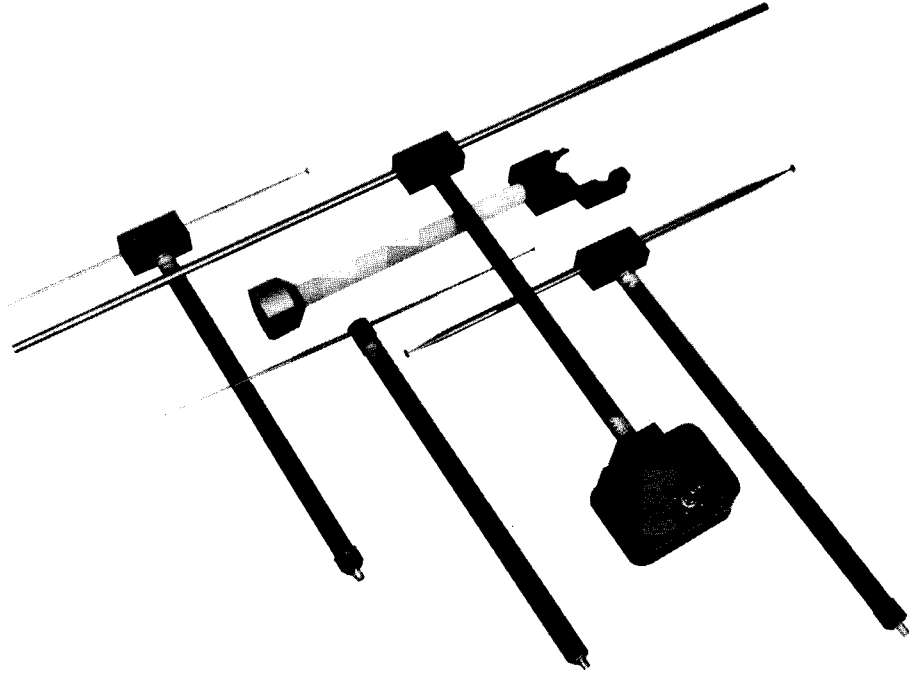


Dipole

FEATURES

- Broadband Baluns
- Frequency Range of 28 MHz to 1 GHz
- Ability to Receive or Transmit
- Improvement of FCC Balun Design
- Low VSWR
- Low Balun Loss
- Very Linear Antenna Factors
- Suitability for FCC or VDE Site Attenuation
- Carrying Case, Tripod Mount and Tape Measure
- Individually Calibrated
- Two Year Parts and Labor Warranty



EMCO Model 3121 Adjustable Element Dipole Antenna Set

DESCRIPTION

The EMCO Model 3121 dipole antenna with its set of four compensated baluns offers an accurate standard for precise EMI measurements. This model is an improvement of the FCC balun design and performs close to the theoretically perfect lossless dipole.

With its close to ideal characteristics, the 3121 is well suited for both EMI testing and site attenuation tests as described in OST 55 and ANSI C 63.4.

Like all EMCO antennas, each 3121 dipole set is individually calibrated and shipped with its own factors as well as a signed Certificate of Conformance. The result is an antenna with precisely *measured* factors. Other commercially available antennas supply only typical or theoretical factors. Accordingly, the EMCO dipole user need not worry that an error in the antenna factor will cause measurement errors during EMI testing.

EMCO dipoles are constructed of removable stainless steel elements and machined and fabricated non-corrosive metal baluns. A clamp block, delrin support rod and aluminum mounting base are included in the set. The aluminum mounting base accepts standard 1/4 in. x 20 male threads from an EMCO tripod or most other tripods. All components, including a tape measure, are mounted in a shock resistant carrying case.

EMCO warrants its dipoles to be free from defects in material or workmanship for two years. Annual recalibration is suggested.

APPLICATIONS

TEST TYPE	MODEL NUMBER
	3121
FCC 15 18	RE RE
VDE 0871, 0875	RE
SAE J1113 J551	RE
MIL-STD 461/462 285 1541	PW RE
TEMPEST	RE

RE = Radiated Emissions
PW = Plane Wave

ELECTRICAL SPECIFICATIONS

MODEL NUMBER	FREQUENCY RANGE	VSWR (AVG)	BALUN LOSS	MAXIMUM CONTINUOUS POWER	PEAK POWER	IMPEDENCE	CONNECTOR TYPE
3121	28 MHz 1 GHz	<1.6:1	< 5dB	20 W	50 W	50 ohm	N female
Balun 1	28- 60 MHz						
Balun 2	60- 140 MHz						
Balun 3	140- 400 MHz						
Balun 4	400-1000 MHz						

PHYSICAL SPECIFICATIONS

MODEL NUMBER	WIDTH (ELEMENTS, MAXIMUM EXTENTION)	WEIGHT
3121	5.2 m 17 ft	11.8 kg 21 lb

STANDARD CONFIGURATION

Four element extension rods, 2 low frequency adjustable elements, 2 medium frequency adjustable elements, four baluns (DB 1-4), clamp block, support rod, base drilled to accept EMCO or other tripod mount with standard 1/4 in. x 20 male threads, one 5 meter tape measure, one high frequency ruler for DB 4, 7.6 m (25 ft.) of cable with N connectors (BNC available on request), manual with Certificate of Conformance and actual calibration factors, carrying case.

OPTIONS

None

WARRANTY

Two year parts and labor.

MODEL 3121

Typical Antenna Calibration at 3 Meter Spacing 20 Watts Maximum Continuous Power

DB1

FIELD STRENGTHS (E)	
FREQUENCY (MHz)	ANTENNA FACTOR (dBi)
20	9.7
25	2.2
30	0.2
35	1.6
40	1.2
45	2.6
50	3.0
55	4.2
60	4.9

DB2

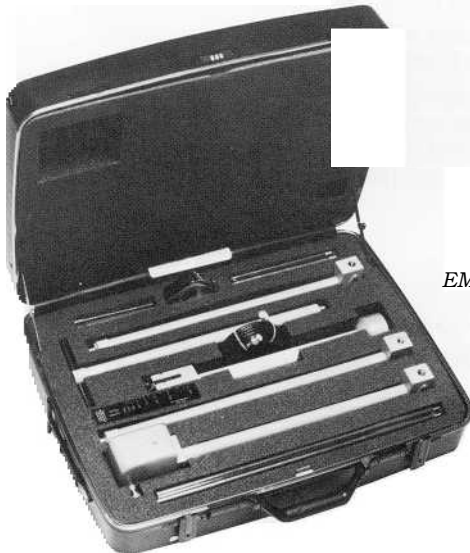
FIELD STRENGTHS (E)	
FREQUENCY (MHz)	ANTENNA FACTOR (dBi)
50	2.1
55	3.1
60	4.2
65	5.0
70	5.1
75	5.9
80	6.3
85	7.0
90	8.3
95	9.1
100	9.3
105	10.0
110	10.4
115	11.0
120	11.6
125	10.9
130	11.0
135	11.6
140	12.2
145	12.0
150	12.3

DB3

FIELD STRENGTHS (E)	
FREQUENCY (MHz)	ANTENNA FACTOR (dBi)
140	13.0
150	12.5
160	13.3
170	13.0
180	13.7
190	14.4
200	14.8
210	15.6
220	15.7
230	16.4
240	17.0
250	17.2
260	17.7
270	17.9
280	17.8
290	18.1
300	18.3
310	18.1
320	18.2
330	18.4
340	18.8
350	19.4
360	20.6
370	20.4
380	20.9
390	21.4
400	21.5

DB4

FIELD STRENGTHS (E)	
FREQUENCY (MHz)	ANTENNA FACTOR (dBi)
400	22.0
425	22.7
450	23.2
475	24.0
500	24.6
525	24.3
550	24.1
575	24.2
600	24.7
625	25.4
650	25.7
675	25.2
700	25.8
725	25.9
750	26.6
775	26.2
800	26.8
825	27.0
850	27.6
875	27.5
900	28.4
925	28.8
950	29.1
975	29.3
1000	28.7



EMCO Model 3121 Adjustable Element Dipole Antenna Set with Case