TEAC

SERVICE MANUAL

CT-M3497/3497MK2
CT-M3498

34cm CTV

Effective: January, 1997

CTM3497SERV

SPECIFICATION

SYSTEM		:	PAL-B/G	
DESTINATION		:		
CHANNEL COVERAGE	VHF LOW	:	0 - 5	CH
	VHF HIGH	:	5A - 11	CH
	UHF	:	21 - 65	CH
FREQUENCY RANGE	VHF LOW	:	46.25 - 102.25	MHz
	VHF HIGH	:	138.25 - 216.25	MHz
	UHF	:	471.25 - 823.25	MHz
SCANNING	LINES	:	625	LINES
	HORIZONTAL	:	15625	Hz
	VERTICAL	:	50	Hz
IF FREQUENCY				
	VIDEO	:	38.9	MHz
	SOUND	:	33.4	MHz
	CHROMA	:	37.13	MHz
VISION/SOUND	SEPARATION	:	5.5	MHz
SENSITIVITY				
	VHF LOW	:	32	uV
	UHF HIGH	:	56	uV
	UHF	:	80	uV
OUTPUT POWER	MAXIMUM	:	1000	mW
	10% THD	:	700	mW
CRT		:	14" (35.5cm) DIAGONAL, 22.5 mm NECK DIAMETE 90° DEFLECTION ANGLE	
SPEAKER		:	3" 16 OHM 1W	
ANTENNA IMPEDANCE		:	75 OHM	
POWER CONSUMPTION		:	60 Watts	

VIF ALIGNMENT

A. Preparation Step (See Fig. 1)

(i) Connect AGC bias voltage to TP101, the DC supply should be turned off this time.

(ii) Connect 14V B+ bias voltage to D404 (-) and Ground.

(iii) Connect sweep generator to tuner test point and Ground.

(iv) Connect waveform detector to TP105 and Ground.

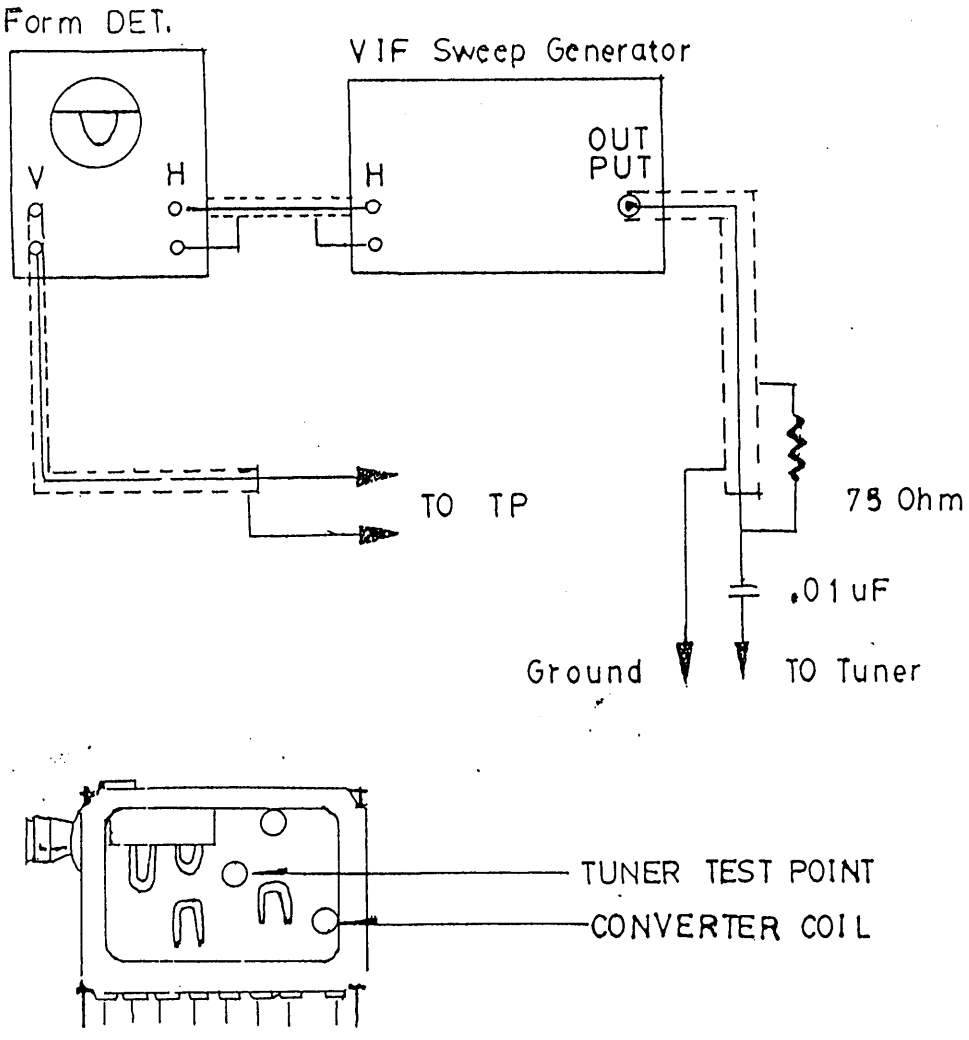


Fig.1

B. Tank Coil Alignment Step (See Fig. 2)

(i) Calibate the Division of waveform Detector equal to 100 mV per div.

(ii) The output of sweep generator should be -50dB.

(iii) Connect TP001 to Ground.

(iv) Adjust AGC bias until the output waveform equal to 1V p.p. (10 div.)

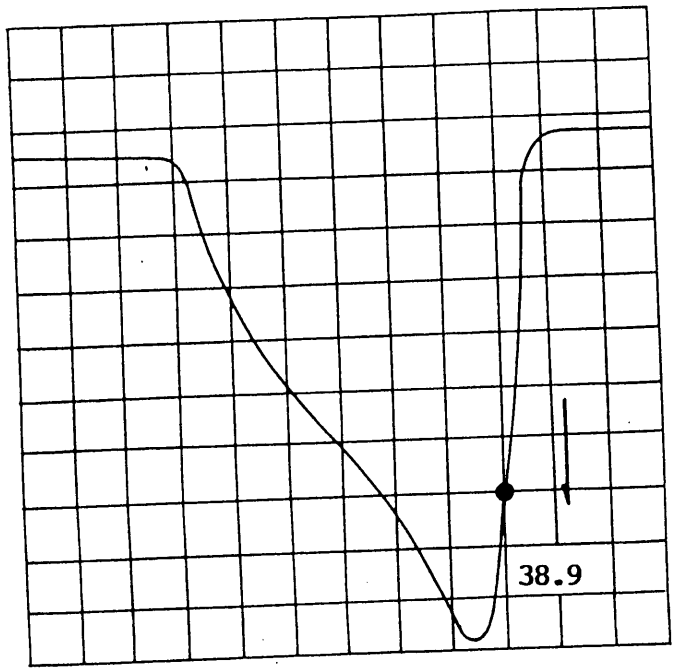


Fig. 2

(v) Turn T101 until the marker 39.5 MHz falls to the lowest point as Fig.2.

C. VIF Alignment

(i) Connect 100 ohm resistor between TP103 and TP104.

(ii) Adjust T104 until obtain the maximum waveform amplitude. (If Provided.)

(iii) Adjust AGC bias, and maintain the waveform achieve 1V pp.

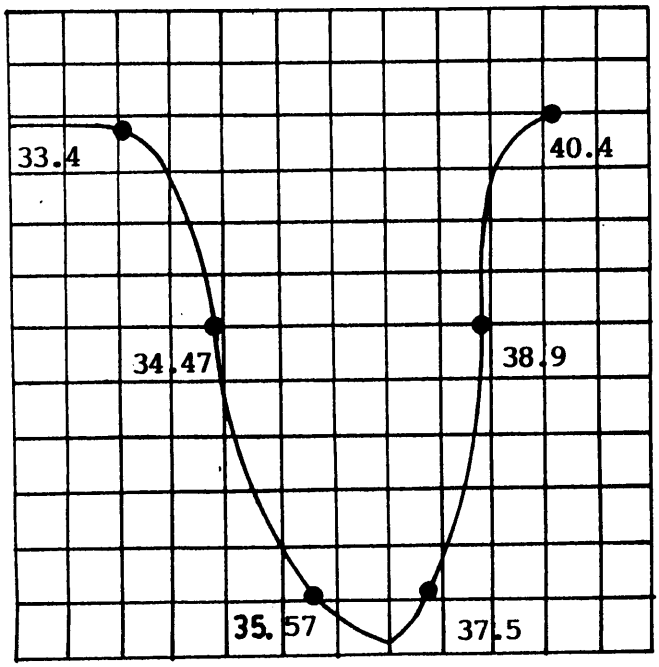


Fig.3

B. SIF Alignment

(i) Connect the sweep generator to TP105.

(ii) Connect waveform detect to TP106.

(iii) The output of sweep generator should be -50dB.

(iv) Adjust T102 to obtain the waveform as Fig.5.

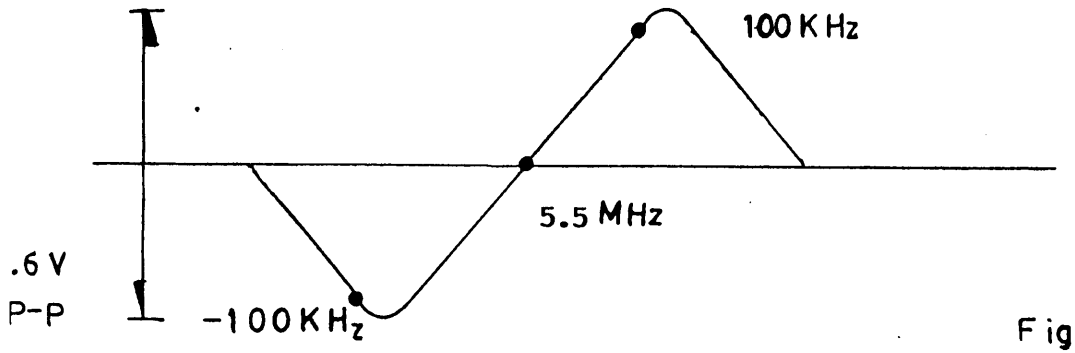


Fig.5

D. AFC Alignment

(i) Remove the 100 ohm resistor from TP103 and TP104.

(ii) Connect the waveform detector to TP102. The output of sweep generator should be -40dB.

(iii) Adjust AGC bias to 5V.

(iv) Adjust T103 to obtain waveform as Fig.4.

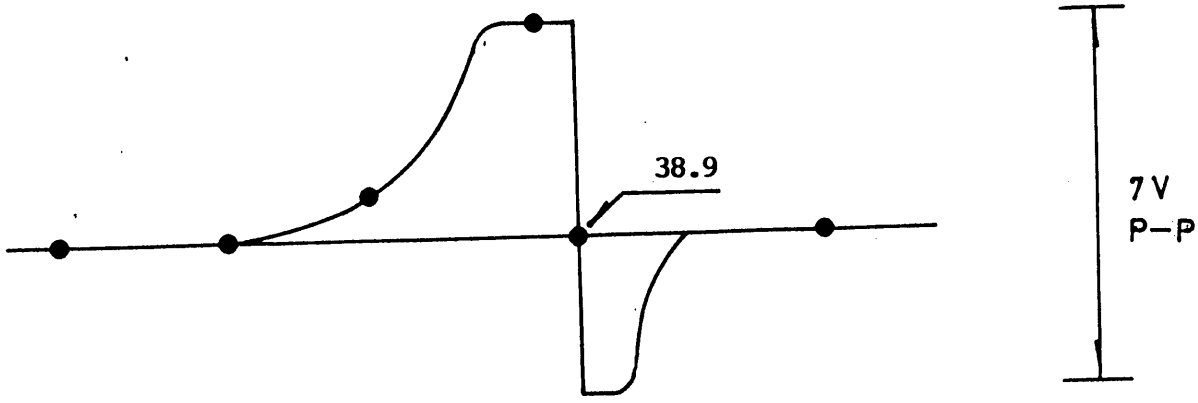


Fig.4

B+ ADJUSTEMNT

1) Connect a digital volt meter to TPB+ and ground.
2) Set Brightness, contrast and colour to maximum.
3) Adjust VR901 and obtain a reading of 112V.

HORIZONTAL CIRCUIT ADJUSTMENT

1) Receive Mondscope Pattern input signal 80dBuV.
2) Connect terminal TP305 and the earth with the short Jumper wire.
3) Adjust VR304 to obtain the picture running at center.
4) Adjust VR303 to obtain the picture at center.

VERTICAL CIRCUIT ADJUSTMENT

1) Receive the Monoscope Pattern.
2) Adjust V-size (VR301) to obtain a normal picture.

WHITE BALANCE ALIGNMENT STEP

(deguss the picture by dequassing coil if necessary)

1) Turn the brightness, contrast and picture control to minimum value.
2) Turn VR501,503,505 to middle position. Turn VR502,504 to minimum position.
3) Turn VR306 to middle position.
4) Receive a black and white pattern.
5) Set S301 to service position.
6) Turn off the screen voltage.
7) Turn on the screen control volume on flyback transformer, & a horizontal red line appears.
8) Adjust VR502 to obtain a yellow line.
9) Adjust VR504 to obtain a white line.
10) Set S301 to normal position.
11) Adjust vR503, 505 to make the picture uniformly white.(9300°K)

SUB-BRIGHTNESS ALIGNMENT

1) Receive a colour bar pattern.
2) Turn the brightness, contrast and colour to minium.
3) Adjust VR306 until the brightest bar can just be seen.

FOCUS ALIGNMENT

1) Set the brightness and contrast to middle position.
2) Receive a monoscope pattern.
3) Adjust focus control to obtain sharpest picture.

AGC ALIGNMENT

1) Receive CH69 (UHF) and input field strength in 63dB ±3dB input.
2) Adjust VR101 to the point where noise is disappeared.

PAL COLOUR ALIGNMENT

(1) Receive Philips Pattern.

(2) Connect Oscilloscope to TP303

(3) Set the service switch (S301) to service position.

(4) Set color control to maximum position.

(5) Adjust T301, 302 and VR305 to obtain the waveform as Fig.6.

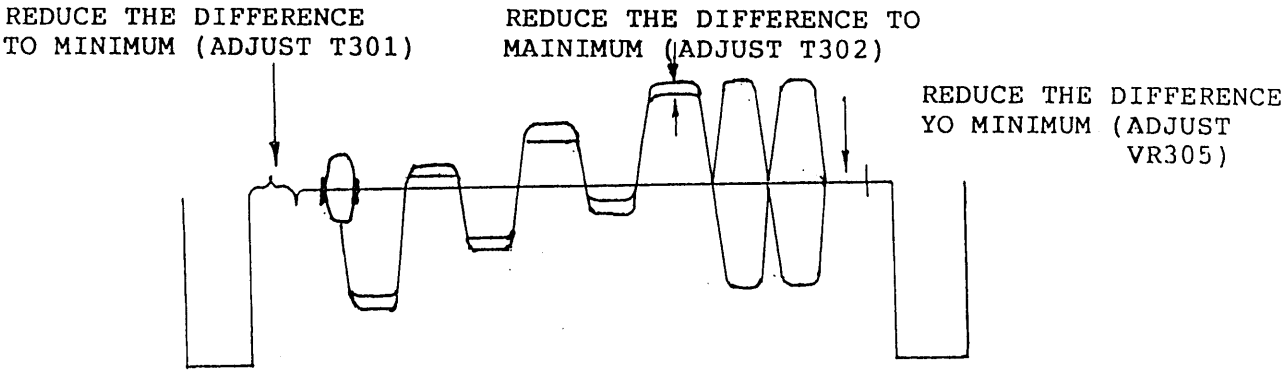


Fig.6

COLOR SYNC. ADJUSTMENT

(1) Receive Philips pattern and warm up for five minutes.

(2) Connect terminal TP302 and the earth with the short Jumper wire.

(3) Connect the TP306 and TP301 with 10K OHM resistor so that the color killer turns off.

(4) Then the color stripes appear on the screen when the adjustment is inconnect. Adjust the color sync (CT301) so that the PHILIPS pattern stands still.

(5) Remove the 10K ohm resistor and jumper wire.

VOLTAGE TABLE FOR IC

SYMBOL / PIN NO.	IC101 (V)	IC102 (V)	IC601 (V)	IC301 PAL	IC301 SECAM
1	4.4	4	4.86	3.7	
2	0	1.9	4.86	12.23	
3	0	7	0	4.55	
4	1.6	0	0	4.37	
5	GEN	6.64	NC	1.1	
6	13.22	4.85	NC	9.6	
7	11.55	4.87	4.86	6.1	
8	2.1	4.87	2.4	9.5	
9	11.67	4.85	4.84	6.1	
10		4.64	0.67	7.5	
11		3.97	6.6	0	
12		GEN	4.13	9.4	
13		4.76	9.3	9.9	
14		8.34	4.85	3.6	
15		3.55	0	3.6	
16		4.17	1.3	8.6	
17		7.93	1.9	4.2	
18		7.93	GEN	8.8	
19		4.17	GEN	4.2	
20		11.66	0.86	7.5	
21		4.5	GEN	7.5	
22		4.5	1.46	7.4	
23		2.79	4.86	5.8	
24		4.5	1.6	0.8	
25			4.86	4	
26			0.2	8	
27			0.2	7.9	
28			0.2	-0.4	
29			0.56	2.9	
30			0	GEN	
31			0	GEN	
32			0.34	0.4	
33			4.1	8.6	
34			2.26	4.7	
35			2.27	5.1	
36			0.1	3.2	
37			NC	-0.2	
38			4.7	0.8	
39			4.0	4	
40			0.2	6.5	
41			0.08	7.8	
42			4.86	9.4	

NOTE : VOLTAGE ARE TAKEN UNDER TUNED CONDITION WITH

CONTRAST : Maximum Position
BRIGHTNESS : Maximum Position
COLOR : Maximum Position
SIGNAL INPUT : 80 dBuV
CHANNEL SETTING : The Last Channel of UHF High
SIGNAL PATTERN : Colour Bar

VOLTAGE TABLE FOR IC

SYMBOL / PIN NO.	IC201 (V)	IC401 (V)	IC701 (V)			
1	0.7	GEN	GEN			
2	0.5	13	GEN			
3	9.5	25.9	3			
4	7.8	0.8	0			
5	16.4	0.3	3			
6	16.4	1.1	0			
7	10.2	25.7	3			
8			3			
9			3			
10			3			
11			NC			
12			0			
13			0			
14			0			
15			0			
16			0			
17			0			
18			0			
19			0			
20			3			

NOTE : VOLTAGE ARE TAKEN UNDER TUNED CONDITION WITH

CONTRAST : Maximum Position
BRIGHTNESS : Maximum Position
COLOR : Maximum Position
SIGNAL INPUT : 80 dBuV
CHANNEL SETTING : The Last Channel of UHF High
SIGNAL PATTERN : Colour Bar

VOLTAGE TABLE FOR TRANSISTOR							
SYMBOL	B (V)	C (V)	E (V)	SYMBOL	B (V)	C (V)	E (V)
Q101	0.4	8.4	0	Q601	5.6	0	5.6
Q102	1.0	8.1	0.3	Q602	0	5.6	0
Q103	0.1	5.0	0	Q603	0.7	0	0
Q104	0.2	2.8	0	Q604	6.3	14.6	5.6
Q105	2.6	11.0	2.0	Q605	10.1	10.8	10.9
Q106	0	5.6	0	Q606	10.9	0	10.9
Q107	0.1	0	0	Q607	0	0	10.9
Q108	5.7	11.7	5.0	Q608	5.4	-1.4	0
Q201	13.6	16.7	13.1	Q609	0	5.1	0
Q301	0	2.5	0	Q610	-0.5	4.7	0
Q302	0	0.7	0	Q611	0	5.6	0
Q303	0.7	0	0	Q612	0.7	0.9	0
Q304	0	11.7	0	Q613	0	3	0
Q401	0	111.8	0	Q907	0.3	11.1	0
Q402	0.3	81.1	0	Q908	2.1	4.1	1.5
Q501	4.5	84.8	4	Q909	-2.4	26.2	0
Q502	4.5	84.3	3.9	Q910	0	1.4	0
Q503	4.5	91.1	3.9	Q911	5.8	0	2.0
Q504	2.0	84.3	2.8	Q912	9.1	14.3	0

NOTE : Voltage are taken under tuned condition with

CONTRAST : Maximum Position

BRIGHTNESS : Center Position

COLOR : Center Position

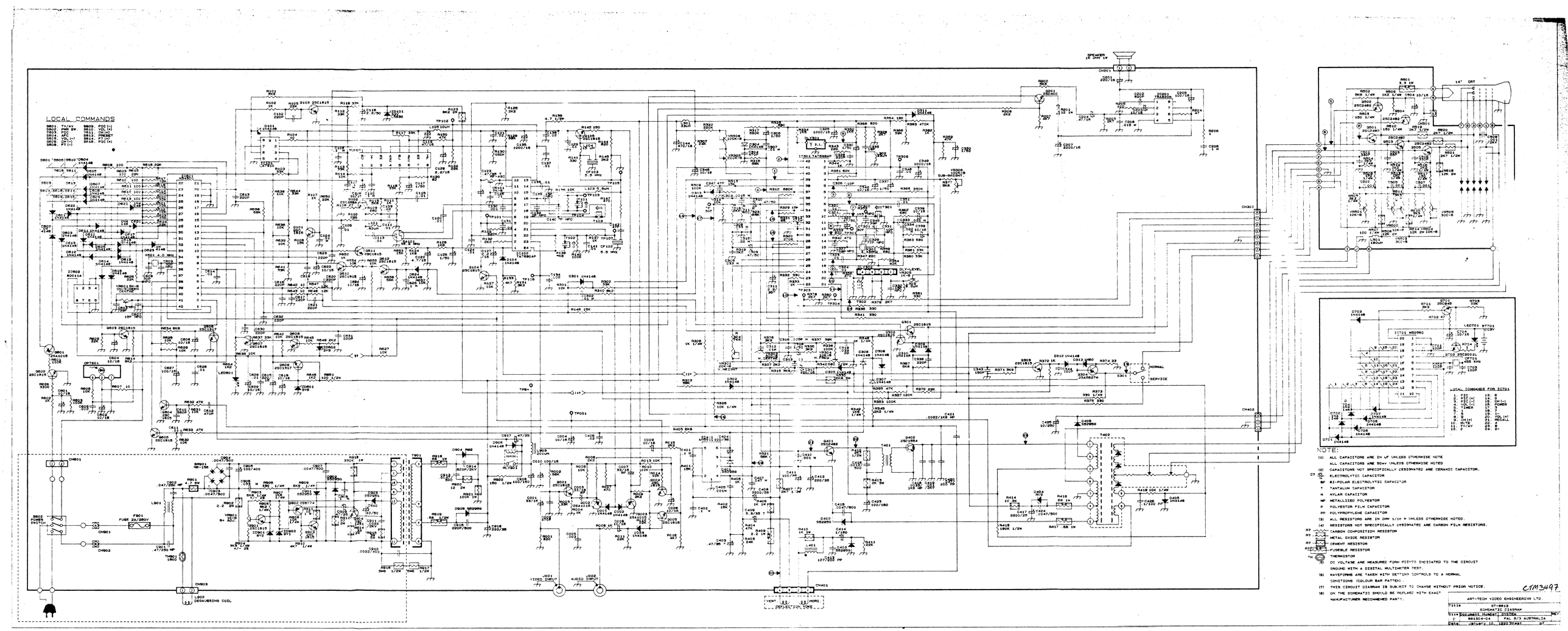
SIGNAL INPUT : 80 dBuV Philips Pattern

CHANNEL SETTING : The 48 Channel of UHF

PART_NO	DESCRIPTION	QTY	LOCATION
107-800455-4G	RESONATOR 455 KHZ ET455Z PO TUNG	1	CF701
113-109005-17	CARBON FILM RESISTOR 1 OHM 1/16W +-5%	1	R705
113-223005-17	CARBON FILM RESISTOR 22K OHM 1/16W +-5%	1	R703
113-332005-17	CARBON FILM RESISTOR 3.3K OHM 1/16W +-5%	1	R701
113-470005-17	CARBON FILM RESISTOR 47 OHM 1/16W +-5%	1	R702
123-101350-60	CERAMIC CAP. 100 PF 50V +-10% (SL TYPE) "SMART GOOD"	2	C701,702
127-106042-06	ELECT CAP. 10 MFD 16V +-20% {TAPING TYPE}	1	C703
130-600101-0G	INFRARED EMITTER EL-1L1 KODENS HI "GUANG ZHOU XIONGGUANG"	1	D702
131-230945-01	TRANSISTOR 2SC945P "YOUNG GUANG"	1	Q701
131-232001-01	TRANSISTOR 2SC2001L "GUANGDONG SEMI-CONDUCTOR"	1	Q702
133-306014-11	IC MN6014W MATSUSHITA	1	IC701
190-881302-00	REMOTE P.C.B.	1	
773-000802-00	BATTERY CONTACT PLATE (B) (+VE,-VE) W/NICKEL PLATING	1	
773-881301-00	BATTERY CONTACT PLATE (+)	1	
773-881302-00	BATTERY CONTACT PLATE (-)	1	
964-881300-00	SENSOR LENS	1	
516-260408-10	SELF-TAPPING SCREW 2.6 X 8 P/T (HARDEN)	1	CAB. MTG.
849-881300-01	CONTACT RUBBER KEY PAD {SHARP WELL}	1	
892-881301-37	DIAL KEY PLATE - TEAC DESIGN (RC-644)	1	
910-881301-01	BATTERY DOOR	1	
900-881310-01	HANDSET TOP CABINET - BLACK MOULDED	1	(MATCH W/902-881310-01)
900-881311-01	HANDSET TOP CABINET - BLACK MOULDED	0	
902-881310-01	HANDSET BOTTOM CABINET - BLACK MOULDED	1	
902-881311-01	HANDSET BOTTOM CABINET - BLACK MOULDED	0	
001-214189-05	FLYBACK TRANSFORMER 154-189H GOLDSTAR "FOR CAIHONG CRT"	1	T401
003-131424-02	TUNER OSCAR UVE33-W24/R16-3649 MITSUMI (HIGH JACK)	1	TUNER
012-301330-0B	SEMI-FIXED RES. WI06-1AL-300 "SHENZHEN YUNGJIANG"	2	VR505,503
012-502330-06	SEMI-FIXED RESISTOR EVND2AA 03B53 5KB	3	VR504,502,501
105-150103-16	FIXED INDUCTIVE COIL 15UH 10% AL0305-150K "BOLUO DUIWANG"	1	L105
105-650152-01	LINEARITY COIL 34UH "LI TONE"	1	L402
107-738900-07	SAW FILTER TOSHIBA (F1044PS)	1	SA101
113-123405-75	METAL OXIDE FILM RESISTOR 12K OHM 2W +-5%	3	R510,511,505
113-151105-17	CARBON FILM RESISTOR 150 OHM 1/4W +-5%	1	R114
113-152205-12	CARBON FILM RESISTOR 1K5 OHM 1/2W +-5%	1	R414
113-182105-17	CARBON FILM RESISTOR 1.8K OHM 1/4W +-5%	1	R138
113-222105-17	CARBON FILM RESISTOR 2.2K OHM 1/4W +-5%	3	R509,507,513
113-272205-12	CARBON FILM RESISTOR 2.7K OHM 1/2W +-5%	4	R504,502,503,D408 TO R419
113-331105-17	CARBON FILM RESISTOR 330 OHM 1/4W +-5%	2	R508,506
113-339305-42	FUSING RESISTOR 3.3 OHM 1W +-5%	1	R501
113-471105-17	CARBON FILM RESISTOR 470 OHM 1/4W +-5%	1	R512
113-688305-42	FUSING RESISTOR 0.68 OHM 1W +-5%	1	R501
123-102850-10	CERAMIC CAP. 0.001 MFD 2KV +-10% MATSUSHITA	1	C501
123-182850-53	CERAMIC CAP. 1800PF 2KV +-10% "YINAN DON'S"	1	C408

PART_NO	DESCRIPTION	QTY	LOCATION
123-271350-60	CERAMIC CAP. 270 PF 50V +-10% (SL TYPE)	1	C503
123-331350-60	CERAMIC CAP. 330 PF 50V +-10% (SL TYPE)	3	C504,503,502
123-821850-10	CERAMIC CAP. 820 PF 2KV +-10% (SL TYPE) MATSUSHITA	1	C440
126-474201-31	POLYPROPYLENE CAP 0.47 MFD 200V +-10%	1	C425
127-106104-03	ELECT CAP. 10 MFD 100V +-20% 105øC	1	C908
127-335071-05	ELECT CAP. 3.3UF 50V +-10% (TIME CONSTANT)	1	C416
127-476094-03	ELECT CAP. 47 MFD 63V +-20% 105øC	1	C910
131-232482-0A	TRANSISTOR 2SC2482 TOSHIBA	3	Q501,502,503
160-101001-08	PIN CONNECTOR 1 PIN PLUG STRAIGHT	1	FOR CN501
161-540105-00	CRT SOCKET ISL-01 IN CHANG	1	
171-550084-D0	84" AC LINE CORD W/SAA APP. 10A 250V	1	
172-830080-99	FLAT BRIDED WIRE 1200MM	0.8	CRT GROUND
190-881306-00	CRT BOARD (120593)	1	
191-100030-10	1 PIN SOCKET ASS'Y L=300MM	1	FROM CN501 TO CRT FLAT BRIDED
191-200030-10	2 PIN SOCKET ASS'Y L=300MM	1	BLK.TO SPK.`-',RED TO SPK.`+'
191-300030-09	3 PIN SOCKET ASSM'Y	1	CN402 `1'TO`J',`2'TO`I',`3'TO`H' ON CRT BOARD
191-400042-10	4 PIN HOUSING ASS'Y L=420MM	1	FOR CRT
191-500030-09	5 PIN SOCKET ASSM'Y	1	CN301`1'TO CRT `A',`2'-`B',`3'-`C',`4'-
580-101261-01	CABLE TIE L=100MM	6	FOR POWER SWITCH CRT BOARD CONNECTOR
008-550151-05	DEGAUSSING COIL 40T (W/FIVE LAYERS OF TAPE)	1	L903
514-400435-10	SELF-TAPPING SCREW 4 X 35 B/T (HARDEN)	2	2 FOR REAR CAB. TO FRONT CAB.
514-500435-10	SELF-TAPPING SCREW B/T 5 X 35 HEAD DIA. =8.5MM (MAX)(HARDEN)	6	2 FOR REAR CAB. TO FRONT CAB. 4 FOR CRT MTG
516-300308-10	SELF-TAPPING SCREW 3 X 8 P/A (HARDEN)	2	FOR HEAT SINK (C)
517-303312-10	SELF-TAPPING SCREW 3 X 12 W/A W/H=7MM (HARDEN)	2	FOR HEAT SINK (A) & (B)
622-882802-00	FELT L240 X W17 X T0.5MM W/TAPE	4	FOR REQR CAB.
744-881301-00	SPRING FOR C.R.T. MOUNTING 5.2 X 42 X 0.6MM	1	
750-063101-00	SOLDERING LUG LEG:8X4MM	3	FOR HEAT SINK (A),(B),(C)
777-881301-00	SPRING IN 10 X L12	1	FOR POWER KNOB
834-230801-00	RUBBER WASHER OD=23 , ID=8 , T=1.0	4	FOR CRT MTG. ADJUSTMENT
834-230802-00	RUBBER WASHER OD=23, ID=8, T=2	2	CRT MTG
834-230805-00	RUBBER WASHER OD=23 ID=8 T=0.5	2	CRT MTG
840-011024-21	PAD CORD L240 X W10 X T1 MM W/TAPE	4	FOR BETWEEN CRT & FORNT CAB.
881-033101-00	BAND SWITCH FELT	1	
939-881302-00	POWER SWITCH ADAPTOR	1	
948-881302-00	DEGAUSSING COIL MTG. CLIP	4	
002-114022-40	14" CRT #37SX110Y22-DC05A S/H CAI HONG	1	
162-110010-00	ANTENNA MATCHING TRANSFORMER (300 OHM TO 75 OHM)	1	

PART_NO	DESCRIPTION	QTY	LOCATION
186-624500-11	HI-WATT SUPER HEAVY DUTY 1.5V 0% MERCURY 3A ER03X ALUM.CASE	2	
516-260408-10	SELF-TAPPING SCREW 2.6 X 8 P/T (HARDEN)	3	TO VOLUME KNOB
669-881301-21	RATING LABEL - TEAC DESIGN (CT-M3497 MKII) 240V	1	
782-721942-00	DOUBLE ROD ANTENNA 4 SECTIONS (300 OHM) 850MM "TIMPOLAR"	1	
884-881301-02	PRESET PLATE - TEAC DESIGN	1	
884-881303-01	JACK PLATE - W/AV IN/WHITE SS ENG STD	1	
887-881302-01	COVER PLATE (L) - BLANK	1	
900-881303-06	FRONT CABINET - GREY (426U) {OUT DATE}	1	
902-881305-U1	REAR CABINET - MOULDED BLACK SPRAY (UL)	1	
917-881302-01	REMOTE LENS - RED, W/ L.GREY SS. ENG STD (B)	1	
919-881301-77	PRESET DOOR - TEAC DESIGN W/CABLE READY (CT-M3497 MKII)	1	
973-881304-01	VOLUME / CHANNEL KNOB SET - BLACK MOULDED (B)	1	
986-931301-06	NAME PLATE - TEAC DESIGN	1	
991-881301-01	POWER KNOB - BLACK MOULDED	1	
610-881301-1B	GIFT BOX - TEAC DESIGN (CT-M3497 MKII)	1	
663-230583-96	SERIAL NO.LABEL - OC:GT-583/96	2	1PC STUCK ON CTN, 1PC STUCK ON RATING LABEL
670-881300-1E	INSTRUCTION MANUAL-TEAC DESIGN (CT-M3497 MKII) 32 PROG.	1	
678-881304-05	SCREEN STICKER - TEAC DESIGN (CT-M3497 MKII)	1	
678-881306-02	EASY TUNE CARD (E) - TEAC DESIGN	1	
678-931315-02	TOTAL CARE LABEL - TEAC DESIGN (BLK & WHITE)	1	
690-922139-01	WARRANTY CARD- TEAC (A) DESIGN	1	
693-881300-23	EAN CODE LABEL - 9313060007584	1	
800-881311-00	POLYFOAM (1)	1	
800-881312-00	POLYFOAM (2)	1	
800-881313-00	POLYFOAM (3)	1	
800-881314-00	POLYFOAM (4)	1	
810-052204-14	POLYBAG 5" X 22" X 0.04MM W/RE-CYCLING MARK {P/O MAT}	1	FOR AC LINE CORD
810-091504-13	POLYBAG 9" X 15" X 0.04MM W/ RE-CYCLING P.E.MARK	1	FOR I/MANUAL
810-303004-14	POLYBAG 30"X30"X0.04MM W/PUNCH HOLE/RE-CYCLING MARK(P/O MAT.)	1	FOR UNIT
826-221505-00	FOAM SHEET 22" X 15" X 0.5MM	1	FOR UNIT


LOCAL COMMANDS
$8801 TV/AV
$8802 MUTE SW
$8803 AFC
$8804 AFC
$8805 VOL(+)
$8806 VOL(-)
$8807 PT(+)
$8808 PT(-)
$8809 PIC(+)
$8810 VOL(+)
$8811 VOL(-)
$8812 PIC(-)
$8813 PIC(+)
$8814 PT(+)
$8815 PIC(+)
SPEAKER 15 OHM 1W
14" CRT
IC701 MSD960
LOCAL COMMANDS FOR IC701
NOTE:
(1) ALL CAPACITORS ARE IN UF UNLESS OTHERWISE NOTE
ALL CAPACITORS ARE 50wv UNLESS OTHERWISE NOTED
(2) CAPACITORS NOT SPECIFICALLY DESIGNATED ARE CERAMIC CAPACITOR.
CE ELECTROLYTIC CAPACITOR
BP BI-POLAR ELECTROLYTIC CAPACITOR
T TANTALUM CAPACITOR
M MYLAR CAPACITOR
MP METALLIZED POLYESTOR
P POLYESTOR FILM CAPACITOR
PP POLYPROPYLENE CAPACITOR
(3) ALL RESISTORS ARE IN OHM 1/4W W UNLESS OTHERWISE NOTED.
(4) RESISTORS NOT SPECIFICALLY DESIGNATED ARE CARBON FILM RESISTORS.
R? CARBON COMPOSITION RESISTOR
R? METAL OXIDE RESISTOR
R? CEMENT RESISTOR
R? FUSIBLE RESISTOR
TH THERMISTOR
(5) DC VOLTAGE ARE MEASURED FORM POINTS INDICATED TO THE CIRCUIT GROUND WITH A DIGITAL MULTIMETER TEST.
(6) WAVEFORMS ARE TAKEN WITH SETTING CONTROLS TO A NORMAL CONDITIONS (COLOUR BAR PATTEN).
(7) THIS CIRCUIT DIAGRAM IS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.
(8) ON THE SCHEMATIC SHOULD BE REPLACE WITH EXACT MANUFACTURER RECOMMENDED PART?.
ART-TECH VIDEO ENGINEERING LTD.
Title GT-8813
SCHEMATIC DIAGRAM
Size Document Number SYSTEM REV
D 88130-04 PAL B/G AUSTRALIA
Date: January 10, 1992 Sheet of
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