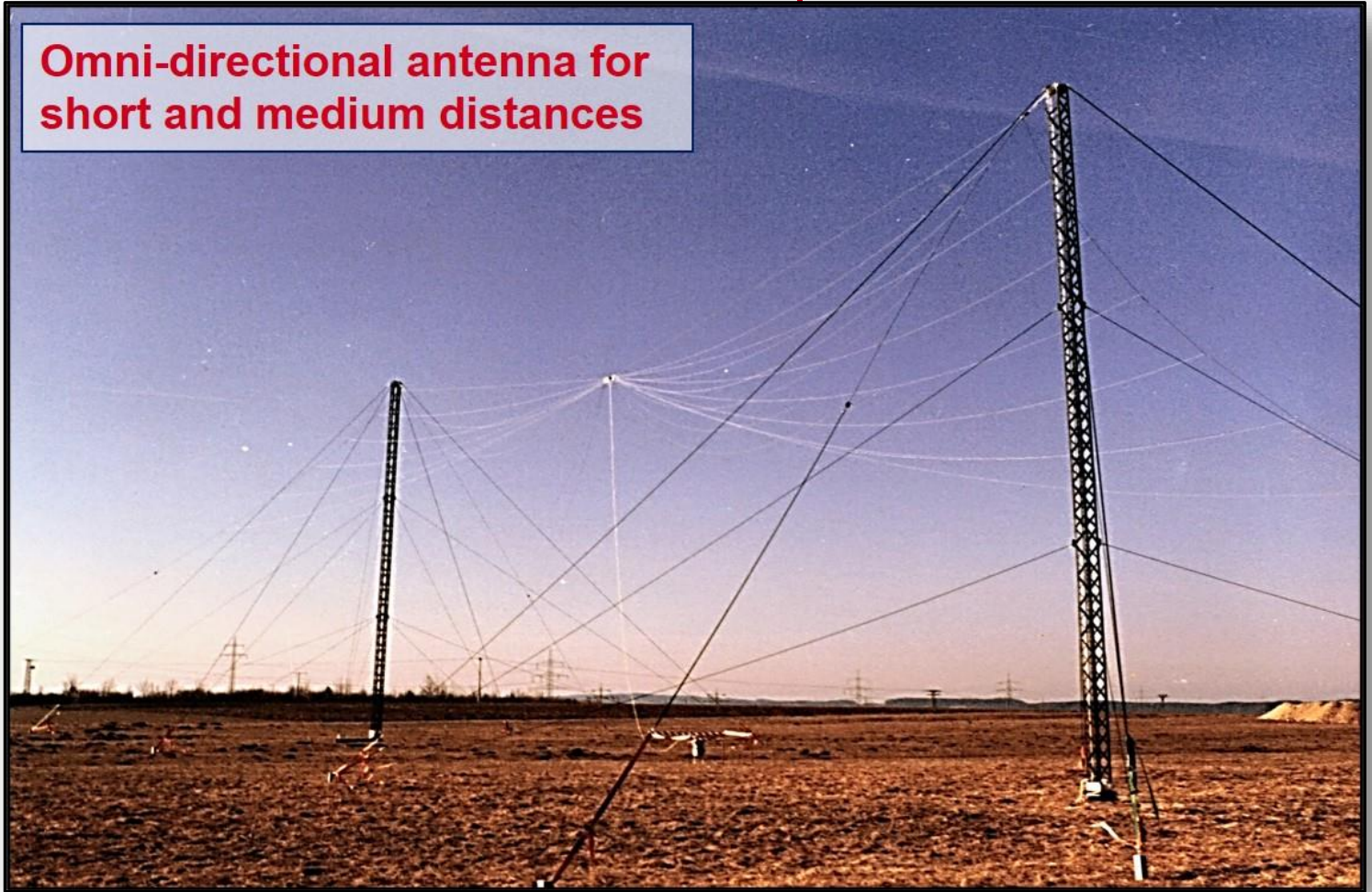


HF Antennas

Horizontal HF Broadband Dipole Antennas

Omni-directional antenna for short and medium distances

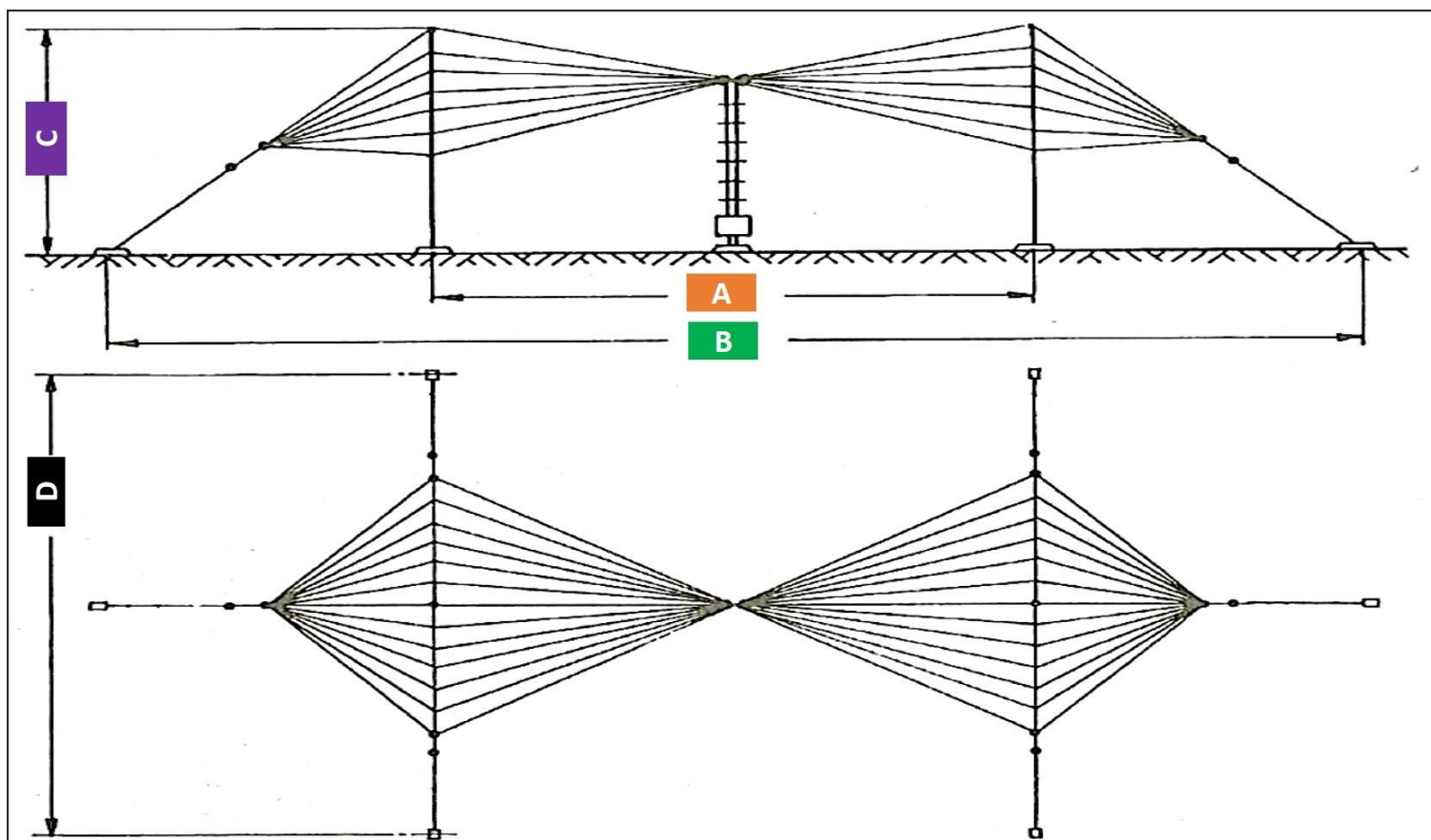


Features

- Frequency ranges up to 1.6 – 30 MHz
- Horizontal polarization
- Omnidirectional radiation without nulls
- High take-off angles at lower frequencies, decreasing to higher frequencies
- Short to medium range (and even long range) coverage by means of sky wave, depending on operating frequency
- Electric conductors of antenna fabricated from sea water resistant aluminum alloys
- No resistive loading or tuning

Technical Data

Power Rating <i>(other power ratings available on request)</i>	Average/Peak Power 1/1 kW				Average/Peak Power 20/30 kW			
Type Number	006-1	006-2	006-3	006-4	006-11	006-12	006-13	006-14
Frequency Range, in MHz	1.6-30	2.0-30	2.6-30	3.9-30	1.85-30	2.25-30	3.0-30	4.5-30
VSWR	3.0 max.				2.0 max.			
Gain G_i <i>(directive gain relative to isotropic)</i>	about 8 dBi				about 8 dBi			
Input Impedance <i>(at balun)</i>	50 Ohm coaxial				50 Ohm coaxial			
Input Connector	7/8"				1 5/8"			
Antenna Dimensions								
Distance of support masts, A	45 m	36 m	27 m	18 m	45 m	36 m	27 m	18 m
Length, B	114 m	91 m	68 m	46 m	114 m	91 m	68 m	46 m
Height, C	30 m	24 m	18 m	12 m	30 m	24 m	18 m	12 m
Width, D	70 m	56 m	42 m	28 m	70 m	56 m	42 m	28 m



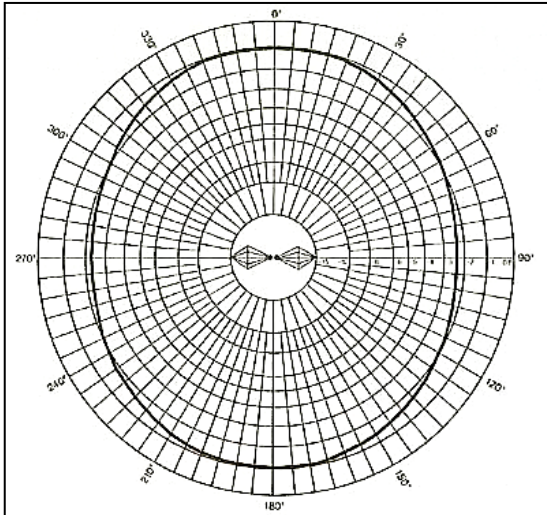
Antenna Parts/Material

Dipole and balanced feed line	Balun transformer, plus mounting post
Insulators made of low-loss ceramics	Foundation anchors
Two masts, hot dip galvanized steel	Earthling conductors and hardware for lightning protection
Guys made from GRP rod	

Radiation Patterns (Computer Simulation)

Azimuth patterns at vertical angle θ indicated, at or near radiation maximum

Vertical patterns at azimuth angle ϕ indicated, at or near radiation maximum



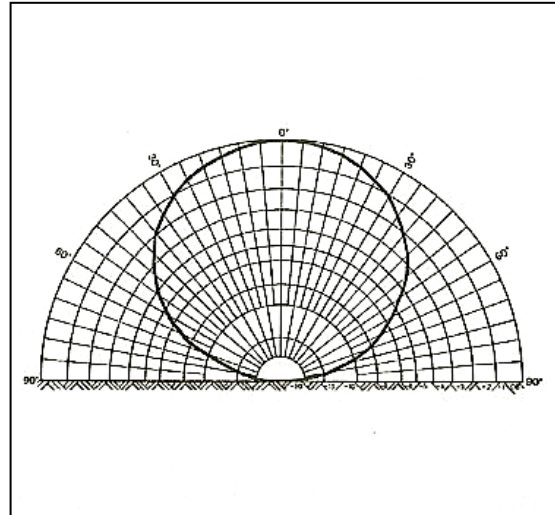
$\theta = 30^\circ$

max gain $G_i = 8.3 \text{ dBi}$

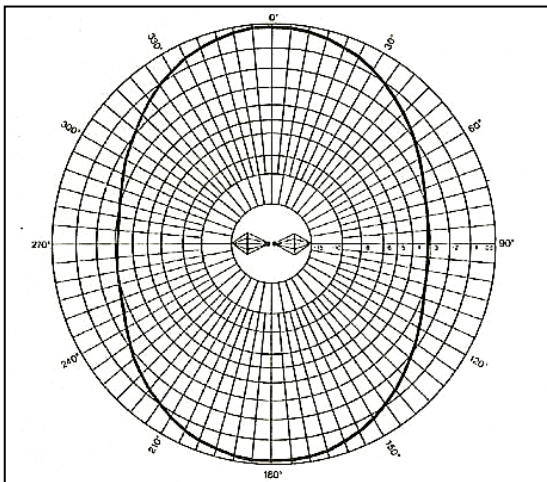
Frequency: **006-1** and **11** → 1.8 MHz

006-2 and **12** → 2.25 MHz

006-3 and **13** → 3.0 MHz, **006-4** and **14** → 4.5 MHz



$\phi = 0^\circ$



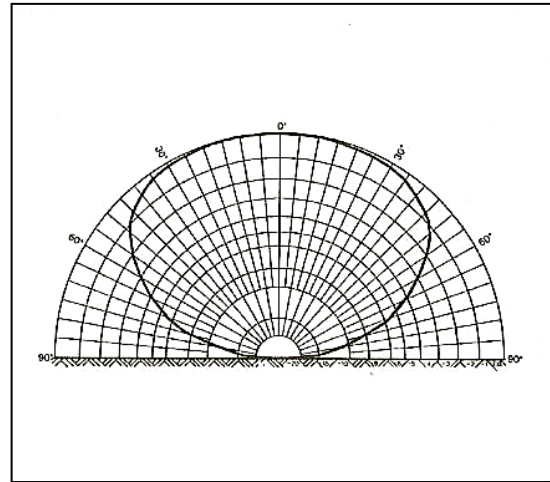
$\theta = 30^\circ$

max gain $G_i = 7.8 \text{ dBi}$

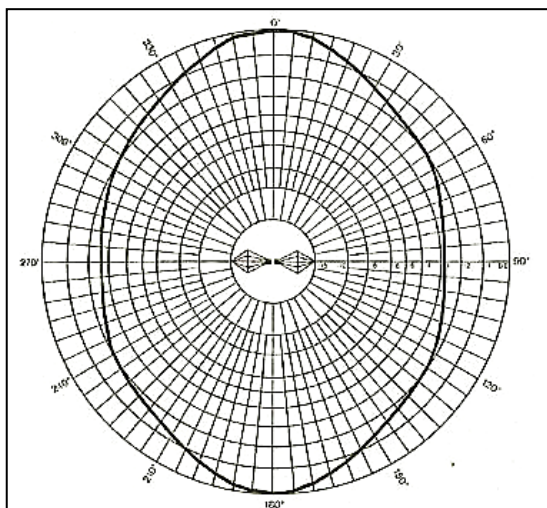
Frequency: **006-1** and **11** → 3.6 MHz

006-2 and **12** → 4.5 MHz

006-3 and **13** → 6.0 MHz, **006-4** and **14** → 9.0 MHz



$\phi = 0^\circ$

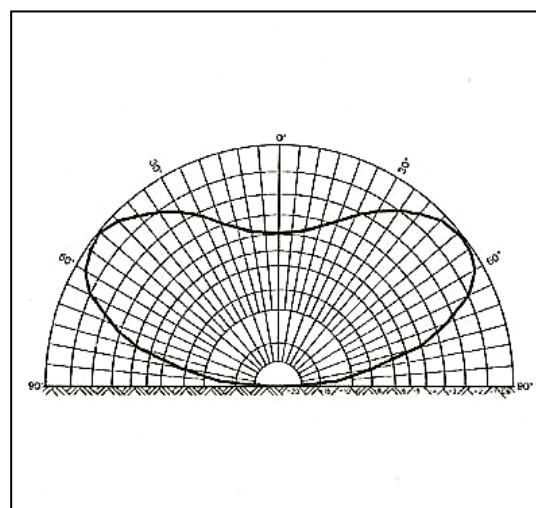


$\theta = 50^\circ$

max gain $G_i = 6.7 \text{ dBi}$

Frequency: **006-1** and **11** → 5.4 MHz **006-2** and **12** → 6.75 MHz,

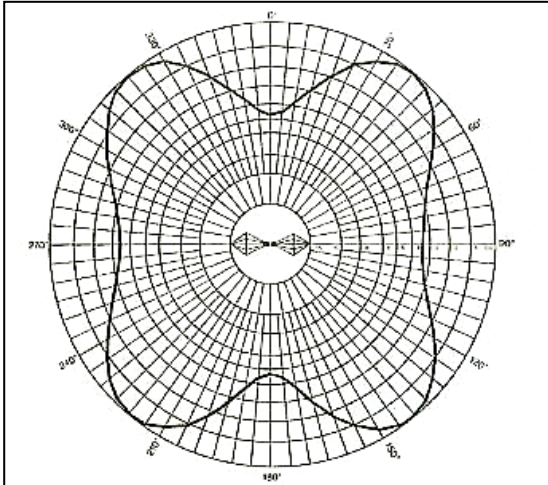
006-3 and **13** → 9.0 MHz, **006-4** and **14** → 13.5 MHz



$\phi = 0^\circ$

**Azimuth patterns at vertical angle θ indicated,
at or near radiation maximum**

**Vertical patterns at azimuth angle ϕ indicated,
at or near radiation maximum**



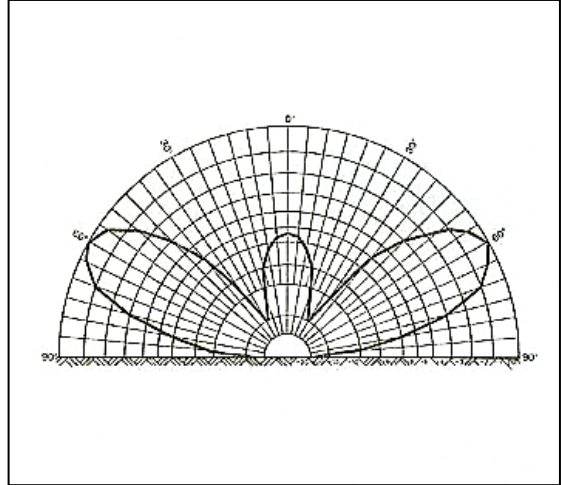
$\Theta = 60^\circ$

max gain $G_i = 7.7$ dBi

Frequency: **006-1** and **11** → 7.2 MHz

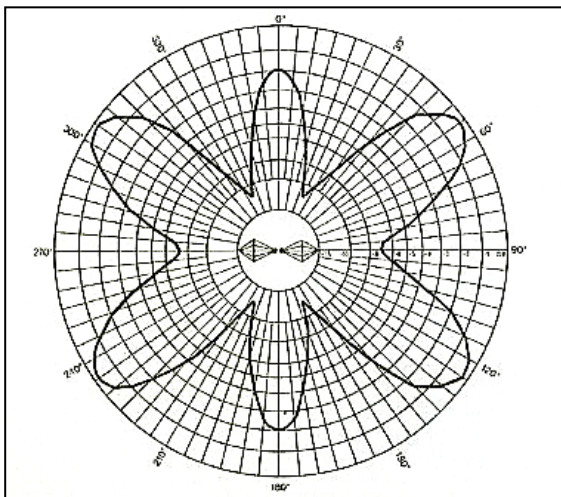
006-2 and **12** → 9.0 MHz

006-3 and **13** → 12.0 MHz, **006-4** and **14** → 18.0 MHz



$\phi = 40^\circ$

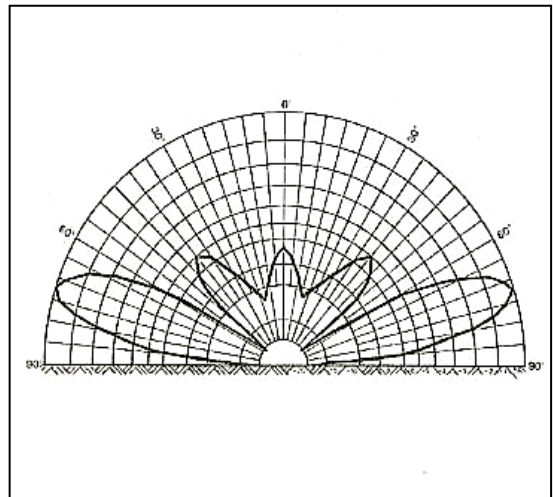
(plot of azimuth pattern 9)



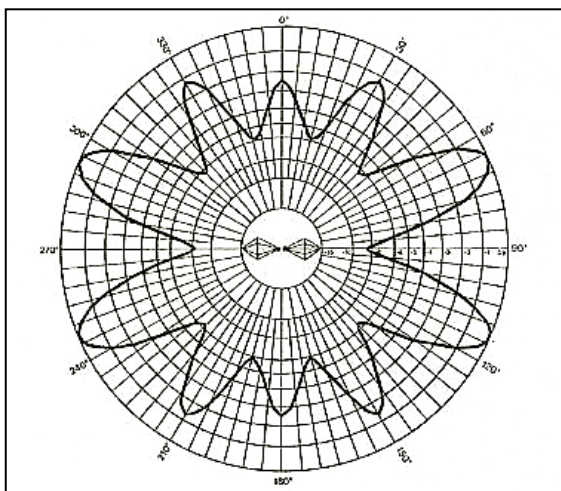
$\Theta = 75^\circ$

max gain $G_i = 9.6$ dBi

(plot of vertical pattern 10)



$\phi = 55^\circ$



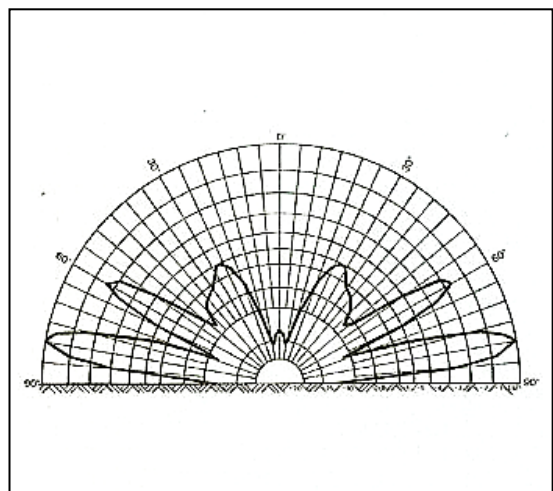
$\Theta = 80^\circ$

max gain $G_i = 9.3$ dBi

Frequency: **006-1** and **11** → 18.0 MHz

006-2 and **12** → 22.5 MHz

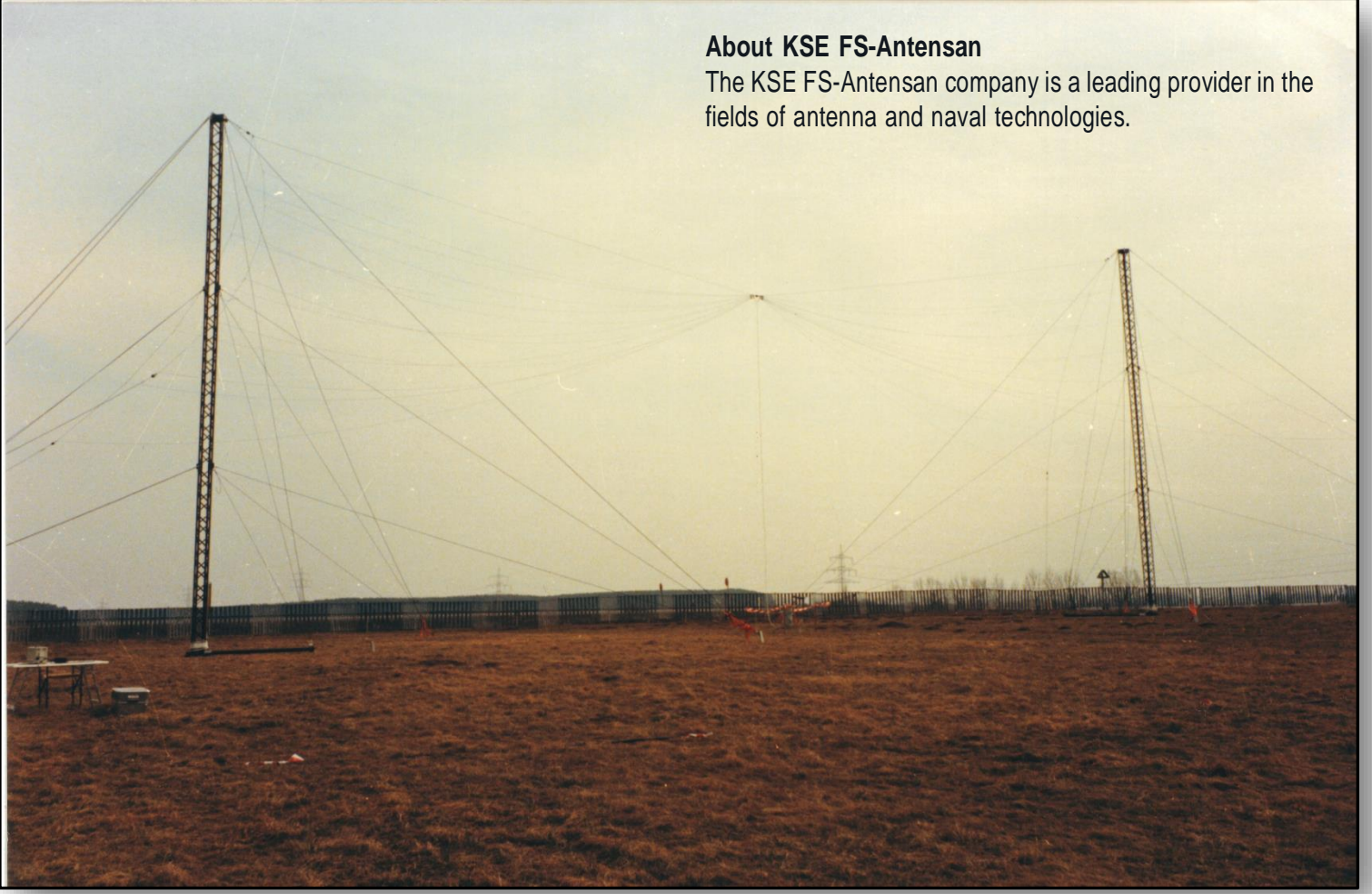
006-3 and **13** → 12.0 MHz, **006-4** and **14** → 30.0 MHz



$\phi = 65^\circ$

About KSE FS-Antensan

The KSE FS-Antensan company is a leading provider in the fields of antenna and naval technologies.



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