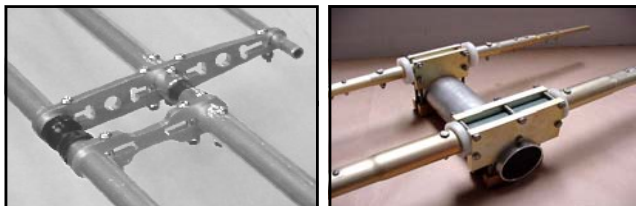




HF ANTENNAS



All M² HF Antennas use machined aluminum element to boom mounts and feature stainless steel hardware throughout the antenna. All antennas include a balun that is 3kW PEP rated. Log Periodics (our choice for multi-band directional antennas) use a 4:1 broadband ferrite balun and the Monobanders all use a broadband teflon coax coaxial 1:1 balun (No ferrite). All antennas are carefully designed using computer modeling and optimization. Our Designer, Mike Staal (K6MYC) has been designing High Performance antennas commercially since 1971 when he formed KLM. Our antennas feature the highest gain possible, consistent with other important parameters like F/B & VSWR bandwidth.

The world is changing and M2 is right there in the game. To offset the rising gas and freight costs, we are designing our large, high performance antennas for shipment by UPS. This means lower costs to you with less damage potential. We are also streamlining our designs, reducing weight while still maintaining our 100 MPH survival ratings.

We know only too well how increased antenna restrictions limit your system performance. We have continued to look for better ways to get more for less and our up and coming NEW line of Multi-Band Verticals will be a great example of our commit to the Ham Radio operator.

MODEL	80M1LLB	80M2LLB	80M3LLB	6-10LP5	7 & 10-30LP8	10-30LP8	17-30LP7DX	KT34M2	KT36XA	40M1LDX	40M2L	40M3L
Freq. MHz	3.5-3.575 & 3.75-3.85	3.5-3.575 & 3.75-3.85	3.5-3.575 & 3.75-3.825	6-10	7 & 10-30	10-30	17-30	14/21/28 MHz	14/21/28 MHz	6.9-10	7.0-7.3 X 125 KHz	7.0-7.3 X 200 KHz
Gain	-0.22 dBd	4.0 dBd	5.3 dBd	5 dBi	6 dBd	6 dBd	6.5 dBd	7.4/7.0/6.8 dBi	9.3/9.4/10.4 dBi	NA	4.2 dBd	5.6 dBd
Front to Back	0 dB	12 dB	20 dB	15 dB	3 dB / 15 dB	15 dB	20 dB	24/24/22 dB	21/21/26 dB	NA	12 dB	20 dB
Beam-width	E=75	E=66	E=65	E=70 H=85	E=65 H=75	E=65 H=75	E=65 H=75	N/A	N/A	E=70	E=85	E=62
VSWR	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	2.0:1 Max	1.8:1	1:8.1	1.5:1 Max	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.
Boom Length Diameter	85' 3"-.75"	30' 4"	58' 4.5"-4"	30' 3"	30' 3"	29' 3"	23' 8" 2"	16' 3"	32' 3"	N/A 3"	20' 3"	30' 3"
Element Max	85'	85'	85'	55'	49'	49'	28' 8"	25'	25'	46'	46'	46'
Turn Radius	N/A	46'	56'	32'	28'	27'	19'	15'	21.5'	23'	27'	28'
Wind Area	8 Sq Ft.	19 Sq Ft.	30.5 Sq Ft.	12 Sq Ft.	15 Sq Ft.	15 Sq Ft.	7 Sq Ft.	4.5 Sq Ft.	9.75 Sq Ft.	3 Sq Ft.	6.6 Sq Ft.	9.5 Sq Ft.
Wind Survival	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH
Weight/Ship	85 lbs/TRK	200 lbs/TRK	350 lbs/TRK	110 lbs/TRK	120 lbs/UPS	110lbs/TRK	65 lbs/UPS	38 lbs/UPS	50 lbs/UPS	55 lbs/UPS	55 lbs/TRK	90 lbs/TRK

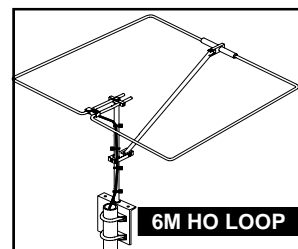
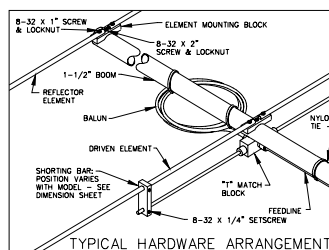
MODEL	40M4LLDD	20M4DX	20M5	20M6A	17M3DX	17M5DX	15M4DX	15M6	12M4DX	10M4DX	10M7
Freq. MHz	7.0-7.3	14.0-14.350	14.0-14.350 LF,CW,FF	14.0-14.350 FULL BAND	18-18.3	18.08-18.18	21.0-21.450	21.0-21.450	24.89-24.99	28.00-28.80	28.0-28.75
Gain	7.5 dBi	7.4 dBd	8.1-8.5 dBd	9.0 dBd	6.3 dBd	8.6 dBd	8.5 dBd	9.4 dBd	8.6 dBd	8 dBd	10.3 dBd
Front to Back	22 dB	24 dB	24 dB	25 dB	25 dB	24 dB	25 dB	25 dB	20 dB	22 dB	25 dB
Beam-width	E=60	E=50/H=75	E=50	E=46	E=60/H=90	N/A	E=53/H=60	E=48/H=53	E=48 H=58	E=53 H=64	E=46/H=56
VSWR	1.2:1 Typ.	1.2:1 Res.	1:1 RES	1.2:1 Typ.	1:2:1 Max.	1:1	1.2:1 Max.	1.2:1	1.2:1	1.2:1	1.4:1 Max.
Boom Length Diameter	42' 3"	34' 2.5"	44' 3"	60' 3"	18' 2"	36' 2.5"-2"	33'8" 2.5-2	44'10" 2.5-2"	27' 2"	24' 2"	45' 2.5"-2"
Element Max	46'	35'	36'	37'	27' 10"	27' 11"	23' 8"	23'8"			
Turn Radius	32'	25'	30'	40'	16' 6"	24' 5"	21'	27'	16' 8"	14' 8"	26'
Wind Area	13 Sq Ft.	6.9 Sq Ft.	10.5 Sq Ft.	14.8 Sq Ft.	4 Sq Ft.	7.25 Sq Ft.	6.1 Sq Ft.	8.5 Sq Ft.	4.4 Sq Ft.	3.5 Sq Ft.	6 Sq Ft.
Wind Survival	100 MPH	85 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH
Weight/Ship	120 lbs/TRK	35 lbs/UPS	105 lbs/TRK	150 lbs/TRK	30 lbs/UPS	42 lbs/UPS	32 lbs/UPS	50 lbs/TRK	42 lbs/UPS	35 lbs/UPS	68 lbs/TRK



6M / 2M ANTENNAS

We've combined the best new computer optimization programs and decades of VHF antenna design experience to maximize the performance of every 6M and 2M yagi. Gain, beamwidth and F/B are tailored, model by model, to enhance your applications. The heart of these antennas, the unique driven element module shown to the right. Originally designed for maritime ATS satellite systems, it proved so successful at matching, power handling and weather resistance, that it is now in use on all of our 6M and 2M yagis.

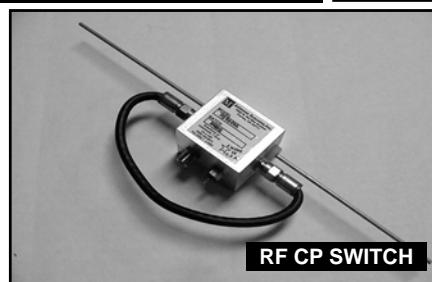
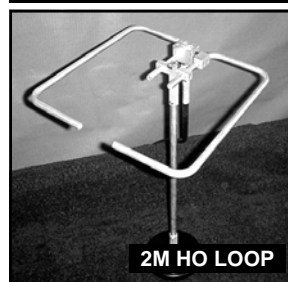
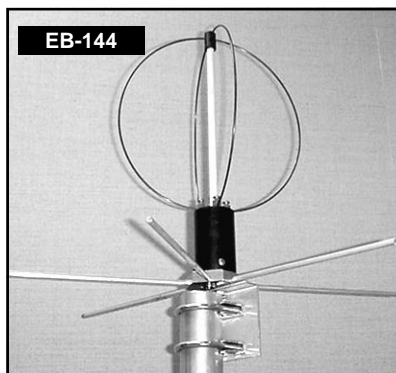
We continue to offer our popular standards like the 2M5WL or the 6M5X. At the same time we push the state of the art with antennas like the versatile 2MXP32 building block. Polarity diversity is the wave of the future for EME, but it also can be a great advantage for satellite and terrestrial communications. Throughout our line we strive to be on the "Leading Edge."



MODEL	6M Ho Loop	6M3	6M5X	6M7	6M7JHV	6M2WLC	6M9KHW	6M11JKV
Freq. MHz	50-50.3	50-50.6 or 51-54	50-50.5 or 51-54	49.5-50.5	50-50.4	49.7-50.5	50.0-50.4	50-50.4
Gain	4.4 dBd	6.4 dBd	9.4 dBd	10.5 dBd	10.9 dBd	11.9 dBd	12.7 dBd	14.0 dBd
Front-Back	NA	20 dB	21 dB	23 dB	25 dB	25 dB	23 dB	20 dB
Beamwidth	Omni / Horz Pol	E=65 / H=80	E=42 / H=52	E=42 / H=50	E=40 / H=42	E=36 / H=39	E=34 / H=39	E=26 / H=30
VSWR	1.2:1 Typ.	1.1 @ 50.175	1.1 @ 50.175	1.2:1 @ 50.1	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.
Boom Length/Dia.	Size 29.5" Sq.	6' 9" / 1 1/2"	18' / 1 1/2"	26' 9" / 2"	30' 8" / 1 1/2"	39' 6" / 2 & 2 1/2"	49' 4" / 2"-1/2"	69' / 3"
Elements	1 (loop)	3	5	7	7	9	9	11
Wind Area	.01 Sq Ft.	1.2 Sq Ft.	2.2 Sq Ft.	3 Sq Ft.	2.5 Sq Ft.	5 Sq Ft.	5.9 Sq Ft.	10.7 Sq Ft.
Wind Survival	100 MPH	100 MPH	100 MPH	100 MPH	85 MPH	100 MPH	100 MPH	100 MPH
Weight/Ship	2 lbs / UPS	6 lbs / UPS	9 lbs / UPS	20 lbs / UPS	17 lbs / UPS	31 lbs / TRK	35 lbs / UPS	83 lbs / TRK

MODEL	2M4	2M7	2M9FM	2M9SSB	2M12	2M5WL	2M18XXX	2M8WLHD	2M5-440XP
Freq. MHz	144-148	144-148	145-148	144-146	144-148	144-148	144-146	144-144.7	2M & 440
Gain	7.5 dBd	10.3 dBd	12.0 dBd	12.0 dBd	12.8 dBd	14.8 dBd	15.3 dBd	17.0 dBd	9 / 12 dBd
Front-Back	20 dB	20 dB	24 dB	24 dB	25 dB	22 dB	22 dB	24 dB	12/25 dB
Beamwidth	E=54 / H=74	E=46 / H=54	E=35 / H=40	E=35 / H=40	E=32 / H=36	E=26 / H=29	E=25 / H=29	E=20 / H=21	Cross Pol.
VSWR	1.5:1 Max.	1.3:1 Typ.	1.4:1 Max.	1.4:1 Max.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.3:1 Max.
Boom Length/Dia.	4' / 1"	8' 10" / 1"	14'6" / 1"-3/4"	14'6" / 1"-3/4"	19'6" / 1 1/2"	33' / 1-1/2"-3/4"	36'3" / 1-1/2"-3/4"	55' / 2.5"-1.5"	5'8" / 1"
Elements/T. Radius	4 / 4'	7 / 4' 6"	9 / 8'	9 / 8'	12 / 10' 6"	17 / 18' 9"	18 / 19' 6"	21 / 29'	5 / 10
Wind Area	.5 Sq Ft.	.74 Sq Ft.	1.2 Sq Ft.	1.2 Sq Ft.	1.5 Sq Ft.	2.7 Sq Ft.	2.9 Sq Ft.	5.5 Sq Ft.	1.0 Sq ft.
Wind Survival	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH
Weight/Ship	3 lbs / UPS	4 lbs / UPS	6 lbs / UPS	6 lbs / UPS	8 lbs / UPS	12 lbs / UPS	14 lbs / UPS	38 lbs / UPS	4 lbs / UPS

MODEL	2MXP20	2MXP28	2MXP32	2MCP14	2MCP22	2M Ho Loop	EB-144
Freq. MHz	144-146	144-146	144-144.6	143-148	143-148	144-144.5	135-150
Gain	13.3 dBd	15.1 dBd	15.8 dBd	10.3 dBdc	12.5 dBdc	4.86 dBd	6 db Hor/RHC
Front-Back	20 dB Typ.	24 dB Typ.	24 dB Typ.	20 dB Typ.	25 dB Typ.	NA	NA
Beamwidth/Polarity	Cross Pol.	Cross Pol.	Cross Pol.	Circular Pol.	Circular Pol.	Omni, Hor.	Omni,Hor/RHC
VSWR	1.2:1 Typ.	1.4:1 Typ.	1.4:1 Max	1.3:1 Typ.	1.4:1 Typ.	1.2:1 Typ.	1.5:1 Max.
Boom Length/Dia.	21'6"/1-1/2-1"	34'6"/1-3/4-1"	40' 11"/ 1 1/2"	10' 6"/ 1"	18'6"/1-1/2-1"	NA	NA
Elements/T. Radius	10H/10V / 12'2"	14H/14V / 17'	16H/16V / 24'	7H/7V / 6'4"	11H/11V / 10'	1 loop/11.25"	34"Hx28"W
Wind Area	1.9 Sq Ft.	3.3 Sq Ft.	4.2 Sq Ft.	1.1 Sq Ft.	2.5 Sq Ft.	.05 Sq Ft.	.07 Sq Ft.
Wind Survival	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH
Weight/Ship	6 lbs / UPS	18 lbs / UPS	25 lbs / UPS	6 lbs / UPS	12 lbs / UPS	1 lbs / UPS	2 lbs / UPS

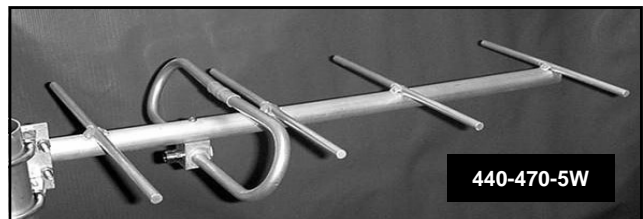


Got some ideas for a antenna array, but not sure where to start ?

Give us a call. We have hundreds of array designs we can manufacture to your needs and provide a complete system solution !

Ready to get Serious ?

M2 The New AMERICAN Antenna



440-470-5W

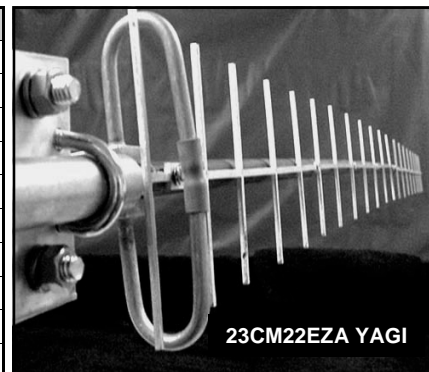
220, 70CM, 902 & 23CM

We have always offered performance and we have held that standard as our line grew. We continue to expand our line with innovative, longer lasting, trouble free antennas. In some models we bridge from Amateur to Commercial notably with our 440-470-5W (welded) and 902-9 yagis. You have to look long and hard to find this much high performance variety.

All of our UHF yagis feature balun and feed connectors that are O-ring sealed to a CNC machined block. Internal connections are encapsulated in a space-age silicone gel with nearly 4 times the dielectric strength of air. The type "N" connector features a beryllium copper, gold-plated center pin.

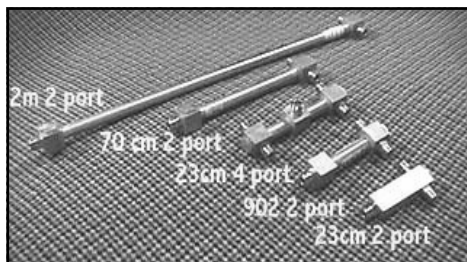
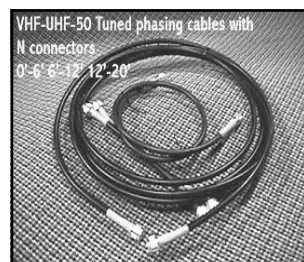
MODEL	222-7EZ	222-10EZ	222-5WL	222-7WL	222 HO Loop	420-450-5W	440-470-5W	420-450-11	440-18	440-21ATV	432-9WL	432-13WLA
Freq. MHz	220-226	222-226	222-226	222-226	220-224	420-450	440-470	420-450	420-453	420-440	420-440	430-434
Gain	9.8 dBd	12 dBd	15.2 dBd	16.4 dBd	4.75 dBd	7.8 dBd	7.8 dBd	11.3 dBd	14.5 dBd	15.9 dBd	17.3 dBd	18.6 dBd
Front-Back	22 dB	23 dB	21 dB	25 dB	NA	20 dB	20 dB	20 dB	23 dB	23 dB	24 dB	22 dB
Beamwidth	E=46/H=52	E=34/H=39	E=26/H=28	E=24/H=26	OMNI	E=56/H=72	E=56/H=72	E=34/H=43	E=27/H=24	E=22/H=24	E=20/H=22	E=16/H=18
VSWR	1.5:1 Max.	1.2:1 Max.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Max.
Boom Lgth/Dia	5'8" / 1"	9'9" / 1"	23'3" / 1.5-1"	32'5" / 1-1/2-1"	NA	2'2" / 1-1/4"	2'2" / 1-1/4"	5' / 1"	11'4" / 1"	14'6" / 1-3/4"	21'1-1/2-1"	30'8"/1.5-1
Elements	7	10	15	23	2 (loops)	5	5	11	18	21	28	38
Wind Area	.5 Sq Ft.	.9 Sq Ft.	1.5 Sq Ft.	2.7 Sq Ft.	.01 Sq Ft.	.33 Sq Ft.	.33 Sq Ft.	.58 Sq Ft.	.88 Sq Ft.	1.25 Sq Ft.	1.6 Sq Ft.	2.5 Sq Ft.
Wind Survival	100 MPH	100 MPH	100 MPH	75 MPH	100 MPH	150 MPH	150 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH
Weight/Ship	3 lbs / UPS	4 lbs / UPS	9 lbs / UPS	11 lbs / UPS	1 lbs / UPS	3 lbs / UPS	3 lbs / UPS	4 lbs / UPS	5 lbs / UPS	5 lbs / UPS	8 lbs / UPS	10 lbs / UPS

MODEL	EB-432	436CP30	436CP42UG	432 HO Loop	902-9	902-17	23CM22EZA	23CM35
Freq. MHz	420-450	430-440	430-438	430-436	900-930	900-930	1250-1300	1250-1300
Gain	4 dBv	14.5 dBdc	16.8 dBdc	5 dBd	12.11 dBd	14.86 dBd	16.0 dBd	18.4 dBd
Front-Back	<1 dB	22 dB	25 dB	NA	25 dB	25 dB	26 dB	28 dB
Beamwidth	OMNI,hor/cir	30 Circular	21 Circular	OMNI,HOR	E=35/H=38	E=27/H=30	E=24	E=17/H=18
VSWR	1.5:1 Max.	1.4:1 Max.	1.5:1 Max.	1.2:1 Typ.	1.2:1 Max.	1.2:1 Max	1:1	1.2:1 Typ.
Boom Length	9.5" Dia.	9' 9"	18' 10"	4 3/8" Square	36" / 1"	74" / 1"	5'2" / 1/2"	10' / 1"
Elements	2 (loops)	30	42	1 (loop)	9	17	22	35
Wind Area	Min.	1.0 Sq Ft.	2.0 Sq Ft.	.015 Sq Ft.	.30 Sq Ft.	.36 Sq Ft.	.3 Sq Ft.	.6 Sq Ft.
Wind Survival	100 MPH	75 MPH	100 MPH	150 MPH	100 MPH	100 MPH	100 MPH	100 MPH
Weight/Ship	2 lbs / UPS	5 lbs / UPS	8 lbs / UPS	1 lbs / UPS	4 lbs / UPS	4.5 lbs / UPS	2 lbs / UPS	4 lbs / UPS



23CM22EZA YAGI

ACCESSORIES



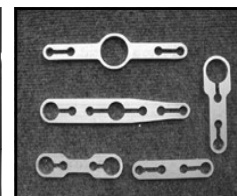
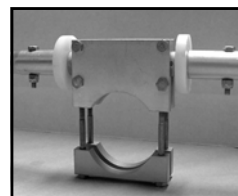
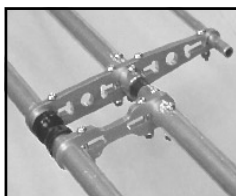
Our standard line of accessories is always growing, from our HD Fiberglass boom kit designed to stack two Circular antennas, to our "Big Foot" Mag Mount used for mounting Ho loops or other small vertical antennas. If your putting together a complete system but need special hardware, give us a call. We can provide U-Bolts, Plates, tubing....you name, we can probably build it for you.

We also have several parts and Upgrade Kits for the KLM KT34A and KT34XA Tri-Band antennas. From the capacitor caps, new shorting bars and baluns to upgraded boom to element clamps.....we have you covered !

Please see our website www.m2inc.com for more details.

At M2 We design and manufacture 2, and 4 port power dividers for most frequencies. They are ideal for accurate Impedance matching when feeding two or more antennas with 50 Ohm cable. The power dividers are made of aluminum alloy tubing brazed into machined aluminum junction blocks. The feed connectors are threaded into the blocks and seated on O-ring seals. Center conductors are copper, with Teflon disc supports.

Our phasing cables are electronically phased and matched at our factory to ensure accuracy. Reliability is increased with the use of LMR-400 and LMR-600 coax and silver-plated connectors. Connectors are shrink sleeved and crimp sealed to the coax. **Times Microwave LMR** series coax is superior having less loss than conventional solid dielectric cables, An extremely tough, smooth, exterior jacket that shrugs off weather and resists physical abuse.



KLM KT PARTS

M2 The New AMERICAN Antenna

ROTATORS AZ & EL

All M2 Azimuth and Elevation units and controllers are manufactured right here in the United States. This ensures you the best turn around time and overall quality assurance you expect from M2. We are always designing and problem solving to give you the best performance available for your dollar spent. A good example is the OR2800PX Azimuth Rotator. Built to handle small to large DX, CP or EME arrays. Did you know the OR2800PX is used at several NASA facilities to track the International Space Station ? Yes...you can say were bragging, why not ? M2 builds one of the best Rotators on the market !



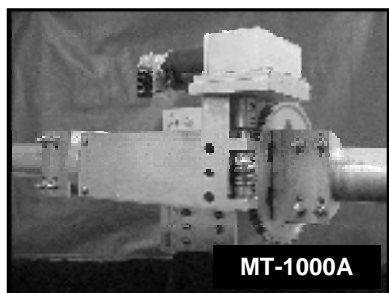
OR2800PX

Wind Area capacity	35 sq. ft.
Starting torque	3500 in/lbs.
Rotating torque	2800 in/lbs.
Braking torque	17000 in/lbs.
Vertical load capacity	1800 lbs.
Height of Rotator	15 3/4"
Mast size (O.D.)	1.75"-3"
Rotation speed (Max)	50 sec.
Rotation range	0-360 + 14
Display / Travel Res.	0.1 / .5
Input voltage	110 / 220 VAC
Motor voltage	28-42 VDC
Cable requirements	2-#18,2-#22
Weight	45 lbs.

Powerful and reliable, the **OR-2800PX (AZ)** rotates multiple HF antennas or large VHF/UHF arrays with ease.

Features include:

- *Precision worm-gear drive, non reversible by mast torque
- *Non-slip, ductile iron mast clamps
- *Large drive plate for up to 3" vertical masts
- *Heat-treated steel gear train, hardened driveshaft
- *Prop-pitch style torque plate
- *Fits most standard style tower sections
- *Motor-mounted digital pulse width modulation for accurate, closed loop control and heading display



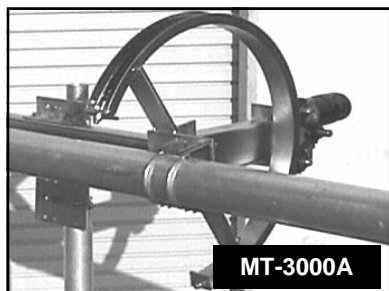
MT-1000A

Rotating torque	2400 in/lbs.
Gear ratio	6600:1
Rotation speed 0-90 deg	15 sec.
Construction	Alum / Steel
Mast size (O.D.)	2", 3" dia.
Cross-boom size	2", 3" dia.
Rotation range	0-360 + 14
Display / Travel Res.	0.1 / .5
Input voltage	110 / 220 VAC
Motor voltage	28-42 VDC
Cable requirements	2-#18,2-#22
Weight	25 lbs.

The MT-1000A (EL) is a rugged, mid sized elevation mechanism designed to handle the most common UHF / VHF Systems.

Features include:

- *Precision worm-gear drive, non reversible by boom torque
- *Large drive gear reduction and full circumference ball bearing rotation system
- *Heat-treated steel gear train, hardened driveshaft
- *Motor-mounted digital pulse width modulation for accurate, closed loop control and heading display



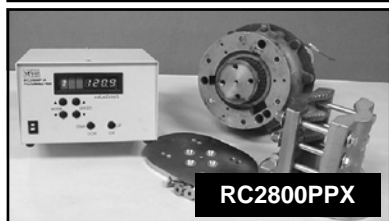
MT-3000A

Rotating torque	4500 in/lbs.
Gear ratio	19307:1
Rotation speed 0-90 deg	35 sec.
Construction	Steel
Mast size (O.D.)	2", 3" DIA.
Cross boom size	3",4",5" DIA
Rotation range	0-180 DEG
Display / Travel Res.	0.1 / .5
Input voltage	110 / 220 VAC
Motor voltage	28-42 VDC
Cable requirements	2-#18,2-#22
Weight	69 lbs.

The MT-3000A (EL) is a rugged, full sized elevation mechanism designed to handle large arrays.

Features include:

- *24" drive-ring / chain driven 28 volt 1255:1 gear motor
- *Full final gear reduction of 18,947:1
- *Mig welded, zinc plated structural steel frame
- *Rotation capability - complete inversion of array for maintenance
- *Motor-mounted digital pulse width modulation for accurate, closed loop control and heading display



RC2800PPX

Gear Ratio	up to 40,000:1
Input voltage	110 / 220 VAC
Motor voltage	28-32 VDC
Display / Travel Res.	0.1 / .5
Digital Pulse System	Reed Switch

The RC2800PPX Controller has been designed to run small to large prop pitch motors turning larger arrays of 35 Sq Ft. or more.

Features include:

- *Gear ratios up to 40,000:1
- *Heavy duty transformer with AC to DC conversion
- *(2) Manual controls, (1) Preset control and Computer control
- *Motor-mounted digital pulse width modulation for accurate, closed loop control and heading display



M2 is a family run business with old time values. We enjoy our work and the time we spend designing and building products and finding solutions to your requirements. We are deep in both practical "Real World" experience as well as "Technical Expertise." We have been in the antenna business for 32 years with thousands of designs in our files. Our goal is to produce the best, highest performance products possible within cost and time limits. We strive for your satisfaction in our products.

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SEE OUR WEBSITE FOR MORE DETAILS