1296 MHz Moon Beacon

The making off

Picture book

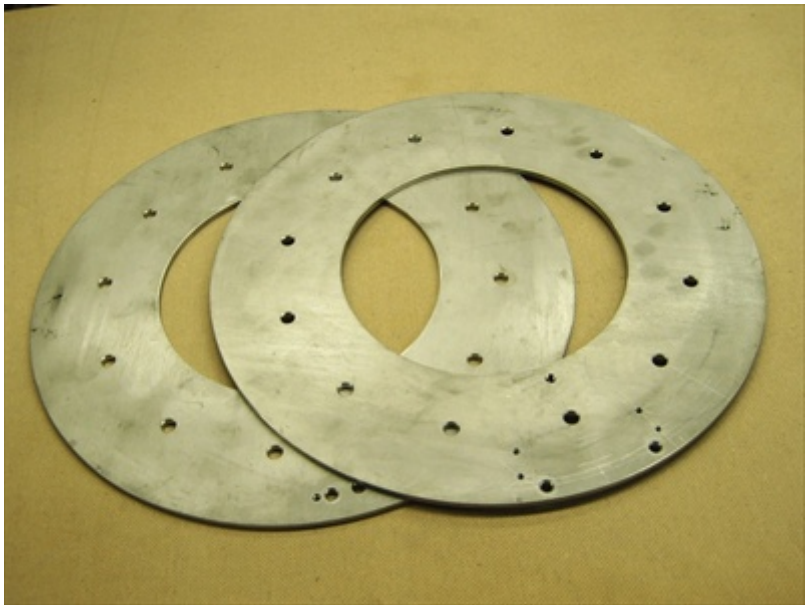
The antenna mount:

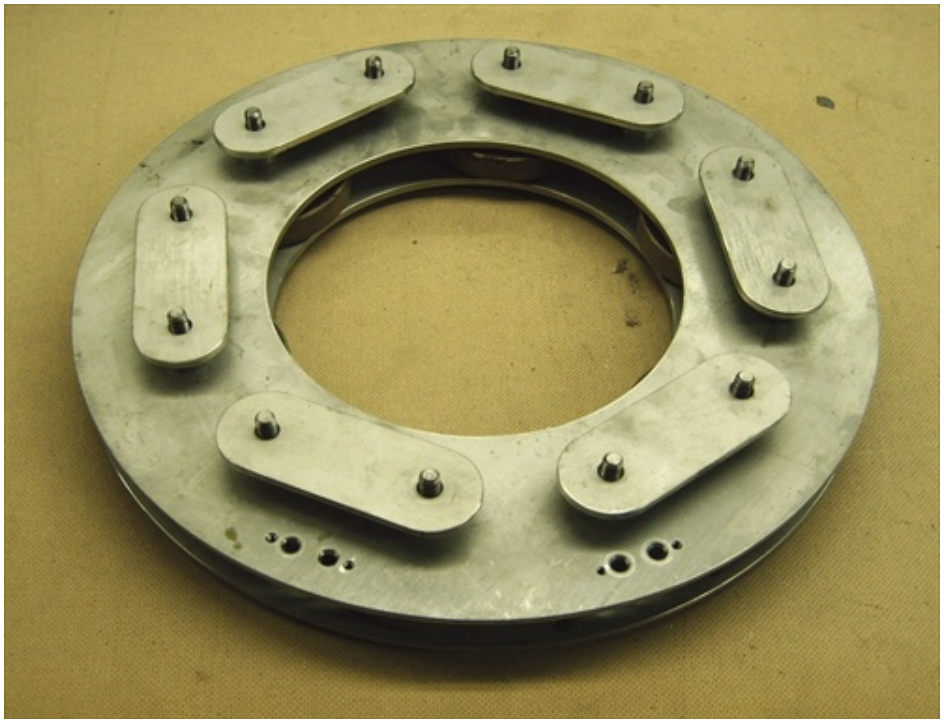
Original “Fix” mount

lower section

Top section to be motorized

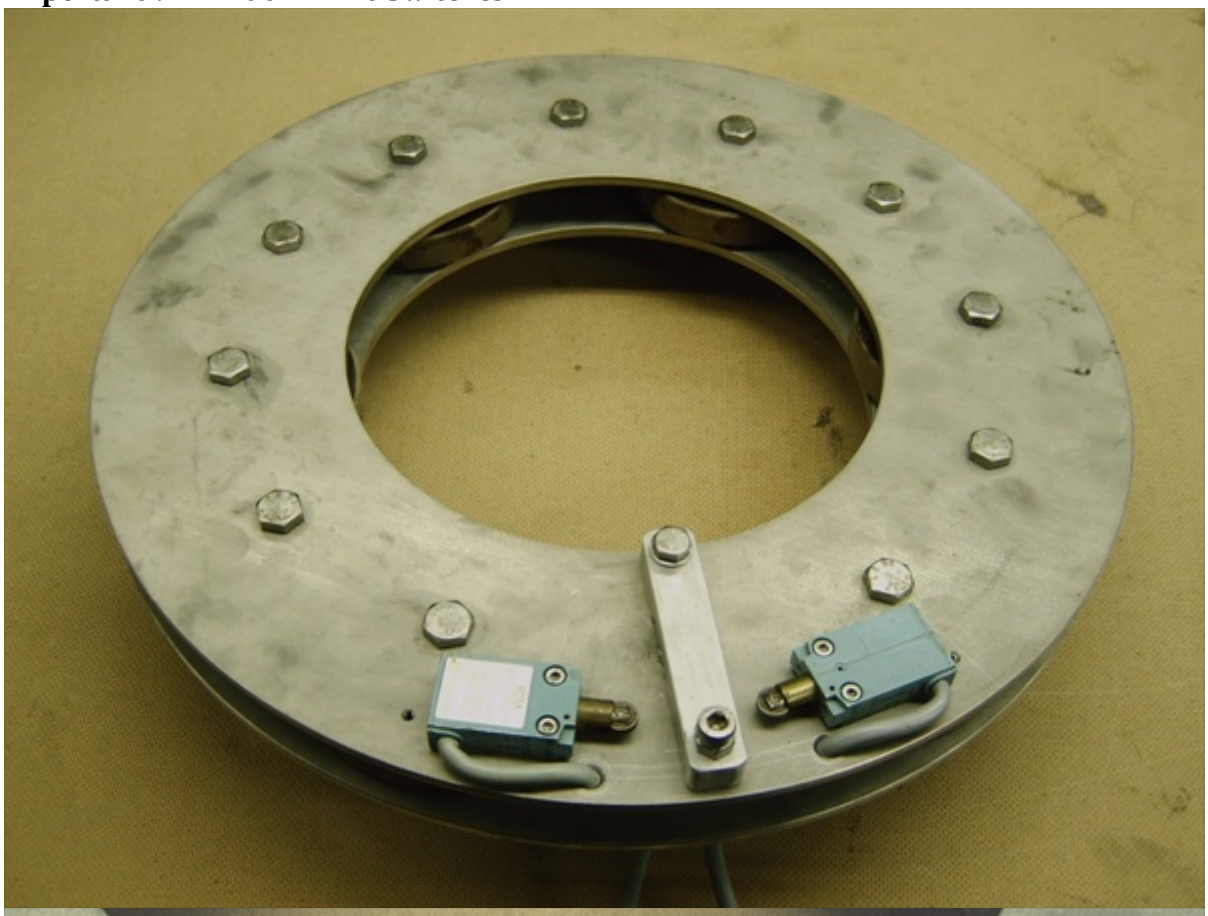
Bottom bearing, the making of:



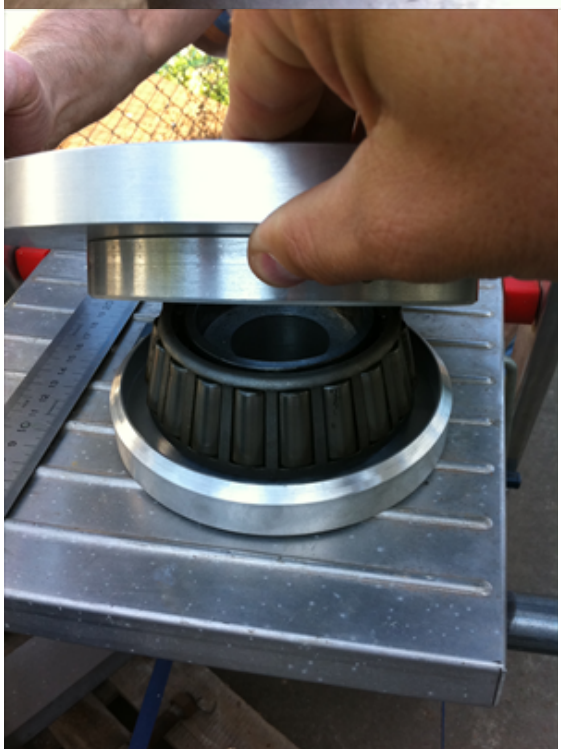


Six wheels run around the fixed section of the mount

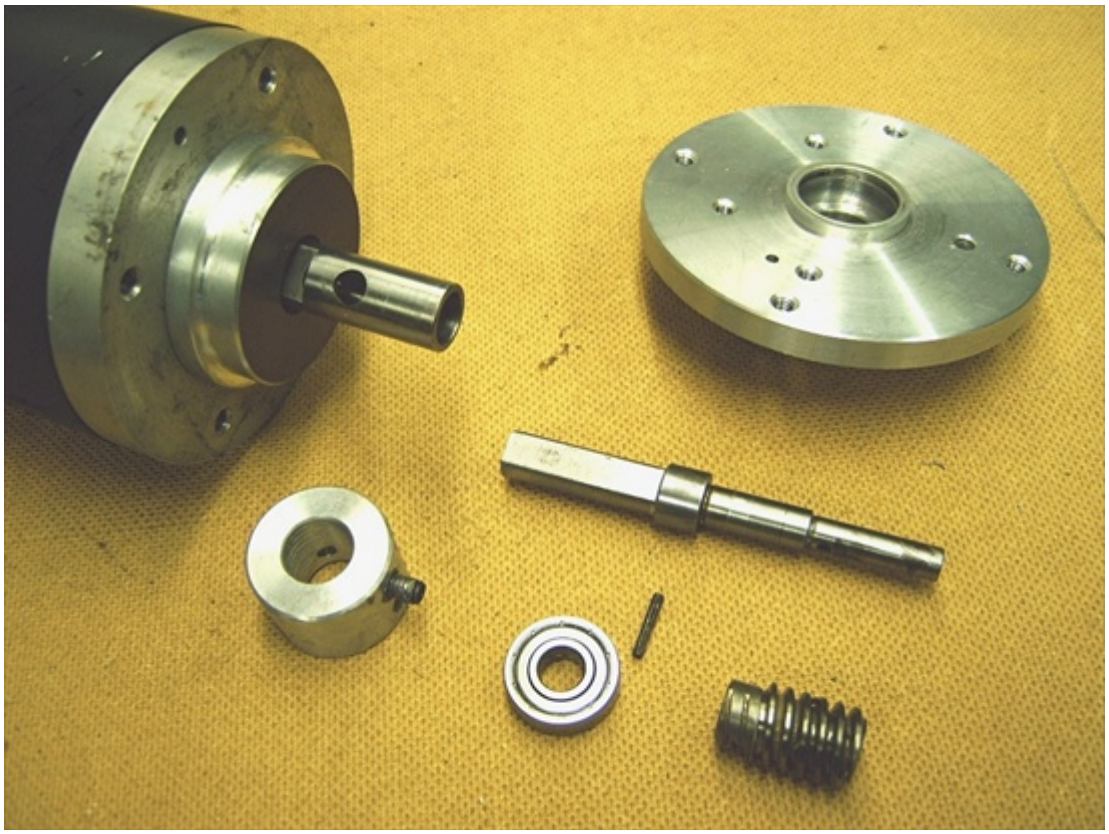
Important : Azimuth Limit Switches

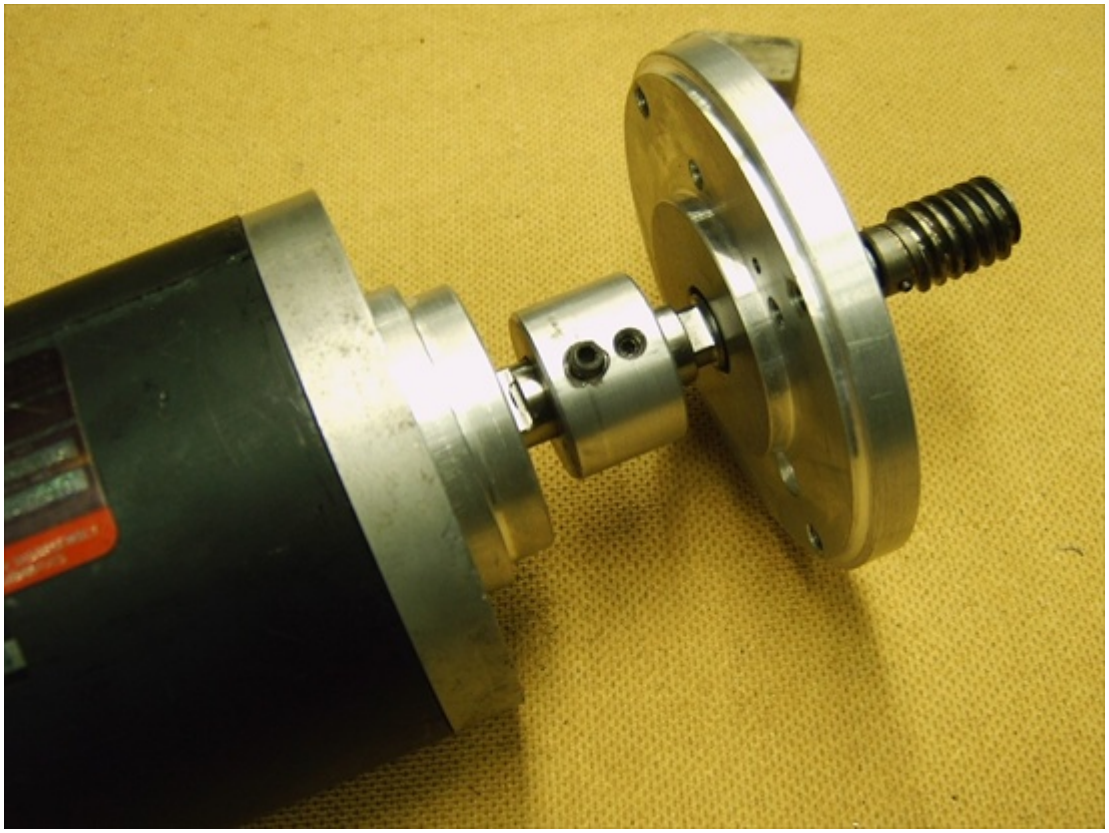


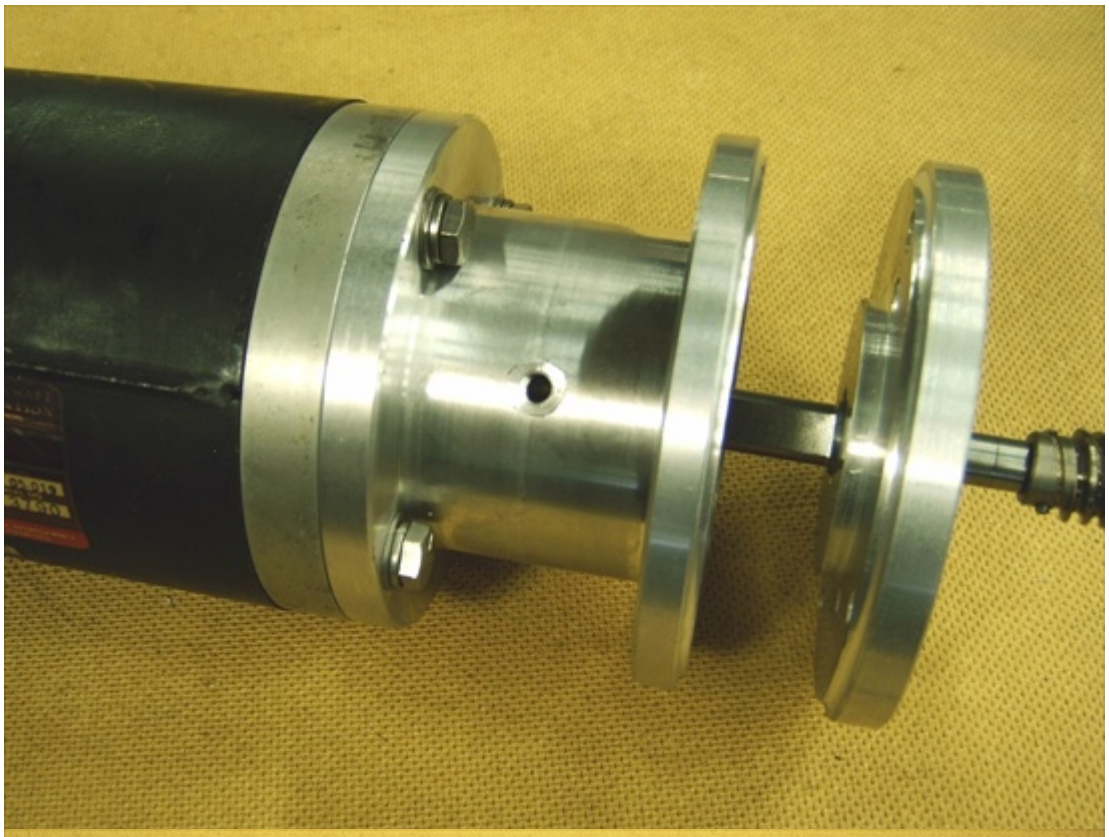
Top Bearing:

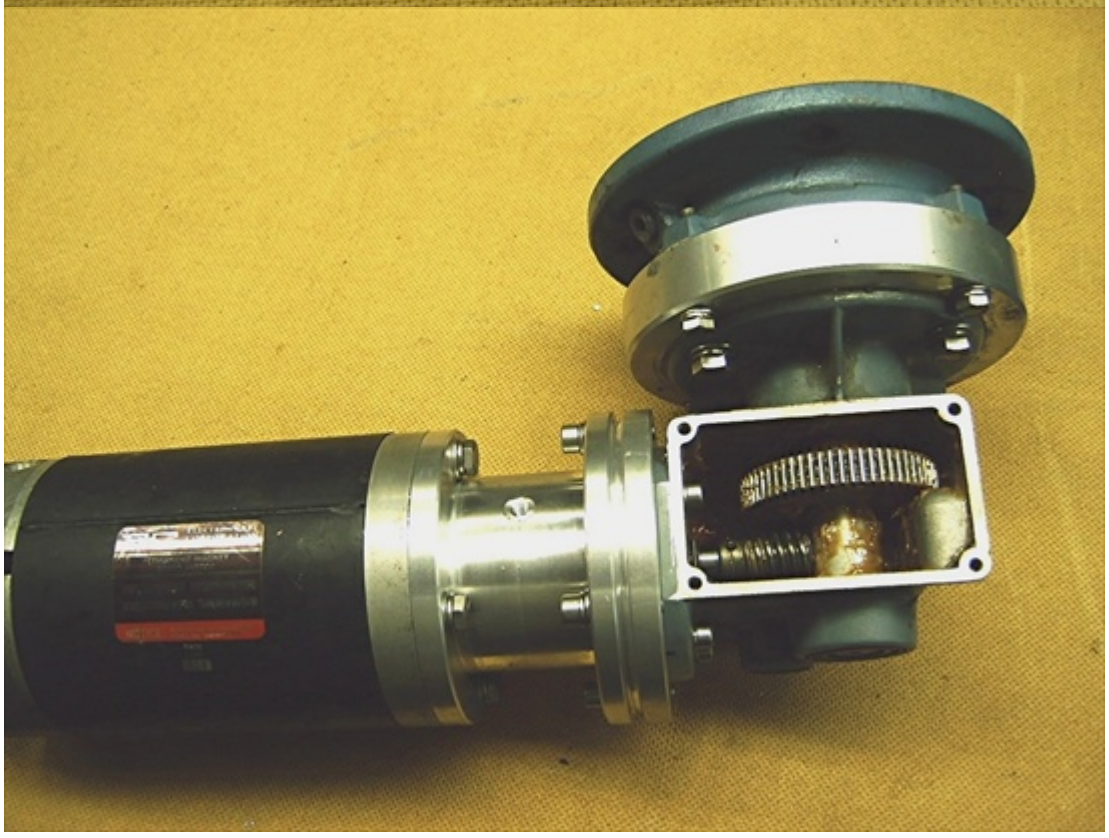


AZ motor and gearbox:





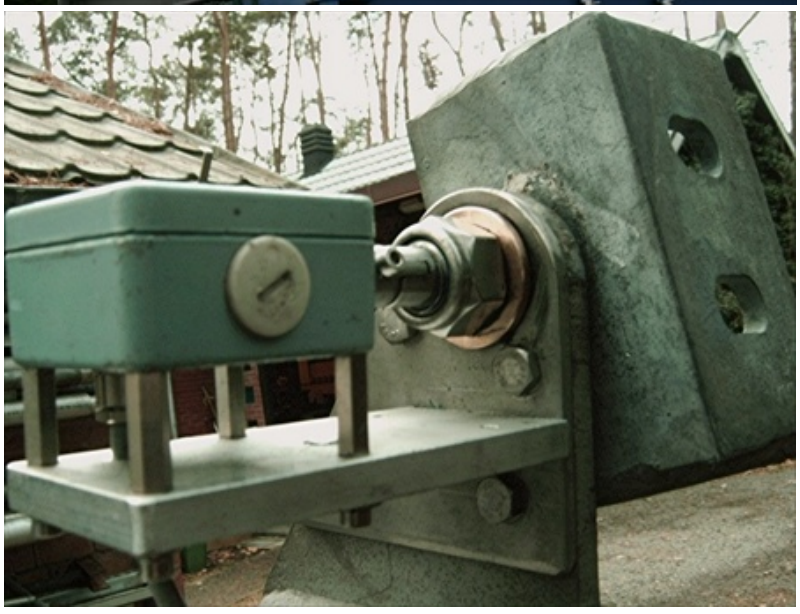




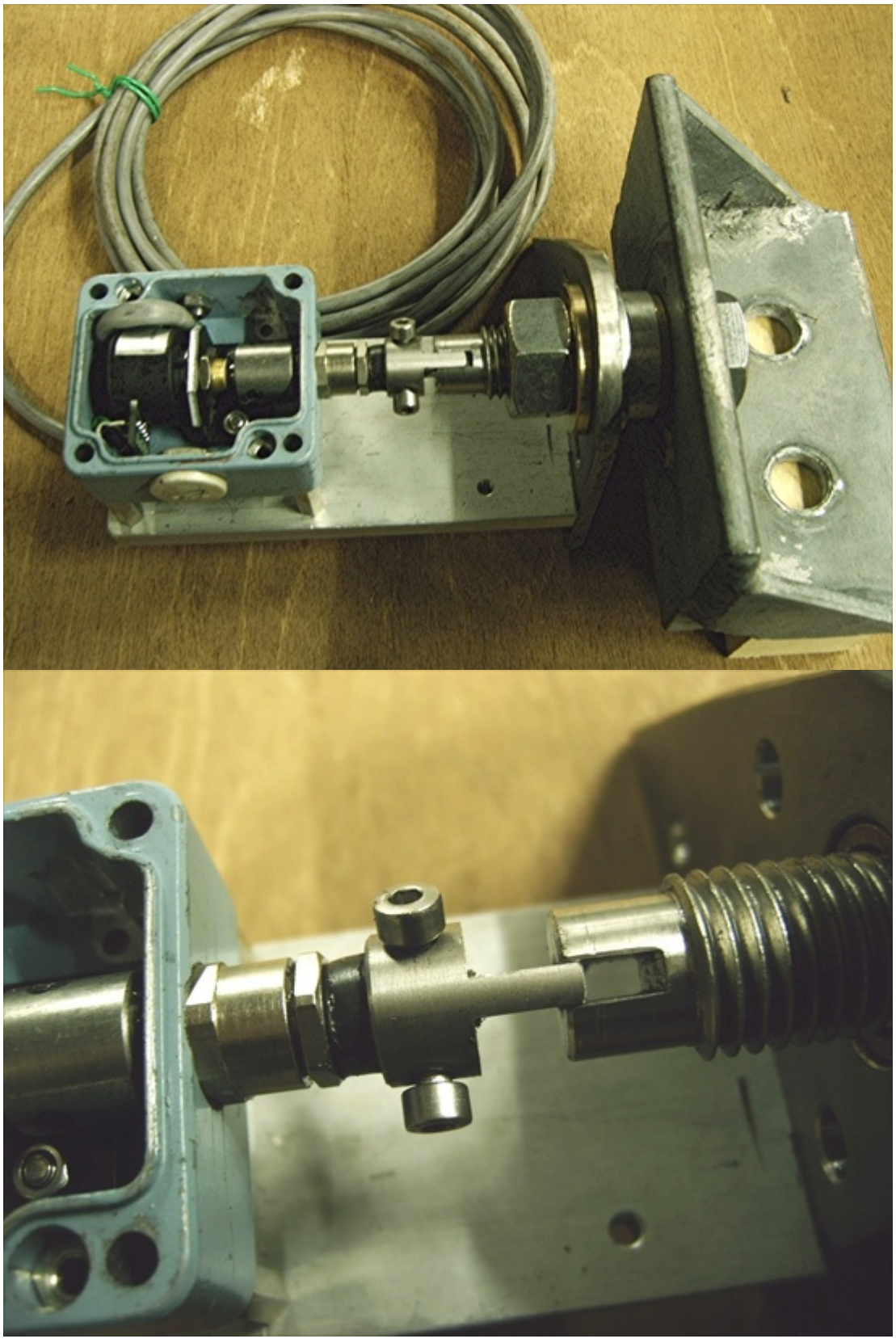
AZ ready and installed

Elevation, the making of :

52” Stainless steel actuator



Pivot point Elevation



Elevation encoder connection to the pivot point

Elevation limit switches

52” stainless steel actuator “pushing” the reflector up in elevation

OM6AA Round Septum Feed with Super VE4MA choke ring

Feed + feedholder ready

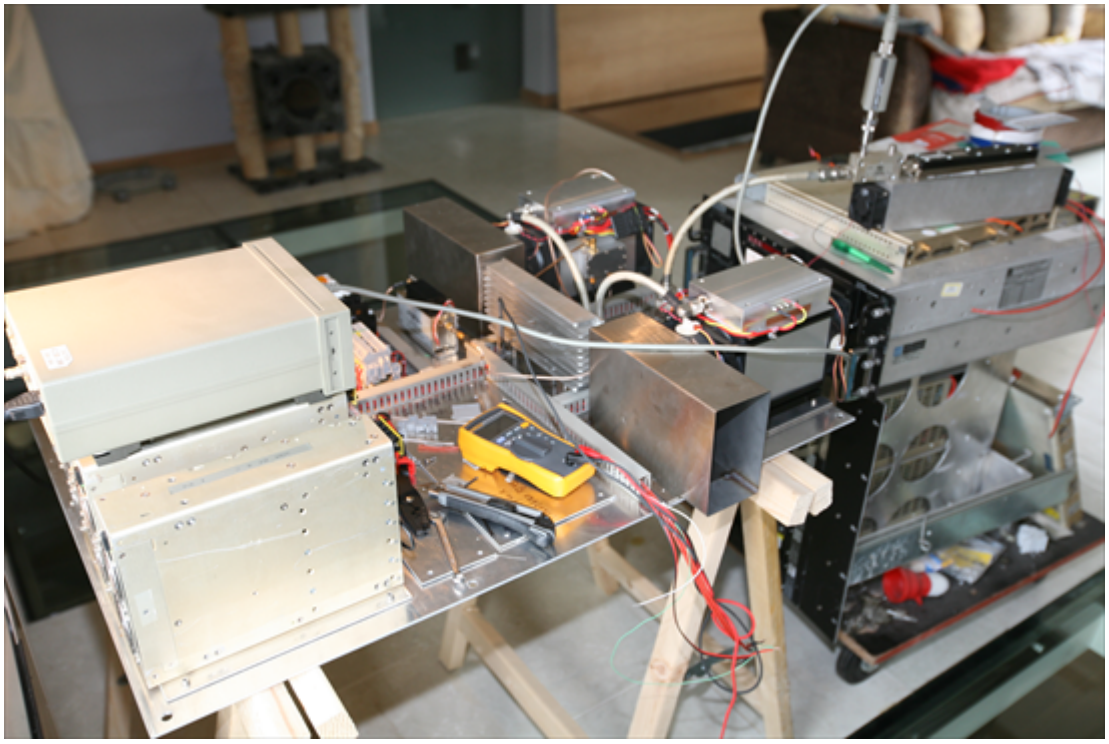
Antenna getting ready for installation:

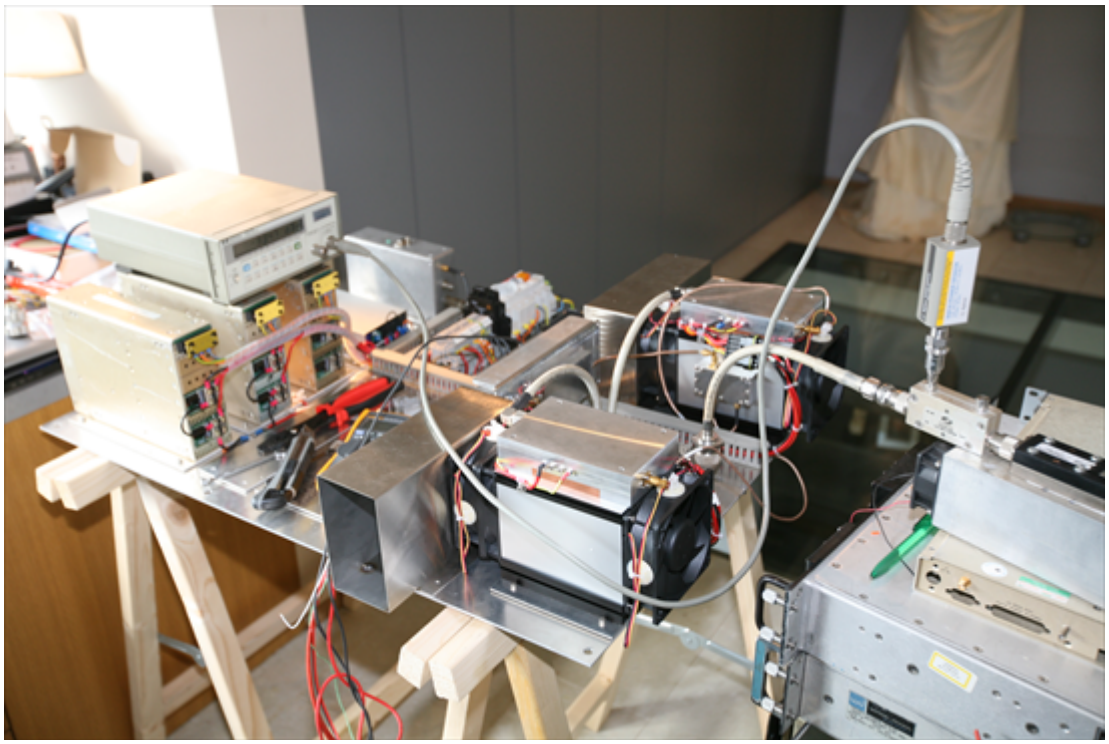
RFS

RFS

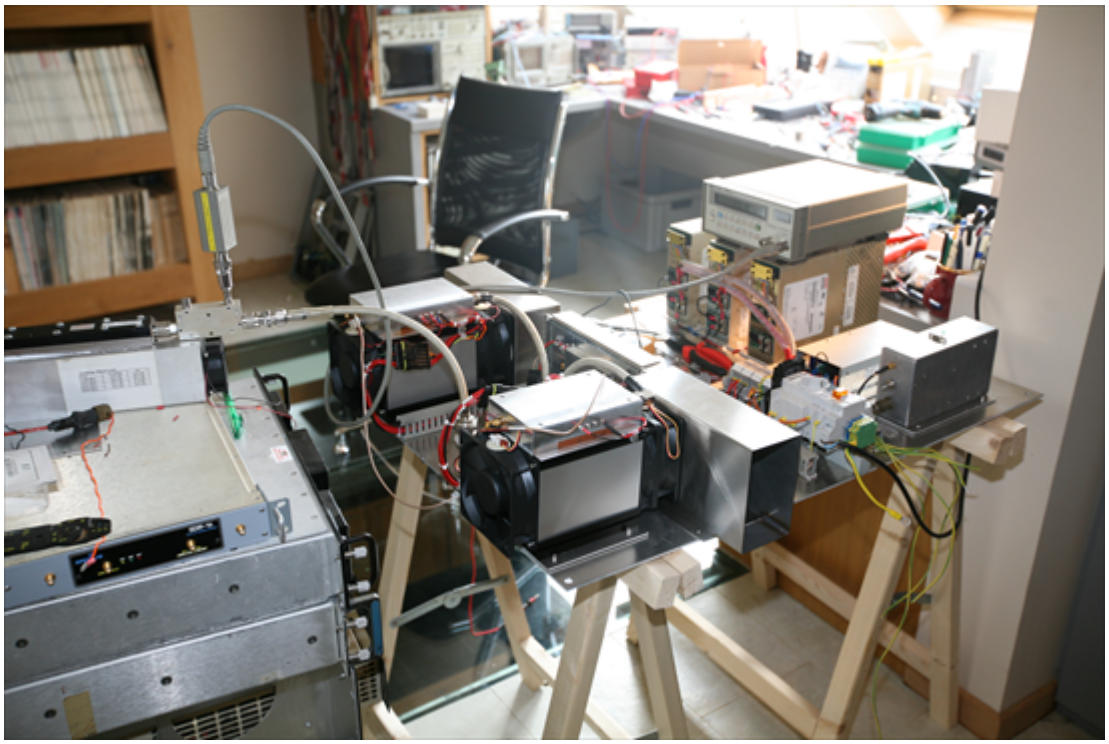
First sun noise measurement

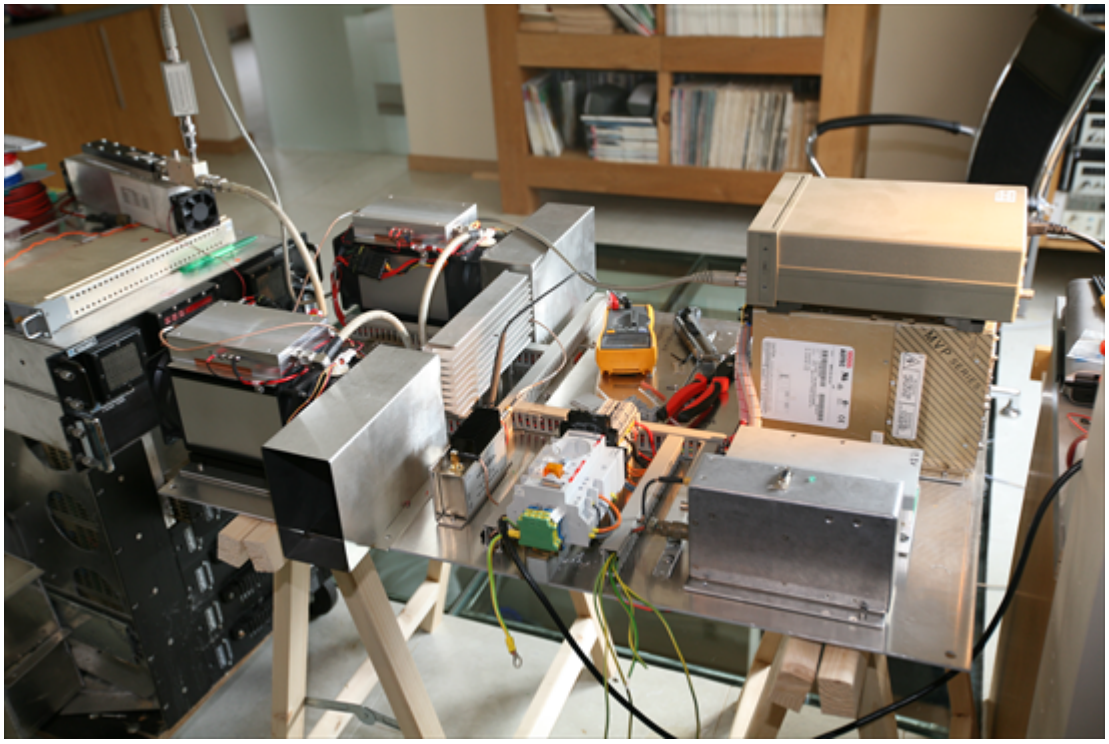
The Electronics :



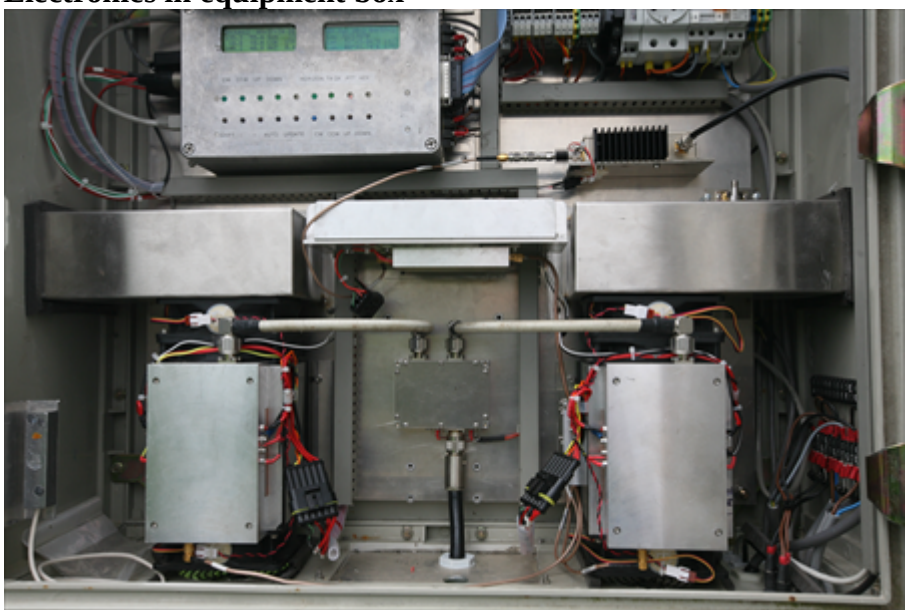


Combining the power amplifiers





Electronics in equipment box



Antenna controller, PWM motor control, GPS receiver and beacon keyer

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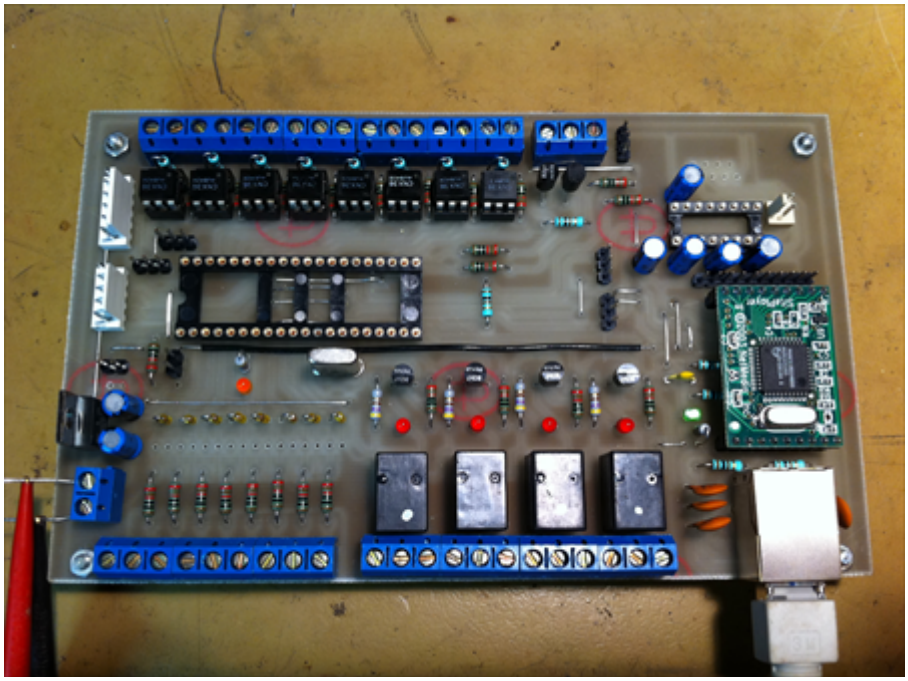

Making of : the Monitoring and Control circuits

ON 0 EME

EME BEACON 1296.000 MHz

Status Control

Main parameters	
Beacon operational	
Moon above horizon	
Allowed TX (10deg)	
PTT (TX)	
Azimuth Antenna	256.3 °
Elevation Antenna	22.2 °
Azimuth Moon	256.6 °
Elevation Moon	22.0 °

User page can be checked on www.on0eme.org

Our Telemetry pages :

Moon parameters		Beacon parameters	
Az Moon	256.8	Beacon Status	
El Moon	21.7	GPS 3D fix	
Az Antenna	256.8	PTT status	
El Antenna	22.1	PTT beacon enabled	
Offset Az	0	PTT (bias) enable	
Offset El	0	Key (cw) enabled	
Doppler	-190	Key (cw) enable	
Above Horizon		Every/Odd Minute key	
Above 10 degrees		Every/Odd Minute key switch	

Tx & PA parameters		Tracking parameters	
PA1 Temp alarm		Offset Az	0
PA1 Temp	291.67	Offset EL	0
PA2 Temp alarm		Step	0004
PA2 Temp	295.10	Az 1	1400
PA1a VCC	27.77	El 1	0400
PA1b VCC	27.72	Az 2	1400
PA2a VCC	27.50	El 2	0400
PA2b VCC	27.77	Track Moon (0)	
Forward power	508.12	Track Sun (1)	
Reflected power	38.47	Goto maintenance position (2)	
VCC 12V	11.94	Enable/disable tracking	0001
PTT		Enable/disable Tracking (Toggle)	

Giving us information on voltages, power and temperatures (in Kelvin) of various circuits in the beacon box. We can also control several functions remotely .

Various Pictures of the beacon “ In Action “

Reached the 10° elevation limit in the West

Soon we have to ‘trim’ the vegetation

HC
CONTAINERS
140712003