

# OPERATION MANUAL

## **H-422**

### 40/20/15/10M Quad-Band Trapped Dipole Antenna

#### **Features:**

1. New compact design for even the most restrictive mounting locations, providing wide band-width in a small footprint.
2. Assemble as either a “straight” dipole, and/or in a “V” configuration. When assembled in the “V” shape, good performance is provided even from a minimum height of only 10 feet!
3. CBL-2000 high power 2kW/SSB balun is included, and helps to prevent TVI and other interference.
4. Specially designed high power traps assure constant high power QSOs
5. Three radiator lengths - Low - Mid - High – are illustrated for easy tuning.

#### **Specifications:**

Frequencies:	7, 14, 21, 28MHz
Impedance:	50 Ohm
VSWR:	Less than 1.5:1 at center frequency
Max Power Input:	1kW SSB / 500W FM
Max Wind Survival:	67MPH
Wind Load:	3.01 sq ft
Length:	33' 10" (straight assembly) 24' 5" (V assembly)
Weight:	11' 14"
Rotation Radius:	17' 5" (straight assembly) 12' 6" (V assembly)
Req'd Mount Mast:	1.5" – 2.5" diameter

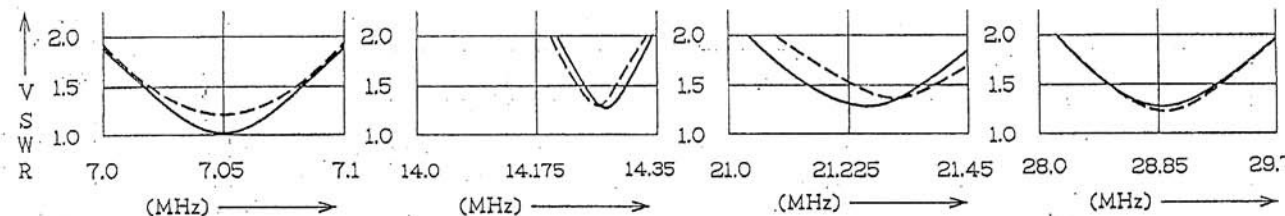
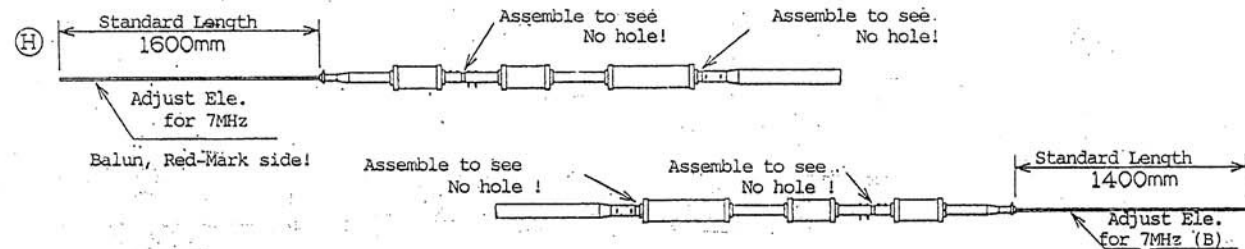
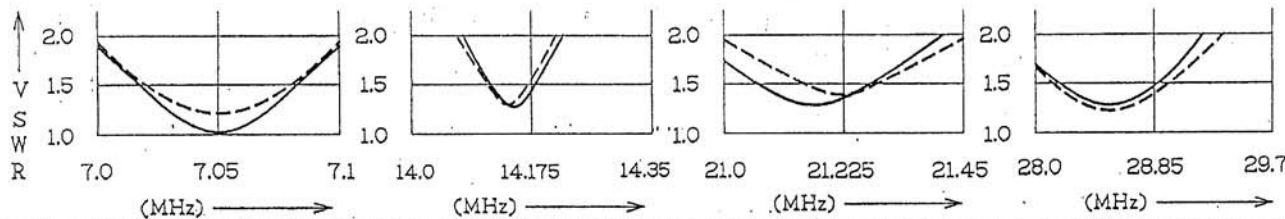
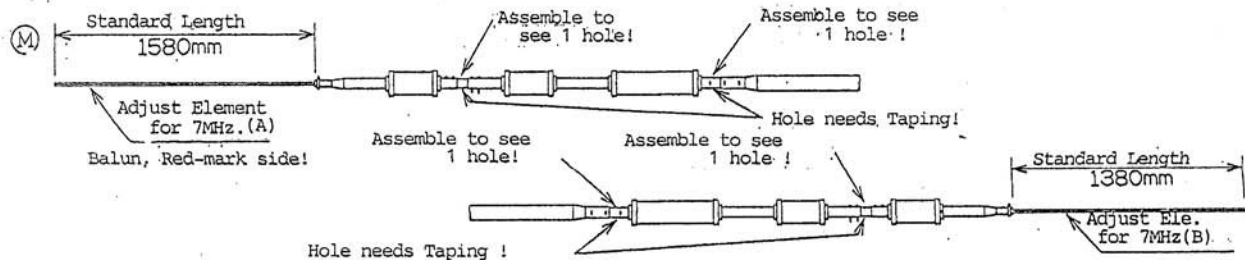
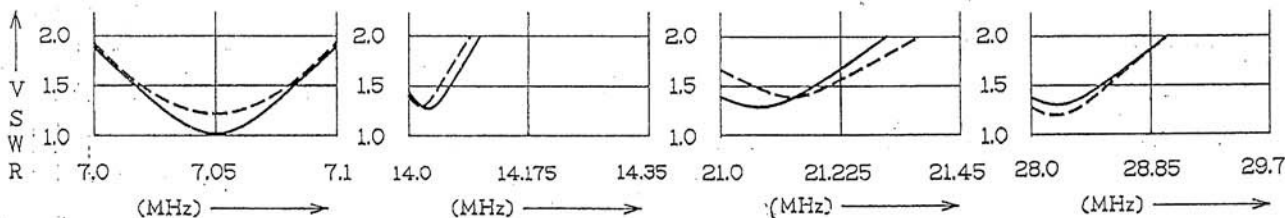
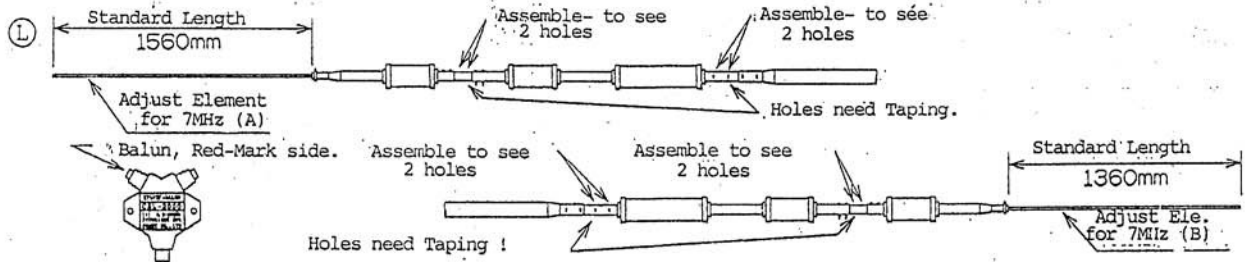
● Measurement & SWR Characters.  
(Streight - Type)

⊙ CW-operation - (L) location

⊙ SSB-operation - (M) location

⊙ FM(28MHz) (H) location

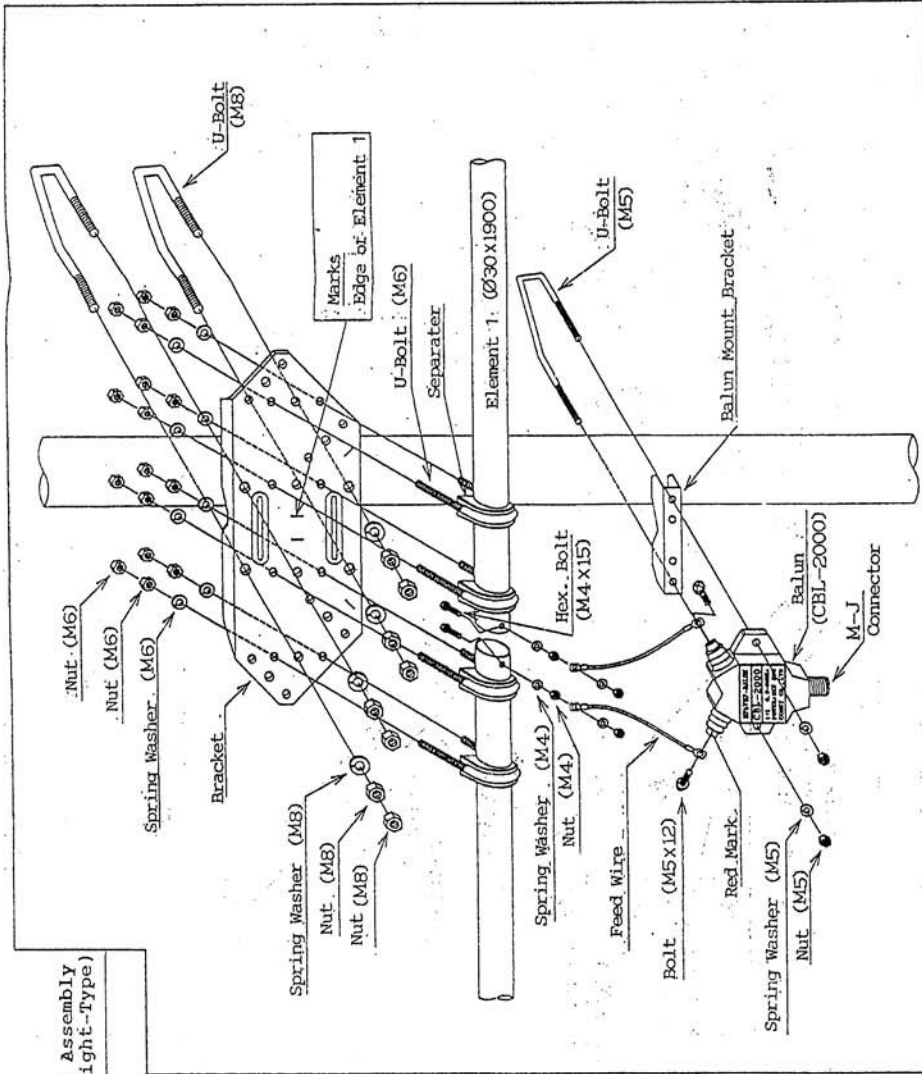
—— 20m high from ground.    - - - - 5m high from ground.



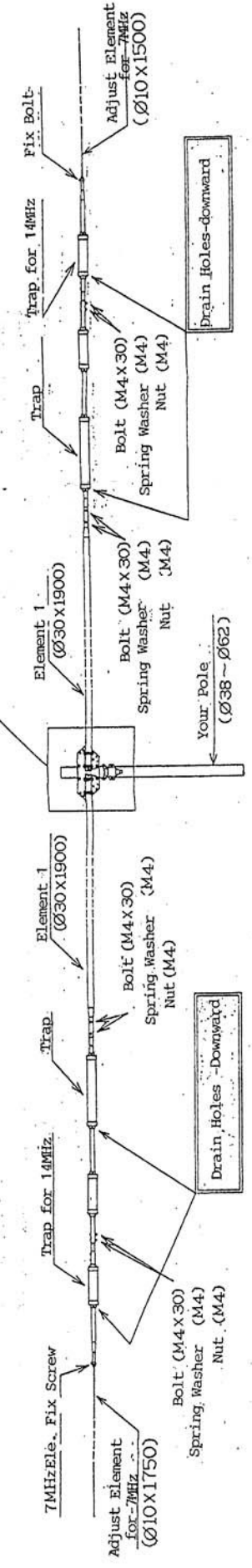
\*\* You can change Center freq. of 7MHz by sliding the 7MHz Adjust Element, without any influence to other frequencies.  
 \*\* Shift of 7MHz band per each 1cm, is 15KHz.  
 \*\* Difference of Left & Right 7MHz element is to be 200mm constantly.

★ PARTS' LIST

Nos.	Parts' Names	Qty.
1	Element 1 (Ø30 x 1900)	2
2	Trap	2
3	Trap for 14MHz	2
4-1	Adjust Element for 7MHz (Ø10x1500)	1
4-2	Adjust Element for 7MHz (Ø10x1750)	1
5	Mounting Bracket Assembly	1
5-1	Bracket	1
5-2	Separator	4
5-3	U-Bolt (M6)	4
5-4	Spring Washer (M6)	8
5-5	Nut (M6)	16
5-6	U-Bolt (M8)	2
5-7	Spring Washer (M8)	4
5-8	Nut (M8)	8
6	Parts for Element Assembling	8
6-1	Bolt (M4 x 30)	8
6-2	Hex. Bolt (M4 x 15)	2
6-3	Spring Washer (M4)	12
6-4	Nut (M4)	12
7	Balun Mounting	1
7-1	Balun CBL-2000	1
7-2	Balun Mount Bracket	1
7-3	U-Bolt (M5)	1
7-4	Spring Washer (M5)	2
7-5	Nut (M5)	2
7-6	Bolt (M5x12)	2
7-7	Feed Wire (w/contal. nut)	2



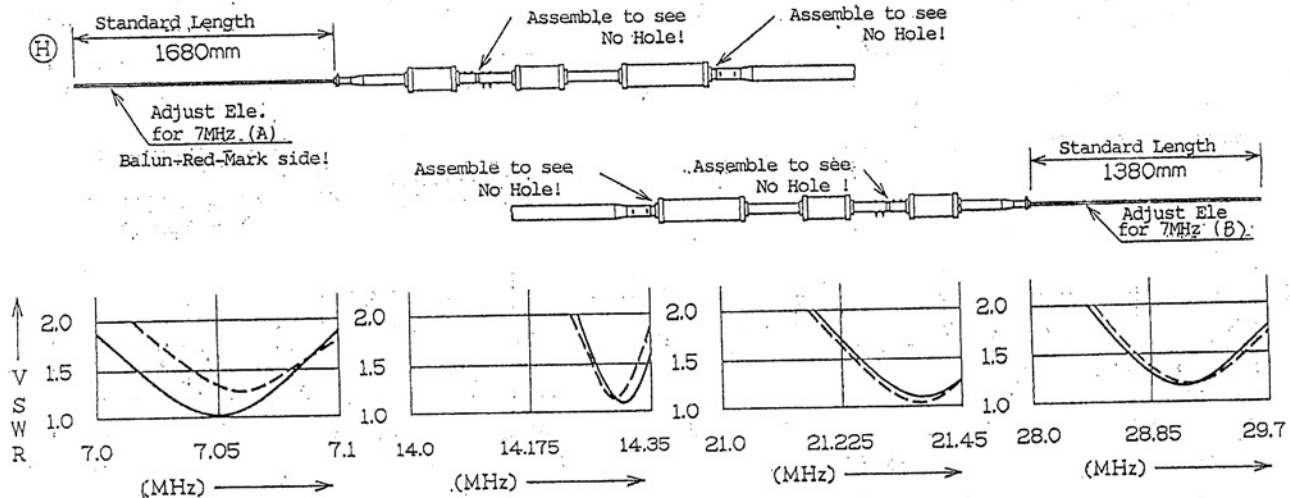
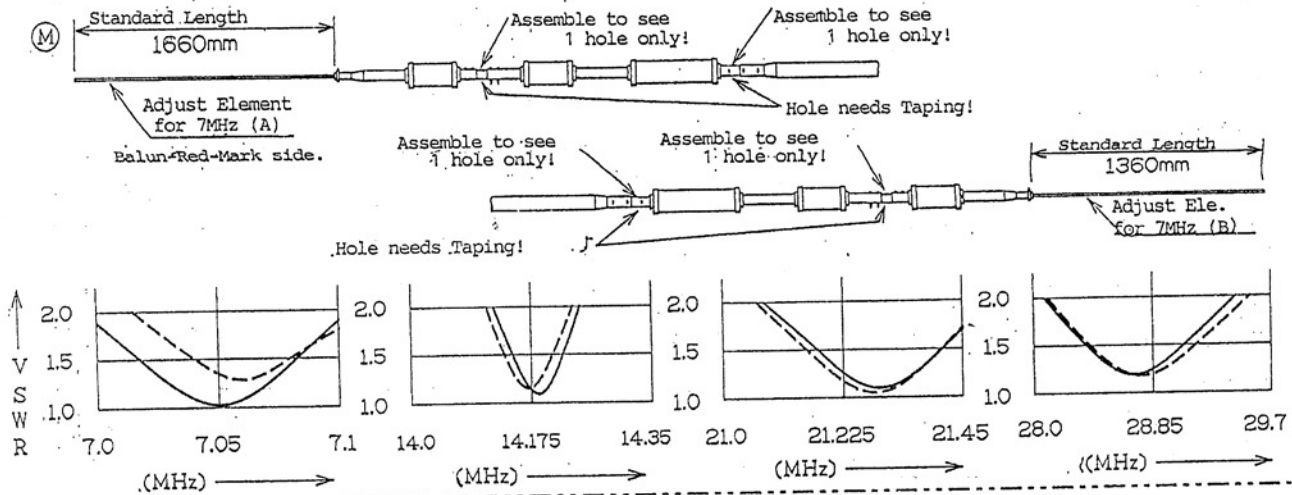
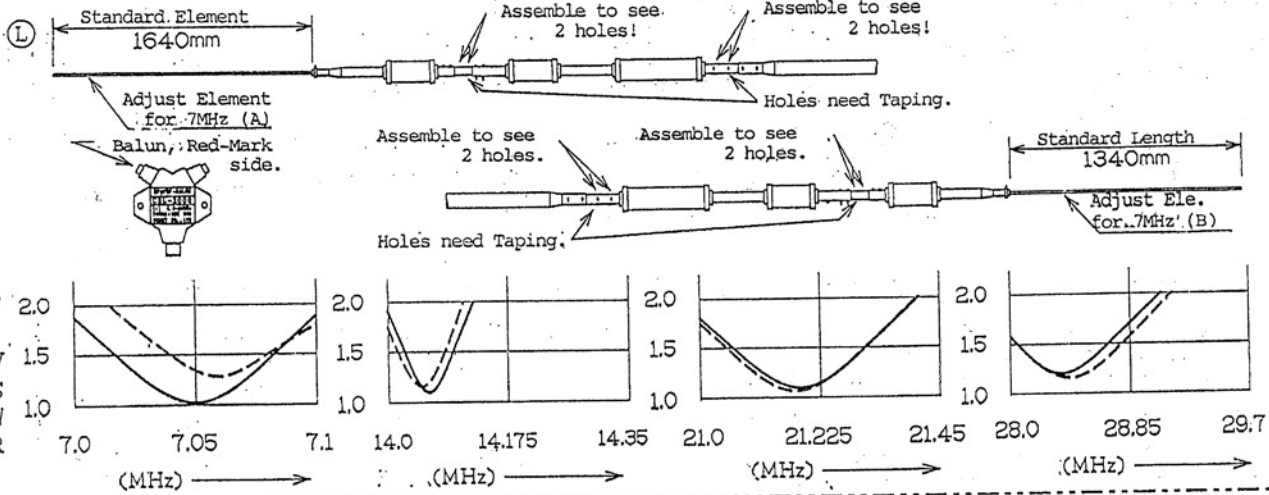
★ FULL Assembly (Straight-Type)



● Measurement & SWR Characters  
( V-type )

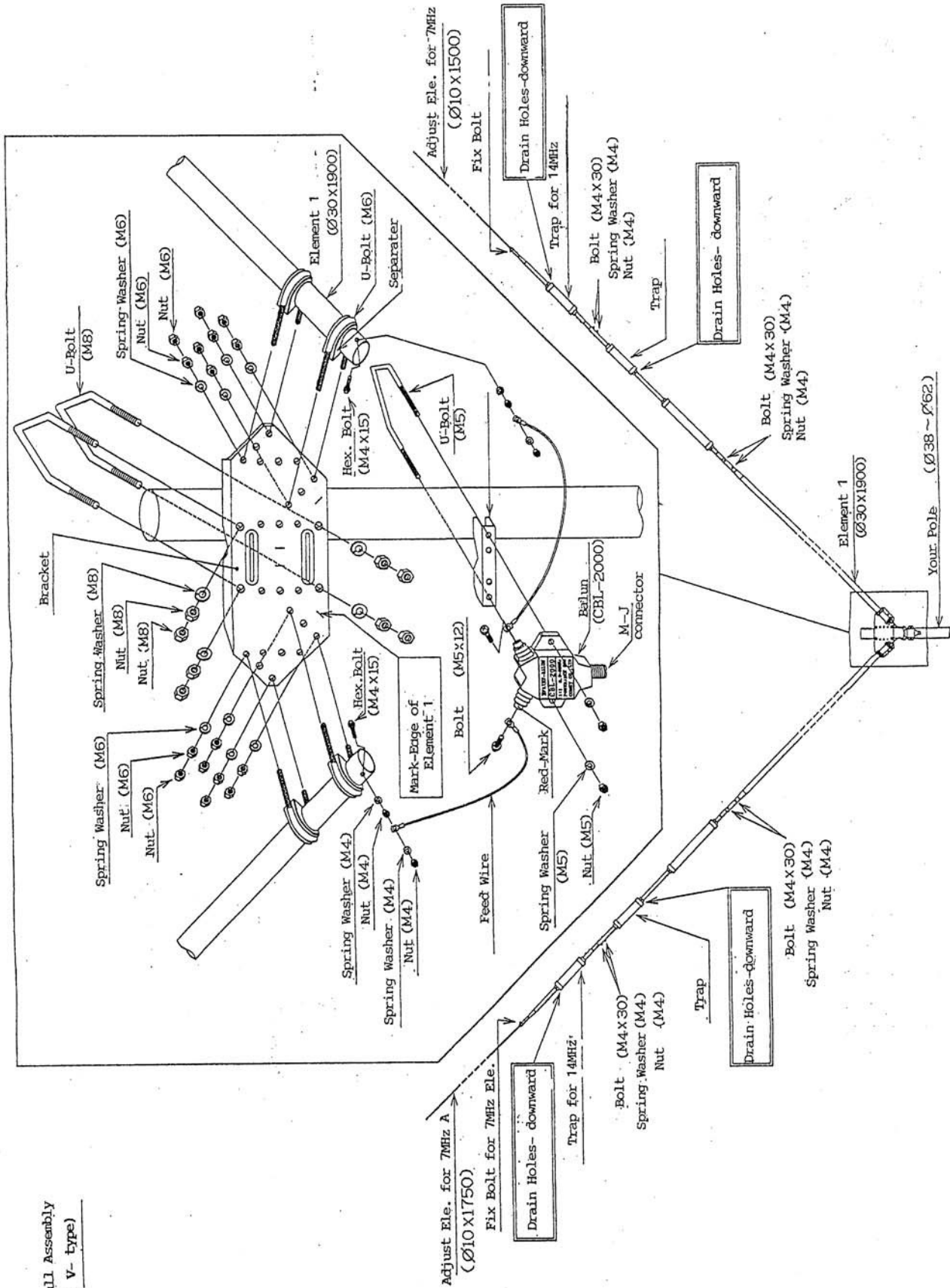
- ⊙ CW-operation - (L) location
- ⊙ SSB-operation - (M) location
- ⊙ FM(28MHz) - (H) location

———— 20m high from ground    - - - - 5m high from ground



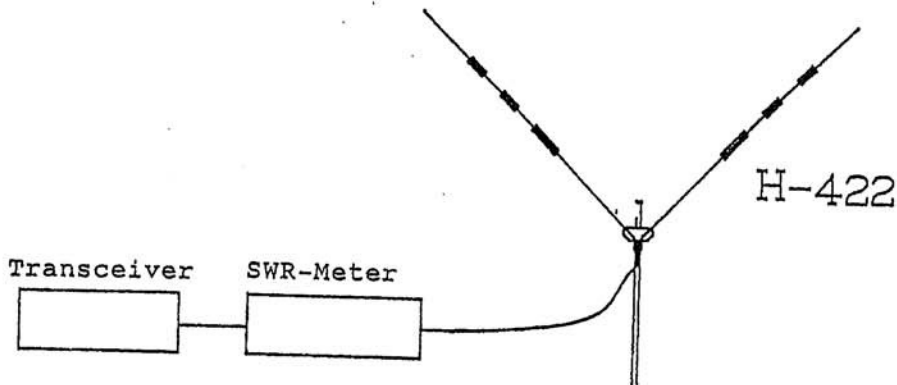
\*\* You can change Center Freq. of 7MHz by sliding the 7MHz adjust Element, without any influence to other frequencies.  
 \*\* Shift of 7MHz band per each 1cm, is 15KHz.  
 \*\* Difference of Left & Right 7MHz Element is to be 300mm.

★ Full Assembly  
( V-type )



Frequency Adjustment:

- 1) Please connect SWR meter between H-422 and transceiver, as shown below:



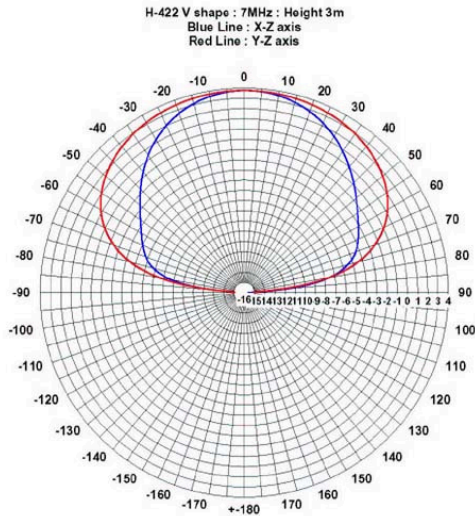
- 2) 14, 21 and 28MHz are Wide bands, then No Frequency adjustment is necessary. But, kindly check which location of is preferred.
- 3) Antenna location may give great influences on the 7MHz band. Then, adjust the length of 7MHz Adjust Ele. of both (A) & (B) watching your SWR meter.  
Element sliding of 1cm can change teh freq. of 15KHz.

Remarks:

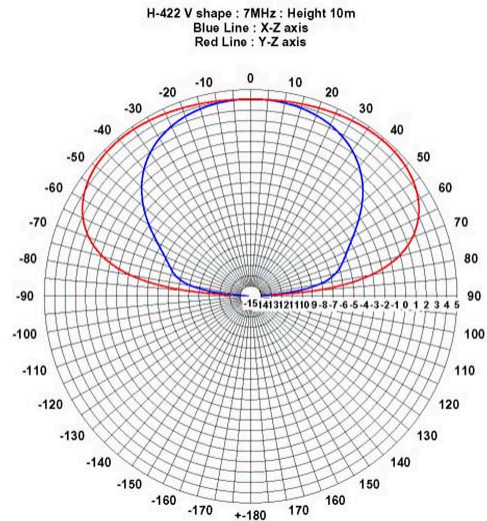
- 1) Drain Holes on the Trap coils must be assembled to face Downward, to prevent water-inflow.
- 2) Kindly proceed necessary Water-Proof works, on the cable-joint section etc., using self-melting tape and/or vinyl tapes.



## 40M band angle of radiation in the horizontal (straight) configuration

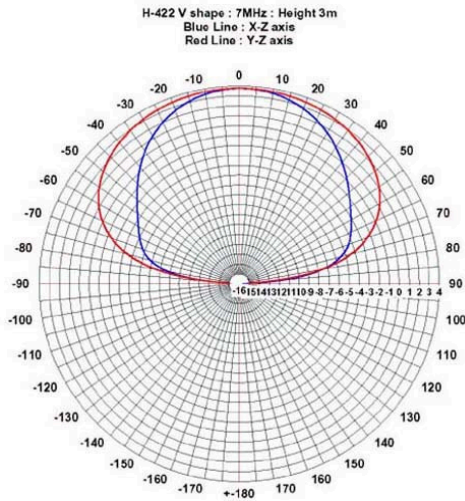


10 feet above ground

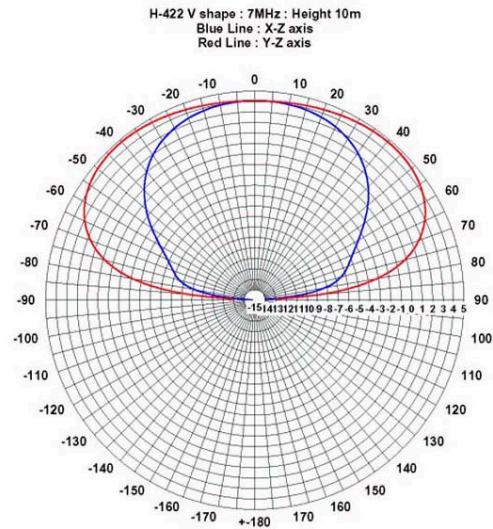


33 feet above ground

## 40M band angle of radiation in the “V” configuration



10 feet above ground



33 feet above ground