6 Mhz

General Information

14" CTR with Teletext Covers Models: Onwa K9215 IT / K9315 IT K9415 IT / K9515 IT K9615 IT / K9715 IT

Service Adjustments

Alignment Instruction

Please Read Before Attempting Service

- Never disconnect any leads while receiver is in operation.
- 2: Disconnect all power before attempting any repairs.
- 3: Do not short any portion of the circuit while power is on.
- 4: For safety reasons, all parts replaced should be identical (for parts and part numbers see parts list).
- Before alignment the set must be preheated for 30 minutes or more and erase magnetism thoroughly from CRT front chassis frame by erase coil.

Test Equipment

- 1: VIF Sweep Generator
- 2: SIF Sweep Generator
- Colour Bar Dot/Cross Hatch Generator
- 4: DC Power Supply (14V)
- 5: Oscilloscope
- 6: Vacuum Tube Voltmeter 7: Voltage Meter
- 8: High Voltage Meter
- 9: Ampere Meter (0.5 Class. DC 3mA Max.)
- 10: Demagnetizing Coil
- 11: Philips Pattern Generator
- 12: Frequency Counter
- 13: Continuous Waveform Generator

PIF Alignment

Preparation Step

- (see fig.2)
- Connect output lead of VIF Sweep Generator between tuner test point TP and tuner case.
- 2: Connect lead of FROM DET between TP106 and GND.
- 3: Supply DC +14V to lead of D408.
 4: Apply a +5.2V DC dummy AGC bias voltage to TP104.

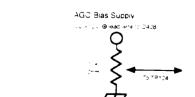
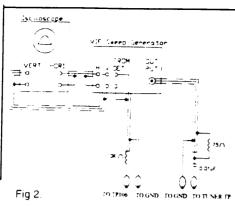


Fig 1

Alignment Step

(see fig.3)

- Set output level to 6Vp-p.
- Adjust T105 to obtain maximum amplitude and maximum amplitude of response cause at 39.5MHz.
- 3: Adjust tuner converted coil to obtain



maximum amplitude and maximum amplitude of response cause at 39.5MHz as in Fig 3.



AFC Alignment

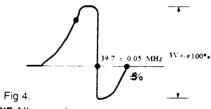
Fig 3.

Preparation Step

- Connect output lead of Sweep
 Generator to tuner point TP and tuner
 case (70dB).
- Connect lead of FROM DET between TP107 and GND.
- 3: Increase the output level of Sweep Generator in 10dB.
- Supply DC +14V to lead of D408.
- 5:. Connect FR AGC 5.2V bias voltage at TP104.

Alignment Step

- 1: Adjust the AGC bias to achieve 3Vp-p output.
- 2: Adjust T106 so that picture carrier 39.7 ± 0.05 MHz is centred as in Fig 4. (* NOTE: The tuner IF pin out actual on 39.5MHz)



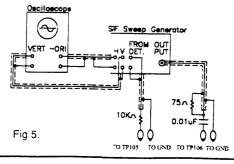
SIF Alignment

Preparation Step (see fig.5)

- 1: Connect output lead of SIF Sweep
 Generator between TP106 and GND
- Connect lead of FROM DET between TP105 and GND.
- 3: Supply DC +14V to lead of D408.

Alignment Step

- Adjust output of Sweep Generator to achieve 6Vp-p between markers of 100KHz.
- 2: Adjust T104 sc that sound carrier is centred as in Fig. 6.



Adjust VR501 to get a red horizontal line on CRT.

- 9 Adjust VR502 to get a yellow horizontal line on CRT.
- 0: Adjust VR504 to get a white horizontal line on CRT.
- 11: Take the joiner out of CN403.
- 2: Adjust DRIVE (VR503, VR505) controls to obtain a uniform white picture.

Focus Adjustment

- Set Contrast control to maximum position and Brightness control to middle position.
- Adjust Focus control (on the FBT) to obtain a sharpest and picture on the CRT.

RF AGC

 Receive the signal and set the AFC switch to 'ON' position.

Adjust CT301 to make difference to minimum Adjust VP301 to reduce difference to minimum to minimum.

Fig 7

B+ Adjustment

A ITED

Colour Demodulator Alignment, Delay

Set Contrast control to minimum

Set Colour control to maximum position.

Connect Oscilloscope to TP301 (B-out).

Adjust CT301 to obtain the waveform as

Adjust VR301 to obtain the waveform as

Adjust T301 to obtain the waveform as

Receive PHILIPS Pattern.

Fig 6.

3

Line Alianment

position

in Fig.7.

- Connect the digital voltmeter to TP401
 Adjust semi-fixed resistor VR901 until meter reading DC 112.25V ± 0.25V.
- Horizontal Circuit Adjustment
- 1: Receive Monoscope Pattern input signal 80dBitV
- 2: IC301 (Pin 28,29) short by 1K Ohm resistor.
- 3: Adjust VR303 to obtain the picture running at centre.
- 4: Remove the 1K Ohm resistor

Vertical Circuit Adjustment

- 1: Receive the Monoscope Pattern
- Connect the Frequency Counter between V-DEFLECTION YORK and GROUND.
- Connect the lead wire from TP106 TO GND.
- 4: Adjust V-HOLD (VR304) to the reading 44Hz.
- 5: Remove the lead wire from TP106 TO GND.
- 6: Adjust V-SIZE (VR401) control to obtain a normal picture.

White Balance Adjustment

- Receive a black and white picture signal.
- Turn the red, green and blue LOW-LIGHT (VR501, VR502, VR504) controls to middle position and turn the DRIVE (VR503, VR505) controls to middle position.
- Turn the Screen control on the FBT to minimum position.
- Set the Sub-Brightness (VR305) control to middle position, then set the Contrast control and Brightness control. Colour control to minimum position.
- 5: CN403 (Pin 1,2) with Join together.6: Connect volt meter between (R508) and
- ground, and adjust Brightness control to the reading of DC 130V (±2V). If DC 130V cannot be obtain, adjust the Sub-Brightness control (VR305).
- Slowly turn the Screen control clockwise to the point where a horizontal line just illuminates.

Set the input field strength to 62 ± 3dB.
 Adjust RF AGC (VR101) control to the point where noise is disappeared.

Sub-Brightness Alignment

- 1: Receive the Monoscope Pattern.
- 2: Set controls as follows:
 BRIGHTNESS control .MID. position
 CONTRAST control MID. position
 COLOUR control MID. position
- Adjust SUB-BRIGHTNESS (VR305)
 control to get the nine step of the GREY
 SCALE in the Monoscope Pattern.

Colour Purity Adjustment

(see fig.8)

Before all adjustments described below are attempted. V-Hcid. H-Hold. V-High. B+ Voltage and Focusing Adjustments must be completed.

- Place the TV receiver facing NORTH or SOUTH.
- 2: Plug in TV receiver and turn it on.3: Operate the TV receiver for over 30
- 4: Fully degauss the TV receiver by using the external degaussing coil.
- Receive a crosshatch pattern and adjust the static convergence control roughly.
 Loosen the clamp screw of the
- deflection yoke and pull the deflection yoke towards you.
 7: Fully turn the red and blue Drive
- (VR503, VR505) controls counter clockwise.

 3: Adjust the purity magnets so that a
- the screen.

 Slowly push the deflection yoke towards bell of CRT and set it where a uniform green field is obtained.

green field is obtained at the centre of

10: Tighten the clamp screw of the deflection yoke.

On Screen Adjustment

- Receive the Monoscope Pattern.
- Adjust on SCREEN (VR601) for adjust the lettering to centre of CRT.

Teletext Picture Alignment

- 1: Receive a pattern with teletext signal
- Select teletext page
- 3: Connect D.C. voltage meter to Tp303 (IC001 Pin 28) and GND.
- Adjust T001 to obtain 2.5V ± 0.05V

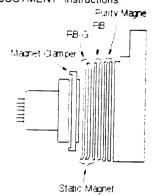
Convergence Adjustment (see fig.8)

- : Receive a dotted pattern.
- Unfix the convergence magnet clamper and align red with blue dots at the centre of the screen by rotating (R.B) static convergence magnets.
- Align Red/Blue with green dots at the centre of the screen by rotating (RB-G) static convergence magnet.
 Fix the convergence magnets by turning
- the clamper.

 5: Remove the DY wedges and slightly tilt

the deflection yoke horizontally and vertically to obtain the good overall convergence.

Fix the deflection yoke by wedges.
If purity error is found, follow "PURITY ADJUSTMENT" instructions.



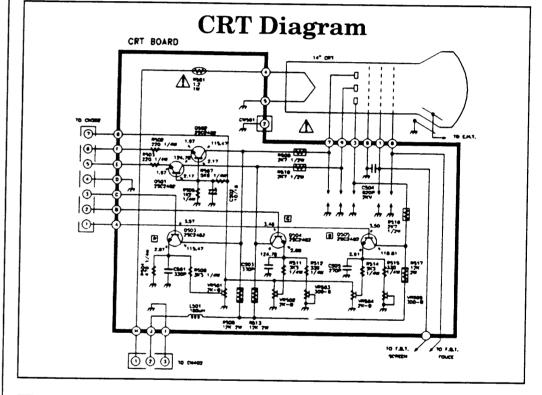


Fig 8.

Remote Control Diagram

