MOTOROLA "G" SERIES
CONVERSION TO THE 146 MHZ 2 METER AMATEUR BAND

The information below refers to the capacitor changes necessary to move a Motorola "G" series VHF high band radio (150-174 MHz) to work on the 2 Meter Amateur Radio band (144-148 MHz.) Typical "G" equipment would be a T43GGV-1100 mobile unit or an L43GGB-1100 desktop base station. Note that a standard 150-174 MHz "split" radio receiver strip will not operate properly below about 148 MHz - - receiver sensitivity will be very poor.

You will need a small quantity of ceramic disc capacitors in the values shown below. The information here expects that you are in possession of the service manual.

RECEIVER FRONT END

Coil	Capacitor	Now	Change To	Or Pad With
L1	C1	6 pf N330	10 pf	4-5 pf
L1	C2	36 pf N330	56 pf	20 pf
L2	C3	6 pf	10 pf	4-5 pf
L3	C4	12 pf	14 pf	2-3 pf
L4	C5	6 pf	10 pf	4-5 pf
L6	C8	6 pf	10 pf	4-5 pf (Multiplier)
L7	C9	16 pf	20 pf	4-5 pf
L7	C10	47 pf	56 pf	10 pf

Note that the numbers above refer to designations in the manual.   These capacitors are all ceramic disc style, 250V rated at minimum, although note that not all are across B+ and one can get away with using modern 50 Volt rated ceramic styles. It is important that these capacitors are NPO type only and <u>not</u> Z5U or Y5 series unstable types.

Padder capacitors can be added across the coil pins, which is faster, or the capacitors themselves can be changed.

TRANSMITTER DRIVER STAGE

Motorola seemed to think that their 25 Watt "G" transmitter strip would cover 144-174 MHz in a single version. I have not found this to be the case, instead finding insufficient drive from the tuned circuit inside the can with the plate lead to the 2E26 tube on frequencies below 148 MHz, although the transmitter will still work this way. I suggest removing the innards from this can and adding about 5 pf of capacity across variable capacitor C119 inside this can. Note that replacing the 2E26 plate lead at the same time makes things a lot easier as far as getting it back through the hole.