CM-148 / GX

ZENITH

CM-148 / GX

GX CHASSIS
OVERVIEW & ALIGNMENT PROCEDURES

SECTION 2

Y-LINE
DIRECT VIEW
COLOR TV RECEIVER
GX CHASSIS

This section of the service manual provides an overview of the GX consumer products chassis. This chassis is menu driven by its microprocessor, which allows for many adjustments to be made through the Service Menu. It contains Setup procedures (LEVEL 1and LEVEL 2 features), Alignment procedures and cable lead dress for all screen sizes.

Through out the year as more models become available and our constant effort to improve our products, this manual may be revised to reflect those changes. The revision will be distributed through your regular service subscription program mailing.

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INTRODUCTION

The New GX series chassis has been developed for screen sizes that include 19" through 35" stereo and mono models. Variations of the chassis have also been developed for use in the commercial products. The concept of the GX chassis is to make one board for all models in a particular screen size. During the manufacturing process, the microprocessor will be programmed for the added features. Also additional plug in boards will be added to the chassis to accommodate the different features; Stereo, Mono, PIP etc.

The New GX series chassis features four I^2C compatible IC's for all signal, sync and sweep processing. ICX2200 handles all of the audio/video, sync and sweep drive processing. IC6000 is the microprocessor and IC6001 is the memory. The keyboard and IR detector are tied directly to IC6000. IC2100 handles the vertical sweep.

ICX3431 is in the power supply. This is a switching type supply powered by the bridge rectifier circuit. At turn on, voltages for the vertical and video output circuit are derived from the sweep circuit.

The 9158301 module is used on the 19/20" sets. The 9158401 module is used on 25" sets w/o comb filter. The 9158501 module is used on 27" sets w/o comb filter. The 9161701 module is used on "32 sets. The 9161801 module is used on 35" sets. The 9162901 module is used on 27" sets w/comb filter and the 9163901 is used on 27" sets w/comb filter and flat crt. The CRT module is attached to the main module the same as found on previous chassis. The 9158801 jack pack assembly will be found on certain mono models. The 9159202 for private label or 03 for Zenith jack pack assembly will be found on MTS stereo models. The 9158901, jack pack assembly will be found on the low cost Stereo models. These jack packs contain not only the jacks themselves, but also the necessary circuitry for the features.

CUSTOMER MENU

The customer menus are displayed over video and appear at the left of the screen.

The color of the menu will vary depending on the "Level" of features. The level is set at the factory when the set is being manufactured.

Private Label sets are Level 0. Zenith is Level 1 and 2. The customer menu on private label sets will have a Dark Red background. Zenith level I sets will be in blue and Level 2 sets will be gray.

Each press of the menu key will toggle between the setup menu, video menu and on some models an audio menu, PIP menu and service menu.

Operation of the menus is simple. Press MENU to call up a menu. Then with the SELECT key bring up the item to be adjusted. The adjustment range of the item will be highlighted in white. Lastly, use the ADJUST key to make a change to the current setting. Always follow the "On Screen" instructions. Press ENTER or QUIT to exit the menu. If no key is pressed within 15 seconds, the on screen display will time out. (30 seconds for Parental Control Menu).

SERVICE MENU

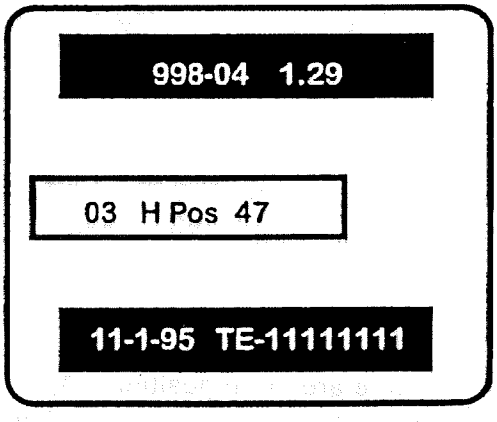
The Service Menu can be invoked by using the customer keyboard on the front of the set or by using the remote control.

Access to the Service Menu using the customer keyboard on the set:

Depress and hold down the menu key for 5 seconds (until the channel/time display disappears). Then depress the channel up and adjust right buttons simultaneously. This will bring up the service menu displaying item 3.

Access to the Service Menu using the remote control:

Press and hold the Menu key until the user menu display disappears, then press digit keys 9876 and then Enter. This will bring up item 3 of the service menu.



The black bar at the top indicates the part number of the software in the set. The black bar at the bottom has a date and a number. The date on the left indicates the date the module went through the factory. At the right is a number which indicates the module's test status.

When the Service menu comes up, it will always come up on the third item H Pos. Use the SELECT key to toggle through all of the adjustments.

00 F MODE (Factory Mode) Use the Select key to select item #00, which is the first item in the Service menu, the Factory Mode. This item is used by the factory when the module is being tested. In the field, this item should always be left "Off". 0 is "Off"!

When the factory mode is Off, only the first seven items in the service menu can be brought up. When the factory mode is set to I, all 39 menu items will be available. Also they will come on the screen one at a time at the top left of the screen. The black bars at the top and bottom of the screen, will not be shown.

If the factory mode is "On", a double — line will appear at the top of the Customer Set Up menu. On other menus a number corresponding to the setting of a highlighted item will be shown. This is a quick way a technician can tell that the factory mode is on. Other unusual things may also happen when the factory mode is "On". The AC power on feature is always enabled regardless of the setting of "AC On" in the service menu. So the set will automatically come on when AC is applied.

When the factory mode is "On", the service menu can be accessed by pressing simultaneously the RIGHT ADJ. and CHANNEL UP buttons on the front of the set. Otherwise the hand control must be used to reenter the service menu to turn the factory mode off. The factory mode can also be turned off by setting the clock, or running the Auto Program feature in the customer Set Up menu.

01 Pre Px This is used to store the customer menu adjustments in the nonvolatile memory of the EAROM. The selections are Custom/PresetStore. Settings for Contrast, Brightness, Color, tint and start volume are stored in this manner. 0 is custom and 1 is Preset stored.

02 V Pos moves the On Screen Displays vertically. The range is from 0 to 31. Default setting is 10.

03 H POS Moves the On Screen Displays horizontally. The range is from 0 to 75. Default setting is 44.

04 Level There are three positions. 0, 1 and 2. The three different positions are used at the factory to program the module for the correct features. In order to change the level when replacing a main module in the field, temporarily short pins 3 and 4 together on connector 4G9 on the main module. Then use the Adjust button to change the level. Connector 4G9 is located on the left hand side of the module.

Be careful! If the wrong pins are shorted, the module can be damaged!

Level 0 is used for Private Label sets. In the private label mode the IR code is 21 or 121.

Level 1 and 2 is used for Zenith. In the Zenith label mode the IR code is 01 or 101.

Feature Level Summary

"LEVEL 0" Private Label

- Red Menus (with borders, italics)
- Auto Channel Set
- Set Channels
- Clock Set
- Caption/Text
- Languages (Trilingual)
- Sleep Timer

"LEVEL 1" LowEnd Zenith

- Blue Menus (with borders, italics)
- Auto Program
- Ch Add/Del
- Clock Set
- On/Off Timer
- Caption/Text
- Languages (Trilingual)
- Sleep Timer

"LEVEL 2" HighEnd Zenith

- Gray Menus (with borders, italics)
- ICONs
- Auto Program
- Ch Add/Del/Surf
- Channel Labels
- Clock Set
- On/Off Timer
- Parental Control
- Caption/Text
- Languages (Trilingual)
- AutoDemo
- Channel Surf
- Sleep Timer

BE SURE TO REMOVE THE JUMPER AFTER THE LEVEL HAS BEEN SET

05 Band There are eight positions. 0 is Broadcast fixed, 1 is CATV afc, 2 is HRC afc, 3 is ICC afc, 4 is Broadcast afc, 5 is CATV fixed, 6 is HRC fixed, 7 is ICC fixed.

06 AC On There are two positions; 0 is off and 1 is AC On. In the on position the set will turn on and off when AC power is applied.

07 C.Phas (Caption Phase) It determines whether or not captioning will be received. It has a range of 00 to 254. Default setting is 80.

08 C.Srch(Caption Search) The range is 0 to 1. Default setting is 1.

09 C.LINE(Caption Line) The range is 0 to 32. Default setting is 17.

10 Rf Bpf (Rf Bandpass) The range is 0 to I. Default setting is 0.

11 3.58 T This is the 3.58 MHz trap. The range is 0 to 1. Default setting is 0.

12 RF Brt (RF Brightness) This sets the subbrightness of the customer control for brightness in the RF mode. The range is from 0 through 63. Default setting is 20.

13 Ax Brt (Auxiliary Brightness) This sets the subbrightness of the customer control for brightness in the AUX mode. The range is from 0 through 63. Default setting is 20.

14 MaxCon (Maximum Contrast) This sets the adjustment range of the customer control for contrast. The range is from 0 to 63.Default setting is 63.

15 VPhase (Vertical Phase) The range is from 0 to 7. Default setting is 0.

16 Hphase (Horizontal Phase) The range is from 0 to 31. Default setting is 16.

17 AudLvl (Audio Level) This sets the gain for the Low Cost stereo and MTS Stereo. The range is from 0 to 63. Default setting is 46.

18 AudAdj (Audio Adjust) This set the balance between the right and left channel. The range is from 0 to 63. Default setting is 63. This item is not to be field adjusted.

19 RF Agc The range is from 0 to 63. Default setting is 40. Tune in the weakest channel and adjust for a snow free picture.

20 H Afc There are two settings 0 and 1. Default setting is usually 0.

21 WhComp (White Compression) there are two settings 0 and I. Default setting is 1.

22 60hzSw (60 Hertz Switched) The range is 0 to 3. Default setting is generally set to 2.

23 PifVco (PIF Voltage Controlled Oscillator) The range is 0 to 127. Default setting is 63.

24 R Cut The range is 0 to 254. Default setting is 0.

25 G Cut The range is 0 to 254. Default setting is 0.

26 B Cut The range is 0 to 254. Default setting is 0.

27 G Gain The range is 0 to 254. Default setting is 75.

28 B Gain The range is 0 to 254. Default setting is 75.

29 PipRas* (Picture in Picture Raster) The range is 0 to 254. Default setting is 1.

30 Pip Sw* (Picture in Picture Switch Delay) The range is 0 to 15. Default setting is 11.

31 PipLuD* (Picture in Picture Luminance Delay) The range is 0 to 7. Default setting is 3.

32 In LEV* (Input Level) The range is 0 to 15. Default setting is 9.

33 St Vco* (Stereo Voltage Controlled Oscillator) The range is 0 to 63. Default setting is 24.

34 SapVco* (Second Audio Program Voltage Controlled Oscillator) The range is from 0 to 15. Default setting is 6.

35 SapLpf* (Second Audio Program Low Pass Filter) The range is 0 to 15. Default setting is 8.

36 St Lpf* (Stereo Low Pass Filter) The range is from 0 to 63. Default setting is 24.

37 Spectr* This is high frequency separation. The range is from 0 to 63. Default setting is 42.

38 WideBa* This is low frequency separation. The range is from 0 to 63. Default setting is 30.

* When changing PIP module or MTS modules in the field, these items must be adjusted.

SERVICE MENU

GENERAL SETTINGS

	ITEM	RANGE	DEFAULT SETTINGS
00	Fact Mode	01	0
01	Pre Px	01	1
02	V Pos	031	10
03	H Pos	075	44
04	Level	02	1*
05	Band	07	1**
06	AC On	01	0

VIDEO PROCESSOR SETTINGS

07	C.Phas	0254	80
08	C.Srch	01	1
09	C.Line	032	17
10	Rf Bpf	01	0
11	3.58T	01	0
12	RF Brt	063	20
13	Ax Brt	063	20
14	MaxCon	063	63
15	VPhase	07	0
16	HPhase	0-31	16
17	Aud Lvl	0-63	46
18	Aud Adj	0-63	63***
19	RF Agc	0-63	40
20	H Afc	0-1	1
21	WhComp	0	1
22	60hzSw	0-3	0
23	PifVco	0-127	63
24	R Cut	0-254	0
25	G Cut	0-254	0
26	B Cut	0-254	0
27	G Gain	0-254	75
28	B Gain	0-254	75

PIP SETTINGS

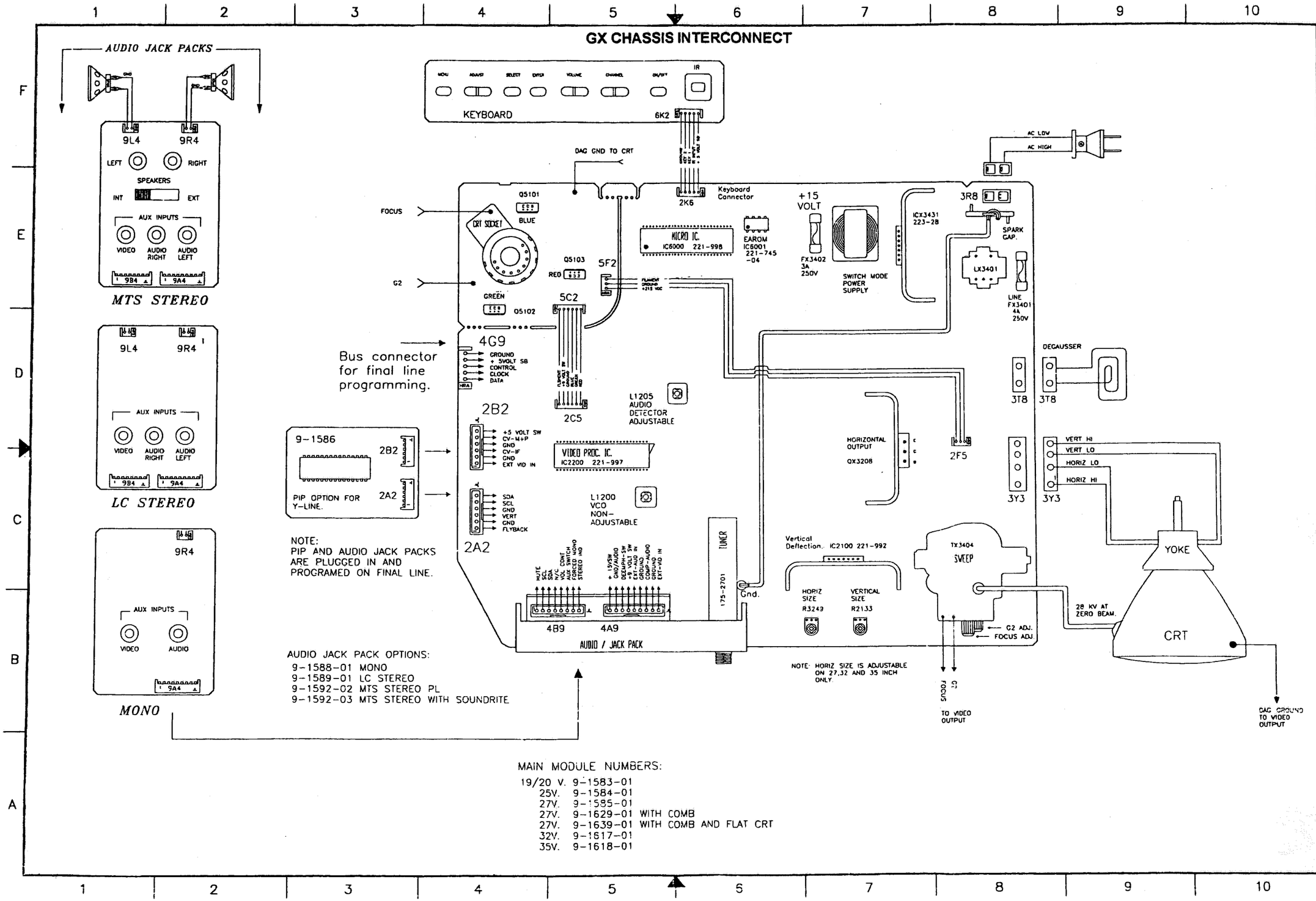
29	PipRas	0-254	1
30	PipSw	0-15	11
31	PipLuD	0-7	3

AUDIO SETTINGS

32	In Lev	0-15	9
33	St Vco	0-63	24
34	SapVco	0-15	6
35	SapLpf	0-15	8
36	St Lpf	0-63	24
37	Spectr	0-63	42
38	WideBa	0-63	30

*Set this to the level (Bar Code Data
**This setting depends upon input signal.
***This item is not to be field adjusted.

GX CHASSIS INTERCONNECT



MAIN MODULE NUMBERS:

19/20 V.	9-1583-01	
25V.	9-1584-01	
27V.	9-1585-01	
27V.	9-1629-01	WITH COMB
27V.	9-1639-01	WITH COMB AND FLAT CRT
32V.	9-1617-01	
35V.	9-1618-01	

TRANSISTOR DC VOLTAGES

MAIN BOARD			
Q	E	B	C
800	0.00	0.00	15.0
1203	5.00	5.00	9.0
1204	4.00	5.00	9.0
1205	0.50	1.00	8.0
2000	3.00	4.00	5.0
2200	0.00	0.40	8.0
2201	5.00	4.00	0.0
2202	3.00	2.00	9.0
2203	2.00	3.00	9.0
2204	2.00	1.00	0.0
2205	2.00	1.00	0.0
2206	2.00	1.00	0.0
2207	3.00	2.20	0.0
2208	1.00	2.00	5.0
2209	1.00	2.00	5.0
2210	1.00	2.00	5.0
X3201	17.00	17.00	0.0
3202	0.40	1.00	9.0
3203	3.00	4.00	16.0
3206	0.00	0.40	12.0
X3208	0.00	0.00	125.0
X3401	0.00	0.07	0.5
3403	15.00	14.00	15.0
3404	15.00	14.00	15.0
5101	1.50	2.00	231.0
5102	1.40	2.00	238.0
5103	1.50	2.00	232.0
5104	0.00	1.00	0.0

JACKPACK 9-1589 SERIES			
802	0.00	0.02	0.00
803	0.00	0.02	0.00
1601	5.00	4.00	0.00
1602	0.00	1.00	0.02

JACKPACK 9-1592 SERIES			
800	0.00	0.00	15.0
1400	0.00	1.00	0.0
1401	0.00	0.00	9.0

INTEGRATED CIRCUIT DC VOLTAGES

MAIN BOARD IC 2100	
Pin #	
1	10.00
2	23.00
3	8.00
4	7.00
5	NC
6	0.00
7	4.00
8	5.00
9	4.00
10	23.00
11	0.00
12	5.00
13	0.00
14	0.00
15	5.00
16	5.00
17	5.00
18	4.00
19	1.00
20	1.00
21	1.00
22	4.00
23	9.00
24	1.00
25	7.00
26	9.00
27	2.00
28	2.00
29	2.00
30	1.00
31	0.00
32	1.00
33	7.00
34	0.00
35	0.00
36	2.00
37	3.00
38	0.00
39	3.00
40	NC
41	0.00
42	0.00
43	0.00
44	0.00
45	2.00

ICX 2200	
Pin #	
1	4.00
2	4.00
3	8.00
4	3.00
5	8.00
6	0.00
7	2.00
8	2.00
9	9.00
10	5.00
11	6.00
12	5.00
13	0.00
14	0.00
15	5.00
16	5.00
17	5.00
18	4.00
19	1.00
20	1.00
21	1.00
22	4.00
23	9.00
24	1.00
25	7.00
26	9.00
27	2.00
28	2.00
29	2.00
30	1.00
31	0.00
32	1.00
33	7.00
34	0.00
35	0.00
36	2.00
37	3.00
38	0.00
39	3.00
40	NC
41	0.00
42	0.00
43	0.00
44	0.00
45	2.00

MAIN BOARD ICX 2200 (CONT.)		MAIN BOARD ICX 3431	
Pin #		Pin #	
46	9.00	1	0.00
47	5.00	2	0.30
48	9.00	3	157.00
49	8.00	4	0.07
50	8.00	5	0.00
51	0.00		
52	0.00		
53	3.00		
54	4.00		
55	3.00		
56	3.00		

IC 3441	
Pin #	
IN	9.00
OUT	5.00

IC 3442	
Pin #	
IN	9.00
OUT	5.00

IC 6000	
Pin #	
1	5.00
2	5.00
3	5.00
4	NC
5	NC
6	NC
7	NC
8	NC
9	NC
10	NC
11	NC
12	NC
13	2.00
14	0.50
15	NC
16	NC
17	NC
18	3.00
19	3.00
20	5.00
21	NC
22	5.00
23	NC
24	0.00

MAIN BOARD IC 6000 (CONT.)	
Pin #	
25	0.00
26	0.00
27	0.00
28	1.00
29	4.00
30	5.00
31	5.00
32	NC
33	2.00
34	2.00
35	5.00
36	NC
37	NC
38	NC
39	5.00
40	NC
41	NC
42	NC
43	NC
44	NC
45	0.00
46	NC
47	NC
48	NC
49	NC
50	5.00
51	NC
52	5.00

IC 6001	
Pin #	
1	0.00
2	0.00
3	0.00
4	0.00
5	5.00
6	5.00
7	0.00
8	5.00

PIP 9-1586 SERIES			
IC 2000			
Pin #			
1	1.00		
2	1.00		
3	2.00		
4	2.00		
5	5.00		
6	2.00		
7	2.00		
8	5.00		
9	NC		
10	NC		
11	NC		
12	NC		
13	NC		
14	5.00		
15	NC		
16	NC		
17	NC		
18	NC		
19	NC		
20	NC		
21	NC		
22	NC		
23	NC		
24	NC		
25	NC		
26	NC		
27	NC		
28	2.00		
29	2.00		
30	0.00		
31	2.00		
32	2.00		
33	2.00		
34	1.00		
35	0.00		
36	2.00		
37	4.00		
38	1.00		
39	3.00		
40	4.00		
41	3.00		
42	3.00		
43	5.00		
44	2.00		
45	3.00		
46	2.00		
47	1.00		
48	0.00		
49	2.00		
50	5.00		
51	3.00		
52	3.00		
53	2.00		
54	2.00		
55	NC		
56	NC		

JACKPACK 9-1587 & 88 SERIES	
IC 801	
Pin #	
1	9.00
2	9.00
3	9.00
4	8.00
5	0.00
6	0.00
7	0.00
8	0.00

JACKPACK 9-1589 SERIES	
IC 802	
Pin #	
1	13.00
2	5.00
3	1.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00

IC 803	
Pin #	
1	13.00
2	7.00
3	1.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00

IC 1601	
Pin #	
1	5.00
2	3.00
3	3.00
4	3.00
5	5.00
6	0.00
7	1.00
8	5.00
9	5.00
10	5.00
11	4.00
12	4.00
13	3.00
14	3.00
15	3.00
16	4.00
17	4.00
18	3.00

JACKPACK 9-1589 SERIES	
IC 1601	
Pin #	
19	8.00
20	4.00
21	0.00
22	0.00
23	3.00
24	3.00

JACKPACK 9-1589 SERIES	
IC 1602	
Pin #	
1	4.00
2	NC
3	6.00
4	0.00
5	6.00
6	12.00
7	4.00
8	0.02
9	4.00
10	7.00
11	1.00
12	1.00
13	4.00
14	NC

JACKPACK 9-1589 SERIES	
IC 1603	
Pin #	
IN	12.00
OUT	8.00

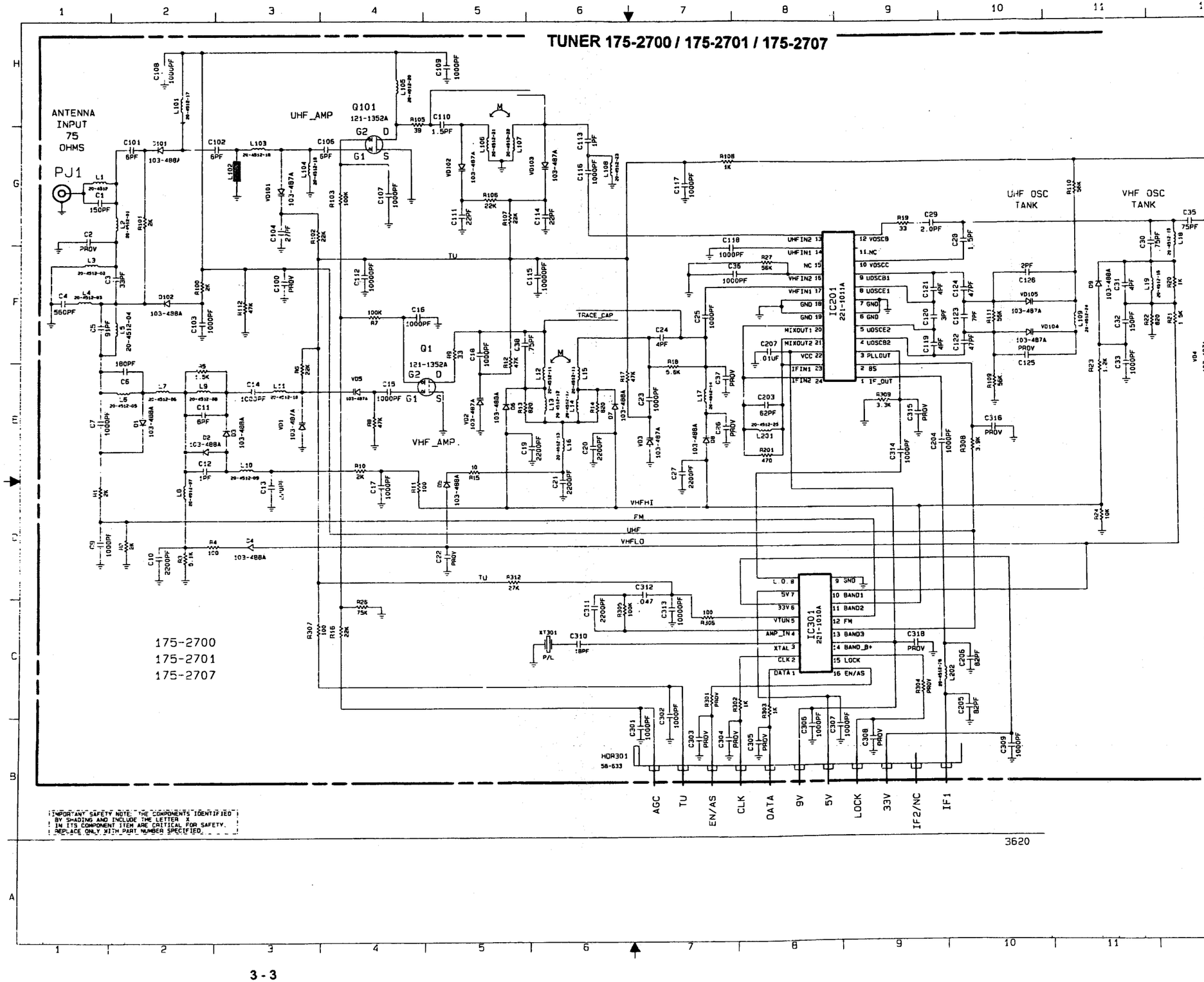
JACKPACK 9-1592 SERIES	
IC 804	
Pin #	
1	1.00
2	0.00
3	15.00
4	0.00
5	0.00
6	1.00
7	8.00
8	0.00
9	15.00
10	7.00

JACKPACK 9-1592 SERIES	
IC 1400	
Pin #	
1	4.00
2	4.00
3	4.00
4	4.00
5	4.00
6	4.00
7	2.00
8	2.00
9	0.00
10	0.00
11	1.00
12	1.00
13	4.00
14	4.00
15	4.00
16	5.00
17	4.00
18	3.00
19	4.00
20	4.00
21	9.00
22	4.00
23	0.00
24	4.00
25	4.00
26	4.00
27	4.00
28	2.00
29	4.00
30	4.00
31	4.00
32	2.00
33	2.00
34	4.00
35	4.00
36	0.00
37	4.00
38	4.00
39	4.00
40	4.00
41	4.00
42	4.00

JACKPACK 9-1592 SERIES	
IC 1402	
Pin #	
1	4.00
2	4.00
3	0.00
4	4.00
5	5.00
6	4.00
7	4.00
8	0.00
9	0.00
10	0.00
11	4.00
12	0.00
13	0.00
14	4.00
15	4.00
16	9.00

IC 1401	
Pin #	
1	4.00
2	4.00
3	4.00
4	4.00
5	9.00
6	9.00
7	0.00
8	4.00
9	4.00
10	4.00
11	4.00
12	0.00
13	0.00
14	9.00

TUNER 175-2700 / 175-2701 / 175-2707



IMPORTANT SAFETY NOTE: THE COMPONENTS IDENTIFIED BY SHADING AND INCLUDE THE LETTER X IN ITS COMPONENT ITEM ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.

3620

IMPORTANT SAFETY NOTICE

WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCE SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE ZENITH ELECTRONICS CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT, AND THEIR PHYSICAL LOCATION, WIRING AND LEAD DRESS MUST CONFORM TO ORIGINAL LAYOUT UPON COMPLETION OF REPAIRS.

SPECIAL COMPONENTS ARE ALSO USED TO PREVENT X-RADIATION, SHOCK AND FIRE HAZARD. THESE COMPONENTS ARE INDICATED BY THE LETTER "X" INCLUDED IN THE ITEM NUMBER. THIS DESIGNATES CRITICAL COMPONENTS IN CIRCUITS WHICH ARE REQUIRED TO MAINTAIN SAFE PERFORMANCE. NO DEVIATIONS ARE ALLOWED WITHOUT PRIOR APPROVAL BY THE PRODUCT COMPLIANCE AND EVALUATION DEPARTMENT.

THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVMENT CHANGES INTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED 93ART953

✳2 AN ASTERISK WITH A WAVEFORM NUMBER CONTACTS THE CIRCUIT WHERE THE WAVEFORM IS PRESENT ON THE SCHEMATIC.

THE CIRCUIT WAVEFORM WITH CORRESPONDING IDENTIFYING NUMBER WILL BE LOCATED NEAR THE CIRCUIT CONNECTED ASTERISK ON THE SCHEMATIC.

THOSE WAVEFORMS REQUIRING AN R.F. INPUT ARE NOTED ABOVE THE WAVEFORM

KEY TO SYMBOLS USED

- D.C. VOLTAGE SOURCE
- D.C. VOLTAGE
- PULSE VOLTAGE
- WAVE FORMS
- D.C. GROUND
- A.C. GROUND

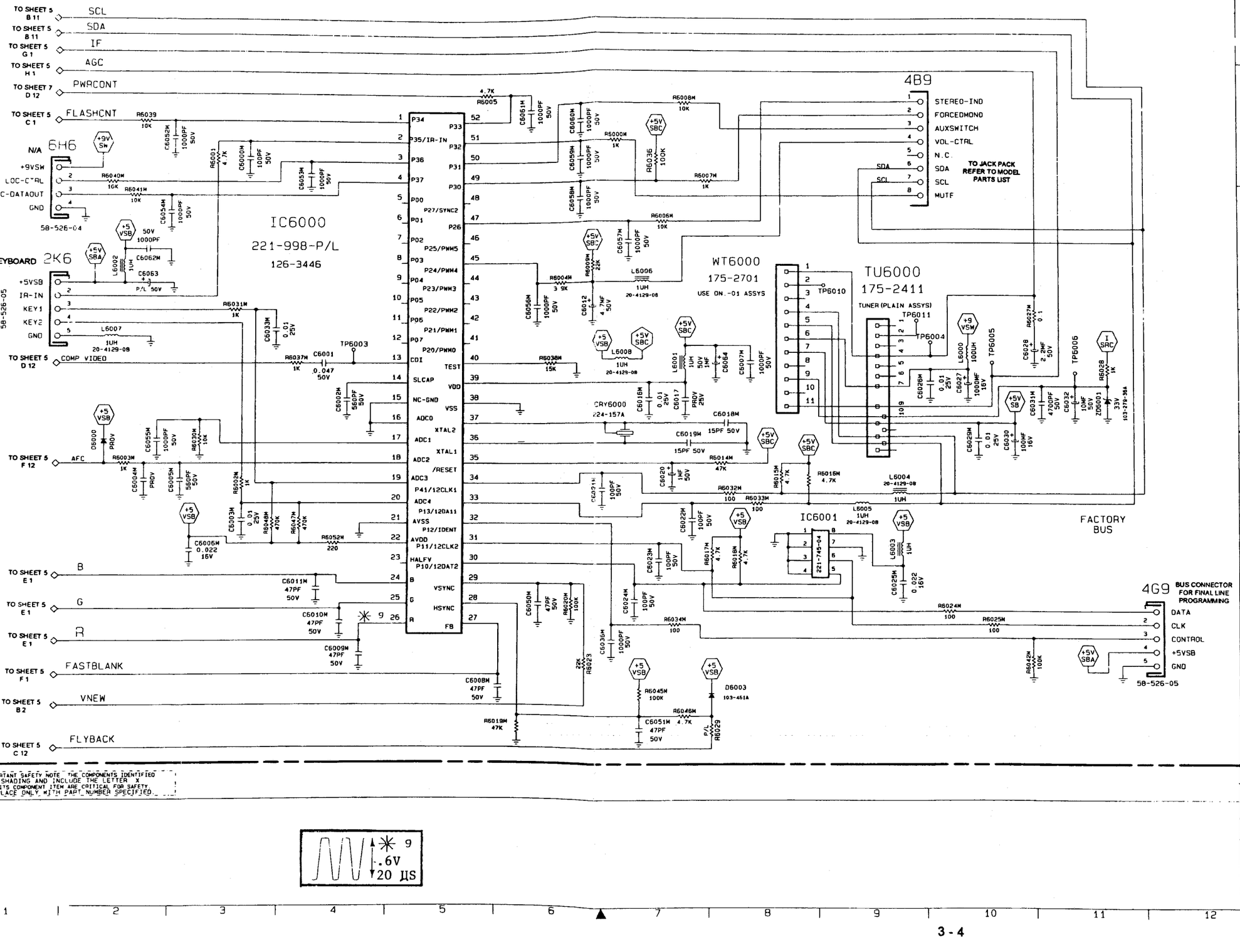
94ART955

ALL SYMBOLS WITH M ON THE END OF THE DESIGNATOR INDICATE MELF, SURFACE MOUNT COMPONENT

MELF TRANSISTOR CONFIGURATION NPN AND PNP

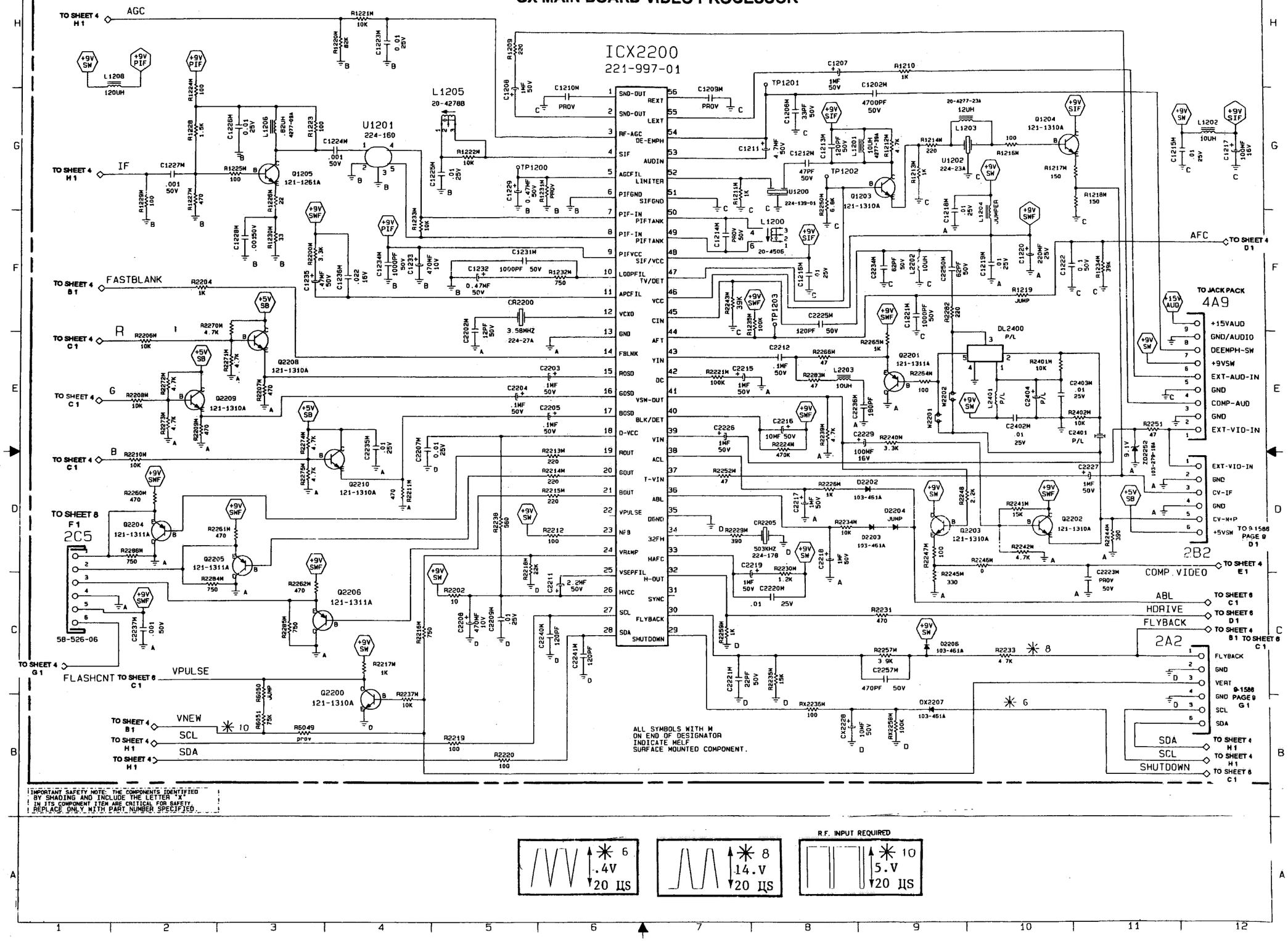
PART NUMBERS APPEARING ON SCHEMATIC ARE FOR REFERENCE ONLY.

GX MAIN BOARD-TUNING CONTROL

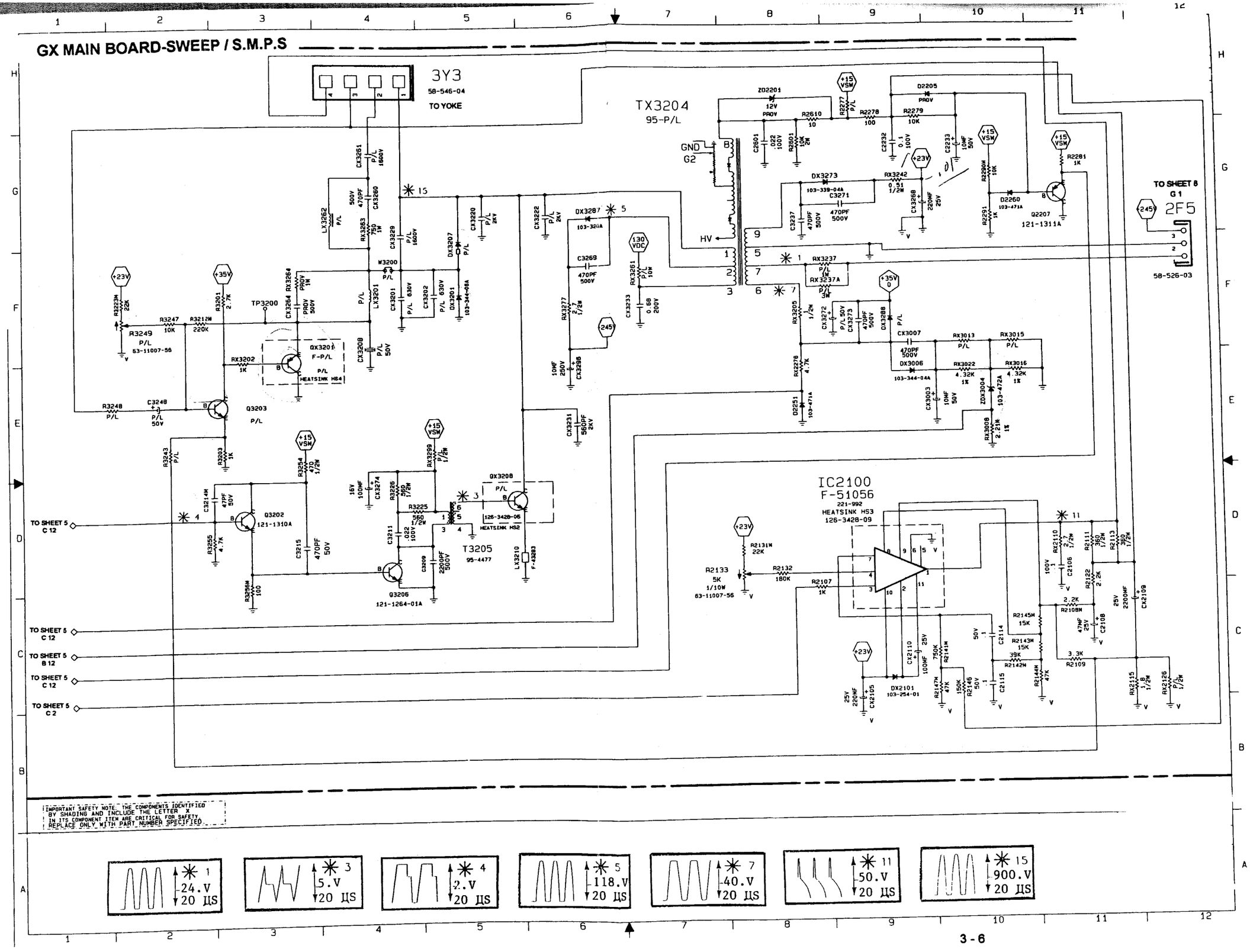


IMPORTANT SAFETY NOTE THE COMPONENTS IDENTIFIED BY SHADING AND INCLUDE THE LETTER X IN ITS COMPONENT ITEM ARE CRITICAL FOR SAFETY REPLACE ONLY WITH PART NUMBER SPECIFIED

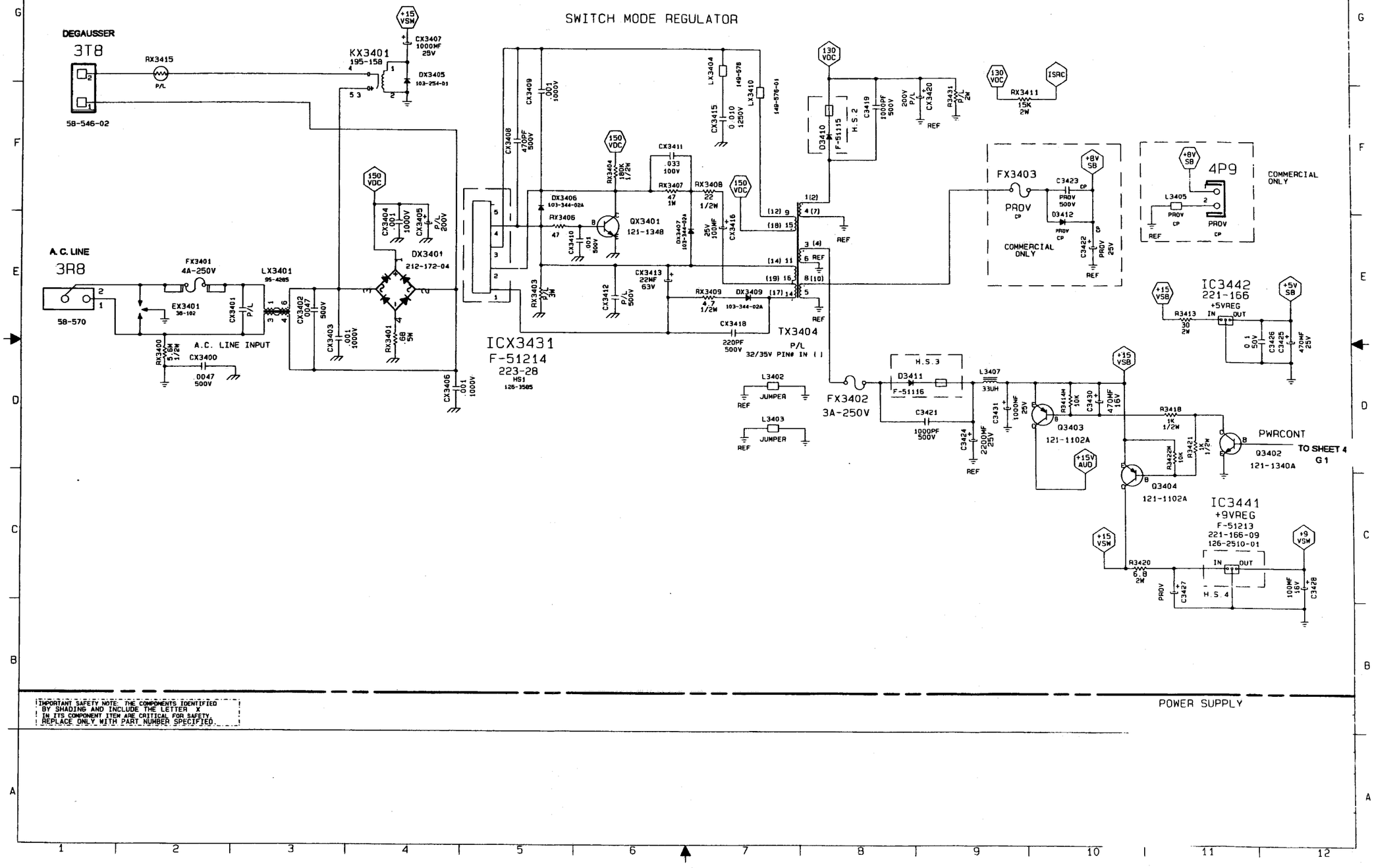
GX MAIN BOARD-VIDEO PROCESSOR



GX MAIN BOARD-SWEEP / S.M.P.S



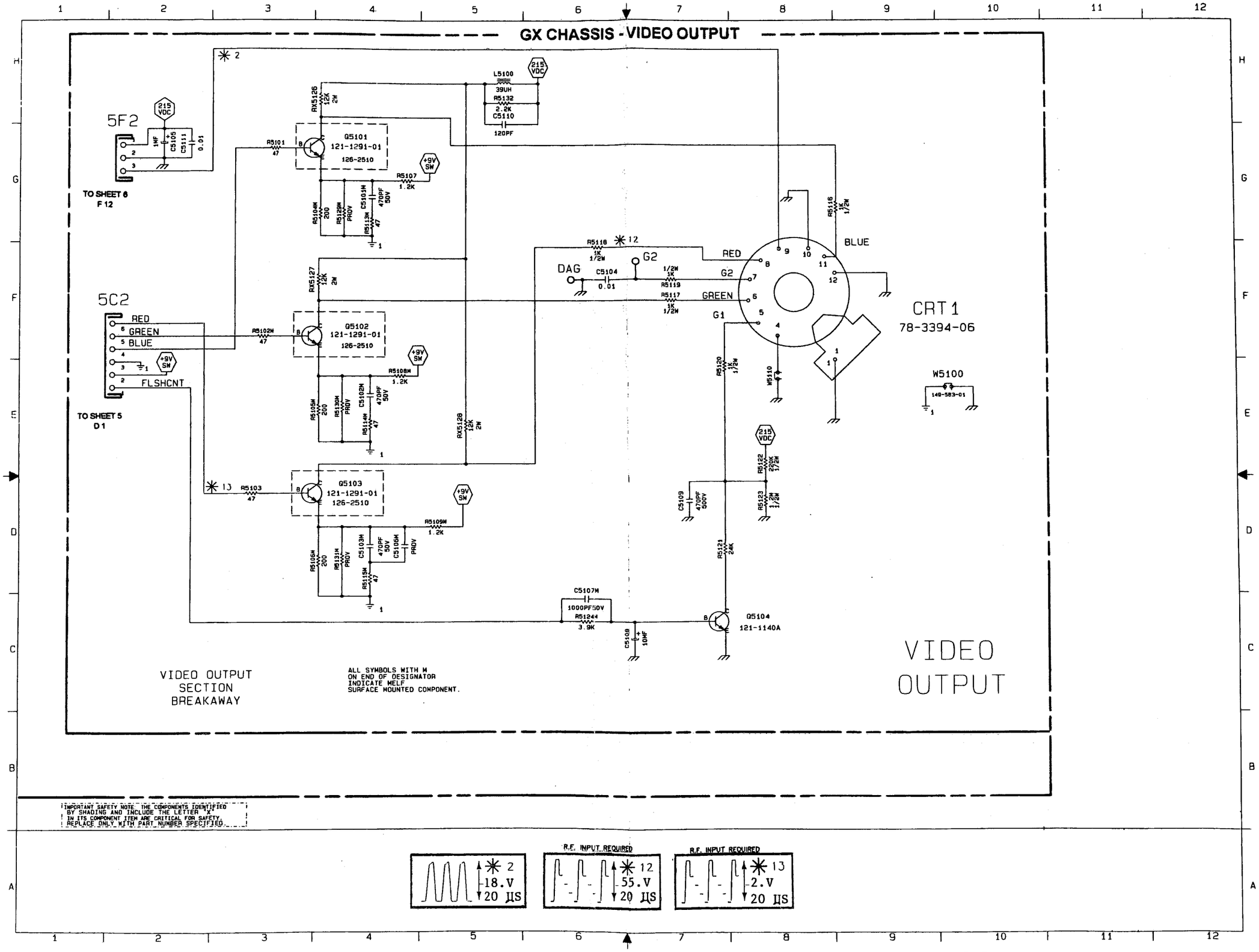
GX MAIN BOARD-SWITCH MODE REGULATOR



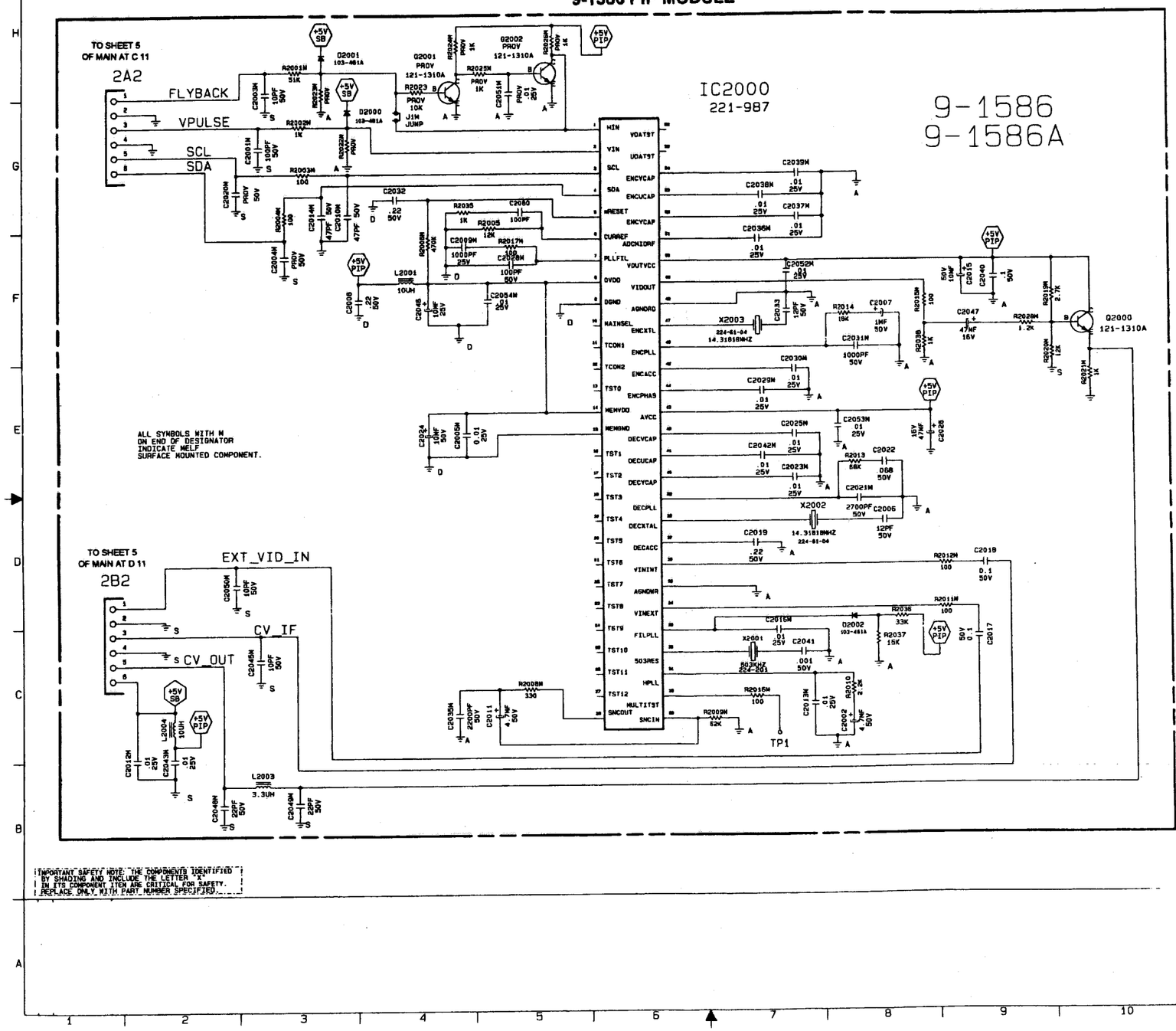
IMPORTANT SAFETY NOTE: THE COMPONENTS IDENTIFIED BY SHADING AND INCLUDE THE LETTER X IN ITS COMPONENT ITEM ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.

POWER SUPPLY

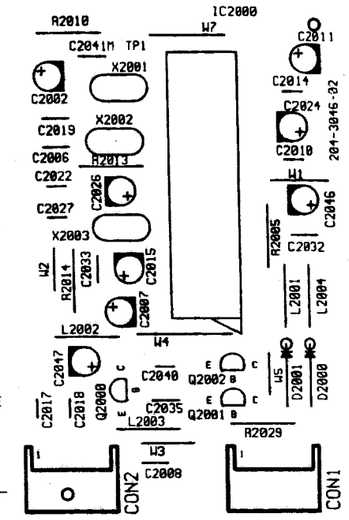
GX CHASSIS - VIDEO OUTPUT



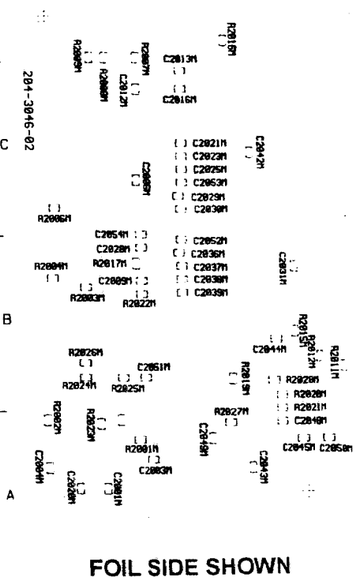
9-1586 PIP MODULE



9-1586 PIP MODULE COMPONENT LAYOUT



S.M.D. LAYOUT



FOIL SIDE SHOWN

AUDIO MODULE / JACK PACK MTS STEREO 9-1591 / 9-1592 SERIES

9-1591-01
9-1592-01
9-1592-02

IC1400
221-954
MTS STEREO DECODER

JACK PACK/MTS STEREO PLUG IN
MTS ALIGNMENT COEFFICIENTS
CONTAINED ON BAR CODE

IC1402
221-1028
VOLUME LIMITER

IC1401
221-173
AUX/TV SWITCH

IC804
221-598

Q1401
121-1310A

Q1400
121-1310A

Q800
121-1310A

J801
EXT-L AUDIO
78-3402-01

J802
EXT-R AUDIO
78-3402

J800
EXT VIDEO
78-3402-02

J803
P/L
78-3402-01

J804
P/L
78-3402

SW801
P/L
85-1778-03

9L4
58-542-02

9R4
58-542-02

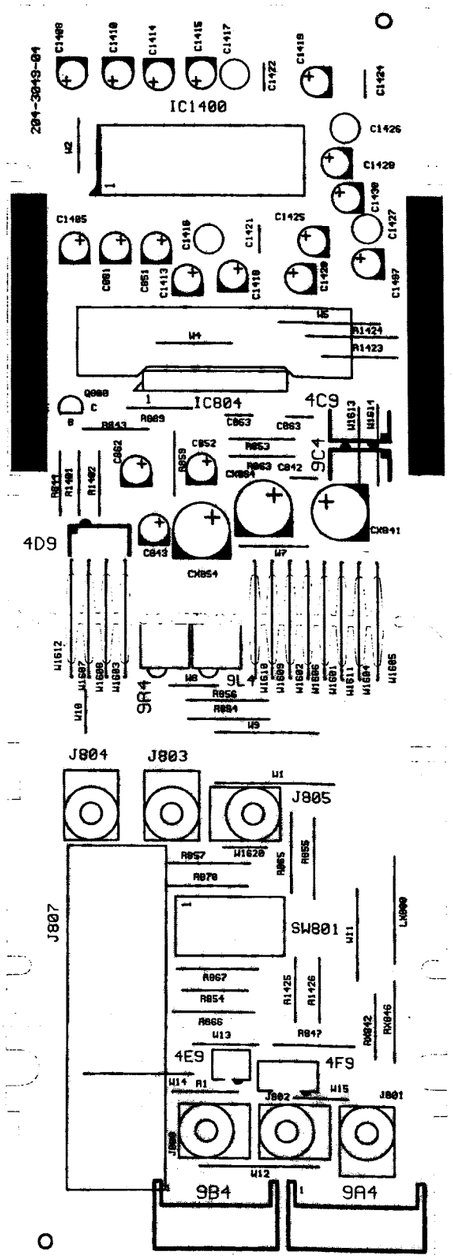
ALL SYMBOLS WITH M
ON END OF DESIGNATOR
INDICATE MELF
SURFACE MOUNTED COMPONENT.

P.C.B. BREAK LINE

TO MAIN BOARD
58-605-09
9A4

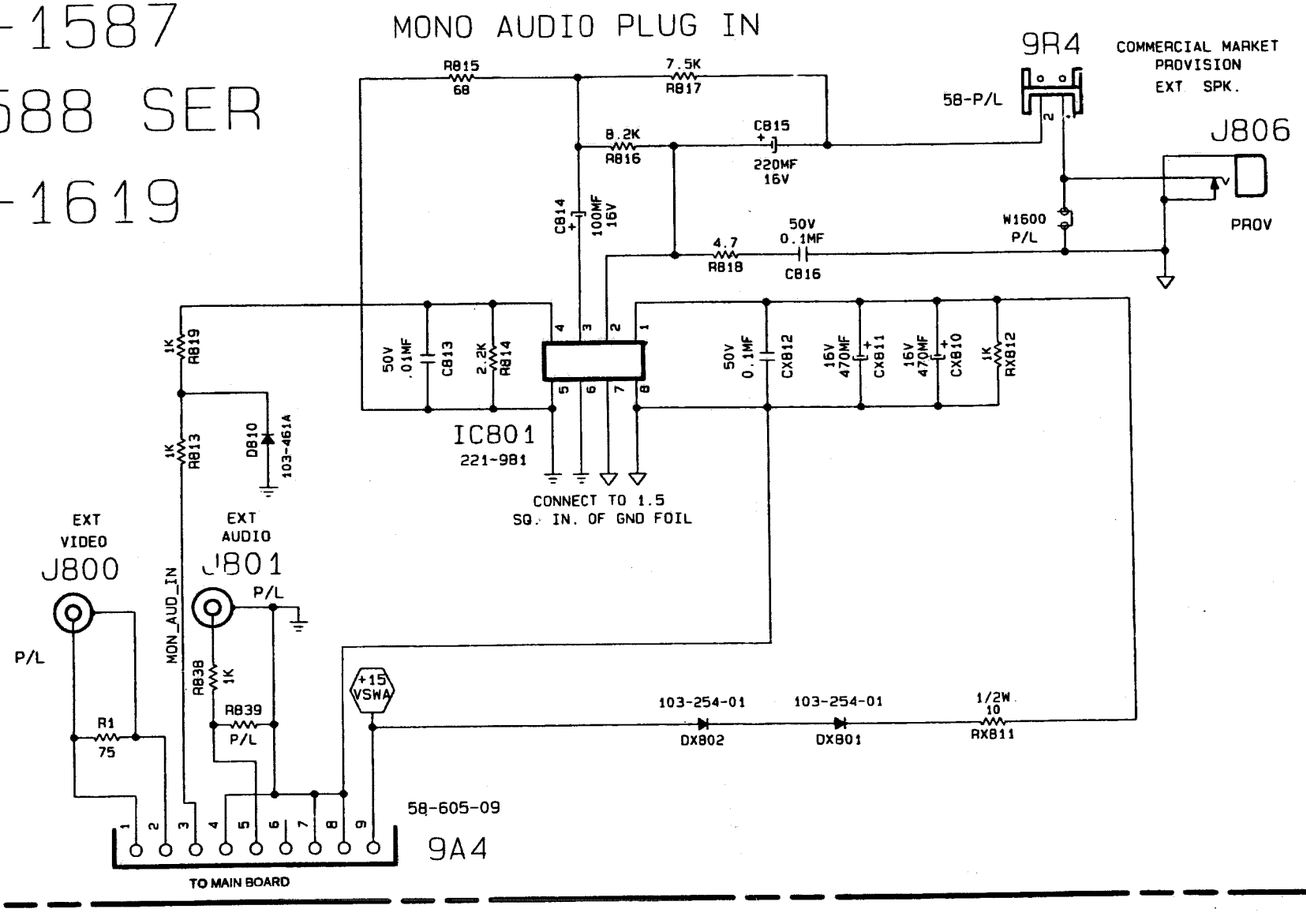
58-605-08
9B4 TO MAIN BOARD

COMPONENT LAYOUT

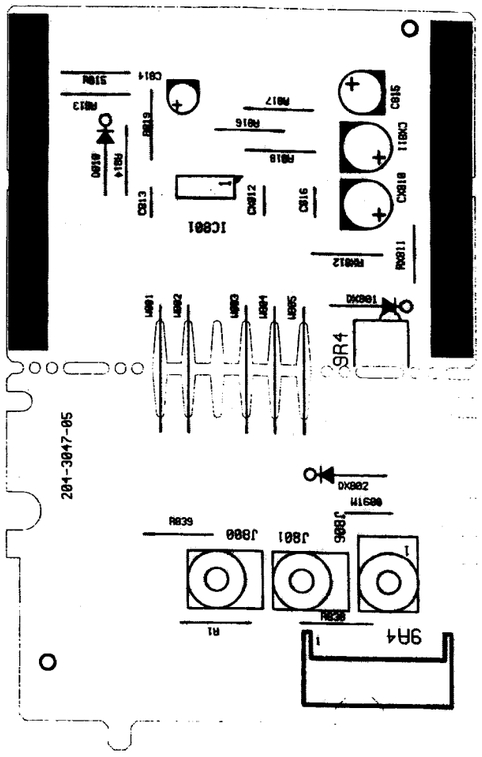


9-1587
9-1588 SER
9-1619

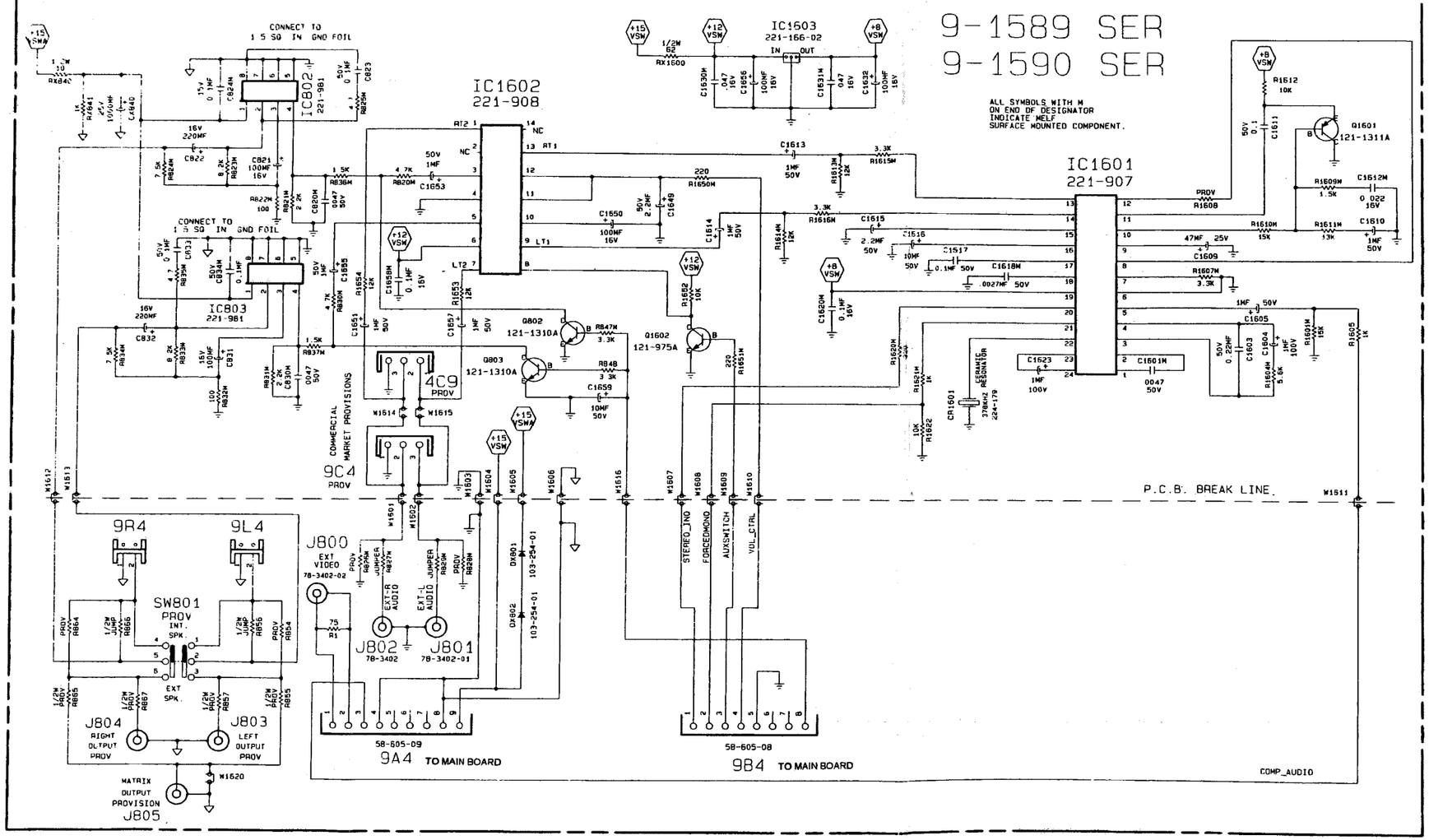
MONO AUDIO PLUG IN



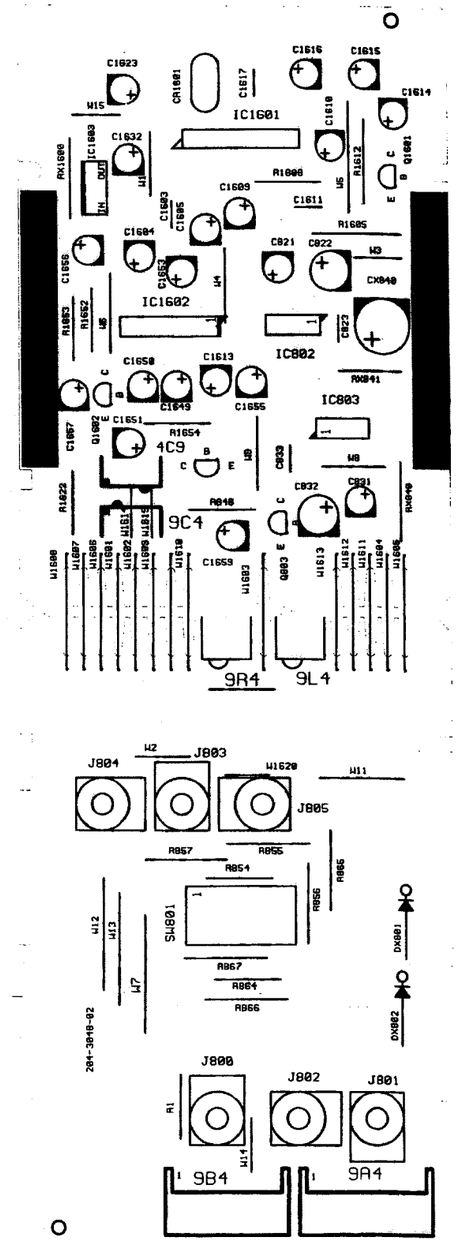
COMPONENT LAYOUT



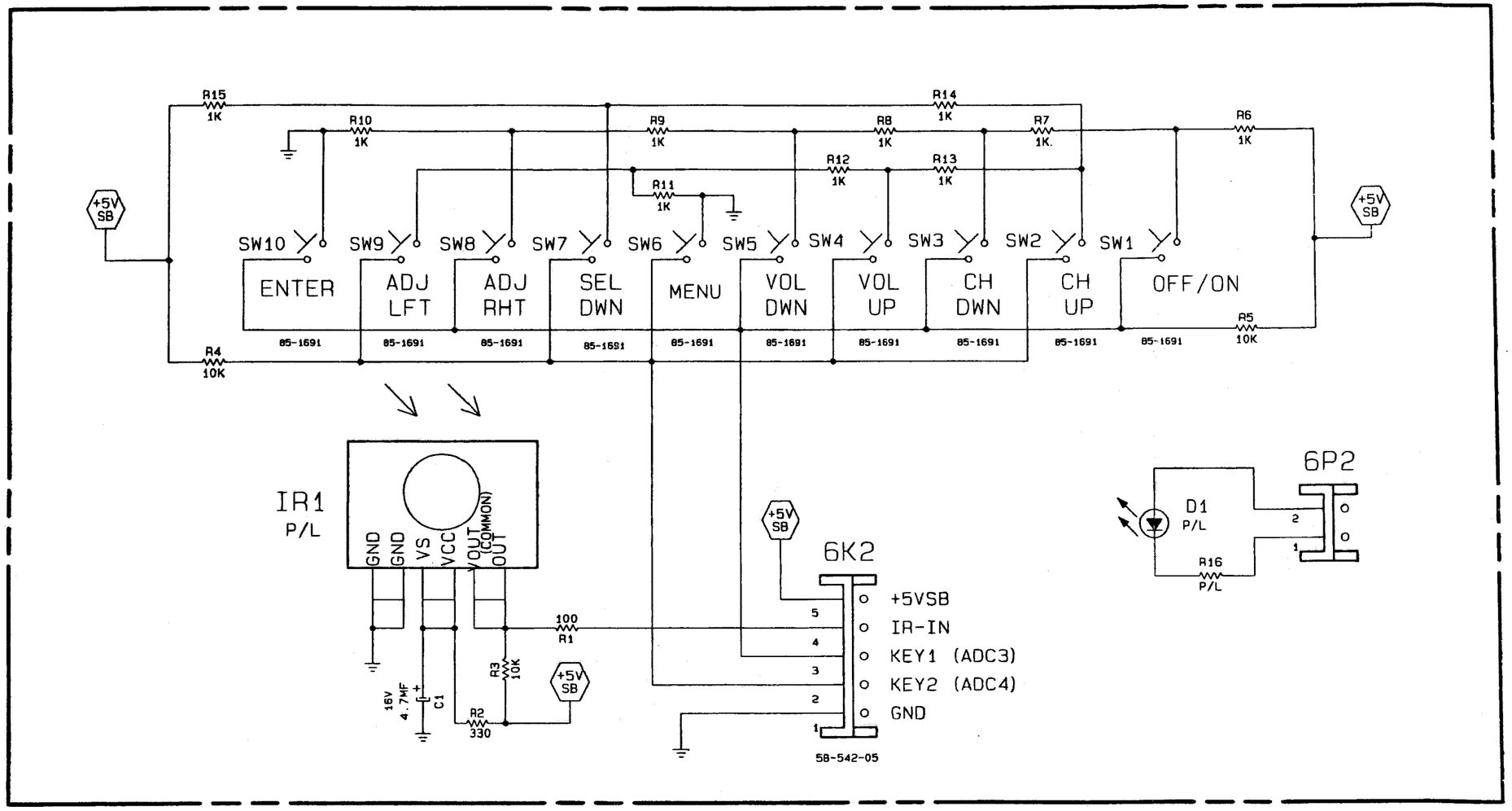
AUDIO MODULE / JACK PACK L.C STEREO 9-1589 / 9-1590 SERIES

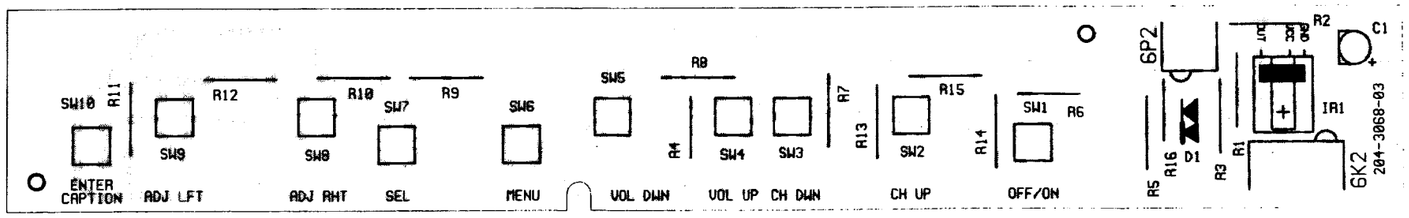


COMPONENT LAYOUT

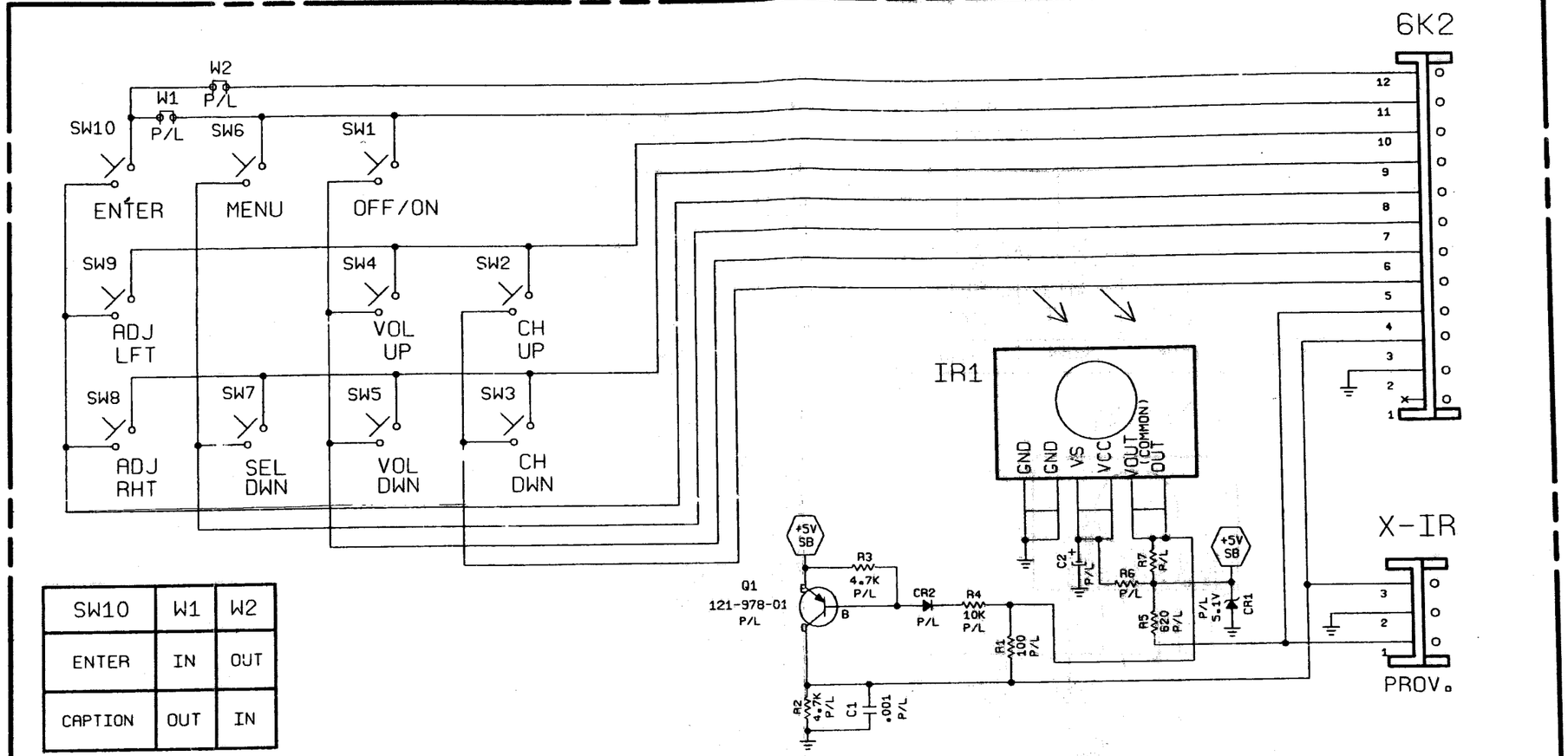


KEYBOARD SCHEMATIC & COMPONENT LAYOUT, REFER TO MODEL PARTS LIST.

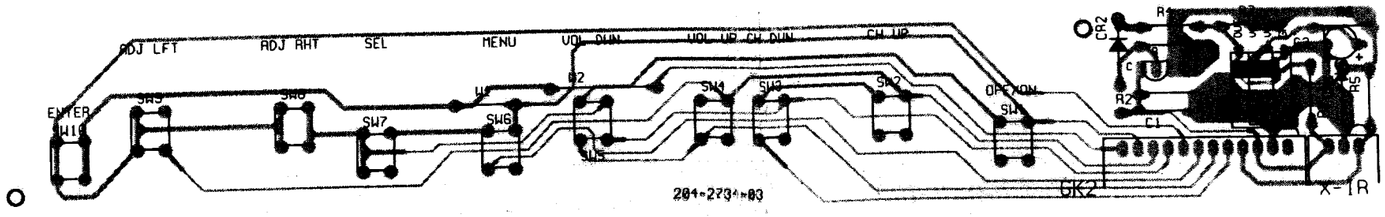




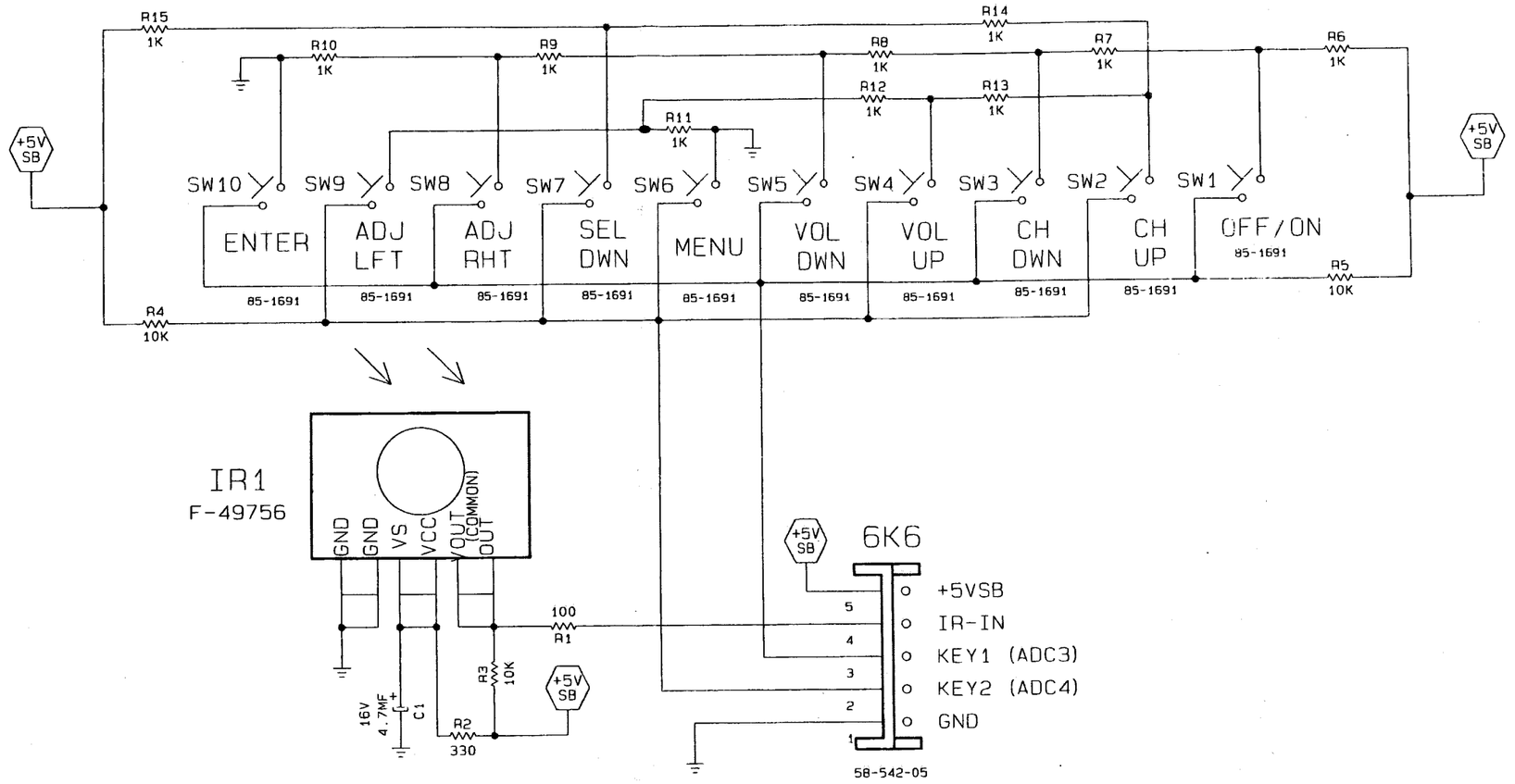
KEYBOARD SCHEMATIC & COMPONENT LAYOUT, REFER TO MODEL PARTS LIST.

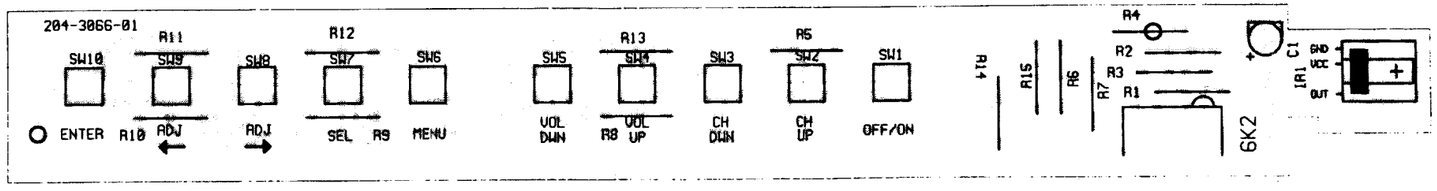


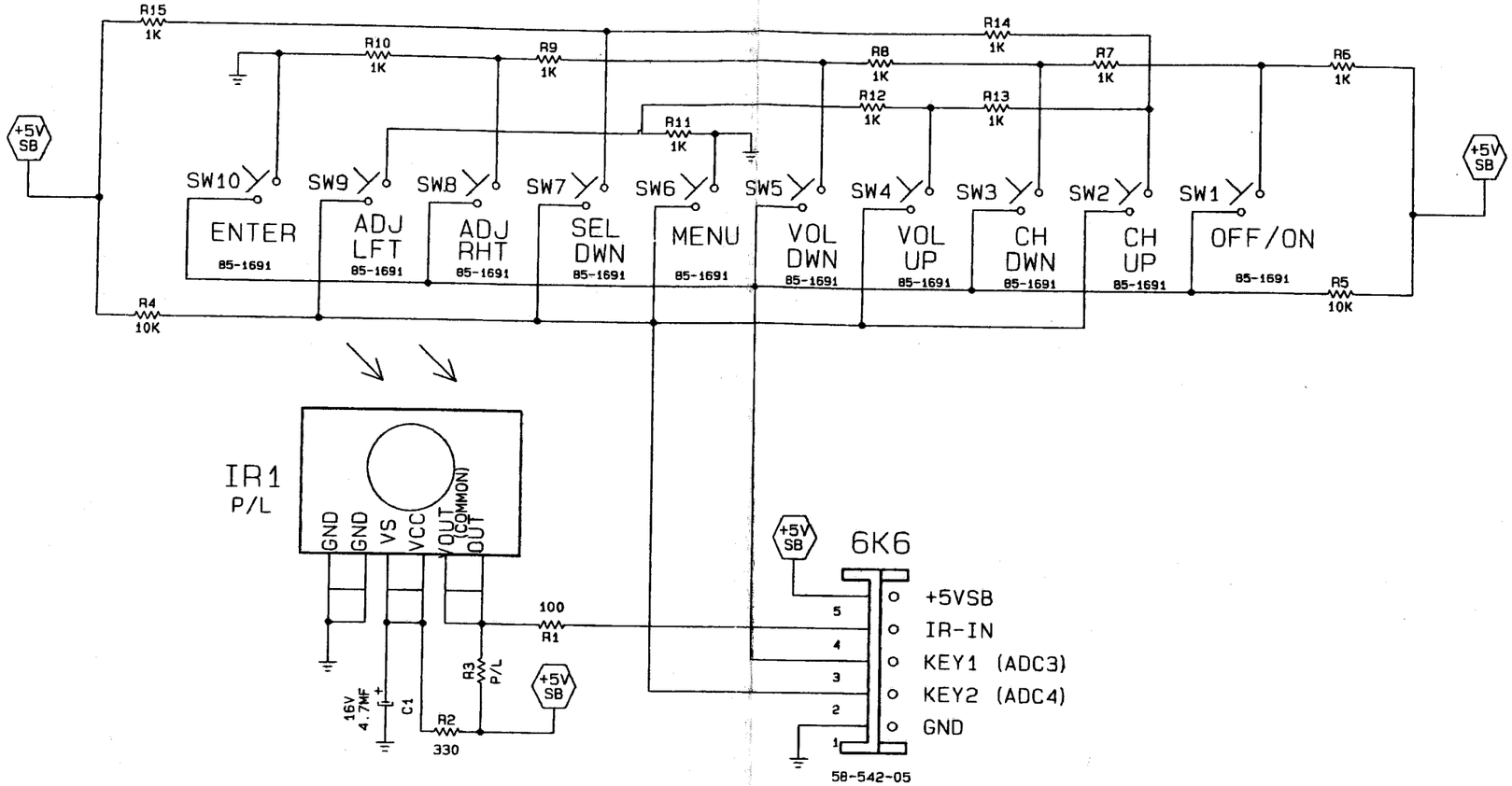
SW10	W1	W2
ENTER	IN	OUT
CAPTION	OUT	IN

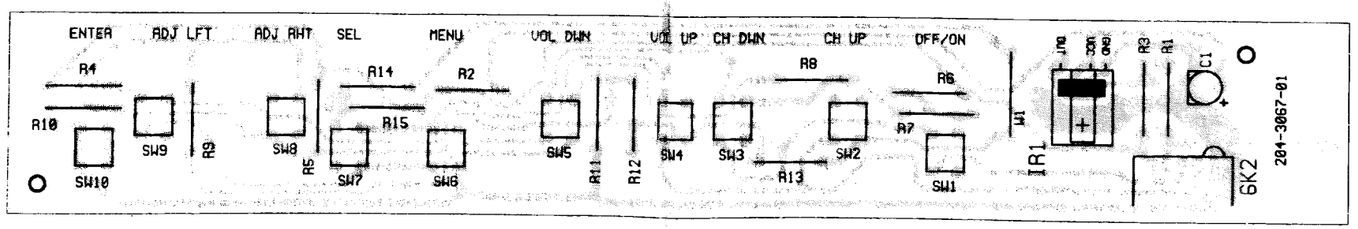


KEYBOARD SCHEMATIC & COMPONENT LAYOUT, REFER TO MODEL PARTS LIST.






R15 1K
R10 1K
R9 1K
R14 1K
R8 1K
R7 1K
R6 1K
R12 1K
R13 1K
R11 1K
+5V SB
SW10 ENTER 85-1691
SW9 ADJ LFT 85-1691
SW8 ADJ RHT 85-1691
SW7 SEL DWN 85-1691
SW6 MENU 85-1691
SW5 VOL DWN 85-1691
SW4 VOL UP 85-1691
SW3 CH DWN 85-1691
SW2 CH UP 85-1691
SW1 OFF/ON 85-1691
R5 10K
R4 10K
IR1 P/L
GND
GND
VS
VCC
VOUT (COMMON)
OUT
100 R1
16V 4.7MF C1
R3 P/L
R2 330
6K6
5 +5VSB
4 IR-IN
3 KEY1 (ADC3)
2 KEY2 (ADC4)
1 GND
58-542-05


ENTER
ADJ LFT
ADJ RHT
SEL
MENU
VOL DWN
VOL UP
CH DWN
CH UP
OFF/ON
R4
R10
SW10
SW9
R3
SW8
R5
SW7
R14
R15
R2
SW6
SW5
R11
R12
SW4
SW3
R8
R13
SW2
R6
R7
SW1
IR1
GND
VCC
VOUT
R3
R1
C1
6K2
204-3067-01

CM-148 / GX

CM-148 / GX

ZENITH®

SERVICE MANUAL
Y-LINE

DIRECT VIEW
COLOR TV RECEIVER
GX CHASSIS
INCLUDES:

9-1583-01 (19/20V) OR
9-1584-01 (25V) OR
9-1585-01 (27V) W/O COMB FILTER OR
9-1617-01 (32V) OR
9-1618-01 (35V) OR
9-1629-01 (27V) W/ COMB FILTER OR
9-1639-01 (27V) W/ COMB FILTER & FLAT CRT

COMPLIMENTED WITH AUDIO JACK ASSY:

9-1588-01 (MONO) OR
9-1589-01 (LC STEREO) OR
9-1592-02 (MTS STEREO PL) OR
9-1592-03 (MTS STEREO)

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CM-148/GX
9K-UPI

PRINTED IN U.S.A.
APRIL, 1996

923-03272
$19.95

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