

10 January, 2010.

Dale J. Clement. AF1T.

432-MHZ ENERGY SOURCE - COMPONENTS FOR AF1T ANTENNA DEMONSTRATION.

ANTENNA — 8-or 10-Element "Cheap Yagi", Design by WA5VJB (WA5VJB@CQ.net). Make Rotatable for Horizontal or Vertical Polarization.

TRIPOD — May Be Light-Duty Type, with Vertical Mast about 1 in. Dia (Wooden Dowel o.k.) and Overall Ht. about 5 ft.

TRANSVERTER — ϕ to 8-w. output @ 432-MHZ.

Microwave-Modules Model MMT-432/285.

RELATIVE POWER-METER — Micronta (Radio Shack) No. 19-320 144/440 MHz SWR/Power-Meter. (A Home-Built Unit with Large Meter would actually be Easier to See).

28-MHZ GENERATOR — CW/DSB/AM Adjustable ϕ to ≥ 10 mW ($\geq +10$ dBm) R.F. output, and Adjustable Audio (A.M.) Modulation. Exact Frequency is not Critical (28.0 to 28.5 MHz o.k.), but R.F. output-level must be Stable.

Design by AF1T Requires +12.5V to +13.8V DC @ 100 mA.

MORSE-CODE KEY — On Wooden Base. Has Slide-Switch, and Twisted-Pair Cable (#22 Red & Black), about 36 in. Long, with 1/8-in. Phono-Plug to Match 28-MHZ Generator.

MICROPHONE — Inexpensive Tape-Recorder Type.

POWER-SUPPLY — Between +12.5V and +13.8V DC, ≥ 2 A. Voltage must be Well-Regulated ($\leq \pm 0.1$ V). The MFT Model 4115 (15A) Regulated-Supply is overkill!

R.F. CABLES — RG-58 A/U (Flexible with Stranded Center Conductor) with UG-88/U Male BNC Connectors on each End. Cable from Transverter to Power-Meter ≤ 1 ft. Long, and from Power-Meter to Antenna ≤ 5 ft. Long (Due to High Power-Loss @ 432-MHZ). Cable from 28-MHZ Generator to Transverter may be any Length ≤ 50 ft.!

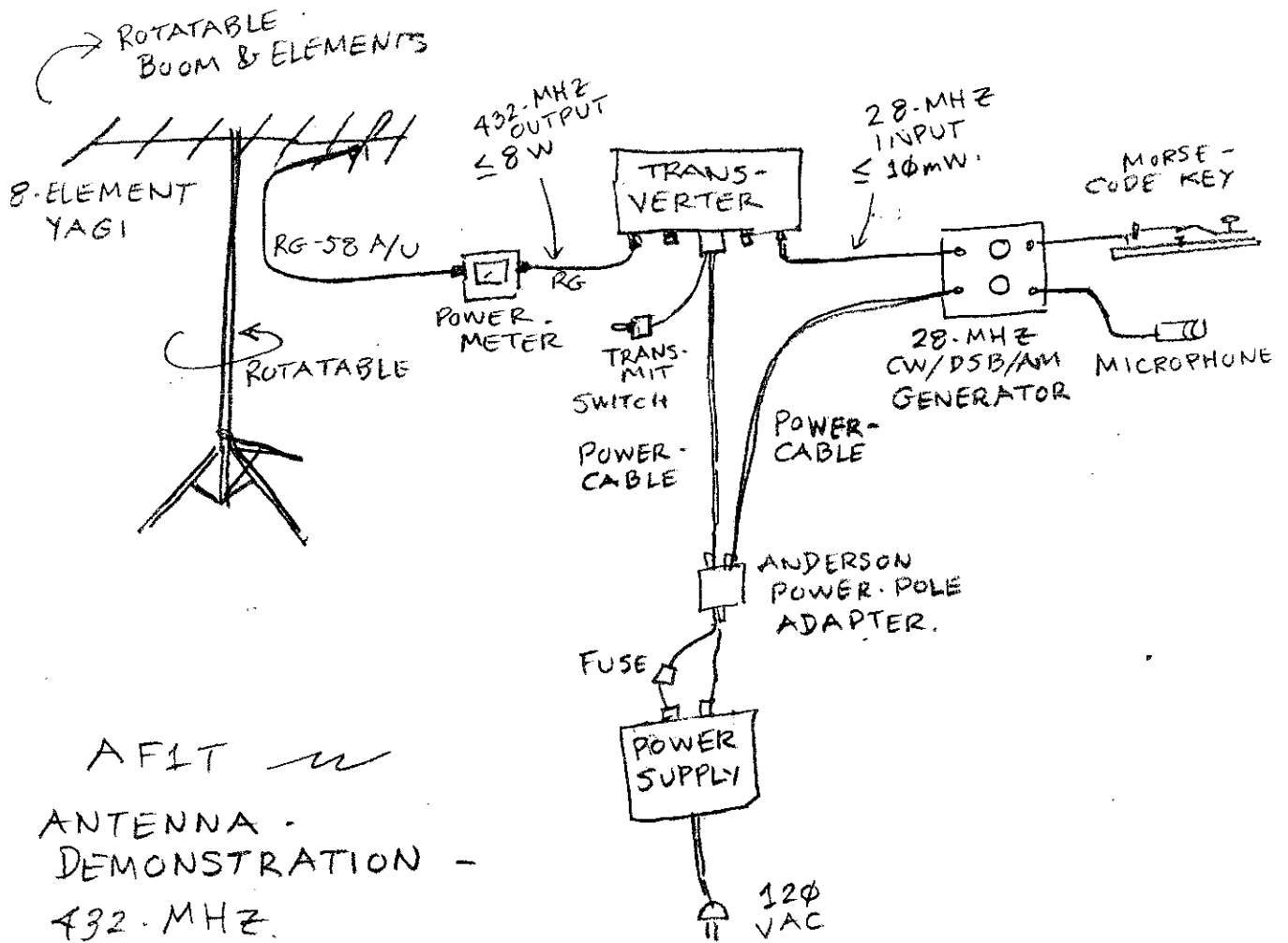
POWER CABLES — Twisted-Pair Red & Black ≤ 36 in. Long. With Anderson Power-Pole Connectors on One End.

Transverter Cable is No. 22 Wire, with External Transmit-Switch Added to Special Transverter Plug. 28-MHZ Generator Cable is No. 22 Wire.

POWER-SUPPLY CONNECTOR — Anderson Power-Pole with In-line Fuse (3 or 4 A 3AG Type). Power-Pole Adapter - Jo-Comm PS-4 Accommodates up to 4 Plug-in Cables.

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ANTENNA -
DEMONSTRATION -
432-MHZ
ENERGY-SOURCE.

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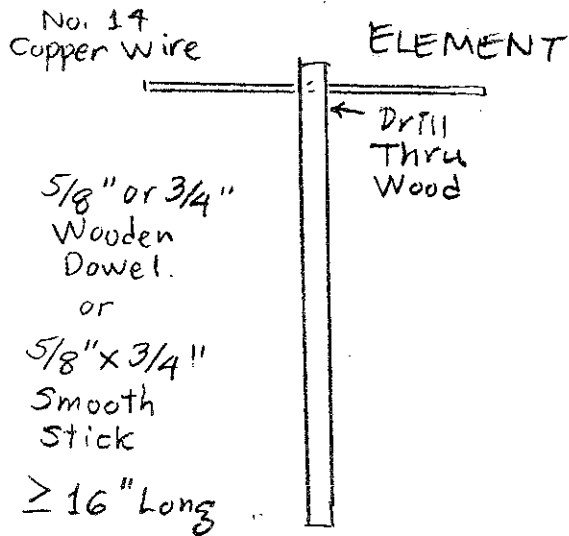
432-MHZ ANTENNA DEMONSTRATION.

ELEMENT TYPE:

Reflector (REF) = 13.8 in Long

Dipole or Driven Element = 13 in Long *
(D.E.)

Director (DIR) = 12.3 in Long



* When a Lamp is added to the center (i.e., the Dipole is split into 2 sections), the overall length must be reduced, because the wire leads become part of the length.

- * Copper Wire is AWG No 12 (80.8 mils. Dia)
- * Use No. 46 Drill for Wood.
- * File a Bevel (Chamfer) on all Exposed Wire Ends.

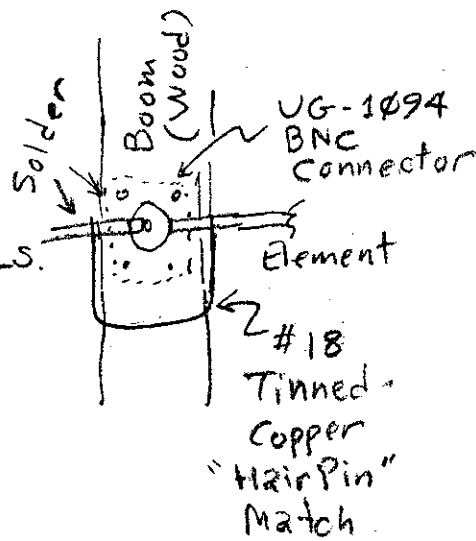
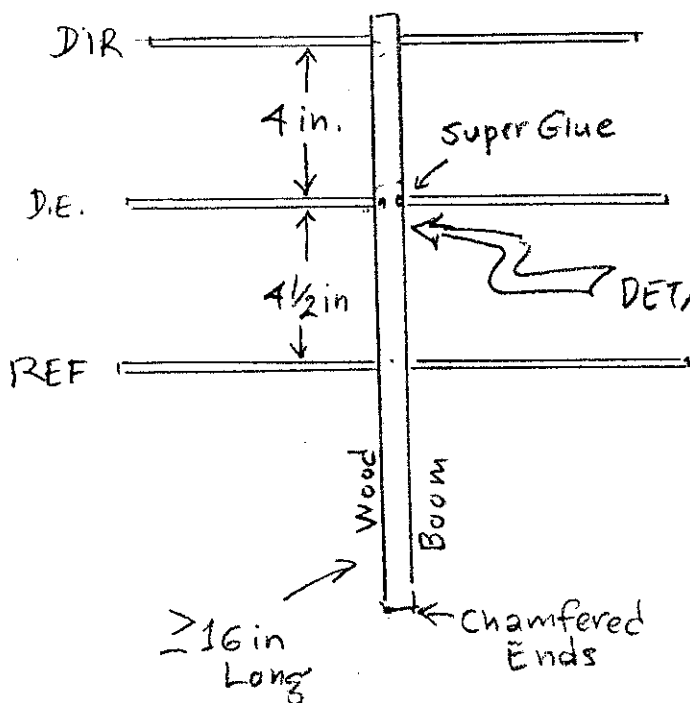
Miniature Lamp with Wire Leads
1.5V @ 25mA
(Radio Shack No. 272-1139)

"DE-TUNING" WAND

6 1/2 in Long

Insert and Glue into Dowel

3-ELEMENT YAGI



>= 16 in Long

5/8 in Wooden Dowel
Chamfered Ends

(~ 2 in overall)
Tune for Best VSWR @ 432 MHz.

