

Modifications for the Kenwood TS-430

TS-430 noise blanker mod

On the rf unit x44-1510-xx change the Following components:

- Change r80 to 100k 1/4 watt resistor.
- Change r81 to 56k 1/4 watt resistor.
- Change c125 to a 560 pf 25 volt disc capacitor.

No realignment is required

Kenwood ts-430 AGC mod

The type of speech processor circuit used in the ts-430 is an agc (automatic gain control) driven audio frequency amplifier.

By decreasing the time constant substantially, the speech processing effect will be improved.

The modification is very simple.

Replace capacitor c104 4.5 uf on the if board by a smaller value of 0.47 uf

To Modify This Capacitor

1. Remove the if board as indicated for the cw filter installation.
2. Remove c104 from the board.
3. Mount a 0.47 uf capacitor on the board.
4. Mount the if board as indicated by cw filter installation.
5. You are now fully operational again.
6. Adjust the mic gain without the processor until normal alc deviation.
7. Switch the processor on and adjust vr7 near c104 until normal ALC deviation. (do not alter the mic gain at this time)
8. Enjoy the speech processor improvement.

Transmit enable for mars/cap frq for the TS-430S

For MARS and CAP transmit capability, a minor change is required:

1. Unplug the DC power cable.
2. Remove the top and bottom covers of the set.
3. Locate the RF unit connector 10. Diode D39 is near the connector (labeled D39 on the circuit board). Take a small pair of diagonal cutters and clip the lead at the top of the bend.
4. Locate IC-2 on the Control Unit, under the IF unit. Resistor R148 is near IC-2, clip the resistor lead.
5. This completes the modification. Reassemble the unit, being careful not to pinch any leads.

Mods for the kenwood TS430S for antor

The mods are as follows:-

On the IF board change C-164 from 0.22mfd to 10nfd. 50v change C-60 from 10mfd to 4.7mfd. 16v...

Parallel a 150kohm resistor across R.109 using a small switch or by whatever means you can design to switch this resistor in and out.

In for arq and out for all other modes. some people use the send/rec switch, others have used the noise blanker switch. I have used a small mini switch which i have mounted in place of the left front rubber foot.

It will probaly help to cut diode d-50 on the ifboard. If you use a 500hz filter in the cwn or ssbn position then parallel a 10mfd capacitor across C-10 or C-8. add a 10mfd capacitor across C-161. (actually i found that these last two were not necessary in my 430S.)

You will find it best to take the audio from in front of the volume control, but those people using audio from the speaker socket seem to get ok results. Really you can get away with just the first two mods, change C-60 and C-164. this originally came from VK2AGE. 73s de larry in ravenshoe.

TS430 power fault - ANSWERS

Follows my original posting and answers.

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>As you read in the subject I have some sporadic but very annoying troubles
>with my 1988 Kenwood TS430s. This is what happens to my gear (and the same
>occurs to the rig of a friend of mine):
>
>Approx. every 3-4 hours of CW operation (while working without any problem)
>the power output drops down to a few watt (typically during a pileup and when
>the dx sent 'ik3huk 599...'). During this power-loss the ALC level is low
>(regularly).
>To have back the full power I have to do the following:
>-Turn CARRIER knob fully clockwise (full power position - ALC doesn't move)
>-Key down for several seconds (very loooooong time when in pileup)
>
>I sent the radio to a laboratory for repair (and friend of mine did the same)
>but they're not able to reproduce the power-fault when the radio is on their
>table. They cleaned up all the relais, but the RTX is still loosing power.
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This sounds suspiciously like a problem I had with my 430 on voice. It would behave quite similarly, losing power and becoming distorted on an occasional basis.

There was a well reported problem with early 430's where the finals were riveted, but not soldered, and the rivets could eventually develop a high electrical resistance, with ensuing power problems. This was diagnosed and corrected by Kenwood early, so I doubt it would be a problem in a unit manufactured as late as yours. (I bought mine in late 1984, and it already had a modified PA -- believe me, I checked!)

My problem turned out to be a marginal connection in the internal switch on the XVTR jack on the back of the rig. This is the connector with 8 pins. The switch is integral to the connector and works when the plug is inserted. The fix was to insert and remove the plug in the jack several times. Since I have done this, my 430 has never shown this symptom again.

I wish I could claim to have deduced this myself, but it was pointed out to me by a friend who read it in a snippet from someone in QST. To whoever took the time to send in that suggestion, I am eternally grateful. Hope this solves your problem, too.

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Rob Stampfli  rob@colnet.cmhnet.org      The neat thing about standards:
614-864-9377  HAM RADIO: kd8wk@n8jyv.oh  There are so many to choose from.
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To all Kenwood users:

The 430 has a corresponding problem to the older rigs:

specifically the 520(S), 820(S), 530S, and 830S rigs...

Power drops while running... if this occurs, tighten the screws on the driver board and IF board.

Had this happen to me and friends a few times...also watch out for the coax connector on the back...they get loose too...no lock washer on the back.

73,
Tom
wb9rxj@uuc.edu

Diego,
I had a similar problem with a 430. Mine was intermittent. Finally one cold day [0c] it became permanent. I traced my problem to an open via connection on one of the final transistor bases. This resulted in that device not getting a dc return to ground. I re-soldered the via to my success!

I found it by checking dc bias on each final transistor and found one being different in voltage reading

Good luck,
regards
George Hawkins

Here is a solution I heard of for a problem like yours. Perhaps it will be of use to you. Luckily, I have not had any problems with my TS430S. I'm very pleased with it.

Hope this is of use to you.

73 es GL... Mark KG7JL

KD7EV advises intermittent power output problems on his '430 was cured by installing a more conventional nut on the rear panel UHF style antenna connector. Apparently a faulty ground connection at this point caused a change in the VSWR which affected the sensing circuit and thus reducing the RF output power.

Guarda che io ho lo stesso problema con un ICOM IC-745. Ogni tanto la c'e' una protezione che va in funzione e la potenza va gu'. Nel caso mio probabilmente c'e' un problema di corrente di fuga da compensare opportunamente, ma per te potresti provare a vedere se con una semplice vantola puoi risolvere il caso. Infine, tanto per confermare che per me i diavoletti che muovono gli elettroni esistono, il problema c'e' solo di estate, quando la temperatura esterna e' sopra i 20 gradi (... qui in Olanda). Faccio notare che dentro casa la temperatura e' circa la stessa.

Saluti

I0WTD-PA3FWP
Stefano

(In this article Stefano I0WTD told that he had a similar problem on his IC745 and suggested to put a blower on the radio to solve it out. 'His' power fault happened only on summer. (mine in winter too !!) ik3huk)

TS-430S Intermittent PLL Unlock in FM/AM

10-17-84

Some owners of the TS-430S have reported intermittent loss of transmit and Receive when operating in the FM or AM modes, along with a loss of the digital display.

The cause of this may be due to a loss of the FM/AM Heterodyne Oscillator signal. Replacing the components listed below will correct most instances of this failure.

Procedure:

ON the Control Unit (X53-1290-XX) change R131 to a 22 K ohm 1/4 watt carbon resistor, and change C144 to a 3 pF 25v Disc ceramic capacitor.

Time required for this modification is 30 minutes.

No realignment is required.

TS-430S PLL Unlock at High Temperatures (Revision)

9-14-85

This service bulletin supercedes bulletin 891, which concerned low input level to IC-16 as the radio warmed up. This bulletin incorporates information contained in Bulletin 891 plus additional information.

PROCEDURE:

On the Control Unit (X53-1290-XX)

Check transistor Q8. If it is not a 2SC1815Y change it to this type (Serial numbers 408XXXX-509XXXX).

For serial numbers before 408XXXX change R29 to 820 ohms and C41 to 100 pF.

In addition to the changes listed above check for the following signals:
(You must check these at a dial frequency of exactly 14.000.000 MHz)

TP-1 6.0v (L18 adjusts)

TP-2 70 MHz

TP-3 45.3 MHz

TP-4 6.35v (L10 adjusts)

Time required for this modification is 1 hour or less.

TS-430 extended coverage. Include 0-150 KHz

This modification is to include the receiving range from the TS430 from 0-150 kHz.

Connect a resistor from 1K from IC1 pin 14 to ground in the PLL Unit.

(Pin 14 from IC1 goes to the base of a transistor.)

The best way to do this, is by soldering the resistor at the solder side of the PLL Unit PCB.

TS-430S Reset the microprocessor

For those of you wanting to know how to reset the microprocessor in the TS-430S, here's what it looks like in the service manual:

1) FUNCTION SW-A

POWER SW-OFF

Set the POWER SW ON

while depressing the A=B

key. Then release the

A=B key.

Hope this helps someone...

Kenwood TS-430S, no display, no RX/TX with certain modes

I recently acquired a Kenwood TS-430 with an intermittent fault. The rig would occasionally perform normally but the rest of the time the display and RX would be dead only in the LSB, USB and CW modes. The rig would also not transmit in all modes.

The number of factory fadd-on components found under the PC boards on the rig was a real surprise. The Control and IF boards were first checked for dry joints and several were found, but the fault persisted. All switching circuits were checked out fine. After searching the Web for assistance, a mod described in a Kenwood Bulletin for a similar display problem was tried without success. A change in our hot summer weather seemed to indicate the mod was temperature related as the rig worked normally for longer periods under colder conditions. Freeze spray was then tried on all accessible components on the Control and IF Unit boards. No joy!

A QSO with Roger ZS1J, who used to run a ham radio outlet in Natal for several years, had him recalling a similar problem he had encountered some years ago on two TS430Is brought in for repair. The culprit in both cases turned out to be leaking LEDs on the mode selector switch indicators. He suggested this area be checked out.

Removal of plug 13 from the Control Unit board (X53-1290-00) proved Roger correct and brought the rig back to life. There was a very low leakage on the LSB, USB and CW indicator LEDs. Exact numbers of LEDs for D3-D7 were not obtainable locally, so to get around this, 1N4004 diodes were installed in series with the 5 leads on plug 13. The diodes were soldered directly onto the pins in plug 13 (with cathodes facing away from the plug side), and the plug reconnected to the board. The rig is now fully functional again.

It'ds incredible that the same LEDs should fail in three different rigs! Obviously just a bad batch of components used! Maybe this mod can restore a dead TS-430 that someone has given up on.

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