

The SEL-3031 data radio, manufactured by Schweitzer Engineering Laboratories, Inc., is marketed by SEL to utility, industrial and commercial customers to provide the quick infrastructure for data communications. It is not marketed or sold to ordinary consumers; Thus, the product is installed by professionals, who will mount the radio, provide power, route the feedline (often with lightning protection), erect towers, and install the antenna. Due to the wide variety of installation situations, installation by a professional using a standard RF connection is necessary. Documents like the User Manual depict a myriad of setups to aid the installer; These documents are locked behind an exclusive login at selinc.com. Webmail domain logins like Gmail, Yahoo, Outlook, etc., and non-SEL approved company domains do not have access to these documents.

Antenna Make	Antenna Model	SEL Part Number	Antenna Type	Max Gain (dBi)
PCTEL	BMYD890M	235-0222	YAGI	14.15
PCTEL	MFB9157	235-0233	DIPOLE	9.15

The data sheets and radiation patterns are provided by the antenna manufacturer below:

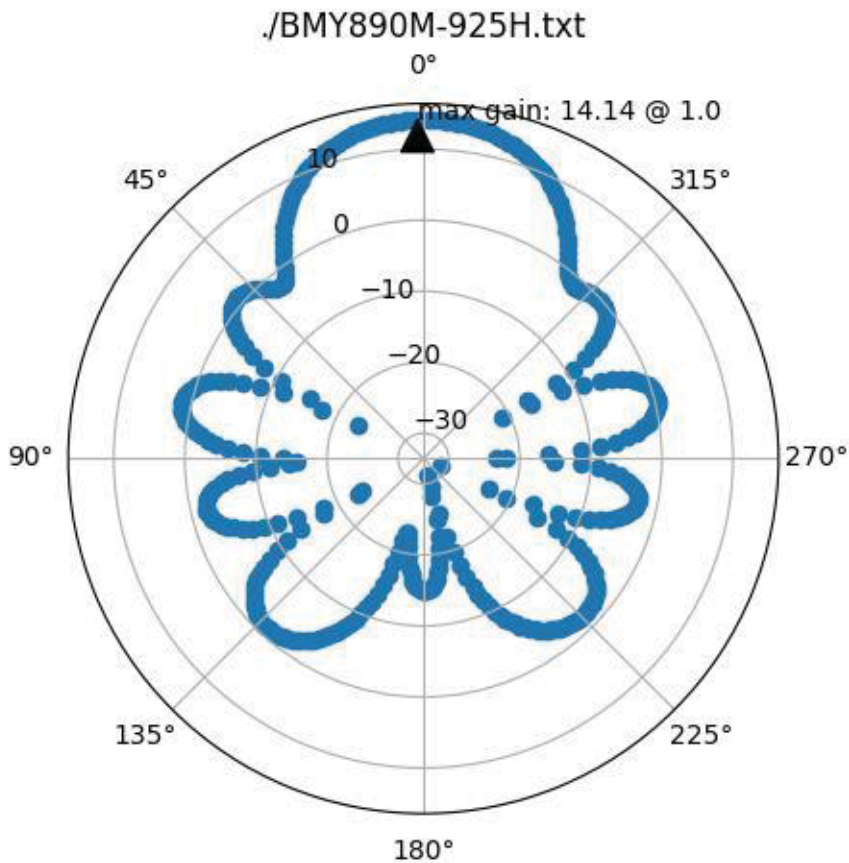


Figure 1: BMYD890M Azimuth



Figure 2: BMYD890M Elevation

Bluewave Yagi Antennas, 890-960 MHz, 12 dBd Gain

The BMXD890M series has been engineered to meet the requirements of a high gain, broadband, premium quality antenna. This antenna has 12 dBd gain and operates in the 890-960 MHz range. The BMXD890M is manufactured using high strength 6061-T6 aluminum to withstand heavy ice, high wind and other harsh conditions. All elements are welded to the boom and the dipole design has an integral feed line welded to the boom for extra strength and electrical conductivity. This eliminates misalignment or fastener problems. The entire antenna is anodized for appearance and corrosion resistance. A heavy duty clamp is supplied which easily permits horizontal or vertical polarization.

Features

- Elements and boom are manufactured from aircraft quality 6061-T6 aluminum for optimum strength
- Antenna is anodized for corrosion resistance
- Antenna is supplied with a 2' pigtail (RG213) and N female connector.

Antenna Electrical Specifications

Model	Frequency Range	-3 dB Horizontal Beamwidth	-3 dB Vertical Beamwidth	Front to Back Ratio	Nominal Gain
BMXD890M	890-960 MHz	40°	34°	20 dB	12 dBd

Mechanical Specifications

Model	Antenna Dimensions* (L x W)	Weight (Mass)	Cross Sectional Area	Lateral Thrust @ 100 mph	Rated Wind Velocity**
BMXD890M	37" x 6.6"	2.5 lbs	0.35 ft ²	8.75 lbs	125 mph

Model	Elements	Cable Type	Cable Length	Connector Type
BMXD890M	11	RG213	2 ft	N female

* Dimension does not include antenna cable
 **120 mph with 1/2" radial ice (mph)



BMXD890M antenna (top) with BWC1001 mount (left)



Technical Data

Maximum Power: 200 watts
Nominal Impedance: 50 ohms
Radiator Material: Aluminum 6061-T6
Mounting Method: Includes mounting hardware BWC1001

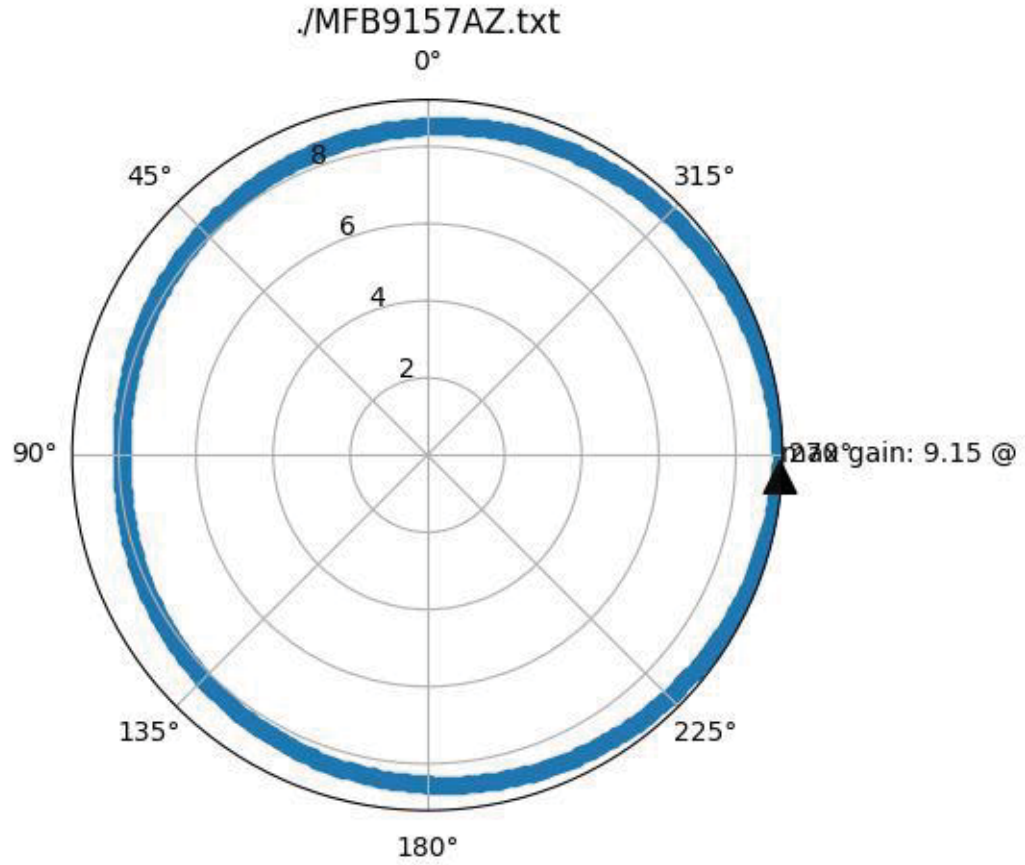


Figure 3: MFB9157 Azimuth

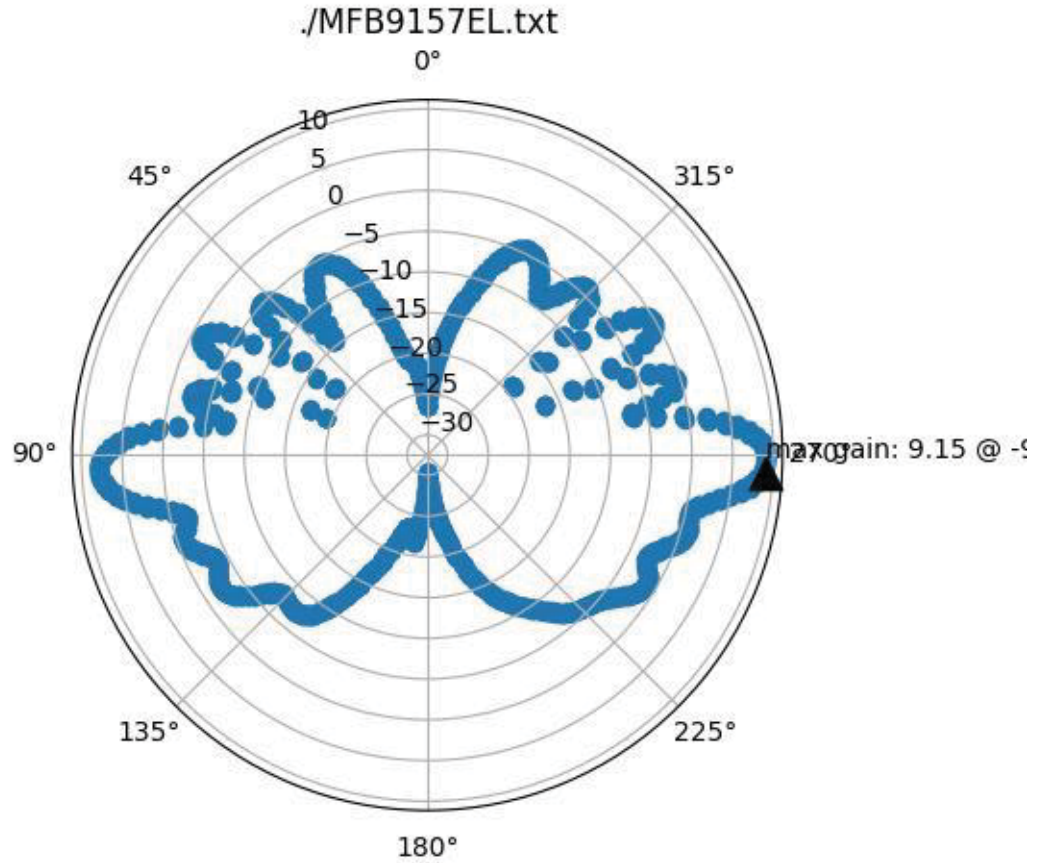


Figure 4: MFB9157 Elevation

800/900 MHz MAXRAD Fiberglass Base Station (MFB) Omnidirectional Antennas

The MFB 900/800 MHz series are base matched half wave antennas encapsulated in heavy duty fiberglass radomes with a thick walled aluminum mounting base for reliable long term use. All models are DC grounded and UPS shippable.

Features

- White ultra-violet resistant pultruded fiberglass radome
- Thick walled aluminum mounting base
- Unity/3 dB/5 dB/7 dB models
- UPS shippable
- Factory tuned



MFB9155



Technical Data

Maximum Power: 150 watts
Normal Impedance: 50 ohms
Radome Material: 1.0" OD pultruded white fiberglass
Radiator Material: Coated steel wire
ESD Protection: DC grounded
Wind Survival: 100 mph
Termination: Unity and 3 dB models, N Female
Mounting Base Diameter: 1-5/16"
Mounting Method: Mast or wall mounted. Mounting hardware is sold separately. MMK1: light duty mast mount for antennas under 30" MMK3: light duty mast mount for antennas over 30" MMK4: heavy duty mast mount MMK9: Aluminum mast mount for 1-5/16" OD antennas MBSWM: wall mounting bracket for antennas over 30" (two are required) MMK12: heavy duty mount bracket



MMK3



MMK1



MMK4



MMK9



MBSWM



MMK12

RF/Electrical Specifications

Model	Frequency Range	Factory Tuned Frequency	Gain	Bandwidth @ 1.5:1 VSWR	Vertical Beamwidth @ 1/2 Power
MFB8133	806-866 MHz	813 MHz	3 dB	30 MHz	40°
MFB8135	806-866 MHz	813 MHz	5 dB	20 MHz	22°
MFB8583	806-866 MHz	858 MHz	3 dB	30 MHz	40°
MFB8585	806-866 MHz	858 MHz	5 dB	20 MHz	22°
MFB8353	824-896 MHz	835 MHz	3 dB	30 MHz	40°
MFBW8903	890-960 MHz	N/A	3 dB	70 MHz	40°
MFBW8905	890-960 MHz	N/A	5 dB	70 MHz	22°
MFB8963	896-940 MHz	898 MHz	3 dB	30 MHz	40°
MFB8965(NF)	896-940 MHz	898 MHz	5 dB	20 MHz	22°
MFB9387	896-940 MHz	938 MHz	7 dB	20 MHz	17°
MFB8967(NF)	896-940 MHz	898 MHz	7 dB	20 MHz	17°
MFB9153	902-928 MHz	915 MHz	3 dB	20 MHz	40°
MFB9155(NF)	902-928 MHz	915 MHz	5 dB	20 MHz	22°
MFB9155RPC	902-928 MHz	915 MHz	5 dB	20 MHz	22°
MFB9157(NF)*	902-928 MHz	915 MHz	7 dB	20 MHz	17°

Mechanical Specifications

Model	Height	Weight (Mass)	Bending Moment at Rated Wind	Lateral Thrust at Rated Wind	Equivalent Flat Plate Area
MFB8133	26"	1.25 lbs	4.7 ft-lbs	4.3 lbs	.12 sq ft
MFB8135*	48"	1.75 lbs	14.2 ft-lbs	8.0 lbs	.22 sq ft
MFB8583	26"	1.25 lbs	4.7 ft-lbs	4.3 lbs	.12 sq ft
MFB8585*	48"	1.75 lbs	14.2 ft-lbs	8.0 lbs	.22 sq ft
MFB8353	26"	1.25 lbs	4.7 ft-lbs	4.3 lbs	.12 sq ft
MFBW8903	23"	1.25 lbs	4.7 ft-lbs	4.3 lbs	.12 sq ft
MFBW8905	48"	1.75 lbs	14.2 ft-lbs	8.0 lbs	.22 sq ft
MFB8963	26"	1.25 lbs	4.7 ft-lbs	4.3 lbs	.12 sq ft
MFB8965*	48"	1.75 lbs	14.2 ft-lbs	8.0 lbs	.22 sq ft
MFB9387*	96"	4.00 lbs	62.5 ft-lbs	15.8 lbs	.44 sq ft
MFB8967*	96"	4.00 lbs	62.5 ft-lbs	15.8 lbs	.44 sq ft
MFB9153	23.25"	1.25 lbs	4.7 ft-lbs	4.3 lbs	.12 sq ft
MFB9155(NF)**	48"	1.75 lbs	14.2 ft-lbs	8.0 lbs	.22 sq ft
MFB9155RPC	48"	1.75 lbs	14.2 ft-lbs	8.0 lbs	.22 sq ft
MFB9157 (NF)*	96"	4.00 lbs	62.5 ft-lbs	15.8 lbs	.44 sq ft