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# **ADVANTEST®**

**ADVANTEST CORPORATION**

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**INSTRUCTION  
MANUAL**

TR 1722

Dipole Antenna

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MANUAL NUMBER 0909 EA 910

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The product is a Strategic Commodity subject to  
COCOM regulations.

It should not be exported without the proper  
authorization from Japanese government.

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## CONTENTS

CHAPTER 1	INTRODUCTION	1
1.1	GENERAL DESCRIPTION	1
CHAPTER 2	SPECIFICATIONS	1
2.1	ELECTRICAL PERFORMANCES	1
2.2	COMPOSITION	1
2.3	DIMENSIONS AND WEIGHT	2
CHAPTER 3	HANDLING	
3.1	ASSEMBLING THE POLE BRACE	3
3.2	ASSEMBLING THE ANTENNA	4
3.3	HANDLING PRECAUTINS	6
3.4	PACKAGING	6
CHAPTER 4	MEASURING METHODS	
4.1	WHEN USING THE TR 4132 SPECTRUM ANALYZER	7
4.2	WHEN USING A DIFFERENT SPECTRUM ANALYZER	7
4.3	MEASURING PRECAUTIONS	7



## CHAPTER 1 INTRODUCTION

### 1.1 GENERAL DESCRIPTION

The TR 1722 dipole antenna can measure electric field strength over a frequency range of 25 MHz to 1,000 MHz in combination with the TR-4132 spectrum analyzer. (However, a different spectrum analyzer may be used.)

## CHAPTER 2 SPECIFICATIONS

### 2.1 ELECTRICAL PERFORMANCES

(1) Frequency range

- 25 to 80 MHz
- 80 to 250 MHz
- 250 to 600 MHz
- 600 to 1000 MHz

(2) Electric field strength

When used in combination with the TR-4132 spectrum analyzer, the electric field strength can be directly read. A different spectrum analyzer may also be used depending on the reading and the compensation coefficients (see the attached sheet).

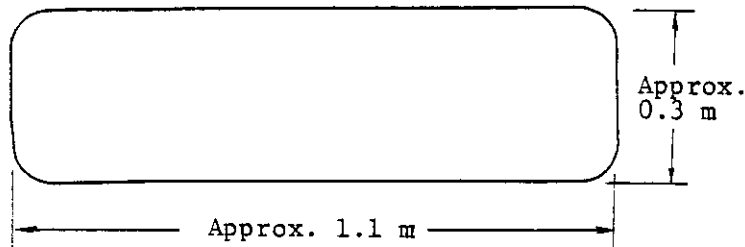
### 2.2 COMPOSITION

	Quantity
(1) Antenna element For 25 to 80 MHz	2
(2) Antenna element For 80 to 250 MHz	2
(3) Antenna element For 250 to 600 MHz	2
(4) Antenna element For 600 to 1,000 MHz	2
(5) Antenna holder	1
(6) Measurement cable (5D-2W Approx. 10 m)	1

(7) Upper pole brace (Fiberglass	Approx. 1 m)	3
(8) Lower pole brace (Fiberglass	Approx. 1 m)	1
(9) Direction indicator		1
(10) Wooden tripod		1
(11) Package		1
(12) Instruction manual		1

### 2.3 DIMENSIONS AND WEIGHT

#### (1) Dimensions of accomodation bag



#### (2) Weight

Antenna element (four sets)	Approx. 0.9 kg
Antenna holder	Approx. 0.9 kg
Pole brace (4)	Approx. 2.1 kg
Measurement cable	Approx. 1.3 kg
Tripod	Approx. 5.7 kg
Package	Approx. 1.6 kg

## CHAPTER 3 HANDLING

### 3.1 ASSEMBLING THE POLE BRACE

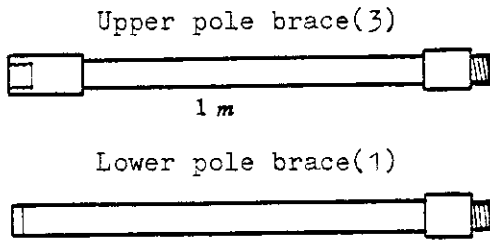


Fig. 3.1

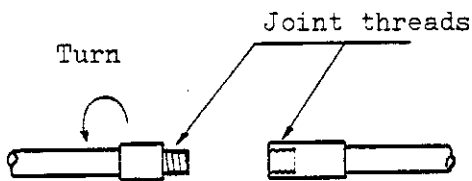


Fig. 3.2

As shown in Fig. 3.1, the pole consists of three upper pole braces and a single pole brace (made of fiberglass of approx. 1 m).

To assemble them, simply screw the pole braces together as shown in Fig. 3.2. When connecting a number of pole braces, make sure that each joint is tight. Always mount the lower pole brace on the tripod. Mount the direction indicator on the lower pole brace.

### 3.2 ASSEMBLING THE ANTENNA

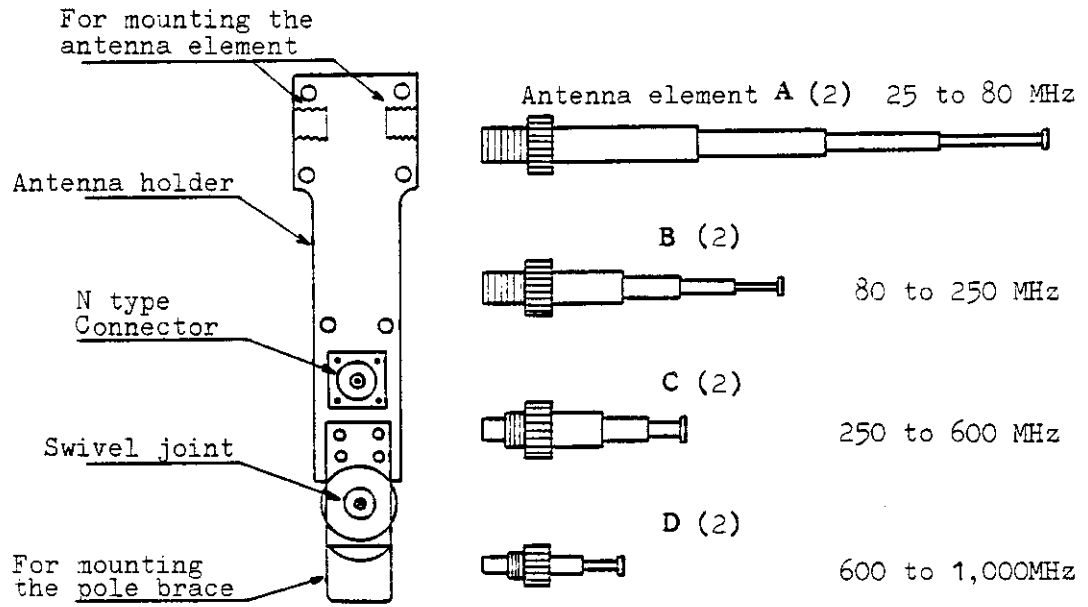
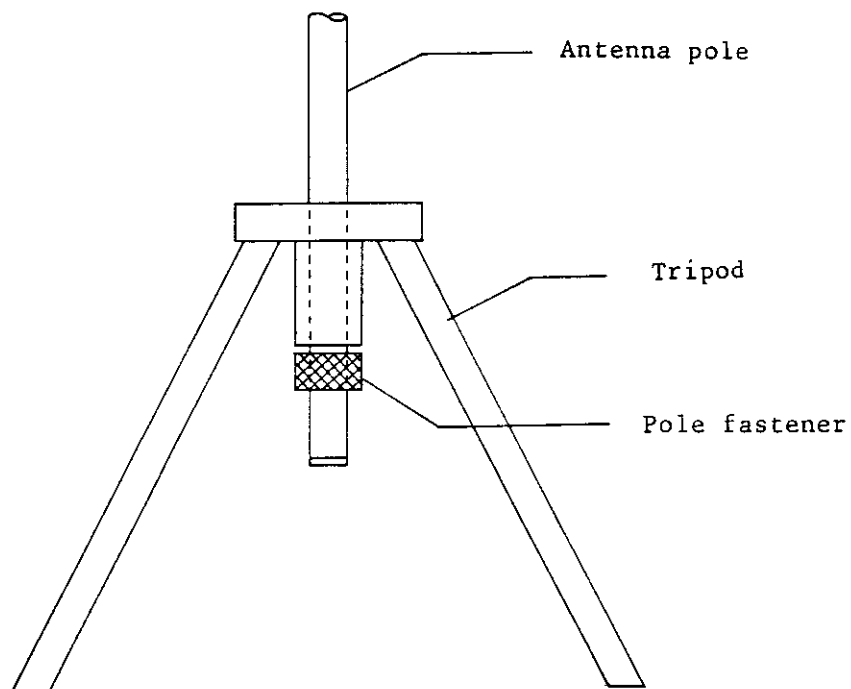


Fig. 3.3



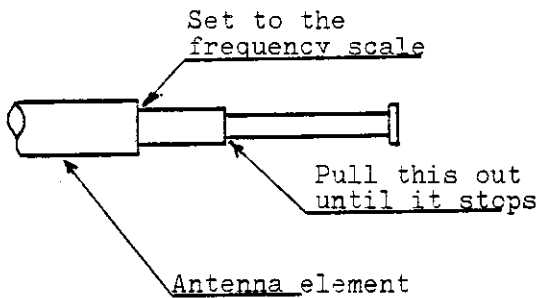


- Loosen the fastener and insert the pole to the tripod as shown above.
- Tighten the fastener to position the pole at the desired height.



As shown in Fig. 3.3, the antenna consists of one set of antenna holders and two each of the four types of antennas A, B, C, and D.

For assembly, connect the measurement cable (5D-2W approx. 10 m) to the N type connector of the antenna holder. Select the antenna element depending on the frequency to be measured and connect the antenna element to the holder.



When extending the antenna element, start at the end and work down.

Fig. 3.4

When measuring the vertically polarized wave, assemble the antenna as shown in Fig. 3.5. Then, loosen the swivel joint, and turn it until the antenna is vertical (90 degree).

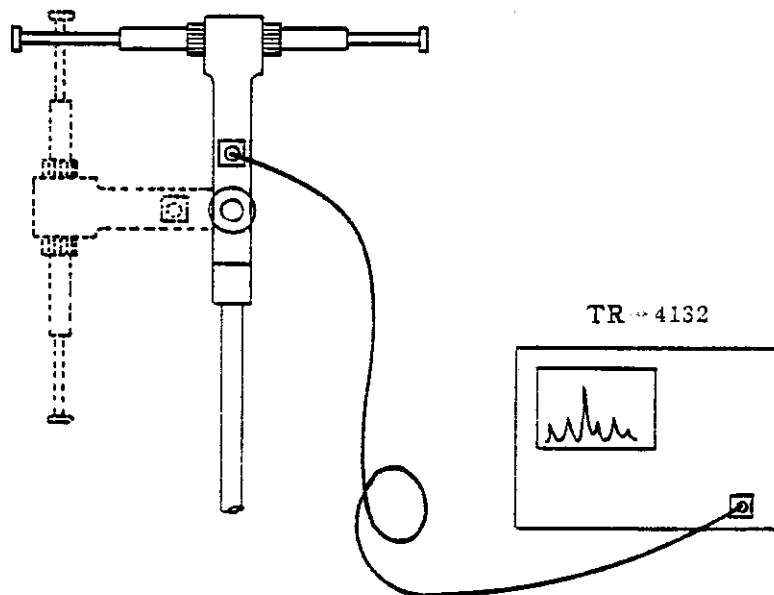


Fig. 3.5

### 3.3 HANDLING PRECAUTIONS

Make sure that the antenna is firmly secured so it will not be blown over in strong winds. Although the antenna can be installed by one person, two persons are recommended.

### 3.4 PACKAGING

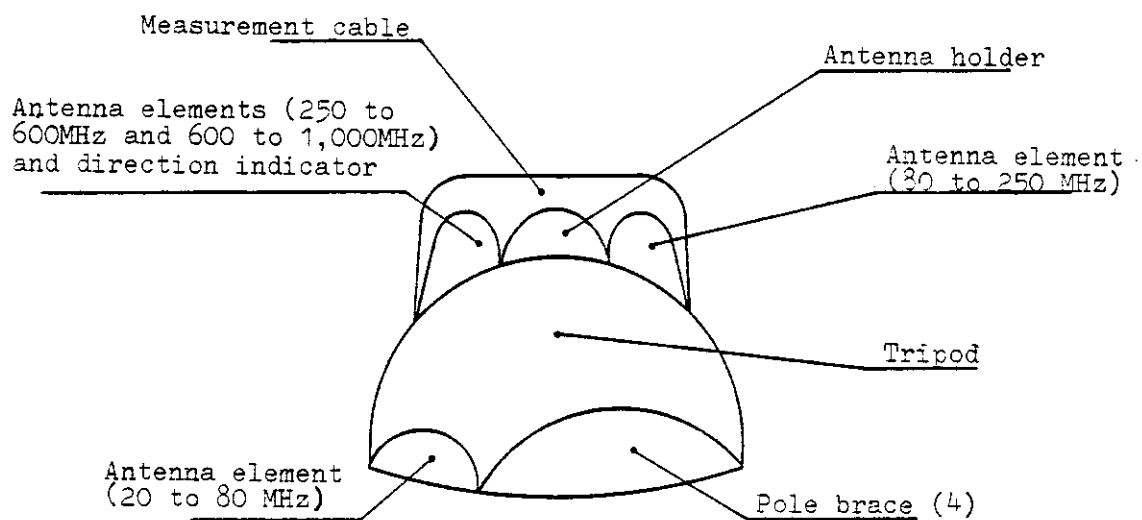


Fig. 3.6 Location of ports before unpacking

## Chapter 4 MEASURING METHODS

### 4.1 WHEN USING THE TR 4132 SPECTRUM ANALYZER

When the FIELD STRENGTH switch is set to DIPOLE-A, the uppermost scale (REFERENCE LEVEL) on the CRT is directly displayed the electric field strength.

Since the display automatically changes as the frequency changes, the compensation coefficient is not required.

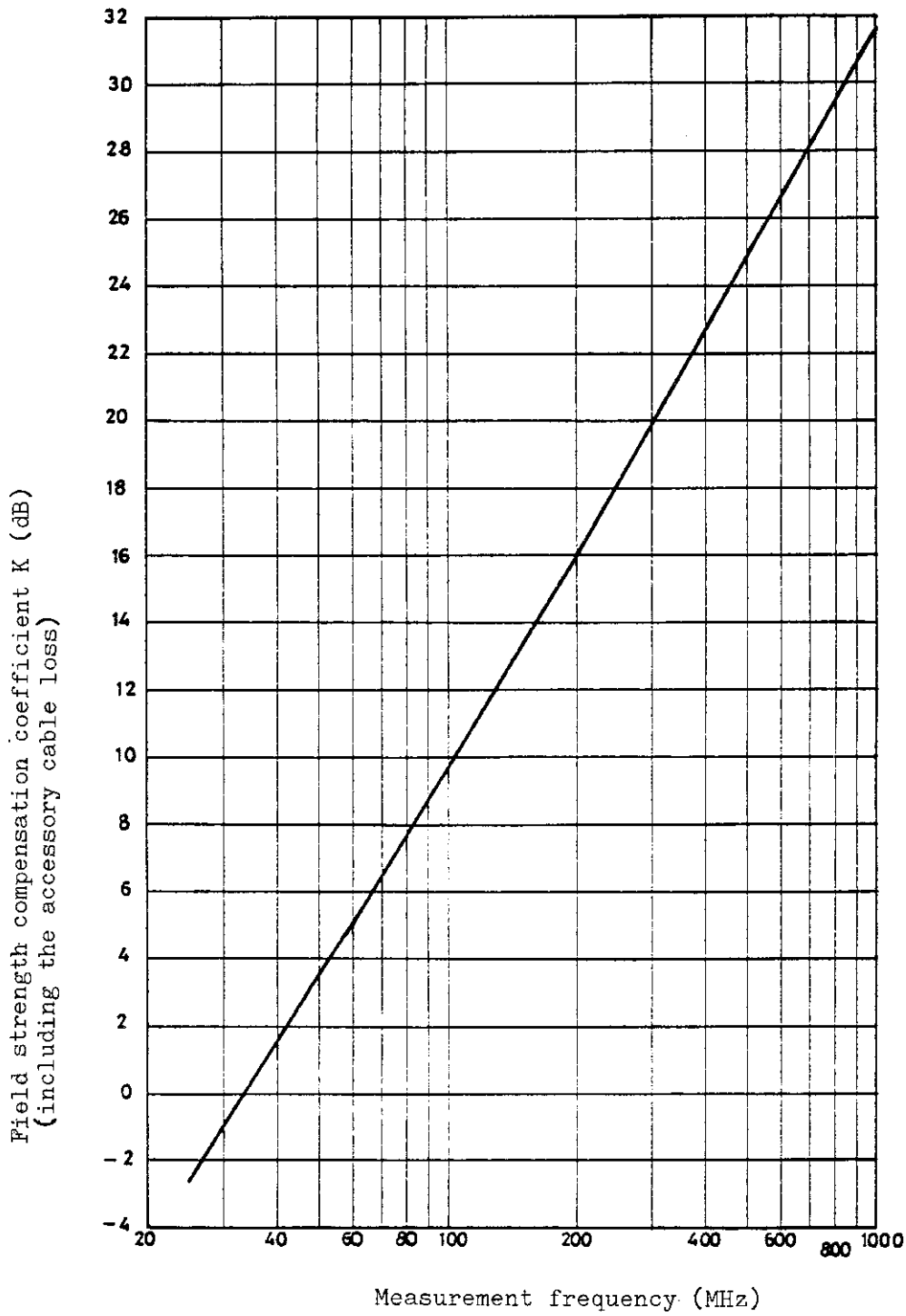
(See the TR 4132 Instruction Manual.)

### 4.2 WHEN USING A DIFFERENT SPECTRUM ANALYZER

The field strength (dBu per m) is obtained by adding the value measured at dBu to that of the compensation coefficients (dB in the frequency to be used) provided on the attached sheet.

### 4.3 MEASURING PRECAUTIONS

Since this antenna includes the cable loss in the measurement, always measure using the accessory measurement cable.



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