

# Service Manual



Цветной Телевизор  
**TC-21E1R**  
Шасси MX-1A

Specifications\ **Технические характеристики**

Location of Controls\ **Расположение органов управления**

MX-1A chassis Block Diagram\ **Блок-схема шасси MX-1A**

The I<sup>2</sup>C Bus Concept\ **Концепция шины I<sup>2</sup>C**

Adjustments\ **Методика регулировки**

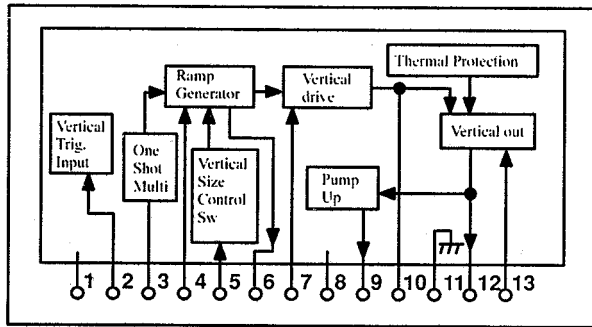
Block Diagram for Integrated Circuits\ **Блок-схемы микросхем**

Schematic Diagrams\ **Принципиальные схемы**

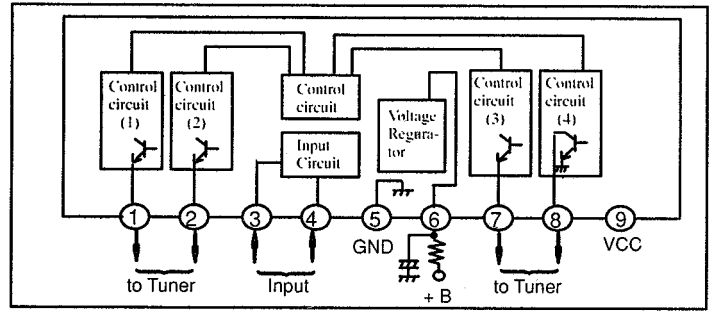
Parts Location\ **Расположение деталей**

Replacement Parts List\ **Список запасных частей**

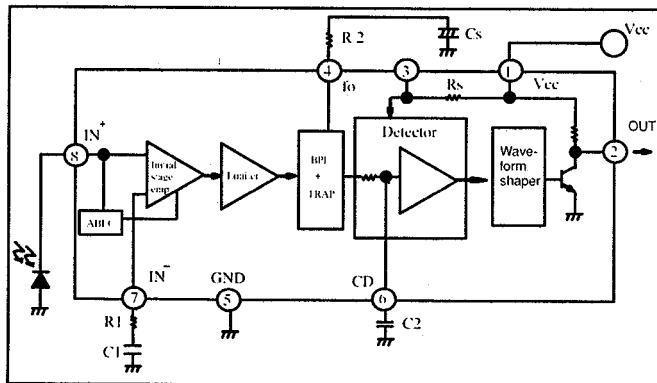
# Block Diagram for Integrated Circuits



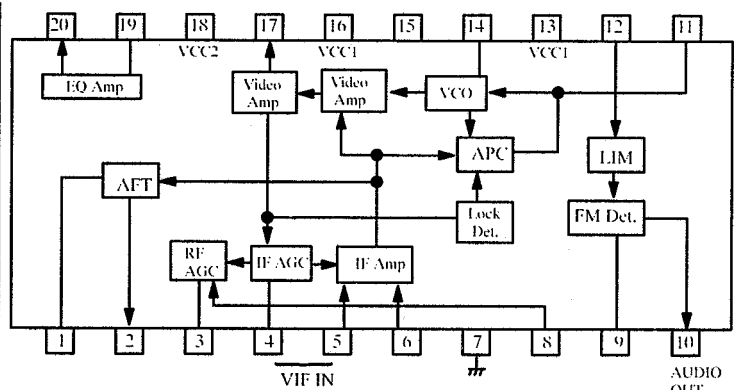
IC401 ( LA7837 )



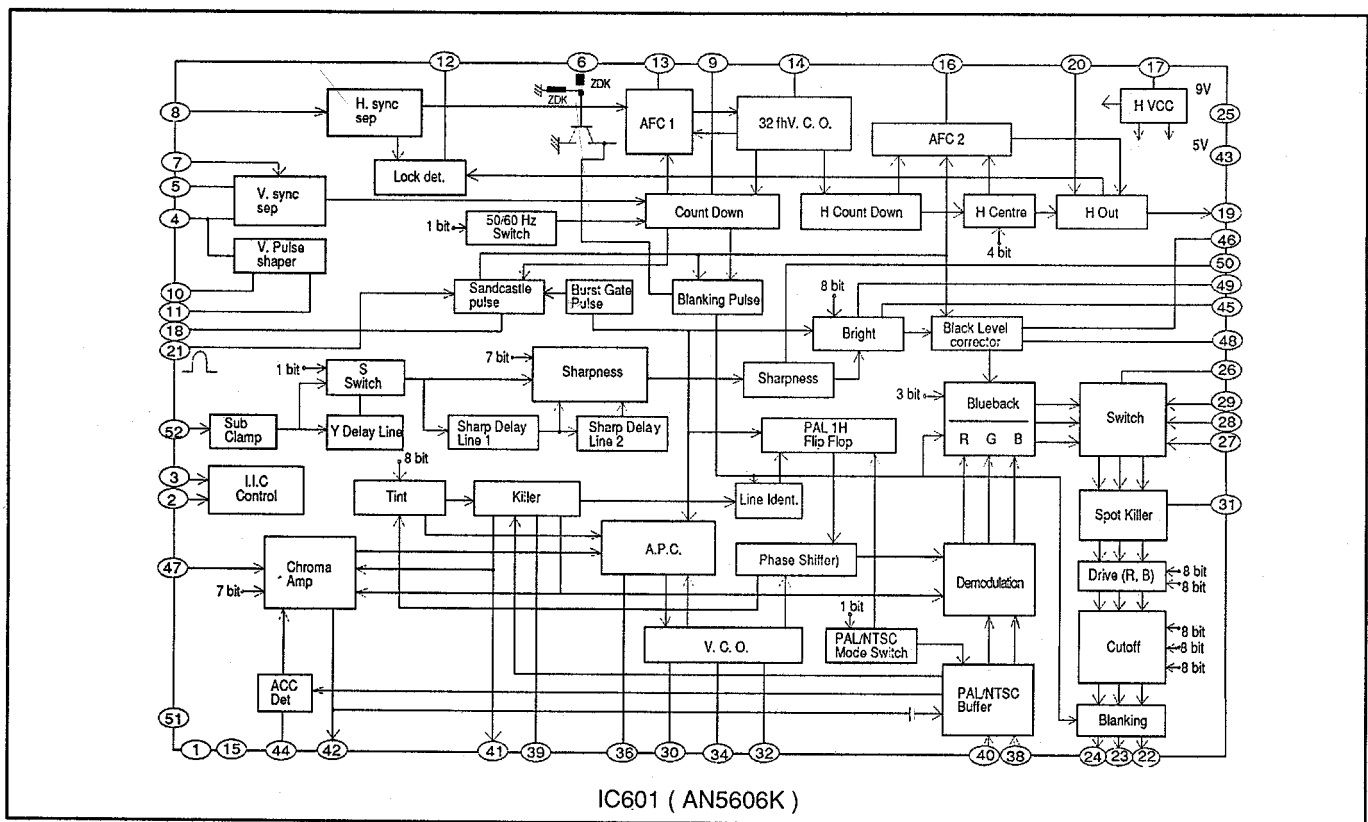
IC1103 ( AN5071 )



IC1201 ( UPC2801AHA )



IC101 ( M52034SP )

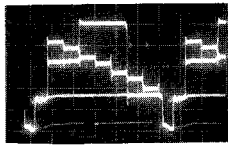


IC601 ( AN5606K )

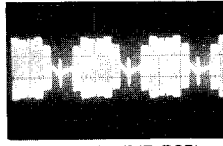
## TEST POINT WAVEFORMS



1. IC101 Pin 20 (E-PCB)  
Composite Video Signal  
1.67V, 20 $\mu$ s / Div



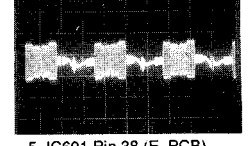
2. IC601 Pin 52 (E-PCB)  
Y In  
0.63V, 20 $\mu$ s / Div



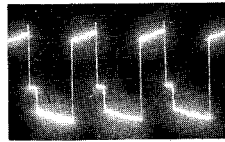
3. IC601 Pin 47 (E-PCB)  
Chroma In  
0.30V, 20 $\mu$ s / Div



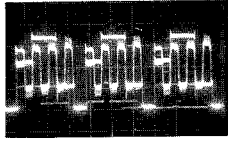
4. IC601 Pin 40 (E-PCB)  
B-Y In  
0.14V, 20 $\mu$ s / Div



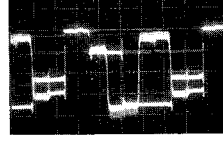
5. IC601 Pin 38 (E-PCB)  
R-Y In  
0.16V, 20 $\mu$ s / Div



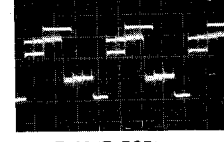
6. IC601 Pin 19 (E-PCB)  
Horizontal Out  
2.4V, 20 $\mu$ s / Div



7. TP 18 (IC601 PIN 22)  
(E-PCB)  
3.8V, 20 $\mu$ s / Div



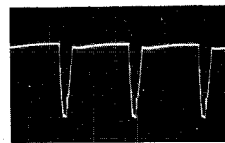
8. TP 17 (IC601 PIN 24)  
(E-PCB)  
3.7V, 10 $\mu$ s / Div



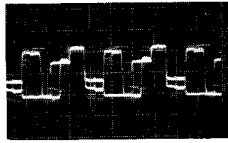
9. E-32 (E-PCB)  
Green Output From IC601 Pin 3.  
3.9V, 20 $\mu$ s / Div



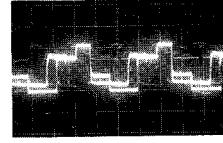
10. FBT Pin 4 (E-PCB)  
229V, 20 $\mu$ s / Div



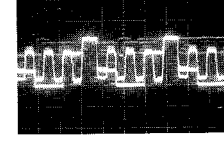
11. FBT Pin 6 (E-PCB)  
225V, 20 $\mu$ s / Div



12. Q351 Collector  
(Y-PCB)  
131.5V, 20 $\mu$ s / Div



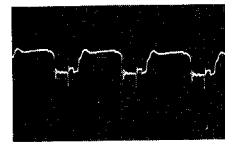
13. Q352 Collector  
(Y-PCB)  
131.5V, 20 $\mu$ s / Div



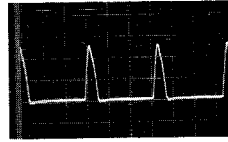
14. Q354 Collector  
(Y-PCB)  
127.5V, 20 $\mu$ s / Div



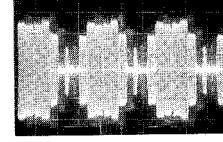
15. IC401 PIN 12 (E-PCB)  
Vertical Out  
51.2V, 5 $\mu$ s / Div



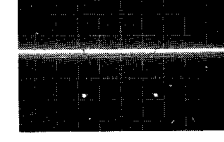
16. Q501 Base (E-PCB)  
Horizontal Out  
13.7V, 20 $\mu$ s / Div



17. Q501 Collector (E-PCB)  
Horizontal Out  
1300V, 20 $\mu$ s / Div



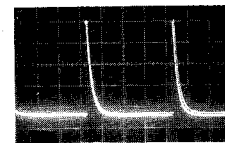
18. IC601 Pin 42 (E-PCB)  
Chroma Out  
1.1V, 20 $\mu$ s / Div



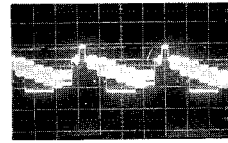
19. IC601 Pin 9 (E-PCB)  
Vertical Out  
4.2V, 10 $\mu$ s / Div



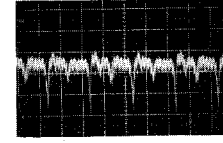
20. TPH 10 (E-PCB)  
Video Output Terminal  
1.8V, 20 $\mu$ s / Div



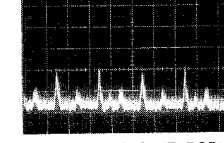
21. IC601 Pin 11 (E-PCB)  
V Shaper  
8.9V, 5 $\mu$ s / Div



22. IC601 Pin 7 (E-PCB)  
Vertical  
1.9V, 20 $\mu$ s / Div



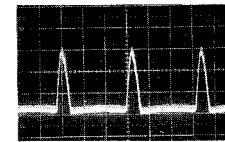
23. IC1102 Pin 31 (E-PCB)  
Band 1  
0.1V, 1 $\mu$ s / Div



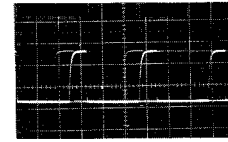
24. IC1102 Pin 24 (E-PCB)  
Band 2  
0.15V, 1 $\mu$ s / Div



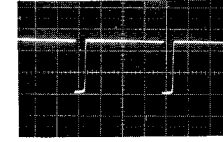
25. IC401 Pin 2 (E-PCB)  
Vertical Trigger Input  
4.2V, 5 $\mu$ s / Div



26. IC601 Pin 21 (E-PCB)  
5.1V, 20 $\mu$ s / Div



27. IC601 Pin 2 (E-PCB)  
Serial Clock Line  
4.8V, 20 $\mu$ s / Div



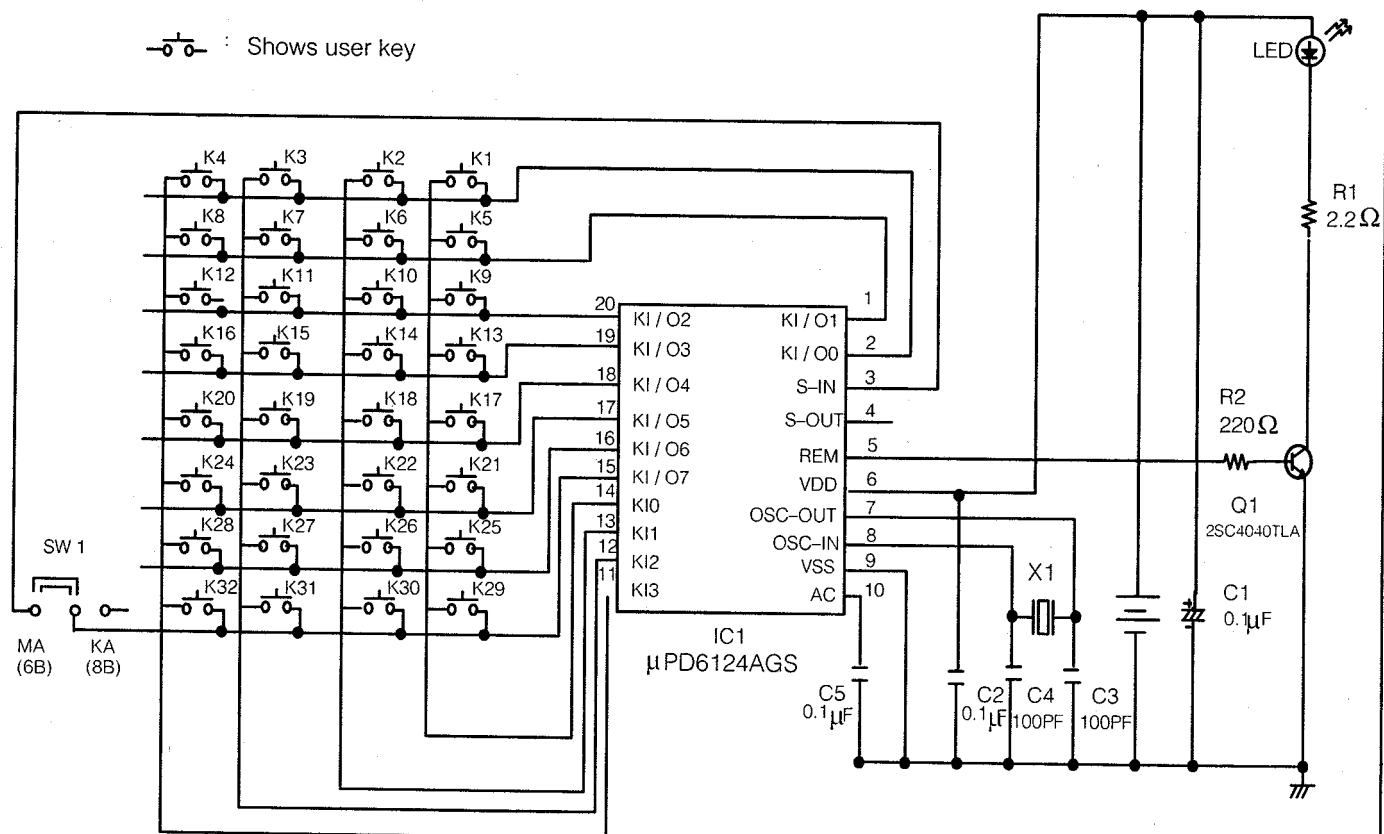
28. IC601 Pin 10 (E-PCB)  
50Hz / 60Hz  
4.8V, 5 $\mu$ s / Div

## TEST POINT VOLTAGES

PART	PIN	VOLTAGES	COMMENTS	PART	PIN	VOLTAGES	COMMENTS
IC1102	4	6.5V	AUTO, AV IN, NTSC 4.43	IC1102	19	4.5V	AUTO, AV IN, PAL
IC1102	4	-0.5V	AUTO, AV IN, SECAM	IC1102	19	4.5V	B/W
IC1102	4	-0.5V	AUTO, AV IN, PAL	IC1102	23	4.5V	AUTO, AV IN, NTSC 4.43
IC1102	4	1.5V	B/W	IC1102	23	4.5V	AUTO, AV IN, SECAM
IC1102	17	1.5V	AUTO, AV IN, NTSC 4.43	IC1102	23	4.5V	AUTO, AV IN, PAL
IC1102	17	1.5V	AUTO, AV IN, SECAM	IC1102	23	4.5V	B/W
IC1102	17	1.5V	AUTO, AV IN, PAL	IC1102	51	4.5V	AUTO, AV IN, NTSC 4.43
IC1102	17	1.5V	B/W	IC1102	51	4.5V	AUTO, AV IN, SECAM
IC1102	19	4.5V	AUTO, AV IN, NTSC 4.43	IC1102	51	4.5V	AUTO, AV IN, PAL
IC1102	19	4.5V	AUTO, AV IN, SECAM	IC1102	51	4.5V	B/W

## Remote Control SBAR20026A

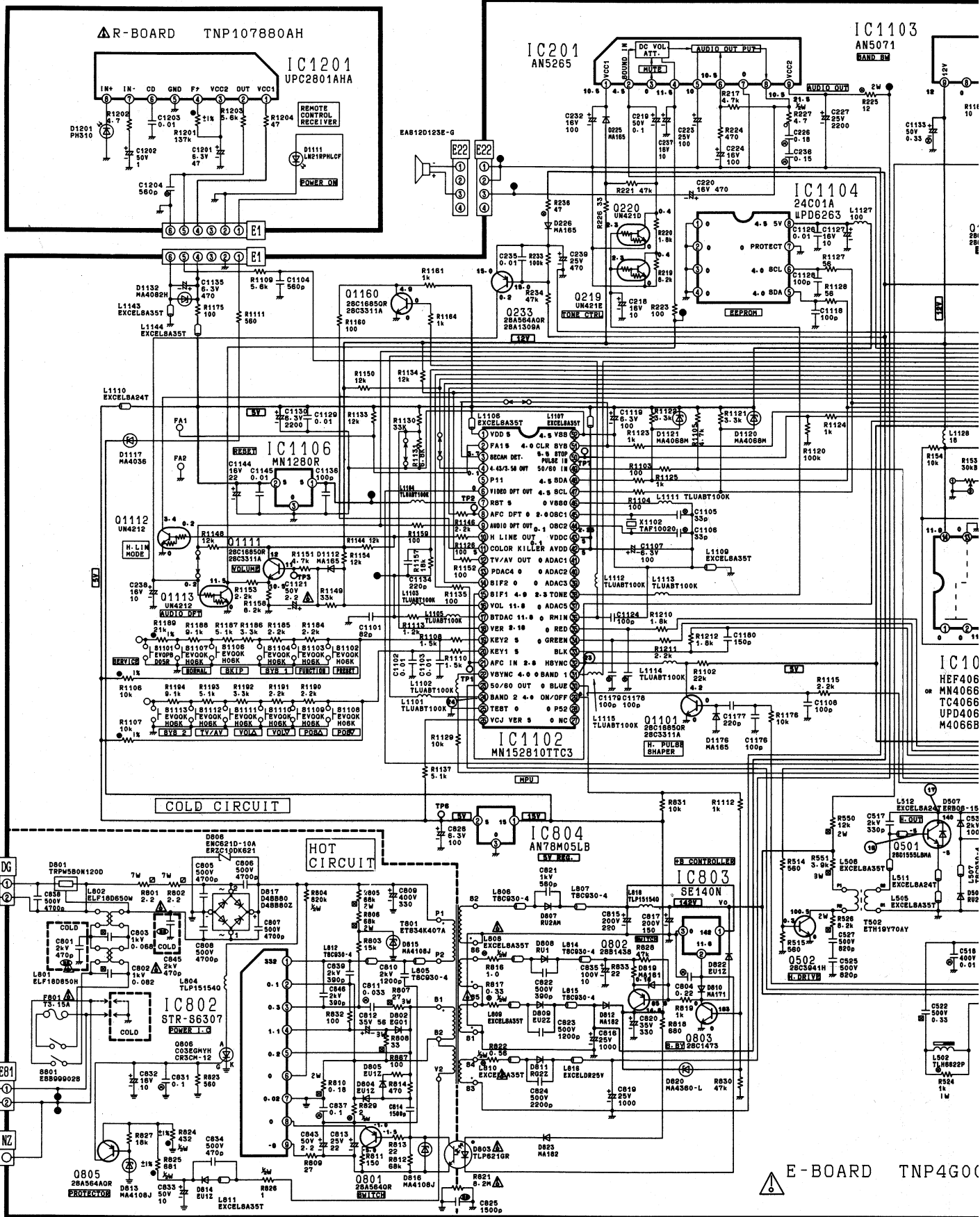
—○— : Shows user key

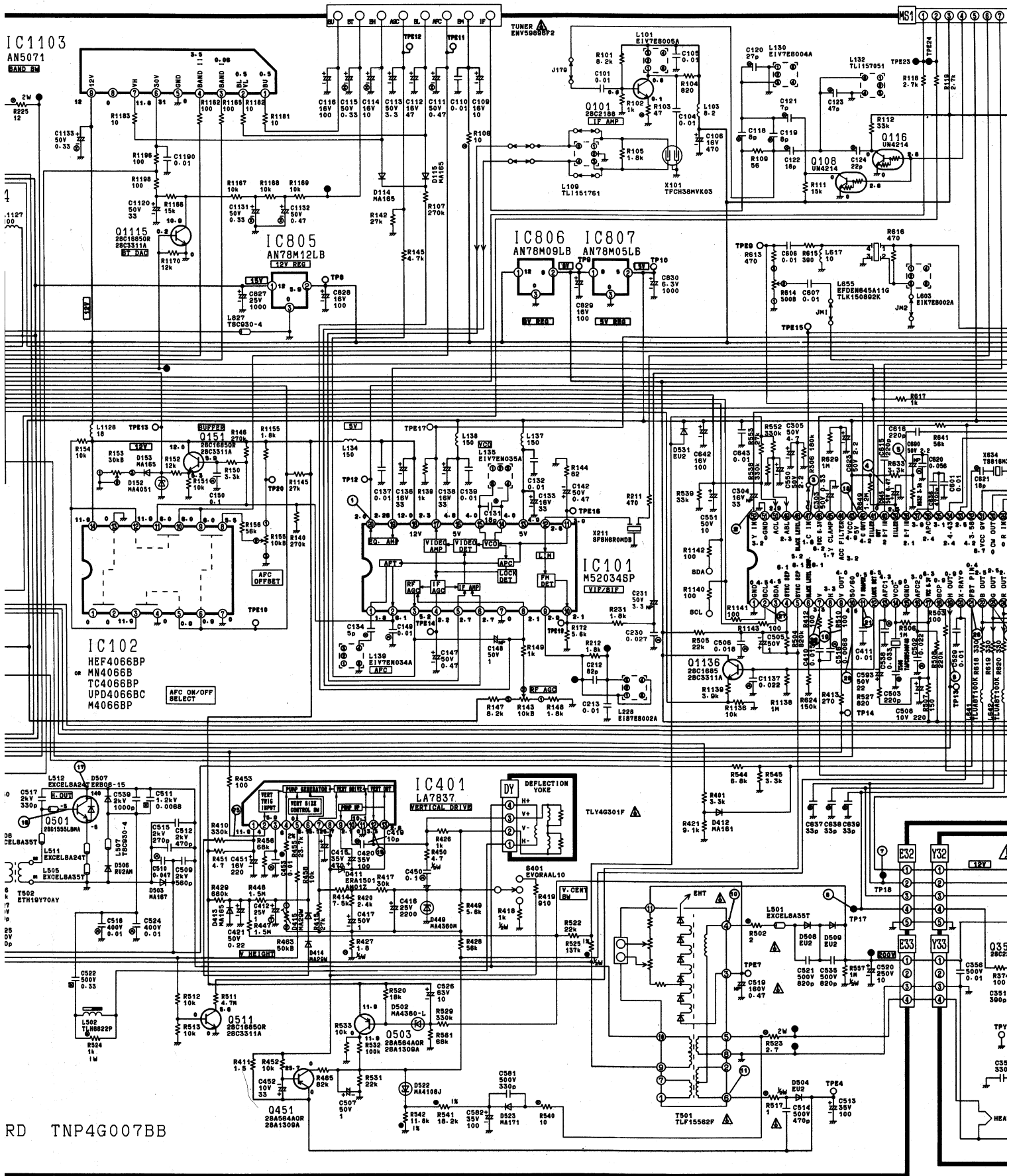


\* Parts listed here are not supplyable.

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 $\Delta$	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 $\Delta$	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





RD TNP4G007BB

