

ORDER NO. MTV9308040C2

Service Manual



TC-14L3R
Chassis MX-1A

Panasonic®

Specifications

Power Source:	(AC) Auto 110-240v.50/60Hz	
Power consumption:	82W 6W(Stand-by condition)	
Aerial Impedance:	75 Ω unbalanced Coaxial type	
Receiving System:	Multi 17 systems	
Receiving Channel:		
VHF	2-12	PAL/SECAM B.G
	1-12	PAL/SECAM D
	1-11	PALB (New Zeland)
	1-12	NTSC M Japan
	2-13	NTSC M U.S.A
UHF	21-69	PAL B.G I/SECAM B.G.K1
	28-69	PAL G (Australia)
	13-57	PALD
	13-62	NTSC M Japan
	11-69	NTSC M U.S.A
CATV	S1-S20	
Intermediate Frequency:		
Video	38.00	MHz
Sound	31.50	MHz (D.K.K1)
	32.00	MHz (1)
	32.50	MHz (B.G.)
	33.50	MHz (M)
Colour	33.57	MHz (PAL)
	33.60	MHz (SECAM)
	33.75	MHz (SECAM)
	34.42	MHz (NTSC)
Video/Audio Terminals:		
AV In: Video In	1Vp-p. 75 Ω	
Audio In	Appro. 400mV	
TV Out: Video In	1Vp-p. 75 Ω	
Audio In	Appro. 400mV	
High Voltage:	24.5kV (+0.7, -1.5) at zero beam current	
Picture tube:	A51JXS95X54cm(21") measured diagonally, 90 deflection	
Audio output:	4.0W (Max)	
Speaker:	9.65x 5cm, 16 Ω	
Dimensions:	Height	: 377.0mm
	Width	: 376.0mm
	Depth	: 376.0mm
Mass:	11.20 Kg (Net)	
Remote Controller:	33Functions Infrared controller	

Specifications are subject to change without notice.

Mass and dimensions shown are approximate.

MX-1A Chassis Block Diagram

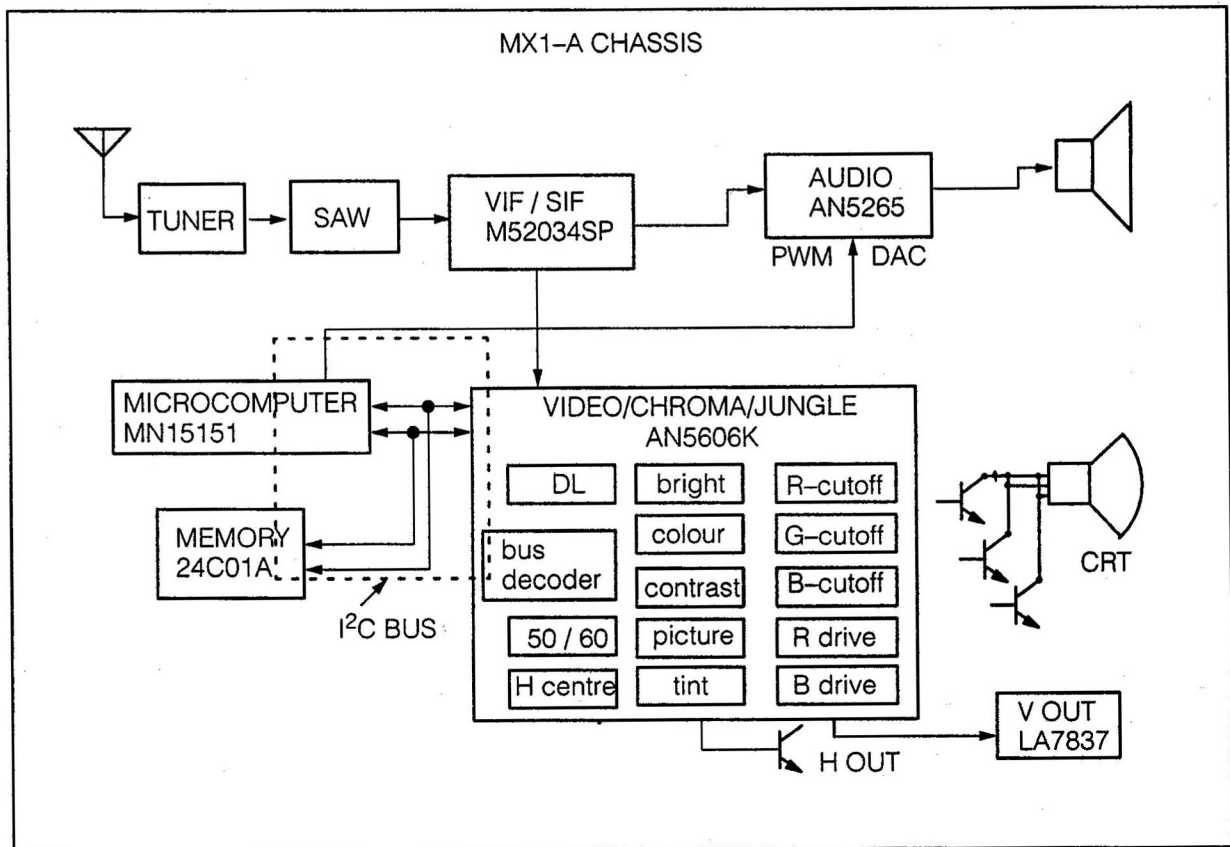


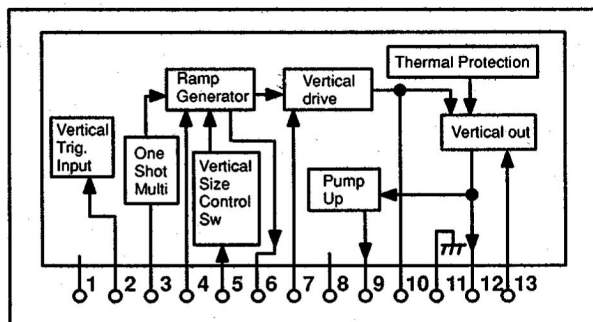
Fig. 2

The I²C Bus Concept :

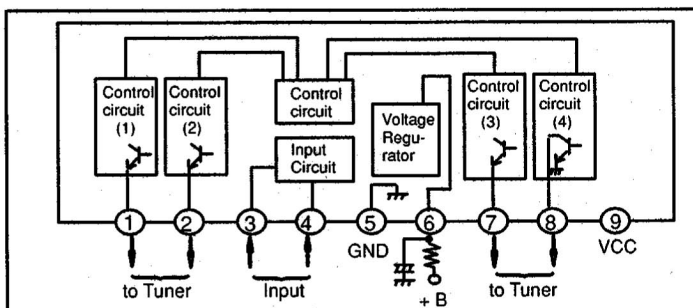
A. Features

1. The I²C bus is a 2 – wire serial bus consisting of a clock line (SCL) and a data line (SDA).
 2. It allows bi – directional data transfer, between IC's.
 3. It consists of a master and one or more slave IC's.
- The master initiates transfer and generates clock signals.
 - The slave is the IC addressed by a master.

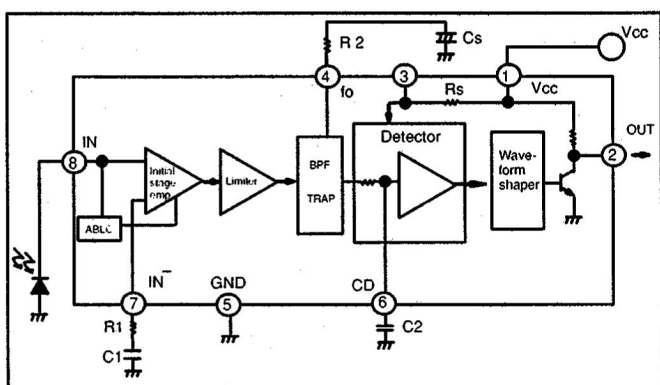
Block Diagram for Integrated Circuits



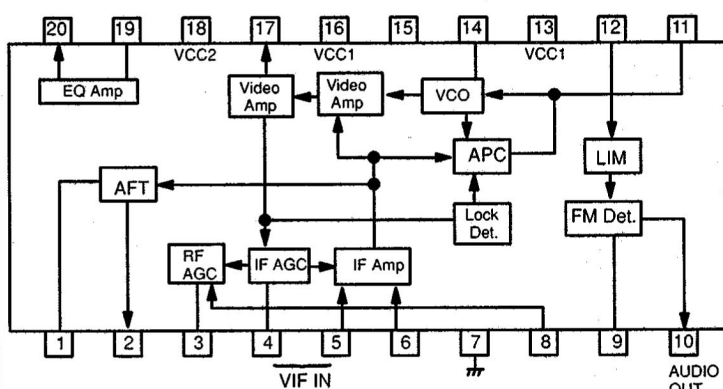
IC401 (LA7837)



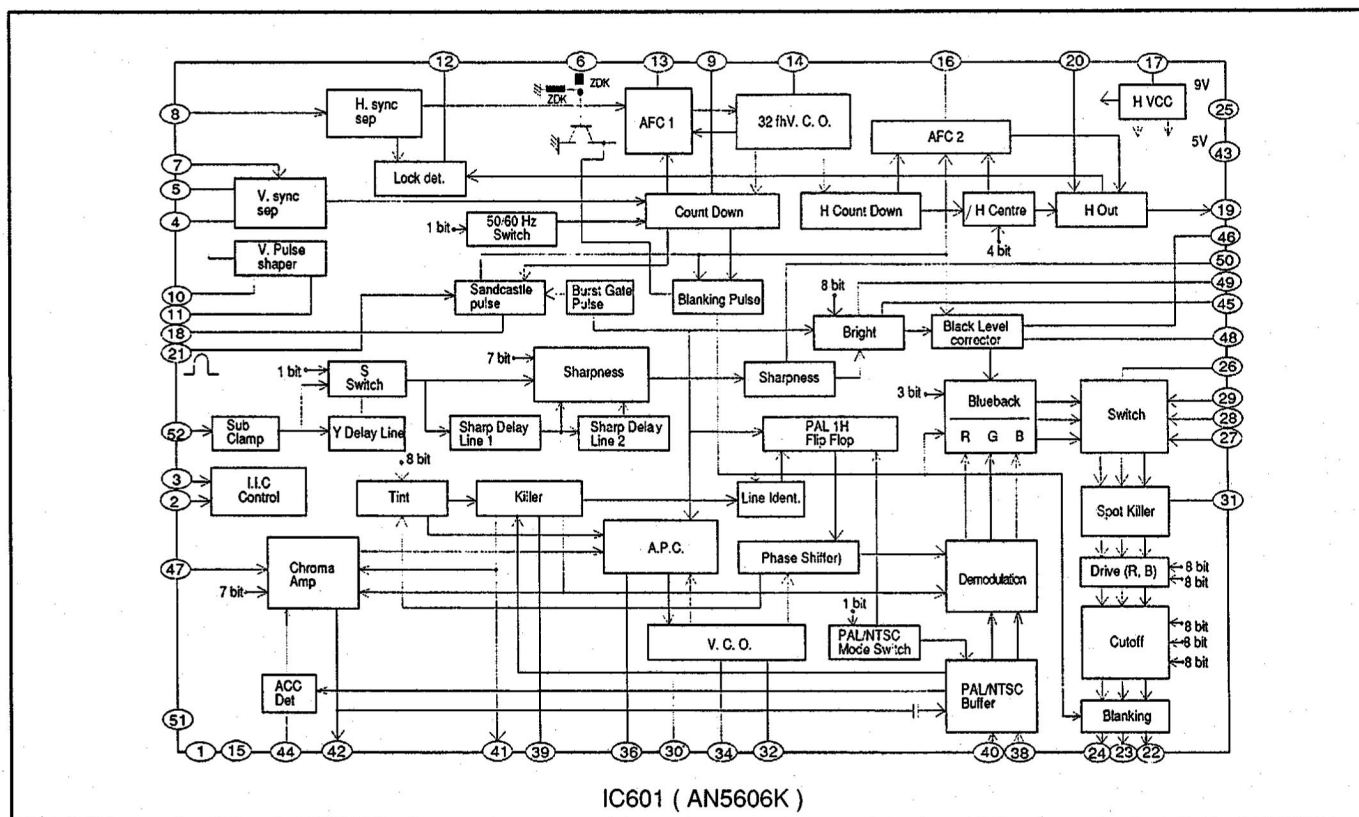
IC1103 (AN5071)



IC1201 (UPC2801AHA)



IC101 (M52034SP)



IC601 (AN5606K)

TEST POINT WAVEFORMS



1. IC101 Pin 20 (E-PCB)
Composite Video Signal
1.9V, 20 μ s / Div



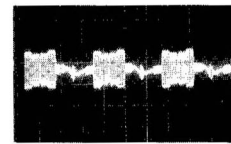
2. IC601 Pin 52 (E-PCB)
Y In
0.7V, 10 μ s / Div



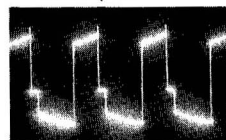
3. IC601 Pin 47 (E-PCB)
Chroma In
280mV, 20 μ s / Div



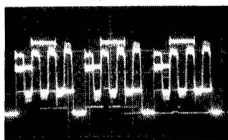
4. IC601 Pin 40 (E-PCB)
B - Y In
120mV, 20 μ s / Div



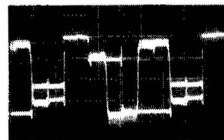
5. IC601 Pin 38 (E-PCB)
R - Y In
180mV, 20 μ s / Div



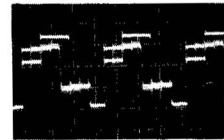
6. IC601 Pin 19 (E-PCB)
Horizontal Out
2.6V, 20 μ s / Div



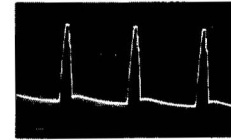
7. TP 18 (IC601 PIN 22)
(E-PCB)
4.0V, 20 μ s / Div



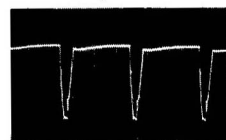
8. TP 17 (IC601 PIN 24)
(E-PCB)
4.0V, 10 μ s / Div



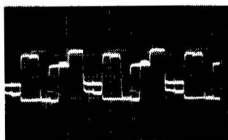
9. E-32 (E-PCB)
Green Output From Ic601 Pin 3,
3.8V, 20 μ s / Div



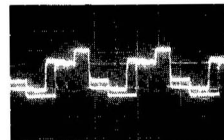
10. FBT Pin 4 (E-PCB)
220V, 20 μ s / Div



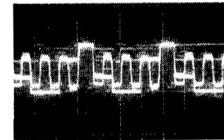
11. FBT Pin 6 (E-PCB)
220V, 20 μ s / Div



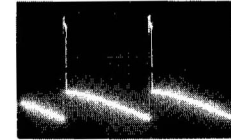
12. Q351 Collector
(Y-PCB)
120V, 20 μ s / Div



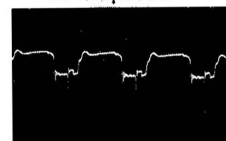
13. Q352 Collector
(Y-PCB)
125V, 20 μ s / Div



14. Q354 Collector
(Y-PCB)
125V, 20 μ s / Div



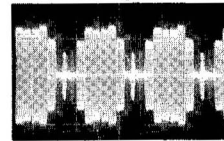
15. IC401 PIN 12 (E-PCB)
Vertical Out
50V, 5ms / Div



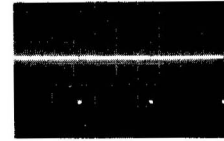
16. Q501 Base (E-PCB)
Horizontal Out
10V, 20 μ s / Div



17. Q501 Collector (E-PCB)
Horizontal Out
1240V, 20 μ s / Div



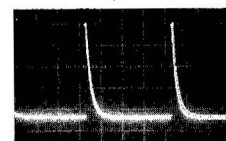
18. IC601 Pin 42 (E-PCB)
Chroma Out
960mV, 20 μ s / Div



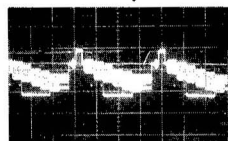
19. IC601 Pin 9 (E-PCB)
Vertical Out
4.0V, 10ms / Div



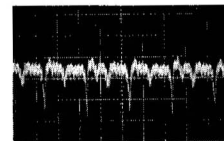
20. TPH 10 (E-PCB)
Video Output Terminal
1.8V, 10 μ s / Div



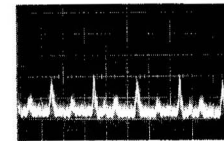
21. IC601 Pin 11 (E-PCB)
V Shaper
8.8V, 10ms / Div



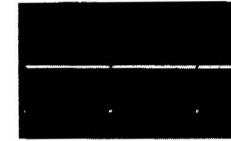
22. IC601 Pin 7 (E-PCB)
Vertical
2.1V, 10 μ s / Div



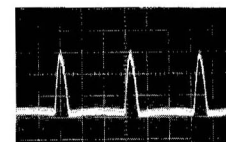
23. IC1102 Pin 31 (E-PCB)
Band 1
150mV, 0.5 μ s / Div



24. IC1102 Pin 24 (E-PCB)
Band 2
100mV, 0.5 μ s / Div



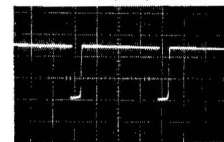
25. IC401 Pin 2 (E-PCB)
Vertical Trigger Input
4V, 5ms / Div



26. IC601 Pin 21 (E-PCB)
4.8V, 20 μ s / Div



27. IC601 Pin 2 (E-PCB)
Serial Clock Line
4.6V, 10 μ s / Div



28. IC601 Pin 10 (E-PCB)
50Hz / 60Hz
4.8V, 5ms / Div

TEST POINT VOLTAGES

PART	PIN	VOLTAGES	COMMENTS	PART	PIN	VOLTAGES	COMMENTS
IC1102	4	5.3V	AUTO, AV IN, NTSC 3.58	IC1102	19	4.9V	AUTO, AV IN, PAL
IC1102	4	0.1V	AUTO, AV IN, NTSC 4.43	IC1102	19	4.9V	B/W
IC1102	4	0.1V	AUTO, AV IN, PAL	IC1102	23	4.7V	AUTO, AV IN, NTSC 3.58
IC1102	4	0.1V	B/W	IC1102	23	4.7V	AUTO, AV IN, NTSC 4.43
IC1102	17	3.5V	AUTO, AV IN, NTSC 3.58	IC1102	23	4.7V	AUTO, AV IN, PAL
IC1102	17	3.5V	AUTO, AV IN, NTSC 4.43	IC1102	23	4.7V	B/W
IC1102	17	3.5V	AUTO, AV IN, PAL	IC1102	51	4.9V	AUTO, AV IN, NTSC 3.58
IC1102	17	3.4V	B/W	IC1102	51	4.9V	AUTO, AV IN, NTSC 4.43
IC1102	19	4.9V	AUTO, AV IN, NTSC 3.58	IC1102	51	4.9V	AUTO, AV IN, PAL
IC1102	19	4.9V	AUTO, AV IN, NTSC 4.43	IC1102	51	4.9V	B/W

 Shows user key

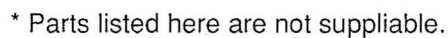
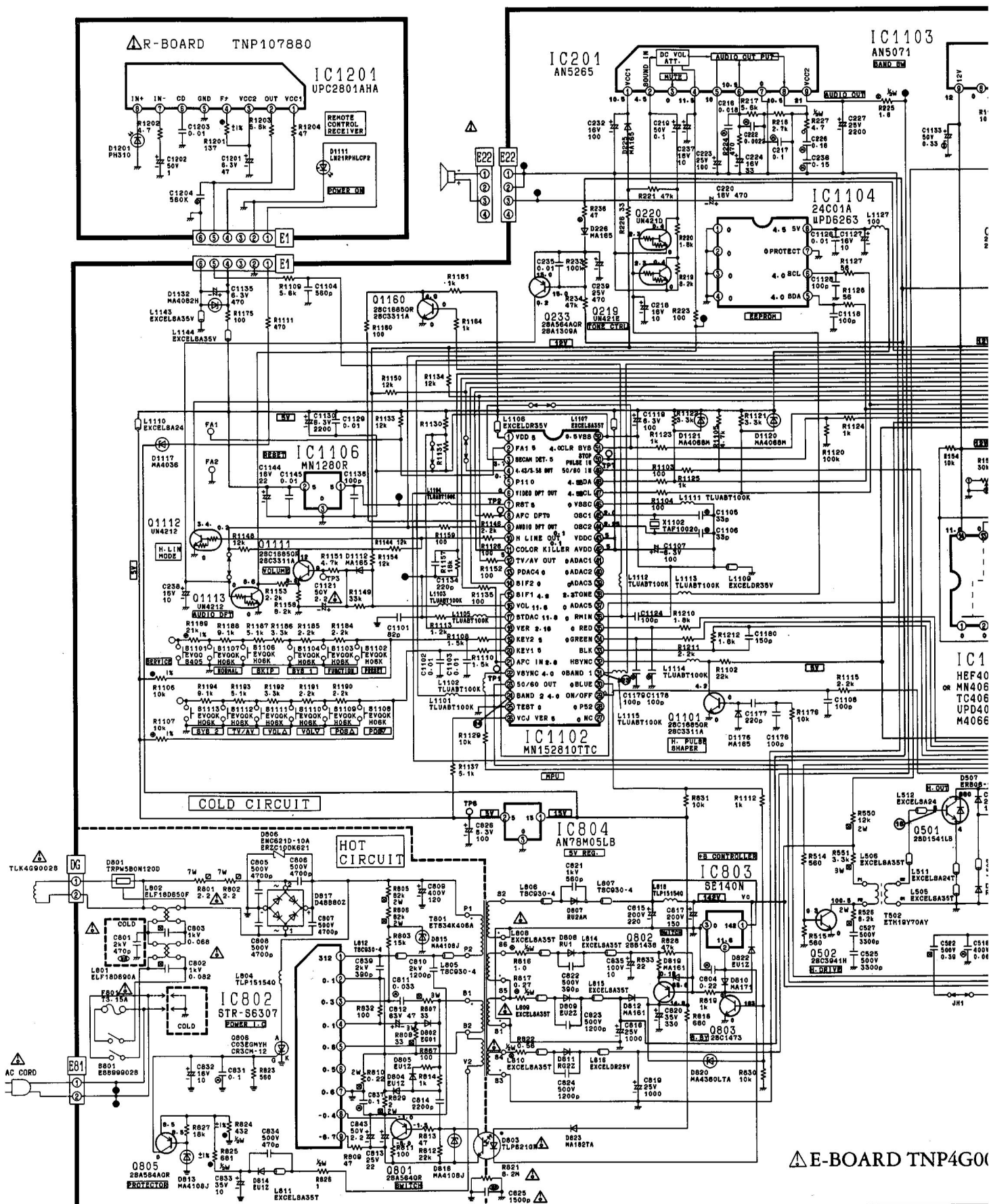
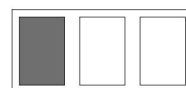
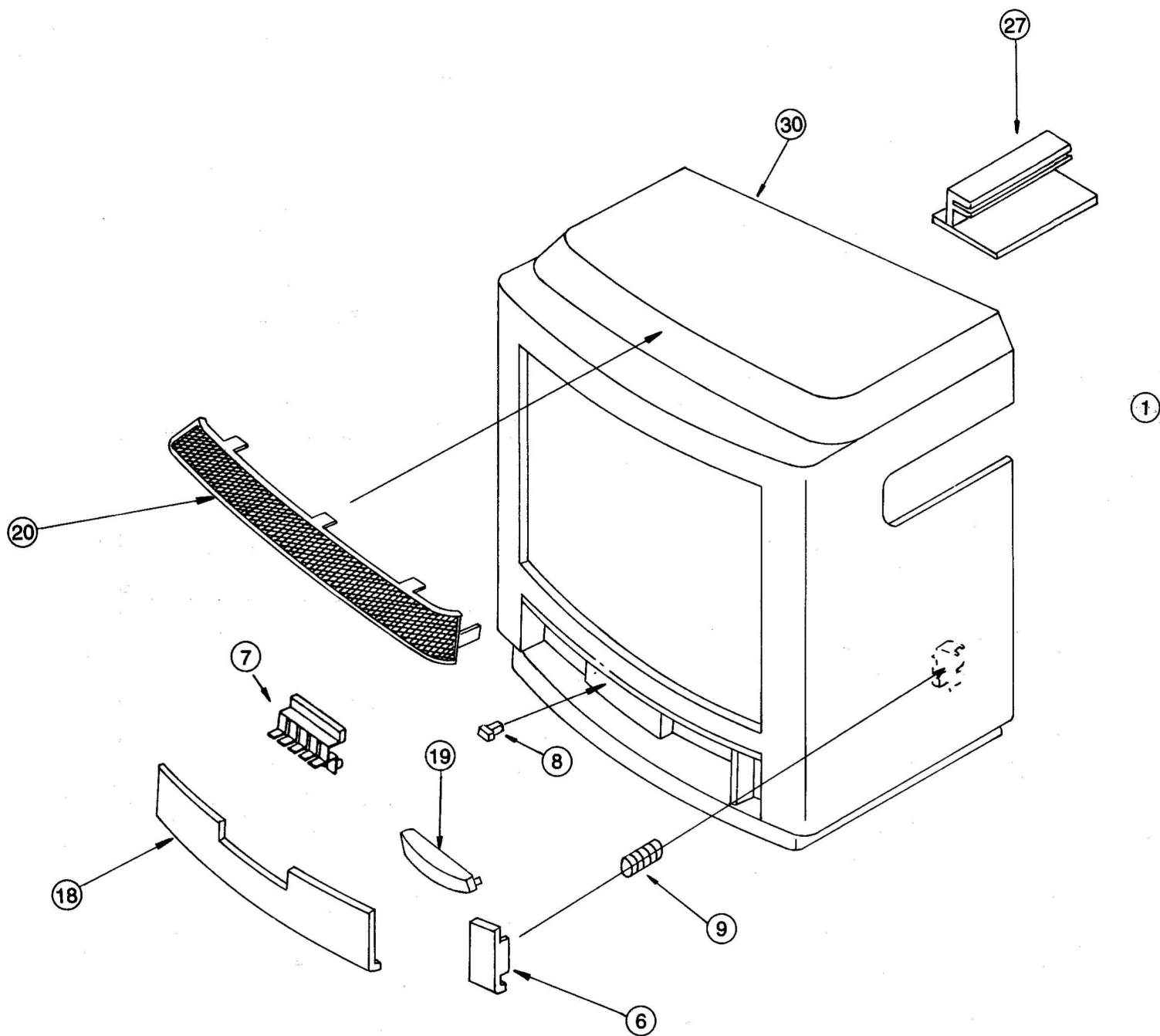


Fig.26

KEY NO.	FUNCTION	DATA CODE	KEY NO.	FUNCTION	DATA CODE
1	TV/AV	05	17	—/—	3B
2	POWER	3D	18	CH 0	19
3	CH 1	10	19	NORMAL	0C
4	CH A	34	20	FUNCTION	06
5	CH 3	12	21	 OFFTIMER	0F
6	CH 2	11	22	 MUTE	32
7	CH 4	13	23	 REC	08
8	CH V	35	24	 VCR	3D
9	CH 6	15	25	CH A	34
10	CH 5	14	26	 F.F	03
11	CH 7	16	27	 PLAY	0A
12	 RECALL	39	28	 REW	02
13	CH 9	18	29	CH V	35
14	CH 8	17	30	 F.ADV	0C
15	VOL +	20	31	 STOP	00
16	VOL -	21	32	 PAUSE	06





PARTS LOCATION

Note: The number on mechanical parts indicates Ref. No. of Replacement Parts List.

