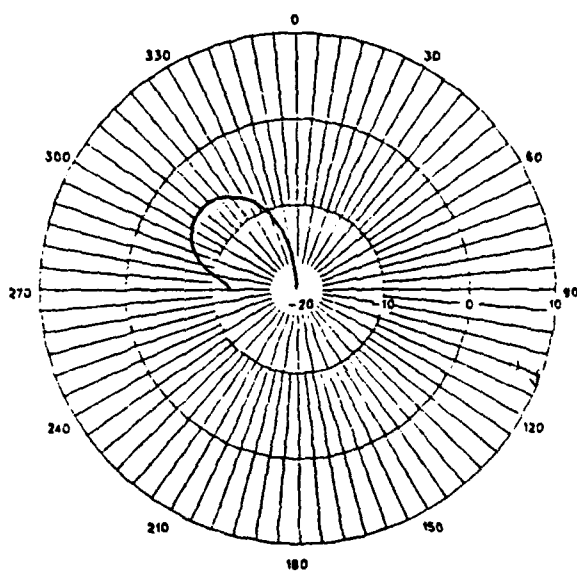
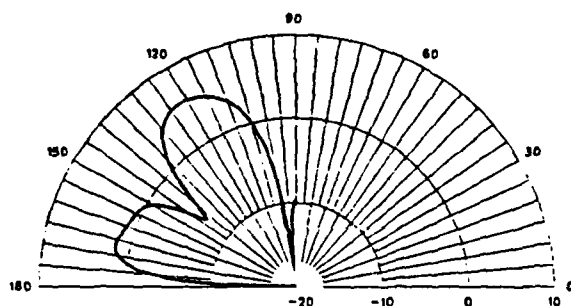
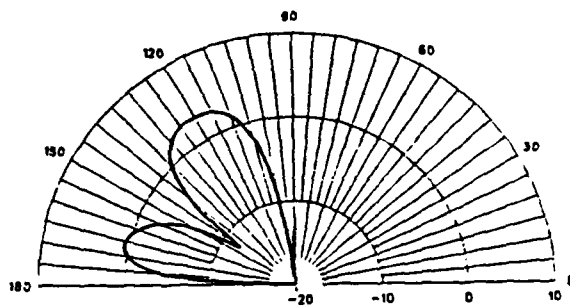


Figure 287. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 20 MHz

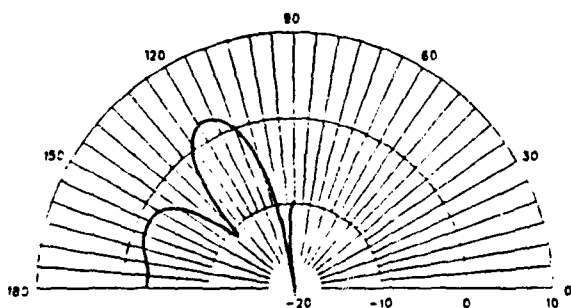
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 21 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

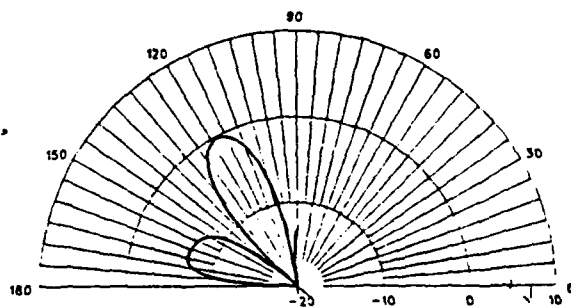
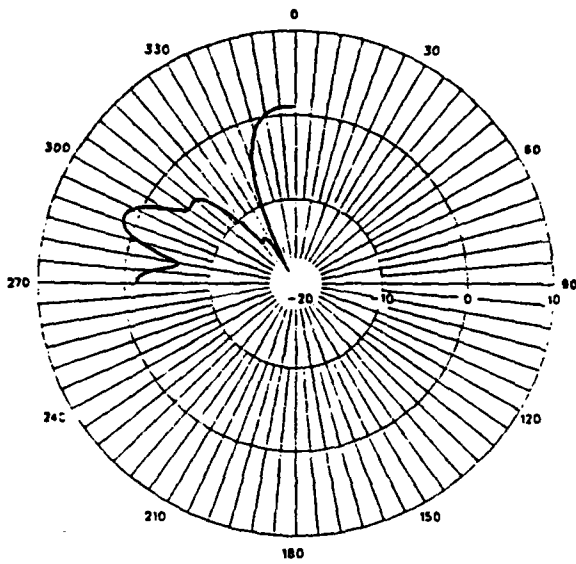
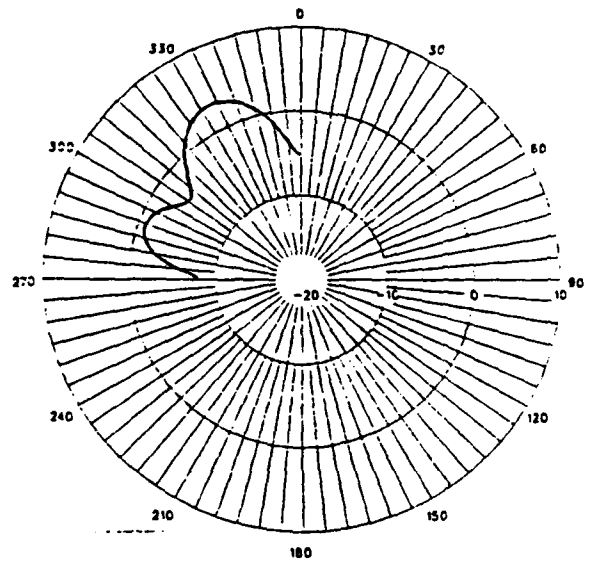


Figure 288. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 21 MHz

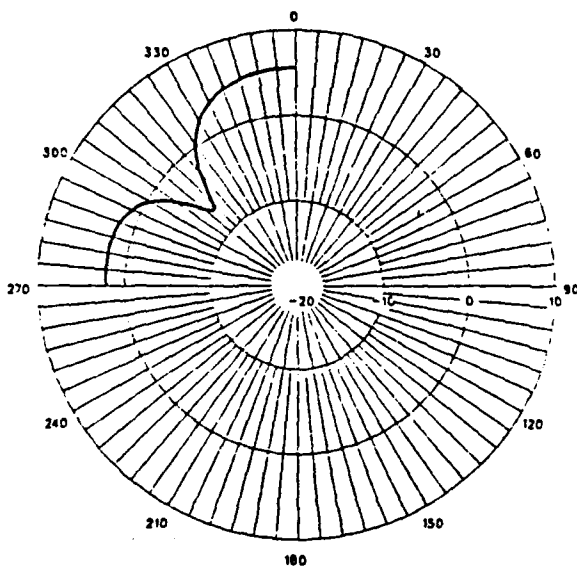
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

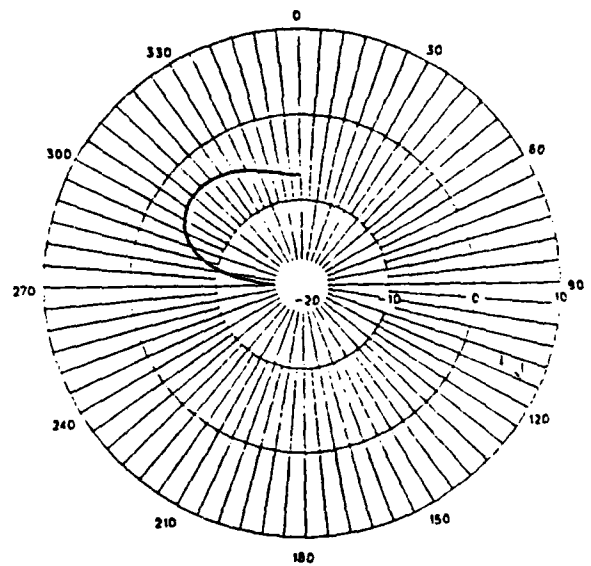
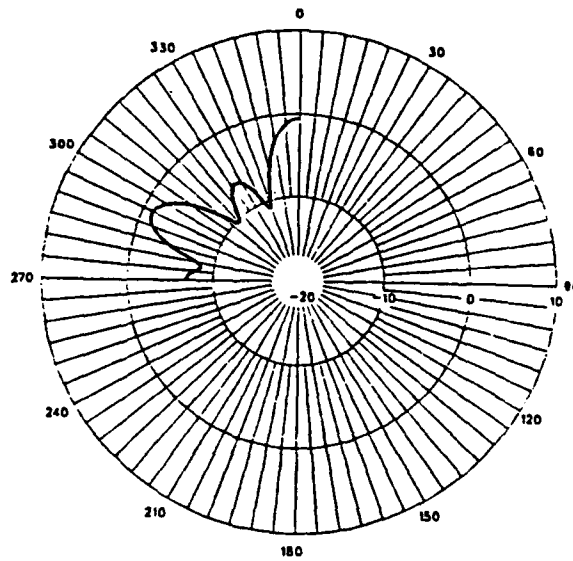
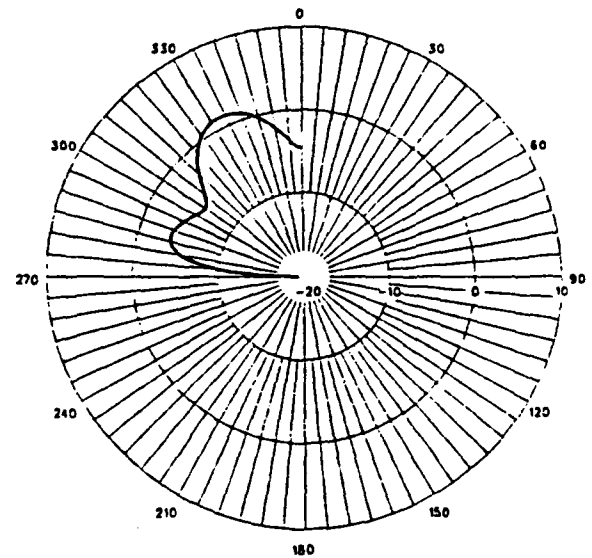


Figure 289. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 21 MHz

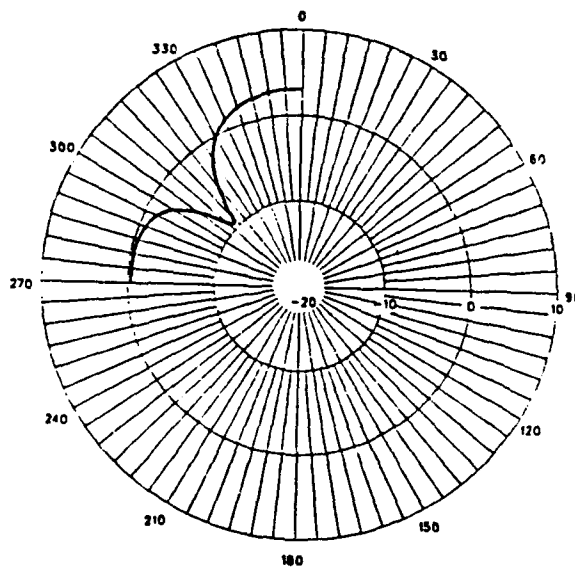
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 21 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

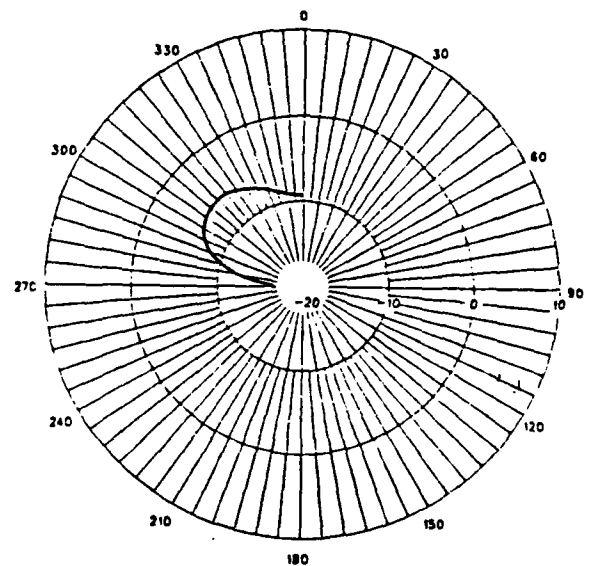
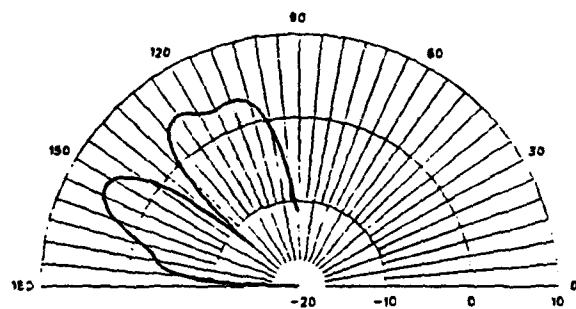
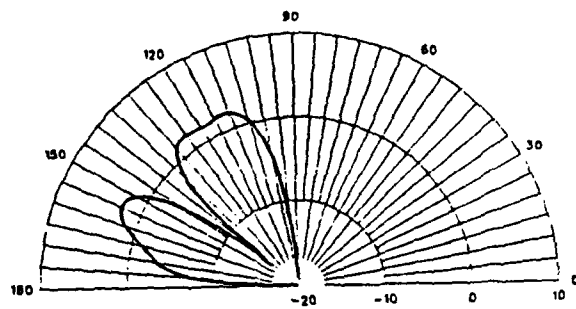


Figure 290. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 21 MHz

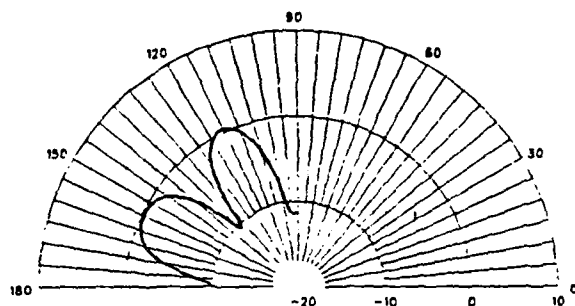
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 22 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

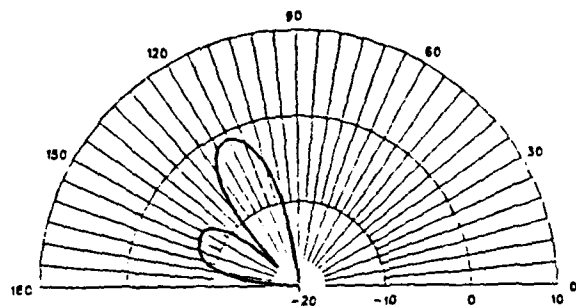
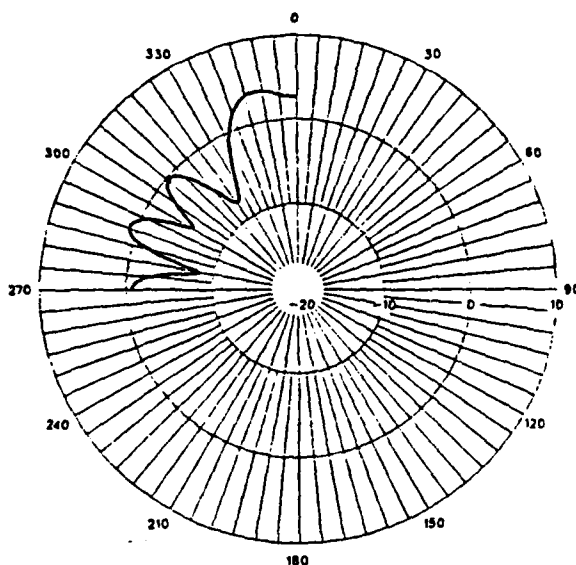
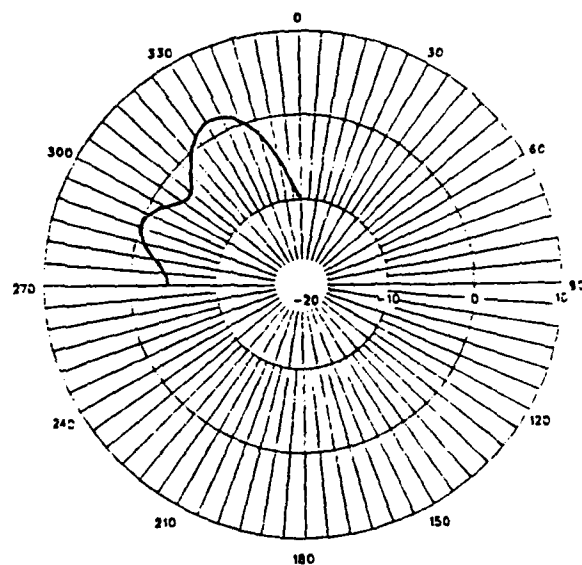


Figure 291. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 22 MHz

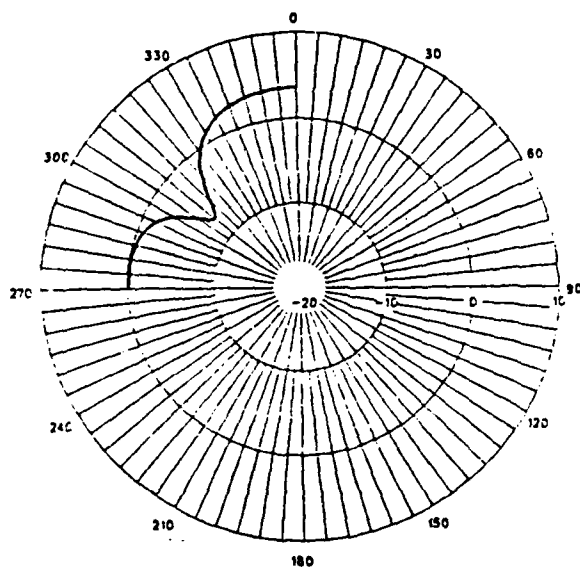
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

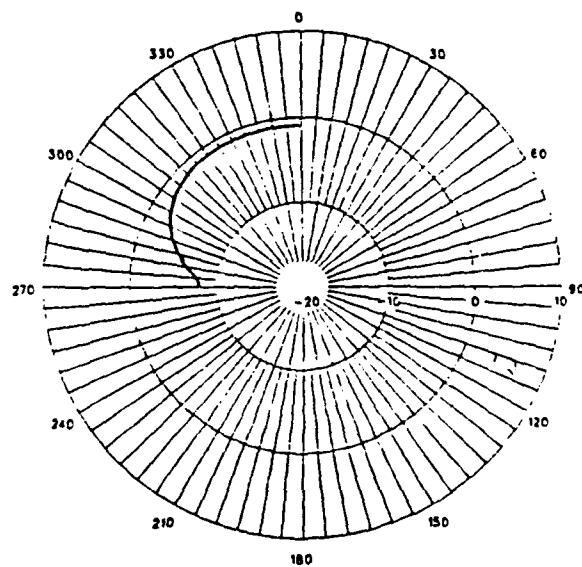
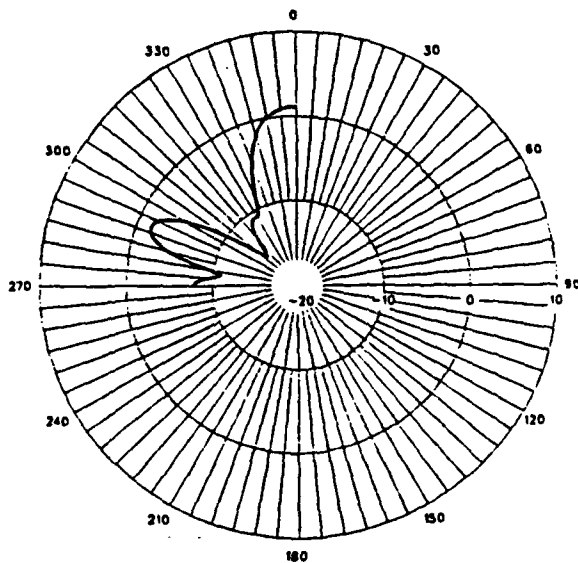
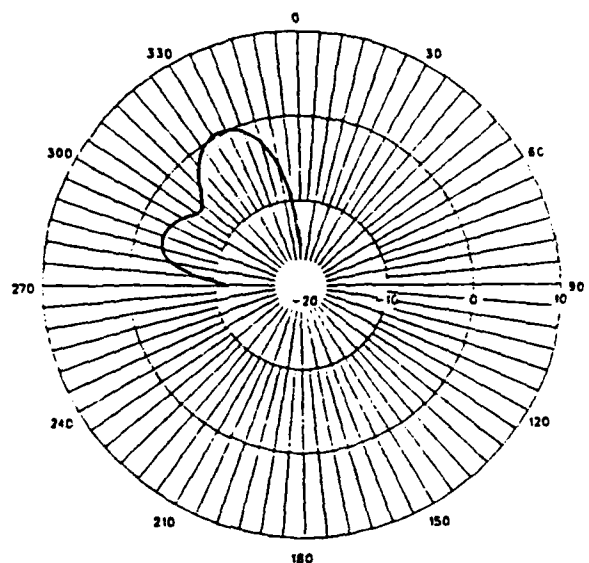


Figure 292. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 22 MHz

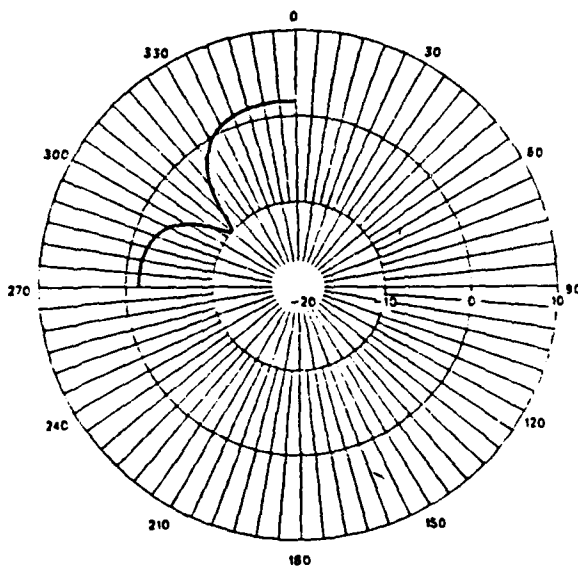
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 22 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

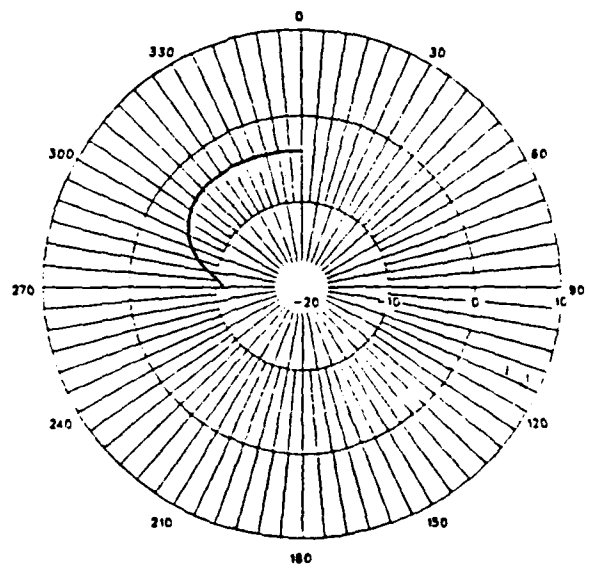
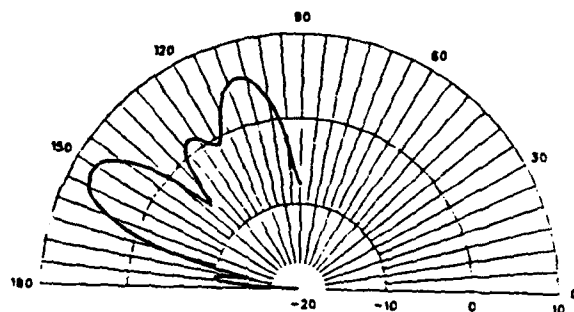
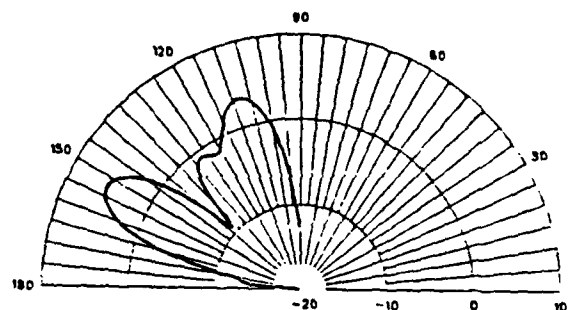


Figure 293. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 22 MHz

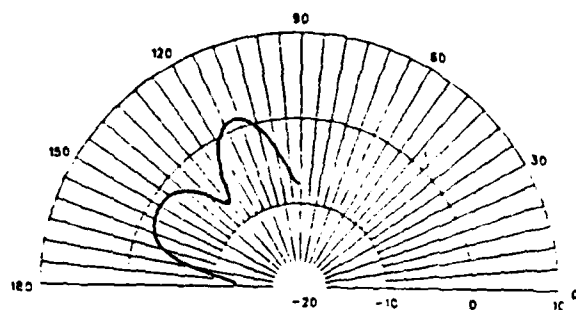
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 23 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

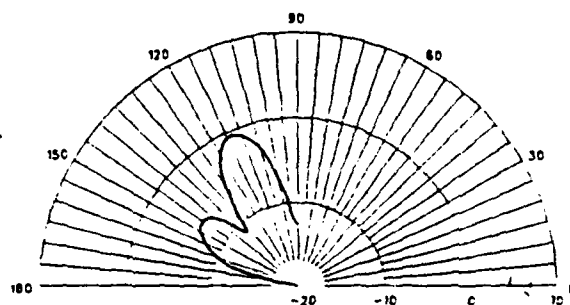
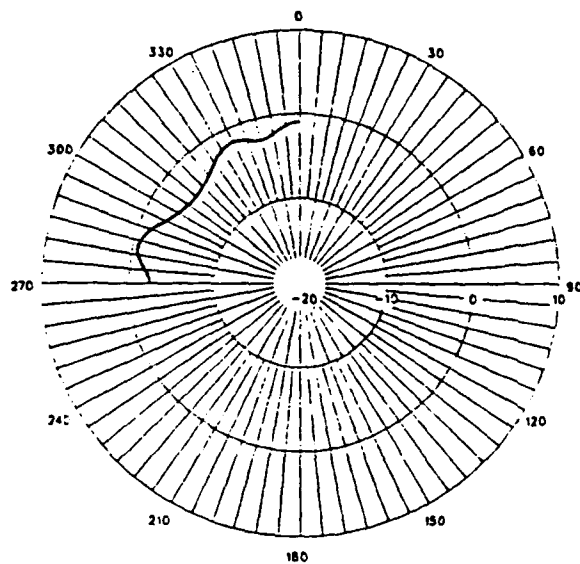
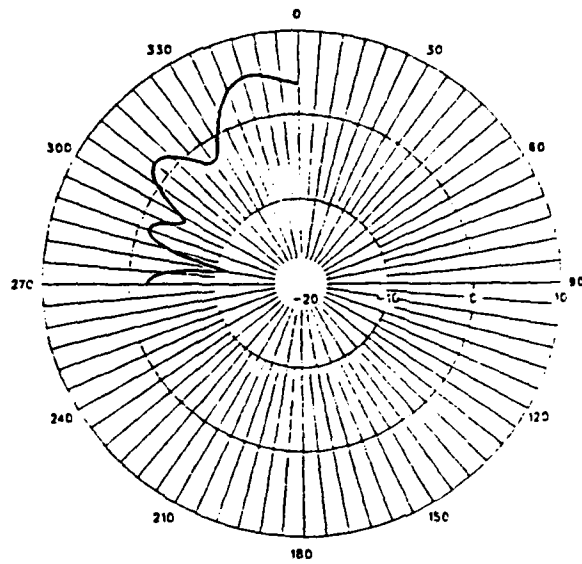


Figure 294. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 23 MHz

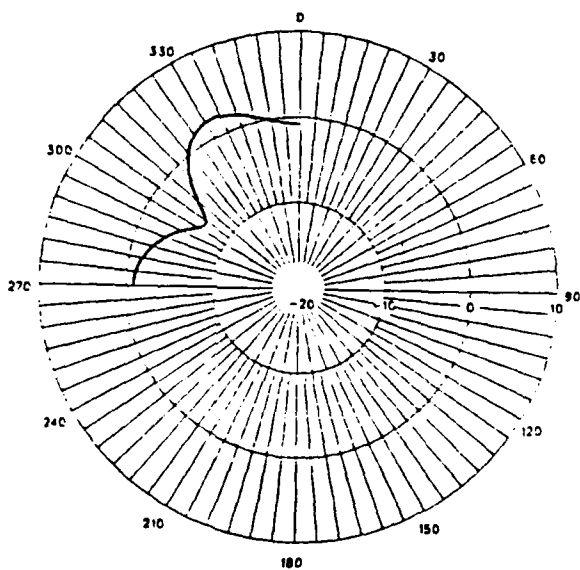
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

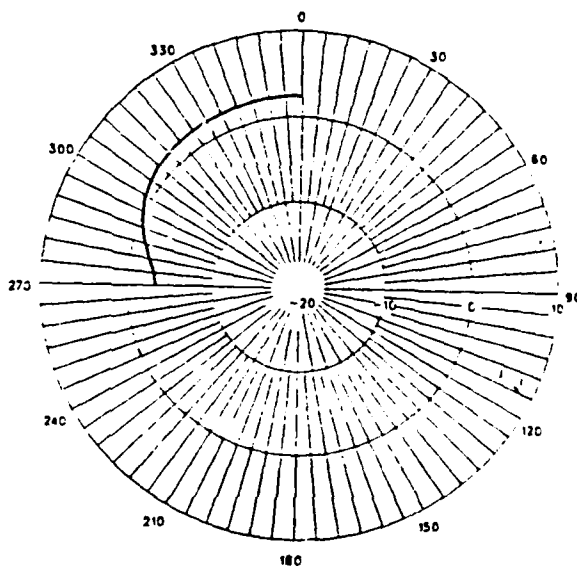
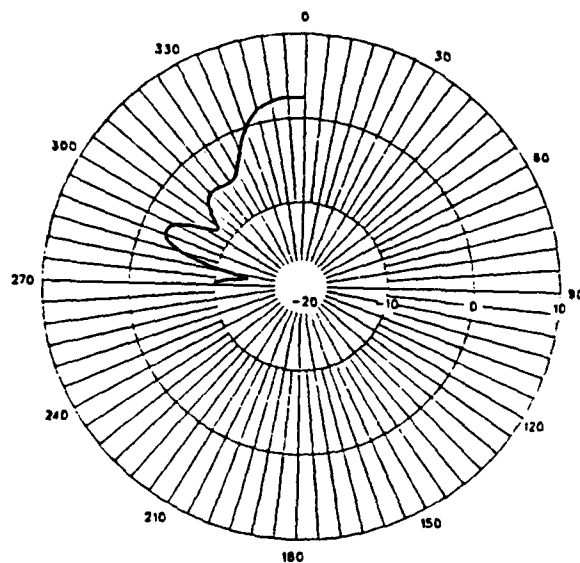
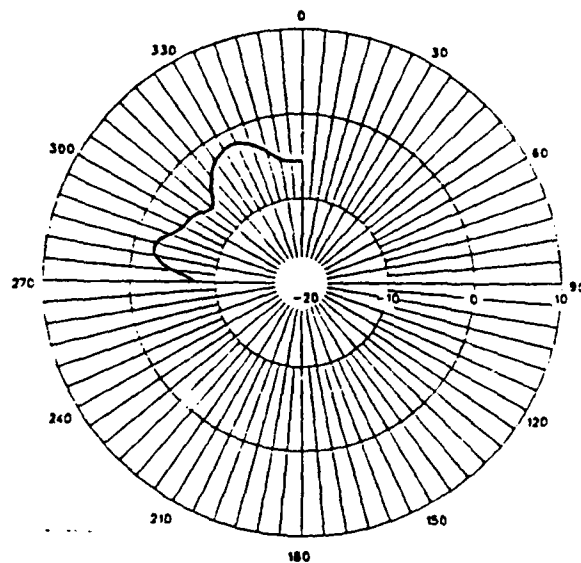


Figure 295. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 23 MHz

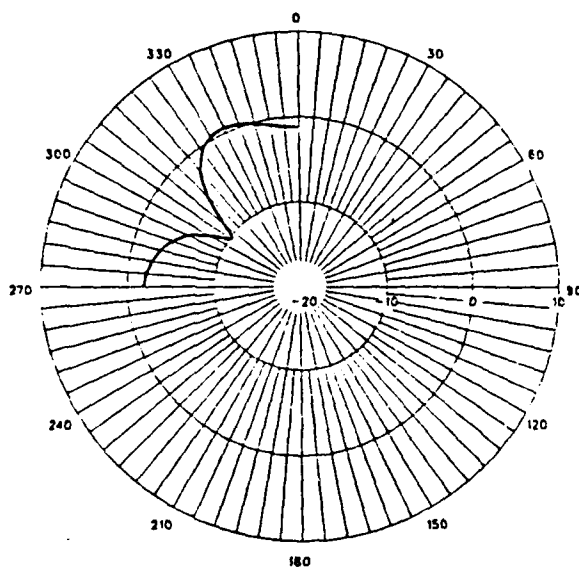
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 23 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

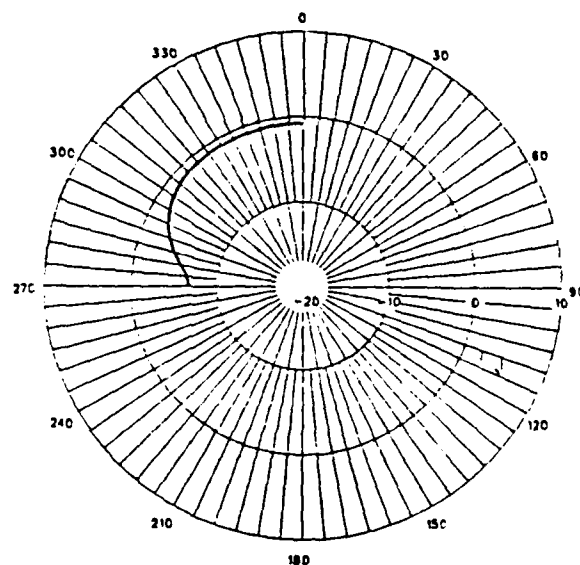
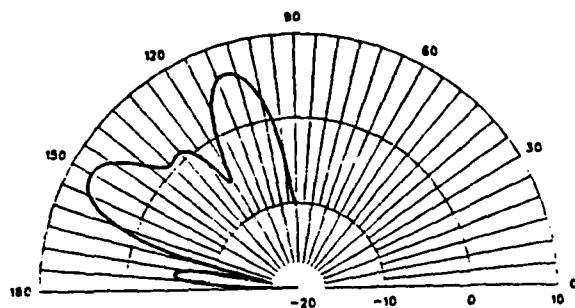
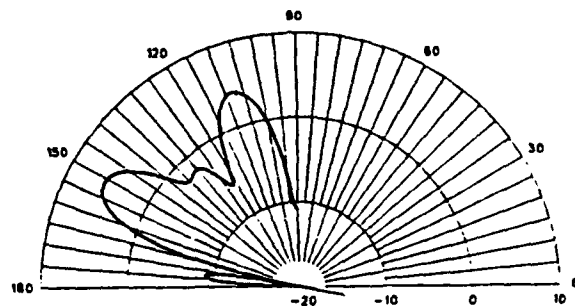


Figure 296. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 23 MHz

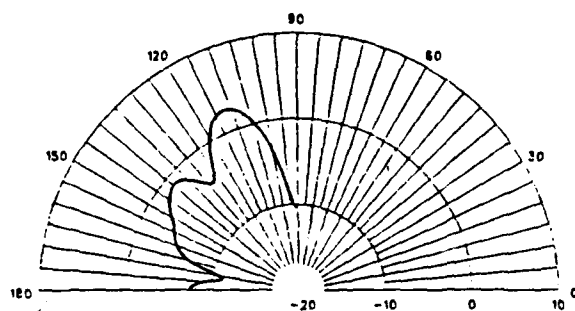
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 24 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

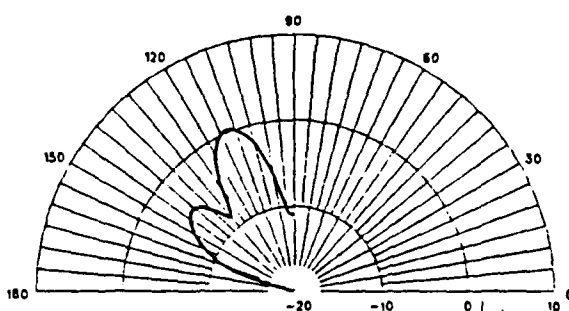
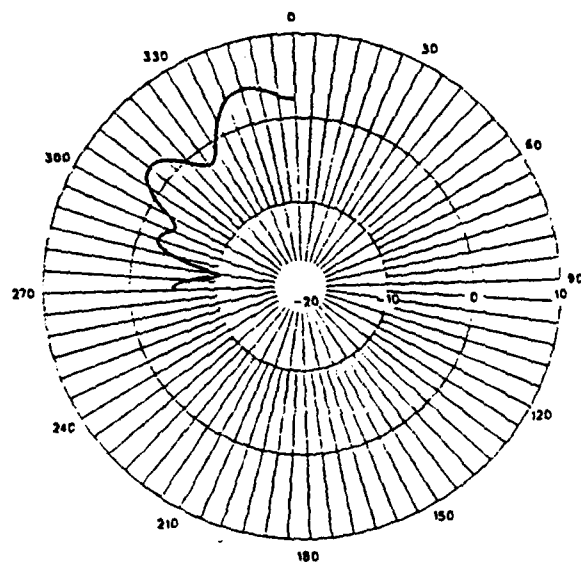
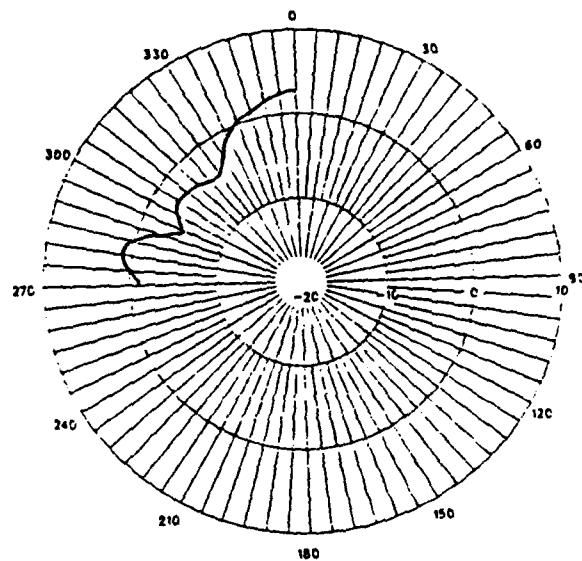


Figure 297. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 24 MHz

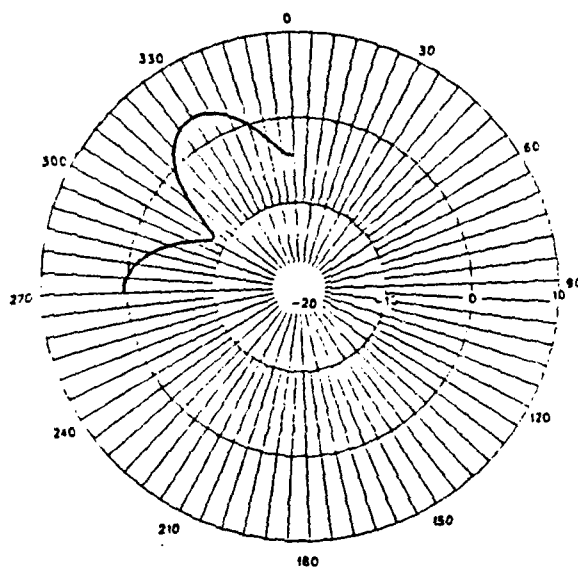
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

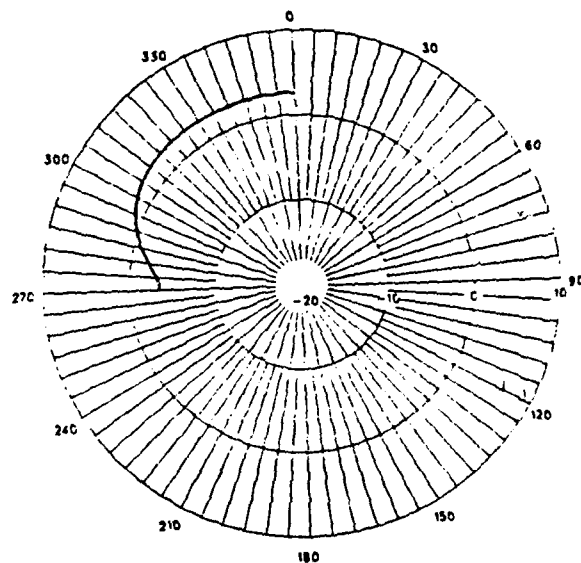
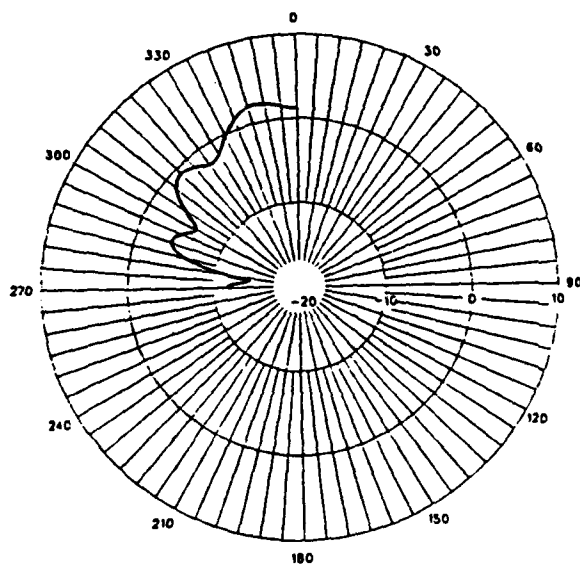
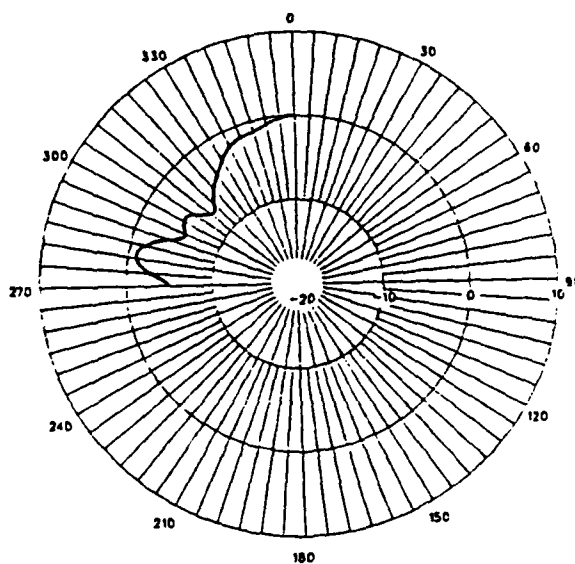


Figure 298. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 24 MHz

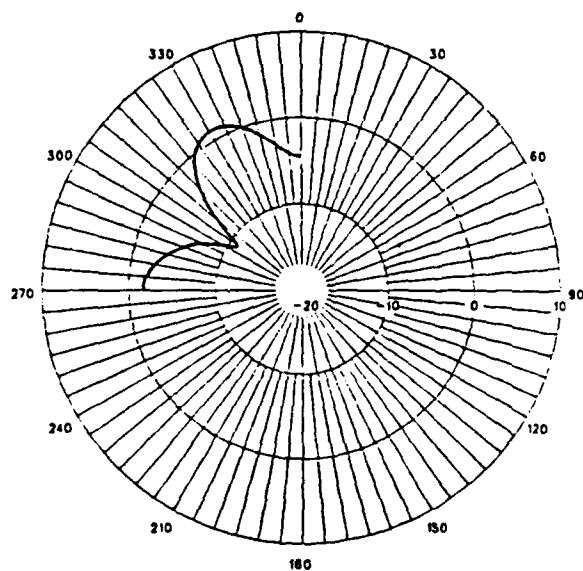
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 24 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

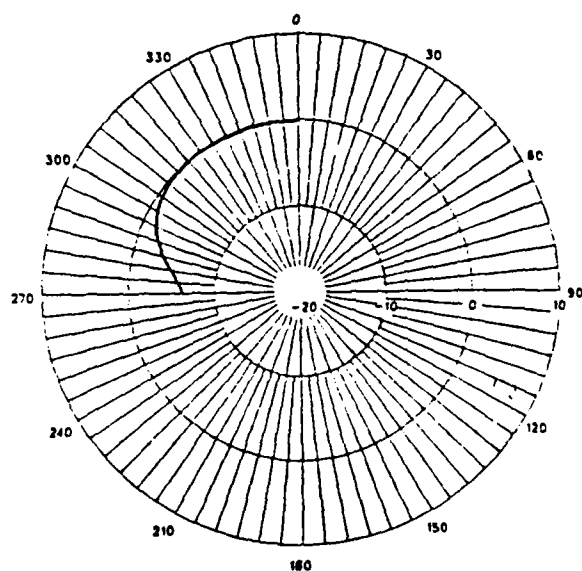


Figure 299. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 24 MHz

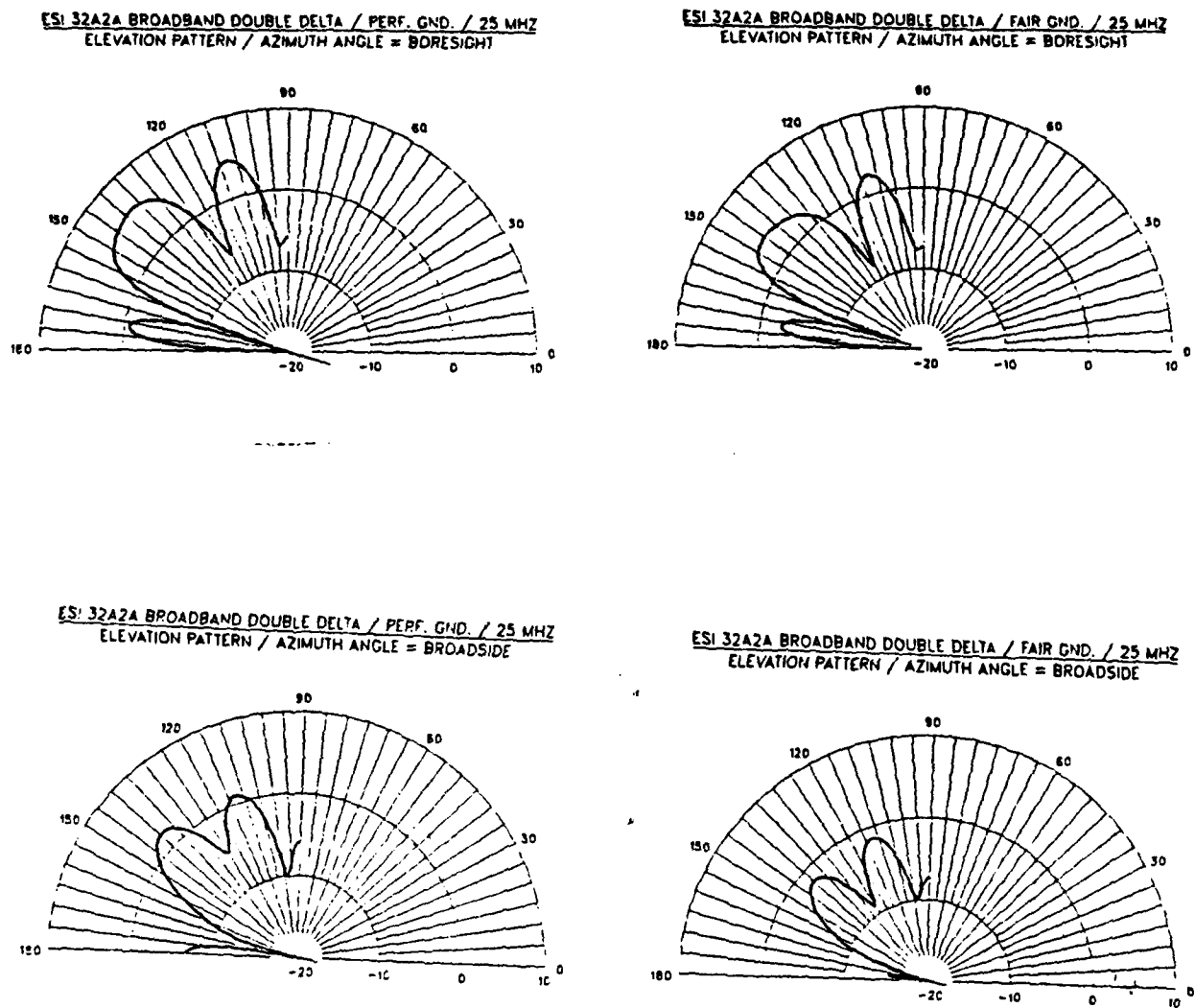
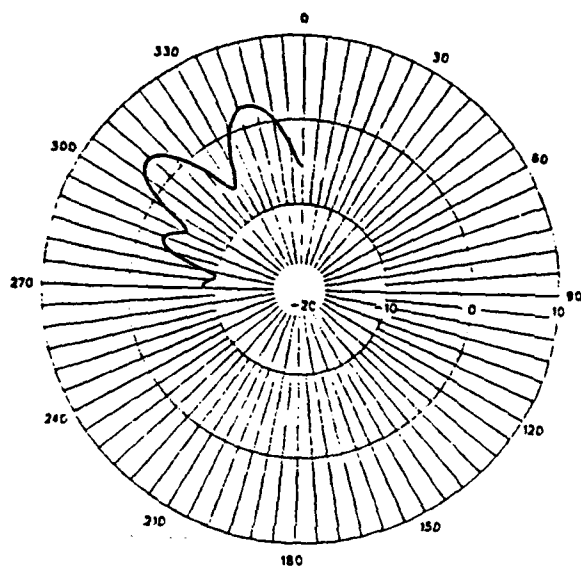
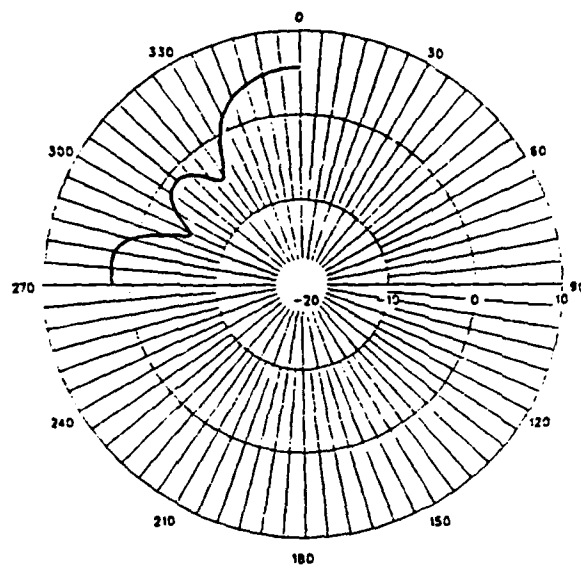


Figure 300. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 25 MHz

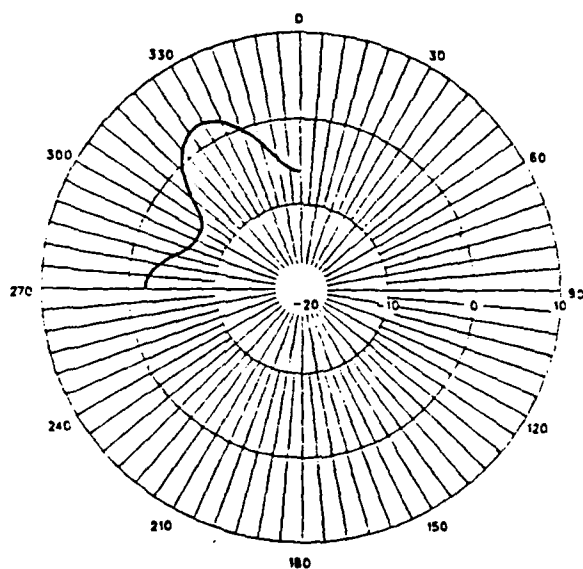
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

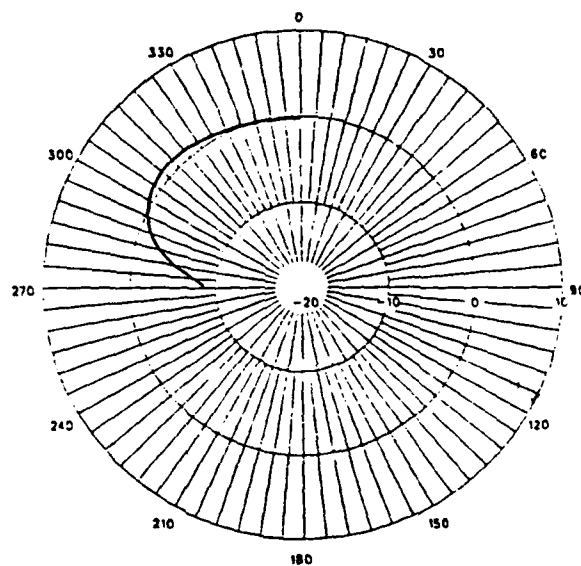
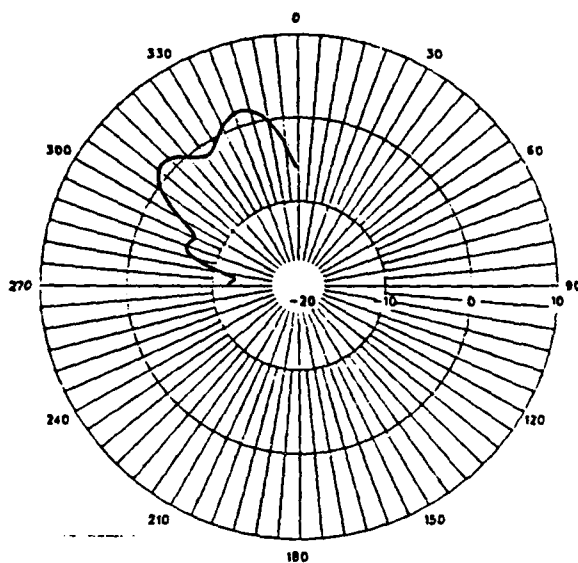
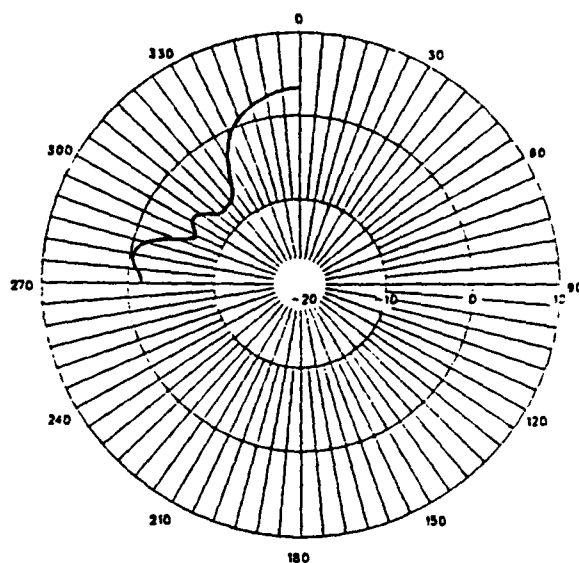


Figure 301. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 25 MHz

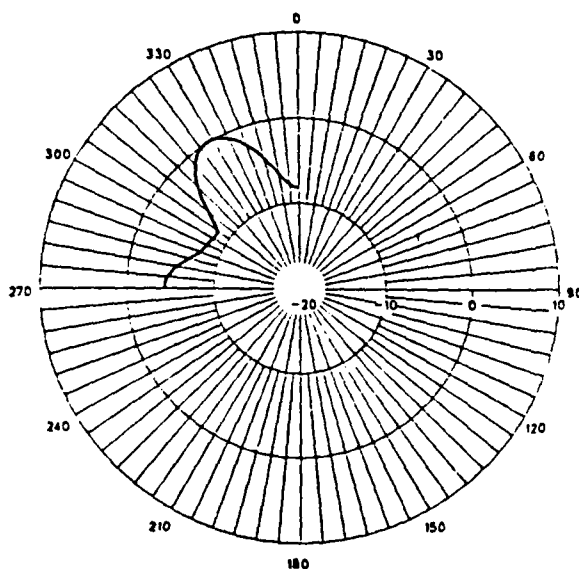
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 25 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

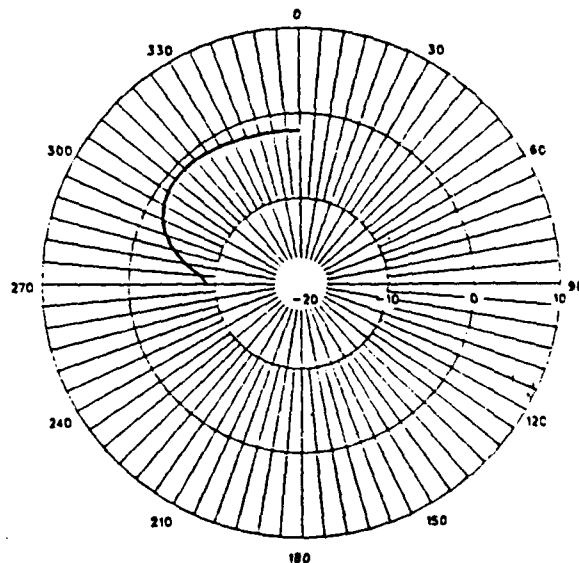
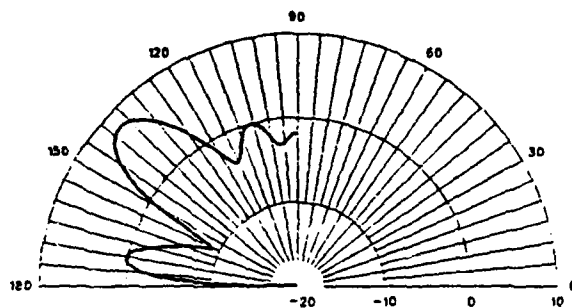
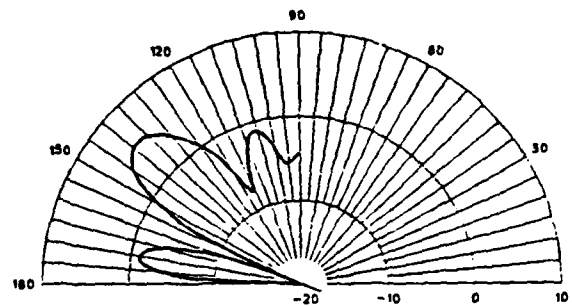


Figure 302. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 25 MHz

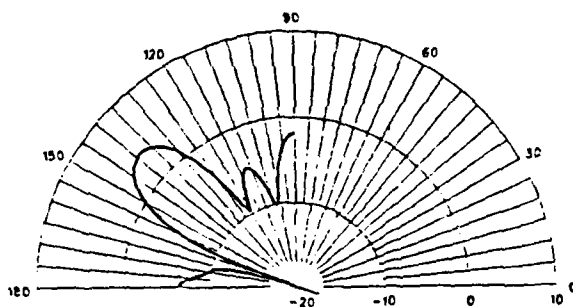
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 26 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

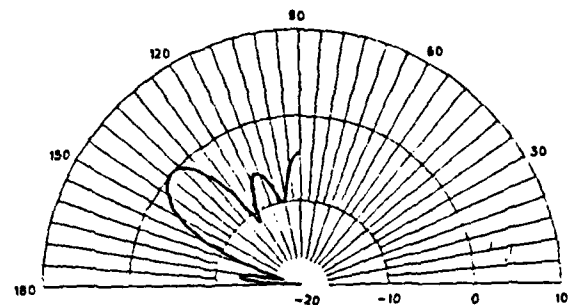
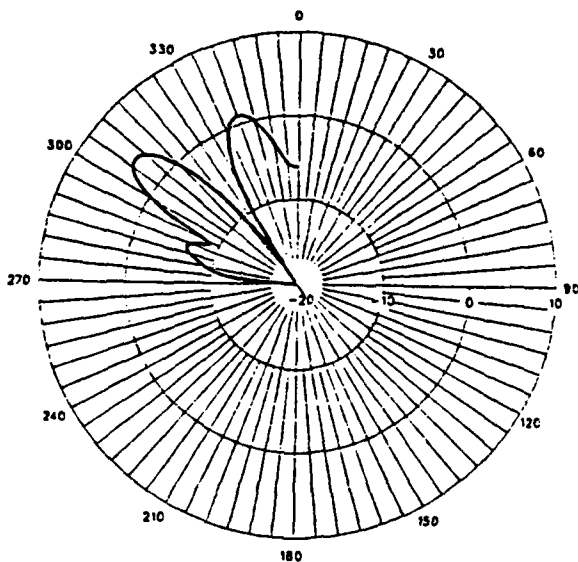
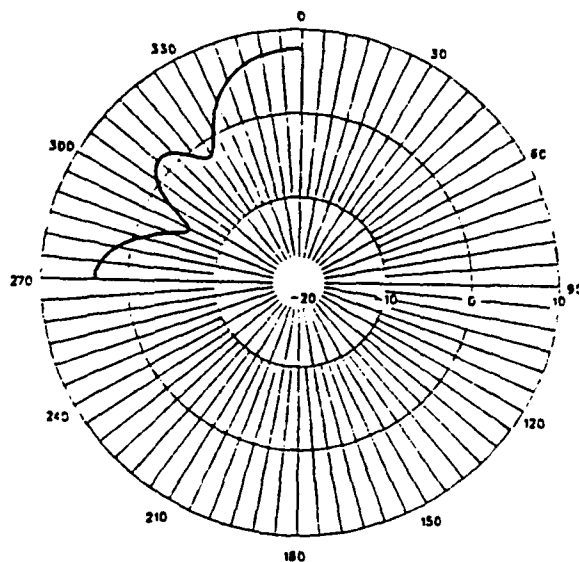


Figure 303. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 26 MHz

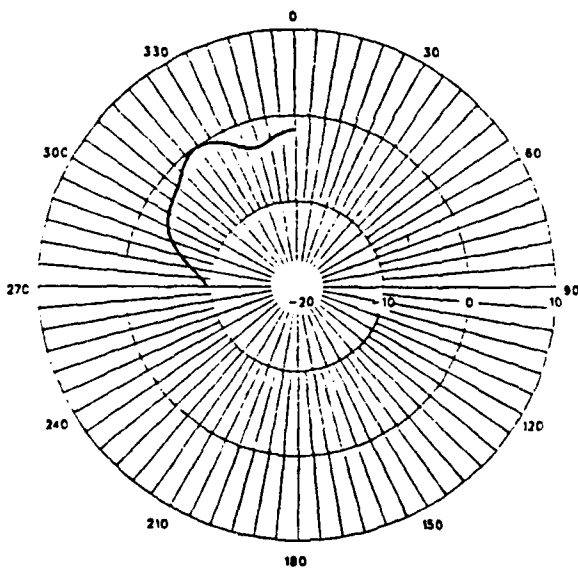
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

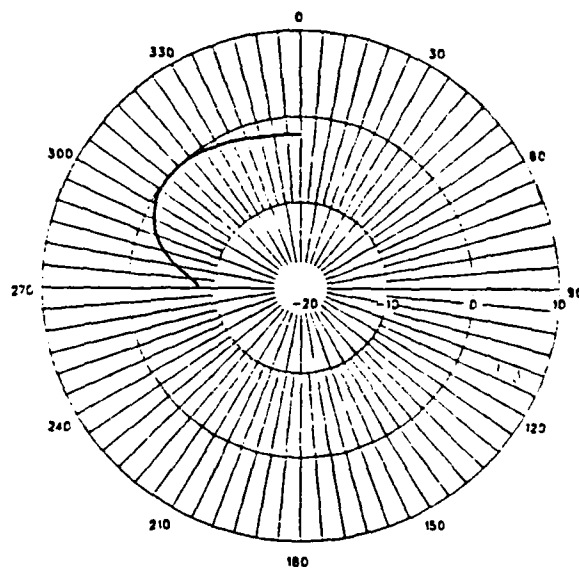
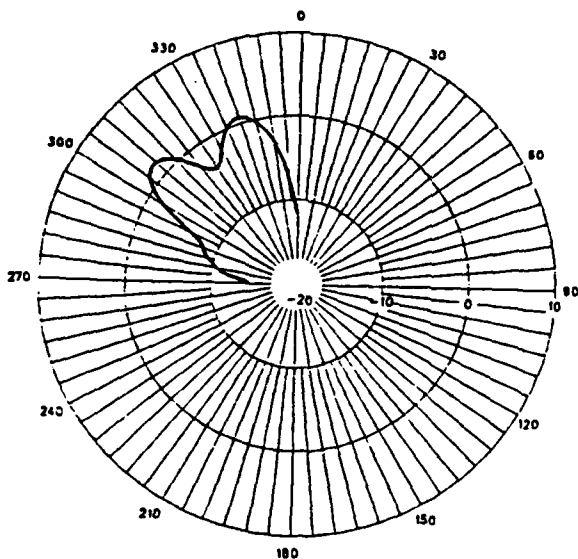
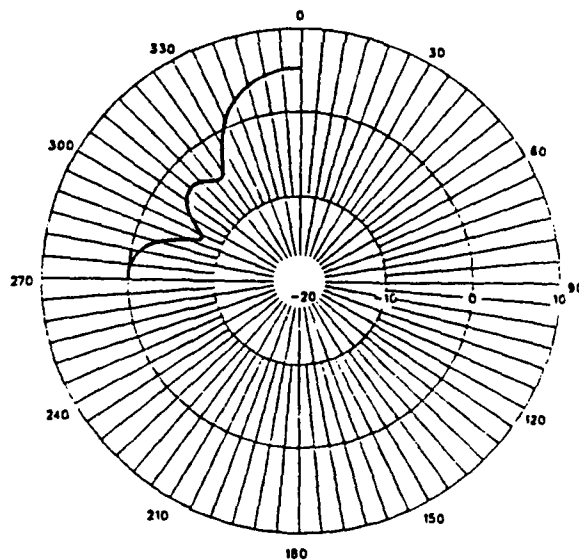


Figure 304. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 26 MHz

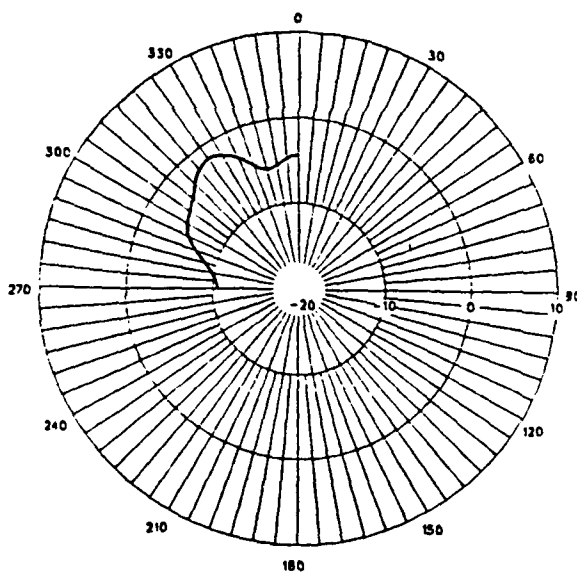
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 26 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

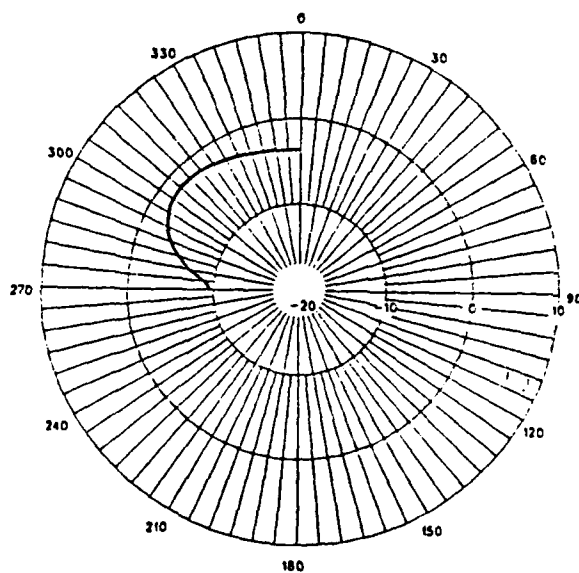
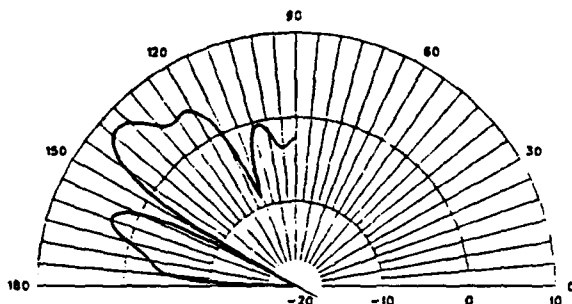
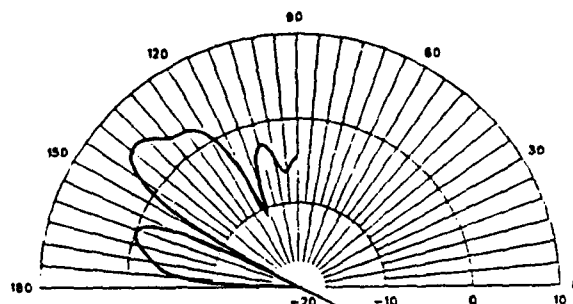


Figure 305. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 26 MHz

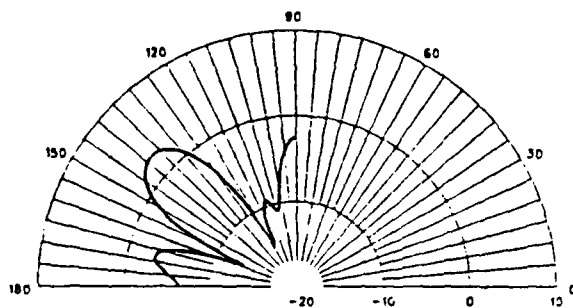
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 27 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

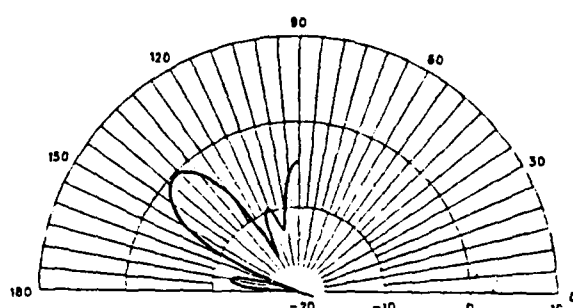
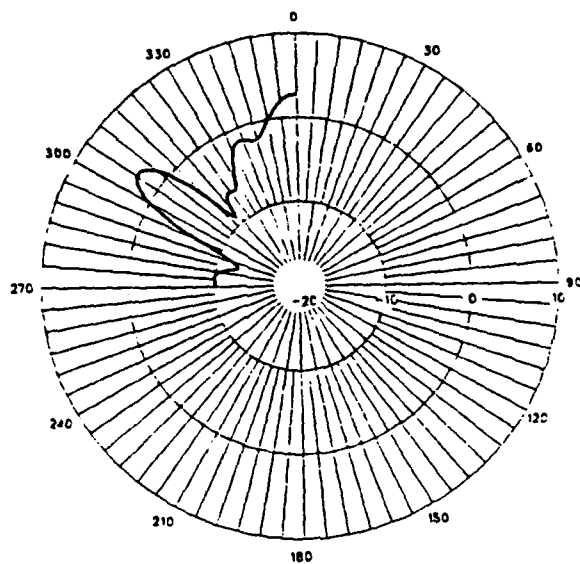
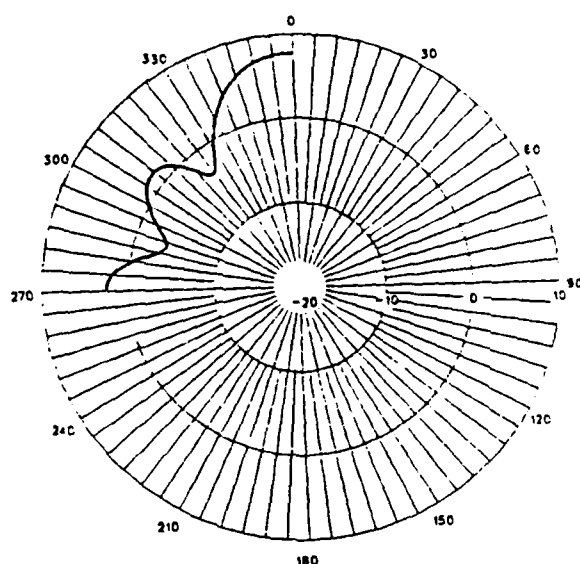


Figure 306. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 27 MHz

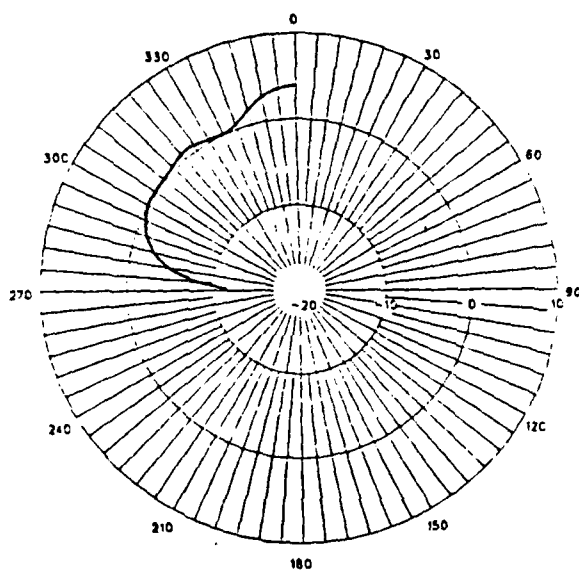
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

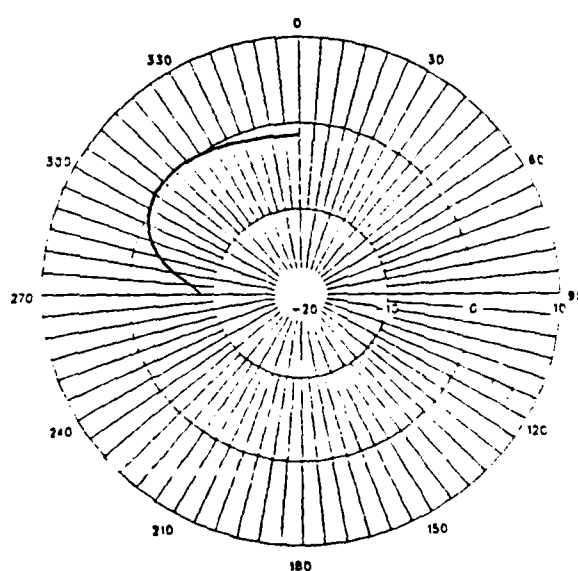
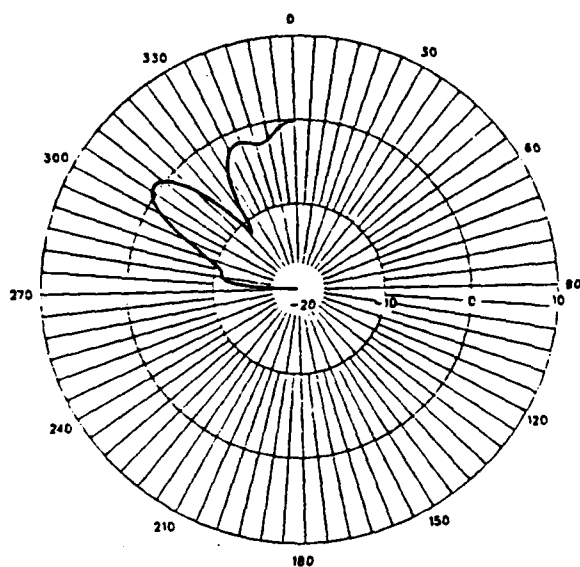
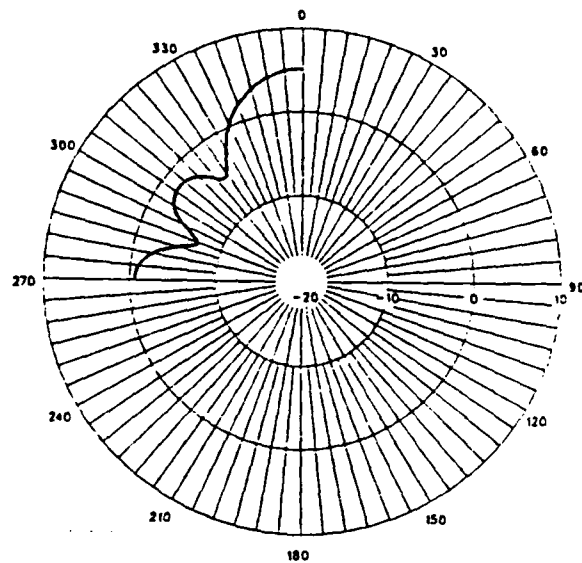


Figure 307. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 27 MHz

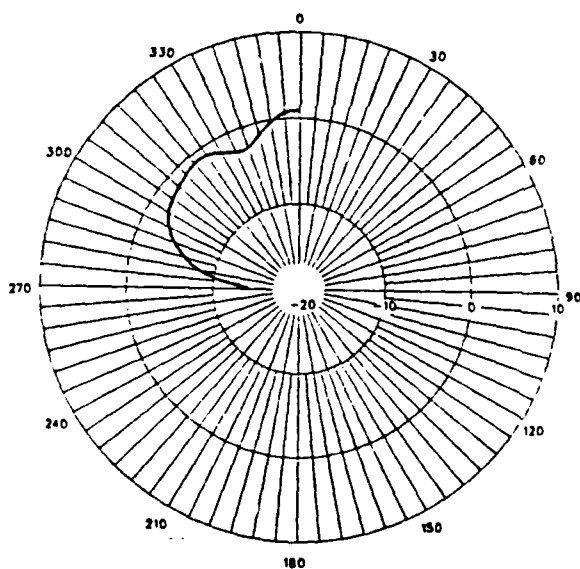
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 27 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

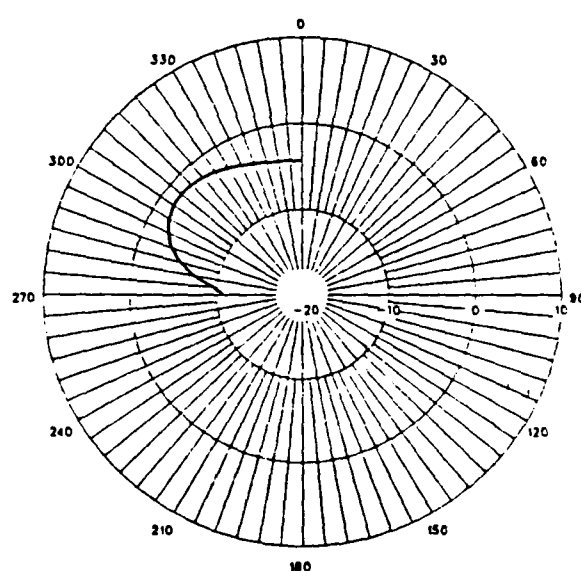
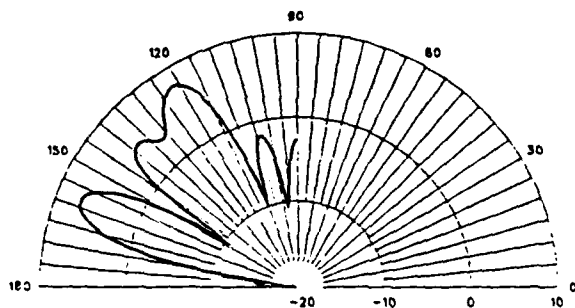
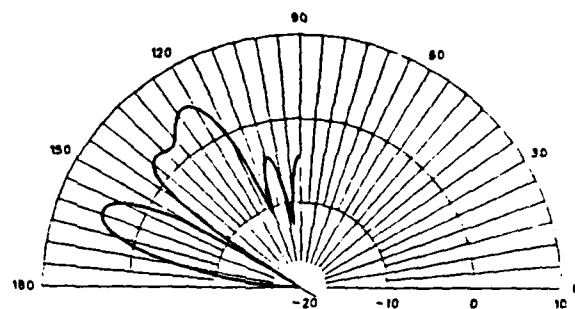


Figure 308. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 27 MHz

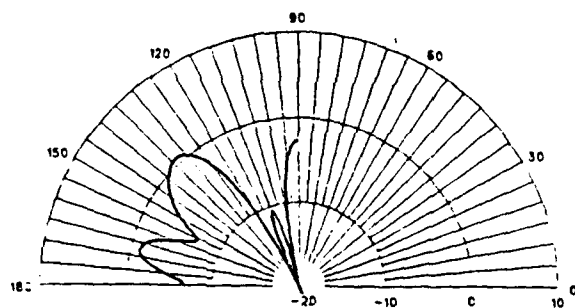
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 28 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 28 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 28 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 28 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

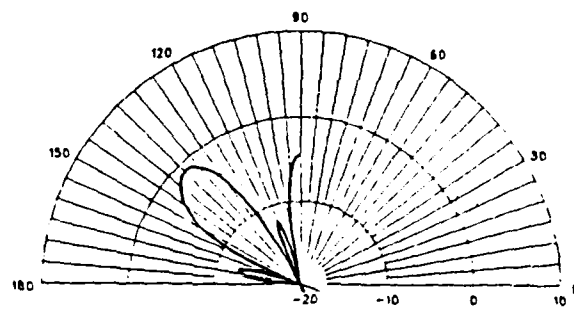
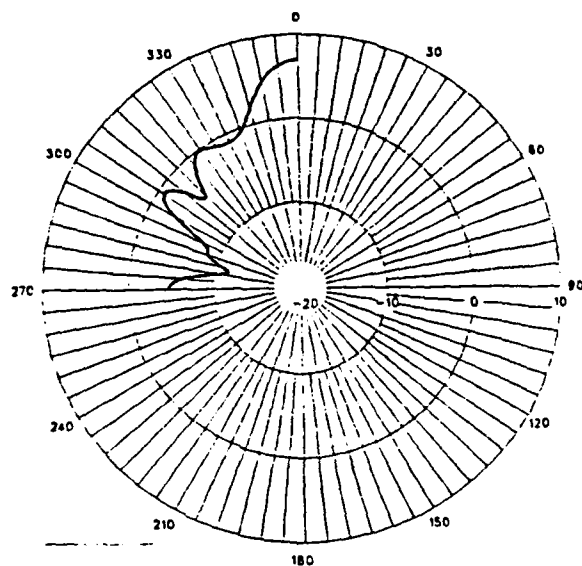
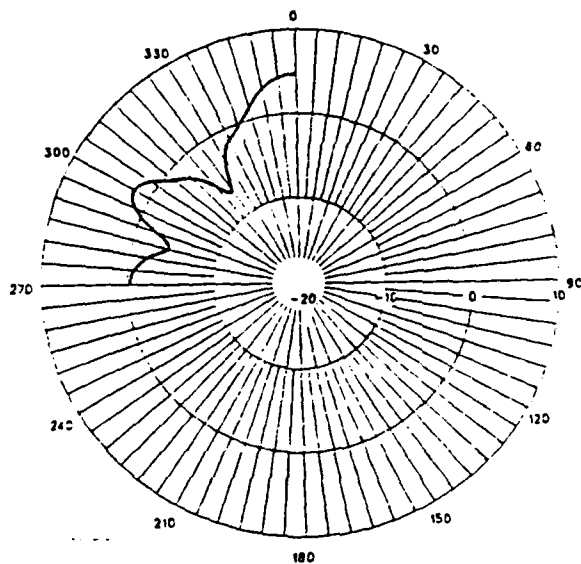


Figure 309. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 28 MHz

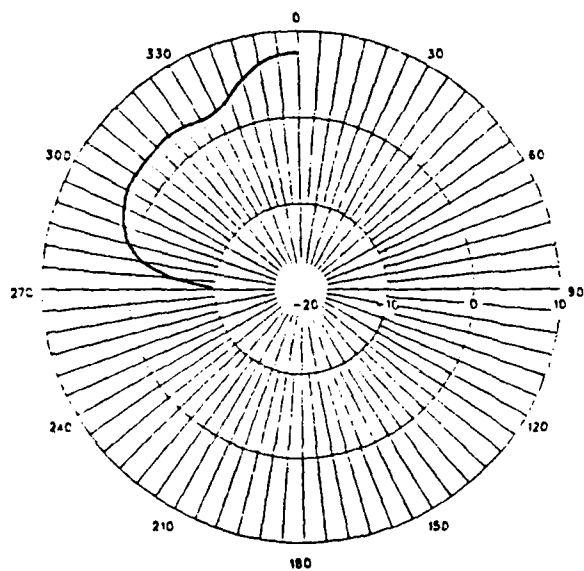
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

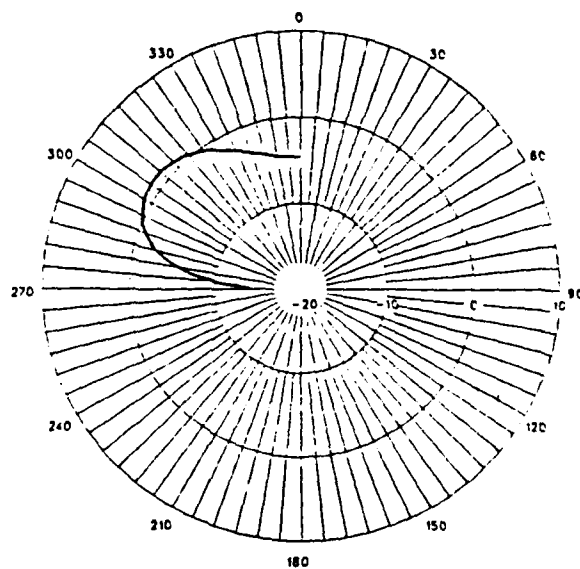
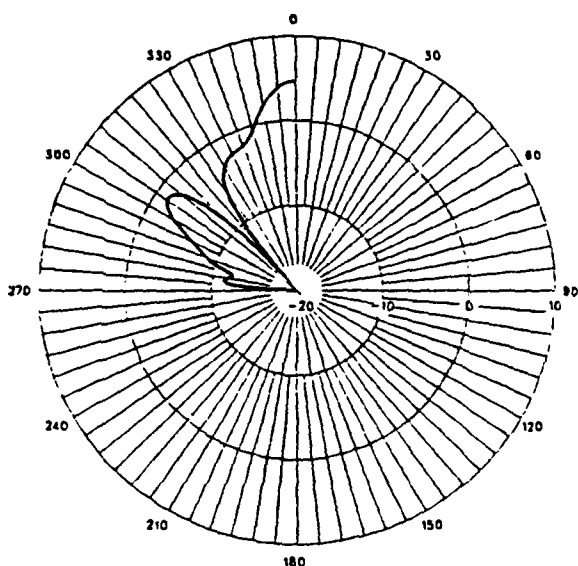
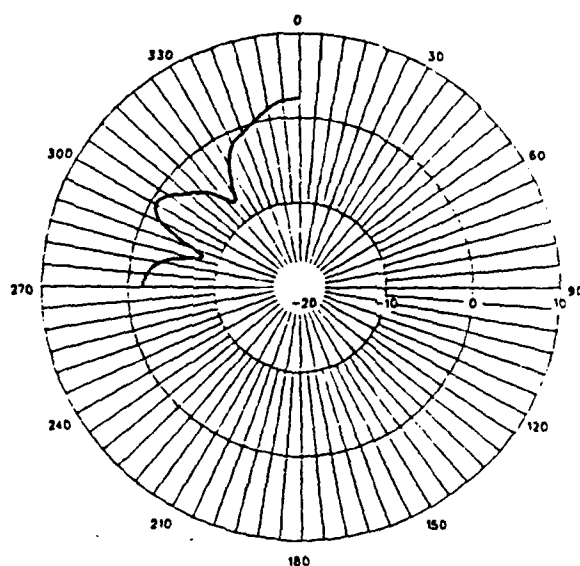


Figure 310. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 28 MHz

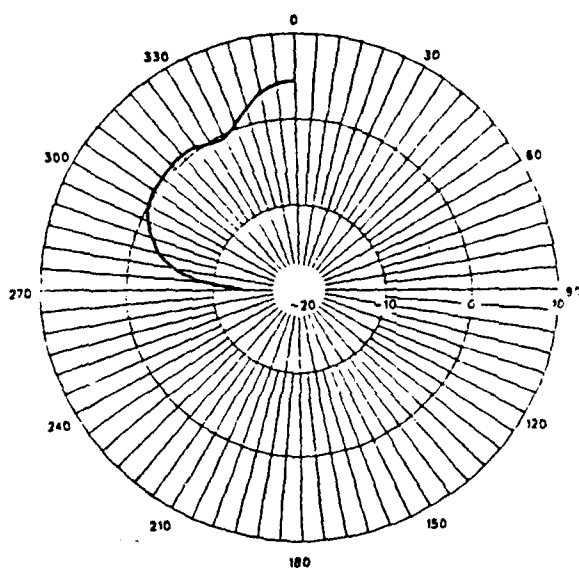
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 28 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

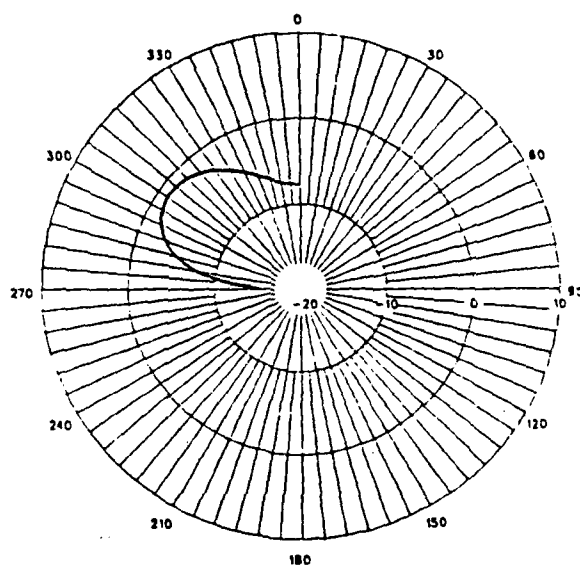
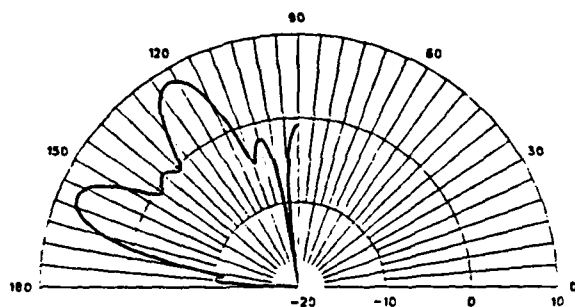
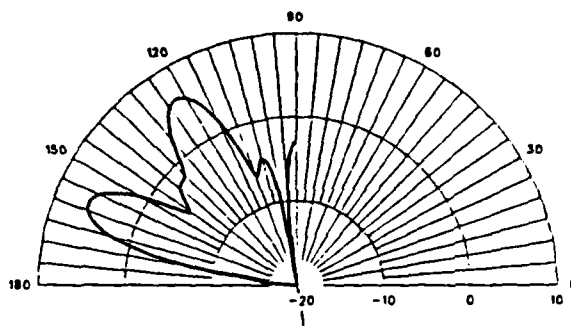


Figure 311. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 28 MHz

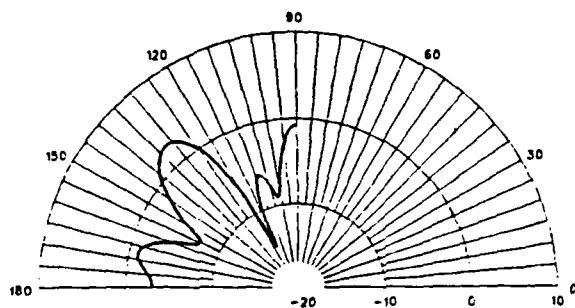
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 29 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

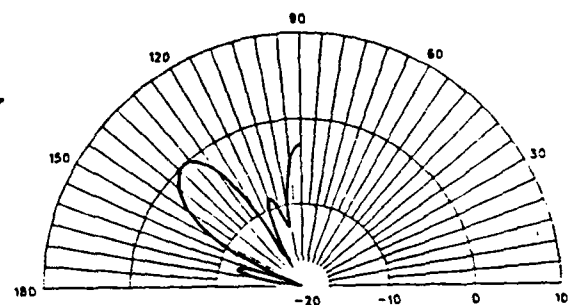
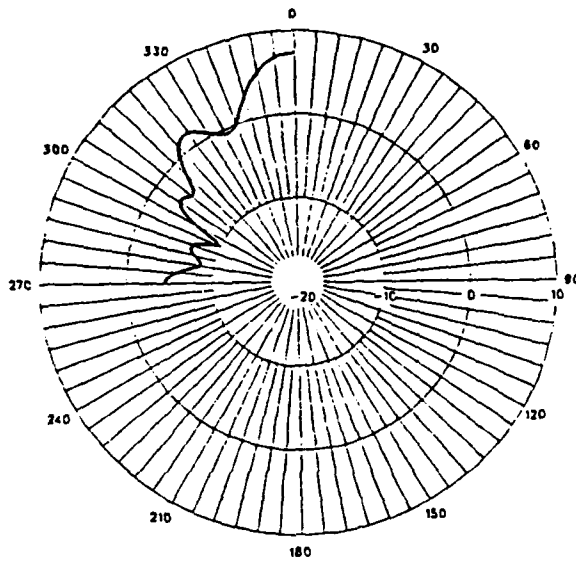
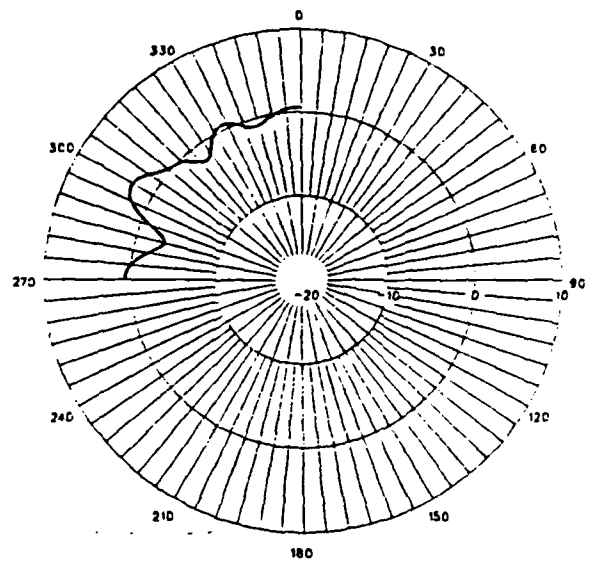


Figure 312. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 29 MHz

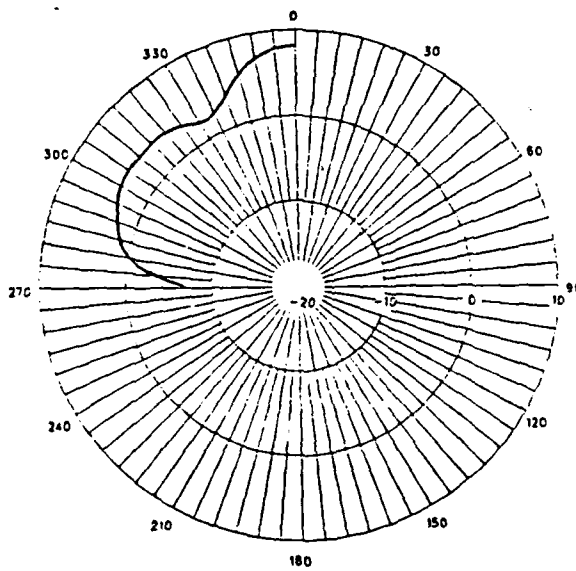
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 29 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

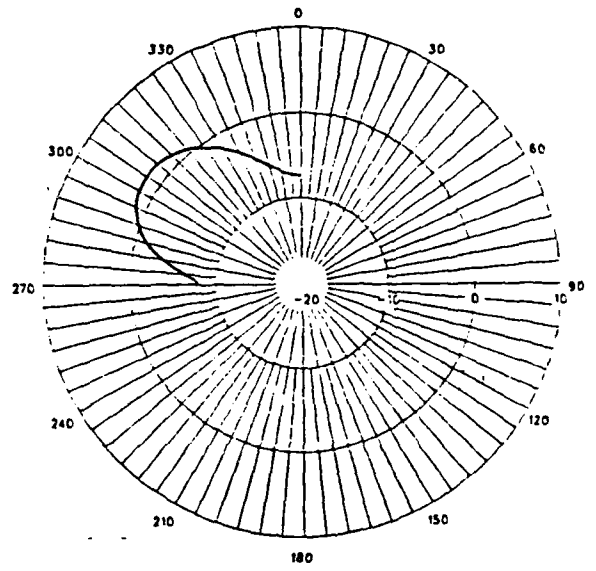
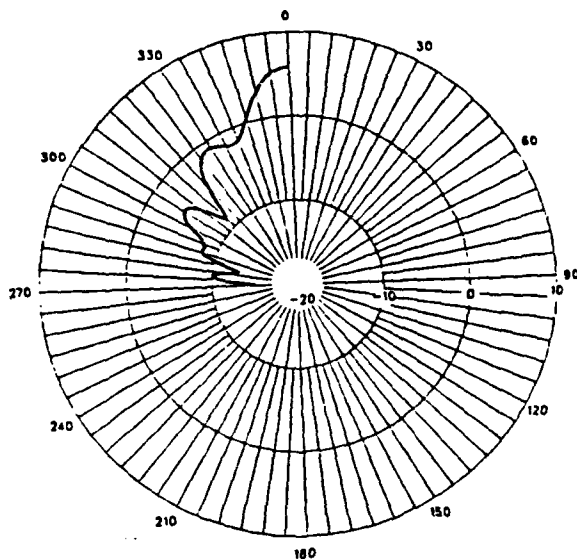
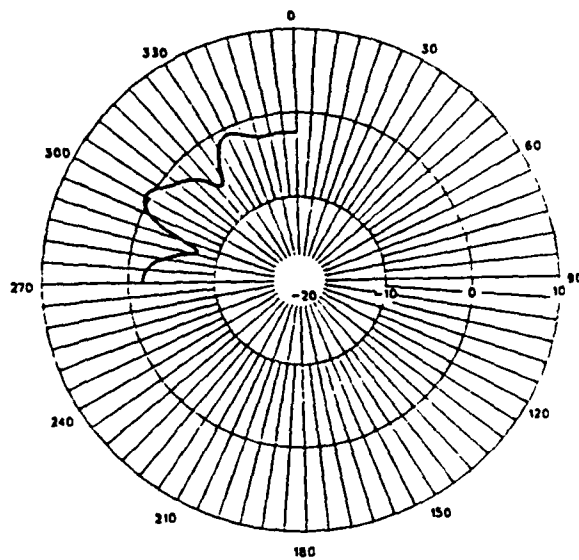


Figure 313. Azimuth patterns of the ESI 32A2A DD antenna over perfect ground at 29 MHz

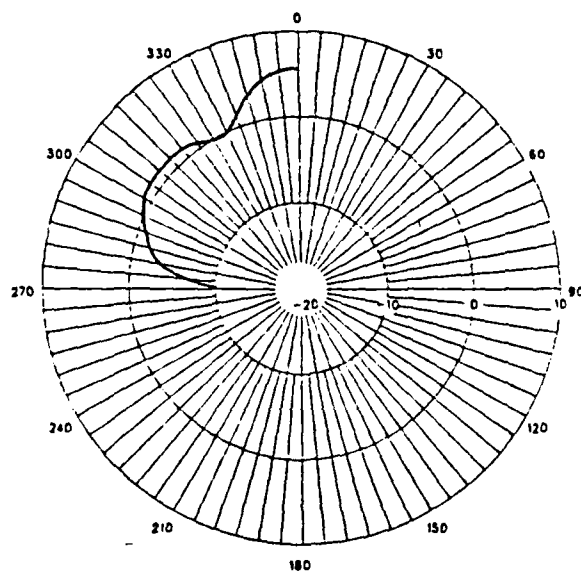
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 29 MHZ
 AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 29 MHZ
 AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 29 MHZ
 AZIMUTH PATTERN / ELEVATION ANGLE = 60



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 29 MHZ
 AZIMUTH PATTERN / ELEVATION ANGLE = 80

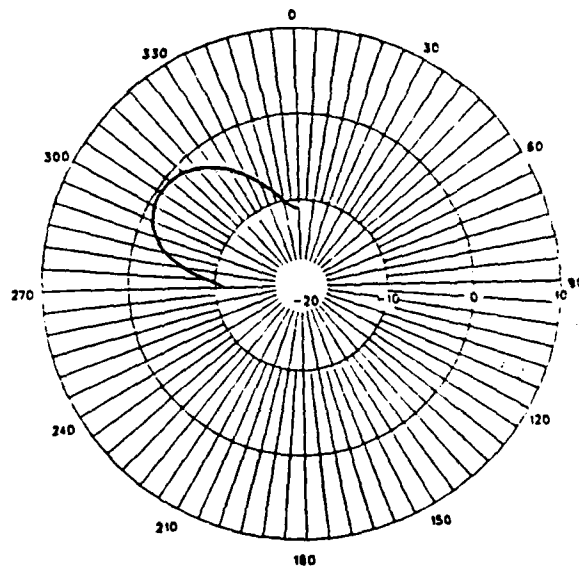
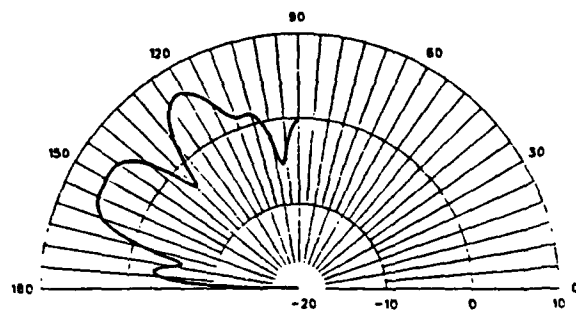
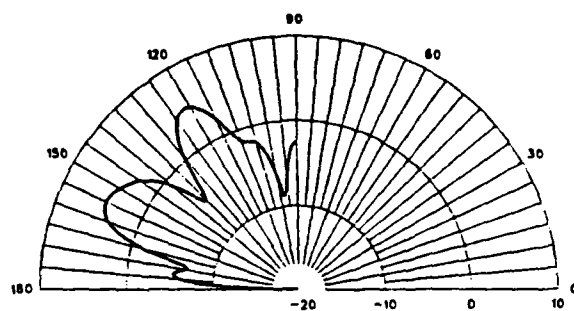


Figure 314. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 29 MHz

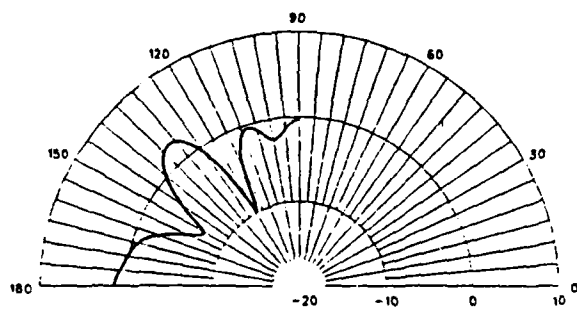
ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BORESIGHT



ESI 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 30 MHZ
ELEVATION PATTERN / AZIMUTH ANGLE = BROADSIDE

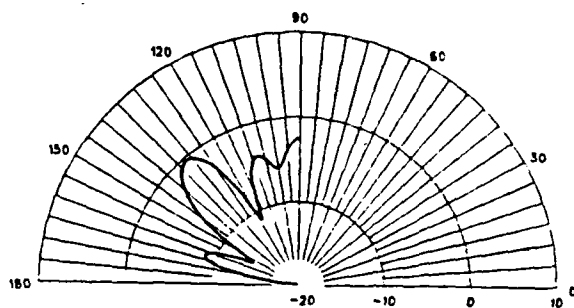
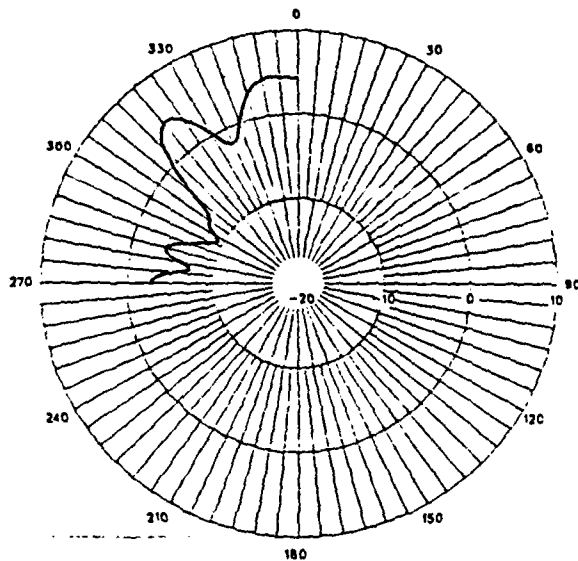
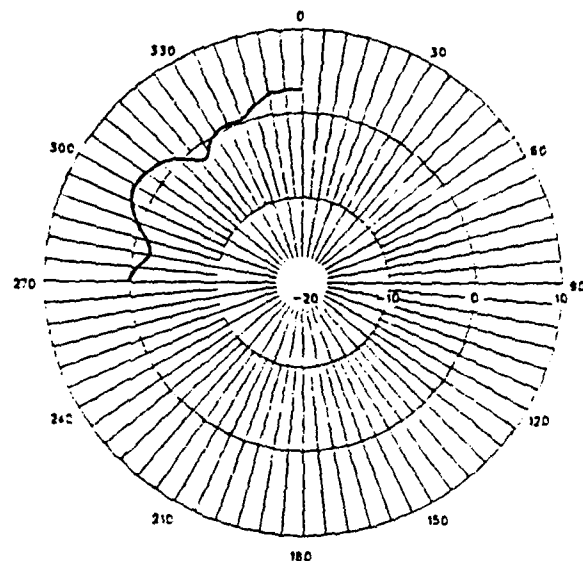


Figure 315. Elevation patterns of the ESI 32A2A DD antenna over perfect ground and fair ground at 30 MHz

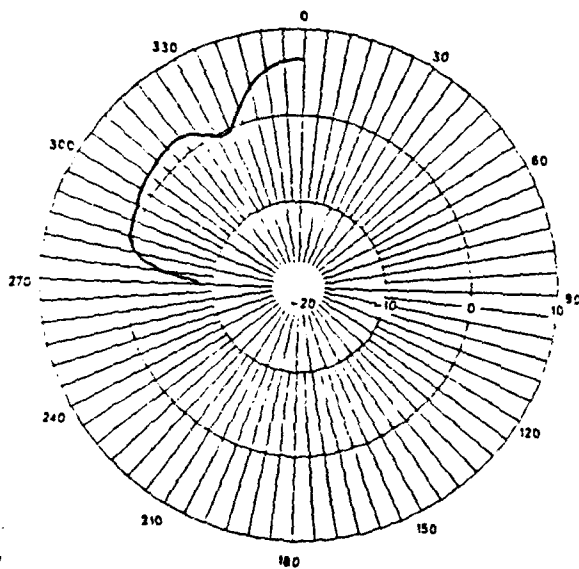
ES1 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ES1 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ES1 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60



ES1 32A2A BROADBAND DOUBLE DELTA / PERF. GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80

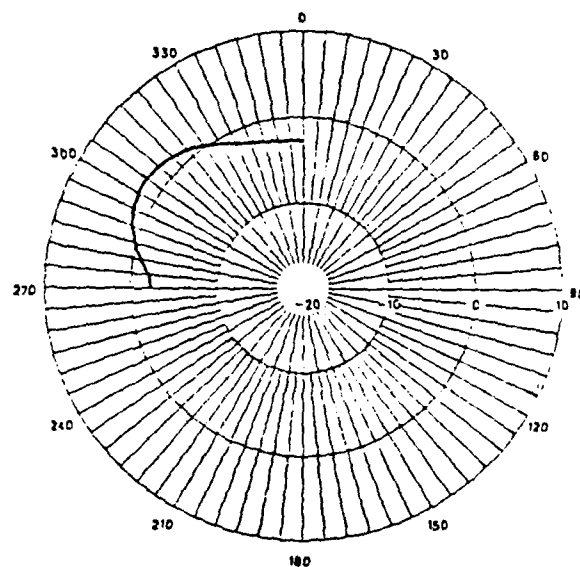
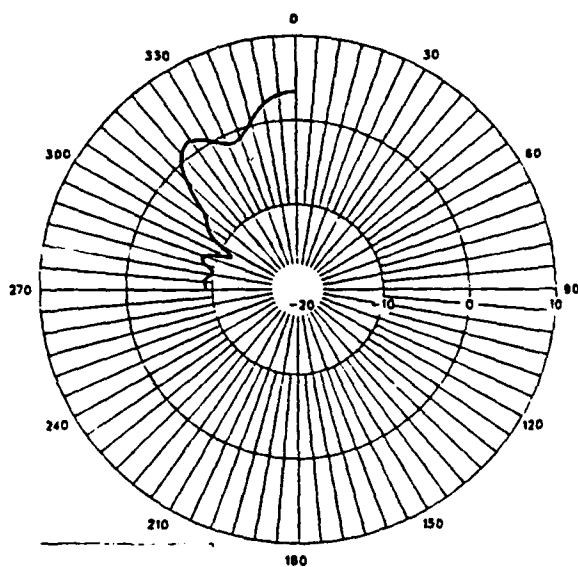
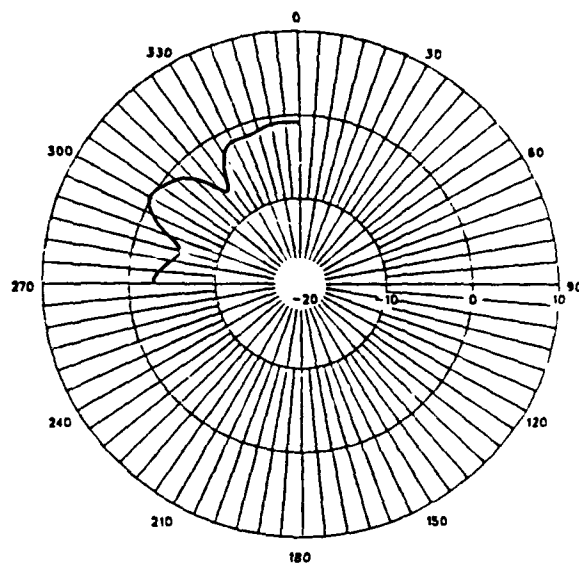


Figure 316. Azimuth patterns of the ES1 32A2A DD antenna over perfect ground at 30 MHz

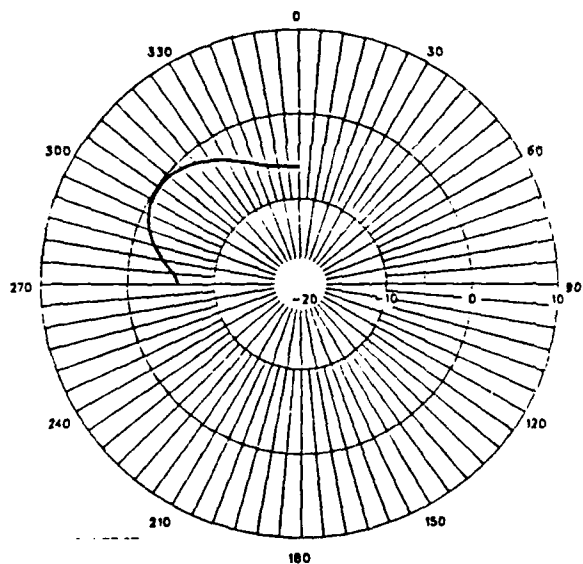
ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 20



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 40



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 80



ESI 32A2A BROADBAND DOUBLE DELTA / FAIR GND. / 30 MHZ
AZIMUTH PATTERN / ELEVATION ANGLE = 60

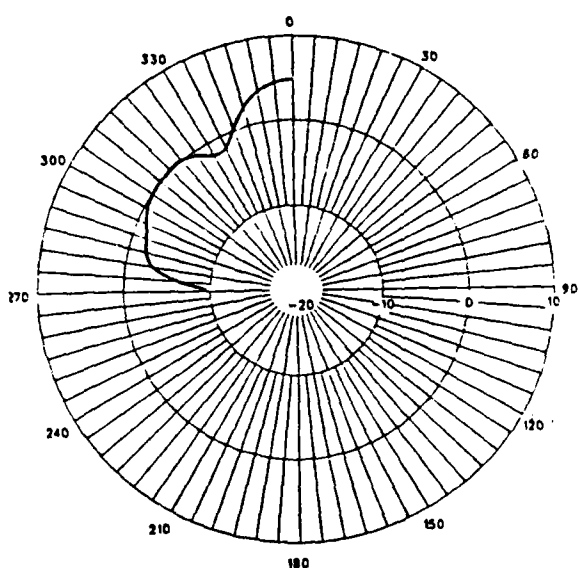


Figure 317. Azimuth patterns of the ESI 32A2A DD antenna over fair ground at 30 MHz

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