



SERVICE BULLETIN

from: TRIO-KENWOOD COMMUNICATIONS, INC.

SUBJECT: MODIFICATION OF TS-700A FOR REPEATER
OPERATION IN EUROPE

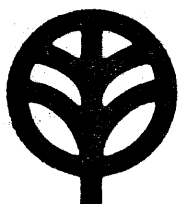
DATE June 11, 1967

We have had several inquiries about repeater operation of the TS-700A in Europe. The 2 Meter band in Europe is 144 MHz to 146 MHz with repeater operation in the 145 MHz to 146 MHz range. The repeater offset is generally 600 KHz down from the output frequency. The repeater offset in the TS-700A occurs only in the 146 MHz and 147 MHz bands. By changing these to 144 MHz and 145 MHz, respectively, and changing the appropriate offset, the TS-700A can be used with European repeaters.

The TS-700A uses varicap diodes to tune the HET unit, MIX unit and RX NB unit because of the 4 MHz coverage. These varicap diodes are used to resonate various stages, precluding the need to retune from band range to band range. The varicap diodes are biased by resistors that are selected by the BAND and REPEATER switches. These bias resistors must be changed if the band frequency and/or offset crystals are changed. The table below shows the resistors and crystals that need to be changed to make the TS-700A useable with European repeaters. All resistors are $\frac{1}{4}$ watt.

HET UNIT		
Part No.	146-147	144-145
X3	127.100 MHz	125.100 MHz
X4	128.100 MHz	126.100 MHz
X6	128.700 MHz	125.500 MHz
R31	62 K	39 K
R32	82 K	47 K
R34	100 K	39 K

BAND SWITCH UNIT		
Part No.	146-147	144-145
R103	12 K	22 K
R104	8.2 K	15 K
R110	12 K	15 K
R112	6.8 K	delete
R113	6.8 K	18 K
ADD		138K



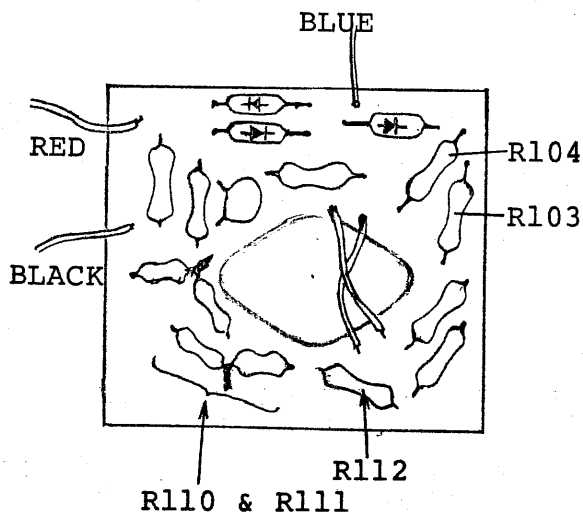
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It is necessary to remove the front panel to make this modification. To do this, remove the top and bottom cabinet halves. Next, remove the FINAL tuning shaft by loosening the shaft coupling and pulling the knob and shaft out. Then, remove the six screws (3 on each side) holding the front panel. Remove the BAND and DRIVE knobs and the nuts holding these controls. Gently pull the front panel out until there is enough room to work on the BAND SWITCH unit. (It is located on the back of the band switch.) At this point, you will be able to change the resistors indicated on the BAND SWITCH unit. The 138K resistor that is to be added consists of a 120K resistor and a 18K resistor in series. It is connected from pin 3 of the band switch to ground. Shown below is a diagram of the BAND SWITCH unit.



After installing the new resistors in the BAND SWITCH unit, re-assemble the front panel, leaving out the FINAL tuning shaft. The procedure for replacing the resistors in the HET unit is to first remove the three screws holding the board and tilt it up towards the VFO. Plugs P-1 and P-2 may be removed if necessary. The resistors that need to be changed are located on the outside edge of the board. Replace the resistors and reinstall the board and connectors. Install the crystals in the appropriate sockets (X-3, X-4, and X-6). Replace the FINAL tuning shaft and align as per page 40 of the Service Manual.