Kortek/Telcovision KT-1403V
(Merit type 51) Repair Guide

Replace these capacitors on the main board:

C107 100 mfd. @ 25 volts (located under switching transformer cover, use 105 degree rating)
C108 47 mfd. @ 50 volts
C123 470 mfd. @ 25 volts
C126 100 mfd. @ 25 volts
C210 100 mfd. @ 25 volts
C307 47 mfd. @ 35 volts
C309 220 mfd. @ 35 volts
C314 100 mfd. @ 50 volts
C315 1 mfd. @ 250 volts (high failure, use 105 degree temperature rating)
C403 1 mfd. @ 50 volts
C418 470 mfd. @ 25 volts
C419 470 mfd. @ 25 volts (There is “C427” also marked next to this capacitor on the board)
C424 10 mfd. @ 50 volts (Minus polarity *may* be marked incorrectly on both sides of board)
C425 1 mfd. @ 250 volts
C501 1 mfd. @ 400 volts (Minus polarity is marked incorrectly on solder side of board)
C119 100 mfd. @ 35 volts (early version had this value)
C122 220 mfd. @ 35 volts (early version had this value)
C118 100 mfd. @ 200 volts
C121 100 mfd. @ 200 volts
C423 10 mfd. @ 160 volts
C421 1 mfd. @ 50 volts
C420 22 mfd. @ 160 volts
C127 220 mfd. @ 16 volts
C506 100 mfd. @ 100 volts

Replace these capacitors on the neck board:

C604 220 mfd. @ 16 volts
C608 4.7 mfd. @ 50 volts
C623 1 mfd. @ 50 volts (non-polar)
C624 1 mfd. @ 160 volts
C625 1 mfd. @ 160 volts

C626 1 mfd. @ 160 volts
C629 1 mfd. @ 50 volts (non-polar)
C631 47 mfd. @ 16 volts
C632 47 mfd. @ 160 volts
C634 1 mfd. @ 50 volts (non-polar)
C612 3.3 mfd. @ 100 volts (polarity is not marked on solder side of board!)
C616 3.3 mfd. @ 100 volts (polarity is not marked on solder side of board!)
C618 3.3 mfd. @ 100 volts (polarity is not marked on solder side of board!)

Troubles & cures:

NO PICTURE: FR101 found burned/open. Replace fuse resistor FR101 which is 2.2 ohm, 1 watt, flameproof (located next to switching transformer and should be mounted with 1/2 inch airspace under it). FR101 value was 1 ohm on early chassis and if you encounter one these please upgrade to 2.2 ohm. Also replace IC301 TDA1675A (may be marked DBL2054D and you may sub an NTE 1862) which is the vertical deflection integrated circuit. IC301 being bad is what caused FR101 to burn or open up. Check resistor R314 (2.2 ohm 1 watt) for open condition.

Half picture (either top or bottom missing): Replace IC301 TDA1675A

If FR102 (2.2 ohm, 1 watt) is open, replace IC601 LM1203N (may be marked DBL2056 and you may sub an NTE 7081) on neckboard.

If power supply voltages are ok, check IC401, Q403, and R419.

Picture too small: replace C118 and C121. Both are 100 uf @ 160 volts.

Picture too wide, won't adjust narrow enough with H Size control. Also has noticeable pincushioning distortion. Adjusting pincushion control has little to no effect: replace caps C421 (1 uf @ 50 volts), C422 (1 uf @ 50 volts), C313 (100 uf @ 50 volts), and C314 (100 uf @ 50 volts).

Contrast control has no effect: Replace IC601 (LM1203N) on neckboard.

NO PICTURE: Mild squeal from chassis. Filament is lit. Cause: Q102 (NTE 292) is shorted and IC 401 (TDA1180) is bad.

Found Q301 shorted (2SA1271 or NTE 383) and R313 burnt. Replace both.

Check diodes D108 and D109 for shorted or leaky condition. Originals were type UF206 (600 volt, 2 amp, Ultra Fast). Use FR305 or NTE 571 as replacement.

RESISTOR R426 FOUND BURNT: Coils L402 and L401 had their leads cut too short at the factory on some chassis. Sometimes the coil pulled away from the solder or it simply never got inserted far enough to make a good connection before soldering. Generally just unsolder L402, clean the solder pad and the coil's leads. Then re-insert and visually confirm the leads protrude far enough and resolder. Now you can replace the burnt out resistor R426. The original was a 1 k ¼
watt, but I suggest boosting the wattage to ½ watt.

BRIGHTNESS CONTROL HAS NO EFFECT: Resistor R501 is open. Check the value installed on your particular chassis. Early chassis may have a 330k ¼ watt and later chassis will have a 150k ¼ watt. It is advisable to step up to a ½ watt replacement.

RASTER, BUT NO VIDEO: Resistor R317 has broken away from the foil trace on main board. R317 is the 1 watt resistor mounted diagonally next to transistor Q303. One side of the resistor connects to the positive hole where the missing (not used) C300 is silkscreened on the board. The other resistor lead goes in the hole second from the edge of the circuit board. This resistor gets banged around and smashed down causing it to break away from the copper foil thus breaking the circuit to the video on the neck board. The resistor is mounted above the circuit board with about a ¼" of space under it for proper cooling.

Parts value changes between early version and later version main board:

	EARLY VERSION	LATER VERSION
R313	100 ohm, 1 watt	47 ohm, 1 watt
C313	22 uf @ 50 volts	100 uf @ 50 volts
R427	2.7 k, ¼ watt	1.8 k, ¼ watt
C119	100 uf @ 35 volts	1000 uf @ 35 volts
C122	220 uf @ 35 volts	1000 uf @ 35 volts

Note: Early versions have capacitor C424 (10 uf @ 50 volts) inserted correctly to match the silkscreened polarity markings on the board. Later versions of the chassis have this capacitor inserted to opposite polarity. In other words, the positive lead of the capacitor is to be inserted into the hole marked negative, etc. Please make a note of the direction before removing this capacitor so that the replacement will be put in exactly the same as the old one was.

HORIZONTAL OUTPUT INFO:

The horizontal output transistor is type BU2508DF (has internal damper diode) which crosses to an NTE 2353.

FLYBACK INFO:

Original part number is KFS-61202A and is crossed to an HR 46100 from H.R. Diemen.

YOKE INFO:

Original part number is ODY-D1455. Yellow & brown wires are vertical section (2.5 ohms). Red & blue wires are horizontal section (0.5 ohm). Some yokes may have a yellow decal with "55" on it as well as a paper decal stating "Type 51 Telco" (applied by Merit Industries) also on it.

CRT INFO:

Orion # M34KXG30X55. Use B & K adapter number CR23 to test this tube. Set G1 voltage on tester to 30 volts. May also use an Orion # M34JZT20X55. Use B & K adapter # CR23 to test this tube.

NECKBOARD POTS: (all are vertical mount style with 6mm knob)

VR601 Red Drive 100 ohm
VR602 Blue Drive 100 ohm (location not marked on board)
VR603 Red Bias 10 k ohm
VR604 Green Bias 10 k ohm
VR605 Blue Bias 10 k ohm

REMOTE BOARD POTS: (all are horizontal mount style with 9mm knob)

RV203 Vertical Size 200 k ohm
RV402 Horizontal Size (width) 5 k ohm
RV301 Vertical Position 20 k ohm
RV502 Contrast 10 k ohm
RV501 Brightness 100 k ohm
RV401 Horizontal Position 100 k ohm

MAIN BOARD POTS: (all are horizontal mount style with 6mm knob)

VR503 Contrast 10 k ohm
VR406 Pincushion 10 k ohm
VR101 B+ Adjust 5 k ohm
VR303 Vertical Size 50 k ohm (may be 300 k ohm on some chassis)
VR201 Mode Select 10 k ohm (may be 5 k ohm on some chassis or may be not present at all)
VR405 Horizontal Centering 2 k ohm (may not be marked on board)
VR404 Horizontal Hold "1" 50 k ohm (not present on all versions)
VR403 Horizontal Hold "2" 10 k ohm

Manufacturer contact info: (sales & service of all KT-xxxx and TE-xxxx monitors)
Telco Intercontinental
9812 Whithorn Drive
Houston, Texas 77095
(281) 855-2218 Ext. 106
C.T. Chang (ctchang@telcointercon.com)
1-800-678-3526
Fax: (281) 859-8825
monitors@telcointercon.com
URL: www.telcointercon.com

Telcovision monitors are actually made by Kortek (hence the "KT" in the model number) and their official USA parts and repair center is Casino Tech (www.casinotech.com) in Nevada. Parts

and manuals for Kortek monitors can also be purchased from
http://gamingstuff.com/displays.asp

Casino Tech, 2470 Chandler Ave. #7, Las Vegas, Nevada 89120, phone: (702) 736-8472, fax: 702-920-8678, email: sales@casinotech.com, URL: www.casinotech.com Address change to 480 Mirror Court #101, Henderson, Nevada 89011

Kortek USA, 1320 Freeport Blvd. #108, Sparks, Nevada 89421, phone: (775) 359-2204, URL: www.kortek.co.kr/ Address change to 1312 Capital Boulevard, Reno, Nevada 89502 phone: (281) 989-6170

Advanced Electronic Systems, 2015 Helm Drive, Las Vegas, Nevada 89119. Phones: (702) 597-4840 or 1-866-736-2374 (parts). service@gamingstuff.com

Information compiled by KEN LAYTON on Feb. 3, 2005

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