



**Outline House 73 Guildford Street, Chertsey, Surrey KT16 9AS**

Tel: 0845 2300 599 Fax 0845 2300 339 e-mail: [sales@hamradio.co.uk](mailto:sales@hamradio.co.uk) Web: [www.hamradio.co.uk](http://www.hamradio.co.uk)

## Maldol HVU-8 Antenna Instructions

### Fine Tuning Instructions:

1. Set up the antenna as close to its' final position as possible. SWR on some bands may be affected by ground effects. If you are making the adjustments close to the ground adjust for best SWR and check actual value in the elevated position.
2. Adjustment is achieved more easily using an antenna analyser. If one is not available a transmitter, set on low power, and suitable SWR meter can be used.
3. Start at the lowest frequency band (longest wavelength) and adjust completely on that band **before** moving up to the next band. **This is critical to the success of the tuning operation.** The first step (3.5 MHz) is especially critical.
4. Adjust the element lengths in steps of not more than 1cm at a time.
5. Although specimen lengths appear in the manufacturers instruction sheet there will be variations due to component tolerances and choice of centre frequencies.

Specimen lengths of exposed wire elements		
Band	Radiator	Radial
3.5 MHz	710mm	680mm
7 MHz	230 mm	230 mm
14 MHz	206 mm	210 mm
21 MHz	288 mm	633 mm
28 MHz	244 mm	765 mm
50 MHz	None	560 mm

### Assembly Instructions:

Please view Page 2 – Page 5 on assembling the Maldol HVU-8 Antenna and then refer to the Fine Tuning Instructions above.

3.5/7/14/21/28/50/144/430MHz

## **HVU-8**

### **Owner's Manual**

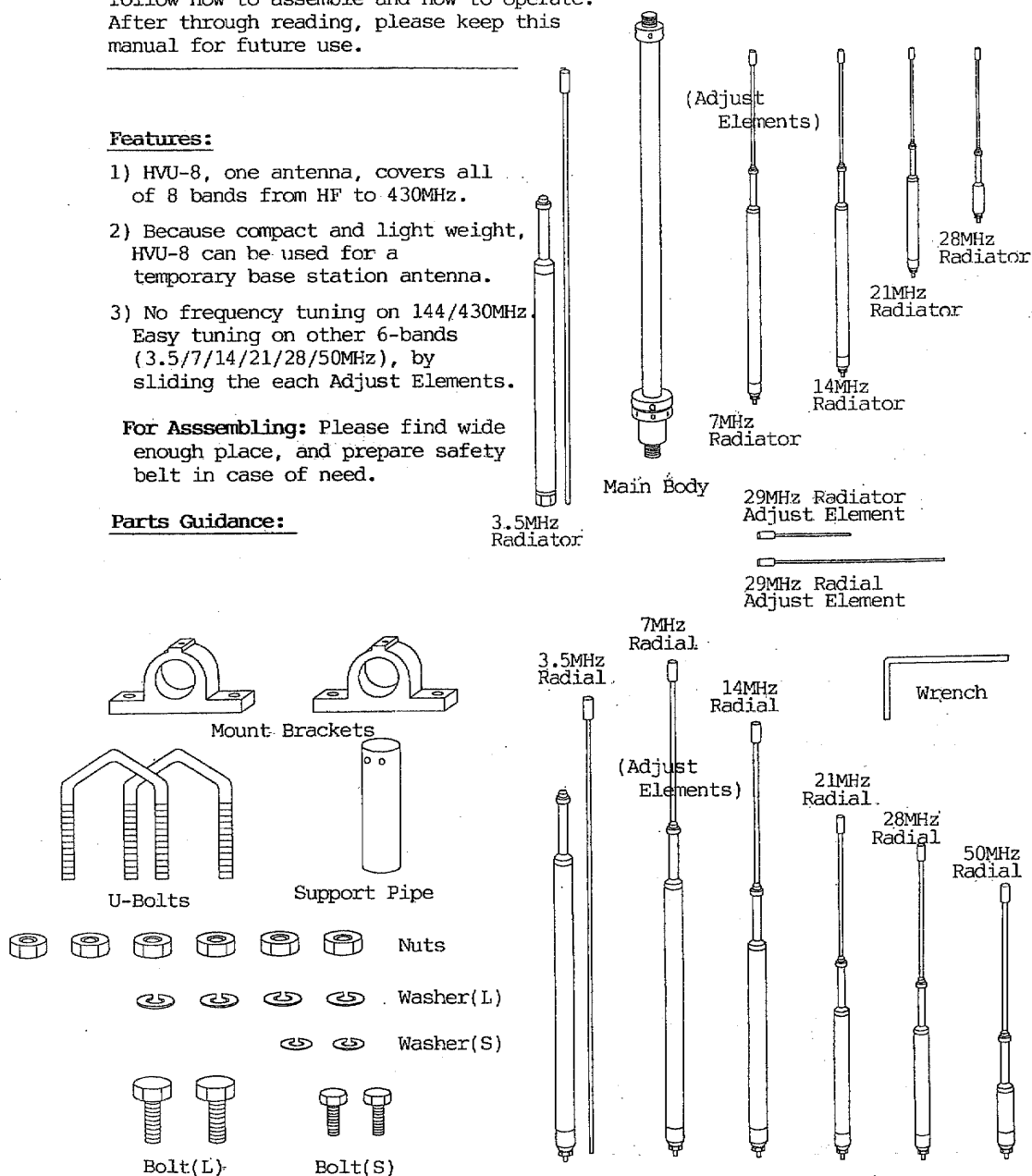
We thank you very much for using Maldol HVU-8 antenna- the high efficient, but compact 8-bands base station antenna. Please read through the manual, and follow how to assemble and how to operate. After through reading, please keep this manual for future use.

#### **Features:**

- 1) HVU-8, one antenna, covers all of 8 bands from HF to 430MHz.
- 2) Because compact and light weight, HVU-8 can be used for a temporary base station antenna.
- 3) No frequency tuning on 144/430MHz. Easy tuning on other 6-bands (3.5/7/14/21/28/50MHz), by sliding the each Adjust Elements.

**For Asssembling:** Please find wide enough place, and prepare safety belt in case of need.

#### **Parts Guidance:**



# ML&S martin lynch & sons

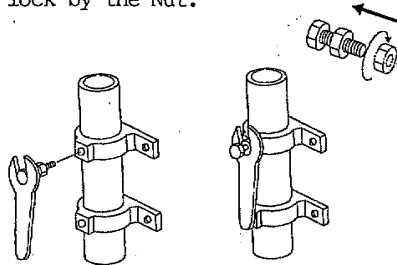
Suppliers of Communications Equipment

**Outline House 73 Guildford Street, Chertsey, Surrey KT16 9AS**

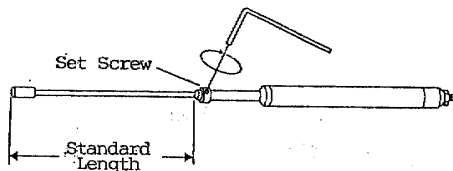
Tel: 0845 2300 599 Fax 0845 2300 339 e-mail: [sales@hamradio.co.uk](mailto:sales@hamradio.co.uk) Web: [www.hamradio.co.uk](http://www.hamradio.co.uk)

## Assembling & Mounting Works:

- 1) Please make 2 sets assemblies of Bolt(L) and Nut.
- 2) Assemble Mount Brackets to the Support Pipe. Fasten the Bolt(L) and lock by the Nut.



- 3) Then, mount above assemblies firmly to your mast ( $\phi 25$  to  $\phi 60$ mm), with U-Bolt, Washer(L), Nut(L).
- 4) Please confirm Standard Length of each Adjust Elements, and fix each Screws firmly by the Wrench.



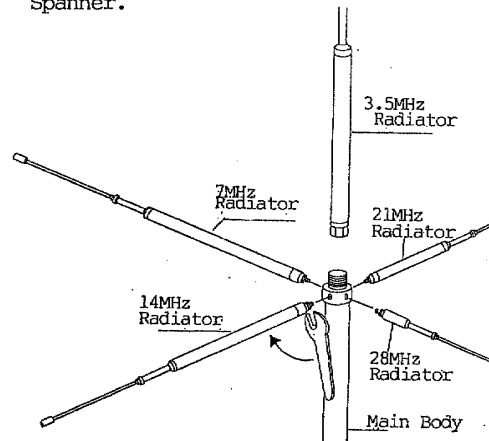
Frequency is indicated on each parts. Radiators and Radials look similar, but Screws of Radials are larger than the Radiators.

- \* Adjust Elements of 3.5MHz Radiator and Radials were partially packed together with each coils. Right after taking them out from the bags, assemble them immediately for the prevention of mixing use.
- \* When operating 29MHz/FM, please change to use short Adjust Elements. Radiator Element is 175mm, and Radial Element is 610mm.

3.5MHz	Radiator	765mm
	Radial	765mm
7MHz	Radiator	260mm
	Radial	310mm
14MHz	Radiator	260mm
	Radial	255mm
21MHz	Radiator	345mm
	Radial	830mm
28MHz	Radiator	245mm
	Radial	765mm
50MHz	Radiator	540mm
	Radial	540mm
29MHz (FM)	Radiator	160mm
	Radial	695mm

- 5) Then, assemble each Radiators to the Main Body.

\* When assembling, firstly fasten the screws by hands, then lock the Nuts tightly by the Spanner.

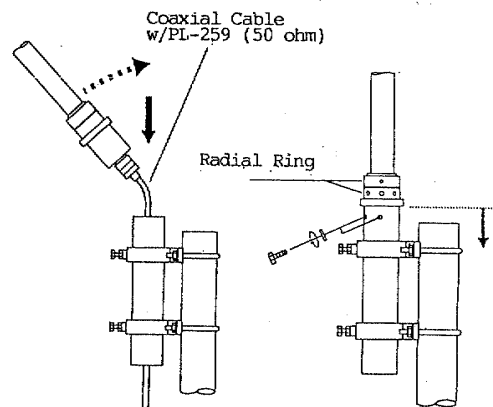


- 6) Pass your coax. cable through the Support Pipe and assemble to the Power Feeding Section.

\* Please use Self Melting Tape etc. for complete water-proof.

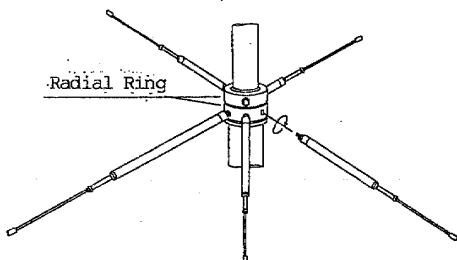
- 7) Please insert the end of antenna Main Body to the Support Pipe. Then, fix it to the Pipe with Bolt(S) and Washer (S).

\* The top end of the Mast is to be lower than the Radial Ring of the antenna Main Body.



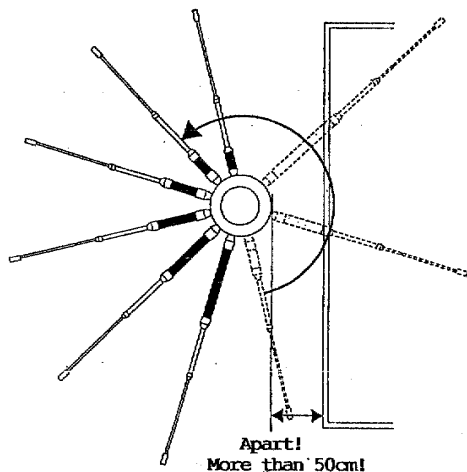
- 8) Then, assemble all radials- 3-radials on each Radial Rings.

Turn the Radial Rings and adjust radial location to keep uniform angles.



\* When using the antenna at veranda etc., you can adjust direction of radials to one-side, by turning the Rings. In this case, please locate 50MHz radial apart from 14MHz.

It may be, some occasion, difficult to tune good SWR on 50MHz.



#### Frequency Adjustment:

Please proceed adjustment at lower power than 10W.

\* When using antenna tuner, please adjust under 'Through' condition.

- 1) Please confirm SWR of 144/430MHz.
- 2) Slide Radial Element of 50MHz, and fix at the desired frequency.

- 3) Then, start adjustment from 28MHz, then 21, 14, 7 and 3.5MHz finally. Extend the Adjust Element of Radiator for lowering frequency, and shorten for higher frequency. When it is difficult to adjust less than 1.5, please fix the element at the lowest point.

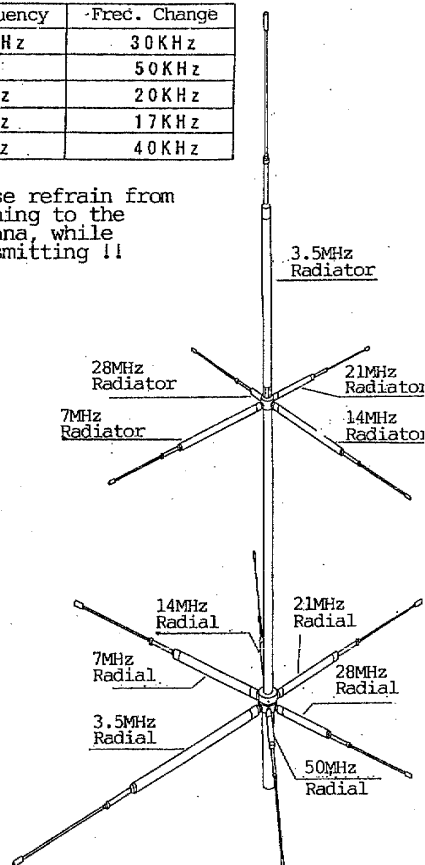
- 4) Sliding the Radial Element, please continue adjustment, then fix the element at the lower point than 1.5.

- 5) After above adjustment, please thoroughly check and confirm all VSWR, and proceed finer tuning.

Frequency change of Radiator Adjust Elements, per each 1cm

Frequency	Frec. Change
3.5MHz	30KHz
7MHz	50KHz
14MHz	20KHz
21MHz	17KHz
28MHz	40KHz

\*Please refrain from touching to the antenna, while transmitting !!



\* Operation at SWR 1.5 or less is considered as idealistic.

However, depending on the locations or conditions, it may be difficult to adjust SWR lower than 1.5

Normally, SWR 2.0 is considered as acceptable level.



**Outline House 73 Guildford Street, Chertsey, Surrey KT16 9AS**

Tel: 0845 2300 599 Fax 0845 2300 339 e-mail: [sales@hamradio.co.uk](mailto:sales@hamradio.co.uk) Web: [www.hamradio.co.uk](http://www.hamradio.co.uk)

## HVU-8

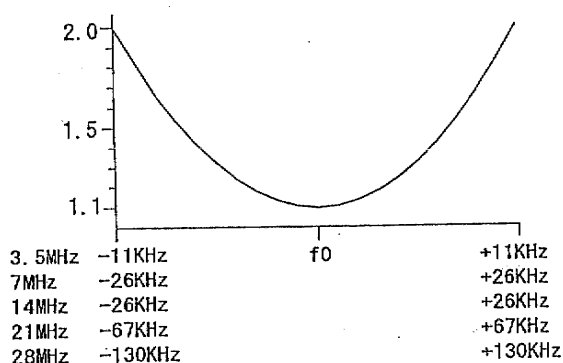
Owner's Manual

**Maldol**

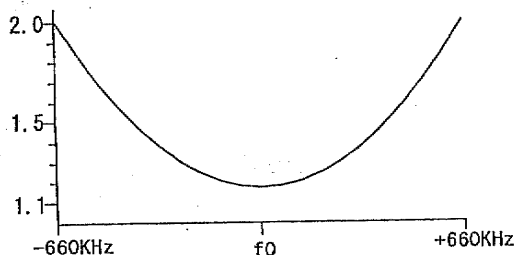
3.5/7/14/21/28/50/144/430MHz- 8 BANDS BASE STATION ANTENNA

### V. SWR Characters:

#### HF - Bands



#### 50 MHz



### Specifications:

Frequencies (MHz) :	3.500- 3.575
	7.00 - 7.10
	14.00 - 14.35
	21.00 - 21.45
	28.00 - 29.70
	50.00 - 52.00
	144.00 - 146.00
	430.00 - 440.00
Type & Gain :	1/4wave HF-50MHz
	2.15dBi 1/2 " 144MHz
	5.5dBi 5/8x2 430MHz
V. SWR :	Less than 1.5 at f0 frequency
Impedance :	50 ohm
Max in-put Power :	200W/A3J - HF bands
	150W/F3 -50/430MHz
Connector :	PL-259 (M) type
Length :	2,620mm approx.
Wind Proof :	40m/sec.
Mast dia. :	φ25 - φ60mm
Weight :	2,400g approx.

### Remarks:

- 1) Please refrain from operating at over power than the specified.
- 2) When the mount location is changed, please check and adjust V.SWR of each frequencies newly.
- 3) Kindly check tight fastening of each Mounts, Set Screws etc. regularly, to prevent any accident.

Hokushin Industry Co., Ltd.,  
Chiba City, Japan