

Msg #441944 Tipo:B Stat:F Per:MODS @EU da :PE1GER  
data : 30-Ott 09:04  
Titolo : Modify icom ic211e.  
Path: !I1NHK!I1DEF!IW2KTL!I4EUM!IW4CRL!I4FP!I4UKI!IK2HDG!IK2JYT!IK2UUB!IW2FPD!  
!HB9OK!HB9H!HB9OS!DBOKCP!DBOULM!DBOLX!DBORBS!DBOSEL!DBOZDF!DBOAIS!  
!DBONDK!DBORWI!PI8JOP!PI8ZAA!PI8GCB!PI8WFL!PI8VNW!PI8MID!  
  
From: PE1GER@PI8MID.#ZLD.NLD.EU  
To : MODS@EU

#### MODIFICATIONS FOR THE ICOM IC211

##### SSB & CW VARIABLE POWER

Place set with the controls towards you and remove lid.  
If necessary check FM and CW power.  
Connect set to known good dummy load and power meter. Locate R13 and R14 on the small board behind the front panel RF power control. With RF power control on max, TX on FM and adjust RH pot(R13) for 10-12watts. Turn RF power control fully down and adjust LH pot(R14) for desired low power setting (min 200mw).  
Short key jack at rear of set, switch to CW, TX and adjust R129 for 10-12watts the same as on FM. Switch off power.  
Locate the brown wire to the left of the Xtal filter it runs from next to R258 to near R327 its marked with a small b on the main unit board layout diagram. Cut this wire at the front end and solder to the emitter of Q65 or the purple lead marked I on the main unit layout.  
Solder the slider of a 4.7k preset to the LH end of the YELLOW WIRE behind R14, then solder a 3.3k resistor to one leg of the preset, run a wire from this resistor to the top of R272 (scrape the paint off before attempting to solder).  
Switch on  
Switch to CW, TX and with front panel RF power control fully down adjust the 4.7k preset for desired low power level (min 200mw) SSB power is the same as CW.  
The front panel control now affects both FM, CW & SSB power levels.

##### RX GAIN

- 1 Replace R6 (220ohm)Q2 with a 25k pot this will give about 20-25db front end attenuation. however it will not decrease the background hash this has been tested by icom uk and works fine

##### SIMPLE 600k TX SHIFT

- 1 TURN ON SET FROM COLD (NO MEMORY) FREQ =144.000
- 2 TURN TO VFO A
- 3 TUNE VFO TO 144.600
- 4 SWITCH TO SIMPLEX OR DUPLEX AS REQUIRED THE VFO'S WILL TRACK TOGETHER PROVIDED THAT THE MEM SWITCH IS ON EVEN IF THE SET IS SWITCHED OFF FROM THE FRONT PANEL PROVIDED POWER IS LEFT CONNECTED

##### PIN CONNECTIONS FOR 24PIN MOLEX PLUG

|                                   |                                                        |
|-----------------------------------|--------------------------------------------------------|
| 1 Discriminator output            | 13 N/C                                                 |
| 2 DC 13.8v from power switch      | 14 control for 100hz or 5khz step<br>+5v for 5khz step |
| 3 PTT when grounded =TX           | 15 Lock input to lock dial externally                  |
| 4 Audio O/P un affected by volume | 16 UDC input up/down external control                  |
| 5 TX AF input                     | 17 Scan input                                          |
| 6 +9v on tx 20ma max              | 18 CL input to clear freq                              |
| 7 External alc input              | 19 FCL input clears last entry<br>and inputs MHZ       |
| 8 Ground                          | 20 K0 control data                                     |
| 9 NC                              | 21 K1 control data                                     |
| 10 NC                             | 22 K2 control data                                     |
| 11 NC                             | 23 K4 control data                                     |
| 12 nc                             | 24 K8 control data                                     |

TAKE GREAT CARE NEVER TO APPLY A VOLTAGE OUTSIDE THE -0.5v TO +5v  
TO TERMINALS 15-24 inc AS THESE ARE CONNECTED TO THE LSI CHIP

#### NOTES ON DATA INPUT

PIN 15 Dial locked when 0v applied released by +5v or NC

PIN 16 & 17 are used as a pair

When 16 is low and a pulse is given to 17 freq counts down

When 16 is high and a pulse is given to 17 freq counts up

When the input to 17 is a square wave the min period between pulses =640usec

Min period after last leading edge of an input to 17 before next

change in 16 =640usec

PIN 18 +5v clears LSI to 144.000mhz

PIN 19 selects mhz as follows +v on 19 and k0 = 144mhz

+v on 19 and k1 = 145mhz

After inputting the mhz the remaining digits are put in in sequence, the required  
digits being selected by applying +v to the appropriate inputs as in the table

|         |            |
|---------|------------|
| 1 K1    | 6 K2,K4    |
| 2 K2    | 7 K1,K2,K4 |
| 3 K1,K2 | 8 K8       |
| 4 K4    | 9 K8,K1    |
| 5 K1,K4 | 0 K0       |

A KEYPAD DIODE MATRIX CAN BE CONSTRUCTED AS FOLLOWS using 1N4148 diodes  
X is position of diode

PIN

ON

RIG

KEY PAD NUMBERS

|     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 144 | 145 | 146 | 147 |
|-----|---|---|---|---|---|---|---|---|---|---|-----|-----|-----|-----|
| K0  |   |   |   |   |   |   |   |   |   | X | X   |     |     |     |
| K1  | X |   | X |   | X |   | X |   | X |   |     | X   |     | X   |
| K2  |   | X | X |   |   | X | X |   |   |   |     |     | X   | X   |
| K4  |   |   |   | X | X | X | X |   |   |   |     |     |     |     |
| K8  |   |   |   |   |   |   |   | X | X |   |     |     |     |     |
| FCL |   |   |   |   |   |   |   |   |   |   | X   | X   | X   | X   |

A SUITABLE PSU IS AS FOLLOWS

