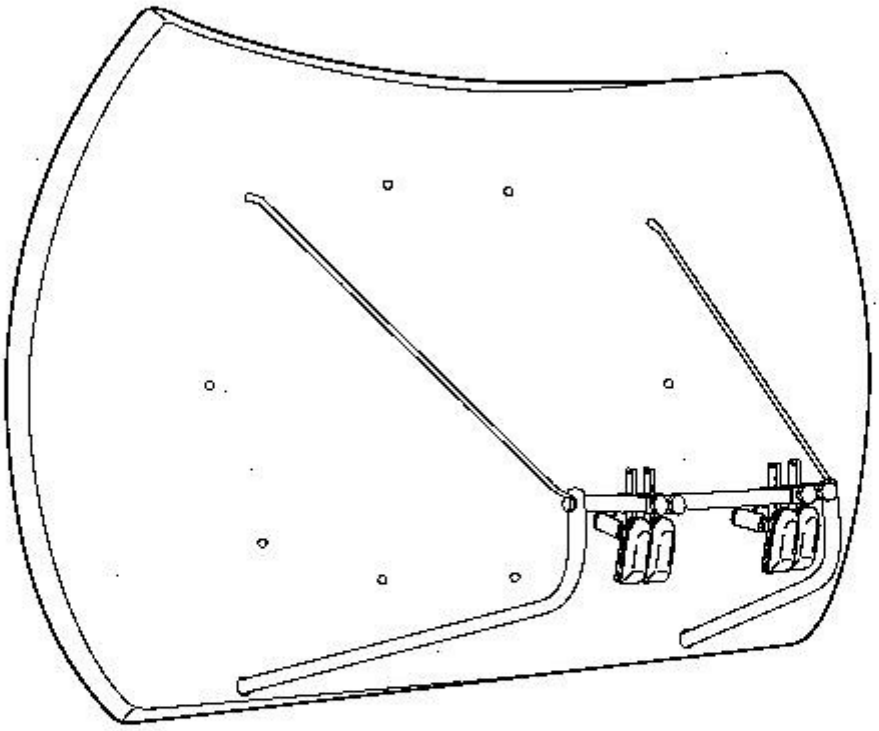
Multi Focus Dish
SMW OA-1600



VÄRLDENS BÄSTA
PARABOLANTENN

enl. HI FI & elektronik (Danmark), nr. 9/96

96-12/DD
Art.nr. 801801-00

SMW
SWEDISH MICROWAVE AB
Box 230 • S-591 23 MOTALA • SWEDEN

(S) MONTERINGSANVISNING
(GB) INSTALLATION INSTRUCTION

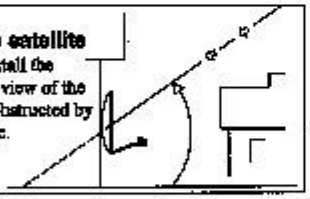
ENGLISH

Read the manual and study the figures before mounting!

Contents:		Qty
1. Multi fokus dish		1 pc
2. Mast mount		1 pc
3. LNB bar		1 pc
4. LNB-arm, right		1 pc
5. LNB-arm, left		1 pc
6. Twin-stays with nut		2 pcs
7. Complete elevation screw		1 pc
8. Elevation screw M10	1 pc	
9. L-bracket	1 pcs	
10. Nut M10	4 pcs	
11. Block	1 pc	
12. Screw M8 x 60	1 pc	
13. Locking nut M8	1 pc	
14. U-clamp 32	1 pc	
15. Bag K, OA-1600		1 pc
16. V clamp M10	2 pcs	
17. Sheet clamp	2 pcs	
18. Distance block	6 pcs	
19. Washer 20/8,5	6 pcs	
20. Screw M8 x 25	2 pcs	
21. Screw M8 x 80	4 pcs	
22. Screw M8 x 50	2 pcs	
23. Washer 16/8,5	2 pcs	
24. Locking nut M8	6 pcs	
25. Locking nut M6	2 pcs	
26. Nut M10	4 pcs	

Feed fittings are delivering separate! Look on pages 7 and 12 which fittings you need.

Declination to satellite
Find a place to install the antenna where its view of the satellites are not obstructed by trees, buildings etc.



A - Which satellites?:

- E.g. we want to see ASTRA 19° East, Hot Bird/Eutelsat 13° East, Telc-X/Sirius 5° East and Intelsat/Thor/TV-Sat 1° West.
- This means that 9° Est is the "Middle position".
- We choose **Marseille**, Latitude 44° and Longitude 5°East.
- The difference between the Longitude 5° East and 9° Est is 4° Eastwards.
- Look in the table for Latitude 44° and 5°(4°).
  The antenna-declination must be *6° at East.*
- The difference between each hole on bracket is 3°. 6° at East is the second hole from the middle.
  Attention! This means on the both sides. The dish is down on the left side and up on the right side if you are looking from the back. See the figures.

B - Mounting:

- Mount a vertical tube.
  We recommend a tube diameter of 76 mm.
- Mount the bracket according to figure B.
- Mount the LNB-arm according to figure B.
  Attention! Don't tighten the nuts (25) for the LNB-arm.

C - Twin-stays mounting:

- Mount the Twin-stays and LNB-bar according to figure C.
- Tighten the nuts to the LNB-arm.

D - Mounting & Connecting of LNB:

- Choose a LNB with LO 9.75 (10.7-11.7 GHz) or 10.0 (10.95-12.1 GHz). Typ DUO 1111C or DUO 1111W. Mount with Feed fitting.
- Put the feed-fitting in the middle of the stainless fitting and 0 at the scale. See figure (holder left side of 0).
- Connect according to the figures and manual for the satellite receiver.
- Choose the satellite closest to the "Middle position" for adjustment. In this example Eutelsat 10° East.

E - Elevation adjusting (declination):

- Find the elevation for your area. See map (10° East).
- Read the Table of elevation. Set an approximately lenght. See figure E. Don't tighten the nuts.
  Attention! This is a coarse adjustment. The fine adjustment is after azimuth adjustment.
- The offset angle of the dish is 13°.
  Dish declination = Elevation - 13°.

F - Azimuth adjustment (Compass bearing)

- Slacken the nuts until the dish can just be moved against the friction.
- Move the dish towards to the satellite (10° East). Compass is a good help.
- Carefully move the dish, while observing the instrument (TV screen). Stop when you have a signal. Make sure that you have the right satellite.
- If you don't find the satellite, change the elevation and move the dish back and forth.

G - Fine adjustment of the dish

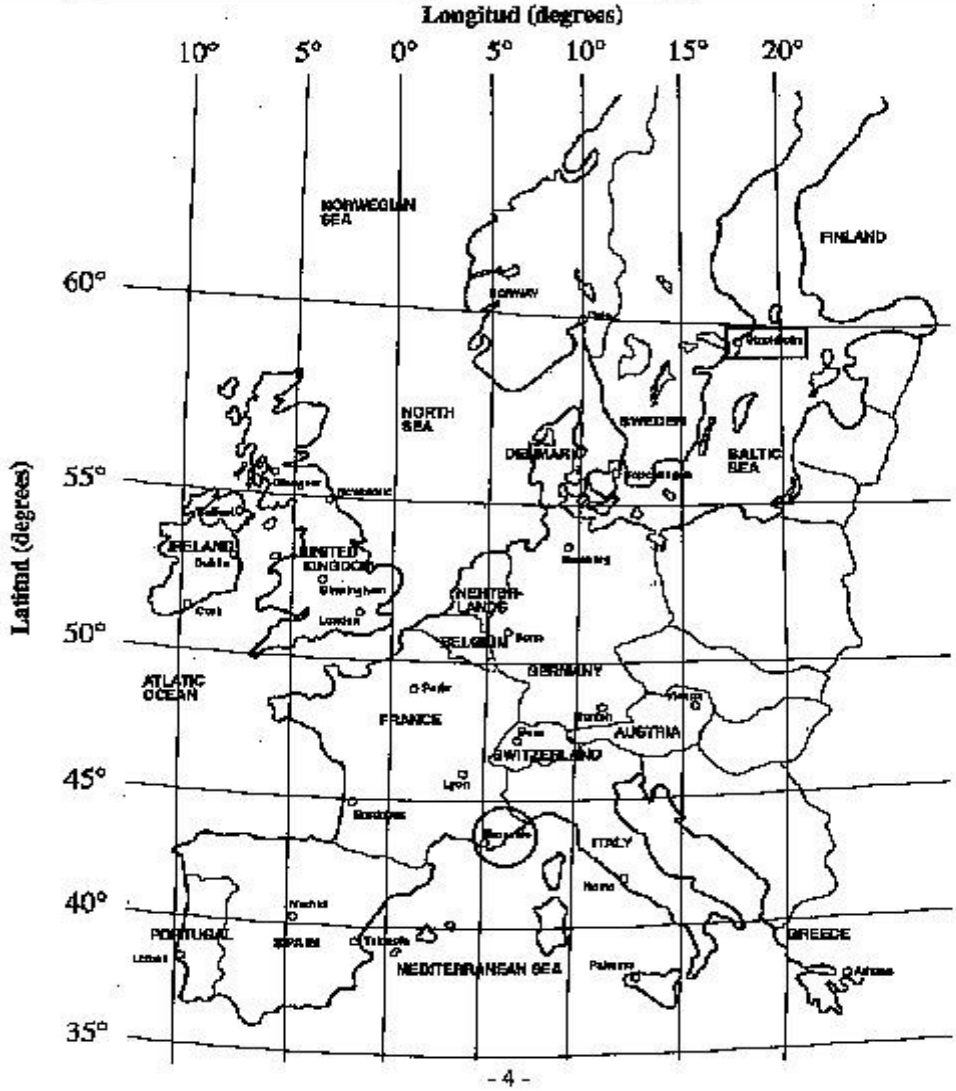
- Adjust the azimuth for best signal. Tighten the nuts.
- Repeat the procedure for the elevation. Tighten the nuts.
- Repeat if its necessary.

H - Fine adjustment of the LNB

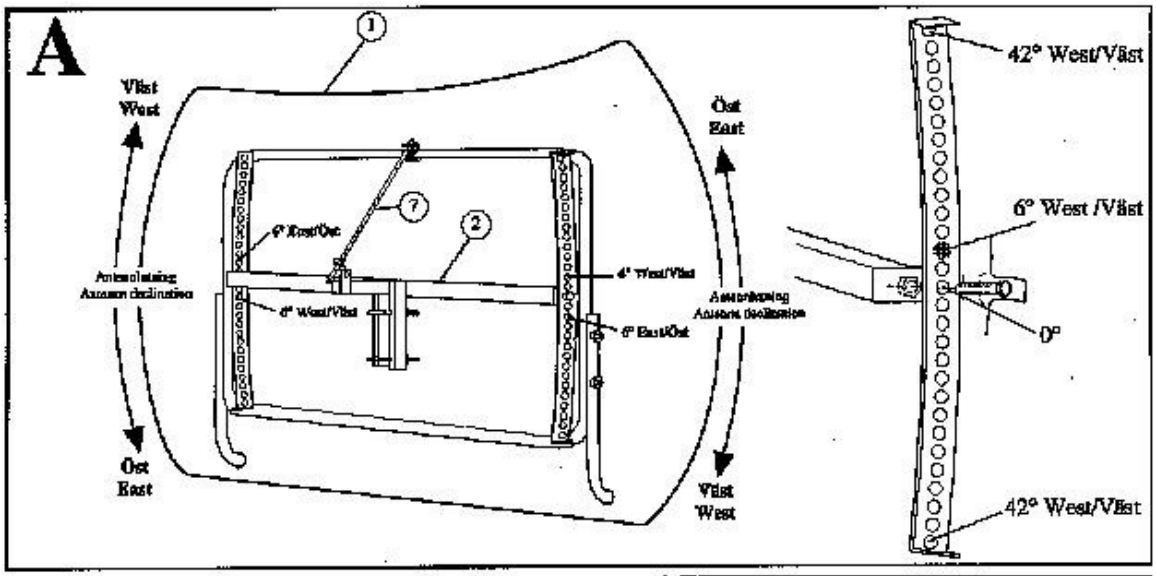
- Mount the remaining LNBs, see the figures.
- Fine adjust the LNB. Move the feed-fitting up and down for elevation and lateral for azimuth, *see figure D.*
- Fine adjust the polarizations for the LNBs.

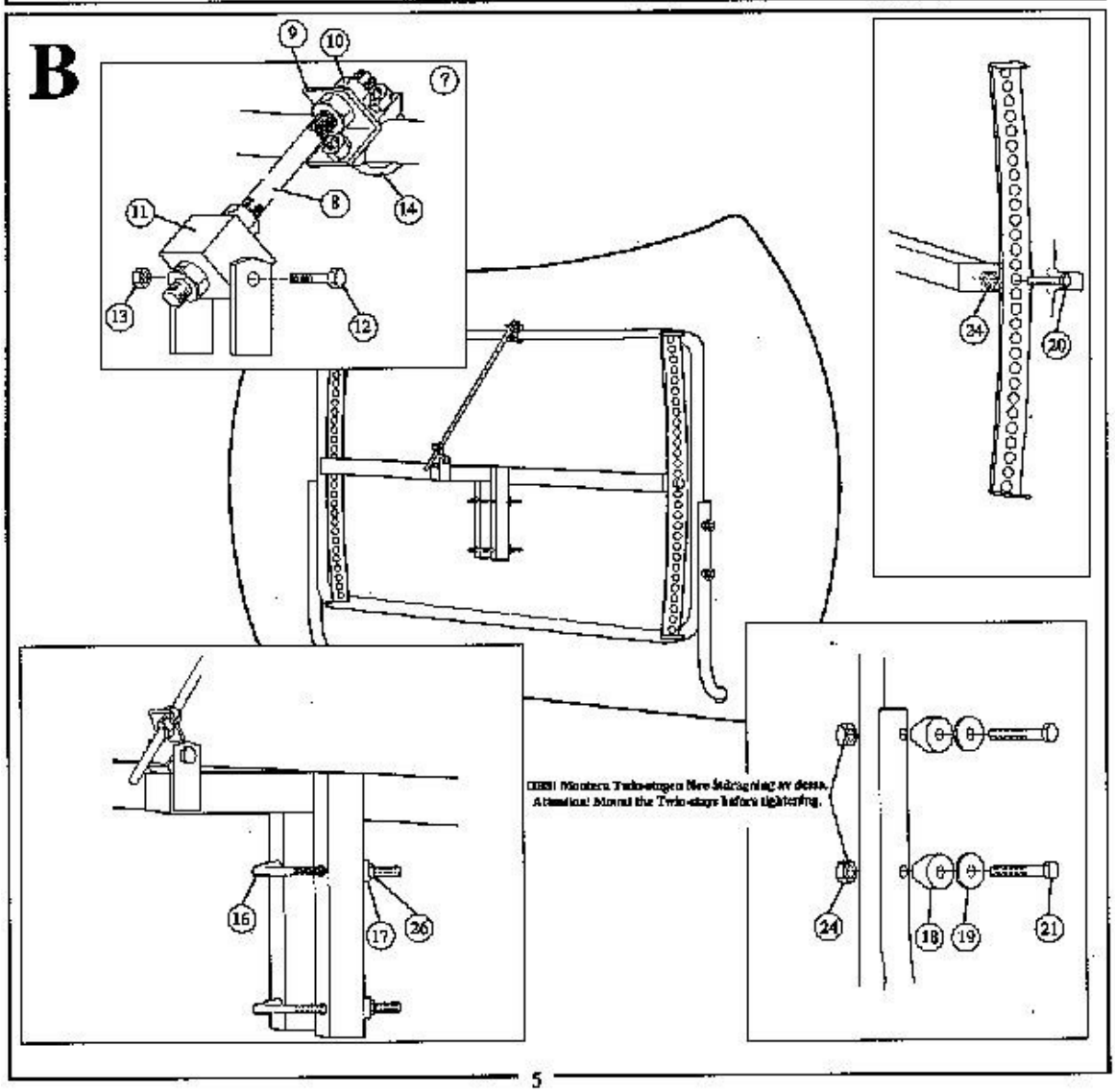
Longitudskillnad mellan "mittenpositionen" och antennposition (grader)
Longitud difference between the "middle position" and antenna location (degress)

Latitud (degress)	0	(5)	[10]	15	20	25	30	35	40	45	50
30	0	9	18	24	30	36	42	42			
32	0	9	15	21	30	33	39	42			
34	0	6	15	21	27	33	36	39	42		
36	0	6	12	21	24	30	36	39	42	42	
38	0	6	12	18	24	27	33	36	39	42	42
40	0	6	12	18	21	27	30	33	36	39	42
42	0	6	12	15	21	24	30	33	36	39	39
(44)	0	(6)	9	15	21	24	27	30	33	36	39
46	0	6	9	15	18	21	27	30	33	33	36
48	0	3	9	12	18	21	24	27	30	33	36
50	0	3	9	12	15	21	24	27	27	30	33
52	0	3	9	12	15	18	21	24	27	30	30
54	0	3	6	12	15	18	21	24	24	27	30
56	0	3	6	9	12	15	18	21	24	24	27
[58]	0	3	[6]	9	12	15	18	21	21	24	27
60	0	3	6	9	12	15	15	18	21	21	24
62	0	3	6	9	9	12	15	18	18	21	21
64	0	3	6	6	9	12	15	15	18	18	21
66	0	3	3	6	9	12	12	15	15	18	18
68	0	3	3	6	9	9	12	12	15	15	18
70	0	3	3	6	6	9	9	12	12	15	15



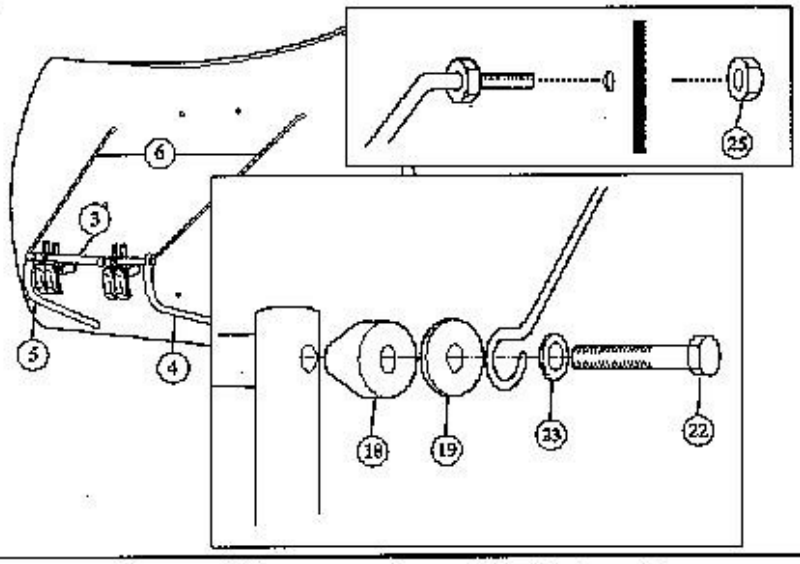
MONTERING - MOUNTING



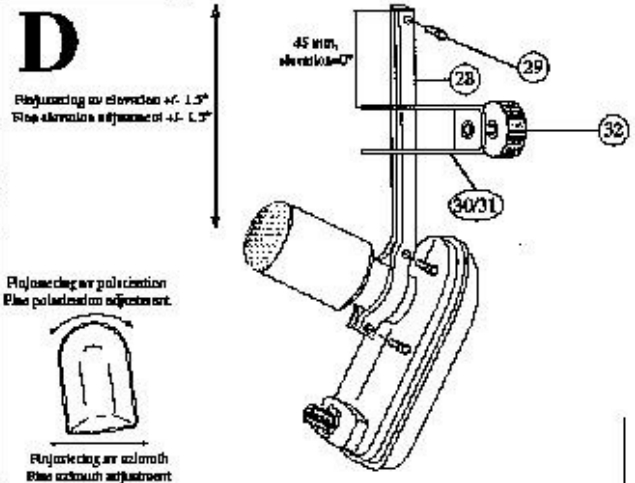


MONTERING - MOUNTING

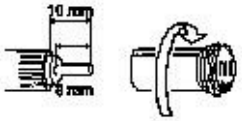
C



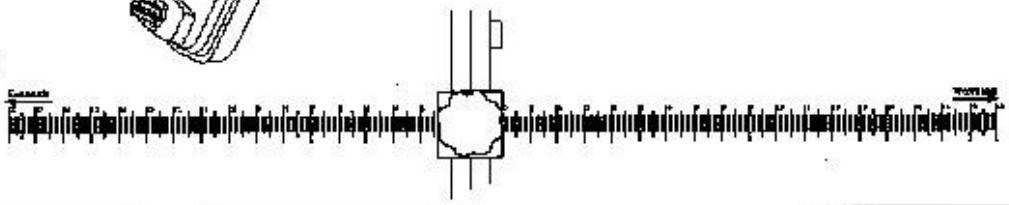
D



F-kontakt/connector



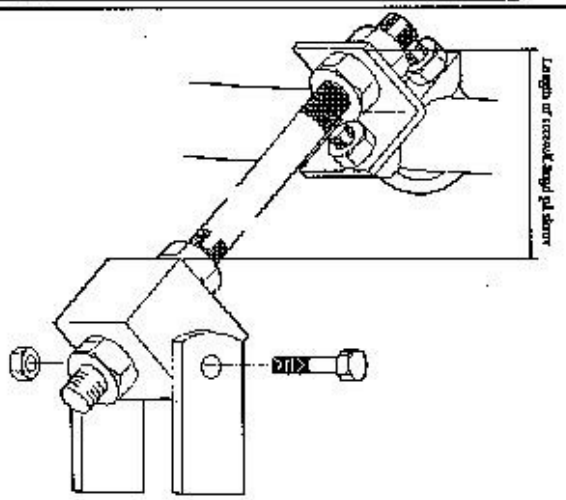
Använd 75 ohm koaxialkabel för anslutning mellan mikrovågshuvud och satellitmottagare. Montera en F-kontakt på kabeln för inkoppling till mikrovågshuvudet.
Use 75 ohm coaxial cable between the LNB and the satellite receiver. Fit an F-connector to the cable to connect it to the LNB.



E

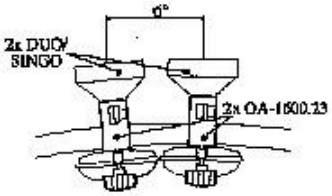
ELEVATION ADJUSTMENT
INJUSTERING AV ELEVATION

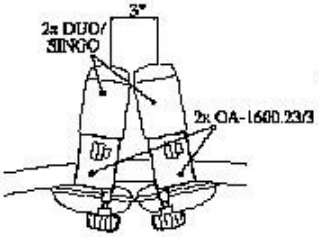
20°	7°	365 mm
22.5°	9.5°	354 mm
25°	12°	342 mm
27.5°	14.5°	331 mm
30°	17°	320 mm
32.5°	19.5°	309 mm
35°	22°	297 mm
37.5°	24.5°	286 mm
40°	27°	275 mm
42.5°	29.5°	264 mm
45°	32°	252 mm
47.5°	34.5°	241 mm
50°	37°	229 mm

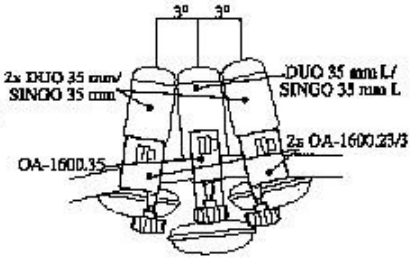


H

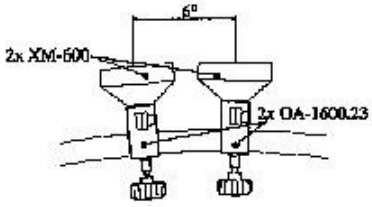
DTH RECEPTION/INDIVIDUELL MOTTAGNING

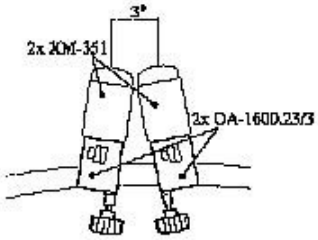


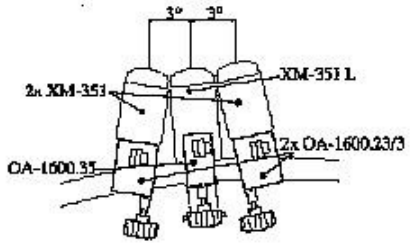




COLLECTIVE RECEPTION/KOLLEKTIV MOTTAGNING



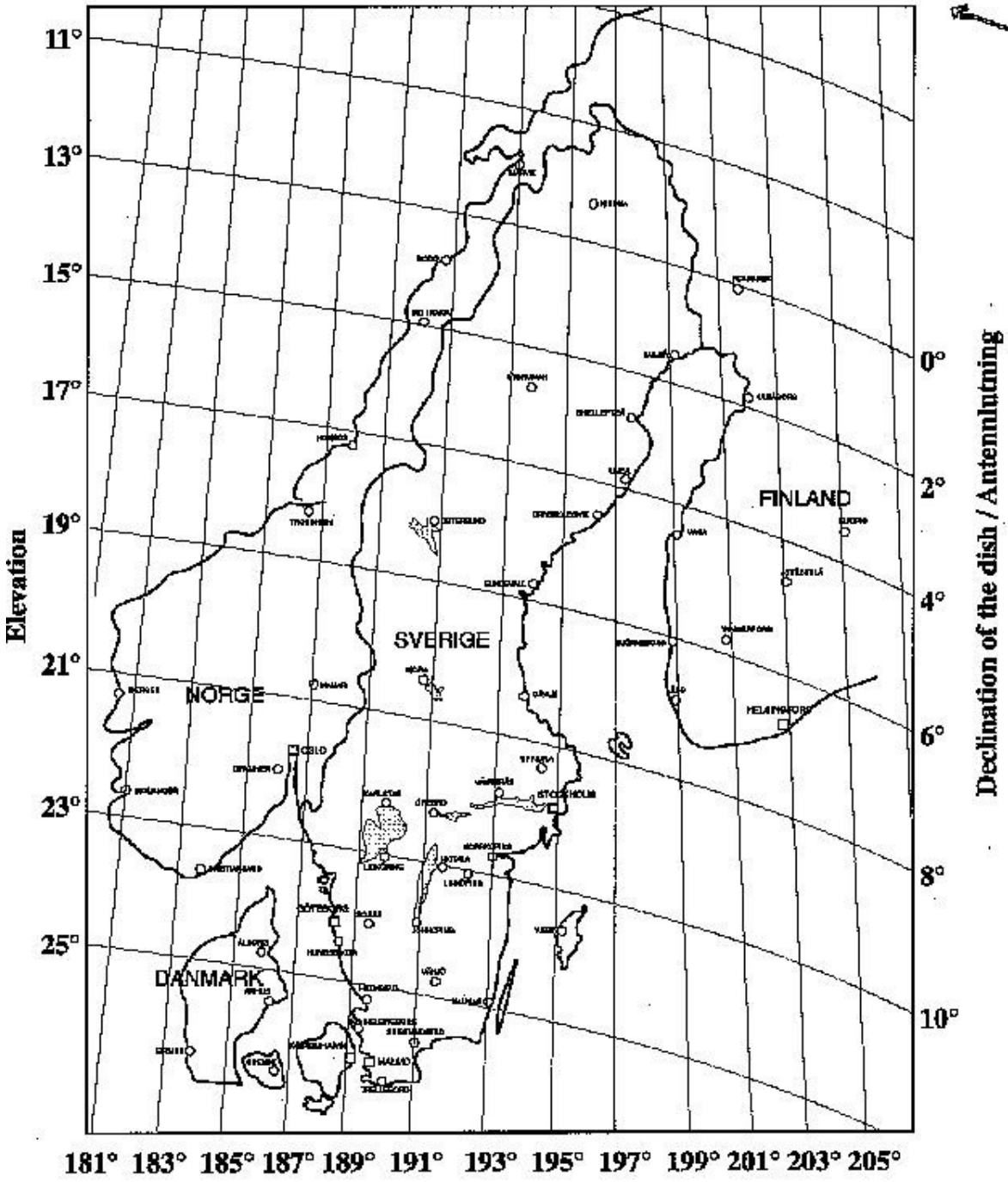




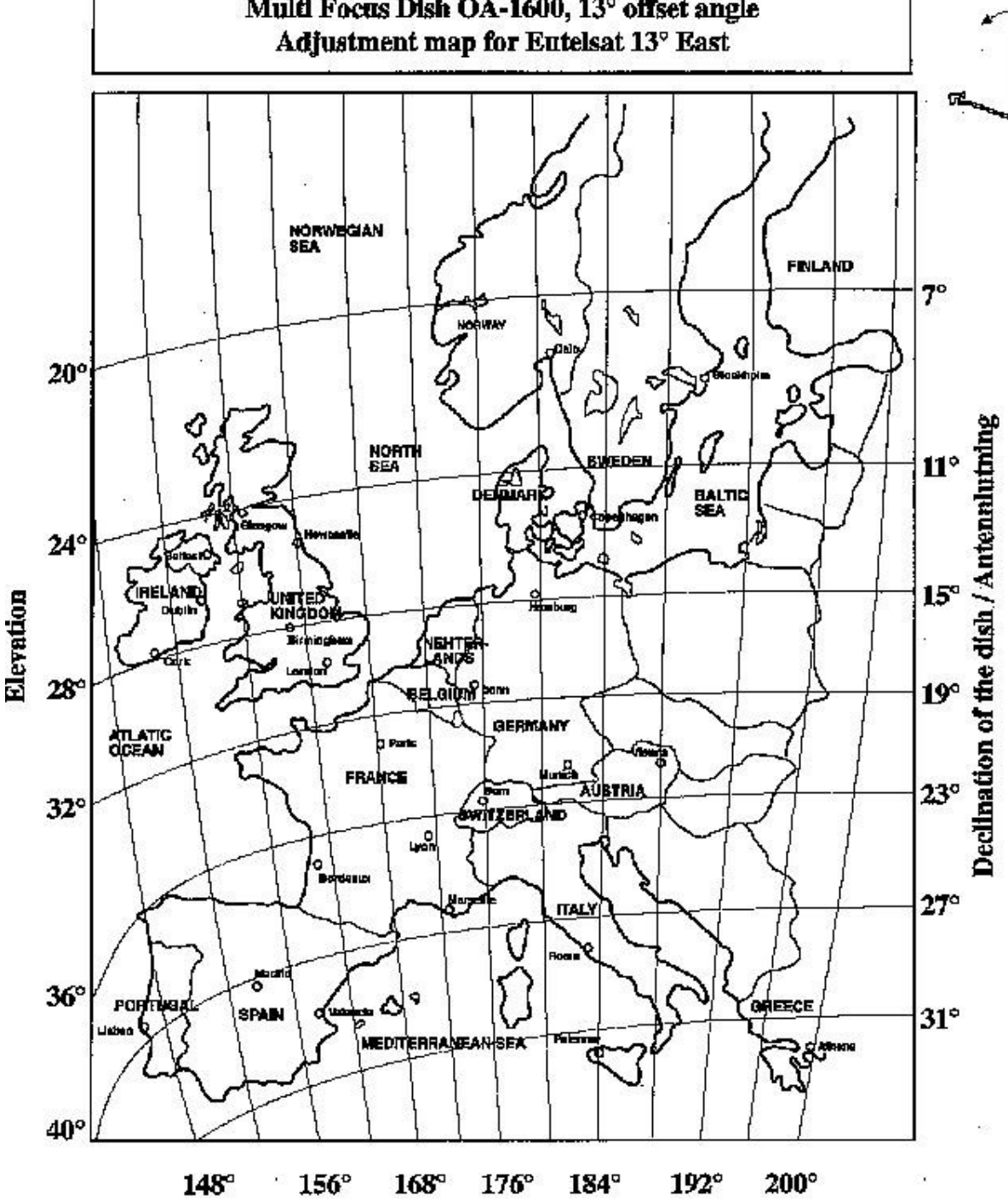
TILLBEHÖR/ACCESSORIES:

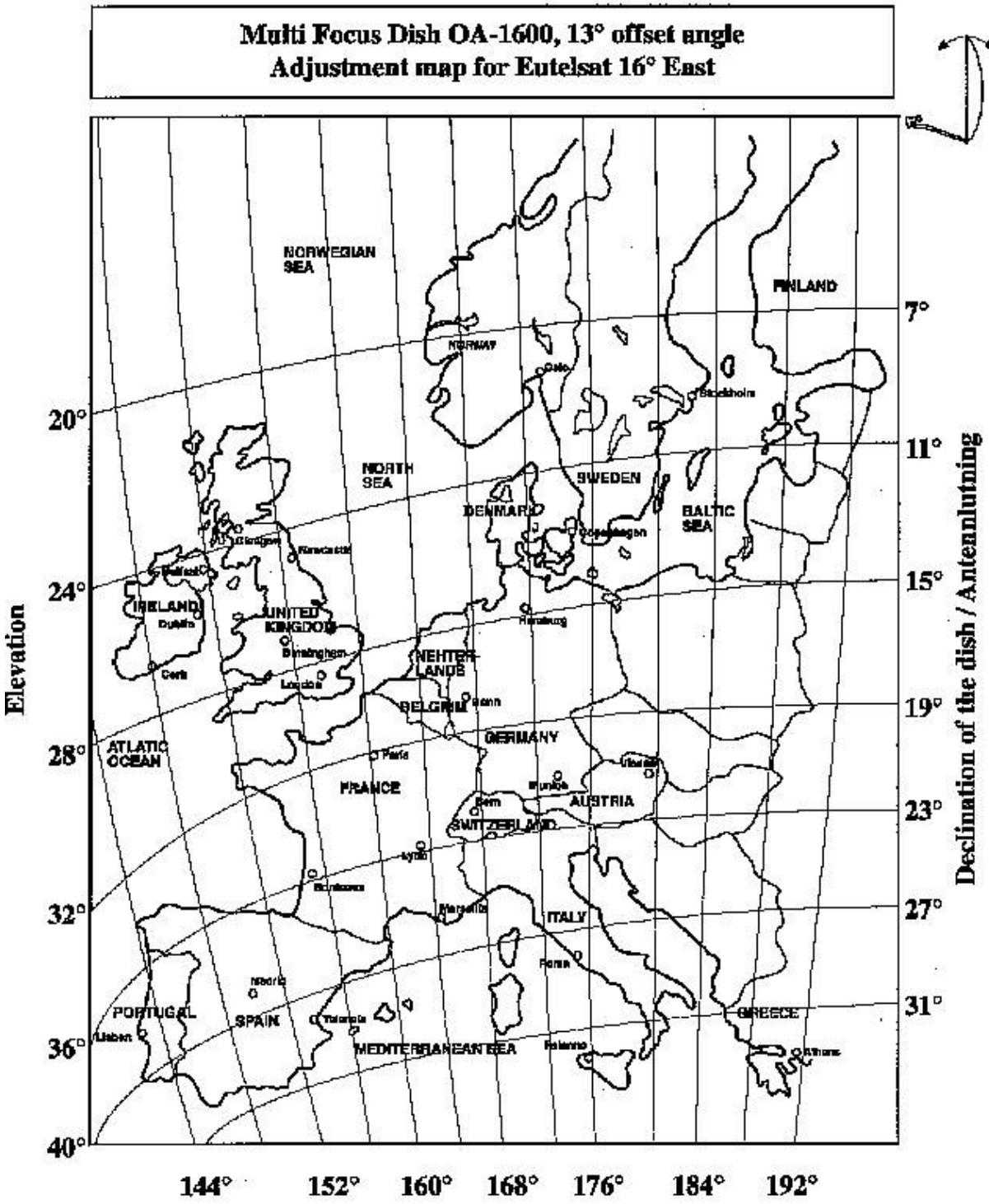
MATARHORN/FEEDHORN	MATARHORNSHÅLLARE/FEED FITTING
XM-600	Matarhornshållare rak/Feed fitting straight - OA-1600.23
XM-351	Matarhornshållare vinklad/Feed fitting slanted - OA-1600.23/3
XM-351 Long	Matarhornshållare rak 35 mm/Feed fitting straight 35 mm - OA-1600.35
XM-351 Long	Matarhornshållare vinklad 35 mm/Feed fitting slanted 35 mm - OA-1600.35/3

Multi Focus Dish OA-1600, 13° offset angle
Adjustment map for Sirius/Tele-X 5° East



Multi Focus Dish OA-1600, 13° offset angle
Adjustment map for Eutelsat 13° East




Multi Focus Dish OA-1600, 13° offset angle
Adjustment map for Eutelsat 16° East
NORWEGIAN SEA
FINLAND
NORWAY
Oslo
Stockholm
NORTH SEA
SWEDEN
DENMARK
BALTIC SEA
Copenhagen
IRELAND
UNITED KINGDOM
Dublin
Cork
Birmingham
London
NEHTER-LANDS
BELGIUM
GERMANY
ATLATIC OCEAN
Paris
FRANCE
Munich
AUSTRIA
SWITZERLAND
Lyon
Marseille
ITALY
Rome
Madrid
PORTUGAL
SPAIN
Lisbon
Palermo
GREECE
Athens
MEDITERRANEAN SEA
20°
24°
28°
32°
36°
40°
7°
11°
15°
19°
23°
27°
31°
144°
152°
160°
168°
176°
184°
192°
Elevation
Declination of the dish / Antennlutning
Azimuth (Compass bearing / Kompassriktning)

The design is a combination of an offset parabolic and spherical dish,which allows multi satellite reception maintaining a high efficiency for all satellites received.

Due to the design,loses normally suffered when using multi feeds on a conventional dish,will be minimized.The satellite range spans over 26°i.e. all satellites positioned 26°on the geostationary orbit could be received - ALL WITH THE SAME HIGH EFFICIENCY !!!

Up to nine /9/ FEED WITH LNB can be attached to the dish.Each focal point of the SMW OA 1600 is equivalent to a 100 cm normal offset dish.Theoretical it aquals nine 100 cm,each one directed to nine different positions 3° apart . Mounts and fittings are corrosion-proof and of heavy duty design.