

AM 872-510-24

---



ASSEMBLY MANUAL

組立説明書

---

V · UHF LOG PERIODIC ANTENNA

ログペリオディックアンテナ

**CLP5130-1**

50 ~ 1300 MHz

---

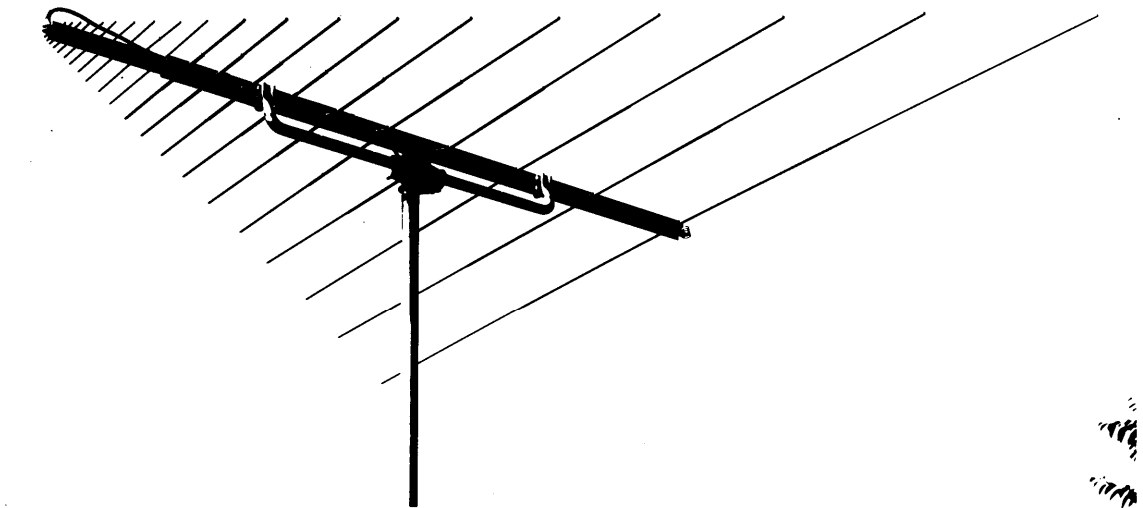


Figure 1. CLP5130-1 Installation

Revision 5-1994  
1st Edition 2-1987

クリエート・デザイン株式会社  
Creative Design Corp.

## 注 意

このアンテナの組立と据付工事をする前に必ずこの取説を全部読んでから始めて下さい。  
アンテナの組立と据付は専門的な経験を必要とします。この取説はアンテナ工事の経験者を対象として説明されています。全く経験のない者がこのアンテナ工事をしてはいけません。CDでは未熟者によって危険な施工がなされ、不具合が生じてもその責任は負い兼ねます。もしアンテナ工事の建設についての相談や手助が必要な場合は当社代理店又は直接当社宛にお問い合わせください。

## WARNING

Installing and rigging masts and antennas require highly specialized skills and experience. This drawing and the instructions within assume that personnel involved have these skills and have installed similar products before. No one should attempt to install this antenna without these skills and experience. CD can assume no liability if faulty or dangerous installation practices are used. CD has factory trained personnel to assist in installation. Please contact your CD representative if consultation or assistance is required.

## 警 告

このマニュアルの一部又は全てを、当社の許可なく転載及び複製することを禁じます。  
クリエート・デザイン株式会社

## NOTICE

All rights in this publication are reserved. No part of the publication may be reproduced without the expressed written permission of CREATIVE DESIGN Corp.

# SECTION 1

## GENERAL AND ASSEMBLY

### 1. INTRODUCTION

This manual describes assembly procedures and operation of the CD Model CLP5130-1.

### 2. UNPACKING AND INSPECTION

After unpacking, check all parts, against the parts list in Section 3, to make sure no parts are missing. Also check that there are no damaged parts. If any parts are missing or damaged please follow the instructions contained in the warranty which is on the back side of the front cover of this instruction manual. Separate large parts (preassembled one) and small parts (bolts and nuts) and place them in a small box so that they will not be lost. Read the manual instructions carefully in order to fully understand how to assemble this antenna.

### 3. CONSTRUCTION

Create Model CLP5130-1 is a long periodic type antenna that is capable of operating continuously on the bands from 50~1300MHz. Figure 1 is an illustration of the CLP5130 and Figure 2 is a construction illustration. In this manual, the illustrations are for horizontal construction. Booms for supporting the elements consist of two L channels named B1 (front side) and B2 (back side). Each element in the B1 channel is preassembled in our factory. Insulators on B2 for mounting elements are also preassembled. The elements mounted on B2 are symmetrically pretuned and cut.

### 4. ASSEMBLY

Assembly of the CLP5130-1 is illustrated in Fig.2 and 3 (DETAIL-). The following is the step by step instructions for assembling the antenna.

#### 1) FRONT ELEMENT ASSEMBLY (See DETAIL-A and B)

Element in B1 are preassembled (riveted). Rotate the elements so they are  $90^\circ$  from the boom. Using S1(M3x8) screws, secure the elements in place. Attach the two boom halves (B1) together as shown in DETAIL-B using B8 and B9

#### 2) REAR ELEMENT ASSEMBLY (See DETAIL-D)

On Boom B2, element insulators are preassembled except those in the middle section and at the ends. Insulators that are not preassembled should be assembled using S4(M4x35) screws. Assemble elements E11~20 as shown in DETAIL-D using S3(D4x14) screws.

#### 3) BOOM ASSEMBLY (See DETAIL-C)

Join Boom B1 to B2 as shown in DETAIL-C using S2(M4x10) screws. Please note that it does not matter which side of the boom is facing up or down.

#### 4) FEEDING (See Fig.3)

On the front side of B1, attach the F1 Feeder plate to the F2 element rod using S1(M3x8) screws. F2 has a coupler to allow for S1 screws. The top and bottom should be symmetrically mounted with the feeder secured to the boom by the B10.

#### 5) ASSEMBLY OF BOOM CLAMP (See Fig.3)

Mount U-shaped tube B3 to places of the boom B2 using block spacers B5 and B6 with S5(M5x55) screws (It should be mounted at the front side of E14 element and rear side of E18 element). Then fix the mast bracket B4 at the position slightly front side of center of this tube (At this stage, decide polarization of the antenna).

## 6) ASSEMBLY OF ARRESTOR COIL (See Fig.3)

At the back of boom B2, attach the coil B7 using S2(M4x10) screws. Please note that by adding this coil, both the top and bottom is shorted electrically. Please take care in not bending the arrestor coil as it is fragile.

## 7) ELEMENT CAP (See Fig.3)

Element caps 1 should only be used to the upper side tip element when the antenna is mounted vertically.

## SECTION 2

### GENERAL AND SPECIFICATIONS

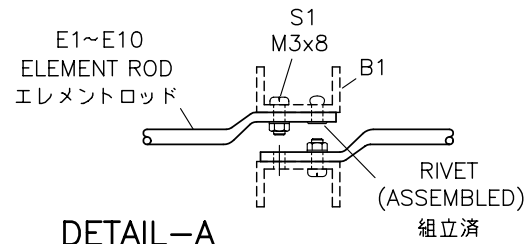
## 2.1 GENERAL

CD Model CLP5130-1 is a high gain, wide band VHF and UHF log periodic type beam antenna. As a standard, the antenna is designed for horizontally polarized base station used but by means of an adaptor, vertical polarization is also possible. The antenna is usable in the amateur band from 50~1300MHz and is also suitable for FM broadcasting, scanning, V·UHF television air bands communication, government applications, and business band use.

Forward gain of the CLP5130-1 from 50~1300MHz is 10~12dBi (This is 10~16 times the gain compared to a nondirectional discone type antenna). The VSWR of the antenna is less than 2.0 : 1 across the band. Mechanically, the log periodic uses a specially shaped high quality aluminum boom that allows for working as a phasing line. In addition, distortions in the vertical and horizontal planes have been minimized, and adjustment of the element alignment is not necessary. The assembly of the antenna is easy. The boom to mast brackets made of a lightweight and rugged magnesium alloy.

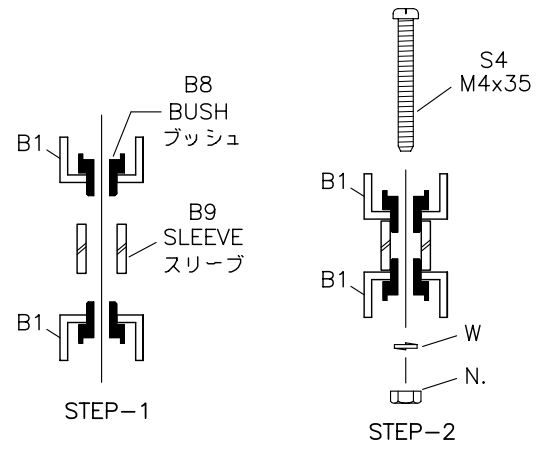
## 2.2 SPECIFICATIONS

Frequency	50~1300 MHz
Number of Elements	21 ele.
Polarization	Horizontal (Vertical possible)
Forward Gain	10~12 dBi
Front to Back Ratio	15 dB
Half Power Point	70~60°
Impedance	50 Ohms
VSWR	2.0 : 1 or less
Power Rating	500W PEP
Boom Length	2.0 m (6' 8")
Element Length	Max. 3 m (9' 10")
Mast Size	48~61 mm (1' 1/2")
Weight	5 kgs (11 Lbs)
Wind Survival Rating	40 m/sec. (90 mph)



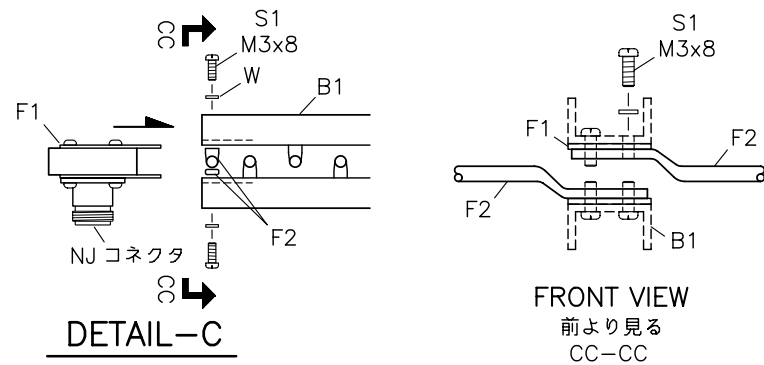
**DETAIL-A**  
10-PLACES

FRONT



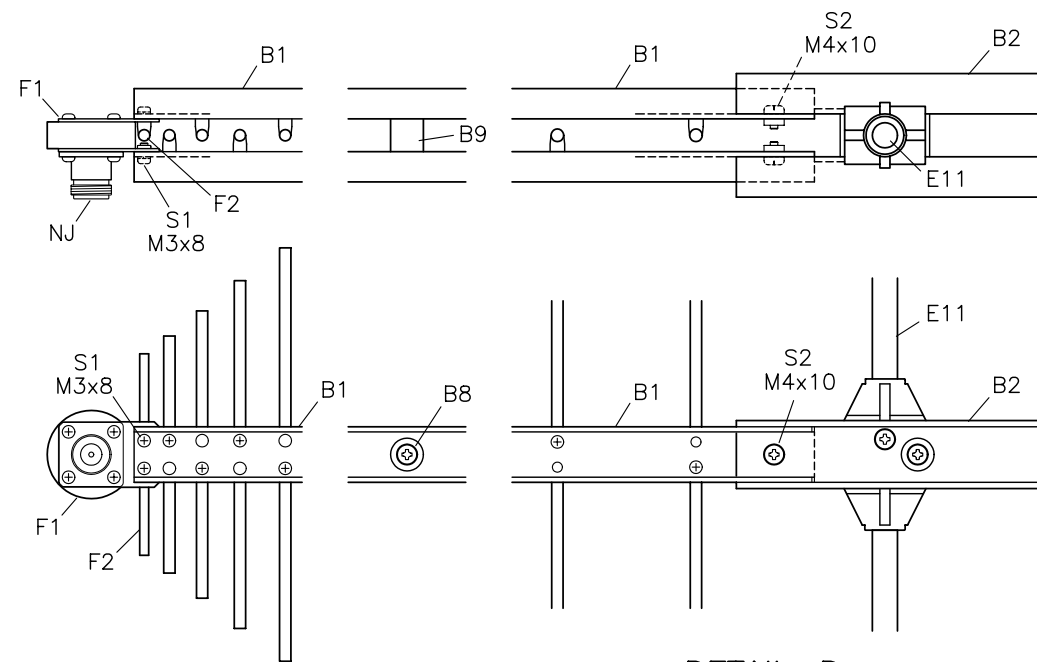
**DETAIL-B**

FRONT

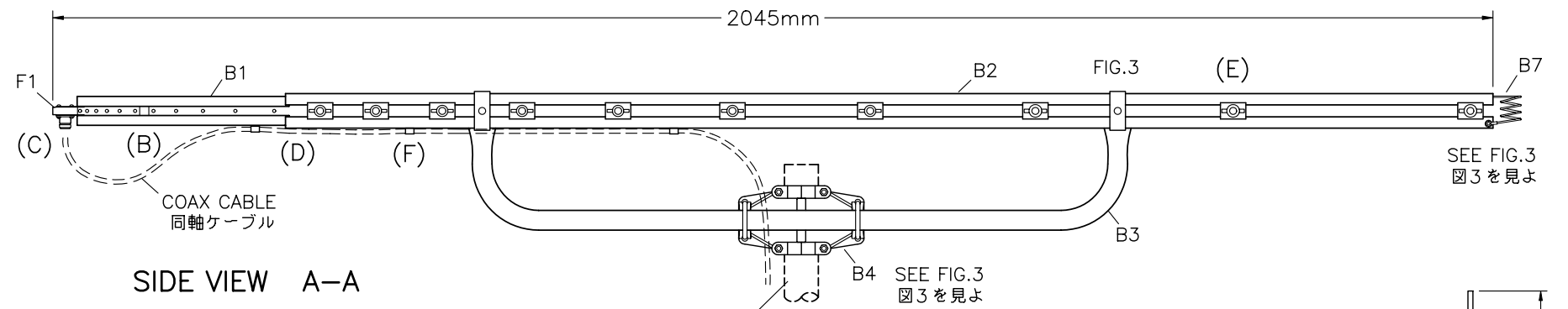


**DETAIL-C**

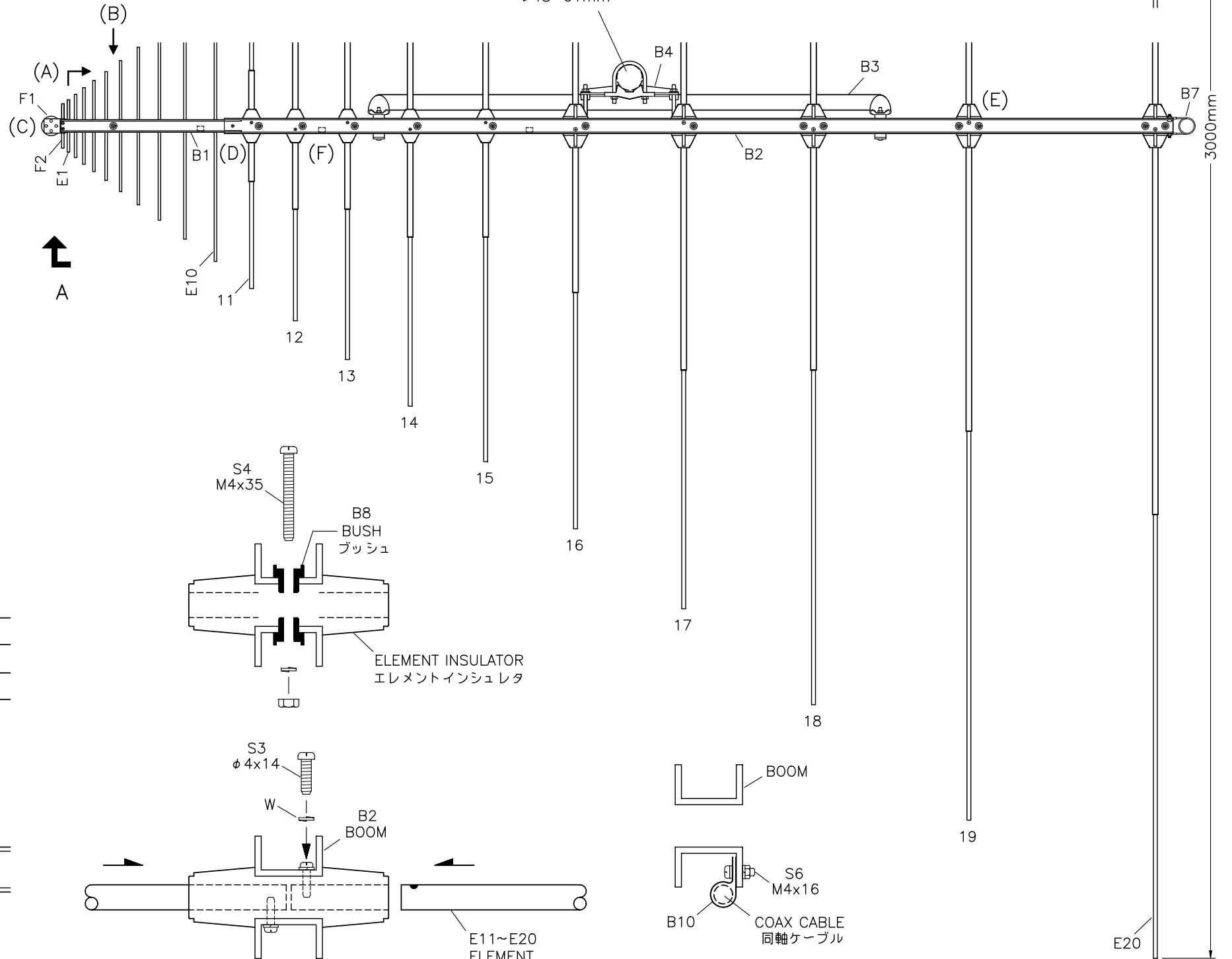
FRONT VIEW  
前より見る  
CC-CC



**DETAIL-D**

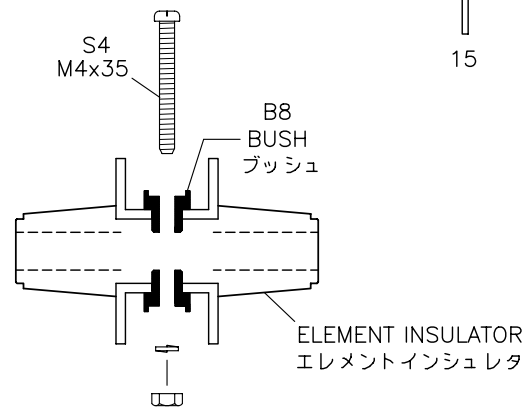


**SIDE VIEW A-A**

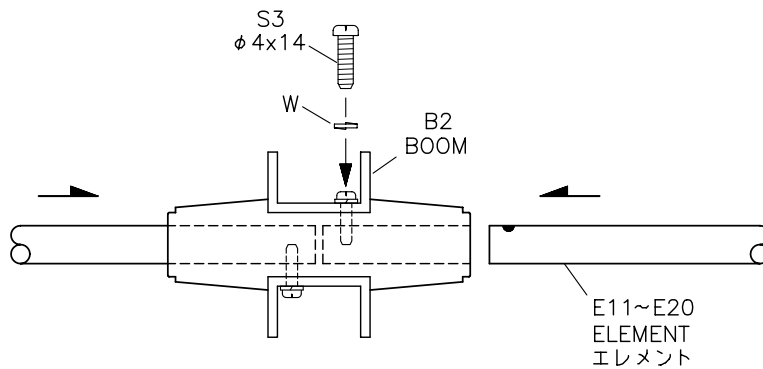


A

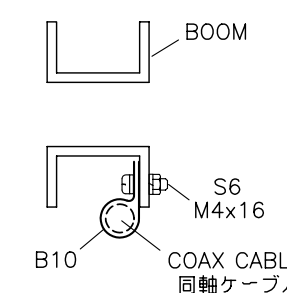
A



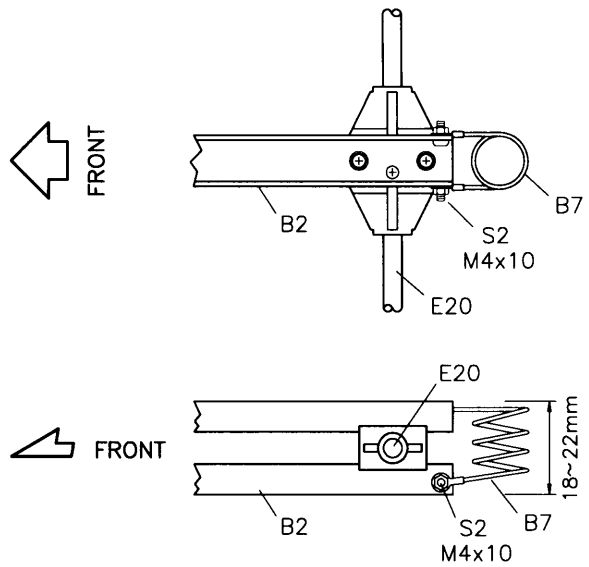
**DETAIL-E**  
10-PLACES



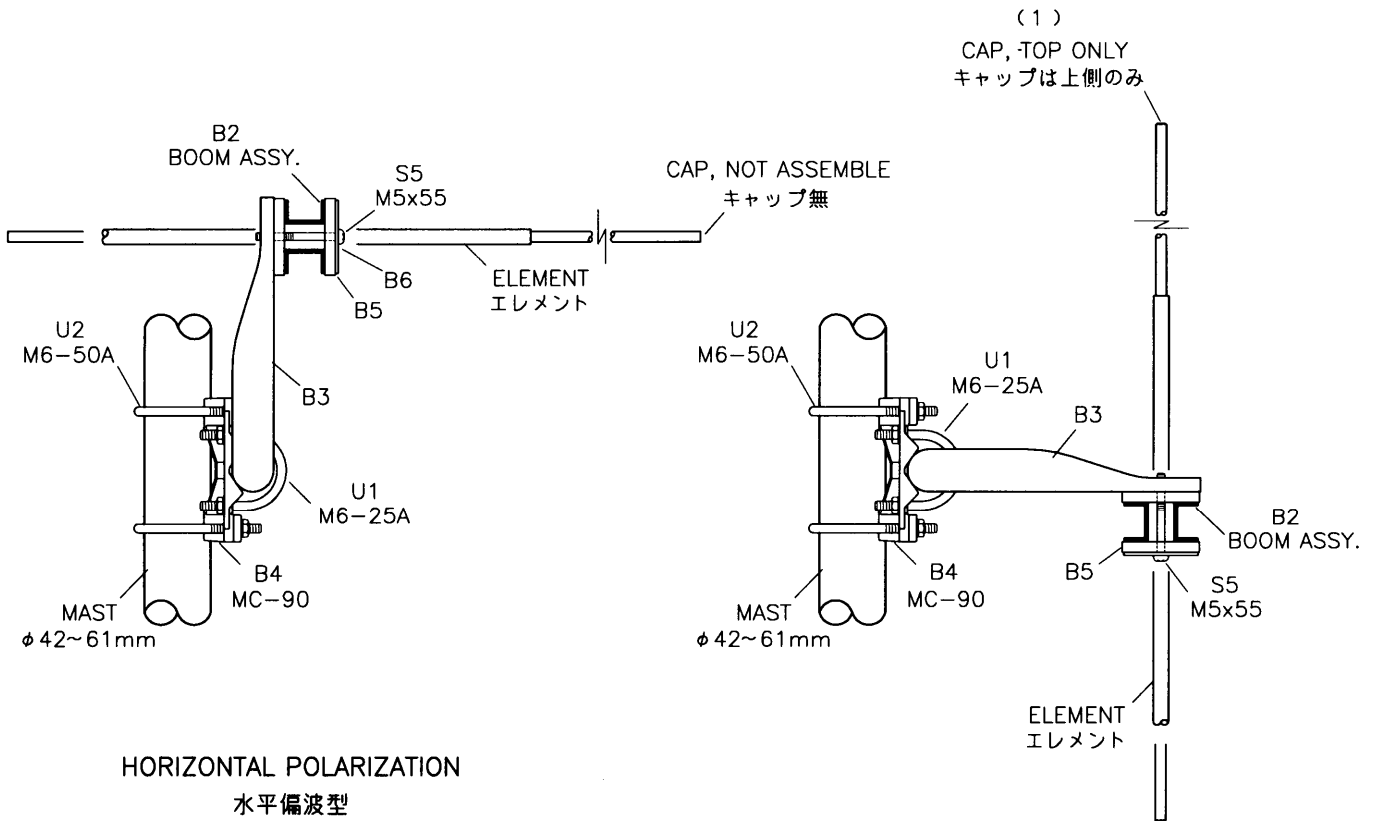
**DETAIL-F**  
3-PLACES



アンテナの組立  
Figure 2. CLP5130-1, Antenna Assembly.  
CMN-0711 DWGA.035G



ARRESTER ASSEMBLY  
アレスターの組立



HORIZONTAL POLARIZATION  
水平偏波型

NOTE

THESE CAPS ARE USED ON TOP SIDE OF EACH ELEMENT ONLY FOR THE OPERATION OF VERTICAL POLARIZATION.

垂直偏波型はエレメントキャップ上のみ

VERTICAL POLARIZATION  
垂直偏波型

ブームとマストの組立

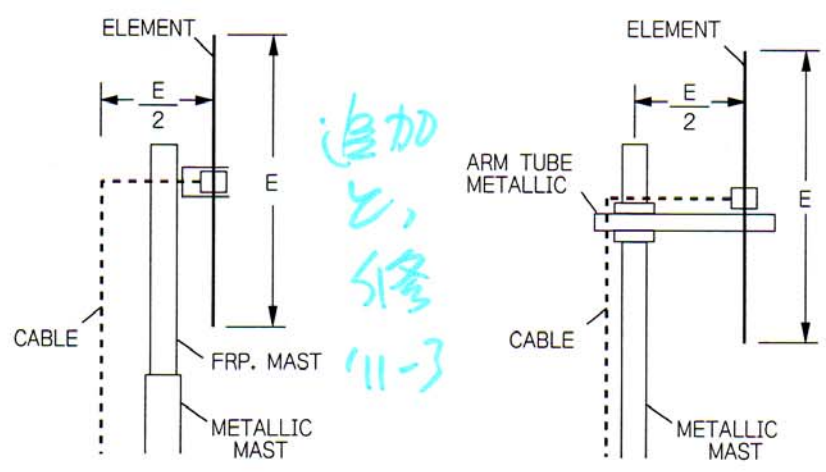
Figure 3. Boom-Mast Assembly.

PARTS LIST  
LP-Antenna Model CLP5130-1

新 0375

CMN-0802

ITEM	DESCRIPTION		Q'TY
B 1	FRONT ELEMENT ASSY.	CH12×22×325 (CH0.47"×0.87"×12.8") w/Rods	Alum. 2
B 2	REAR BOOM ASSY.	2-CH16×27×1710 (2-CH0.63"×1.06"×67.33") w/Insulator	Alum. 1
B 3	BOOM SUPPORT	U-30×1000 (U-1.18"×39.37")	Alum. 1
B 4	MAST CLAMP	MC-90	Alum. 1
B 5	BLOCK	7×18×52 (0.28"×0.71"×2.05")	AAS. 4
B 6	STRAP	20×45 (0.79"×1.77")	Alum. 2
B 7	COIL	φ 27- 4t (1.06 D-0.16t)	Nic. 1
B 8	BUSH	φ 12×11 (0.47" D-0.43"t)	AAS. 22
B 9	SLEEVE	φ 13×13 (0.51" D-0.51")	P.C. 1
B10	SADDLE	KT-4	PVC. 3
E11	TUBE	φ 7-10× 290 (0.28" D-0.39"×11.54")	Alum. 2
E12	TUBE	φ 7-10× 350 (0.28" D-0.39"×13.82")	Alum. 2
E13	TUBE	φ 7-10× 420 (0.28" D-0.39"×16.57")	Alum. 2
E14	TUBE	φ 7-10× 505 (0.28" D-0.39"×19.88")	Alum. 2
E15	TUBE	φ 7-10× 605 (0.28" D-0.39"×23.82")	Alum. 2
E16	TUBE	φ 7-10× 725 (0.28" D-0.39"×28.58")	Alum. 2
E17	TUBE	φ 7-10× 870 (0.28" D-0.39"×34.25")	Alum. 2
E18	TUBE	φ 7-10×1045 (0.28" D-0.39"×41.06")	Alum. 2
E19	TUBE	φ 7-10×1250 (0.28" D-0.39"×49.25")	Alum. 2
E20	TUBE	φ 7-10×1500 (0.28" D-0.39"×59.06")	Alum. 2
F 1	INPUT CONNECTOR	Type NR With Flange	1
F 2	ELEMENT ROD	φ 4×45 (0.16" D×1.77")	Nic. 2
S 1	SCREW	M3×8 W, N. (0.12" D×0.31")	Sus. 24
S 2	SCREW	M4×10 W, N. (0.16" D×0.39")	Sus. 4
S 3	SCREW	φ 4×14 W, N. (0.16" D×0.55")	Sus. 20
S 4	SCREW	M4×35 W, N. (0.16" D×1.38")	Sus. 11
S 5	SCREW	M5×55 W, N. (0.2" D×2.17")	Sus. 2
S6	SCREW	M4×16 W, N. (0.16" D×1.57")	Sus. 3
U 1	U-BOLT	M6-25A W, N. (0.24" D-25A)	Sus. 2
U 2	U-BOLT	M6-50A W, N. (0.31" D-40A)	Sus. 2
(1)	CAP	φ 7×8 (0.28" D×0.31") (For Vertical Inst.)	PP. 10



E: MAX. LENGTH ELEMENT

Figure 4. Vertical Polarization Mount