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# TV3K - TXT

COLOUR TELEVISION RECEIVER

## SERVICE MANUAL

### SECIFICATION

● SYSTEM	PAL/SECAM, B/G, I.
● POWER INPUT	AC 170-245V(50/60Hz)
● POWER CONSUMPTION	60W
● AERIAL IMPEDANCE	75OHM UNVALANCED
● TUNER	VOLTAGE SYNTHESIZER TUNING
● RECEIVING CHANNELS	VHF-L E2-S6 VHF-H S7-S41 UHF E21-E69
● PROGRAMME	MAX.99 PROGRAM MEMORIES
● PICTURE TUBE	14", 20", 21"; 90°
● SOUND OUTPUT	2.0W
● SPEAKER	3W 8 OHM
● AV JACKS	FULL SCART ×1

**CAUTION:** Before servicing the chassis, read the "Safely Precaution".  
"X-Ray radiation Precaution" and "Product Safety Notice" in this manual.

### X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards the high voltage must be specified limit. The normal value of the high voltage of this receiver is 24.5KV +/-2KV under 230V AC power source. The high voltage must not exceed 27KV.
2. Each time a receiver requires servicing the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
3. The primary source of X -RAY RADIATION in this TV receiver is the picture tube. For

continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as used in this TV receiver.

4. Some parts in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring the PRODUCT SAFETY NOTICE below.

## **SAFETY PRECAUTION**

WARNING: Service should not be attempted by anyone unfamiliar with the necessary Precautions on this receiver.

The following are the necessary precautions to be observed before servicing this chassis.

1. Since the power supply circuit of this receiver is directly connected to the AC power line. An isolation transformer should be used during any dynamic service to avoid possible shock hazard.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatterproof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as: nonmetallic control; knobs, insulating covers, shields, isolation resistor-capacitor, network, etc.
4. When replacing parts or circuit boards, disconnect the power cord.
5. When replacing a high voltage resistor (metal oxide resistor) on circuit board, keep the resistor APP. 10mm(1/2 in.) away from circuit board.
6. Connection wires must be kept away from components with high voltage or high temperature.
7. If any fuse in this TV receiver is blown, replace it with the FUSE specified in the chassis parts list.
8. The receiver is designed to operate with 230V(50Hz) AC mains.

## **PRODUCT SAFETY NOTICE**

Many electrical and mechanical parts in this chassis have special safety-related characteristics are often passed unnoticed by a visual inspection and the X-RAY RADIATION protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, X-RAY RADIATION or other hazards.

## **GENERAL ADJUSTMENT**

### **AUTOMATIC DEGAUSSING**

An automatic degaussing coil is attached around the picture tube, degaussing the tube properly in about one second after the set is switched on. If the receiver is moved or faced on a different direction, the power must be switched off at least 15 minutes in order that the automatic degaussing circuit operated properly. External degaussing is necessary if the automatic degassing proves ineffective after the set is moved.

### **B+ ADJUSTMENT**

CAUTION: To avoid X-ray hazards and result in a nominal display width, B+ voltage must be set in the scale of 108.0V+/-0.5V.

1. Make sure the AC power supply is 230V, 50Hz.
2. Switch on the TV receiver, tune in an active channel.
3. Measure the voltage between C641 on Main P.C. Board by DC voltmeter.
4. Set contrast, brightness, color to maximum.
5. Adjust VR631 on Main P. C. Board for B+108.0V+/-0.5V voltage reading.

## **HIGH VOLTAGE CHECK**

CAUTION: There is no high voltage adjustment in this chassis, B+108V voltage directly relates to the high voltage. The high voltage does not exceed 27KV under any conditions.

1. Connect an accurate high voltage meter to the second anode cap of the picture tube.
2. Turn on the receiver, set brightness and contrast to minimum (Zero beam current).
3. Make sure the high voltage does not exceed 27KV.
4. NO matter whether the luminance, contrast and chrominance controls are set to maximum or minimum, the high voltage must be kept under 27KV.

## **FOCUSING**

Receive a TV test pattern signal; adjust controls for optimum picture. Adjust Focus Control for a well-defined, sharpest display in the center area of the screen.

## **ADJUSTMENT AND SERVICING THE CHASSIS** **SERVICE MODE**

To enter the service mode, a special remote control which contains an additional SERVICE key must be used. See the illustration. Press the 'SERVICE' key on remote control, TV will display service menu as following table 1 line by line. To select the parameter by using the 'P+/P-' keys. To adjust the selected parameter by using the 'V+/V-' keys. To quit the service mode, press the 'P.P.' key on remote control when in the service mode.

Table 1

Parameter	Value	
Red Gain	32	
DC Red	063	
Green Gain	32	
DC Green	063	
Blue Gain	32	
DC Blue	063	
Apr Threshold	12	
Logo	6-----	

To enter the table 2, press the 'OK' key for the first time on the remote control when in the service mode.

Table 2

Parameter	Value	
Tuner AGC	22	
H position	32	
VPOS 50	10	
VPOS 60	10	
VAMP 50	47	
VAMP 60	53	
Bright max	63	
Bright min	00	
Sub Tint	32	
VCO Coarse	05	
VCO Fine	063	
VCO Coarse L1	05	
VCO Fine L1	080	

To enter the table 3, press the 'OK' key for the second time on the remote control when in the service mode.

Table 3

Parameter	Value	
AGC gain	00	
Option 1	48	
Option 2	00	
Option 3	06	
Option 4	09	
Option 5	00	
ST Ttext	00	
H POS OSD	001	
V POS OSD	01	
H POS TXT	057	
V POS TXT	04	

Following are the items of the OPTIONS in more details.

OPTION1:

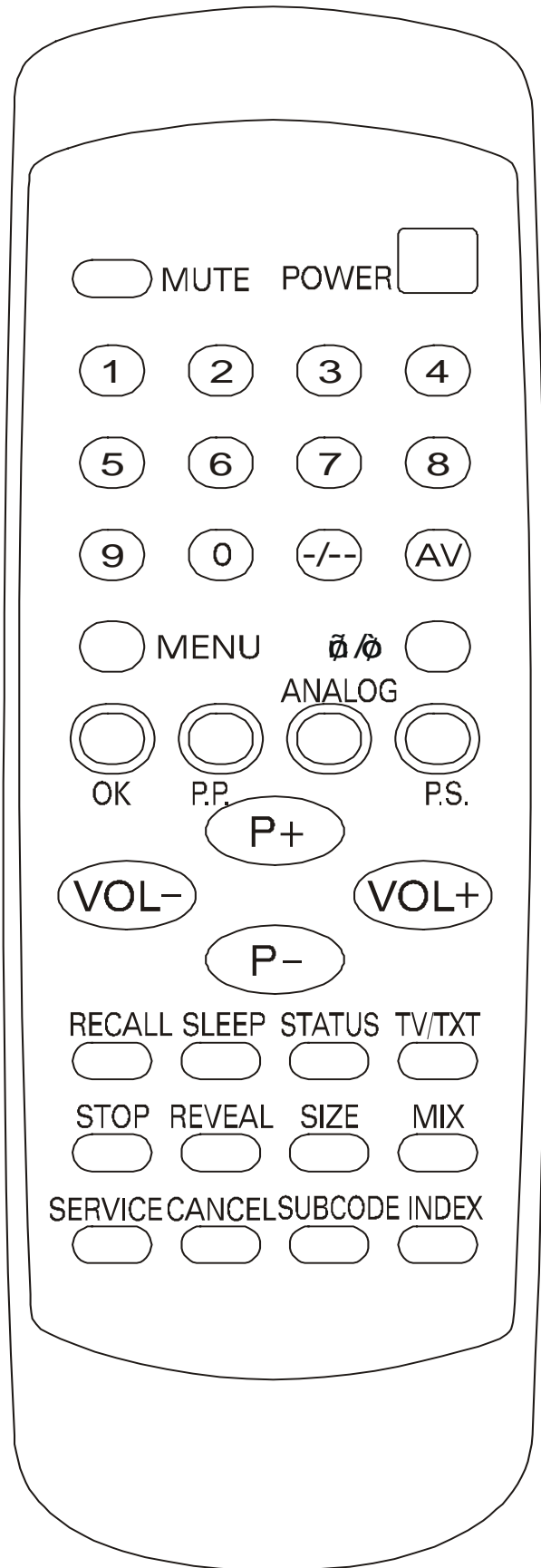
B5=P/N/S Crystals application (0=2 crystals, **1=1 crystal**)

B4=Cutoff Loop (0= OFF, **1=ON**)

B3=Safety\_Reset (**0=Active**, 1=non)

B2=Super Tuner (**0=OFF**, 1=ON)

B1=Sound Demodulation (0= Intercarrier/MONO, **1=QSS/NICAM**)



B0=Logo Display (**0=OFF**, 1=ON)  
OPTION2: (It's better to keep the default setting option2=0)  
B5=Half\_Contrast (**0=OFF**, 1=ON)  
B4=Color 6db (**0=OFF**, 1=ON)  
B3=APR Feature (**0=ON**, 1=OFF)  
B2=Black Stretch (**0=ON**, 1=OFF)  
B1=Auto Flesh (**0=ON**, 1=OFF)  
B0=Coring (**0=ON**, 1=OFF)  
OPTION3:  
B5=AVL (**0=OFF**, 1=ON)  
B4=PIF Over modulation (**0=OFF**, 1=ON)  
B3=Market\_France-SECAM L/L' (**0=OFF**, 1=ON)  
B2=Manual/Auto Cutoff (0=Manual, **1=Auto Cutoff**)  
B1=Mute pin Low/High To control the speaker (**0=Low**, 1=High)  
B0=TDA7449/TDA7439 (**0=TDA7449**, 1=TDA7439)  
OPTION4:  
B4=SCART2 (**0=OFF**, 1=**ON**)  
B3=RGB (**0=OFF**, 1=**ON**)  
B2=SVHS (**0=OFF**, 1=ON)  
B1=AV2 (0=OFF, **1=ON**)  
B0=AV1 (0=OFF, **1=ON**)

OPTION5 and ST Ttext is for teletext setting only. It normally could not be changed. If it's necessary to adjust the OPTION 5, please read the following information before adjustment.

A. For CPUs with English, French, German, Polish or English, French, German, Turkish, Please refer to the setting as below.

1. If OPTION 5 = 00, then the TEXT languages like "ENGLISH, FRENCH, SWEDISH, TURKISH, GERMAN, PORTUGUESE, ITALIAN, RUMANIAN " can be decoded.
2. If OPTION 5 = 02, then the TEXT languages like "POLISH, FRENCH, ESTONIAN, CZECH, GERMAN, SERBIAN, LETTISH, RUMANIAN " can be decoded.
3. If OPTION 5 = 04, then the TEXT languages like "ENGLISH, FRENCH, SWEDISH, CZECH, GERMAN, PORTUGUESE, LETTISH, RUMANIAN " can be decoded.
4. If OPTION 5 = 06, then the TEXT languages ENGLISH, FRENCH, SWEDISH, TURKISH, GERMAN, PORTUGUESE, LETTISH, RUMANIAN can be decoded.

B. For coming new OTP/CPU with English, Russian, Czech, Polish, the setting of the OPTION 5 will be changed as below.

1. If OPTION 5 = 00, then the TEXT languages like "ENGLISH, FRENCH, SWEDISH, CZECH, GERMAN, PORTUGUESE, ITALIAN, RUMANIAN " can be decoded.
2. If OPTION 5 = 02, then the TEXT languages like "ENGLISH, RUSSIAN, SWEDISH, TURKISH, GERMAN, PORTUGUESE, ITALIAN, RUMANIAN " can be decoded.
3. If OPTION 5 = 04, then the TEXT languages like "POLISH, RUSSIAN, SWEDISH, CZECH, GERMAN, SERBIAN, ITALIAN, RUMANIAN " can be decoded.
4. If OPTION 5 = 06, then the TEXT languages like "POLISH, RUSSIAN, SWEDISH, CZECH, GERMAN, PORTUGUESE, ITALIAN, RUMANIAN can be decoded.

Normally, it is supposed not to set OPTION 5 = 01. If you set the OPTION 5 = 01, then the font can be switched by press key MENU on remote control in TEXT mode for TV3K. If you set OPTION 5 = 00, 02, 04, 06, then there is no any activity while press MENU in TEXT mode. Please check.

## **A.F.C. ADJUSTMENT**

Removing any R.F. signal source and prevent any stray signal source from entering the tuner by shorting the tuner input inner contact to the out screen.

Inject the 38.9 MHZ carrier into the tuner IF output pin (pin 11).Select the parameter 'VCO Coarse' in the service mode (see Table 2).The 'VCO Status...'will appear on the screen. Then press the 'AV' key on remote control, the CPU will adjust automatically until the 'VCO Status OK' appears on the screen. If this can not be achieved, i.e. there is no any pattern on the screen, please adjust the T201 first until a stable pattern

appears on the screen. And then press the 'AV' key on remote control. The CPU will adjust automatically once again until the 'VCO Status OK' appears on the screen.

## GEOMETRY

To adjust the picture position and vertical size, select the appropriate parameter in the service mode and adjust as necessary. Please see table 2.

### Remote control

29	DIRECTIVTY	6m(MIN)	8m(NOR )	OK
30	DIRECTIVTY	30°FROM LIGHT AXIS 5m(MIN)	7m(NOR )	OK

NOTE 1.  $\Delta$  IS MARK OF CRITICAL COMPONENT; 2. SUBJECT TO CHANGE WITHOUT NOTICE.

