1.5 SPECIFICATION

Model No.	2x209A	2x211A
Number of Element	9x2	11x2
Forward Gain (Maximum)	17.2 dBi	18.3 dBi
F/B Ratio	20 dB	22 dB
F/S Ratio	25 dB	25 dB
Impedance	50 Ω	50 Ω
VSWR	- Less Than 1.5 -	
Input Connector	N	N
Power Capability (PEP)	1 kW	1 kW
Element Length	1.04 m	1.04 m
Stacking Width (Max.)	2.4 m	2.85 m
Boom Length	3.7 m	4.98 m
Rotational Radious (Max.)	2.4 m	3.0 m
Mast Diameter	ϕ 48 ~ 61 mm	ϕ 48 ~ 61 mm
Wind Surface Area	0.5 m²	0.6 m²
Weight	8 kg	13 kg
Wind Survival Rate	40 m/s	40 m/s

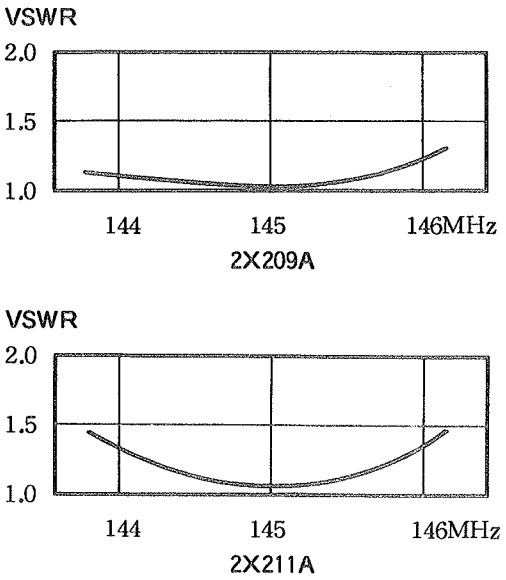
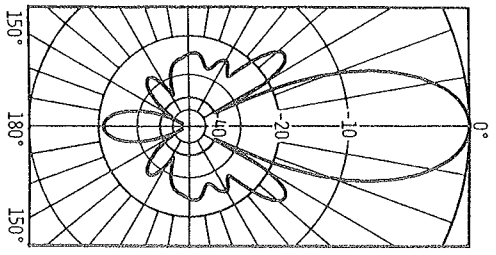
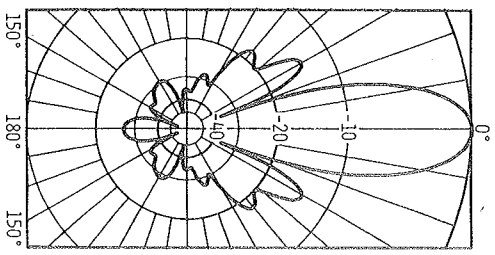


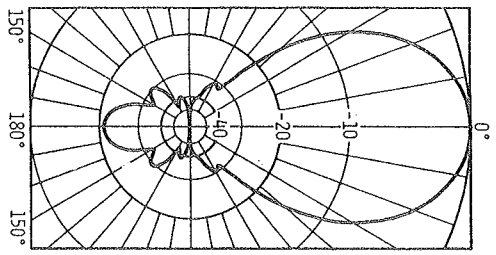
Figure 1-1. VSWR Curve



Radiational Pattern (Stacking Width: 2.3m)

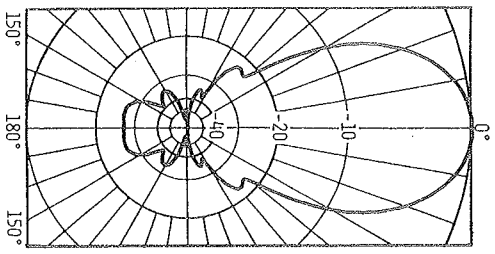


Radiational pattern (Stacking Width: 2.8m)



Plain Pattern

Figure 1-2. Radiational Pattern 2x209A



Plain Pattern

Figure 1-2A. Radiational Pattern 2x211A

Note: The beam patterns shown above are under the condition that resonant frequency is at 435MHz and antenna height is 18m high above the ground. CD adopts ARRL/USA type for this pattern scale for which enables to express small level of side rob more precisely, and is not different from such a pattern scale that other manufacturers commonly adopt.

1.6 OVERALL VIEW, DIMENSION FOR EACH MODEL

Each drawing illustrated here is on the assumption that the stacking space of the antenna is set at narrow which can provide a good radiational pattern. Wider stacking space increases more forward gain in the meanwhile it however increases an unwilling radiation too. See Section 4.1 for more details.

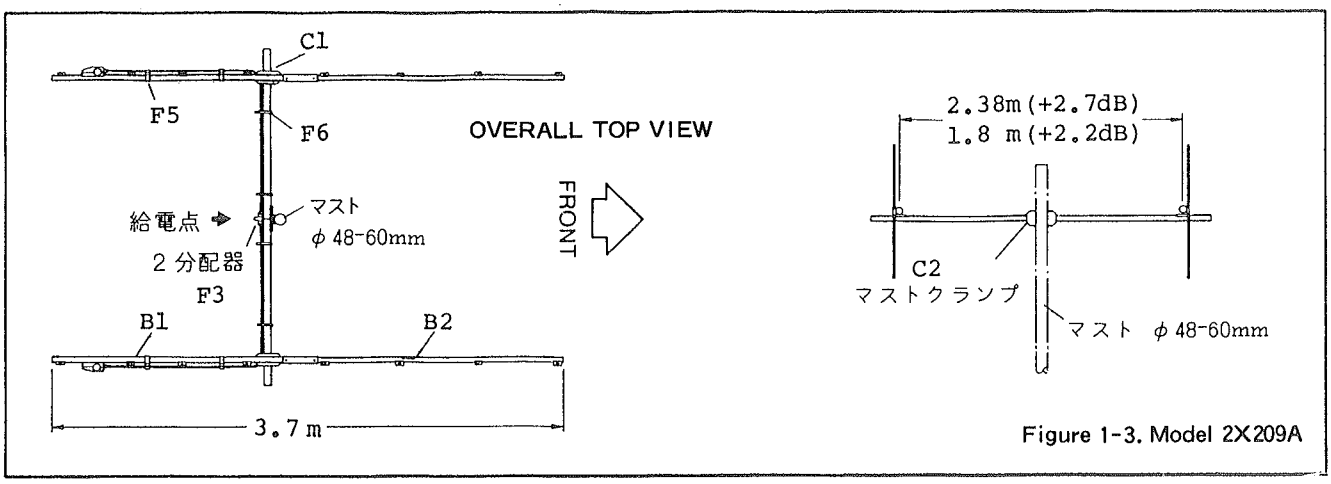


Figure 1-3. Model 2X209A

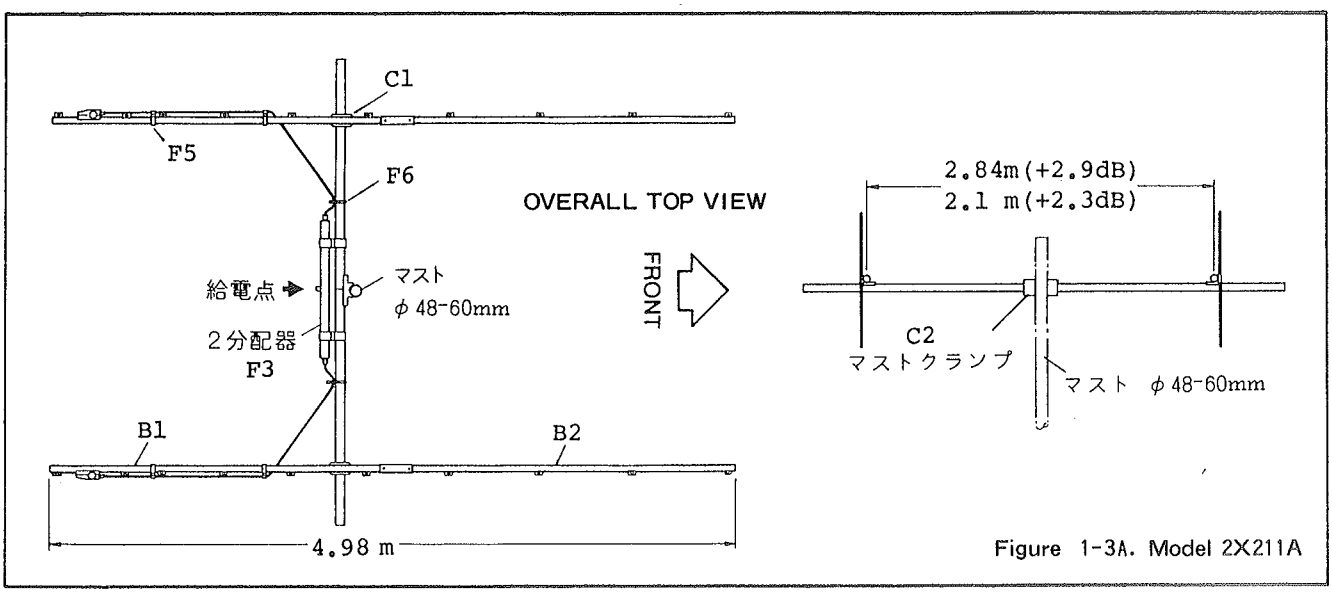


Figure 1-3A. Model 2X211A

SECTION 2
ASSEMBLY

2.1 INSPECTION AND PARTS SORTING

All the parts for the model 2x209A and 2x211A are supplied complete and corresponds to the PARTS LIST in the Fig. 2.6. It is recommended to inspect the included parts before start assembling by referring to the parts list. It is advisable to sort the parts in order to proceed antenna assembly smoothly. If there is any missing or damaged parts, please follow the instructions contained in the warranty which is on the back side of the front cover of this instruction manual.

2.2 ASSEMBLING ORDER

The assembling this antenna in the following steps are highly recommended.

1) Antenna Boom Assembly
2) Parasitic Elements Installation
3) Driven Unit Installation
4) Stacking Boom and Antenna Installation
5) Splitter Installation (2x211A only)
6) Cabling and Fixting
7) Inspection

2.3 ELEMENT STRUCTURE

Fig 2-1 shows the overall view for both 2x209A, 2x211A models in their single unit form respectively. The boom tubing B1 and B2 is jointed together with B3 tubing. Each element is color coated in their tip end. They are order and aligned as shown in the illustration. Be sure that wrong alignment of this element order will cause the poor performance of the antenna resulting a poor VSWR. Refer to Fig. 2-6 for the driven element too as the driven element has correct directivity in its mount position.

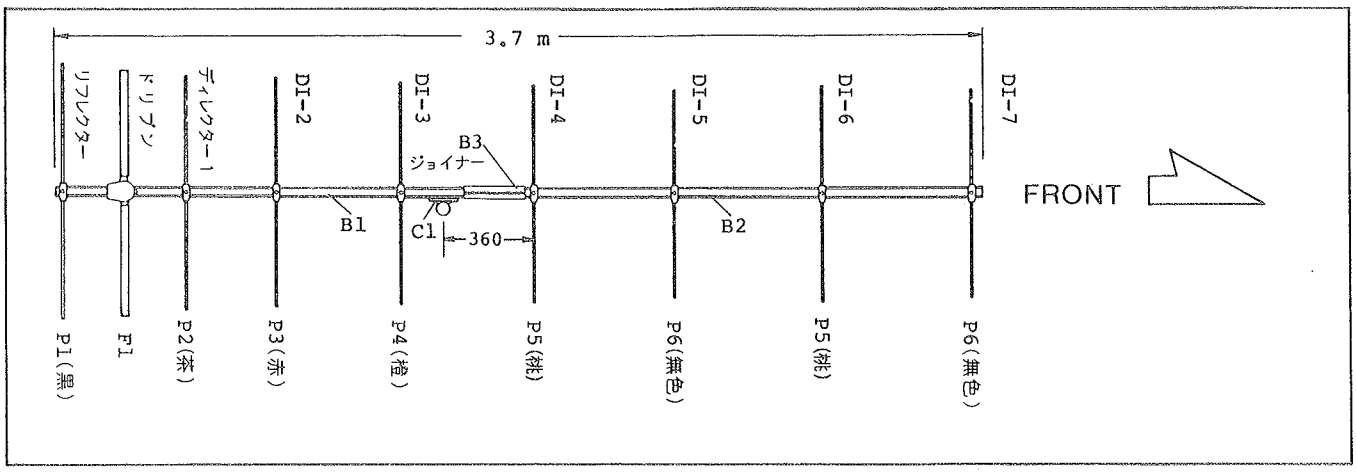


Figure 2-1. Model 2x209A

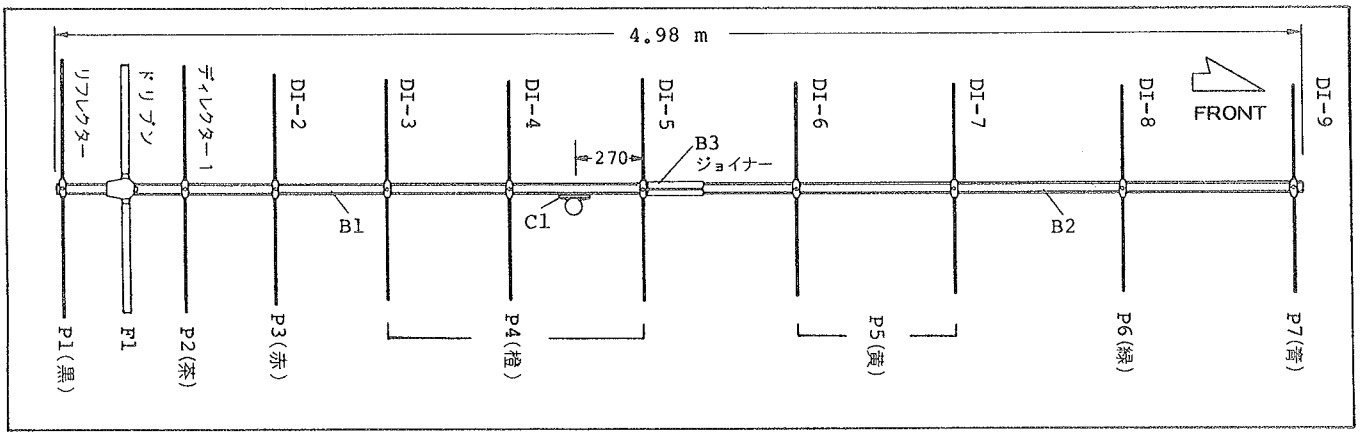


Figure 2-1A. Model 2x211A

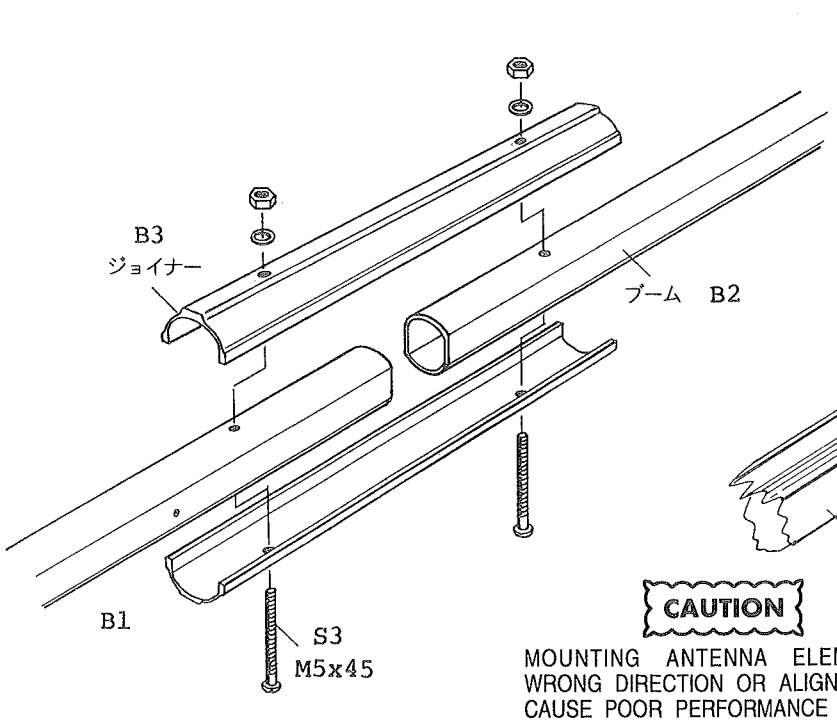


Figure 2-2. Boom Joint

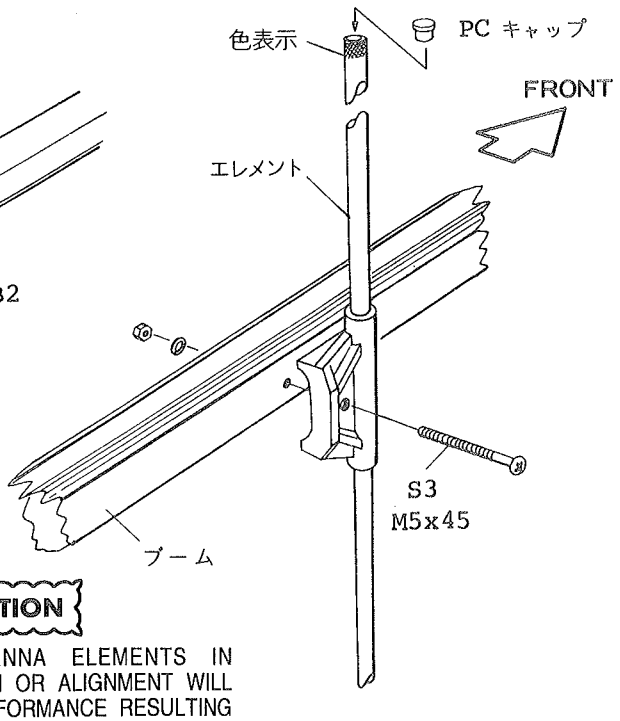
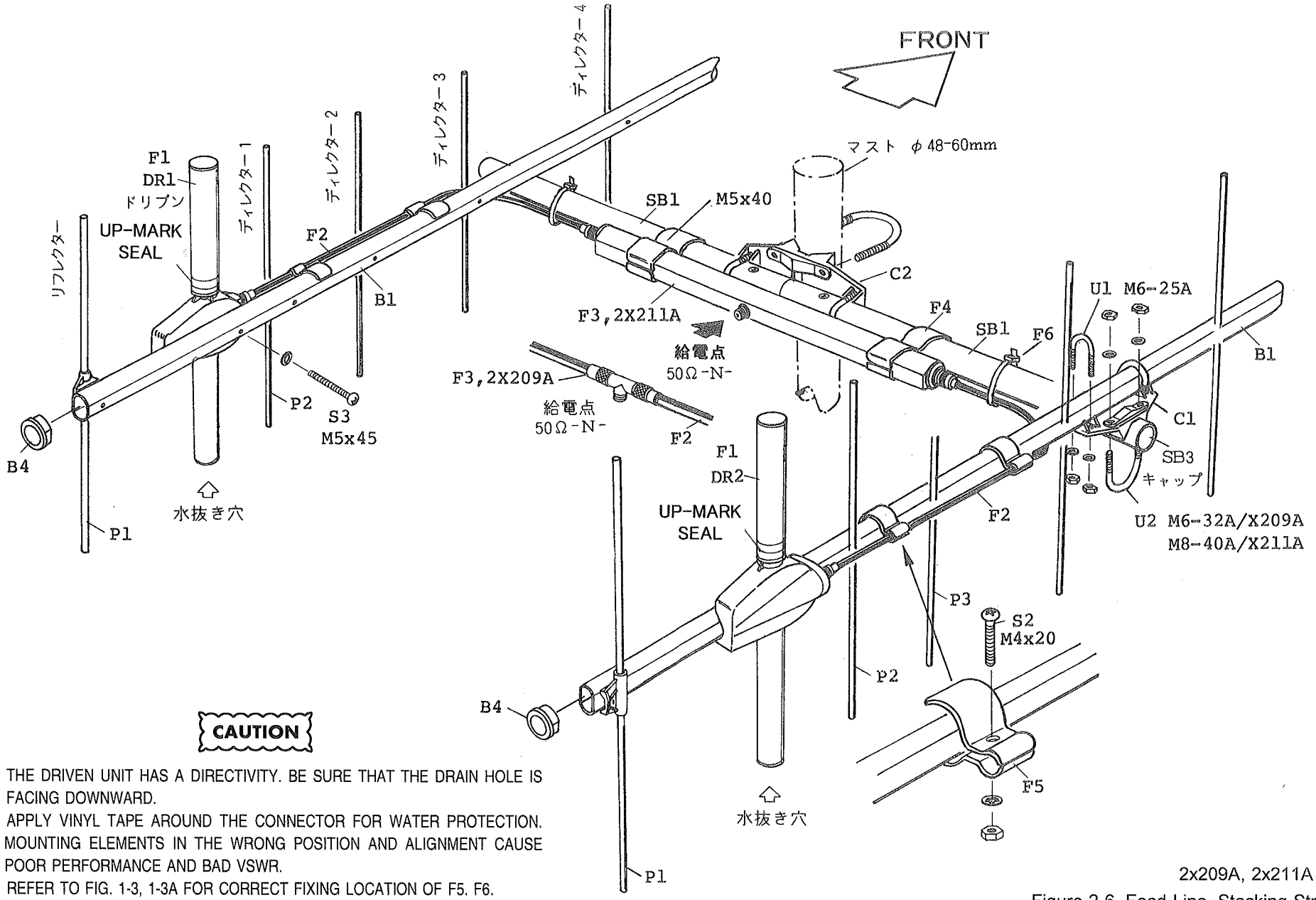


Figure 2-3. Element Installation

CAUTION

MOUNTING ANTENNA ELEMENTS IN WRONG DIRECTION OR ALIGNMENT WILL CAUSE POOR PERFORMANCE RESULTING BAD VSWR.

2.5 FEED-LINE, SPLITTER UNIT ASSEMBLY



CAUTION

- THE DRIVEN UNIT HAS A DIRECTIVITY. BE SURE THAT THE DRAIN HOLE IS FACING DOWNWARD.
- APPLY VINYL TAPE AROUND THE CONNECTOR FOR WATER PROTECTION.
- MOUNTING ELEMENTS IN THE WRONG POSITION AND ALIGNMENT CAUSE POOR PERFORMANCE AND BAD VSWR.
- REFER TO FIG. 1-3, 1-3A FOR CORRECT FIXING LOCATION OF F5. F6.

2x209A, 2x211A

Figure 2-6. Feed-Line, Stacking Structure

2.4 STACKING BOOM

The tubing structure for stacking boom of each model is shown in the Fig. 2-4. It constructs that 2 tubings SB1 are inserted over joint tubing SB2 at the center and fixed with S1 tapping screws. Mast clamp is mounted on the center of the completed stacking boom using U-bolts. (Refer to Fig. 2-5) After both 2 single antennas and the stacking boom are completed, combined them and assemble accordingly as it is instucted in the Fig. 2-6 and Fig. 1-3.

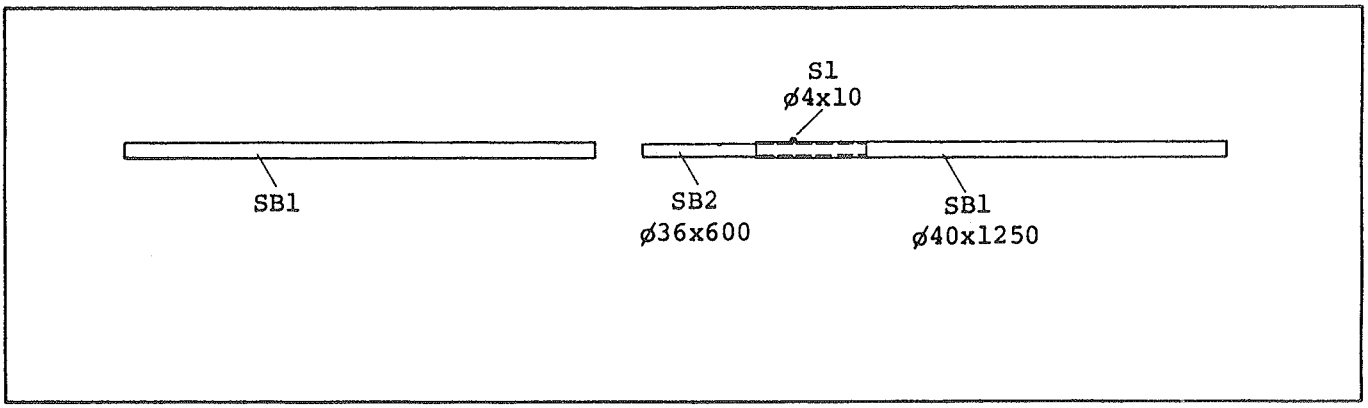


Figure 2-4. Model 2x209A

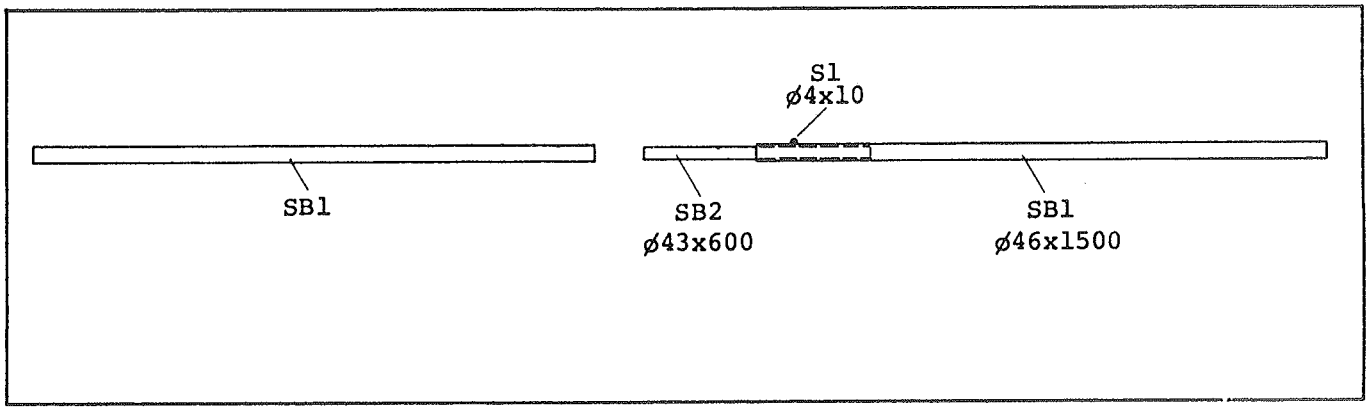


Figure 2-4A. Model 2x211A

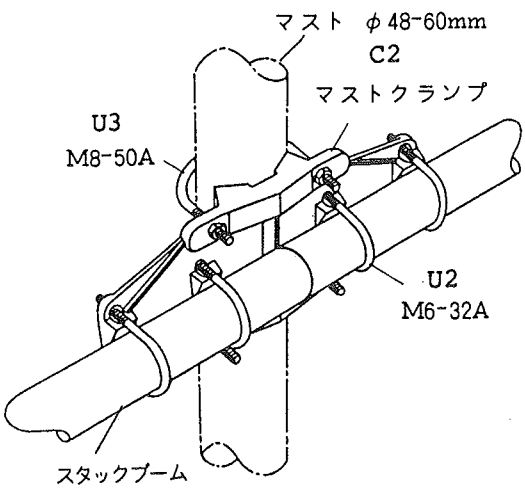


Figure 2-5. Mast Bracket Assembly 2x209A

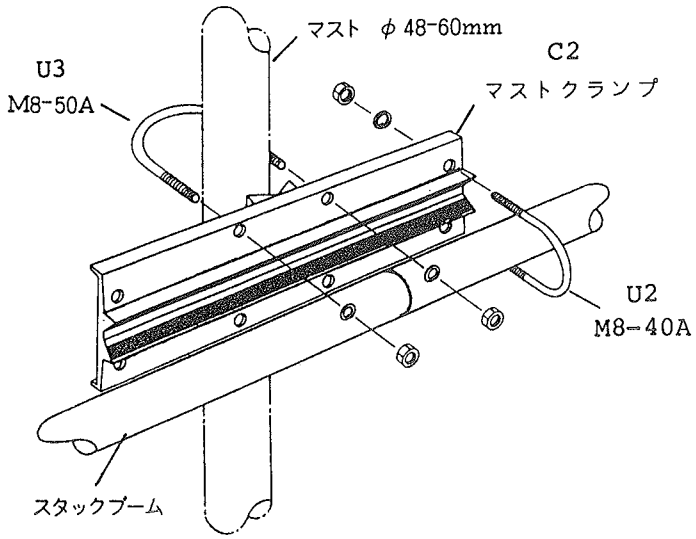


Figure 2-5A. Mast Bracket Assembly 2x211A