

TV4K-NICAM / A2 STEREO

COLOUR TELEVISION RECEIVER

SERVICE MANUAL

SECIFICATIONS

● SYSTEM	PAL/SECAM, B/G, D/K, I GERMAN STEREO, NICAM
● POWER INPUT	AC 170-260v(50/60Hz)
● POWER CONSUMPTION	100W
● AERIAL IMPEDANCE	75OHM UNVALANCED
● TUNER	VOLTAGE SYNTHESIZER TUNING
● RECEICING CHANNELS	VHF-L E2-S10 VHF-H E5-S41 UHF E21-E69
● PROGRAMME	MAX.99 PROGRAM MEMORIES
● PICTURE TUBE	28", 110°
● SOUND OUTPUT	5W X2
● SPEAKER	8W 8 OHM x2
● AV JACKS	AV SCART x1 FULL SCART x1

CAUTION: Before servicing the chassis, read the "Safely Precaution".
"X-Ray radiation Precaution" and "Product Safety Notice" on Page 2 of
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 not be specified limit. The normal value of
the high voltage of this receiver is App. 28.5KV at zero beam current (minimum
brightness) under 230V AC power source. The high voltage must not under any
circumstances exceed 30KV.
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 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 is necessary if the automatic degassing proves ineffective when the set is moved.

B+ ADJUSTMENT

CAUTION: To avoid X-ray hazards, B+ voltage must be set in the scale of 140V+/- 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 DC voltmeter.
4. Set contrast, brightness, color to maximum.
5. Adjust VR631 on Main P. C. Board for B+140V+/-0.5V voltage reading.

HIGH VOLTAGE CHECK

CAUTION: There is no high voltage adjustment in this chassis, B+140V voltage directly relates to the high voltage. The high voltage does not exceed 30KV under any conditions.

1. Connect an accurate high voltage meter to the second 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 30KV.
4. NO matter whether the luminance, contrast and chrominance controls are set to maximum or minimum, the high voltage must be kept under 30KV.

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 VCHASSIS SERVICE MODE

To enter the service mode, a special remote control which contains an additional SERVICE key must be used to setup the chassis in producing. See the illustration. Press the 'SERVICE' key on remote control, TV will display service menu as following table 1. To select the parameter requiring adjustment, use the 'P+/P-' keys. To adjust the selected parameter, use 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	45	Fix value
DC Red	063	Fix value
Green Gain	45	Fix value
DC Green	063	Fix value
Blue Gain	45	Fix value
DC Blue	063	Fix value
Apr Threshold	15	Fix value
Logo	6-----	Fix value

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

Table 2
Service V3.0

Parameter	Value	Fix value
Tuner AGC	22	Fix value
H position	32	adjusted
VPOS 50	10	not adjusted
VPOS 60	10	not adjusted
VAMP 50	47	not adjusted
VAMP 60	52	not adjusted
Bright max	63	Fix value
Bright min	00	Fix value
Sub Tint	32	Fix value
VCO Coarse	05	Fix value
VCO Fine	063	056-066
VCO Coarse L1	05	France
VCO Fine L1	080	France

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

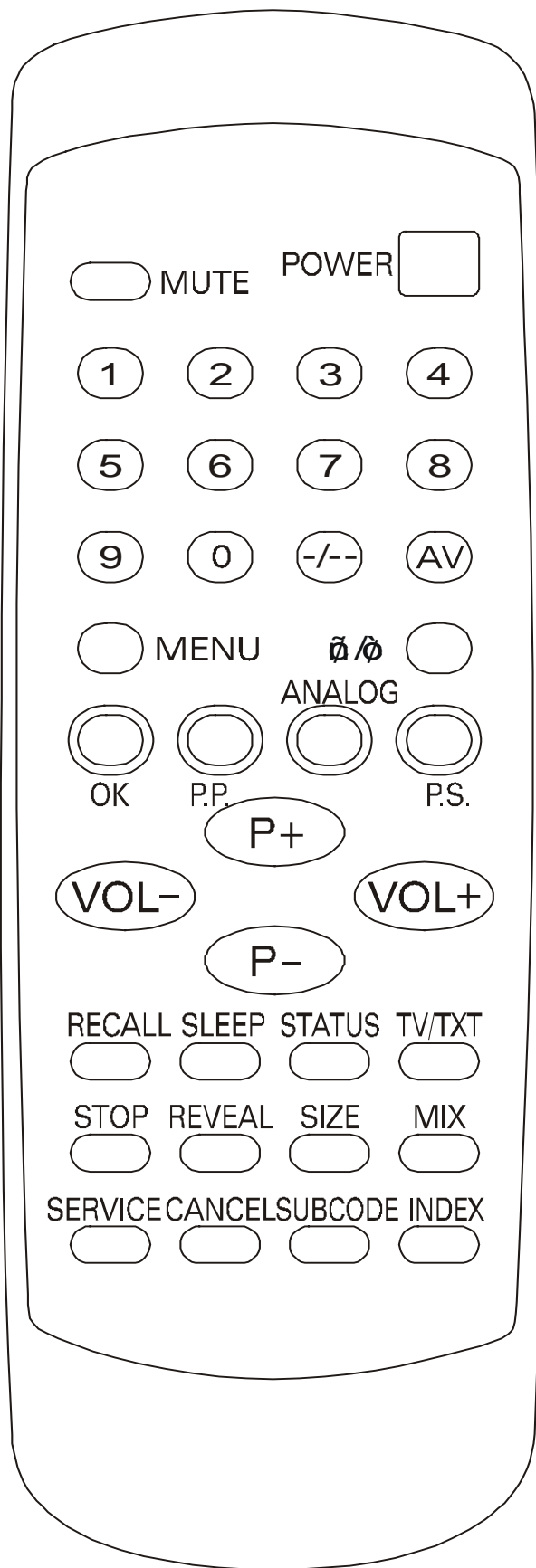
Table 3
STV9306

SAW50	58	
SAW60	61	
SH	22	
SC	05	
CC	10	
EW VDC	05	
EW AMP	13	
EW SHAPE	00	
EW TRAP	18	

To enter the table 4, press the 'OK' key for the third time on the remote control while in above service mode.

Table 4
Design

Parameter	Value	
AGC gain	00	
Option 1	50	
Option 2	00	
Option 3	07	
Option 4	27	
Option 5	00	
ST Ttext	00	



H POS OSD	001	
V POS OSD	01	
H POS TXT	066	
V POS TXT	04	

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 TV4K. 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 (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, adjust the T201 first 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.

Remote control

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

CTV2811N-JL TXT/NICAM SCHEMATIC DIAGRAM

NOTE: SUBJECT TO CHANGE WITHOUT NOTICE

▲ CRITICAL PARTS

