Product Overview

GTIN / EAN Code	8 720844 070589
Article Number	RRU-P3000812
Product Name	Miyagi Antenna – 5 Elements | 70 cm
Manufacturer	RRU Products
Instructions **Check the website for the latest version of the assembly/operations manual and datasheets.**	www.rru-products.com/miyagi

Made in the Netherlands | European Union

RRU-Products
Locht 42-C1
6466 GW Kerkrade
The Netherlands

contact@reprapuniverse.com
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What's in the box?

	Director / Reflector Mount Part	4x
	Dipole Mount Part	1x
	Handle Mount Part	1x
	Phone/Walkie-Talkie Mount Part	1x
	Tube Caps	12x
	Boom Cap	1x
	Phone Clamp	1x
	Reflector - Round Aluminum Tube - 336 mm	1x

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	Director 1 - Round Aluminum Tube - 294 mm	1x
	Director 2 - Round Aluminum Tube - 290 mm	1x
	Director 3 - Round Aluminum Tube - 285 mm	1x
	Boom - Square Aluminum Profile – 650 mm	1x

What you still need

	SMA Male to UHF Male Coaxial Cable (REQUIRED)	1x
	Walkie-Talkie (REQUIRED)	1x
	Measuring equipment (e.g., SWR meter or antenna analyzer) (OPTIONAL)	1x

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Assembly Instructions

Step 1

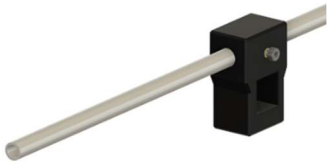
Step 1: Check the website for the latest version of the assembly manual and operations manual.

Step 2

Prepare the Materials:

- Ensure you have all components: directors, reflectors, dipole mount, tubes, boom, etc.
- Gather necessary tools, such as a screwdriver, hex key, measuring tape.

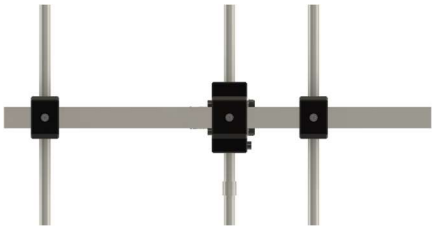
Step 3



Assemble the Components:

- Insert the aluminum rods into the corresponding holes in the 3D-printed directors, reflectors, and dipole mount. Secure the components using the provided screws. Avoid over-tightening to prevent damage.

Step 4



Adjust Positions:

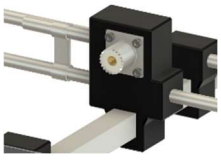
- Adjust the positions of the directors and reflectors along the rods to achieve optimal alignment. Use the **Dimensions Sheet** to determine the ideal spacing.

Step 5

Phone/Walkie-Talkie Holder & Handle:

- Attach the Phone/Walkie-Talkie Holder to the Boom. Secure the phone clamp using the provided screw. The Walkie-Talkie can be fastened using its back clip.
- Also, securely attach the handle to the boom.

Step 6



Connect the Dipole:

Attach your feedline or coaxial cable to the dipole connector. Double-check that the connection is secure. Tighten screws firmly after positioning the elements.

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Specifications

- **Frequency:** 437 MHz
  (Optimized for the 70 cm UHF band, ideal for experimental and amateur radio use.)
- **Gain:** 10.15 dBi
- **Wavelength:** 70 cm
- **Beamwidth:** Approximately 54° (half-power)
  (Indicates the angular width where most of the energy is concentrated.)
- **Front-to-Back Ratio:** ~20 dB
  (Helps reduce interference from signals coming from the rear.)
- **Impedance:** 50 ohm
  (Ensures compatibility with standard coaxial cables and radio equipment.)
- **VSWR:** ≤1.5:1
  (Minimizes signal loss and reflection for efficient power transfer.)
- **Elements and Design Details:**
  - **1 Reflector**
  - **1 Dipole (Driven Element with gamma match)**
  - **3 Directors**
    (Configured for optimal signal focus and directivity.)
- **Material and Construction:**
  - **Element Diameter:** 8 mm
    (Made from lightweight aluminum tubes, matching the boom material for consistent performance.)
  - **Boom:** Constructed from a 15x15 mm square aluminum tube
    (Provides a robust and lightweight support structure for the antenna.)
  - High-quality 3D-printed element holders
- **Dimensions and Weight:**
  - **Boom Length:** 65 cm
  - **Longest Element:** 336 mm
  - **Weight:** ±650 grams
    (Compact and lightweight, designed for both portability and durability.)
- **Maximum Power Input:** 50 watts
- **Connector Type:** SO239
- **Installation and Mounting Options:**

- **Handheld Use:** Integrated ergonomic handle for secure and comfortable operation
- Fully adjustable element positions for experimentation

Important Safety Instructions

- **Sharp Edges:** Handle aluminum rods and 3D-printed parts carefully, as edges may be sharp. Wear gloves during assembly to avoid cuts.
- **Electrical Safety:** Ensure the antenna is not connected to any live electrical source during assembly or adjustments. Keep the antenna away from high-voltage power lines or exposed electrical equipment.
- **Weather Conditions:** Avoid assembly or use during lightning storms to prevent potential hazards.
- **Weight Limits:** Do not overload the structure with additional components beyond the design specifications.
- **Small Parts:** Keep screws and small parts out of reach of children to avoid choking hazards.
- **Operate at Your Own Risk:** The Miyagi Antenna is intended for hobbyists, experimenters, and educational use. Proper care and attention are required during assembly and use. The manufacturer is not responsible for any damage, injury, or loss resulting from improper use or assembly of this product. Always follow safety guidelines and ensure compliance with local regulations when using the antenna.

Maintenance Tips

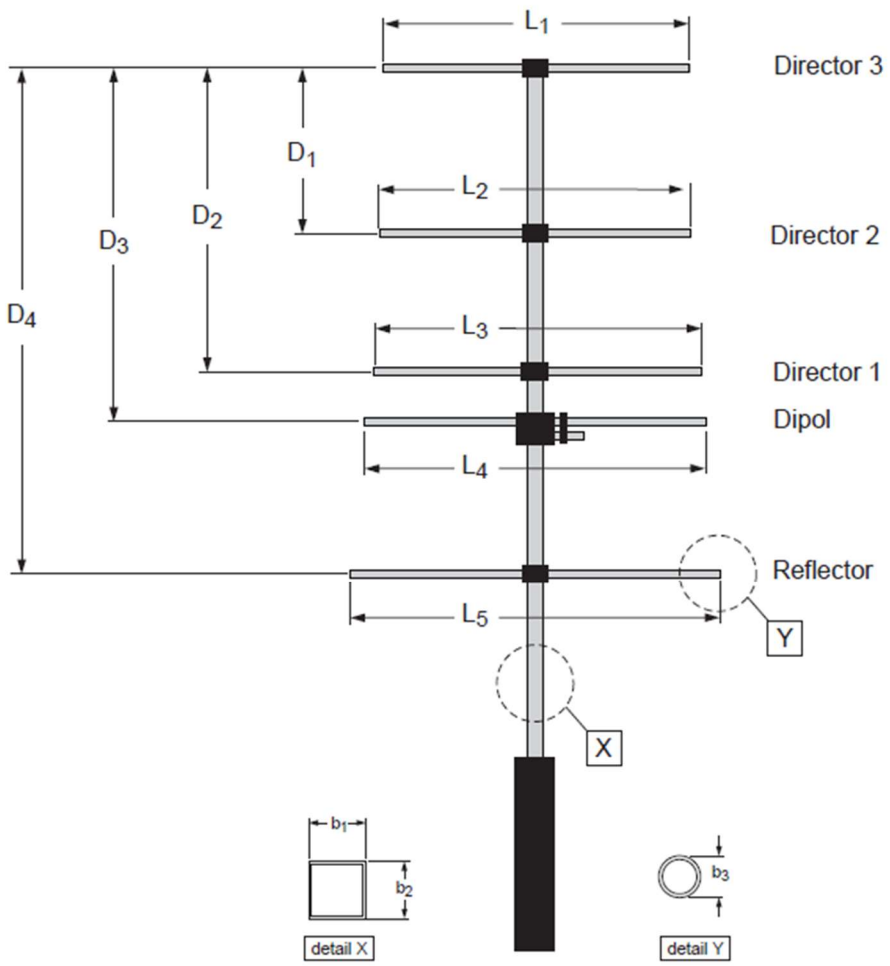
- **Cleaning:** Clean 3D-printed parts with a soft cloth and mild soapy water. Avoid using harsh chemicals that may degrade the material. Wipe aluminum rods with a dry or damp cloth to prevent dirt buildup.
- **Inspection:** Periodically check screws, inserts, and parts for wear or looseness. Tighten as necessary to maintain stability. Inspect 3D-printed parts for cracks or damage and replace if needed.
- **Storage:** Store the antenna in a dry location when not in use to prevent rust on aluminum rods and degradation of plastic parts. Disassemble components for compact storage if required.
- **Repositioning:** Loosen screws gently when repositioning parts and avoid overtightening to maintain thread integrity.

Customer Support

- **Website:** www.rru-products.com
- **Email:** support@reprapuniverse.com
- **Phone:** +31(0)453690000

Dimensions Sheet

5 Elements Yagi Antenna: Frequency 437 MHz; Gamma match; 10.15 dBi gain; Wavelength 686 mm



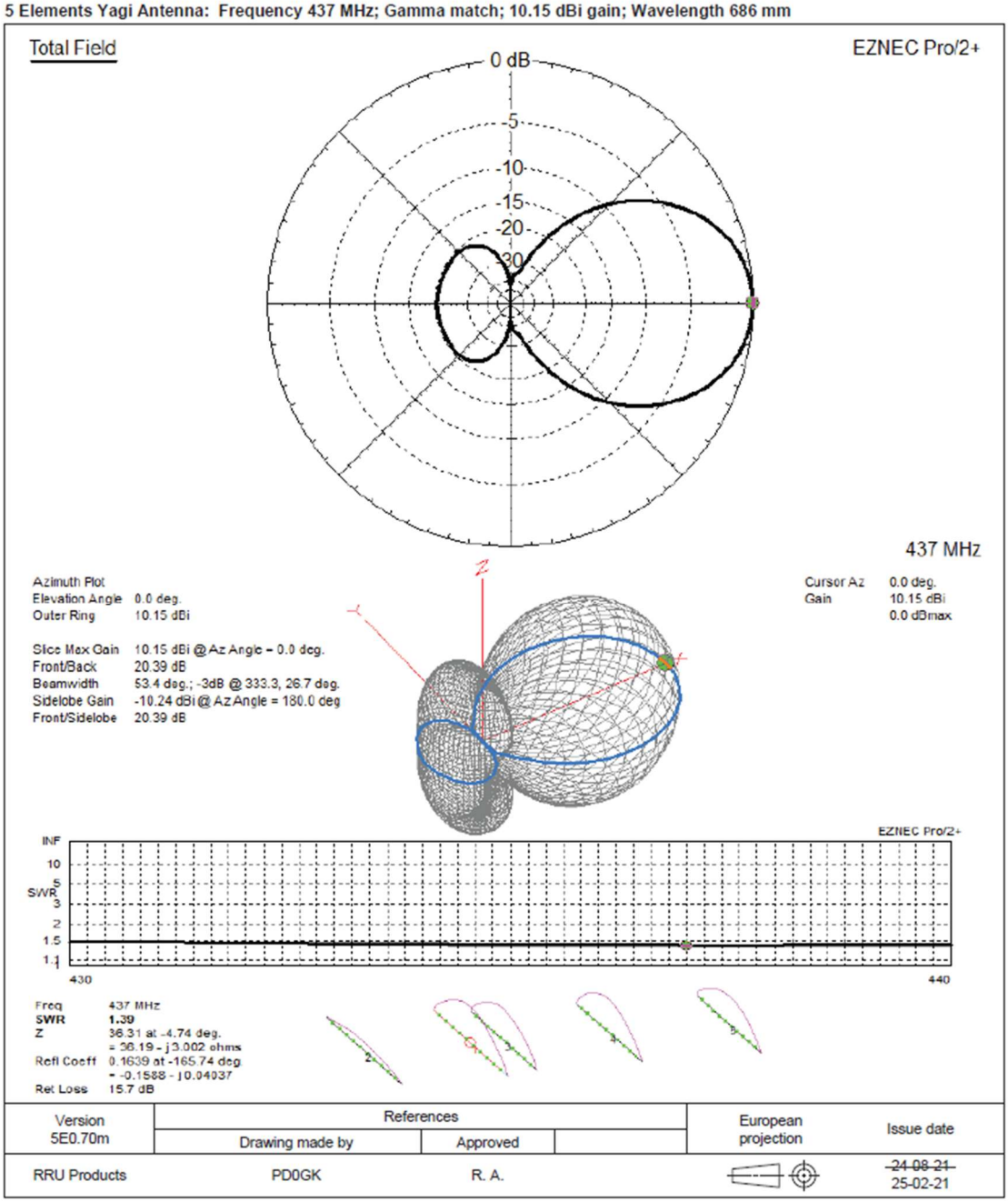
Dimensions (mm are the original dimensions)

Unit(1)		D_1	D_2	D_3	D_4	L_1	L_2	L_3	L_4	L_5	b_1	b_2	b_3
mm	max												
	nom	151	275	326	460	285	290	294	328	336	15	15	8
	min												

Version 5E0.70m	References			European projection	Issue date
	Drawing made by	Approved			
RRU Products	PD0GK	R. A.			~~24-08-21~~ 25-02-21

Plot Sheet

5 Elements Yagi Antenna: Frequency 437 MHz; Gamma match; 10.15 dBi gain; Wavelength 686 mm



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