

APPENDIX A

(i) Specification of Schwarzbeck FSME 1515

Frequency range : 80 kHz - 30 MHz

Bandwidth : 9 kHz

Sensitivity : 0.32 μ V

Input impedance : 50 ohms

Attenuators : (a) r.f. 20 - 100 in 1dB steps
(b) i.f. 0 - 20 in 1dB steps

Pulse reponse : Quasi peak; in accordance with CISPR Publication No 1

Detector Time Constants : Charge: 1 m sec
Discharge: 160 m sec

(ii) Stoddart 92200-3 Screened Loop

No of turns : 1

Loop diameter : 15 inches

Ranges : 8 ranges via switched
transformer windings

TABLE 1
 ** Worst case 60dB/decade
 * In presence of background noise

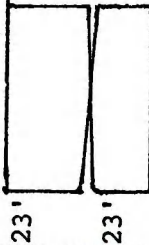
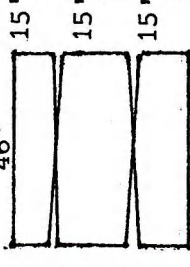
SHAPE & SIZE (FEET)	POSITION	MEASURING DISTANCE (METRES)	FIELD STRENGTH			ESTIMATED FIELD STRENGTH AT 300 METRES	
			E	N	W	dB (μ V/Metre)	μ V/m
10' 	a) 4' above ground	30	59	63*	-	(+3)**	1.4
	b) On ground	30	53	-	-	-31	0.03
46' 	On ground	30	84	87	88	4	1.6
46' 	On ground	30	-	-	77	-7	0.45
46' 	On ground	30	-	-	77.5	-6.5	0.47

TABLE 2HARMONIC FREQUENCY MEASUREMENTS

10 x 8 Foot loop : on ground

Measurement point 5 metres due West of loop.

FREQUENCY (MHz)	HARMONIC NUMBER	FIELD INTENSITY dB (μ V/metre)	RELATIVE TO FUNDAMENTAL
0.137	1	116	0
0.274	2	64.5	-51.5
0.411	3	43	-73
1.23	9	33	-83
2.05	15	28.5	-87.5
2.19	16	32.5	-83.5
2.88	21	31	-85
3.15	23	32	-84
3.42	25	32	-84
3.83	28	29	-87

TABLE 3EFFECT OF DETUNING

46 x 46 foot loop : on ground :

Measurement point 30 metre due West of loop.

Frequency : 137 kHz.

TRANSMITTER METER	H dB (μ V/metre)
$\frac{1}{2}$	83
1	88
$\frac{1}{2}$	83.5

TABLE 4VARIATIONS IN SUPPLY VOLTAGE

46 x 46 foot loop : on ground

Measurement point 30 metre due West of loop

	H dB (μ V/metre)
100% Supply Voltage	88
85% Supply Voltage	88
104% Supply Voltage	88

FIELD STRENGTH dB ($\mu\text{V}/\text{metre}$)

120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40

1

○ — 46 x 46 feet loop
● — 10 x 8 feet loop

5

10

30

50

100

300

1000

0.001

0.1

1

10

100

1000

FIELD STRENGTH ($\mu\text{V}/\text{metre}$)

FIGURE 1

VARIATION OF FIELD STRENGTH WITH DISTANCE FOR TWO LOOPS MEASURED DUE EAST FROM LOOPS

DISTANCE (metres)

dB ($\mu\text{V}/\text{Metre}$)

50
40
30
20
10
0
-10
-20
-30

100 kHz

300 kHz

1 MHz

3 MHz

FREQUENCY

FIG 2

TORNADO MODEL PRODUCTS

FIELD STRENGTH COMPUTED WITH THE LIMITS

