

KENWOOD

# 2015 Dayton Hamvention



## TS-500

# **Kenwood Forum Committee**

**Mark Gilger – WB0IQK**  
**Jan Servaites – N8CBX**  
**Jeff Covelli – WA8SAJ**

- Agenda:
  - History of the Legacy products
  - Hi Pot Tube Testing
  - Replacing the TS-530 relay
  - Restoring the T-599 transmitter
  - Resource help with Parts, Documentation & Service
  - Restoration Techniques
  - Tips & Hints
  - Questions and Answers

- Kenwood Hybrid Legacy Radio Nets
  - Saturday, 7.235 mhz @ 3:30 pm Eastern
  - Sunday, 14.316 mhz @ 18:00 z
  - Yahoo Kenwood Group
- Yahoo Kenwood Group
  - [https://groups.yahoo.com/neo/groups/TS-520\\_820\\_530\\_830/info](https://groups.yahoo.com/neo/groups/TS-520_820_530_830/info)

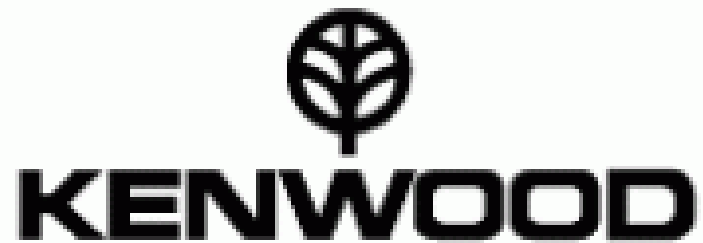


# **Dayton 2015 Kenwood Forum**

## **Trio/Kenwood History**

### **How The Company Started to Import Their H.F. Gear**

**By: Jeff Covelli / WA8SAJ**



KENWOOD



From 1960 into the 1970's

**TRIO**

Produced Many Radios for  
USA Companies

such as

Lafayette, Allied/Radio-Shack



# Lafayette Radios Manufactured by Trio in the 1960's



# Allied Radio Receivers Manufactured by Trio 1970







September 1970

**Allied Radio Model A-2517**

**The First Trio H.F. Radio for the U.S.A.**

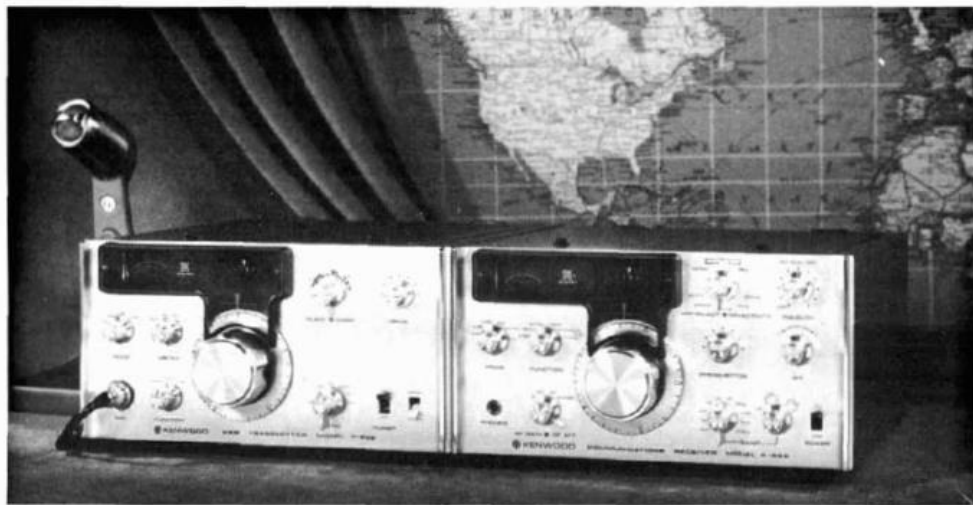


**KENWOOD**

**December 1970**

**1st  
U.S.A. Ad  
in  
Ham-Radio  
Magazine  
by  
Henry Radio**

**Once in a decade...  
a new equipment design  
to excite the amateur world**



**HENRY RADIO PROUDLY PRESENTS  
ITS KENWOOD SOLID STATE  
RECEIVER AND TRANSMITTER**

Never before has there been an amateur receiver and transmitter like the KENWOOD R-599 solid state receiver and T-599 hybrid transmitter. The wait is over — the promise of the transistor has been fulfilled. KENWOOD sets new standards of performance, reliability, flexibility, styling, and value.

**THE R-599 RECEIVER:** 1.8 to 29.7 MHz (amateur bands) • .5 microvolt sensitivity nominal • Dial Readout to  $\frac{1}{2}$  kilocycle • Special detectors for SSB, AM, and FM • Transceive operation with T-599 • Built-in 100 kc and 25 kc crystal calibrator • Built-in 500 cycle CW filter • Provision for two meter and six meter coverage with optional accessory self-contained converters • Advanced "Space-Age" styling • Adjustable threshold squelch • The price... only \$298.00

**THE T-599 TRANSMITTER:** Clear, stable, selectable side-band, AM and CW • 4-way VFO Flexibility plus Receiver Incremental Tuning (RIT) when used with the R-599 • Amplified ALC • Built-in VOX • Full metering, including cathode current, plate voltage, ALC and relative Power Output • Built-in CW Sidetone monitor and semi-automatic break-in CW • Built-in power supply • Maximum TVI protection • Employs only 3 vacuum tubes • The price... only \$345.00

Order yours today. Become the proud owner of the world's most technologically advanced amateur Receiver / Exciter combination.  
S-599 Speaker. \$14.50 • CC-29 2 meter converter. \$29.50 • CC-69 6 meter converter. \$29.50

***Henry Radio***

11240 W. Olympic Blvd., Los Angeles,  
Calif. 90064  
931 N. Euclid, Anaheim, Calif. 92801  
Butler, Missouri 64730  
New York area: John Richardt W2W1Y  
Houston area: Jan Carman W5SBX

213/477-6701  
714/772-9200  
816/679-3127  
201/637-4107  
713/464-0419



**KENWOOD****February 1971**

# Henry-Radio Promoting The Kenwood Brand



## COMPARE FEATURES... COMPARE PRICES...

In fact, we defy you to find a better value for your equipment dollar. The R-599, pictured above, boasts features, specifications and styling you won't find in any other receiver. So, whichever is more important — quality or price — the Kenwood R-599 wins hands down. Look at these features... they're standard! ① **MODE** — Permits reception of CW, LSB, USB, AM, AM with noise limiter, or FM. ② **FUNCTION** — Selects receiver position between: Standby, Monitor signal from T-599, Slow AGC, Fast AGC, 100 KHz or 25 KHz calibrator. ③ **DIAL** — 1/2 KHz readout, 25 KHz on subdial. ④ **PRESELECTOR** — Adjusts R-599 for maximum gain on desired receiving frequency by tuning for maximum S-meter reading. ⑤ **BAND** — 160, 80, 40, 20, 15, 10 meters (2 & 6 meters with accessory converters). ⑥ **RIT** — Allows off-set tun-

ing of receiver when Kenwood units are operated in transceive configuration. ⑦ **SQUELCH** — Allows squelch feature for receiver, turns RIT off by pulling knob out. ⑧ **VFO SELECT** — Chooses VFO of either unit in transceive operation or allows each VFO to operate independently. ⑨ **SELECTIVITY** — Automatically selects appropriate filter for selected mode or choose 2.5 KHz filter for LSB and USB, 500 Hz filter for CW, 5 KHz filter for AM (and AM with noise limiter), and 25 KHz filter for FM.

The S-599 speaker \$14.50 • CC-29 2 meter converter \$29.50 • CC-69 6 meter converter \$29.50.

The Kenwood T-599 hybrid transmitter, the perfect match, offers the same degree of perfection... SSB, AM and CW, all amateur bands 3.5 MHz to 29.7 MHz. Only \$345.00.

## ORDER YOURS TODAY... FROM ANY OF THESE FINE DEALERS:

HENRY RADIO • 11240 W. Olympic Blvd. • Los Angeles, Calif. 90064 • (213) 477-6701 □ Butler 1, Missouri 64730 • (816) 679-3127 □ 931 N. Euclid • Anaheim, Calif. 92801 • (714) 772-9200

AMATEUR ELECTRONIC SUPPLY • 4828 S. Fond du Lac Avenue • Milwaukee, Wisconsin 53216 • (414) 442-4200

AMATEUR RADIO CENTER • 2805 N. E. Second Avenue • Miami, Florida 33137 • (305) 374-4101

DOUGLAS ELECTRONICS • 1118 S. Staples • Corpus

Christi, Texas 78404 • (512) 883-5103

HERBERT W. GORDON COMPANY • Woodchuck Hill Road • Harvard, Massachusetts 01451 • (617) 456-3548

HARRISON • Rte. 110 at Smith • Farmingdale, N.Y.

11735 • (516) 293-7990 □ 8 Barclay St. • New York City • Barclay 7-7922 □ 139-20 Hillside • Jamaica, N.Y. • RE 9-4101

JOHN RICHARDT, W2WIY • Rte. 46 P.O. Box 154 • Great Meadows, N.J. 07838 • (201) 637-4107



**KENWOOD**

**October 1971**

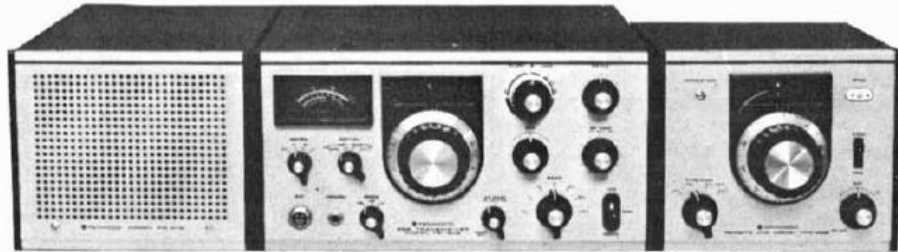
**New!**

**TS-511S**

**H.F.**

**Transceiver  
by Kenwood  
Henry-Radio Ad**

**brand  
new  
from  
Kenwood**



**Superb Kenwood quality, unsurpassed performance, value you'll find hard to believe, proven reliability of both vacuum tube and solid state technology**

*The Kenwood TS-511S is a five band SSB and CW transceiver packed with power and performance... offering features never before available in its price range. For example: built-in VOX, crystal calibrator, noise blanker, receiver incremental tuning, 1 kHz frequency read-out, 8 pole filter, stable FET VFO, dual conversion and accessory CW filter.*

**FREQUENCY RANGE:**  
80 meter band 3.5 - 4.1 MHz  
40 meter band 7.0 - 7.6 MHz  
20 meter band 14.0 - 14.6 MHz  
15 meter band 21.0 - 21.6 MHz  
10 meter band 28.0 - 28.6 MHz  
28.5 - 29.1 MHz  
29.1 - 29.7 MHz

**MODES:** LSB, USB, CW  
**INPUT POWER:**  
500 watts PEP, 300 watts CW nominal.  
**SENSITIVITY:**  
3.5-21.6 MHz band: 0.5 uv S/N 10 db  
28.0-29.7 MHz band: 1.5 uv S/N 10 db  
and less than 100 cps frequency drift

per 30 minutes after warm-up  
**SELECTIVITY:**  
SSB more than 2.4 KC (at 6 db) with  
2 to 1 slope ratio  
CW more than 0.5 KC (at 6 db)  
**AUDIO OUTPUT:** more than 1 watt  
(10% distortion)

**TUBE & SOLID STATE COMPONENTS:**  
10 Tubes, 1 IC, 37 Transistors, 4 FET,  
52 Diodes  
**PRICE:** \$398.00  
**ACCESSORIES:**  
Power Supply with built-in speaker  
\$105.00  
External VFO \$99.00  
CW Filter \$35.00

**Kenwood's  
winning  
pair**

**THE R-599**  
The R-599 Solid State Receiver: 1.8 to 29.7 MHz (amateur bands) • .5 microvolt sensitivity nominal • Dial readout to 1/2 kHz • Special detectors for SSB, AM, and FM • Transceiver operation with T-599 • Built-in 100 kc and 25 kc crystal calibrator and 500 cycle CW filter • 2 and 6 meter coverage with optional accessory self-contained converters • Adjustable threshold switch. \$298.00 • S-599 speaker \$14.50 • CC-29.2 meter converter \$29.50 • CC-69 6 meter converter \$29.50

**THE T-599**  
The T-599 Transmitter: Clear, stable, selectable sideband, AM and CW • 4-way VFO flexibility plus Receiver Incremental Tuning (RIT) when used with the R-599 • Amplified ALC • Built-in VOX • Full metering, including cathode current, plate voltage, ALC and relative Power Output • Built-in CW Sidetone monitor and semi-automatic break-in CW • Built-in power supply • Maximum TVI protection • Employs only 3 vacuum tubes • The price... \$345.00

All Kenwood prices are subject to an import surtax.

KENWOOD

February 1972

599 Twins

&

TS-511S

Henry-Radio Ad



THE MOST EXCITING RECEIVER AND TRANSCIVER TO ENTER THE AMATEUR SCENE IN RECENT YEARS. THE KENWOOD R-599 SOLID STATE RECEIVER AND T-599 HYBRID TRANSMITTER HAVE ESTABLISHED NEW STANDARDS OF PERFORMANCE, RELIABILITY, FLEXIBILITY, STYLING AND VALUE.

**THE R-599 RECEIVER:** .5 microvolt sensitivity (amateur bands 1.8-21.0 MHz) • Dial readout to 1/2 kilocycle • Special detectors for SSB, AM, and FM • Transceive operation with T-599 • Built-in 100 kc and 25 kc crystal calibrator • Built-in 500 cycle CW filter • Provision for two meter and six meter coverage with optional accessory self-contained converters • Advanced "Space-Age" styling • Adjustable threshold squelch • Only \$349.00 • \$599 Speaker \$16.00

**THE T-599 TRANSMITTER:** Clear, stable, selectable side-band, AM and CW • 4-way VFO Flexibility plus Receiver Incremental Tuning (RIT) when used with the R-599 • Amplified ALC • Built-in VOX • Full metering, including cathode current, plate voltage, ALC and relative Power Output • Built-in CW Sidetone monitor and semi-automatic break-in CW • Built-in power supply • Maximum TVI protection • Employs only 3 vacuum tubes • Only \$395.00

THE KENWOOD  
**TS-511S**  
TRANSCIVER



The Kenwood TS-511S is a five band SSB and CW transceiver packed with power and performance... offering features never before available in its price range. For example: built-in VOX, crystal calibrator, noise blanker, receiver incremental tuning, 1 kHz frequency readout, 8 pole filter, stable FET VFO, dual conversion and accessory CW filter.

**FREQUENCY RANGE:** 10, 15, 20, 40 & 80 meters (Amateur Bands)  
☐ **MODES:** LSB, USB, CW ☐  
☐ **INPUT POWER:** 500 watts PEP, 300 watts CW nominal. ☐  
☐ **SENSITIVITY:** 3.5-21.6 mHz band; 0.5 uv S/N 10 db 28.0-29.7 mHz band; 1.5 uv S/N 10 db and less than 100 cps frequency drift per 30 minutes after warm-up ☐  
☐ **SELECTIVITY:** SSB more than 2.4

KC (at 6 db) with 2 to 1 slope ratio CW more than 0.5 KC (at 6 db) ☐  
A.F. OUTPUT: more than 1 watt (10% distortion) ☐ **TUBE & SOLID STATE COMPONENTS:** 10 Tubes, 1 IC, 37 Transistors, 4 FET, 52 Diodes ☐ **PRICE:** \$415.00

PS 5115 • Power Supply with built-in speaker \$105.00  
CW-1 Filter \$39.00  
VFO 5SS \$105.00

11240 W. Olympic Blvd., Los Angeles, Calif. 90064 213/477-6701  
931 N. Euclid, Anaheim, Calif. 92801 714/772-9200  
Butler, Missouri 64730 816/679-3127

**Henry Radio**

KENWOOD

January 1973

New!

# TS-900 H.F. Transceiver Plug-in Boards!

**ANNOUNCING...**  
**A SUPERB NEW**  
**SOLID-STATE SSB TRANSCEIVER**



**KENWOOD'S**  
**TS-900**

NOW THE PROMISE OF THE TRANSISTOR HAS BEEN FULFILLED.  
HERE IS THE TRANSCEIVER YOU WILL WANT TO OWN AND CAN AFFORD.  
FOR YEARS AMATEURS HAVE WAITED FOR THE NEW GENERATION  
GENERAL PURPOSE SSB TRANSCEIVER. NOW THE WAIT IS OVER.  
WHATEVER TRANSCEIVER YOU OWN GET READY TO TRADE.

**FEATURES:** Break-in CW with sidetone provided ★ Built-in 100 KHz and 25 KHz crystal oscillator ★ The receiver incremental tuning control can vary the receive frequency  $\pm 2$  KHz or more ★ RTTY — Built-in frequency shift circuit for FSK operation. The frequency shift is factory set at 850 Hz ★ Built-in noise blanker designed to reduce impulse type (ignition) noise ★ Built-in VOX circuit with adjustable VOX gain and delay ★ All major electronic circuits are built on modular (plug-in) circuit boards

**SPECIFICATIONS:** Frequency range: 80 meter band — 3.5 to 4.0 MHz; 40 meter band — 7.0 to 7.5 MHz; 20 meter band — 14.0 to 14.5 MHz; 15 meter band — 21.0 to 21.5 MHz; 10 meter band — 28.0 to 28.5 MHz (receive only) ★ MODE: SSB, CW, or FSK ★ POWER OUTPUT: 150 watts nominal into 50 ohms for SSB, 125 watts nominal into 50 ohms for CW, 50 watts nominal into 50 ohms for FSK ★ RF INPUT IMPEDANCE: 50 ohms ★ FREQUENCY STABILITY: Within 100 Hz during any 15 minute period after warmup ★ CARRIER SUPPRESSION: Carrier better than 45 db down from output signal ★ SIDE BAND SUPPRESSION: Unwanted sideband better than 40 db down from output signal ★ HARMONIC RADIATION: Better than 40 db down from output signal ★ RECEPTION SENSITIVITY: SSB and FSK — 2.2 KHz bandwidth (6 db down), 4.4 KHz bandwidth (60 db down). CW — 0.5 KHz bandwidth (6 db down), 1.5 KHz bandwidth (60 db down) (with optional CW filter installed) ★ TUBE & SEMICONDUCTOR COMPLEMENT: 3 tubes (6LQ6 x 2 and 6GK6), 3 IC's, 16 FET's, 57 transistors, 70 diodes ★ SIZE: 12.6"W x 5.5"H x 12.6"D

The TS-900, unquestionably the best transceiver of its kind ever offered.

**PRICES:** TS-900 ... \$745.00, PS-900 (AC supply) ... \$110.00, DS-900 (DC supply) ... \$130.00, VFO (External VFO) ... \$195.00

Also, Kenwood's TS-511S five band SSB & CW transceiver ... a superb value at \$415.00. If you want separate units, Kenwood's R-599 solid state receiver at \$349.00 and the T-599 transmitter at \$395.00 are the best.

**Henry Radio**  
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931 N. Euclid, Anaheim, Calif. 92801 714/772-9200  
Butler, Missouri 64730 816/679-3127

AVAILABLE AT SELECT DEALERS THROUGHOUT THE U.S.



Late in 1973

**The Start of the**

**C.B. Radio Boom!  
Very Large Growth  
in Ham-Radio Sales**

**This Helped Kenwood and Others  
Move Product**

**KENWOOD**

**October 1973**

**NEW!**

**TS-520**  
**Hybrid H.F.**  
**Transceiver**  
**Built-in**  
**AC & DC**  
**Supplies**

**NOW!!**  
***an exciting addition to the  
magnificent Kenwood line...***



**The New TS-520 Transceiver**

The new TS-520 is the transceiver you have wanted, but could not buy until now. A no-compromise, do everything, go everywhere 5 band transceiver for SSB or CW that performs equally well at home, in an automobile, airplane, boat or trailer. The top of the line TS-900 and the superb R-599A Receiver and T-599A Transmitter are already well known to all amateurs. Now the TS-520 fills out the line offering the famous Kenwood quality and reliability at a price most amateurs can afford.

★ Here are 30 special reasons you will want to own a TS-520. After you have operated one, you will doubtless give us 30 more why you're glad you own one. ★

- |  |  |  |
|--|--|--|
| 1. Built-in AC power supply  | reliable, with heater switch for mobile receive-only operation         | 22. Full metering  |
| 2. Built-in 12 volt DC power supply                                    |  | 23. Selectable SSB                                       |
| 3. Built-in VOX with adjustable gain, delay and anti VOX               | 13. Built-in cooling fan   | 24. Selectable AGC operation for different modes         |
| 4. 1 KHz dial readout  | 14. Accessory external VFO & accessory external speaker                | 25. VFO indicator light                                  |
| 5. Ultra stable FET linear VFO   | 15. Built-in speaker   | 26. Built-in selectable ALC action for speech processing |
| 6. Built-in noise blanker  | 16. Modern styling & functional design. Modular construction.          | 27. Carrying handle                                      |
| 7. Built-in RIT circuit and RIT indicator light                        | 17. Amplified ALC  | 28. Rugged 6146 type final tubes                         |
| 8. 8 pole crystal filter   | 18. TUNE position increases tube life                                  | 29. Internal cross-channel operation.                    |
| 9. Built-in 25 KHz crystal oscillator                                  | 19. Maximum TVI protection   | 30. Push button WWV reception                            |
| 10. Provisions for optional CW filter                                  | 20. Built-in fixed channel operation (4 channels) with indicator light |  |
| 11. Break-in CW with sidetone  | 21. Provisions for use with a VHF transverter                          |  |
| 12. Completely solid state except final section. Compact, low current, |  |  |

**Proven Kenwood quality and reliability**  
**The Price: \$599.00**  
subject to change without notice.

Accessories: External VFO - (VFO-520), External speaker - (SP-520), CW Filter - (CW-520)

Available from  
Kenwood dealers  
throughout the U.S.

**Henry Radio**

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931 N. Euclid, Anaheim, Calif. 92801 714/772 9700  
Buller, Missouri 64730 816/679 3127

**KENWOOD**

**November 1973**

**Improved**

**599A's Series**

# it wasn't easy...but Kenwood improved the R-599 & T-599

THOUSANDS HAVE PROVEN THEMSELVES THROUGH DAILY USE. EVERYTHING THAT MADE THEM THE BEST REMAINS, BUT NOW KENWOOD DID THE IMPOSSIBLE BY MAKING THE "TWINs" EVEN BETTER. THE R-599A IS THE MOST COMPLETE RECEIVER EVER OFFERED... MANY FEATURES WHICH ARE "OPTIONAL AT EXTRA COST" IN OTHER RECEIVERS ARE STANDARD

## the R-599A

Solid state... low power consumption, superbly reliable, small and lightweight • Full amateur band coverage... 10 through 160 • CW, LSB, USB, AM, AM.N, FM reception • Selectable AGC... slow or fast • Built-in calibrator • Monitor T-599A frequency to calibrate transmitter • Squelch circuit • 1 KHz frequency readout... smooth VFO action • Versatile cross channel operation with T-599A • Automatic or manual selectivity selection • Built-in SSB/8 pole, CW/8 pole and AM filters • RIT circuit with RIT tuning separate from RIT switch • Five built-in fixed frequency channel positions • Provisions for installation of 2 and 6 meter converters • Stable, accurate VFO • Built-in power supply for 115/230 VAC operation or 12 VDC operation • Built-in WWV reception • Built-in S-meter • Excellent sensitivity - 5 uv • Easily adaptable to use with Kenwood TS-900 • Modern, beautiful design

### New Features:

New easy read dial, same 1 KHz readout... same smooth VFO action • Excellent built-in noise blander • Improved 2 and 6 meter operation with optional accessory converters, easier installation • Continuous RF gain control replaces stepped attenuator • Built-in 11 meter coverage • AGC



The R-599A by Kenwood

turns off if desired • VFO indicator light for cross channel operation •

The R-599A... \$439.00 • Converters... \$31.00 •

S-599 Speaker... \$18.00

## the T-599A

Mostly solid state... only 3 tubes • Built-in power supply • Full metering: ALC, Ip, RF output, high voltage • CW, LSB, USB, AM operation • 1 KHz frequency readout, smooth easy VFO action • Built-in VOX, with delay, sensitivity and anti-VOX adjustments • Built-in semi-automatic CW with sidetone • Built-in calibrator function when used with the R-599A • Full amateur band coverage... 10 through 80 • Versatile cross channel operation with the R-599A • Stable, accurate VFO • Modern, beautiful design • ALC feedback • Maximum TVI protection • 200 watts PEP input nominal • Tube saving TUNE position • Built-in cooling fan • Selectable low or high microphone impedance

### New Features:

Front panel MIC Gain control • Front panel CAR LEVEL control • Improved, easy read dial, same smooth VFO action • VFO indicator light for cross channel operation • New high reliability final amplifier layout • Improved keying characteristics • New chain drive •

The T-599A... \$459.00

Prices subject to change without notice.

### Why buy from Henry Radio?

Over 40 years experience. No finance charges if paid within 90 days. Low interest contracts - 8%/yr add on (14% annual rate) - as long as 24 months. 10% down or trade-in down payments. Good used equipment. Most makes and models. Used equipment carries a 15 day trial, 90 day warranty and may be traded back within 90 days for full credit towards the purchase of NEW equipment. Write for bulletin. Export inquiries invited.

# Henry Radio

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**KENWOOD**

**January**  
**1974**

**TS-900**  
**&**  
**TS-520**

Kenwood's superb  
solid state SSB transceiver

**TS-900**



... the ultimate transceiver. The promise of the transistor has been fulfilled. Here is the transceiver you will want to own ... whatever you have now, get ready to trade up. Its important features are far

too numerous to list. Its specifications are superb. The TS-900 is unquestionably the best transceiver of its kind ever offered. The price . . . \$795.00  
PS-900 (AC Supply) \$120.00, the DS-900 \$140.00



**TS-520** Kenwood's go every place  
... do everything transceiver

The new TS-520 is the transceiver you have wanted, but could not buy until now. It is a non-compromise, do everything, go everywhere 5 band transceiver for SSB or CW that performs equally well at home, in an automobile, airplane, boat or trailer. The TS-520 features built-in AC power supply, built-in 12 volt DC power supply, built-in VOX with adjustable gain delay and anti-VOX.

The price . . . \$599.00

**Kenwood's**  
**winning**

The R-599A is the most complete receiver ever offered. It is solid state, superbly reliable, small and lightweight, covers the full amateur band ... 10 thru 160 meters, CW, LSB, USB, AM,

AM, N and FM.

The price . . . \$439.00

The T-599A is mostly solid state ... only 3 tubes, has built-in power supply, full metering (ALC, Ip, RF output and high voltage), CW-LSB-USB-AM operation.

The price . . . \$459.00

See the Kenwood line at the following dealers: CALIFORNIA Communications Headquarters, San Diego • Gary Radio, Inc., San Diego • Ham Radio Outlet, Burlingame • Henry Radio, Anaheim • Henry Radio, Los Angeles • Sequoia Stereo, Arcata • Webster Radio, Fresno • FLORIDA Amateur Electronic Supply, Orlando • Amateur-Wholesale Electronics, Miami • IDAHO United Electronics Wholesale, Twin Falls ILLINOIS Erickson Communications, Chicago • Klaus Radio, Inc., Peoria • INDIANA Graham Electronics, Indianapolis • Hoosier Electronics, Terre Haute • Radio Distributing Company, South Bend • IOWA Hobby Industry, Council Bluffs • KANSAS Associated Radio Communications, Overland Park • LOUISIANA Trionics, Inc., New Orleans • MARYLAND Electronic International Service Corp., Wheaton • Professional Electronics, Baltimore • MICHIGAN Electronic Distributors, Muskegon • Radio Supply & Engineering Company, Detroit • MINNESOTA Electronic Center, Minneapolis • MISSOURI Ham Radio Center, St. Louis • Henry Radio, Butler • MONTANA Conley Radio Supply, Billings • NEW JERSEY Simon Side Band Company, Oak Ridge • NEW YORK 26881 • Ohio Radio, Dayton • Oregon Radio, Portland • Pennsylvania Radio, Harrisburg • Radio Shack, Springfield, Mass.

**KENWOOD**

**August**  
**1974**

**TS-520**

**Doing  
Very  
Well!**

**We're  
overwhelmed!**

**...but not surprised by your acceptance of  
the new  
TS-520**



**WE KNEW THIS NO-COMPROMISE, DO EVERYTHING, GO EVERYWHERE  
TRANSCEIVER WOULD BE POPULAR. NOW WE ARE DELIVERING THEM  
RECORD NUMBERS. PLEASE BE PATIENT...WE HAVE ONE FOR YOU**



**KENWOOD**

**May 1975**

**TS-900  
TS-520  
599 Series  
  
on a  
BIG Roll**

**WHEN YOU BUY KENWOOD  
...YOU BUY  
PRIDE, PLEASURE & PERFORMANCE**

Pride in knowing that you own today's ultimate in state-of-the-art technology . . . pleasure in operating a rig whose day in, day out performance will show you why the Kenwood name is world-famous for reliability and value.

Kenwood's superb  
state-of-the-art SSB transceiver

**TS-900**



... the ultimate transceiver. The promise of the transistor has been fulfilled. Here is the transceiver you will want to own . . . whatever you have now, get ready to trade up. Its important features are far

too numerous to list. Its specifications are superb. The TS-900 is unquestionably the best transceiver of its kind ever offered. The price . . . \$795.00  
PS-900 (AC Supply) \$120.00, the DS-900 \$140.00



**TS-520** Kenwood's go every place  
... do everything transceiver

The new TS-520 is the transceiver you have wanted, but could not buy until now. It is a non-compromise, do everything, go everywhere 5 band transceiver for SSB or CW that performs equally well at home, in an automobile, airplane, boat or trailer. The TS-520 features built-in AC power supply, built-in 12 volt DC power supply, built-in VOX with adjustable gain delay and anti-VOX.

The price . . . \$599.00

**Kenwood's  
winning  
pairing**



**R-599A Receiver**

The R-599A is the most complete receiver ever offered. It is solid state, superbly reliable, small and lightweight, covers the full amateur band . . . 10 thru 160 meters, CW, LSB, USB, AM, AM.N and FM.

The price . . . \$439.00

The T-599A is mostly solid state . . . only 3 tubes, has built-in power supply, full metering (ALC, Ip, RF output &

high voltage), CW-LSB-USB-AM operation.

The price . . . \$459.00



**T-599A Transmitter**

Please call or write for complete specifications. Also available at Kenwood dealers throughout the U.S.

**Henry Radio**

11240 W. Olympic Blvd., Los Angeles, Calif. 90064 213/477-6701  
931 N. Euclid, Anaheim, Calif. 92801 714/772-9200  
Butler, Missouri 64730 816/679-3127

August 1975

**TRIO/KENWOOD**  
**Announces**  
**Direct Sales**

**No More**  
**Henry-Radio**  
**Distribution!**

**KENWOOD**

*...Why settle  
for less!*

There are several good transceivers on the market today. But if you compare them carefully... study the specifications, note the important features, and finally talk to some Kenwood owners, you will have to come to the same conclusion that thousands of others have come to... you can't buy a better rig for the money than a Kenwood. Every unit is built with pride and designed to give top performance year after year. Join the switch to Kenwood.



The TS-520 shown  
with the VFO-520 and SP-520

The TS-520 is the final word in SSB transceivers... the "hottest little rig on the air." It is a compact, mostly solid state, all-in-one transceiver with built-in AC/DC power supply and speaker. It operates SSB and CW on 80 thru 10 meters. Features include 2-position ALC and double split frequency controlled operation.

Available at select Kenwood dealers throughout the U.S.

Distributed by



**TRIO-KENWOOD**  
**COMMUNICATIONS INC.**

116 East Alondra / Gardena, California 90248

**KENWOOD**

**October 1975**

**Henry-Radio  
has to reduce  
a very large  
inventory**

**Installs digital  
readout for  
TS-520's**

**NEW--FROM HENRY RADIO**

**NOW IT CAN BE  
DIGITAL...  
HENRY RADIO'S  
NEW  
CUSTOM TS-520**



Henry Radio now offers the Kenwood TS-520 with a built-in frequency display. This equipment is a standard, new TS-520 modified by Henry Radio to include a four digit frequency readout to 100 cycles. If you have never experienced the pleasure of a direct frequency readout, you have a big surprise coming.

As fast as you tune the transceiver, the TS-520 displays the actual transmit and receive frequencies. The LED readout is bright and easy to read. There is no chance of confusion, no chance of operating out of the band or on unauthorized frequencies. Your new digital system simply brings a new dimension of pleasure and accuracy to amateur radio.

The TS-520 digital offers a four digit instantaneous display of both the transmitted and received frequencies to a resolution of 100 Hz for easy interpretation by the operator. The operation of the display is interlocked into the standard controls of the transceiver; band switching, sideband switching, and RIT are all automatic. The digital circuits are incorporated directly inside the transceiver and do not affect the normal operating characteristics of the equipment.

Henry Radio will also install the digital modifications into any customer's transceiver if the equipment is returned prepaid to our Los Angeles address.

TS-520 Digital Transceiver \$729.00  
TS-520 Retrofit Modification \$129.00

**THE FIRST  
TRULY LINEAR  
SOLID STATE  
AMPLIFIER  
...TEMPO'S  
100AL10**



Enjoy distortion free SSB operation with the advantages of solid state circuitry.

Operates in the VHF frequency range of 144-148 MHz with power output of 100W (nom.) with 10W (nom.) in. Guaranteed to effectively increase both the range and clarity of your communications under all operating conditions.

Modern solid state technology is used throughout, along with conservatively rated components to assure the highest possible reliability. Microstrip design on glass epoxy circuit boards give added resistance to damage from shock or prolonged vibration.

*The Tempo 100AL10 is available at Tempo dealers throughout the U.S. Specifications available upon request.*

*Also available in the fine Tempo line is the famous Tempo ONE, the Tempo 2000, 2002, 2006, 6N2, CL-146A, CL-220, DFD/ONE, DFD/K, FMH, RBF-1, TDC and a broad selection of RF amplifiers.*

***Henry Radio***

11240 W. Olympic Blvd., Los Angeles, Calif. 90064

931 N. Euclid, Anaheim, Calif. 92801  
Butler, Missouri 64730

213/477-6701  
714/772-9200  
816/679-3127



November 1975

**TRIO/KENWOOD**

**NEW!**

**599D Twins**

**are a  
BIG HIT!**

When Kenwood entered the amateur market, we did it with the finest technology and craftsmanship available. Thousands of discerning amateurs have selected Kenwood... after comparing specifications, features and prices ... and finally, comparing its performance against all competition. The result has been Kenwood's phenomenal acceptance by the amateur world. And with this acceptance we pledge to constantly improve our products as technology advances and to bring forth new products that will meet tomorrow's needs. That is why we are the "pacesetter in amateur radio."

**KENWOOD**

*The 'Twins' have  
a new look!*



The R-599D and the T-599D is the most versatile solid state receiver and transmitter combination on the ham bands. Thousands of "Twins" have proven themselves through daily use. Everything that made them the best remain... only their appearance has changed.

Available at select Kenwood dealers throughout the U.S.

*Kenwood... pacesetter in amateur radio*

Distributed by



**TRIO-KENWOOD  
COMMUNICATIONS INC.**

116 East Alondra / Gardena, California 90248

**JANUARY 1976**

**TRIO/KENWOOD**

**Starting  
to do  
aggressive  
advertising !**



**KENWOOD**  
...pacesetter in amateur radio

**The TS-520 with its companion VFO-520 and SP-520**  
The TS-520 is the final word in SSB transceivers... the "hottest little rig on the air." Built-in AC/DC power supply, compact and extremely reliable. The TS-520 is loaded with features... loaded with Kenwood quality.

**The TV-502**  
2m transverter... puts your TS-520 on the 2 meter band. Solid-state, 144 to 146 MHz. SSB and CW... priced right.

**The R-599D and T-599D**  
the most complete and versatile solid-state receiver and transmitter combination on the ham bands. Thousands of "Twins" have proven themselves in world-wide, daily use. And now we've given them a rich, new darker appearance. Shown with the matching S-599D.

**The TS-700A**  
2 meter transceiver... the best! Operates on SSB (upper & lower), FM, AM, and CW. Built-in AC/DC capability. 4 MHz band coverage, 44 channels with 11 crystals.

**The QR-666**  
world listening at its best. New solid-state communications receiver. AM, SSB and CW. The last word in state-of-the-art technology.

Available at select Kenwood dealers throughout the U.S.  
**TRIO-KENWOOD COMMUNICATIONS INC.**  
116 East Alondra / Gardena, California 90248



KENWOOD

July 1976

New!

TS-820

First Ad After  
Dayton 1976

Digital Readout  
Optional

KENWOOD'S  
**TS-820**  
*the Pacesetter*

Kenwood's well deserved reputation for fine craftsmanship and superb performance has never been more evident than in the TS-820. As a result of a host of innovative features being brought together, the 820 offers a degree of versatility, performance and pleasure second to none.

The Kenwood TS-820 is destined to be the world's new standard of excellence in amateur radio for years to come... a true "Pacesetter".



**VFO-820**

The VFO-820 is a solid state remote VFO designed exclusively for use with the Kenwood TS-820 Pacesetter. The VFO-820 has its own RIT circuit and control switch. It is fully compatible with the optional digital display in the TS-820. The perfect extra to any Pacesetter station.

**RF MONITOR** • Built-in monitor circuit allows you to hear your own voice by sampling the RF signal. Especially useful for adjusting the RF Processor.

**NOISE BLANKER** • The TS-820 uses an efficient noise blanker circuit, another Kenwood exclusive. A special crystal filter assures unsurpassed efficiency in eliminating unwanted pulse noises.

**DIGITAL HOLD** • A single pushbutton switch offers the operator unprecedented versatility. The digital hold circuit will lock the counter and display at any frequency, but will allow the VFO to tune normally. Ever wanted to return to a certain spot on the band and forgotten the frequency? That won't happen again with the new digital hold feature on the Kenwood TS-820.

**SPEECH PROCESSOR** • An HF circuit provides quick time constant compression using a true RF compressor as opposed to an IF clipper. Amount of compression is adjustable to the desired level by a convenient front panel control.

**IF SHIFT** • The IF SHIFT control varies the IF passband without changing the receive frequency. This "IF shift" control is located on the front panel and provides excellent unwanted signal reject control or "pass band tuning." The 820 moves the signal across the IF pass band not the pass band across the signal.

**RF ATTENUATOR** • Easy, one touch activation of the attenuator supplies 20 dB of padding on receive.

**VOX** • A voice-activated microphone circuit is built into the TS-820 with VOX GAIN, ANTIVOX, and VOX DELAY controls placed on the front panel for convenient adjustment any time.



**KENWOOD**

# Kenwood adds more accessories to the TS-820 line

**KENWOOD**  
...pacesetter in amateur radio

The TS-820S... known worldwide as the Pacesetter. Amateur Radio Operators universally respect its superb quality, proven through thousands of hours of operating time under all environmental conditions. The TS-820S has every feature any Amateur could desire for operating enjoyment, on any band from 160 through all of 10 meters.

## TS-820S

You can always tell who's running a TS-820S. Its superb quality stands out from all the other rigs on the band... and when the QRM gets heavy, the TS-820S's adjustable RF speech processor, utilizing a 455-kHz circuit to provide quick-time-constant compression, will get the message through. RF negative feedback is applied from the final to the driver to improve linearity, and third-order products are at least -35 dB. Harmonic spurious emissions are less than -40 dB and other spurs are less than -60 dB. RF input power is 200 W PEP on SSB, 160 W DC on CW, and 100 W DC on FSK. Receiver sensitivity is better than 0.25  $\mu$ V for 10 dB S/N. The TS-820S is known for its superb receiver selectivity, and its famous IF shift easily eliminates heavy QRM. That's why the TS-820S is the DXer's choice.

See your local Authorized Kenwood Dealer today



TS-820S VFO-820S SP-820

Kenwood's unbeatable combination. The VFO-820 solid state remote VFO adds greatly to the versatility of your TS-820S. It has its own RIT circuit and control switch and is a perfectly matched accessory. The SP-820 deluxe external matching speaker includes audio filters for added versatility on receive and two audio inputs.

**arma**  
A Kenwood Company

TRIO-KENWOOD COMMUNICATIONS INC.  
1111 WEST WALNUT, COMPTON, CA 90220



**KENWOOD**

# July 1977 **NEW!** TS-520S with true Digital-Readout as an option with DG-5

## KENWOOD'S NEW TS-520S AND DG-5 DIGITAL FREQUENCY DISPLAY A NEW STANDARD IN ECONOMY TRANSCEIVERS

The NEW TS-520S combines all of the fine, field-proven characteristics of the original TS-520 together with many of the ideas, comments, and suggestions for improvement from amateurs worldwide. Kenwood's ultimate objectives... to make quality equipment available at reasonable prices.

### FULL COVERAGE TRANSCEIVER

The new TS-520S provides full coverage on all amateur bands from 1.8 to 29.7 MHz. Kenwood gives you 160 meter capability, WWV on 15.000 MHz, and an auxiliary band position for maximum flexibility. And with the addition of the TV-502 and TV-506 transverters, your TS-520S can cover 160 meters to 2 meters on SSB and CW.

### DIGITAL DISPLAY DG-5 (optional)

The new Kenwood DG-5 provides easy, accurate readout of your operating frequency while transmitting and receiving.

### OUTSTANDING RECEIVER SENSITIVITY AND MINIMUM CROSS MODULATION

The new TS-520S incorporates a 3SK-35 dual gate MOSFET for outstanding cross modulation and spurious response characteristics. The 3SK35 has a low noise figure (3.5 dB typ.) and high gain (18 dB typ.) for excellent sensitivity.

### NEW IMPROVED SPEECH PROCESSOR

A new audio compression amplifier gives you extra punch in the pile ups and when the going gets rough.

### VERNIER TUNING FOR FINAL PLATE CONTROL

A new vernier tuning mechanism allows

easy and accurate adjustment of the plate control during tune-up.

### FINAL AMPLIFIER

The new TS-520S is completely solid state except for the driver (12BY7A) and the final tubes. Rather than substitute TV sweep tubes as final amplifier tubes in a state of the art amateur transceiver, Kenwood has employed two husky 6146B (equivalent to 6146B) tubes. These rugged, time-proven tubes are known for their long life and superb linearity.

### HIGHLY EFFECTIVE NOISE BLANKER

An effective noise blanking circuit developed by Kenwood that virtually eliminates ignition noise is built-in to the TS-520S.

### RF ATTENUATOR

The new TS-520S has a built-in 20 dB attenuator that can be activated by a push button switch conveniently located on the front panel.

### VFO-520 — NEW REMOTE VFO

The VFO-520 remote VFO has been designed to match the styling of the TS-520S and provide maximum operating flexibility on the band selected on your TS-520S.

### AC POWER SUPPLY

The TS-520S is completely self-contained with a rugged AC power supply built-in. The addition of the DS-1A DC-DC converter (option) allows for mobile operation of the TS-520S.

### EASY CONNECTION PHONE PATCH

The TS-520S has 2 convenient RCA phone jacks on the rear panel for PHONE PATCH IN and PHONE PATCH OUT.

### CW-520 — CW FILTER (OPTION)

The CW-520 500 Hz filter can be easily installed and will provide improved operation on CW.

### AMPLIFIED TYPE AGC CIRCUIT

The AGC circuit has 3 positions (OFF, FAST, SLOW) to enable the TS-520S to be operated in the optimum condition at all times whether operating CW or SSB.

The TS-520S retains all of the features of the original TS-520 that made it tops in its class: RIT control • 8-pole crystal filter • Built-in 25 KHz calibrator • Front panel carrier level control • Semi-break-in CW with sidetone • VOX/PTT/MOX • TUNE position for low power tune up • Built-in speaker • Built-in Cooling Fan • Provisions for 4 fixed frequency channels • Heater switch.



### Specifications

Amateur Bands: 160-10 meters plus WWV (receive only)  
Modes: USB, LSB, CW  
Antenna Impedance: 50-75 Ohms  
Frequency Stability: Within  $\pm 1$  kHz during one hour after one minute of warm-up, and within 100 Hz during any 30 minute period thereafter

Tubes & Semiconductors:  
Tubes: 3 (52001A x 2, 12BY7A)  
Transistors: 52  
FETs: 19  
Diodes: 101

Power Requirements: 120/220 V AC, 50/60 Hz, 13.8 V DC (with optional DS-1A)

Power Consumption: Transmit: 280 Watts Receiver: 26 Watts (with heater off)

Dimensions: 333(13 1/4) W x 153(6 1/8) H x 354(13 1/2) D mm (inch)

Weight: 16.0 kg (35.2 lbs)

TRANSMITTER

RF Input Power: SSB: 200 Watts PEP CW: 150 Watts DC

Carrier Suppression: Better than -40 dB

Sidband Suppression: Better than -50 dB

Spectrum Radiation: Better than -40 dB

Microphone Impedance: 50k Ohms AF Response: 400 to 2600 Hz

RECEIVER  
Sensitivity: 0.25  $\mu$ V for 10 dB (S+N)/N  
Selectivity: SSB: 2.4 kHz/-6 dB, 4.4 kHz/-60 dB  
Selectivity: CW: 0.5 kHz/-4 dB, 1.5 kHz/-60 dB (with optional CW-520 filter)

Image Ratio: Better than 50 dB  
IF Rejection: Better than 50 dB  
AF Output Power: 1.0 Watt (8 Ohm load, with less than 10% distortion)

AF Output Impedance: 4 to 16 Ohms

DG-5 SPECIFICATIONS  
Measuring Range: 100 Hz to 40 MHz

Input Impedance: 5 k Ohms  
Gate Time: 0.1 Sec.

Input Sensitivity: 100 Hz to 40 MHz: 200 mV rms or over, 10 kHz to 10 MHz: 50 mV or over

Measuring Accuracy: Internal time base accuracy:  $\pm 0.1$  count

Time Base: 10 MHz  
Operating Temperature: -10° to 50° C/14° to 122° F

Power Requirement: Supplied from TS-520S or 12 to 16 VDC (nominal 13.8 VDC)

Dimensions: 167(6 9/16) W x 43(1 11/16) H x 208(8 1/8) D mm (inch)

Weight: 1.3 kg (2.9 lbs)

### DG-5 (optional)

The luxury of digital readout is available on the TS-520S by connecting the new DG-5 readout (option). More than just the average readout circuit, this counter mixes the carrier, VFO, and heterodyne frequencies to give you your exact frequency. This handsomely-styled accessory can be set almost anywhere in your shack for easy read operation... or set it on the dashboard during mobile operation for safety and convenience. Six bold digits display your operating frequency while you transmit and receive. Complete with DH (display hold) switch for frequency memory and 2 position intensity selector. The DG-5 can also be used as a normal frequency counter up to 40 MHz at the touch of a switch. (Input cable provided.)

NOTE: TS-520 owners can use the DG-5 with a DK-520 adapter kit.



July 1977

TRI-KENWOOD COMMUNICATIONS INC. 1111 WEST WALNUT / COMPTON, CA. 90220

**KENWOOD**  
...pioneer in amateur radio



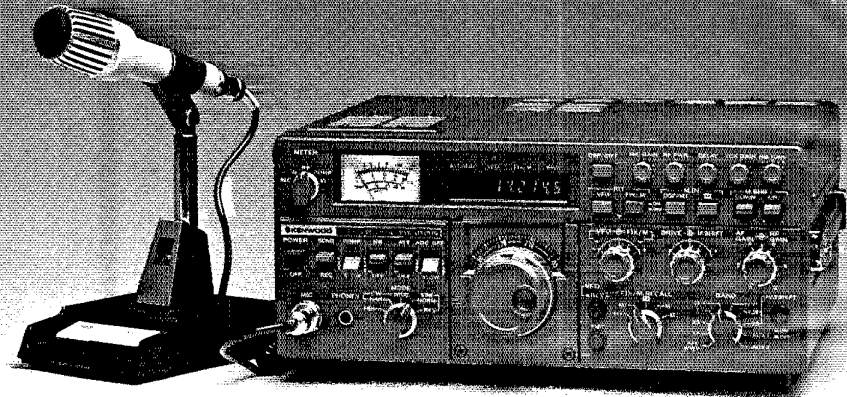
KENWOOD

April 1979  
**Kenwood**  
**Announces**  
**New!**  
**TS-120S**  
**&**  
**TS-180S**  
**All Solid-State**  
**H.F. Transceivers**

**TS-120S...A big little rig.**



**TS-180S with DFC\***



# KENWOOD

## 1979

# Kenwood Maintains Their Best Selling Hybrid's

## TS-520S

## TS-820S



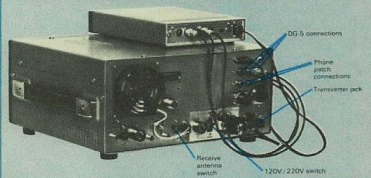
### Specifications

**Receiver**  
Sensitivity: 0.25  $\mu$ V for 10 dB  
Selectivity: 15 kHz  
Modes: USB, LSB, CW  
Antenna Impedance: 50  $\Omega$  Ohms  
Frequency Stability: Better than 1 kHz during one hour after one minute of warm-up, and within 100 Hz during any 20 minute period thereafter  
Tubes & Semiconductors:  
Tubes: 3  
(5000A x 2, 12BY6A)  
Transistors: 52  
FETs: 19  
Diodes: 10  
**Power Requirements:** 120/220 V  
AC, 50/60 Hz, 13.5 V DC (with optional QS-44)  
**Power Consumption:** Transmit: 280 Watts Receive: 26 Watts (with heater off)  
Dimensions: 333(13 1/4) x 153 (6.0) x 126(5) (13.3/10.5 D mm/inch)  
Weight: 8.5 kg (18.7 lbs)  
**TRANSMITTER**  
RF Input Power: 500-200 Watts  
P1P CW: 150 Watts DC  
Carrier Suppression: Better than -40 dB  
Sideband Suppression: Better than -50 dB  
Spurious Radiation: Better than -40 dB  
Microphone Impedance: 50k Ohms  
AF Response: 800 to 2,600 Hz

**RECEIVER**  
Sensitivity: 0.25  $\mu$ V for 10 dB  
Selectivity: 15 kHz  
Modes: USB, LSB, CW  
Antenna Impedance: 50  $\Omega$  Ohms  
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NOTE: TS-520 owners can use the DG-5 with a DK-520 adapter kit.



## TS-820

The ultimate in amateur radio... the TS-820. The most advanced yet most reliable... the TS-820. In every respect, it offers a measure of quality and dependability seldom to be found... and at the same time, it's a superb value. You get more of your frequency... the convenience of carrier and heterodyne... and under the toughest operating conditions... make the TS-820 the transceiver that is...



KENWOOD

# Kenwood's **New** Facility in 1980 in Compton, California





**1980**

**Some of the R.F. Engineers  
That  
Designed the Hybrid Radios**

KENWOOD

# Hiroshi Miyazawa

## Director of Trio-Kenwood Corp.



JH1DRB



*Hiroshi Miyazawa*

DIRECTOR

**TRIO-KENWOOD CORPORATION**

13-13, 1 CHIDORI OHTA-KU, TOKYO, JAPAN TEL (REP.) 752-2171  
17-5, 2 SHIBUYA SHIBUYA-KU, TOKYO, JAPAN TEL (REP.) 477-5501



**TRIO**

JH1DRB

トリオ株式会社

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シオノギ渋谷ビル

KENWOOD

# Hajime Yashita

## Manager of Engineering



COMMUNICATION EQUIP  
TESTING INSTRUMENTS  
HI-FI STEREO SYSTEMS  
STEREO TAPE DECKS

HAJIME YASHITA

MANAGER (JR1EVA)  
ENGINEERING DESIGN SECTION  
COMMUNICATIONS EQUIPMENT DIVISION

**TRIO-KENWOOD CORPORATION**

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OHTA-KU, TOKYO, 146.  
JAPAN.

PHONE: (REP.) 752-2171  
TELEX: TK-22913  
CABLE: TRIORADIO TOKYO



**TRIO**

通信機・測定器・音響機器・レコード

トリオ株式会社

通信機事業部

商品開発グループ・第一設計・セクション・マネージャー

課長

矢下肇

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事業所 東京・八王子・駒ヶ根・武蔵



# Toshiyuki Tashiro

## R.F. Design Engineer



COMMUNICATIONS EQUIP.  
TESTING INSTRUMENTS  
HI-FI AUDIO PRODUCTS

TOSHIYUKI TASHIRO

ENGINEERING DESIGN SECTION  
COMMUNICATIONS EQUIPMENT DIVISION

**TRIO-KENWOOD CORPORATION**

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OHTA-KU, TOKYO, 146.  
JAPAN.

PHONE: (REP.) 752 - 2171  
TELEX: 2425214 TRICOM J  
CABLE: KENWOODCOM TOKYO



**TRIO**  
トリオ株式会社

通信機・測定器・音響機器

通信機事業部

設計グループ・機構設計セクション

JJ1ETT 田代敏行

東京都大田区千鳥1丁目13番13号 電話 03 (755) 4348(直) 〒146  
事業所 東京・八王子・駒ヶ根

**KENWOOD**

# **Mickey Hatori**

## **R.F. Engineer / Service**



(213) 639-9000

*9005*

**MASAKAZU "MICKEY" HATORI**

**SERVICE MANAGER**

**TRIO-KENWOOD  
COMMUNICATIONS, INC.**

1111 WEST WALNUT STREET - COMPTON, CA. 90220

MAILING: P.O. BOX 7065 - COMPTON, CA. 90224

**KENWOOD**

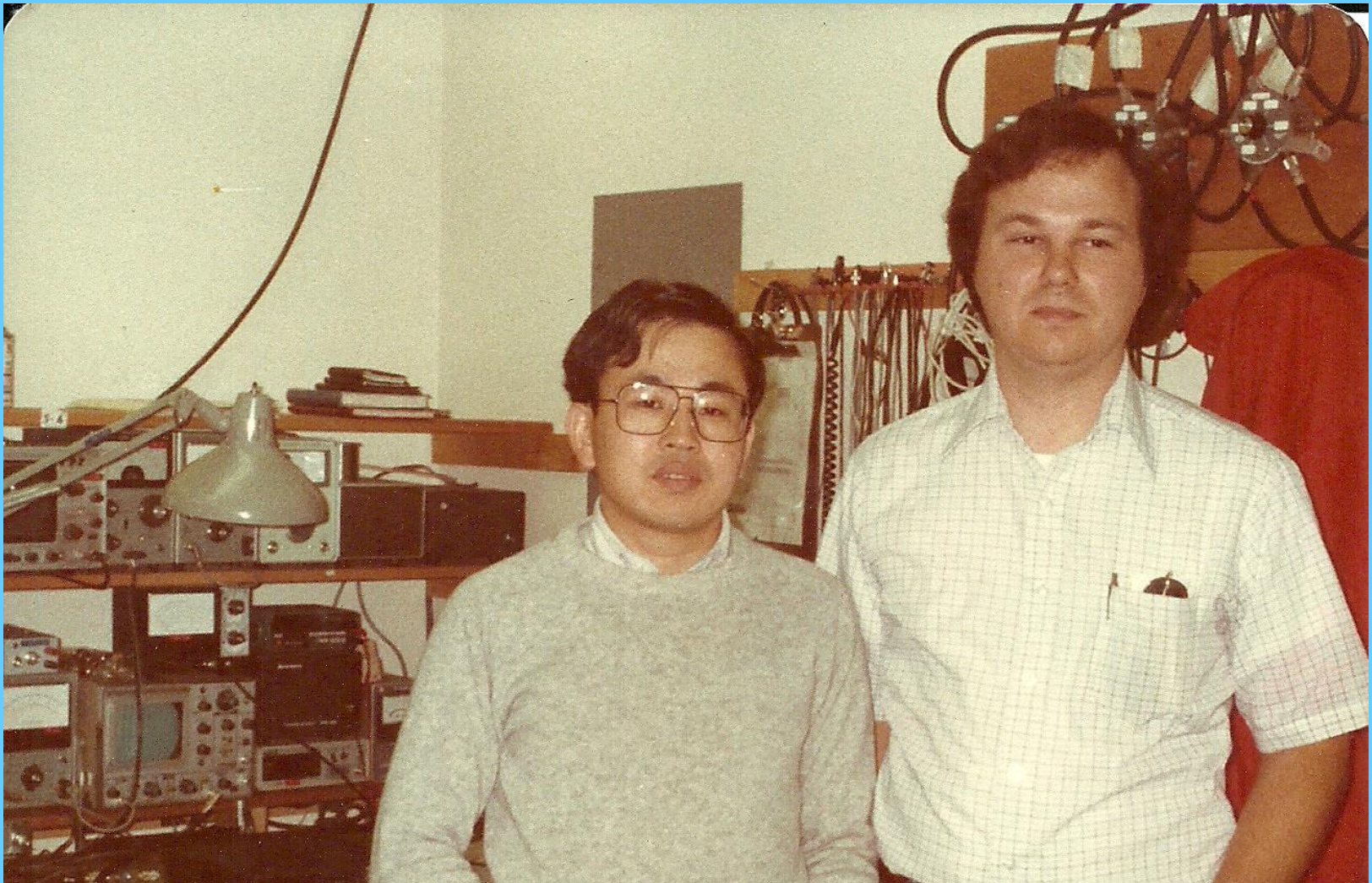
**Mickey: Age 34 R.F. Engineer  
for 13 years in 1980**

**All Hybrids & First Service Manager USA**





# **Fuji: Age 34 R.F. Receiver Engineer For all radios 13 years in 1980**





**KENWOOD**

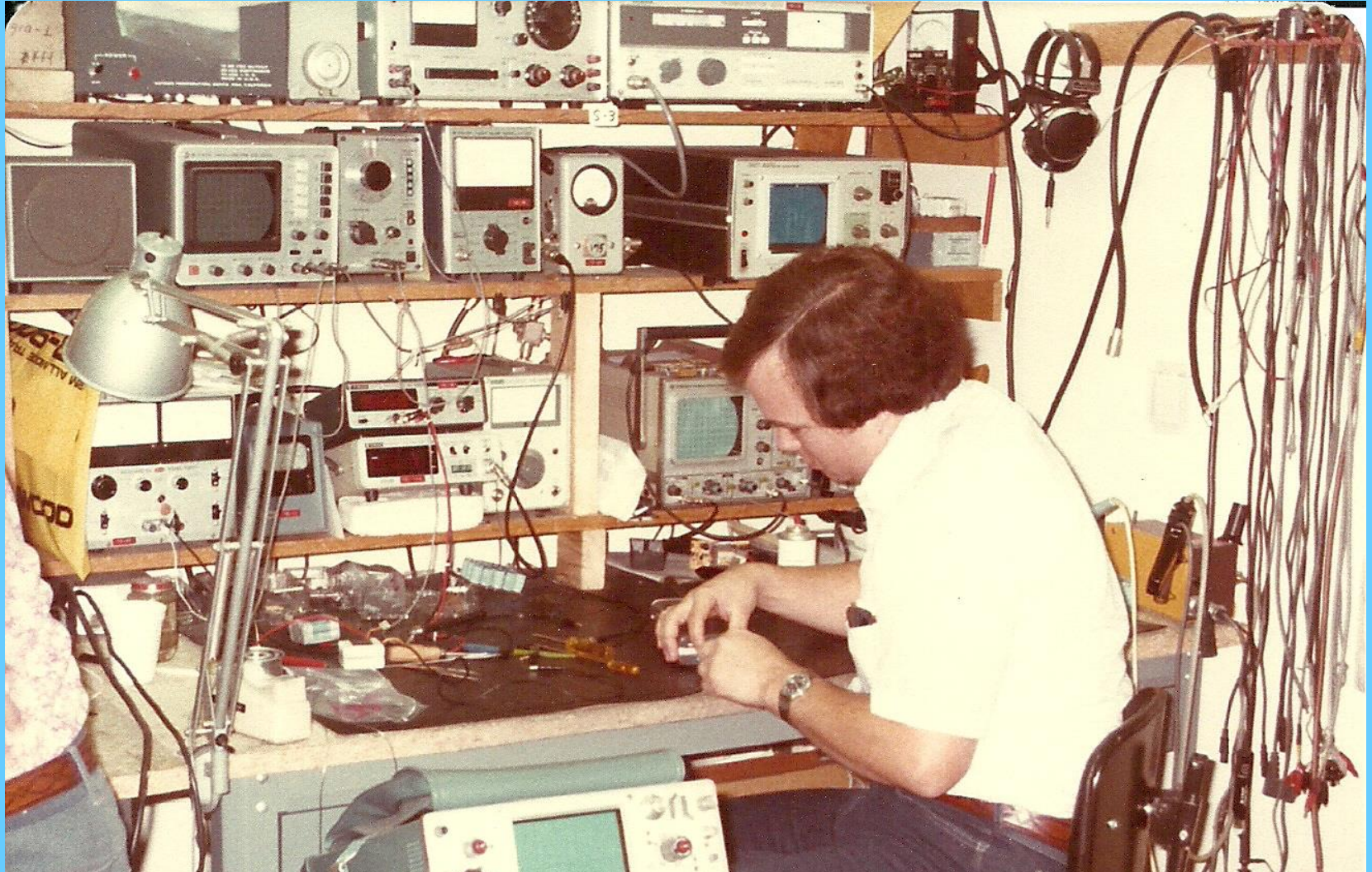
# **Shimizu: H.F. Lead Tech trying to figure out why the TS-180S Blew Up! !**





**KENWOOD**

# **Jeff Covelli: Age 30 Repairing a Radio on Kenwood's Service Bench**





**KENWOOD**

**KENWOOD**  
...pacesetter in amateur radio

**TRIO-KENWOOD COMMUNICATIONS INC.**  
1111 WEST WALNUT / COMPTON, CA 90220

**September 1980**

**NEW!**

**TS830S**

**H.F.**

**Transceiver**

**Top-Notch.**



**VBT, notch, IF shift, wide dynamic range**

## TS-830S

Now most Amateurs can afford a high-performance SSB/CW transceiver with every conceivable operating feature built in for 160 through 10 meters (including the three new bands). The TS-830S combines a high dynamic range with variable bandwidth tuning (VBT), IF shift, and an IF notch filter, as well as very sharp filters in the 455-kHz second IF. Its optional VFO-230 remote digital VFO provides five memories.

### TS-830S FEATURES:

- **160-10 meters, including three new bands**  
Covers all Amateur bands from 1.8 to 29.7 MHz (LSB, USB, and CW), including the new 10, 18, and 24-MHz bands. Receives WWV on 10 MHz.
- **Wide receiver dynamic range**  
Junction FETs (with optimum IMD characteristics and low noise figure) in the balanced mixer, a MOSFET RF amplifier operating at low level for improved dynamic range (high amplification level not needed because of low noise in mixer), dual resonator for each band, and advanced overall receiver design result in excellent dynamic range.

### Variable bandwidth tuning (VBT)

Continuously varies the IF filter passband width to reduce interference. VBT and IF shift can be controlled independently for optimum interference rejection in any condition.

### IF notch filter

Tunable high-Q active circuit in 455-kHz second IF, for sharp, deep notch characteristics.

### IF shift

Shifts IF passband toward higher or lower frequencies (away from interfering signals) while tuned receiver frequency remains unchanged.

### Various IF filter options

Either a 500-Hz (YK-88C) or 270-Hz (YK-88CN) CW filter may be installed in the 8.83-MHz first IF, and a very sharp 500-Hz (YG-455C) or 250-Hz (YG-455CN) CW filter is available for the 455-kHz second IF.

### Built-in digital display

Six-digit large fluorescent tube display, backed up by an analog dial. Reads actual receive and transmit frequency on all modes and all bands. Display Hold (DH) switch.

### Adjustable noise-blanker level

Built-in noise blanker eliminates pulse-type (such as ignition) noise. Front-panel threshold level control.

### 6146B final with RF NFB

Two 6146B's in the final amplifier provide 220 PEP (SSB)/180 W DC (CW) input on all bands. P negative feedback provides optimum IMD characteristics for high-quality transmission.

### More flexibility with optional digital VFO

VFO-230 operates in 20-Hz steps and includes five memories. Also allows split-frequency operation. Built-in digital display. Covers about 100 kHz above and below each 500-kHz band.

### Built-in RF speech processor

For added audio punch and increased talk power DX pileups.

### RIT/XIT

Receiver incremental tuning (RIT) shifts only the receiver frequency, to tune in stations slightly off frequency. Transmitter incremental tuning (XIT) shifts only the transmitter frequency.

### SSB monitor circuit

Monitors IF stage while transmitting, to determine audio quality and effect of speech processor.

Ask your Authorized Kenwood Dealer about the many operating features offered by the TS-830S... at a very reasonable price!

**NOTE:** Price, specifications subject to change without notice and obligation.

### MATCHING ACCESSORIES FOR FIXED-STATION OPERATION:

- SP-230 external speaker with selectable audio filters
- VFO-230 external digital VFO with 20-Hz steps, five memories, digital display
- AT-230 antenna tuner/ SWR and power meter
- MC-50 desk microphone
- YG-455C (500-Hz) and YG-455CN (250-Hz) CW filters for 455-kHz IF
- YK-88C (500-Hz) and YK-88CN (270-Hz) CW filters for 8.83-MHz IF
- HC-10 digital world clock
- HS-5 and HS-4 headphones
- MC-30S and MC-35S noise-cancelling hand microphones
- TL-922A linear amplifier
- SM-220 Station Monitor
- PC-1 phone patch





KENWOOD

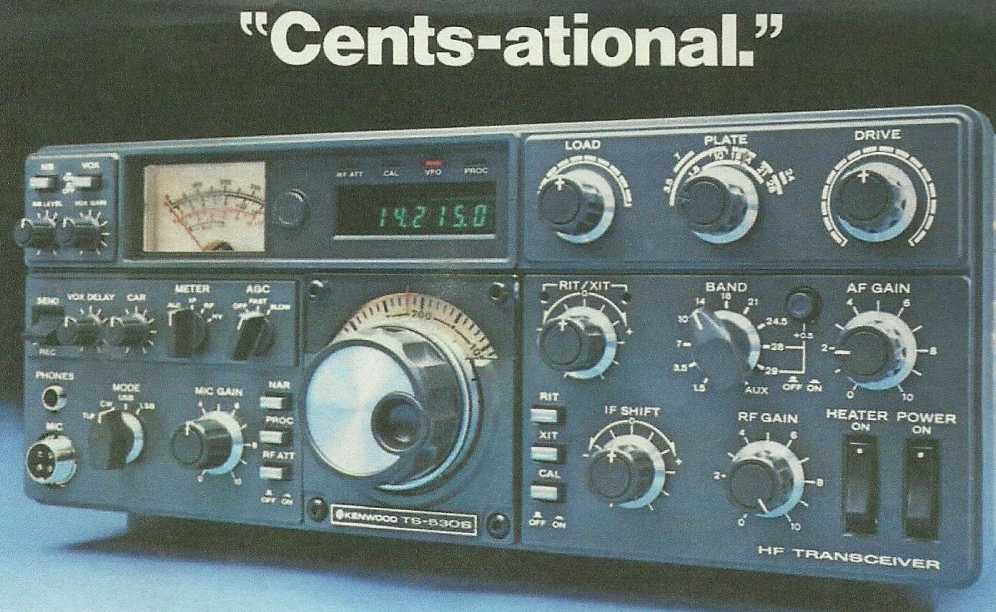
May 1981

**NEW!**

**TS-530S**

**H.F.**

**Transceiver**



## IF shift, digital display, narrow-wide filter switch

### TS-530S

The TS-530S SSB/CW transceiver is designed with Kenwood's latest, most advanced circuit technology, providing wide dynamic range, high sensitivity, very sharp selectivity with selectable filters and IF shift, built-in digital display, speech processor, and other features for optimum, yet economical, operation on 160 through 10 meters.

#### TS-530S FEATURES:

- **160-10 meter coverage, including three new bands**  
Transmits and receives (LSB, USB, and CW) on all Amateur frequencies between 1.8 and 29.7 MHz, including the new 10, 18, and 24 MHz bands. Receives WWV on 10 MHz.
- **Built-in digital display**  
Large, six-digit, fluorescent-tube display shows actual receive and transmit frequencies on all modes. Backed up by analog subdial.
- **IF shift**  
Moves IF passband around received signal and away from interfering signals and sideband splatter.

#### Narrow/wide filter combinations

Any one or two of three optional filters ... YK-88SN (1.8 kHz) SSB, YK-88C (500 Hz) CW, YK-88CN (270 Hz) CW ... may be installed for selecting (with "N-W" switch) wide and narrow bandwidths on CW and/or SSB.

#### Wide receiver dynamic range

Greater immunity to strong-signal overload, with MOSFET RF amplifier operating at low level for improved IMD characteristics, junction FETs in balanced mixer with low noise figure, and dual resonator for each band.

#### Built-in speech processor

Combines an audio compression amplifier with change of ALC time constant for extra audio punch and increased average SSB output power, with suppressed sideband splatter.

#### Two 6146B's in final

Runs 220 W PEP/180 W DC input on all bands.

#### Advanced single-conversion PLL system

Improved overall stability and improved transmit and receive spurious characteristics.

#### Adjustable noise-blanker level

Pulse-type (such as ignition) noise is eliminated by built-in noise blanker, with front-panel threshold level control.

#### RF attenuator

The 20-dB RF attenuator may be switched in for rejecting IMD from extremely strong signals.

#### Optional VFOs for flexibility

VFO-240 allows split-frequency operation and other applications. VFO-230 digital VFO operates in 20-Hz steps and includes five memories and a digital display.

#### RIT/XIT

Front-panel RIT (receiver incremental tuning) shifts only the receiver frequency for tuning in stations slightly off frequency. XIT (transmitter incremental tuning) shifts only the transmitter frequency, for calling a DX station listening off frequency.

More information on the TS-530S is available from all authorized dealers of Trio-Kenwood Communications, Inc., 1111 West Walnut Street, Compton, California 90220.

#### Matching accessories for fixed-station operation:

- SP-230 external speaker with selectable audio filters
- VFO-240 remote VFO
- VFO-230 remote digital VFO with 20-Hz steps, five memories, digital display
- TL-922A linear amplifier
- SM-220 Station Monitor
- KB-1 deluxe VFO knob
- PC-1 phone patch
- HS-5 and HS-4 headphones
- AT-230 antenna tuner/ SWR and power meter
- MC-50 desk microphone
- HC-10 digital world clock
- YK-88C (500 Hz) and YK-88CN (270 Hz) CW filters and YK-88SN (1.8 kHz) SSB narrow filter
- MC-30S and MC-35S noise-canceling hand microphones

#### Other accessories not shown:



Specifications and prices are subject to change without notice or obligation.



April 1983

**Kenwood Announces The **NEW** TS-430S  
Their Version of The Drake TR-7  
General Coverage H.F. Transceiver, after 5 years of  
Drake's Great Run  
No More **New** Hybrids After This Radio Came Out !**





# KENWOOD

## Spring of 1988

The long run of  
**Hybrids** are coming  
to an end.

These Two Radios  
where manufactured  
for 8 years !!

# KENWOOD

...pacesetter in Amateur radio

## Dependable Duo!

### TS-830S HF transceiver.

The "Pacesetter" has become a legend in DX and contest circles.

- Covers all 10 Amateur bands (50 kHz extended coverage).
- Wide receiver dynamic range, junction FETs in the balanced mixer, MOSFET RF amplifier at low level, and dual resonator for each band.
- Variable bandwidth tuning (VBT). Varies IF filter passband width.
- Notch filter high-Q active circuit in 455-kHz second IF.
- Noise-blanker threshold level control.
- IF shift (passband tuning).
- 6146B final with RF negative feedback. Runs 220 W PEP (SSB)/180 W DC (CW) input on all bands.
- Built-in RF speech processor.
- SSB monitor circuit.

#### Optional accessories:

VFO-230 external digital VFO with five memories, digital display.  
VFO-240 external analog VFO.  
AT-230 antenna tuner/SWR/ power meter.

SP-230 external speaker.  
YG-455C (500 Hz) or YG-455CN (250 Hz) CW filter for 455 kHz IF.  
YK-88C (500 Hz) or YK-88CN (270 Hz) CW filter for 8.83 MHz IF.  
KB-1 deluxe heavyweight knob.



Model: TS-830S  
Power: 220 W PEP input (SSB); 180 W DC CW  
Dimensions: 13.3"W x 5.3"H x 13.3"D  
Weight: 29.8 lbs.

### TS-530SP HF transceiver.

This "Cents-ational" HF transceiver is recognized worldwide for superior and dependable performance.

- 160-10 meters, LSB, USB, CW, all Amateur frequencies, including new 10, 18, and 24 MHz bands. Receives WWV on 10 MHz.

- Built-in digital display (six digits, fluorescent tubes), with analog dial.
- Narrow/wide filter selector switch for CW and/or SSB.
- Built-in speech processor, for increased talk power.
- IF shift tunes out interfering signals.
- Wide receiver dynamic range, with greater immunity to overload.
- Two 6146B's in final, allows 220 W PEP/180 W DC input on all bands.
- Advanced single-conversion PLL, for better stability, improved spurious characteristics.

- Adjustable noise-blanker, with front panel threshold control.
- RIT/XIT front panel control allows independent fine-tuning of receive or transmit frequencies.

#### Optional accessories:

SP-230 external speaker with selectable audio filters.  
VFO-230 remote digital VFO.  
VFO-240 remote analog VFO.  
AT-230 antenna tuner/SWR/ power meter.  
MC-50 desk microphone.  
KB-1 deluxe VFO knob.  
YK-88C (500 Hz) or YK-88CN (270 Hz) CW filter.  
YK-88SN (1.8 kHz) narrow SSB filter.

More information on the TS-830S and TS-530SP is available from authorized Kenwood dealers.



Complete service manuals are available for all Trio-Kenwood transceivers and most accessories. Specifications and prices are subject to change without notice or obligation.

# KENWOOD

TRIO-KENWOOD COMMUNICATIONS

Model: TS-530SP  
Power: 220 W PEP input (SSB); 180 W DC CW  
Dimensions: 13.3"W x 5.3"H x 13.3"D  
Weight: 28.2 lbs.

*Thank You  
For Watching*

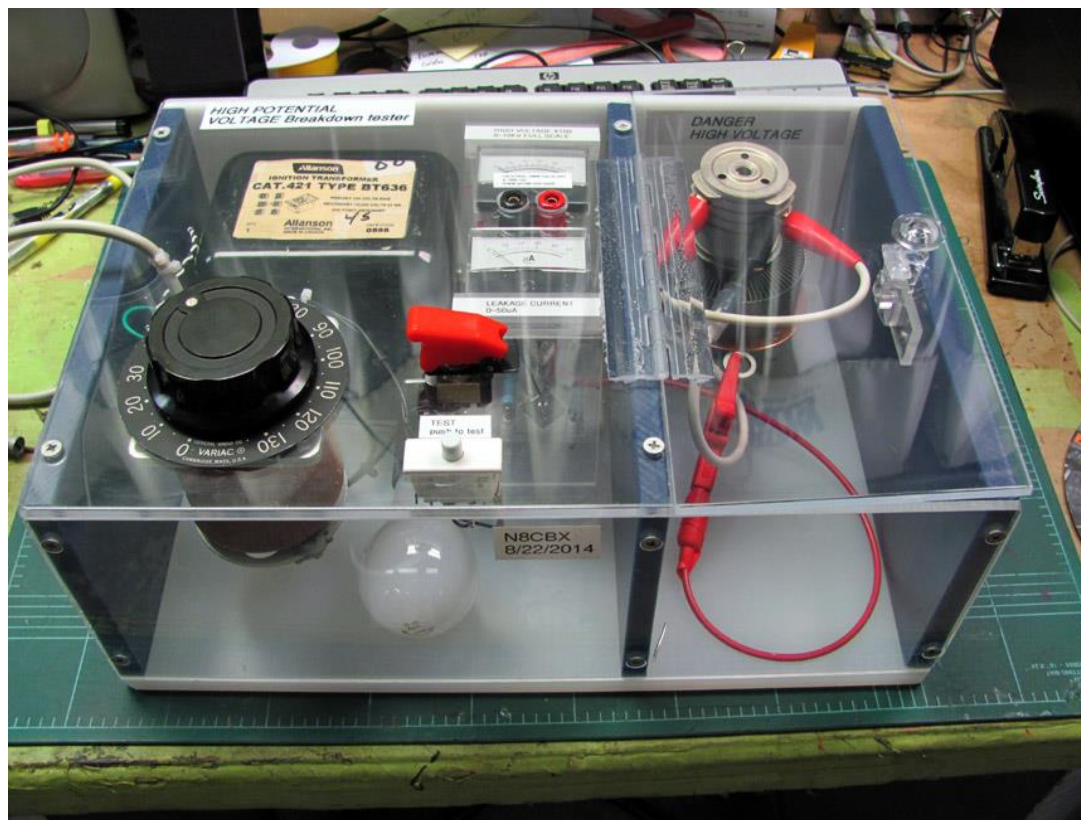
*The End*



KENWOOD

### Topics:

- 1.High Voltage Probe
- 2.Hi-Pot definition
- 3.My Hi-Pot Schematic
- 4.Calculations
- 5.Materials list
- 6.References
- 7.Hi-Pot in-use



*Hamvention Forums 2015*

Session: Kenwood "Hybrid" Radio Legacy

Location: Room 3, 1:15pm – 2:15pm

Dates – Saturday, May 16 2015

## Let's review - *High Voltage Probe (Fluke 80K-6)*



### *Circuit Loading*

The 80K-6 represents a load of approximately 75 megohms to the circuit being measured (13  $\mu$ A per 1 kV). See Figure 1. To more accurately determine the load resistance, measure the resistance of the 80K-6 at its voltmeter connector and multiply the measured value by 1000.

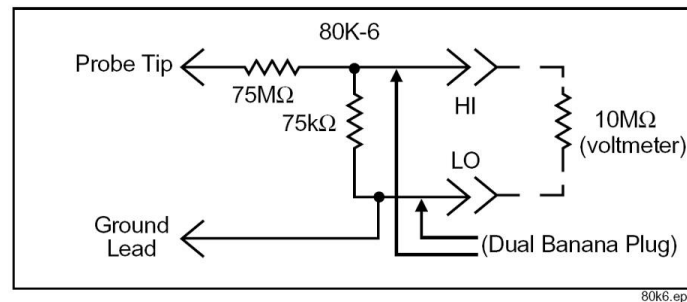
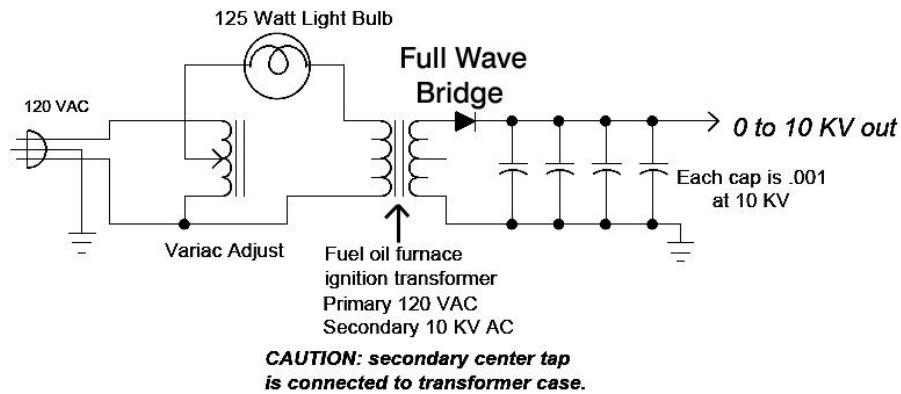


Figure 1. 80K-6 Schematic Diagram

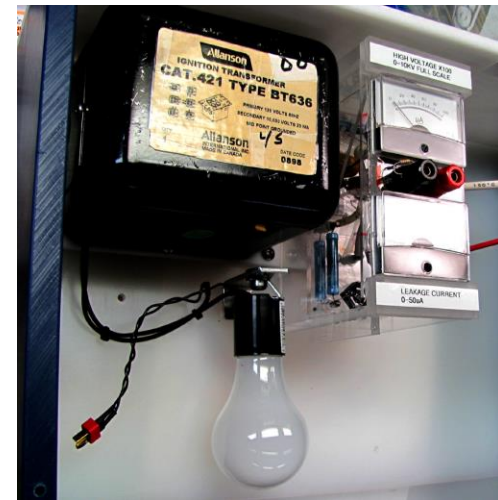
- This high-voltage probe allows a Digital Multi-Meter (DMM) to take high-voltage measurements to 10,000 V peak, and acts as a high-impedance (100 M $\Omega$ ) probe for high-impedance circuit testing.
- The probe was designed to plug into a standard 10 M $\Omega$  input DMM. Many DMMs (and DVMs) have an input impedance of **10 M $\Omega$**  (This can be verified by using another meter).
- We want to build a simple **1000:1 voltage divider** using 100 M $\Omega$ , using low tolerance, HV resistors (Vishay brand of metal oxide, "ROX" style)

***Hi-Pot Definition*** - An adjustable, DC, current-limited, Breakdown Voltage Tester (testing the breakdown of an insulator-to-conductor transition in a material) -- also known as a High-Potential Tester (or "Hi-Pot" ) can be used for non-destructive measurements of the voltage withstanding ability of relays, capacitors, transistors, silicon rectifiers. A Hi-Pot is used to test amplifier-tubes for the presence of gas, shorts (and for rejuvenate/conditioning tubes). A Hi-Pot tester can help you identify a tube that could seriously damage your amplifier.

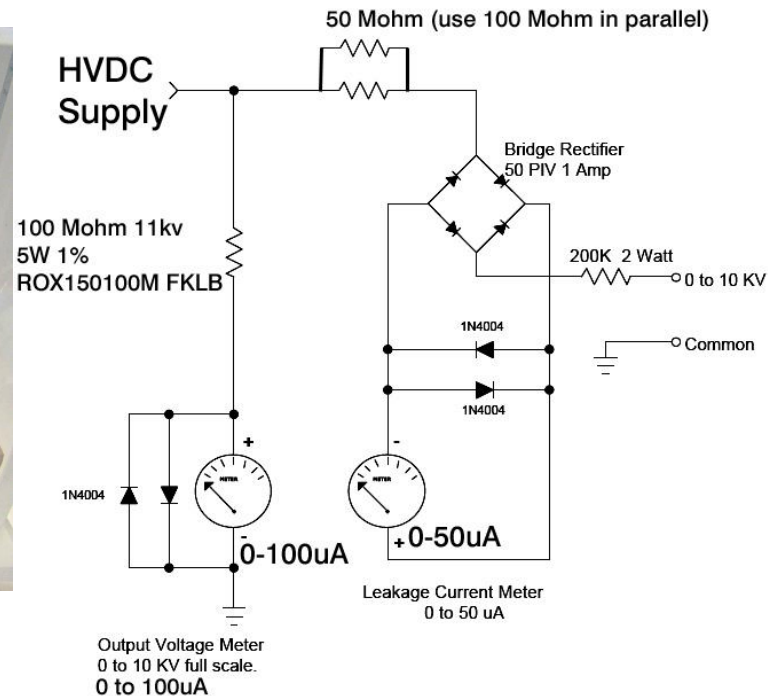
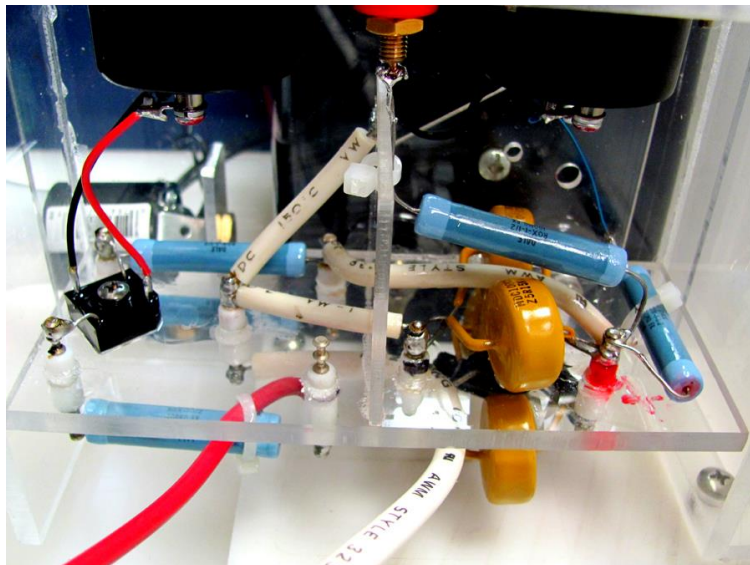




*Fuel oil furnace inition transformer voltage source*



*High voltage leakage detector and metering circuit*



*High voltage out to device under test*

## DMM HV Calculations

A second HV meter to precisely set voltage levels for smaller tubes (6146B)

The on-line calculator used:

<http://www.sengpielaudio.com/calculator-voltagedivider.htm>

$$V_{out} = \frac{Z_2 \parallel Z_L}{Z_1 + Z_2 \parallel Z_L} \cdot V_{in} = \frac{Z_2}{Z_1 + Z_2 + \frac{Z_1 \cdot Z_2}{Z_L}} \cdot V_{in}$$

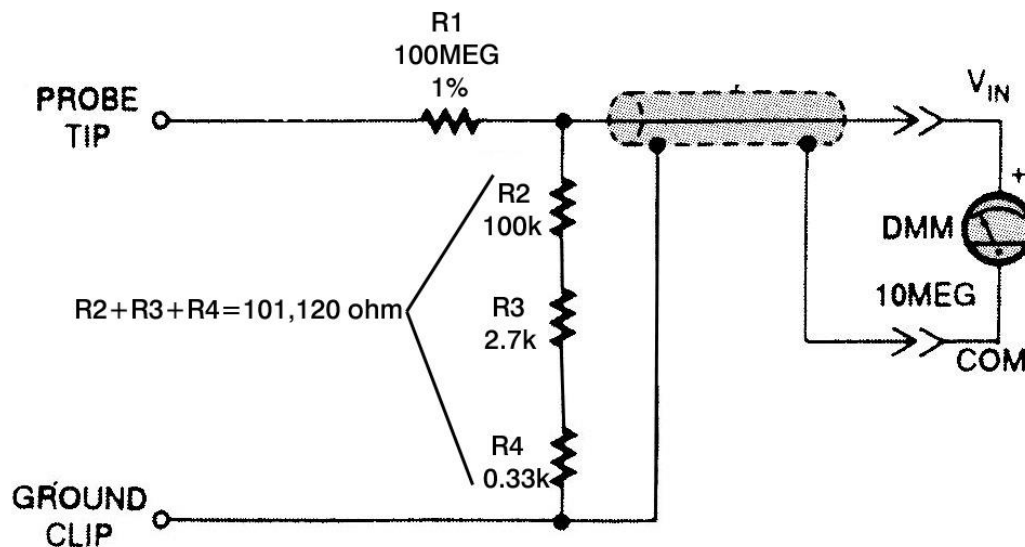
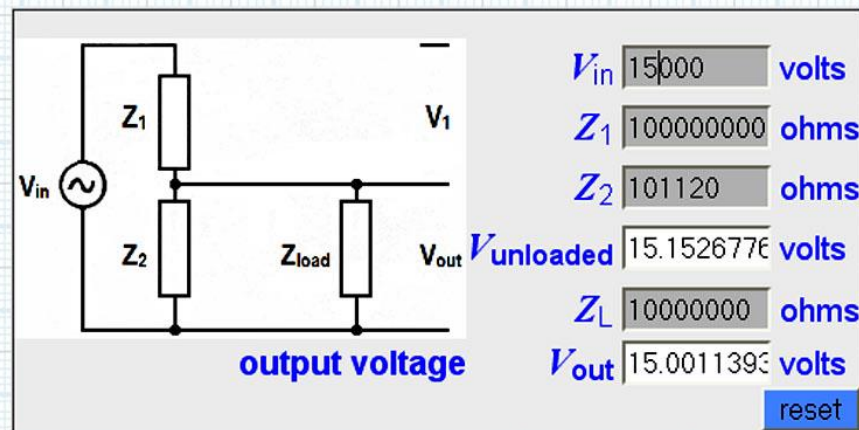
$R_2 + R_3 + R_4$  should be = 101,120 ohms;

Resistors used: 100k, 2.7k, 0.33k

They were soldered in series and tested & re-selected on a DMM to arrive at the required value.

## Voltage Divider Calculator No. 1

Entering three or four values calculate the others. The value of  $Z_{load}$  can be entered additionally, otherwise it uses automatically a 1 megohm load - unloaded open circuit. Use the left mouse button - click at a free space.





•Meter, 50uA	1ea	Jameco
•Meter, 100uA	1ea	MCM
•Resistor, 100Mohm 15kv Vishay metal oxide; ROX150100MFKLB	4ea	Mouser
•Resistor, 200kohm 15kv “ ; ROX150200KFKLB	1ea	Mouser
•Diode, 12kv 350mA HVM12 Rectron	4ea	Mouser
•Diode, 1N4004	4ea	Mouser
•Rectifier Bridge, 200v 3A KBPC102 or KBPC1005	1ea	Mouser
•Capacitor, 15kv 1000pf	4ea	Mouser
•Ignition Transformer, 10kv CAT.421 type BT636, Allanson	1ea	Ebay
•Light bulb, 100W and socket	1ea	
•Variac, W2 120V 2.4A	1ea	Ebay
•Post, banana dual bind red/black	1ea	MCM
•Switch, toggle STSP on/off & momentary push button test	1ea	
•Wire, HV silicone, 40kvdc 22awg	1foot	
•Plastic, Plexiglas sheet, ¼” & 1/8” and misc. sheet		

# KENWOOD

## References

1. **Rich Measures AG6K:** <http://www.somis.org/BVT.html>
2. **Bill Jones K8CU:**  
[http://www.realhamradio.com/High\\_Voltage\\_Breakdown\\_Tester.htm](http://www.realhamradio.com/High_Voltage_Breakdown_Tester.htm)
3. **Jeffery L Blaine AC0C:**  
[http://http://ac0c.com/main/page\\_homebrew\\_leakage\\_tester.html](http://http://ac0c.com/main/page_homebrew_leakage_tester.html)
4. **Mike Carroll NI4N**
5. **Terry L Wagoner K9TW:** <http://www.k9tw.com/>
6. **Eimac – App. Bulletin #28**
7. **Mouser – Vishay Metal Oxide Resistors (ROX series) data sheet**
8. **Amps Reflector – “Power Vacuum Tube Hi-pot and Conditioning” thread, 03 May, 2004.**

# KENWOOD *Hi-Pot Testing of Power Amplifier Tubes*

\*The basic idea of a Hi-Pot tester is to apply current limited, high voltage to the device-under-test; Raise the voltage until the desired voltage test level is reached, or until a small amount (1 to 2 micro Amps) of leakage current flows. If there occurs a “kickoff” of current, the Hi-Pot tester limits the current flow, and the process can be stopped without destroying the item under test\*

(From Eimac App. Bulletin #28)

**Calibrate: (Run up voltage with tests leads open, and record benign leakage. If any, subtract this amount from actual readings)**

**Cleaning: Wipe the tube base & envelope with alcohol wipes**

**Never test with one or more of tube elements floating**

## **Tests:**

1. To test Grid to Cathode (or filament) shorts:
  1. Tie **Anode/Screen/Grid** to any side (+ or -); **Cathode** to other side.
  2. Run up voltage to the appropriate value.
  3. Reverse DC polarity and run again.
2. To test Control Grid to Screen:
  1. Tie **Anode/Screen** to any side; Tie **Grid/Cathode** to the other side.
  2. Run up voltage to the appropriate value.
  3. Reverse DC polarity and run again.
3. To test Anode to Screen:
  1. Tie **Cathode/Grid/Screen** to any side; Anode to other side.
  2. Run up voltage to the appropriate value.
  3. Reverse DC polarity and run again.



# KENWOOD *Hi-Pot Testing of Power Amplifier Tubes*

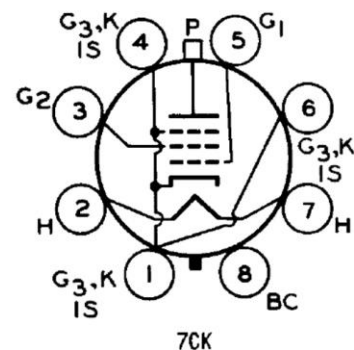
## *Testing a 6146B tube by Terry K9TW*

The 6146 tubes see approx **2X** dc plate voltage RF swing in service or approx **1600 volts** so I do a stepped voltage test up to at least **2000vdc** and I like to take them up to **2500vdc**. A good tube should be able to hold off that voltage level. Should see **zero uA** leakage current at that voltage level.

### Tests:

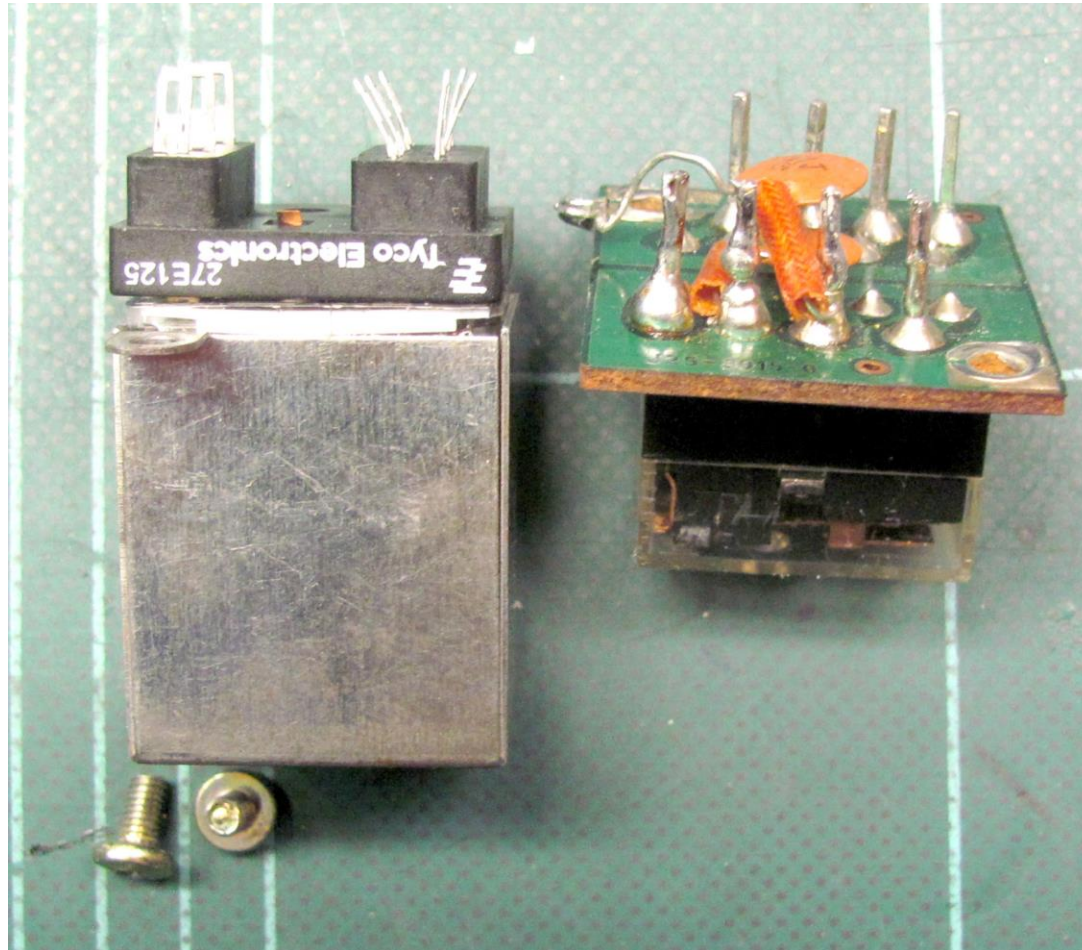
1. To test Anode to Beam Forming Plates (Cathode):
  1. Tie **Anode** to any side (+ or -); **Cathode** to other side (pins 4, 1, 6)
  2. Should see uA current meter moving off zero around 800 to 900 volts
  3. At 1000vdc, the tube may arc over; Current limiter will limit to 50uA
  4. If the tube arcs over at 1000vdc I run the variac back down and start over and ramp back up and sometimes on the 2nd pass the tube will show no leakage at 2000vdc to 2500vdc. If the tube arcs over again around 1000vdc to 1500vdc I junk the tube. Sometimes I have been able to get improvement after 2 or 3 arc overs, but I won't run that tube in any of my radios.
2. To test **Grid (pin5)** to **Cathode** (Same procedure as above)
3. To test **Anode** to **Screen/Grid/Cathode** (tie pin 3 & pin 5 & pins 4, 1, 6)
  1. Tie **Anode** to any side (+ or -); **Screen/Grid/Cathode** to other side.
  2. Run up voltage to the appropriate value (2500vdc).

**TERMINAL CONNECTIONS**  
Bottom View



PIN 1: CATHODE, GRID NO.3, INTERNAL SHIELD	PIN 5: GRID NO.1
PIN 2: HEATER	PIN 6: SAME AS PIN 1
PIN 3: GRID NO.2	PIN 7: HEATER
PIN 4: SAME AS PIN 1	PIN 8: BASE SLEEVE
	CAP: PLATE

## Repairing the Kenwood TS-530S Antenna Relay Presenter - Mr Jan Servaites (N8CBX)



*Hamvention Forums 2015*  
Session: Kenwood "Hybrid" Radio Legacy  
Location: Room 3, 1:15pm – 2:15pm  
Dates – Saturday, May 16 2015

Buy: NTE R16-11D5-12 (relay) and NTE R95-103 (socket)

## 12VDC DPDT 3A PC Mounted Relay NTE R16-11D3-12P

[Spec Sheet](#)

Price: \$15.23

[Add To Cart](#)

**discontinued**



## 12VDC DPDT 5A Relay NTE R16-11D5-12

Compatible 10 Pin Socket:

- Panel Mount: R95-103
- PC Mount: R95-102

[Spec Sheet](#)

Price: \$22.73

[Add To Cart](#)

## 10 Pin Blade Socket NTE R95-103

Features:

- Panel Mount
- Solder Terminals
- Accepts .187" Blade Terminals
- Electrical Rating: 300 Volt, 5 Amps

[Spec Sheet \(PDF\)](#)

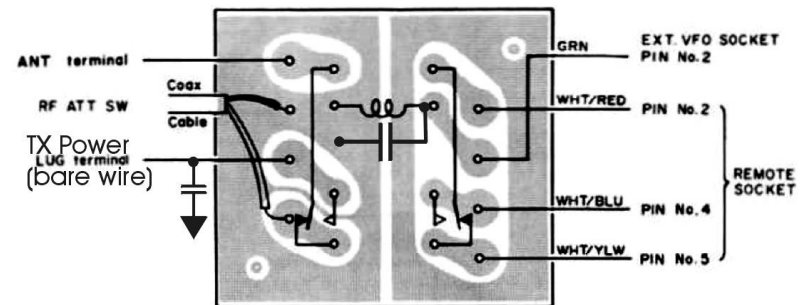
Price: \$4.48

[Add To Cart](#)

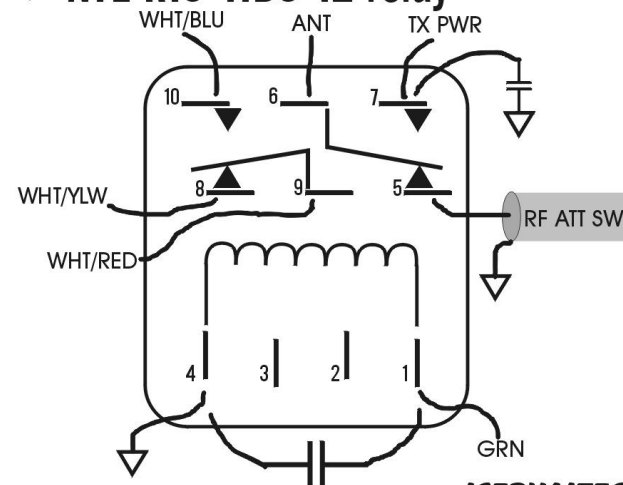
**Minute Man Electronics**  
<http://www.minute-man.com/>  
[www.newark.com](http://www.newark.com)

## ▼ ANT RELAY BOARD (J25-3015-04)

View from foil side

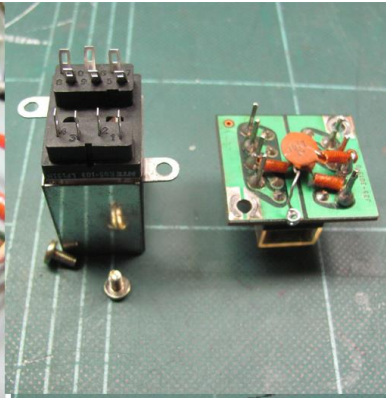
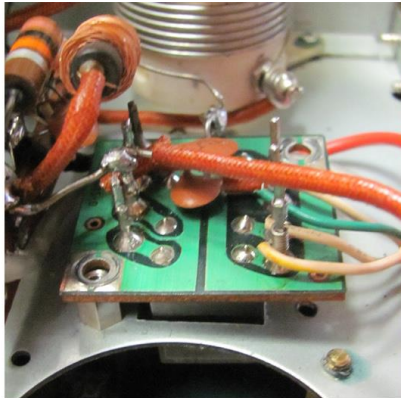


## ▼ NTE R16-11D5-12 relay

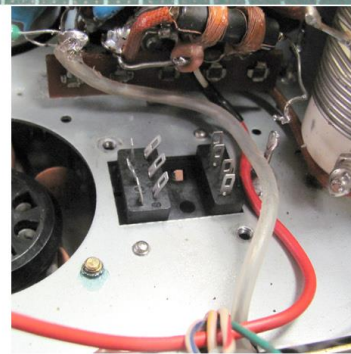
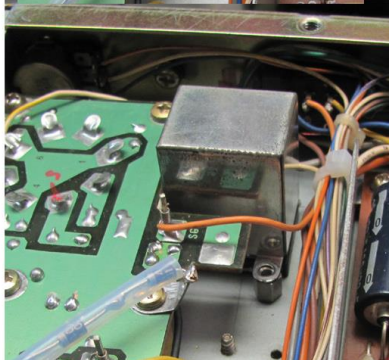
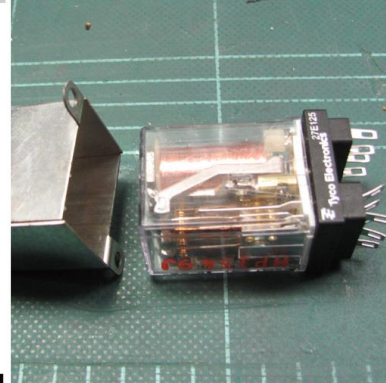
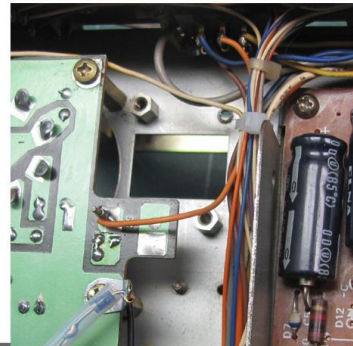


**JSERVAITES N8CBX**  
**2/18/2015**



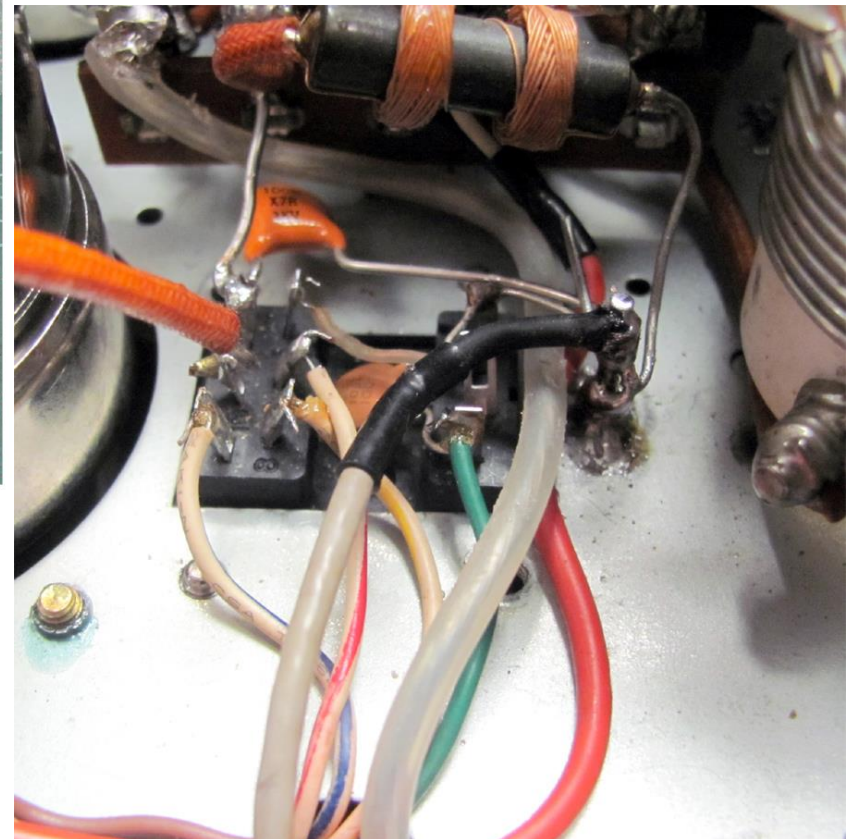


Mount screws on inside



Relay installed

Follow my wire layout for the best fit;  
Installed two new capacitors too



## Repairing the Kenwood T599 Transmitter and Improvements for the “Twins”

Presenter - Mr Jan Servaites (N8CBX)

### Topics:

- 1.HV, Screen, LV Capacitors
- 2.Final Cage Capacitors
- 3.Cathode Protection Diodes
- 4.New RG-174 Coax
- 5.Improving the S599 Speaker
6. Add Pan Display Cable
- 7.References



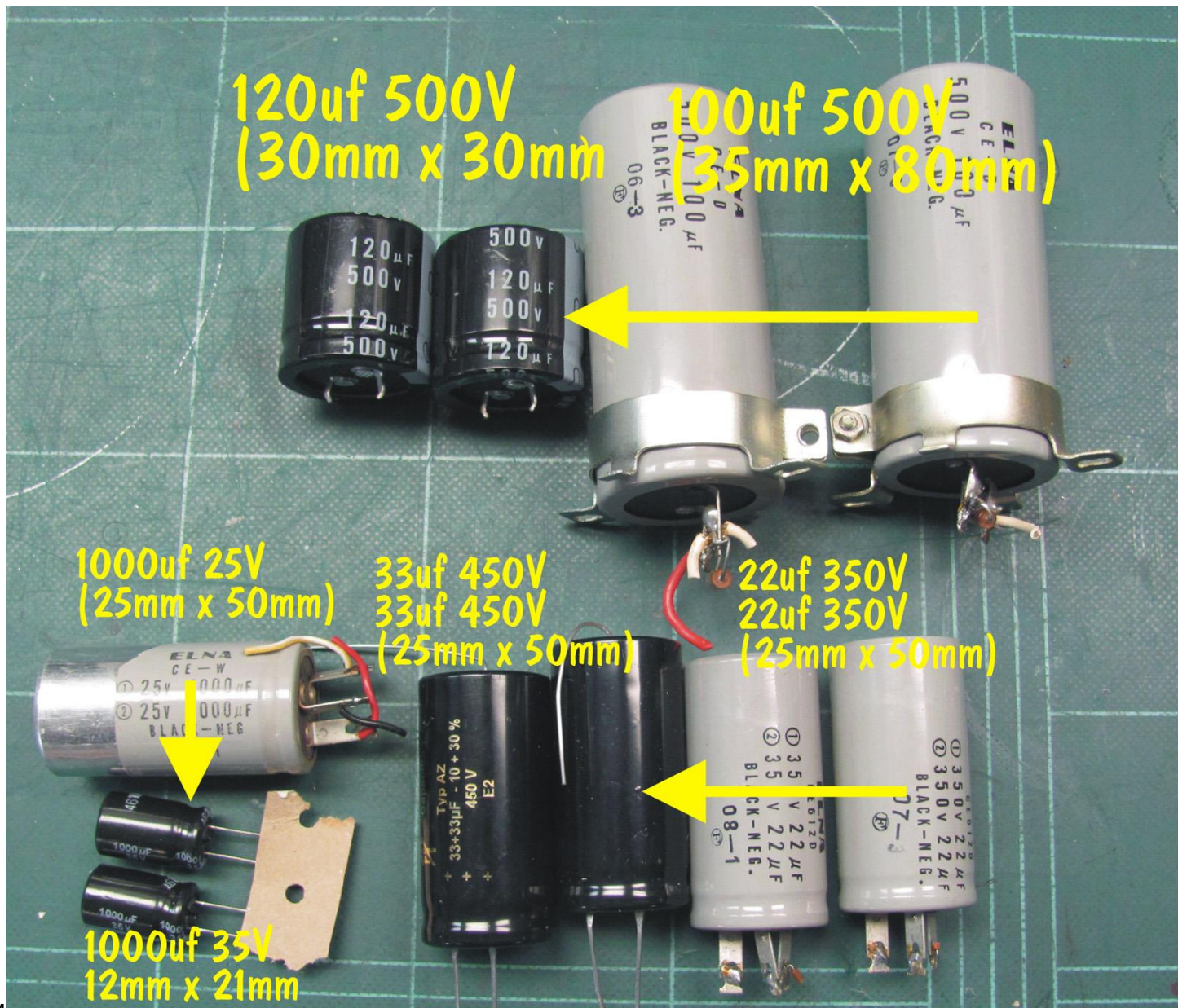
*Hamvention Forums 2015*

Session: Kenwood “Hybrid” Radio Legacy

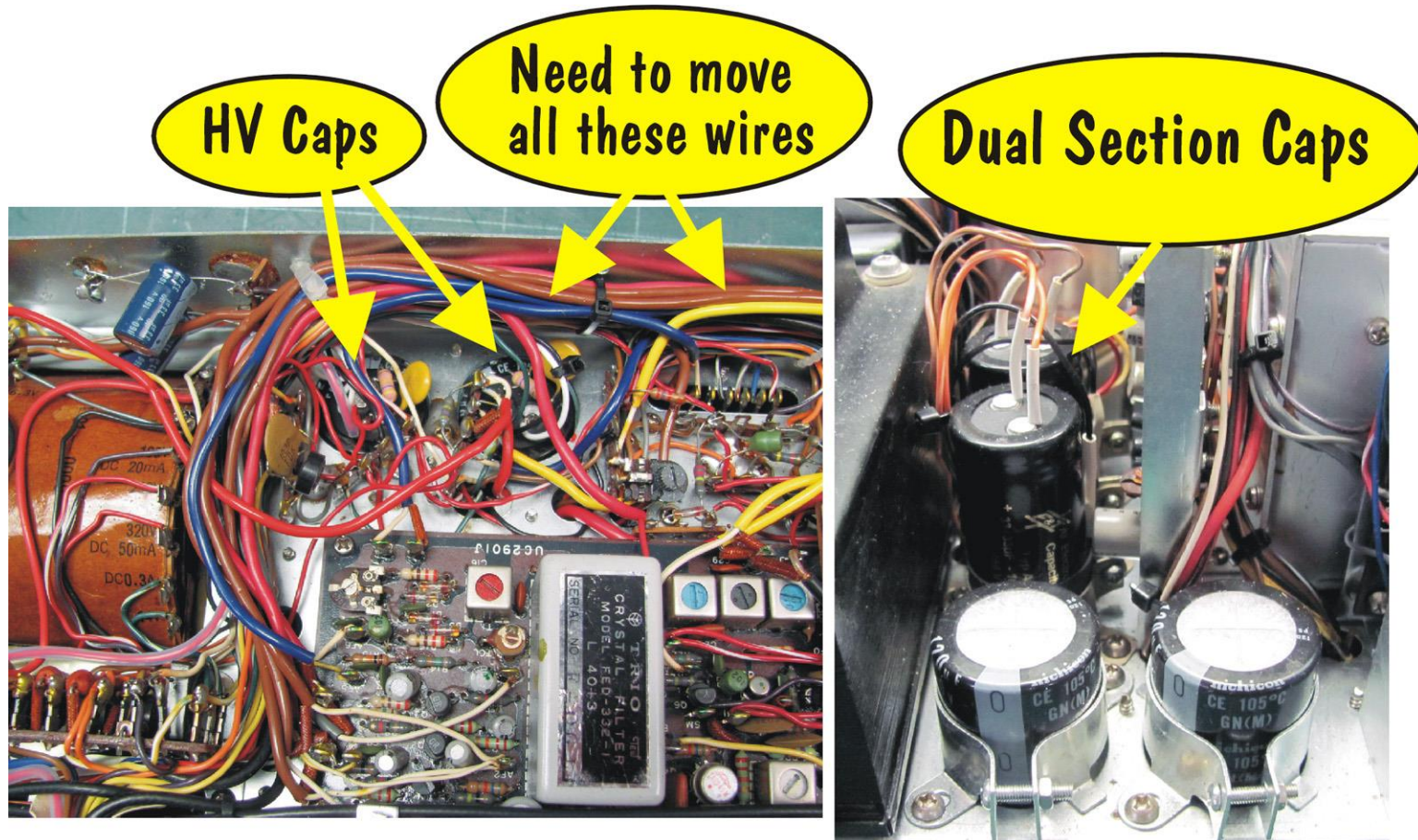
Location: Room 3, 1:15pm – 2:15pm

Dates – Saturday, May 16 2015

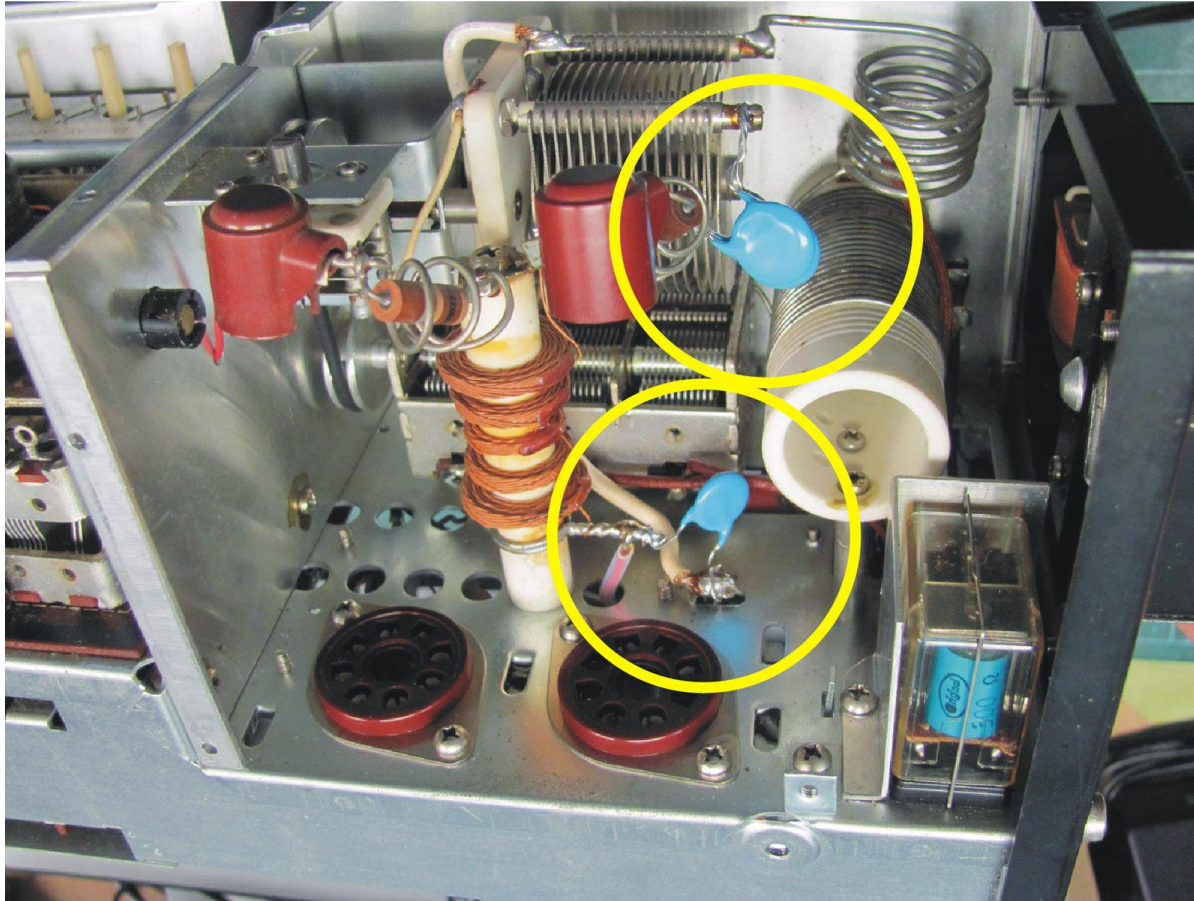






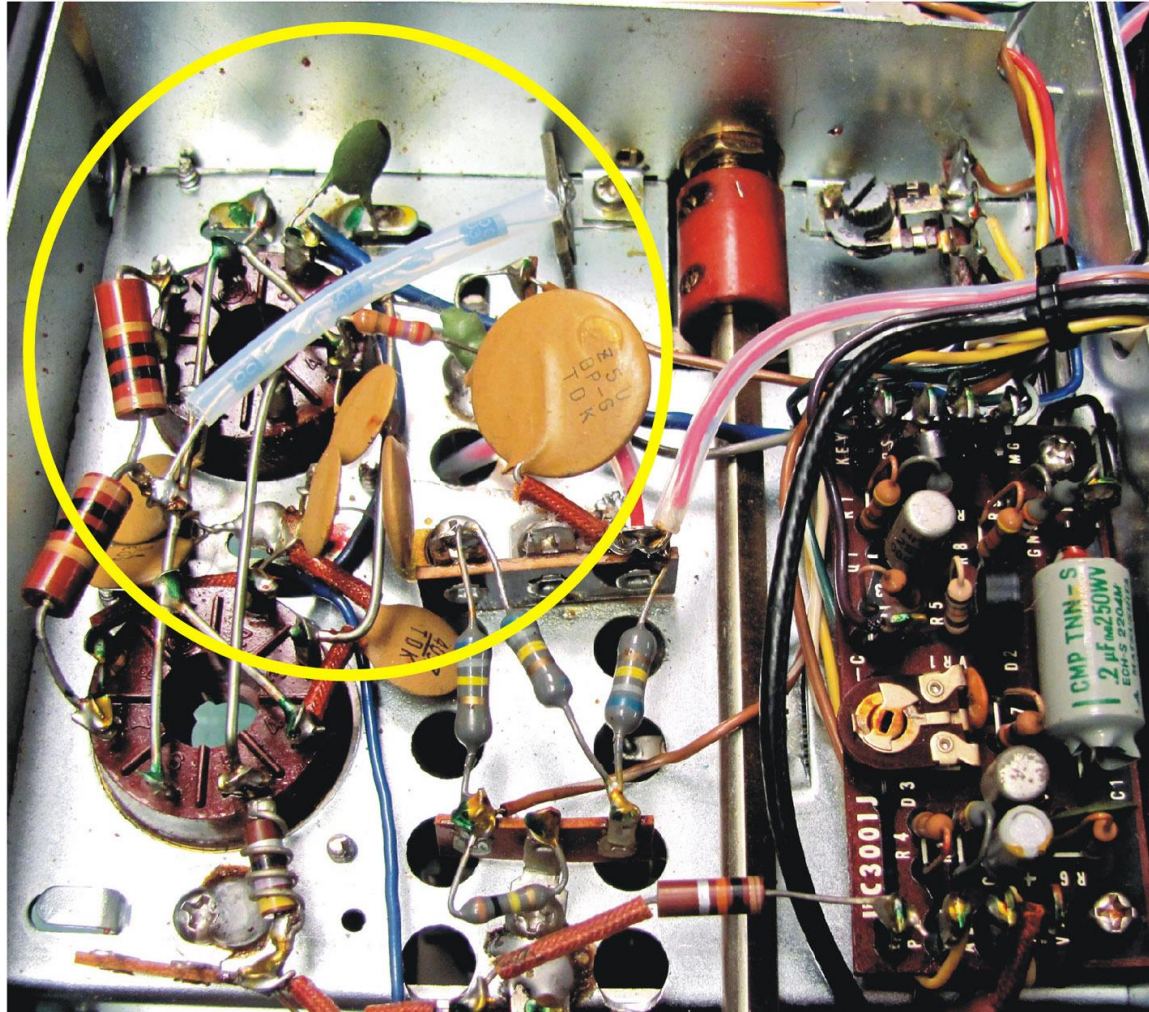


## K4EAA's Final Cage Repair Kit - FR-100





Three each, 1N4007 diodes; Diode's band to ground

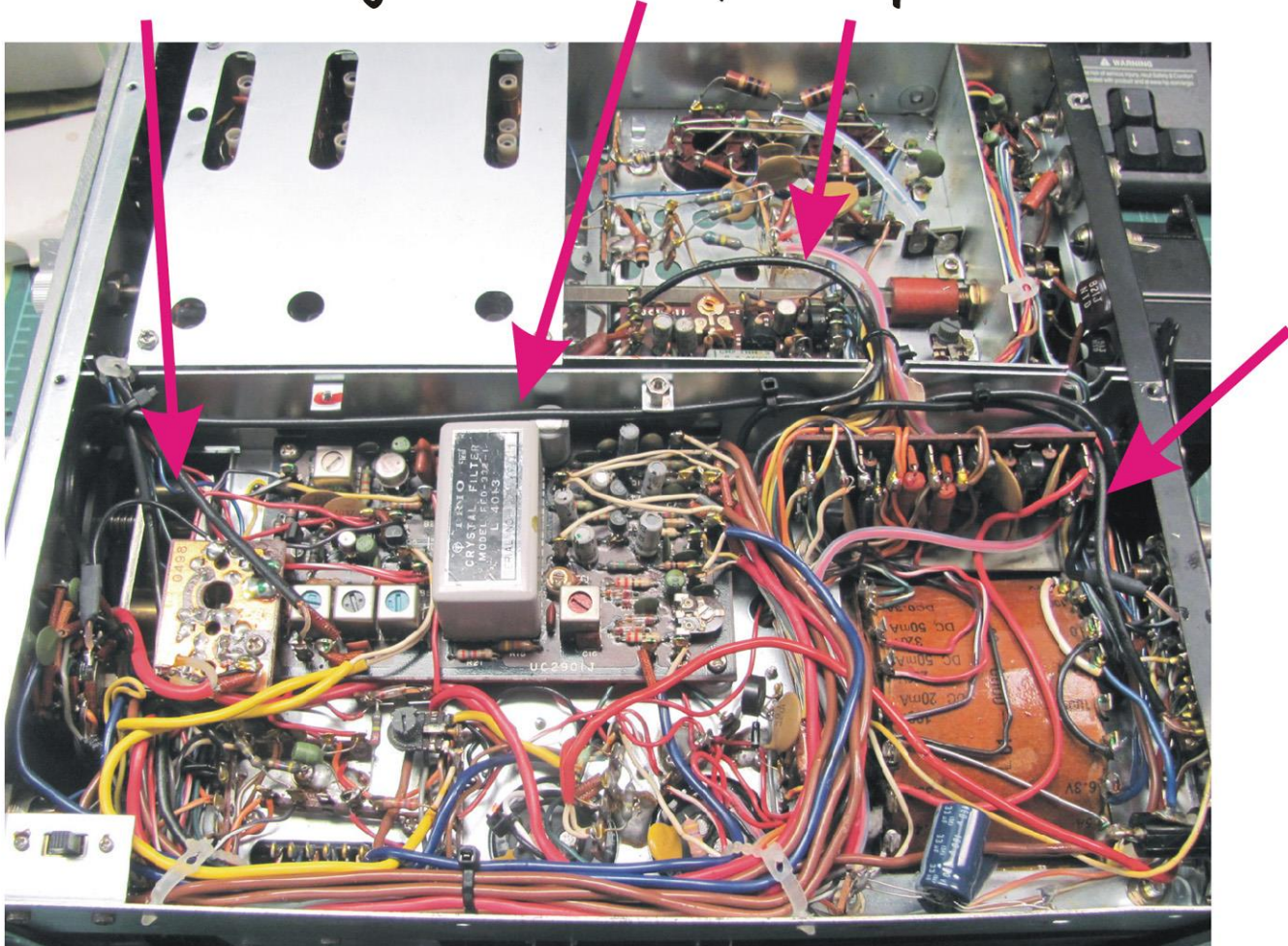




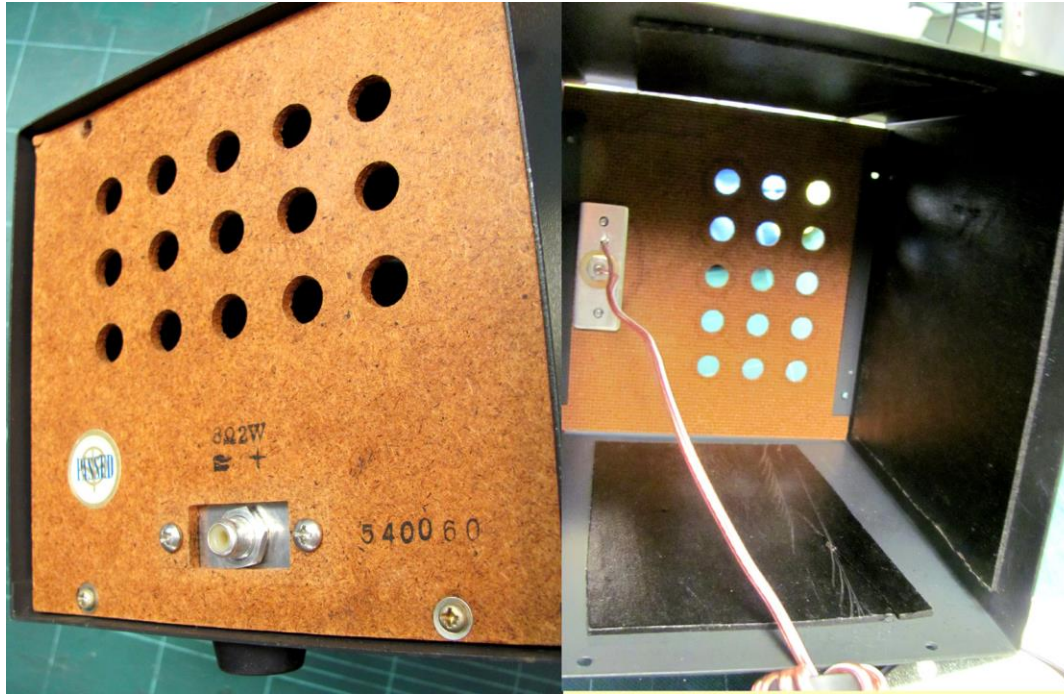
KENWOOD

New RG-174 Coax

**Original coax was fragile and broken; All replaced with RG-174**



## Improving the S599 Speaker



Installed  
RCA jack

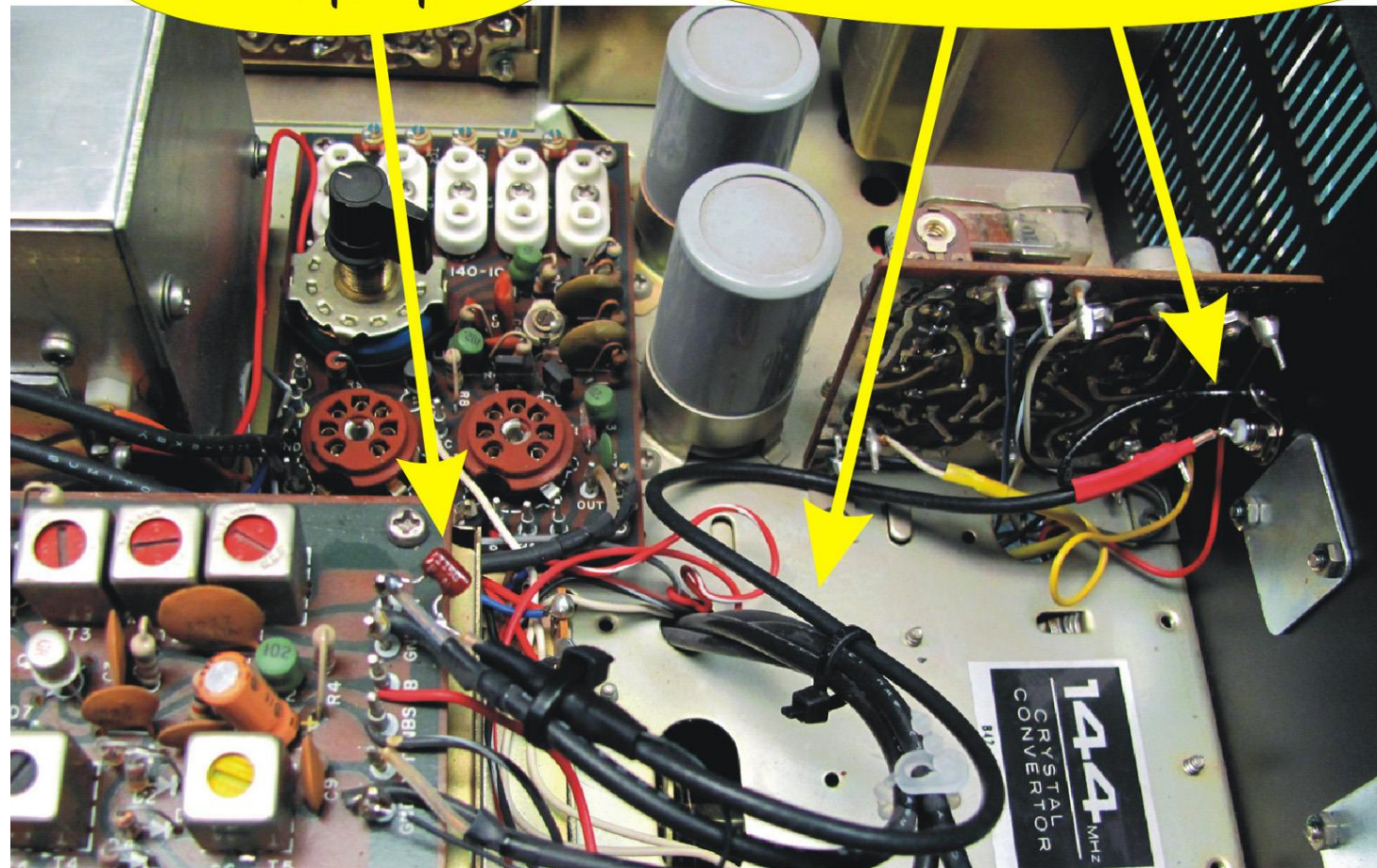
Installed "Q-  
pad" material  
to "quiet" down  
the sheet metal  
cabinet



Installed new  
speaker from MCM  
Electronics



## Add a Pan Display Signal Jack



**Details on installing are found in SM-220 manual**



**Capacitor - Electrolytic, 33/33  $\mu$ F @ 450 VDC Antique Electric Supply,  
p/n 001536, \$9.95**

**Speaker – MCM Electronics, 4.5 Inch 15W 8 Ohm Full Range Dual  
Cone Speaker, p/n 55-4624, \$6.99**

**Q-Pads - Evercoat, p/n 100116 (Used in Automotive sound  
deadening)**

# Resource help for Parts, Service & Documentation

### Kenwood Net Home Page

[Kenwood Brochures and Flyers](#)

[Kenwood Articles & Information](#)

[Kenwood Equipment Manuals](#)

[Kenwood Designed QSL Cards](#)

[Kenwood Magazine Advertisements](#)

**Kenwood Hybrid Radio Nets:**

Saturday - 7.235 MHz @ 3:30 EST

Sunday - 14.316 MHz @ 18:00 GMT



#### Kenwood Related Website Links

K4EAA – KEN - EMAIL: [ken@k4eaa.com](mailto:ken@k4eaa.com) , Web: [www.k4eaa.com](http://www.k4eaa.com)

KE5FTF – Bob Mansker, Phone: (303)719-5433, Email: [KE5FTF@mail.com](mailto:KE5FTF@mail.com) Sells parts on eBay & QTH.COM

East Coast – Phone: (800)632-3323, Web: <http://www.kenwoodparts.com/parts/index.php>

Radio Boatanchor Parts: TEL: 207-942-5745 [xfrms@roadrunner.com](mailto:xfrms@roadrunner.com) <http://tubes.tubes.tubes.tripod.com/index.html>

Nationwide Radio & Eq. Sales LLC, Mark Olson, 1490 Norfield Rd, Suamico, WI. 54173, Email: [ke9pq@new.rr.com](mailto:ke9pq@new.rr.com)

Phone: (920) 434-8097 Web: <http://marketplaceadvisor.channeladvisor.com/StoreFrontProfiles/default.aspx?sfid=86409>

WB4HFN.COM



Last Updated: 03/15/15

### Kenwood service and technical support:

K4EAA – Ken, FL, – EMAIL: [ken@k4eaa.com](mailto:ken@k4eaa.com) , Web: [www.k4eaa.com](http://www.k4eaa.com) (Suspended Hybrid Repairs)

K3TEN – Ken, NJ, Phone: (609)846-5190 , Email: [k3ten@arrl.net](mailto:k3ten@arrl.net) , Web: <http://www.k3ten.com/index.html>

WA8SAJ – Jeff, OH - Phone: (440)951-6406, EMAIL: [wa8saj@ncweb.com](mailto:wa8saj@ncweb.com) , Web: <http://wb4hfn.com/Services/WA8SAJ/SAJ-Repair.htm>

N9HE – Steve, AZ, Email: [n9he@quarked.com](mailto:n9he@quarked.com)

WB2KNR – Jim, NJ, Email: [jimlamanteer@yahoo.com](mailto:jimlamanteer@yahoo.com)

AK4AA – David Lyndon, NC, Email: [ak4aa36@gmail.com](mailto:ak4aa36@gmail.com), Web: <http://oldhamdave.com/>

W0NTA – Dick, CO, Phone: (970)356-2011 Email: [w0nta@arrl.net](mailto:w0nta@arrl.net) , Web: <http://www.w0nta.com>

K9TW – Terry, MI, Phone: (269)663-8943 Email: [wagstvw46@aol.com](mailto:wagstvw46@aol.com)

W0NTA - Dick – Denver, CA Phone: 970-356-2011, Email: [housden@comcast.net](mailto:housden@comcast.net)

HamRepair.com - Cal Fisher – TX, Phone: 214.476.5107, E-Mail: [info@HamRepair.com](mailto:info@HamRepair.com), Web: <http://hamrepair.com/>

N0BXE, Affordable Radio Repair, Mike Alexander, Florence, CO, .E-Mail: [mike@affordableradiorepair.com](mailto:mike@affordableradiorepair.com) Web: <http://www.affordableradiorepair.com/>

KA5IPF, Clif Holland, Avvid, Mabank, TX 75147 Phone: 214-850-0973 Email: [clif@avvid.com](mailto:clif@avvid.com) Web: <http://www.avvid.com/> (Also TS-940)

KE7OAY, Kenwood Restoration & Repair, Jim Showker, Eugene, Oregon, Email: [jim@hybridrestore.com](mailto:jim@hybridrestore.com) Web: <http://www.hybridrestore.com/>

K6ARU, Tumer Radio, Lancaster, Calif., 616-945-9097 Email: [k6aru@cwo.com](mailto:k6aru@cwo.com)

Midwest Technical Services, Watertown, SD, Phone: 605-882-1706, Email: [tcmooes@yahoo.com](mailto:tcmooes@yahoo.com) , Web Page: <http://www.midwest-technical.com/>

K7ZS – Kevin Lahaie, Hillsboro, OR, Email: [kevin@k7zs.com](mailto:kevin@k7zs.com) (Repairs anything from TS-520's to TS-940's)

Burghardt Radio Repair, Watertown, SD, Phone: (605) 886-7314, Email: [service@burghardttradiorepair.com](mailto:service@burghardttradiorepair.com) , Web: <http://www.burghardt-amateur.com/> (Repairs Most TS520-940's)

### Kenwood Parts:

K4EAA – KEN - EMAIL: [ken@k4eaa.com](mailto:ken@k4eaa.com) , Web: [www.k4eaa.com](http://www.k4eaa.com)

Kenwood Hybrid Restoration & Repair, KE7OAY, Jim Showker, Oregon Email: [jim@hybridrestore.com](mailto:jim@hybridrestore.com) Web: <http://www.hybridrestore.com/>

KE5FTF – Bob Mansker, Littleton, CO, Phone: (303)719-5433, Email: [KE5FTF@mail.com](mailto:KE5FTF@mail.com) Sells parts on eBay & QTH.COM

East Coast – Phone: (800)632-3323, Web: <http://www.kenwoodparts.com/parts/index.php>

Radio Boatanchor Parts: TEL: 207-942-5745 [xfrmrs@roadrunner.com](mailto:xfrmrs@roadrunner.com) Web: [http://tubes\\_tubes\\_tubes.tripod.com/index.html](http://tubes_tubes_tubes.tripod.com/index.html)

PacParts Inc., Phone: 800-421-5080, Web: <http://www.pacparts.com/>

Nationwide Radio & Eq. Sales LLC, Mark Olson "President", 1490 Norfield Rd, Suamico, WI. 54173, Email: [ke9pq@new.rr.com](mailto:ke9pq@new.rr.com) Phone: (920) 434-8097 Web: <http://marketplaceadvisor.channeladvisor.com/StoreFrontProfiles/default.aspx?sfid=86409>

K3TEN – Ken, NJ, Phone: (609)846-5190 , Email: [k3ten@arrl.net](mailto:k3ten@arrl.net) , Web: <http://www.k3ten.com/index.html>

**Kenwood Parts:**

K4EAA – KEN - EMAIL: [ken@k4eaa.com](mailto:ken@k4eaa.com) , Web: [www.k4eaa.com](http://www.k4eaa.com)

Kenwood Hybrid Restoration & Repair, KE7OAY, Jim Showker. Oregon Email: [jim@hybridrestore.com](mailto:jim@hybridrestore.com) Web: <http://www.hybridrestore.com/>

KE5FTF – Bob Mansker, Littleton, CO, Phone: (303)719-5433, Email: [KE5FTF@mail.com](mailto:KE5FTF@mail.com) Sells parts on eBay & QTH.COM

East Coast – Phone: (800)632-3323, Web: <http://www.kenwoodparts.com/parts/index.php>

Radio Boatanchor Parts: TEL: 207-942-5745 [xfrmrs@roadrunner.com](mailto:xfrmrs@roadrunner.com) Web: [http://tubes\\_tubes\\_tubes.tripod.com/index.html](http://tubes_tubes_tubes.tripod.com/index.html)

PacParts Inc., Phone: 800-421-5080, Web: <http://www.pacparts.com/>

Nationwide Radio & Eq. Sales LLC, Mark Olson "President", 1490 Norfield Rd, Suamico, WI 54173, Email: [ke9pgq@new.rr.com](mailto:ke9pgq@new.rr.com) Phone: (920) 434-8097 Web: <http://marketplaceadviser.channeladvisor.com/StoreFrontProfiles/default.aspx?sfid=86409>

K3TEN – Ken, NJ, Phone: (609)846-5190 , Email: [k3ten@arrl.net](mailto:k3ten@arrl.net) , Web: <http://www.k3ten.com/index.html>

**Parts Description:****Band Switch Coupler:**

1. K4EAA – KEN - EMAIL: [ken@k4eaa.com](mailto:ken@k4eaa.com) , Web: [www.k4eaa.com](http://www.k4eaa.com)
2. Kenwood Hybrid Restoration & Repair, Email: [jim@hybridrestore.com](mailto:jim@hybridrestore.com) Web: <http://www.hybridrestore.com/>
3. East Coast P/N: D22-0409-05 - (L5) NYLON COUPLER R-5000 TS-830S TS-820S R-1000 [www.eastcoasttransistor.com](http://www.eastcoasttransistor.com)

**TS-520, TS-820, TS-530, TS-830 Flat Pack RL1:**

1. K4EAA – KEN - EMAIL: [ken@k4eaa.com](mailto:ken@k4eaa.com) , Web: [www.k4eaa.com](http://www.k4eaa.com)
2. Kenwood Hybrid Restoration & Repair, Email: [jim@hybridrestore.com](mailto:jim@hybridrestore.com) Web: <http://www.hybridrestore.com/>
3. Online Components, Web: <http://www.onlinecomponents.com/keywordsearch.aspx?text=nf4eb-12v>

**TS-520, TS-820 Antenna Relay:**

1. Kens Electronics, Web: <http://www.kenselectronics.com/> P/N: 401013-S term 12VDC replace MH4P-12VDC in T599D, TS520S, TS820
2. Kenwood Hybrid Restoration & Repair, Email: [jim@hybridrestore.com](mailto:jim@hybridrestore.com) Web: <http://www.hybridrestore.com/>

**Misc. Items:**

TS-830 Rectifier board relay – Source unknown at this time...

TS-940 Relay Omron G6E134P-ST-US-DC12 , [Digikey](http://www.digikey.com) Panasonic part # 255-1473-ND

TS-520, 820, 530, 830 Drive Sprockets, email: [NR6C@roadrunner.com](mailto:NR6C@roadrunner.com) , Web: <http://nr6c.com/sprocket.htm>

TS-520/820 Paddle Switch Handles, eBay user: [id dude](http://www.iddude.com), Search for “Kenwood Paddle Switch Handles” .

TL-922 amplifier upgrades, Kessler Engineering LLC, Phone: 937-458-3173, email: [don@KesslerEngineeringLLC.com](mailto:don@KesslerEngineeringLLC.com), Web: [www.KesslerEngineeringLLC.com](http://www.KesslerEngineeringLLC.com)



**KENWOOD**

Resource help for Parts, Service & Documentation

# **Kenwood Hybrid Transceiver Sales, Restoration & Service**

**by Ken K4EAA**

*Last Updated January 2013*

**Kenwood TS-520, TS-520D, TS-520S, TS-520SE, TS-520SP, TS-820, TS-820S, TS-530S, TS-830S, R-820**

Amateur Radio equipment Information & Service : Transceivers, Receivers, VFO's, Antenna Tuners, Speakers, Ham Projects, Technical Information, Schematics, Repair Procedures, Information about Vintage Kenwood Ham Radio equipment



**K4EAA.COM**



### Kenwood Hybrid Restoration & Repair

Kenwood Models TS830S, TS530S, TS820, TS820S, TS520, TS520S, TS520D, TS520SE, TS520SP

[jim@hybridrestore.com](mailto:jim@hybridrestore.com)

Jim (KE7OAY)



[hybridrestore.com/parts/](http://hybridrestore.com/parts/)

W0NTA.COM

Amateur Radio Station W0NTA



These items are not for sale.

[Click Here for Manual Download Page](#)

### [My Participation in the FYBO QRP Contest 2006](#)

The FYBO (Freeze Your Buns Off) QRP contest is a fun event where you operate outdoors during a date in February when the temperatures are usually rather cold. A multiplier is determined by the temperature - the lower the temperature, the higher the multiplier. I found that this page is still available on the net and decided to put a link here. We have since sold the place in the mountains. I miss it dearly as it was a great operating location and a relaxing venue.

[Rebuilding the bandswitch on a Kenwood Hybrid radio – TS-530S and TS-830S](#)**Amateur Radio Items For Sale**

### Various operator and service manuals by manufacturer

#### ***KENWOOD HYBRID***

##### *DG-5*

1. DG5 Service Manual
2. DG-5 operators manual

W5RKL.COM

#### ***TS-520***

1. TS-520 operators manual
2. TS-520 service manual

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#### ***TS-520S***

1. TS-520S Operators Manual
2. TS520S service manual

<http://w5rkl.com/kenwood-hybrid-operator-and-service-manuals/>



- DeOxit D5 or full strength D100 if needed.
- Magic Countertop Cleaner for front panels and cabinets.
- Magic Solution, published in Electric Radio May 2014. Good for aluminum chassis cleaning. Equal parts of:
  - Murphy's Oil Soap
  - Denatured Alcohol
  - Janitorial strength Ammonia
  - Acetone



- Simple Green does a good job on the front panels and cabinet.
- Windex does a good job on the cabinet and front panel knobs. Do not use it on the front panel.



- Relays cleaning method.
  1. Put a drop of DeOxit on a thin piece of card stock and run it through the contacts.
  2. If step 1 does not do the trick, try a Burnishing contact cleaning tool with a drop of DeOxit.
    - **Mike Sandman**, Chicago's Telecom Expert, 390 E. Irving Park Rd., Roselle, IL 60172 Phone: 630-980-7710. Web: <http://www.sandman.com/> Order Model T001E for \$18.95
    - **Neuses Tools**, 1401 Rohlwing Rd., Rolling Meadows, IL 60008. Phone: 847-253-6555, Fax: 847-253-6652. Web: <http://www.pkneuses.com/www.pkneuses.com/index.html> (**CB-5** Contact Burnisher with 6 (**No.266B**) .007" (.178mm) thick blades. (Included in the **TK-18** Tool Kit. **CB-54** Same as **CB-5** except has 6 (**No. 466B**) .0035" (.089 mm) thick blades. **CB-6** Same as **CB-54** except also contains 6 (**No. 266C**) round ended abrasive rods. **CB-7** Same as **CB-5** except has 6 (**No. 566B**) smooth satin finished blades )





# Questions & Answers

# The Path Ahead...