

Service Manual

Production Mixer
WJ-MX30



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SPECIFICATIONS

Source Input :	x2 (SOURCE 1/2)
Composite Video Input :	1.0 Vp-p/75 ohms, PAL signal, BNC x2
S-Video Input :	Y signal; 1.0 Vp-p/75 ohms, C signal; 0.3 Vp-p/75 ohms, Mini DIN 4 connector x2
Audio Input :	SOURCE 1/2; Pin-jack x2, -6 dBs/20 Kohms (Unbalanced), Left and Right.
Auxiliary Audio Input :	x1 (Aux) -6 dBs/20 Kohms, Pin-jack (Unbalanced), Left and Right
Microphone Input :	-60 dBv/600 ohms, unbalanced, tip-ring-sleeve type phone jack x1
External Camera Input :	1.0 Vp-p/75 ohms, PAL composite signal, BNC x1 Y signal; 1.0 Vp-p/75 ohms, C signal; 0.3 Vp-p/75 ohms, Min DIN 4 connector x1
GPI Input :	Make-contact, BNC x1
Character (TITLE) Input :	10-pin connector x1 for optional Character Generator WJ-KB15, WJ-KB50
Program Output :	x2 (PROGRAM OUT 1/2)
Composite Video Output :	1.0 Vp-p/75 ohms PAL signal, BNC x2
S-Video Output :	Y signal; 1.0 Vp-p/75 ohms, C signal; 0.3 Vp-p/75 ohms, Min DIN 4 connector x2
Audio Output :	PROGRAM OUT 1/2; Pin Jack x2, -6 dBs/1 Kohms (Unbalanced) Left and Right.
Preview Output :	1.0 Vp-p/75 ohms, PAL composite signal, BNC x1
Advance Sync Output :	4 Vp-p/75 ohms, BNC x2
Headphone Output :	-20 dBv - - 80 dBv, 8 ohms unbalanced, tip-ring-sleeve type phone jack x1
Digital Effects :	Nega, Mosaic, Mono, Paint, Still, Strobe, A/V Synchro
Matte Colours :	Colour Bar, White, Yellow, Cyan, Green, Magenta, Red, Blue, Black.
Wipe Patterns :	107 Patterns
Joystick Control :	Positioner, Colour Correction
Audio Mixer :	Source 1, Source 2, AUX, Mic

Panasonic

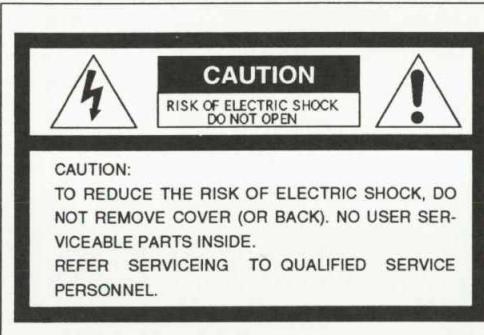
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Others :	Audio-Follow, Auto-Take, Auto-Fade, Memory
Video Sampling :	4 : 1 : 1, Y=14.3 MHz (936 fH), 8-bit component
Frequency Range :	Sync; 15.625 KHz±300 Hz SC; 4.433619 MHz±40 Hz
Frequency Response :	Y/C signal; 4.5 MHz (at -3 dB) Composite Video Signal; 4.5 MHz (at -3 dB) Audio; 20 - 20 KHz (at -3 dB)
Gain :	Unity (Video)
S/N (Typical) :	56 dB (S-Video), 50 dB (Composite), 70 dB (Audio at 1 KHz)
Power Source :	220 - 240V AC 50 Hz
Power Consumption :	Operation mode; Approximately 27W Stand-by mode; Approximately 4W
Ambient Operating Temperature :	0 - 40°C
Ambient Operating Humidity :	Less than 90%
Dimensions :	480 (W)×132 (H)×308 (D) mm
Weight :	4.7 kg

Weight and dimensions indicated above are approximate.
Specifications are subject to change without notice.

OPTIONAL ACCESSORIES

- Character Generator WJ-KB15, WJ-KB50



This symbol warns the user that unisolated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this has been included. Therefore, it should be read carefully in order to avoid any problems.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are indicated by the "⚠" mark on the schematic diagram and the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards.
Do not modify the original design without permission of manufacturer.

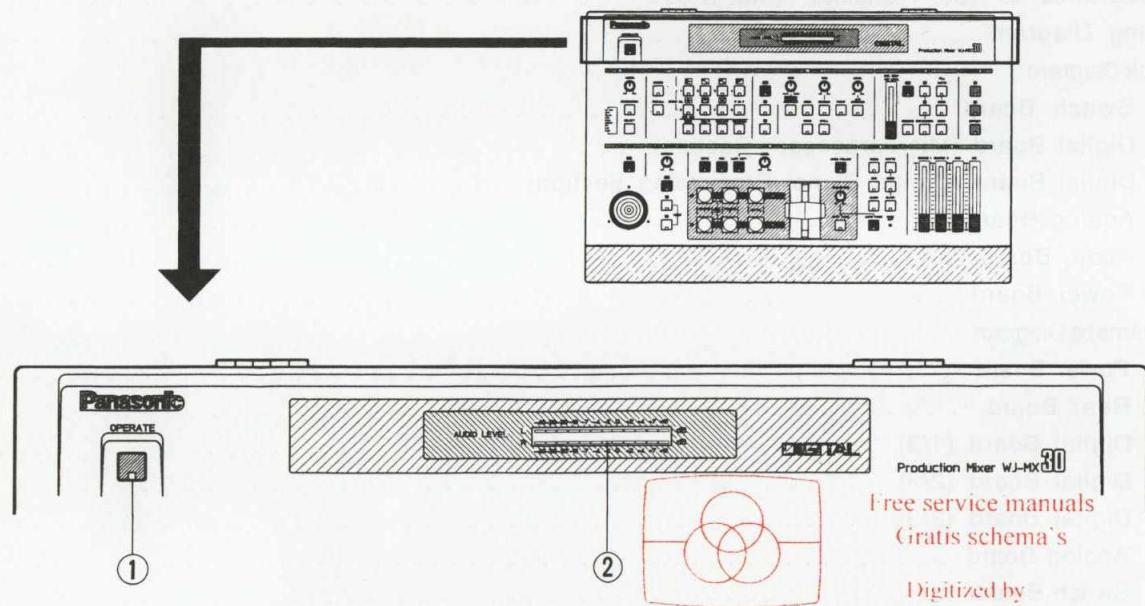
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MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

■ TOP VIEW 1



1. Power On/Off Button (OPERATE)

Press this button to switch this unit on.

The LED on this button lights and the following LEDs light up at the same, Effect On/Off Button (20), Effect-out Button (44), One-way Button (18), Straight Wipe Button (8), Effect-A Button (21), DSK-A Button (35), Fill Matte Button (37), Wipe Select Button (51), Source 1 on A-bus Button (55), Source 2 on B-bus Button (56), Audio Follow On/Off Button (59) and Black Fade Button (68).

Note :

The Main Power Switch (98) (located on the back) must be turned on before this switch is pressed.

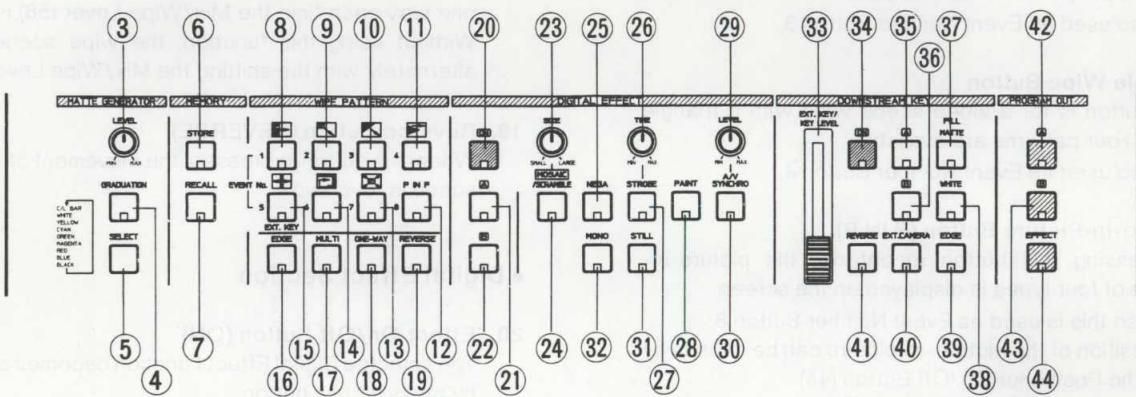
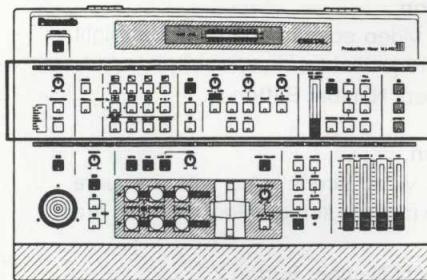
2. Audio Level Indicator (AUDIO LEVEL)

This indicator indicates the audio output levels of the Program Out-1 Audio Output Jacks (89) and the Program Out-2 Audio Output Jacks (92).

■ TOP VIEW 2

The above a block diagram of a typical control panel. A large arrow points down to the front panel. A red circle highlights the 'Free service manuals' logo.

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• Matte Generator Section

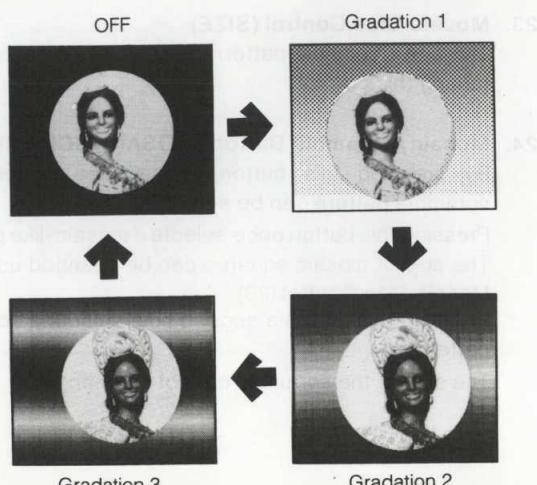
3. Matte Colour Control (LEVEL, MIN/MAX)

The Chroma Level of Matte Colour can be adjusted with this control except C/L Bar.

4. Graduation Button (GRADUATION)

The matte colour of the upper portion on the screen is less intense and gradually increases toward the lower portion of the screen.

The any of three graduation of three-pattern can be selected by pressing this button as shown below.



5. Matte Colour Selector (SELECT)

Any one of 9 Matte Colours - Colour Bar, White, Yellow, Cyan, Green, Magenta, Red, Blue and Black - can be selected by repeatedly pressing either of these buttons as shown below.

→ C/L BAR → WHITE → YELLOW → CYAN →
→ GREEN → MAGENTA → RED → BLUE → BLACK

• Memory Section

6. Store Button (STORE)

This button is used to store the preset status of all function settings in the memory.

7. Recall Button (RECALL)

This button is used to recall the status data that is stored in the memory using the Store Button (6).

• Wipe Pattern Section

8. Straight Wipe Button

This button is for a video scene wipe with a straight line. Four patterns are available.

It is also used as Event Number Button 1.

9. Corner Wipe Button

This button is for a video scene wipe with a square from a corner of the monitor screen. Four patterns are available.

It is also used as Event Number Button 2.

10. Diagonal Wipe Button

This button is for a video scene wipe with a diagonal shape. Four patterns are available.

It is also used as Event Number Button 3.

11. Triangle Wipe Button

This button is for a video scene wipe with a triangle sharp. Four patterns are available.

It is also used as Event Number Button 4.

12. Picture-in-Picture Button (P IN P)

By pressing this button repeatedly, the picture-in-picture of four types is displayed on the screen.

And also this is used as Event Number Button 8.

The position of the picture-in-picture can be chosen by using the Positioner On/Off Button (45).

When the Audio Follow Button (59) is pressed to turn on in the picture-in-picture mode, the audio level ratio between the A-bus and B-bus changes according to the position of the Mix/Wipe Lever (58).

13. Square Wipe Button

Four wipe patterns can be selected by pressing this button repeatedly....circle, oval, square and diamond. The Positioner /RGB Control Joystick (46) can be used with these patterns.

It is also used as Event Number Button 7.

14. Mosaic Wipe Button

A mosaic-like wipe pattern is obtained by pressing this button. Four patterns are available by repeatedly pressing this button.

It is also used as Event Number Button 6.

15. Split Wipe Button

A video scene is split in the centre of the image by pressing this button. Three kinds of patterns are available by repeatedly pressing this button.

And also this is used as Event Number Button 5.

16. Wipe Edge Button (EDGE)

This button is used for selecting a border wipe edge. Pressing this button once selects a narrow border. Pressing this button a second time selects a wide border.

Pressing this button a third time selects a wide soft border.

A border colour can be applied from complementary colour or matte colour which is selected by the Matte Colour Selector (5).

17. Multi Wipe Button (MULTI)

A wipe pattern can be multiplied by pressing this button repeatedly.

The wipe buttons (8), (9), (10), (11), (13), (14) and (15) are operative with this button.

The effect of the multiplication depends on the wipe pattern.

18. One-way Button (ONE-WAY)

When this button is pressed, the wipe scene moves one way each time the Mix/Wipe Lever (58) is shifted. Without using this function, the wipe scene moves alternately with the shifting the Mix/Wipe Lever (58).

19. Reverse Button (REVERSE)

When this button is pressed, the movement of the wipe scene is reversed.

• Digital Effect Section

20. Effect On/Off Button (ON)

The selected Digital Effect Function becomes operative by pressing this button.

21. Digital Effect A-Button (A)

A digital effect is produced on the video signals on A-bus by pressing this button (if the Effect On/Off Button (20) is first pressed).

The condition of A-bus on which Digital Effects are produced can be seen by pressing this button. (The selected buttons light.)

22. Digital Effect B-Button (B)

A digital effect is produced on the video signal on B-bus by pressing this button (if the Effect On/Off Button (20) is first pressed).

The condition of B-bus on which Digital Effects are produced can be seen by pressing this button. (The selected buttons light.)

23. Mosaic Size Control (SIZE)

The size of mosaic pattern pieces can be adjusted by turning this control.

24. Mosaic/Scramble Button (MOSAIC/SCRAMBLE)

By pressing this button, mosaic-like pattern and scramble pattern can be selected.

Pressing this button once selects a mosaic-like pattern. The size of mosaic squares can be changed using the Mosaic Size Control (23).

Pressing this button a second time selects a scramble pattern.

The size of the scramble cannot be changed.

25. Negative Button (NEGA)

The on-screen image can be transposed to look like a negative visual image by pressing this button.

26. Effect Interval Time Control (TIME)

The time of interval for the strobe effect, multi effect and trail effect can be adjusted by this timer. Also this timer works with the A/V Synchro function. In this case, the A/V Synchro interval applies to the Strobe effect.

27. Strobe Button (STROBE)

Video frames can be frozen intermittently to achieve a strobe effect by pressing this button. The strobe interval can be adjusted by the Effect Interval Timer (26) from approximately 0.03 seconds to 2.1 seconds.

28. Paint Button (PAINT)

The image can be transformed to resemble an oil painting in a video scene by pressing the button. Four patterns are available by repeatedly pressing this button.

29. A/V Synchro Control (LEVEL)

This control adjusts the trigger sensitivity of the A/V Synchro. When this control is turned to the MAX position, the A/V Synchro will be triggered by (a higher threshold) high level sounds. When this control is turned to the MIN position, the A/V Synchro will be triggered by (a lower threshold) low level sounds.

30. A/V Synchro Button (A/V SYNCHRO)

Any combination of the digital effects (Nega, Mosaic, Mono, Paint, Still or Strobe) can be synchronized to pulse with certain levels of accompanying music or sound supplied to this unit.

31. Still Button (STILL)

An instant still or frozen image can be obtained by pressing this button.

32. Mono Colour Button (MONO)

When this button is pressed, source video signal produce a monochrome scene. This function has a priority to the Colour Correction function in operation.

• Downstream Key Section**33. Key Slide Control (EXT. KEY/KEY LEVEL)**

This slide control is used to adjust the sensitivity of the luminance level of the DSK and EXT key signal.

34. DSK On/Off Button (ON)

This button is pressed to activate the Downstream Key (DSK) effect.

35. DSK-Button (A)

When this button is pressed, the Source Video Signal on the A-bus will become a Key-source signal.

36. DSK-B Button (B)

When this button is pressed, the Source Video Signal on the B-bus will become a Key-source signal.

37. Fill Matte Button (FILL MATTE)

When this button is pressed, the Matte Colour generated by the MATTE GENERATOR will be used as a Key-Fill Signal to be overlaid on the Key-source signal.

38. White Button (WHITE)

When this button is pressed, the white colour will be used as a Key-Fill Signal to be overlaid on the Key-Source Signal.

39. Edge Button (EDGE)

This button is used to edge Downstream Keyed images. Five kinds of edges are available by pressing this button repeatedly.

Notes :

1. When the Downstream Keyed images are white, you can colour the edges in any of 9 colours, solid or graded using the Graduation Button and the Matte Colour Selector.
2. When Matte Coloured Downstream Keyed images are used, the edges are always black.

40. Ext. Camera Button (EXT. CAMERA)

When this button is pressed, the external camera which is connected to the External Camera Input (84) or (85) can be used for Key-source signals.

41. Key Reverse Button (REVERSE)

The polarity of Downstream Keyed Images will be reversed by pressing this button.

• Program Output Section**42. Program Out-A Button (A)**

When this button is pressed, the A-bus Source signals with effects produced the functions in the Digital Effect section are available at the Program Output Connectors.

43. Program Out-B Button (B)

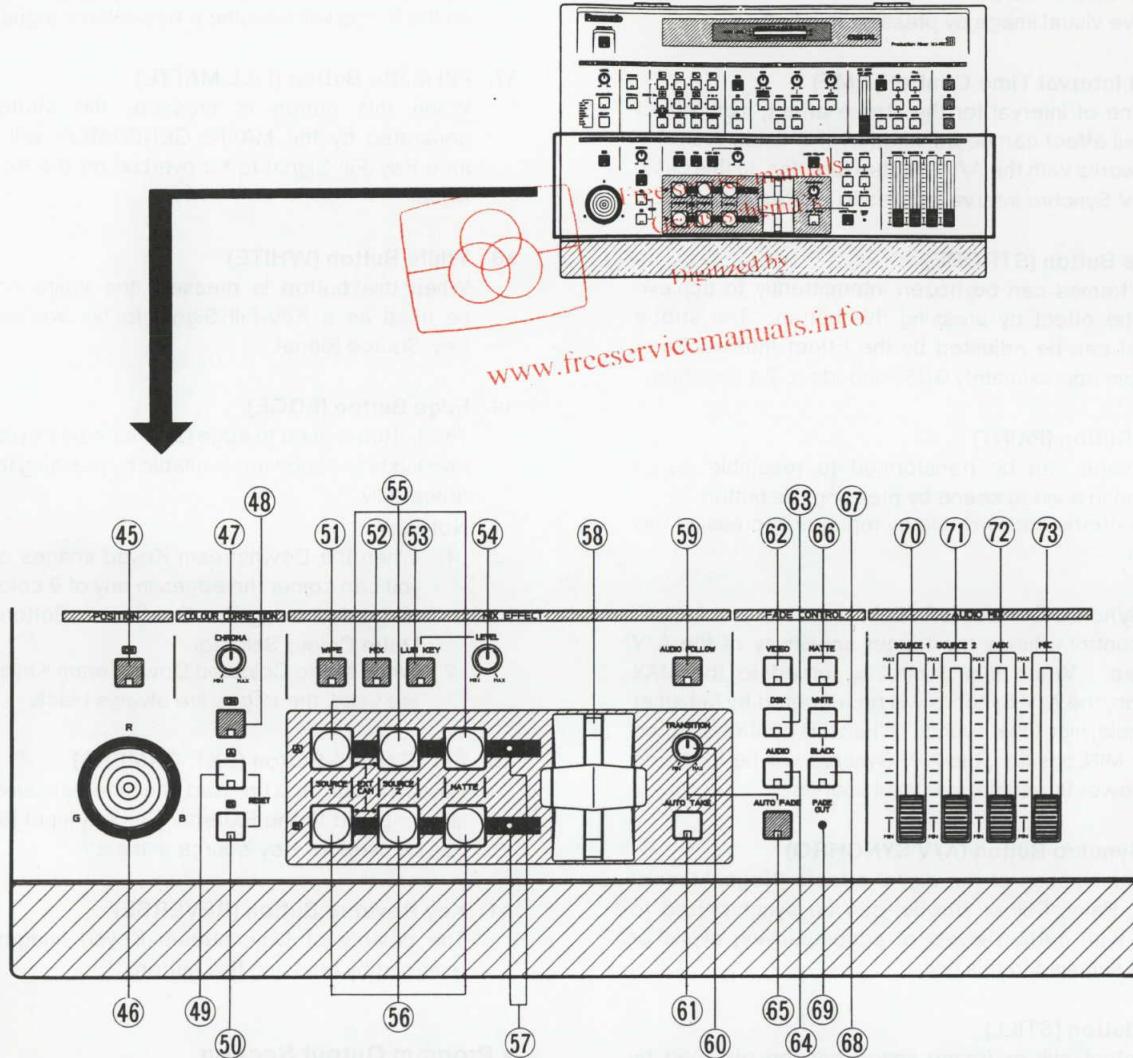
When this button is pressed, the B-bus Source signals with effects produced by the functions in the Digital Effect function are available at the Program Output Connectors.

44. Effect-Out Button (EFFECT)

When this button is pressed the final video signal with or without effects is available at the Program Output Connector.

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■ TOP VIEW 3



• Position Section

45. Position On/Off Button (ON)

This button must be pressed to set the position of a wipe pattern freely using the Positioner/RGB Control Joystick (46).

46. Positioner/RGB Control Joystick

This joystick has two functions of setting the position of a wipe pattern and controlling the hue of the source video signal (A or B).

When the Position On/Off Button (45) is pressed on, this joystick functions as the positioner.

When the Colour Correction On/Off Button (48) is

pressed on, this joystick functions as the RGB control. When it is in the centre, it generates the original colour of the source video signal.

• Colour Correction Section

47. Chroma Level Control (CHROMA)

This control adjusts the colour level of the images from the Source Video Signal. When this control is set to the centre position, it generates the original colour level of the Source Video Signal.

Note :

Noise may be recorded on tape when this control is set to the MAX position if colour input signals are excessive.

48. Colour Correction On/Off Button (ON)

This button must be pressed to correct the colour of the source video signal.

49. Colour Correction-A Button (A / RESET)

Colour correction can be made on the A-bus Source Video Signal by pressing this button. When you press it once, the LED starts blinking, the chroma level can be adjusted by using the Chroma Level Control (47). When you press it a second time, the LED remains lighted, and the hue can be adjusted by using the Position/RGB Control Joystick (46). Chroma level can also be adjusted by using the Chroma Level Control (47).

It is also used as Reset Button.

50. Colour Correction-B Button (B / RESET)

Colour correction can be made on the B-bus Source Video Signal by pressing this button. When you press it once, the LED starts blinking, the chroma level can be changed by using the Chroma Level Control (47). When you press a second time, the LED remains lighted, the hue can be changed by using the Position/RGB Control Joystick (46). Chroma level can also be adjusted by using the Chroma Level Control (47).

It is also used as Reset Button.

• Mix Effect Section**51. Wipe Selection Button (WIPE)**

This button is pressed to obtain a wipe effect on the A-bus Source Video Signal and the B-bus Source Video Signal depending on the setting of the Wipe Pattern Select Buttons.

It is also used as automatic demonstration button. Press the Power On/Off Button to turn off.

Then press the Power On/Off Button again to turn on while pressing both of this button and Mix Select Button (52).

52. Mix Select Button (MIX)

This button is pressed to obtain a mix effect on the A-bus Source Video Signal and the B-bus Source Video Signal depending on the settings of the Wipe Pattern Select Buttons.

53. Luminance Key Select Button (LUM KEY)

The Luminance Key effect is obtained by pressing this button and adjusting the Luminance Key Level Control (54). The B-bus Source Signal must be the key signal.

54. Luminance Key Level Control (LEVEL)

This control is used to adjust the Luminance Key Level.

55. A-bus Buttons (A)

These buttons are used to select the desired audio/video signals allocated to the A-bus input. The Source 1/2 corresponds to the Source 1/2 audio/video inputs on the rear panel of the instrument. By pressing the Source 1 and 2 buttons on the A-bus simultaneously, External Video Signals can be selected.

56. B-bus Buttons (B)

These buttons are used to select the desired audio/video signals allocated to the B-bus input. The Source 1/2 corresponds to the Source 1/2 audio/video inputs on the rear panel of the instrument.

By pressing the Source 1 and 2 buttons on the B-bus simultaneously, the External Video Signals can be selected.

57. Mix/Wipe LED

When the A-bus (B-bus) LED remains lighted and the Wipe / Mix LED blinks, the Wipe / Mix effect is only partially produced on the A-bus (or B-bus) side.

58. Mix/Wipe Lever

In wipe mode, manually moving this lever between the A-bus and B-bus will increase the relative portion of each bus signal according to the option selected. In mix mode, the audio and video are switched together on the A-bus and B-bus.

59. Audio Follow Button (AUDIO FOLLOW)

By pressing this button, the audio on the A-bus and B-bus can be changed according to the relative percentage position of the Mix/Wipe Lever (58).

60. Auto Fade/Take Transition Control (TRANSITION)

This control adjusts the automatic fading/auto-take interval time from 0 to 510 frames at 2-frame increments.

61. Auto Take Button (AUTO TAKE)

The auto take effect-Automatic Wipe / Mix-can be executed by pressing this button. This button lights during the Auto-take interval.

• Fade Control Section**62. Video Fade Button (VIDEO)**

Video program output signal fade-in or fade-out is available with this button.

Use the Auto Fade Button (65) to select fade-out or fade-in.

63. DSK Fade Button (DSK)

Downstream Keyed signal fade-in or fade-out is available with this button.

Use the Auto Fade Button (65) to select fade-out or fade-in.

64. Audio Fade Button (AUDIO)

Fade-in or fade-out of the audio recording output is available with this button.

Use the Auto Fade Button (65) to select fade-out or fade-in.

Note :

The fade-out or fade-in of Head phone output is cannot be selected.

WJ-MX30**65. Auto Fade Button (AUTO FADE)**

Press this button on for fade-out.

The LED on this button will light and the fade-out will start.

The transition time can be adjusted using the Auto Fade/Take Transition Control (60).

After fade-out, the LED on this button will go out and Fade Out Indicator (69) will light.

Note :

The Fade Out Indicator blinks during fade-out.

Press this button on for fade-out when the Fade Out Indicator is blinking.

The LED on this button will light and fade-in will start and the Fade Out Indicator (69) blinks.

After fade-in, the LED on this button will go out.

66. Matte Fade Button (MATTE)

The video fade signal fades out to the selected Matte Colour when this button is pressed.

67. White Fade Button (WHITE)

The video fade signal fades out to white when this button is pressed.

68. Black Fade Button (BLACK)

The video fade signal fades out to black when this button is pressed.

69. Fade Out Indicator (FADE OUT)

When this LED remains lighted, fade-out is under way.

When this LED blinks, fade-out/fade-in is still incomplete.

• Audio Mix Section**70. Source 1 Audio Fader (SOURCE 1)**

The audio level of the Source 1 input can be adjusted by sliding this fader.

71. Source 2 Audio Fader (SOURCE 2)

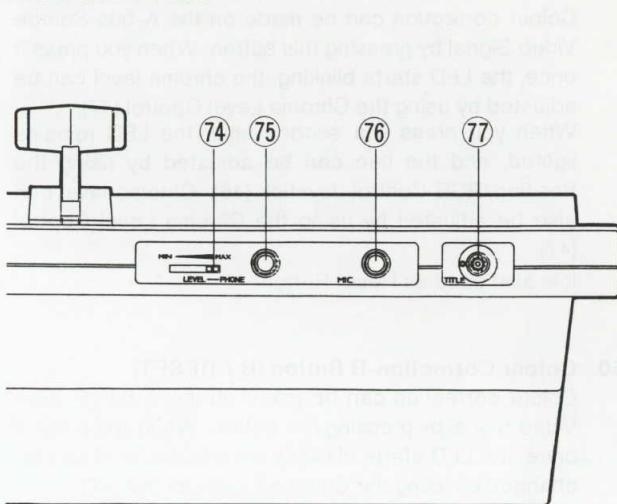
The audio level of the Source 2 input can be adjusted by sliding this fader.

72. Aux Audio Fader (AUX)

The audio level connected to the Auxiliary Audio Input Jack (86) can be adjusted by sliding this fader.

73. Microphone Fader (MIC)

The audio level connected to the Microphone Jack (76) can be adjusted by sliding this fader.

■ FRONT VIEW**74. Headphone Level Control (LEVEL)**

The audio level of the headphone can be adjusted with this control.

75. Headphone Jack (PHONES)

Optional headphone can be connected to this jack.

76. Microphone Jack (MIC)

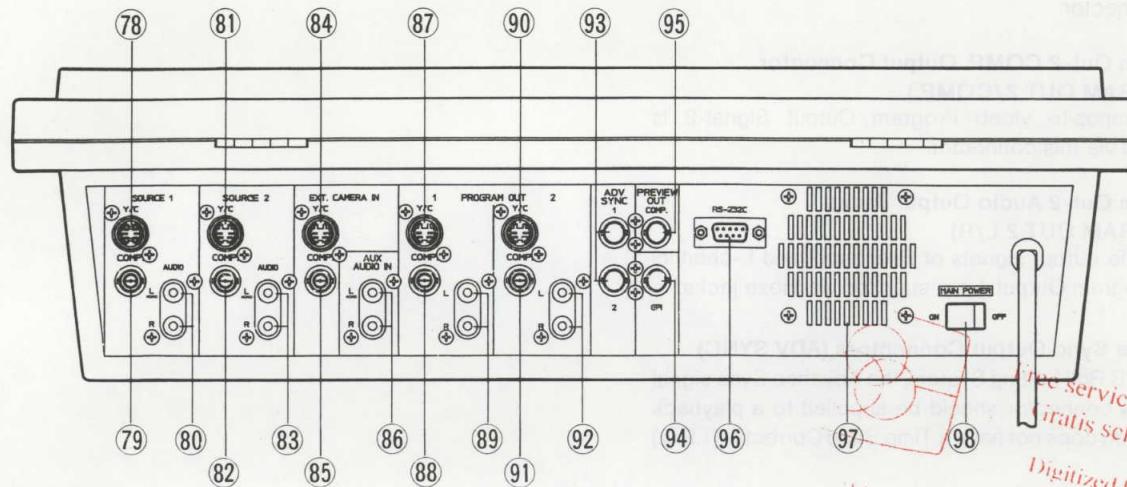
Optional microphone can be connected to this jack.

77. Title Input Connector (TITLE)

This connector is used to connect the optional Character Generator WJ-KB50 (recommended).

The pin numbers are as follows.

- (1) : Character In
- (2) : Red
- (3) : Ground
- (4) : Green
- (5) : Sync out
- (6) : Blue
- (7) : Ground
- (8) : +9V Out
- (9) : Ground
- (10) : ID

■ REAR VIEW**78. Source 1 Y/C Input Connector (SOURCE 1-Y/C)**

This connector accepts the S-video signal.

Note :

This input has a priority over that of the COMP. Connector for Source 1. If the S-video signal and the composite signal are both supplied Source 1 at the same time, only the S-video signal is used as a Source 1 Video signal.

79. Source 1 COMP. Input Connector (SOURCE 1/COMP.)

This connector accepts a 1.0 Vp-p/75 ohms composite video signal.

80. Source 1 Audio Input Jacks (SOURCE 1/AUDIO L/R)

The Source 1 Audio Input Signal can be supplied via these pin jacks.

81. Source 2 Y/C Input Connector (SOURCE 2-Y/C)

This connector accepts the S-video signal.

Note :

This input has a priority over the COMP. Connector for Source 2. If the S-video signal and the composite signal are both supplied to Source 2 at the same time, only the S-video signal is used as a Source 2 Video Signal.

82. Source 2 COMP. Input Connector (SOURCE 2/COMP.)

This connector accepts a 1.0 Vp-p/75 ohms composite video signal.

83. Source 2 Audio Input Jacks (SOURCE 2/AUDIO L/R)

The Source 2 Audio Input Signal can be supplied via these pin jacks.

84. External Y/C Input Connector (EXT CAMERA IN/Y/C)

The external camera to be used as a Key Source is connected to this connector when the camera signal is S-video.

85. External COMP. Input Connector (EXT CAMERA IN/COMP.)

The external camera to be used as a Key Source is connected to this connector when the camera signal is composite video.

86. Auxiliary Audio Input Jacks (AUX AUDIO IN)

The auxiliary audio input signal can be supplied via these jacks. When an audio signal is supplied to the L-channel, it is also supplied to the R-channel (mono mode) internally. When an audio signal is supplied to the R-channel, it is used for the R-channel only.

87. Program Out-1 Y/C Output Connector (PROGRAM OUT 1/Y/C)

The S-video Program Output Signal-1 is provided via this connector.

88. Program Out-1 COMP. Output Connector (PROGRAM OUT 1/COMP.)

The composite video Program Output Signal-1 is provided via this connector.

89. Program Out-1 Audio Output Jacks (PROGRAM OUT 1 L/R)

The audio output signals of R-channel and L-channel from Program Output 1 are supplied via these pin jacks.

WJ-MX30**90. Program Out-2 Y/C Output Connector****(PROGRAM OUT 2/Y/C)**

The S-video Program Output Signal-2 is provided via this connector.

91. Program Out-2 COMP. Output Connector**(PROGRAM OUT 2/COMP.)**

The composite video Program Output Signal-2 is provided via this connector.

92. Program Out-2 Audio Output Jacks**(PROGRAM OUT 2 L/R)**

The audio output signals of R-channel and L-channel from Program Output 1 are supplied via these jacks.

93. Advance Sync Output Connectors (ADV SYNC)

In the A/B Roll Editing System, the Advance Sync signal from this connector should be supplied to a playback VTR which does not have a Time Base Corrector (T.B.C.) inside.

Note :

Enough editing accuracy cannot be obtained without this signal.

94. GPI Input Connector (GPI)**95. Preview Output Connector (PREVIEW OUT, COMP)**

The video effect of the composite video signal is obtained at this connector regardless of which Program Out Button is selected, (42) or (43).

96. RS-232C Control Connector (RS-232C)

Ask your the Panasonic Dealer for communication software.

97. Cooling Fan**98. Main Power Switch (MAIN POWER)**

The unit is in stand-by mode when this switch is pressed on. Unless this switch is pressed on, the unit will not be on even if the (front panel) Power On/Off Button (1) is pressed.

Note :

The unit is switched on without pressing Power On/Off Switch (1) if the Main Power Switch is pressed on.

ADJUSTMENT PROCEDURE

1. Test Equipment Required

The following test equipments are required for adjustment.

- Oscilloscope
- Frequency Counter
- Digital Voltmeter
- Vectorscope
- Waveform Monitor
- Underscanned Color Video Monitor
- Y/C Test Signal Generator
- SC-H Vectorscope (Tektronix 1751 or equivalent)
- Audio Signal Generator
- Audio Level Meter

2. Disassembling Procedure for Adjustment

- Referring to the Fig. 2-1, remove eleven screws fixing the Upper Cover.

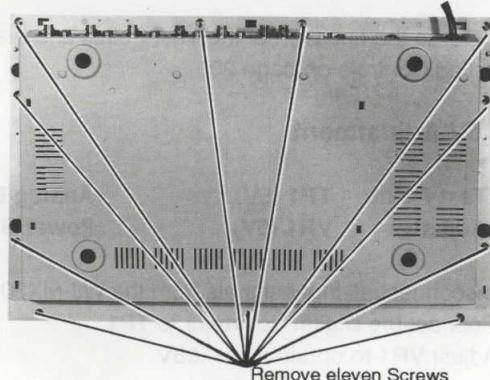


Fig. 2-1

- Referring to the Fig. 2-2, open the Upper Cover and secure it using the Hook L.

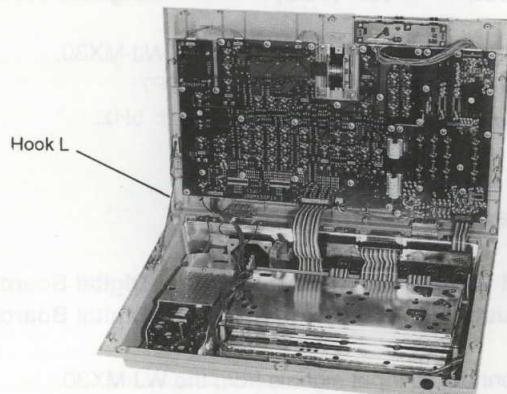


Fig. 2-2

- Referring to the Fig. 2-3, remove four screws fixing the Shield Cover and remove the Shield Cover, and then remove four screws fixing the Analog Board to the Bottom Cover.

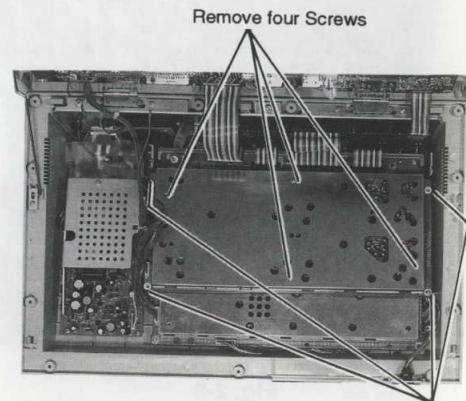


Fig. 2-3

- Referring to the Fig. 2-4, stand up the Analog Board and hook both sides of the Analog Board to the Mounting Angles of the Bottom Cover, and then remove the Shield Cover using screwdriver.

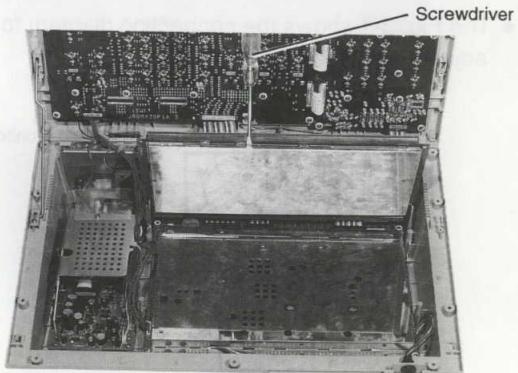


Fig. 2-4

- Referring to the Fig. 2-5, remove eight screws fixing the Shield Cover and remove the Shield Cover, and then remove four screws fixing Digital Board to the Bottom Cover.

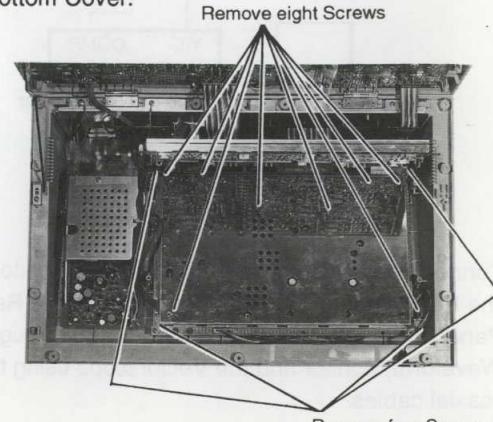


Fig. 2-5

WJ-MX30

- Referring to the Fig. 2-6, stand up the Digital Board and hook both sides of the Digital Board to the Mounting Angles of the Bottom Cover, and then remove the Shield Cover using screwdriver.

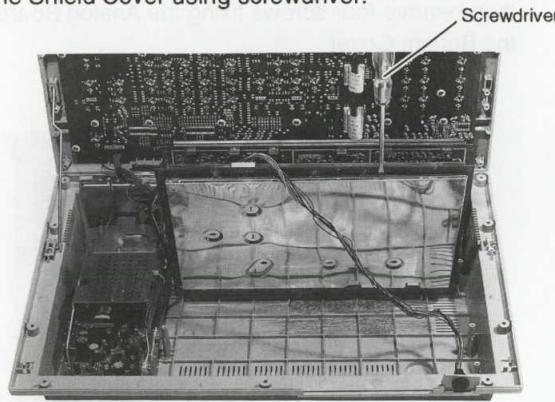


Fig. 2-6

3. Connection and precaution for Adjustment

3.1. Connection

- The Fig. 3-1 shows the connecting diagram for the adjustment procedure.

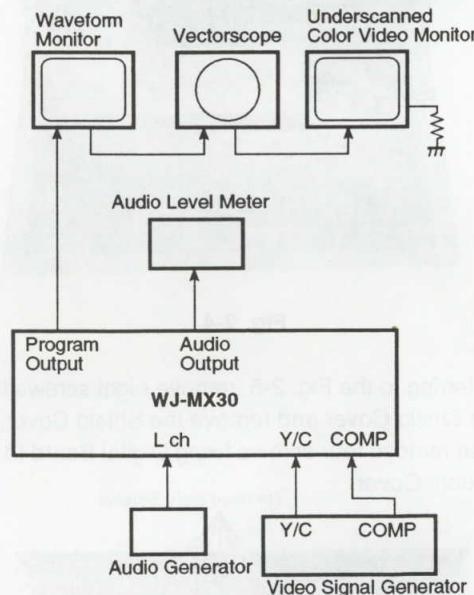


Fig. 3-1

- Connect the Underscanned Color Video Monitor to the Program Out 1 COMP Connector on the Rear Panel of the Production Mixer WJ-MX30 through the Waveform Monitor and the Vectorscope using the coaxial cables.

- Terminate the input terminal of the Underscanned Color Video Monitor with 75 ohms.
- Connect the Audio Signal Generator to the L channel of the Source 1 Audio Input Jack on the Rear Panel using the Pin-plug cable.
- Connect the Y/C Test Signal Generator to the Source 1 Y/C Input Connector and the Source 2 COMP Input Connector on the Rear Panel.
- Connect the AC Millivoltmeter with dB measure to L channel of the Program Out 1 Audio Output Jack on the Rear Panel using the Pin-plug cable.
- Connect the probe of the Digital Voltmeter or Oscilloscope to the desired test point in each adjument step.

3.2. Precaution

- This adjustment should be made after 10 min. warm up of the WJ-MX30.
- The gate time response of the Frequency Counter will be slow.

4. Adjustment Procedure

- Refer to the Location of the Test Points and the Adjusting Controls on page 20.

(1) 5V Adjustment

Test Point: TP1 (5V) **Analog Board Power Board**
Adjust: VR1 (5V)

- Disconnect all input signals from the WJ-MX30.
- Connect the Digital Voltmeter to TP1.
- Adjust VR1 to obtain $5 \pm 0.05V$.

(2) FSC Adjustment

Test Point: TP7 (FSC) **Digital Board**
Adjust: VR1 (FSC) **Digital Board**

- Disconnect all input signals from the WJ-MX30.
- Connect the Frequency Counter to TP7.
- Adjust VR1 to obtain $4.433629MHz \pm 5Hz$.

(3) Read VCO Adjustment

Test Point: TP8 (READ VCO) **Digital Board**
Adjust: L33 (READ VCO) **Digital Board**

- Disconnect all input signals from the WJ-MX30.
- Connect the Digital Voltmeter to TP8.
- Adjust L33 to obtain $2.1 \pm 0.1V$.

(4) Write Ach VCO Adjustment**Test Point: TP1 (WRITE ACH VCO)****Digital Board****Adjust: L32 (WRITE ACH VCO) Digital Board**

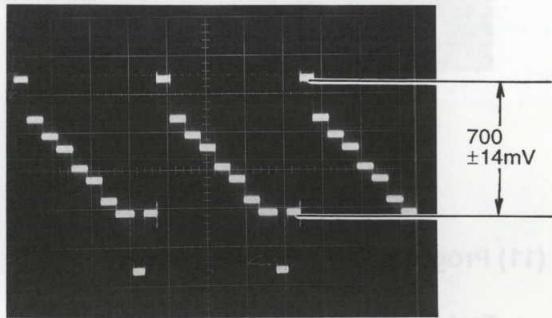
- Connect the Digital Voltmeter to TP1.
- Supply the Color Bar Signal with Y/C components to the Source 1 Y/C Connector.
- Press the Source 1 Switch of the BUS-A.
- Adjust L32 to obtain $2.1 \pm 0.1V$.

(5) Write Bch VCO Adjustment**Test Point: TP3 (WRITE BCH VCO) Digital Board****Adjust: L31 (WRITE BCH VCO) Digital Board**

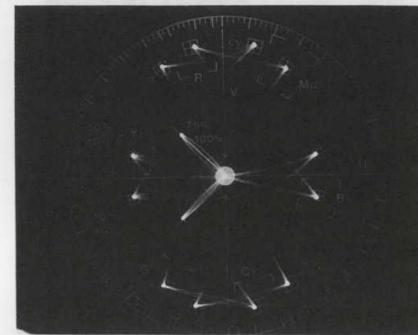
- Connect the Digital Voltmeter to TP3.
- Supply the Color Bar signal with Y/C components to the Source 2 Y/C Connector.
- Press the Source 2 Switch of the BUS-B.
- Adjust L31 to obtain $2.1 \pm 0.1V$.

(6) Program Out Y Gain Adjustment**Test Point: Program Out Y/C Connector****Rear Panel****Adjust: VR8 (PROGOUT Y-GAIN)****Analog Board**

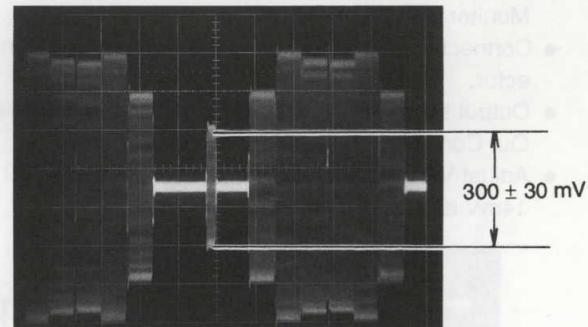
- Terminate between Y terminal and Ground terminal of the Program Out 1 Y/C Connector with 75 ohms.
- Connect the Oscilloscope across the 75 ohms.
- Output the internal Color Bar signal to the Program Out 1 Y/C Connector.
- Adjust VR8 so that the white level becomes $700 \pm 14mV$ as shown in the Fig. 4-1.

**Fig. 4-1****Test Point: Program Out Y/C Connector****Rear Panel****Adjust: VR9 (PROGOUT C-GAIN)****Analog Board**

- Terminate between C terminal of the Program Out 1 Y/C Connector with 75 ohms.
- Connect the Oscilloscope across the 75 ohms.
- Output the internal Color Bar signal to the Program Out 1 Y/C Output Connector.
- By observing the Vectorscope, adjust VR9 so that each vector positions in each color area as shown in the Fig. 4-2-1.

**Fig. 4-2-1**

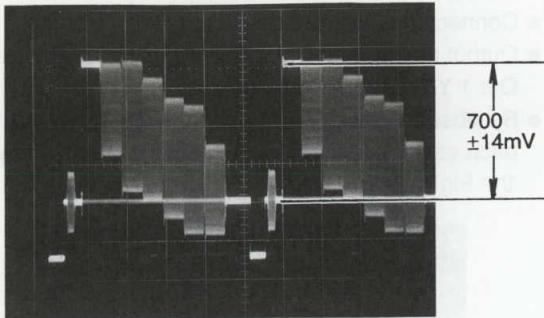
- Confirm that the burst level becomes $300 \pm 30mV$ as shown in the Fig. 4-2-2.

**Fig. 4-2-2****(8) Program Out COMP Gain Adjustment****Test Point: Program Out COMP Connector****Rear Panel****Adjust: VR31 (PROGOUT COMP GAIN)****Analog Board**

- Connect the Video Monitor to the Program Out COMP Connector, then terminate the input terminal of the Video Monitor with 75 ohms.

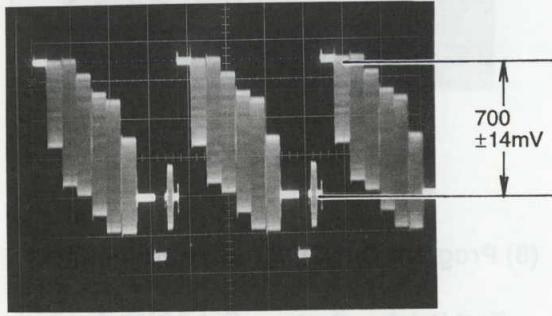
WJ-MX30

- Connect the Oscilloscope to the Program Out COMP Connector.
- Output the internal Color Bar signal to the Program Out 1 COMP Connector.
- Adjust VR31 so that the white level becomes $700 \pm 14\text{mV}$ as shown in the Fig. 4-3.

**Fig. 4-3****(9) Preview Y Gain Adjustment**

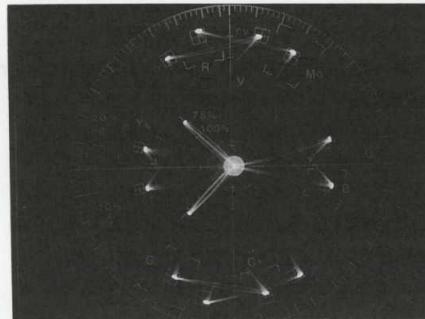
Test Point: Preview Out Connector
Rear Panel
Adjust: VR11 (PREV Y-GAIN)
Analog Board

- Connect the Video Monitor to the Preview Out Connector, then terminate the input terminal of the Video Monitor with 75 ohms.
- Connect the Oscilloscope to the Preview Out Connector.
- Output the internal Color Bar signal to the Preview Out Connector.
- Adjust VR11 so that the white level becomes $700 \pm 14\text{mV}$ as shown in the Fig. 4-4.

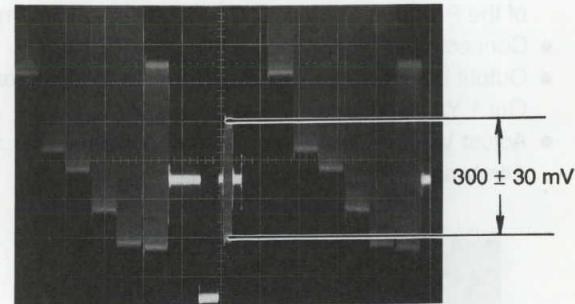
**Fig. 4-4****(10) Preview C Gain Adjustment**

Test Point: Preview Out Connector
Rear Panel
Adjust: VR13 (PREV C-GAIN)
Analog Board

- Connect the Video Monitor to the Preview Out Connector, then terminate the input terminal of the Video Monitor with 75 ohms.
- Connect the Oscilloscope to the Preview Out Connector.
- Output the internal Color Bar signal to the Preview Out Connector.
- By observing the Vectorscope, adjust VR13 so that each vector positions in each color area as shown in the Fig. 4-5-1.

**Fig. 4-5-1**

- Confirm that the burst level becomes $300 \pm 30\text{mV}$ as shown in the Fig. 4-5-2.

**Fig. 4-5-2****(11) Program Out SC-H Adjustment**

Test Point: Program Out COMP Connector
Rear Panel
Adjust: VR5 (PROGOUT SC-H)
Analog Board

- Connect the SC-H Vectorscope to the Program Out

1 COMP Connector, then terminate the input terminal of the SC-H Vectorscope with 75 ohms.

- Output the internal Color Bar signal to the Program Out 1 COMP Connector.
- Adjust VR5 by observing the SC-H Vectorscope to obtain $0 \pm 5^\circ$.

Note: The phase difference between in and out of the External Camera signal should be within $\pm 5^\circ$

(12) Preview Out SC-H Adjustment

Test Point: Preview Output Connector
Rear Panel
Adjust: VR7 (PREV SC-H) Analog Board

- Connect the SC-H Vectorscope to the Preview Out Connector, then terminate the input terminal of the SC-H Vectorscope with 75 ohms.
- Output the internal Color Bar signal to the Preview Output Connector.
- Adjust VR7 by observing the SC-H Vectorscope to obtain $0 \pm 5^\circ$.

Note: The phase difference between in and out of the External Camera signal should be within $\pm 5^\circ$.

(13) Ach FVCXO Adjustment

Test Point: TP11 (ACH FVCXO) Analog Board
Adjust: CT2 (ACH FVCXO) Analog Board

- Disconnect all input signals from the WJ-MX30.
- Connect the Frequency Counter to TP11.
- Adjust CT2 to obtain $4.433629\text{MHz} \pm 5\text{Hz}$.

(14) Ach Burst-Gate-Pulse Width Adjustment

Test Point: TP10 (ACH BGP WIDTH)
Analog Board
Adjust: VR21 (ACH BGP WIDTH)
Analog Board

- Connect the Oscilloscope to TP10.
- Supply the RAMP signal ($Y = 0.7V$, APL = 50%) with the Y/C components to the Source 1 Y/C Connector.
- Select the Source 1 of the BUS-A.
- Adjust VR21 to obtain the pulse width of $7.8 \pm 0.1 \mu\text{-sec}$. as shown in the Fig. 4-6.

Note: Use TP16 (CSYNCA) on the Analog Board for the trigger for the Oscilloscope.

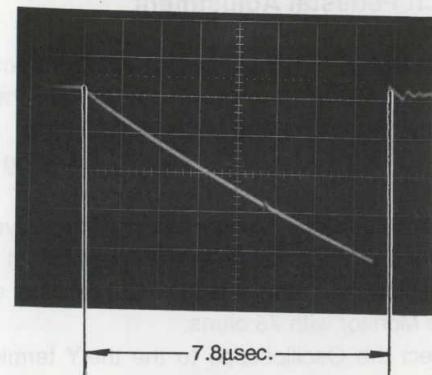


Fig. 4-6

(15) Ach Carrier Balance Adjustment

Test Point: Program Out Y/C Connector
Rear Panel
Adjust: VR28 (ACH CAR BAL-1)
Analog Board
VR30 (ACH CAR BAL-2)
Analog Board

- Connect the Video Monitor through the Waveform Monitor and Vectorscope to the Program Out 1 Y/C Connector, then terminate the input terminal of the Video Monitor with 75 ohms.
- Supply the RAMP signal ($Y = 0.7V$, APL = 50%) with the Y/C components to the Source 1 Y/C Connector on the Rear Panel.
- Select the A of the PROGRAM OUT section.
- Select the Source 1 of the BUS-A.
- Increase the Gain Control of the Vectorscope.
- Adjust VR28 and VR30 so that the vector positions at the center on the Vectorscope as shown in the Fig. 4-7.

Note: Color Correction of the WJ-MX30 should be off.

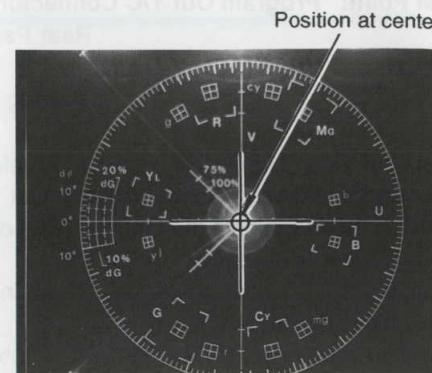


Fig. 4-7

WJ-MX30

(16) Ach Pedestal Adjustment

Test Point: Program Out Y/C Connector
Rear Panel
Adjust: VR29 (ACH PEDESTAL)
Analog Board

- Connect the Video Monitor through the Waveform Monitor and Vectorscope to the Program Out 1 Y/C Connector, then terminate the input terminal of the Video Monitor with 75 ohms.
- Connect the Oscilloscope to the the Y terminal of the Program Out 1 Y/C Connector.
- Supply the RAMP signal ($Y = 0.7V$, APL = 50%) with the Y/C components to the Source 1 Y/C Connector.
- Select the A of the PROGRAM OUT section.
- Select the Source 1 of the BUS-A.
- Adjust VR29 so that the black level of the RAMP signal becomes 0 ± 14 mV as shown in the Fig. 4-8.

Note: The black level of the RAMP signal should not be lower than 0V.

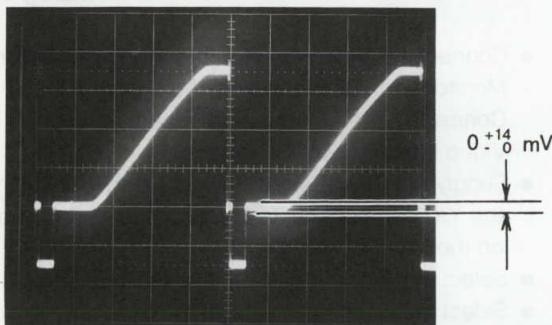


Fig. 4-8

(17) Ach Y Gain Adjustment

Test Point: Program Out Y/C Connector
Rear Panel
Adjust: VR26 (ACH Y-GAIN)
Analog Board

- Connect the Video Monitor through the Waveform Monitor and Vectorscope to the Program Out 1 Y/C Connector, then terminate the input terminal of the Video Monitor with 75 ohms.
- Connect the Oscilloscope to the the Y terminal of the Out 1 Y/C Connector.
- Supply the RAMP signal ($Y = 0.7V$, APL = 50%) with the Y/C components to the Source 1 Y/C Connector on the Rear Panel.
- Select the A of the PROGRAM OUT section.
- Select the Source 1 of the BUS-A.

- Adjust VR26 so that the white level of the RAMP signal becomes 700 ± 14 mV as shown in the Fig. 4-9.

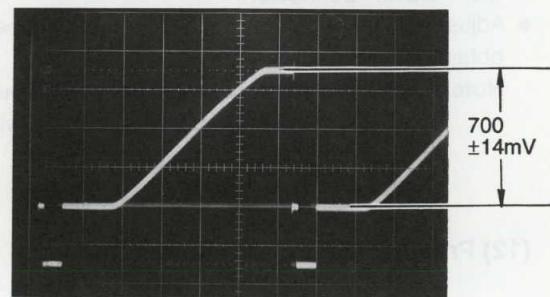


Fig. 4-9

(18) Ach TINT and C Gain Adjustment

Test Point: Program Out Y/C Connector
Rear Panel
TP18 (R-YA) Analog Board
Adjust: VR22 (ACH C-GAIN) Analog Board
VR25 (ACH TINT) Analog Board

- Connect the Video Monitor through the Waveform Monitor and Vectorscope to the Program Out 1 Y/C Connector, then terminate the input terminal of the Video Monitor with 75 ohms.
- Connect the Oscilloscope to TP18.
- Supply the Color Bar signal to the Source 1 COMP Connector.
- Select the A of the PROGRAM OUT section.
- Select the Source 1 of the BUS-A.
- Adjust VR22 and VR25 by observing the Vectorscope so that each vector positions in each color area as shown in the Fig. 4-10-1.

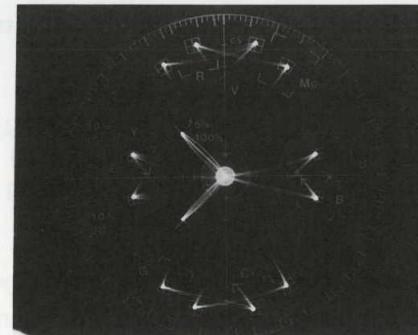


Fig. 4-10-1

- Adjust VR25 so that the waveform coincides as shown in the Fig. 4-10-2.

Note: Supply the Black Burst signal from WJ-MX30

to the Vectorscope for the reference Sync signal.

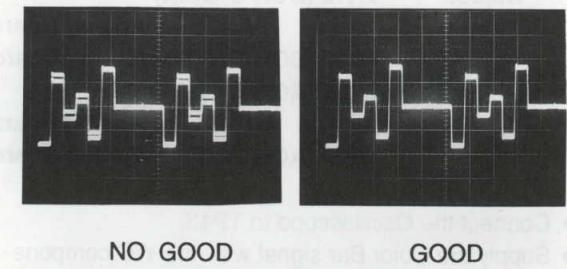


Fig. 4-10-2

(19) Bch FVCXO Adjustment

Test Point: TP8 (BCH FVCXO) Analog Board
Adjust: CT1 (BCH FVCXO) Analog Board

- Disconnect all input signals from the WJ-MX30.
- Connect the Frequency Counter to TP8.
- Adjust CT1 to obtain $4.433629\text{MHz} \pm 5\text{Hz}$.

(20) Bch Burst-Gate-Pulse Width Adjustment

Test Point: TP7 (BCH BGP WIDTH)
Analog Board
Adjust: VR14 (BCH BGP WIDTH)
Analog Board

- Connect the Oscilloscope to TP7.
- Supply the RAMP signal ($Y = 0.7V$, APL = 50%) with the Y/C components to the Source 2 Y/C Connector on the Rear Panel.
- Select the Source 2 of the BUS-B.
- Adjust VR14 to obtain the pulse width of $7.8 \pm 0.1 \mu\text{sec}$. as shown in the Fig. 4-11.

Note: Use TP15 (CSYNCB) on the Analog Board for the trigger for the Oscilloscope.

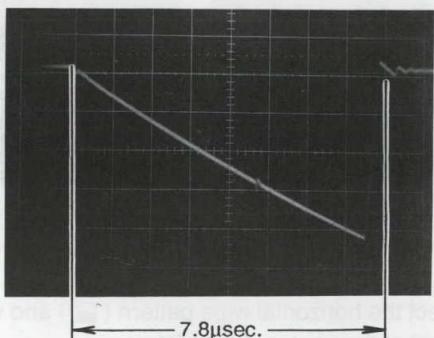


Fig. 4-11

(21) Bch Carrier Balance Adjustment

Test Point: Program Out Y/C Connector

Rear Panel

Adjust: VR16 (BCH CAR BAL-1)

Analog Board

VR18 (BCH CAR BAL-2)

Analog Board

- Connect the Video Monitor through the Waveform Monitor and Vectorscope to the Program Out 1 Y/C Connector, then terminate the input terminal of the Video Monitor with 75 ohms.
- Supply the RAMP signal ($Y = 0.7V$, APL = 50%) with the Y/C components to the Source 2 Y/C Connector on the Rear Panel.
- Select the B of the PROGRAM OUT section.
- Select the Source 2 of the BUS-B.
- Increase the Gain Control of the Vectorscope.
- Adjust VR16 and VR18 so that the vector positions at the center on the Vectorscope as shown in the Fig. 4-12.

Note: Color Correction of the WJ-MX30 should be off.

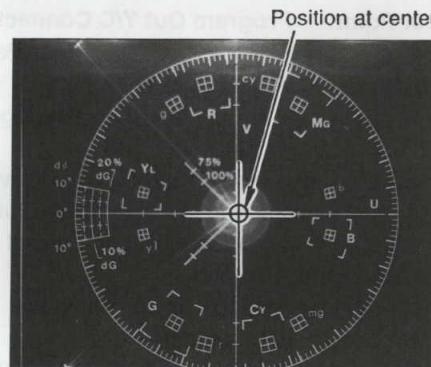


Fig. 4-12

(22) Bch Pedestal Adjustment

Test Point: Program Out Y/C Connector

Rear Panel

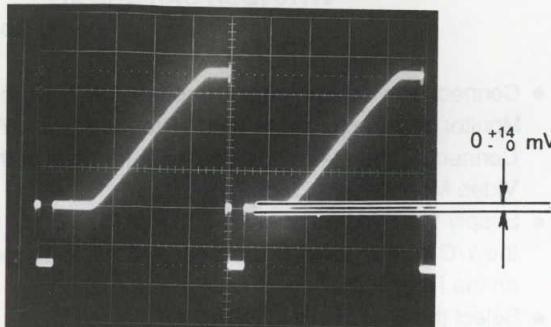
Adjust: VR17 (BCH PEDESTAL)

Analog Board

- Connect the Video Monitor through the Waveform Monitor and Vectorscope to the Program Out 1 Y/C Connector, then terminate the input terminal of the Video Monitor with 75 ohms.
- Connect the Oscilloscope to the Y terminal of the Program Out 1 Y/C Connector.
- Supply the RAMP signal ($Y = 0.7V$, APL = 50%) with the Y/C components to the Source 1 and 2 Y/C Connectors.

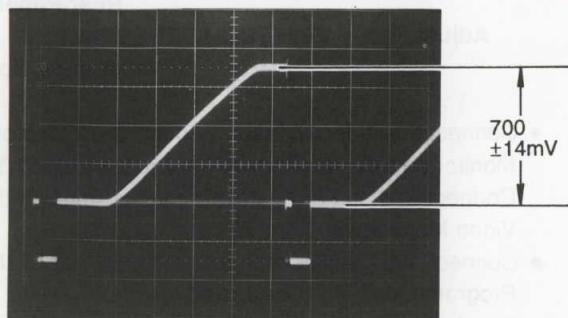
WJ-MX30

- Select the B of the PROGRAM OUT section.
- Select the horizontal wipe pattern () and wipe the signal at the black portion.
- Adjust VR17 so that the black level of the RAMP signal becomes 0 ± 14 mV as shown in the Fig. 4-13.

**Fig. 4-13****(23) Bch Y Gain Adjustment**

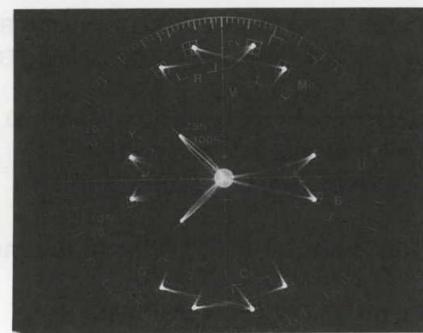
Test Point: Program Out Y/C Connector
Rear Panel
Adjust: VR20 (BCH Y-GAIN)
Analog Board

- Connect the Video Monitor through the Waveform Monitor and Vectorscope to the Program Out 1 Y/C Connector, then terminate the input terminal of the Video Monitor with 75 ohms.
- Connect the Oscilloscope to the Y terminal of the Program Out 1 Y/C Connector.
- Supply the RAMP signal ($Y = 0.7V$, APL = 50%) with the Y/C components to the Source 2 Y/C Connector on the Rear Panel.
- Select the B of the PROGRAM OUT section.
- Select the Source 2 of the BUS-B.
- Adjust VR20 so that the white level of the RAMP signal becomes $700 \pm 14mV$ as shown in the Fig. 4-14.

**Fig. 4-14****(24) Bch TINT and C Gain Adjustment**

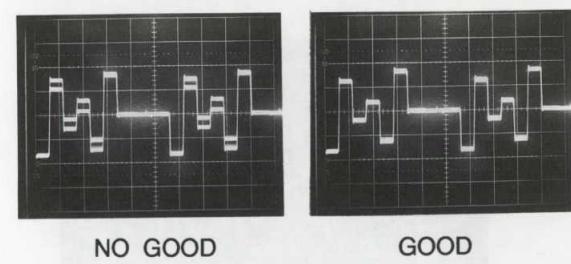
Test Point: Program Out Y/C Connector	Rear Panel
TP13 (R-YB)	Analog Board
Adjust: VR15 (BCH C-GAIN)	Analog Board
VR19 (BCH TINT)	Analog Board
VR22 (ACH C-GAIN)	Analog Board
VR25 (ACH TINT)	Analog Board

- Connect the Oscilloscope to TP13.
- Supply the Color Bar signal with the Y/C components to the Source 1 and 2 Y/C Input Connectors.
- Select the B of the PROGRAM OUT section.
- Adjust VR15 and VR19 by observing the Vectorscope so that each vector positions in each color area as shown in the Fig. 4-15-1.

**Fig. 4-15-1**

- Adjust VR19 so that the waveform coincides as shown in the Fig. 4-15-2.

Note: Supply the Black Burst signal from WJ-MX30 to the Vectorscope for the reference Sync signal.

**Fig. 4-15-2**

- Select the horizontal wipe pattern () and wipe the signal at the center of the picture.
- Adjust VR22, VR25, VR15, and VR19 so that each vector positions to the respective color area.

(25) Bch C0MP Gain Adjustment

Test Point: Program Out Y/C Connector
Rear Panel
Adjust: VR6 (BCH COMP GAIN)
Analog Board

- Connect the Video Monitor to the Program Out 2 COMP Connector, then terminate the input terminal of the Video Monitor with 75 ohms.
 - Connect the Oscilloscope to the Program Out 2 COMP Connector.
 - Supply the RAMP signal ($Y = 0.7V$, APL = 50%) with the Y/C components to the Source 1 Y/C Connector and the composite RAMP signal to the Source 2 COMP Connector.
 - Select the horizontal wipe pattern (■) and wipe the signal at the black portion.
- Adjust VR6 so that the white level of the RAMP signal becomes $700 \pm 14mV$ as shown in the Fig. 4-16.

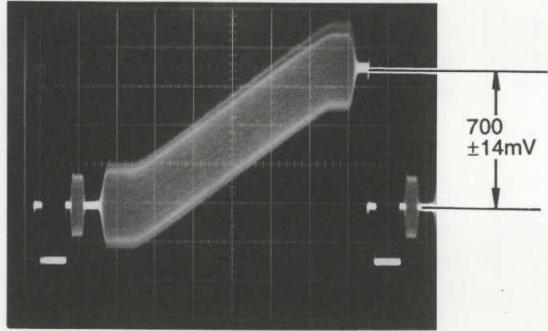


Fig. 4-16

(26) Ach COMP Gain Adjustment

Test Point: Program Out COMP Connector
Rear Panel
Adjust: VR10 (ACH COMP GAIN)
Analog Board

- Connect the Video Monitor to the Program Out 1 COMP Connector, then terminate the input terminal of the Video Monitor with 75 ohms.
- Connect the Oscilloscope to the Program Out 1 COMP Connector.
- Supply the composite RAMP signal ($Y = 0.7V$, APL = 50%) with the Source 1 and 2 COMP Connectors.
- Select the horizontal wipe pattern (■) and wipe the signal at the white portion.
- Adjust VR10 so that the white level of the RAMP signal becomes $700 \pm 14mV$ as shown in the Fig. 4-17.

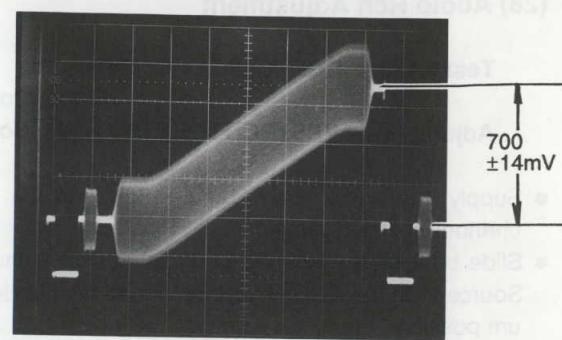


Fig. 4-17

(27) Ach/Bch H-Phase Adjustment

Test Point: Program Out COMP Connector
Rear Panel
Adjust: VR24 (A-B H PHASE)
Analog Board

- Connect the Video Monitor to the Program Out COMP Connector, then terminate the input terminal of the Video Monitor with 75 ohms.
- Connect the Oscilloscope to the Program Out COMP Connector.
- Supply the composite CROSS HATCH signal to the Source 1 and 2 COMP Input Connectors.
- Press the MIX Switch of the MIX EFFECT section and mix both Source 1 and Source 2 signals with 50/50 percent.
- Adjust VR24 so that the signal level becomes maximum as shown in the Fig. 4-18.

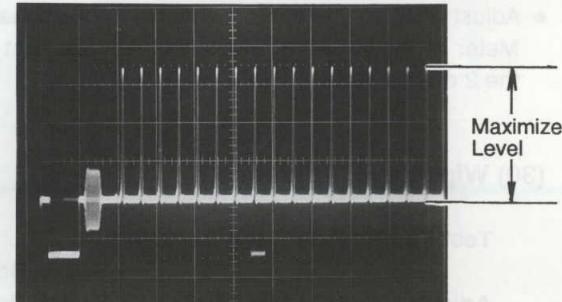


Fig. 4-18

WJ-MX30**(28) Audio Rch Adjustment**

Test Point: RCH Audio Level Meter
Upper Cover
Adjust: VR5 (RCH METER) Audio Board

- Supply the audio signal (1kHz, -18dBs) to the L channel of the Source 1 Audio Pin Jack.
- Slide both of the Volume Controls Source 1 and Source 2 on the AUDIO MIX Section to the maximum position.
- Connect the Audio Level Meter to the L channel of the Program Out 1 Audio Jack.
- Adjust the output level of the Audio Signal Generator to obtain -6dBs on the Audio Level Meter.
- Adjust VR5 so that the R channel of the Audio Level Meter of the WJ-MX30 indicates 0 dB (just light off the 2 dB Indicator).

(29) Audio Lch Adjustment

Test Point: LCH Audio Level Meter
Upper Cover
Adjust: VR6 (LCH METER) Audio Board

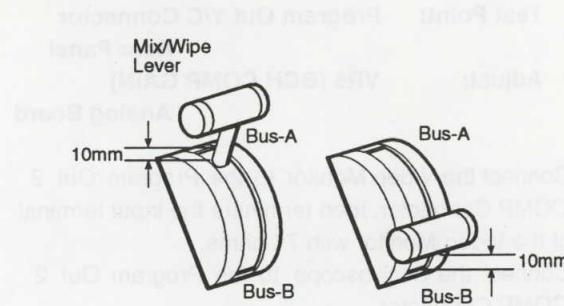
- Supply the audio signal (1kHz, -18dBs) to the L channel of the Source 1 Audio Pin Jack.
- Connect the Audio Level Meter to the L channel of the Program Out 1 Audio Jack.
- Slide both of the Volume Controls Source 1 and Source 2 on the AUDIO MIX Section to the maximum position.
- Adjust the output level of the Audio Signal Generator to obtain -6dBs on the Audio Level Meter.
- Adjust VR6 so that the L channel of the Audio Level Meter of the WJ-MX30 indicates 0 dB (just light off the 2 dB Indicator).

(30) Wipe Level Adjustment

Test Point: Pins 1 and 3 of CN23
Switch Board
Adjust: VR12 (H LEVEL) Switch Board
 VR13 (L LEVEL) Switch Board

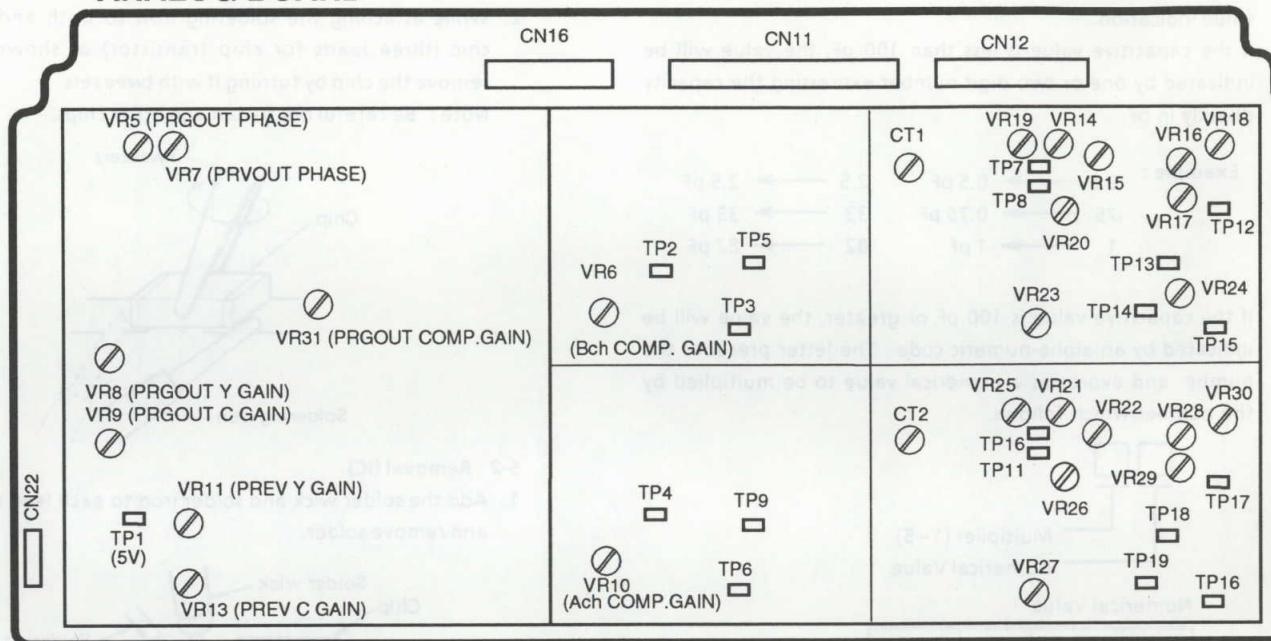
- Connect the Digital Voltmeter to the pin 1 (+ REF) of CN23.
- Adjust the VR12 to obtain $5.2 \pm 0.05V$.
- Connect the Digital Voltmeter to the pin 3 (- REF) of CN23.
- Adjust the VR13 to obtain $-0.2 \pm 0.02V$.
- Move the Wipe Lever to both BUS-A side and BUS-B side, confirm that there are 10mm clearance in between the Lever and front surface of the Upper

Cover as shown in the Fig. 4-19. CM03-008 (S)

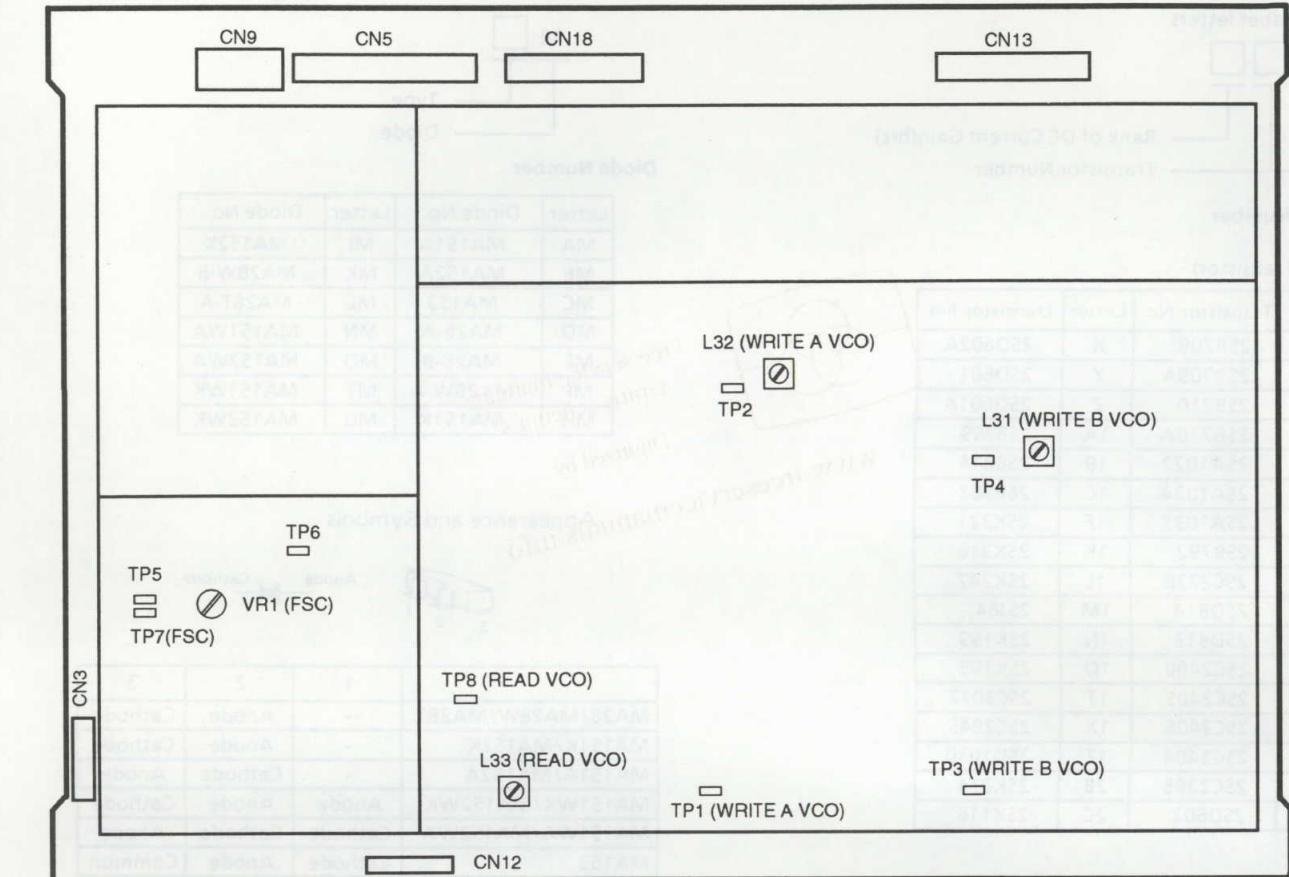
**Fig. 4-19**

LOCATION OF TEST POINT AND ADJUSTING CONTROLS

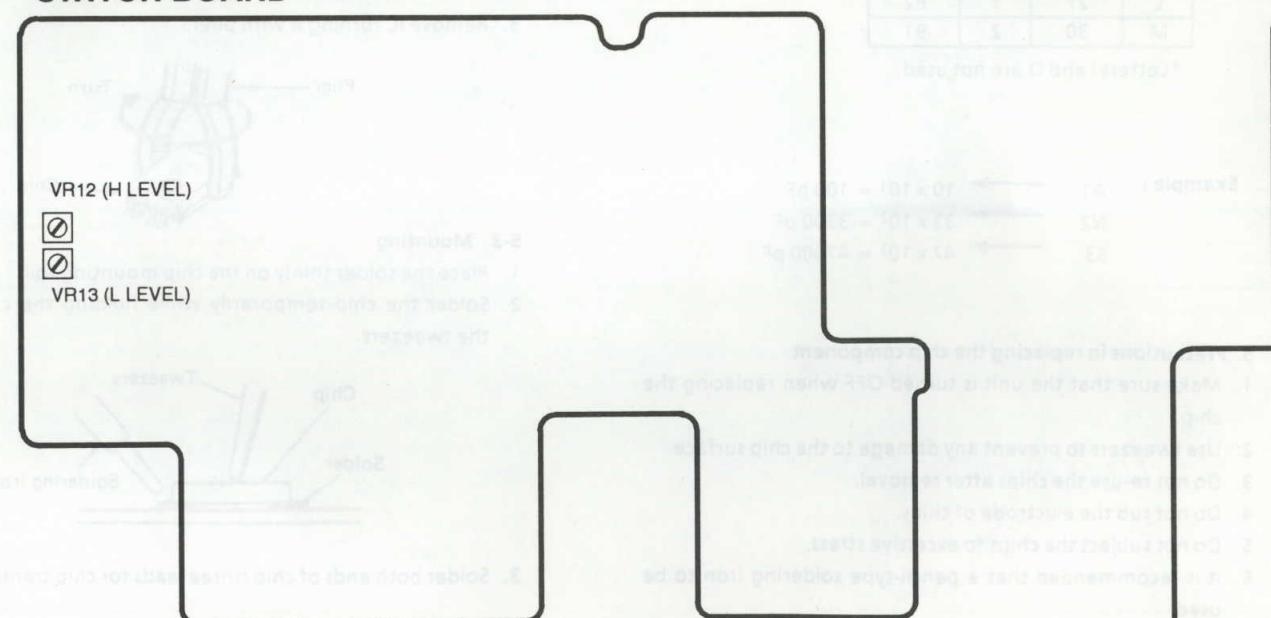
ANALOG BOARD



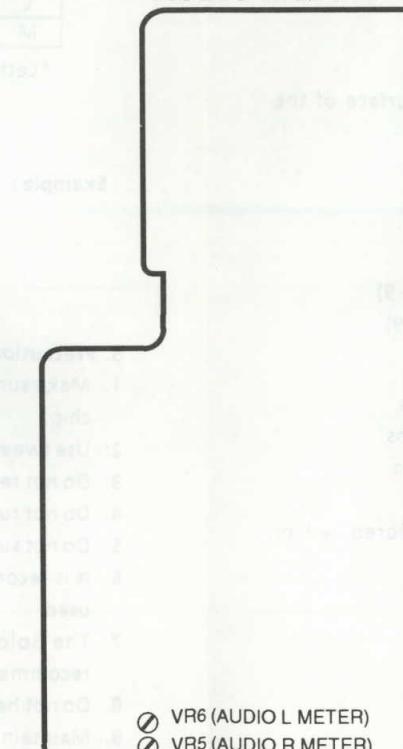
DIGITAL BOARD



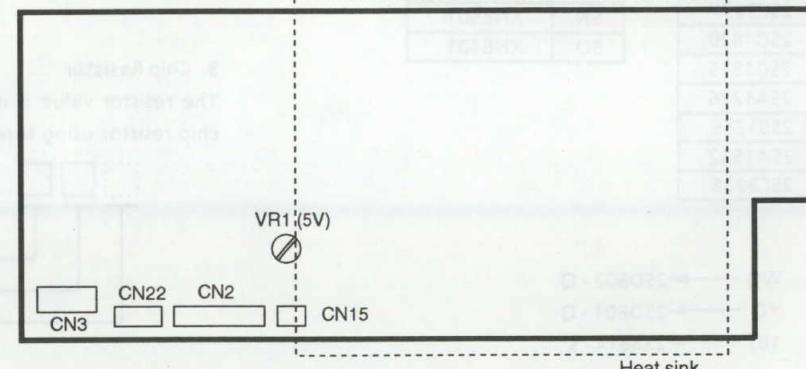
SWITCH BOARD



AUDIO BOARD



POWER BOARD

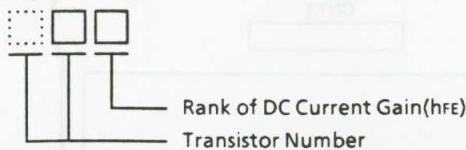


WJ-MX30 WJ-MX30

CHIP COMPONENTS

1. Chip Transistor

The transistor number is indicated on the top surface of the chip transistor using two alphabet letters or one numerical and two alphabet letters.



Transistor Number

(Chip Transistor)

Letter	Transistor No.	Letter	Transistor No.
A	2SB709	X	2SD602A
B	2SB709A	Y	2SD601
C	2SB710	Z	2SD601A
D	2SB710A	1A	2SB799
E	2SA1022	1B	2SB814
F	2SA1034	1C	2SB902
H	2SA1035	1F	2SK321
I	2SB792	1K	2SK316
K	2SC2778	1L	2SK247
P	2SD814	1M	2SJ84
Q	2SD813	1N	2SK199
R	2SC2480	1O	2SK198
S	2SC2405	1T	2SC3077
T	2SC2406	1X	2SC2845
U	2SC2404	1Z	2SD1030
V	2SC2295	2B	2SK374
W	2SD602	2C	2SK116

(Small Chip Transistor)

Letter	Transistor No.
A	2SB1218
U	2SC3931
W	2SD1820
Y	2SD1819
E3	2SA1226
OS	2SB1219
UC	2SA1532
YU	2SC3938

Example :
WQ → 2SD602 - Q
YQ → 2SD601 - Q
1BS → 2SB814 - S

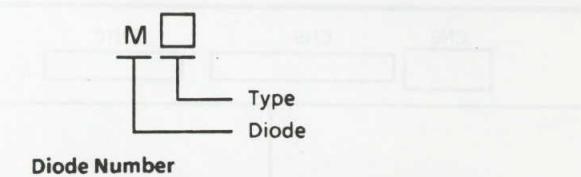
Appearance and Symbols



	1	2	3
Except 2SK199	Drain	Source	Gate
2SK199	Gate	Drain	Source

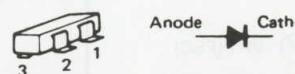
2. Chip Diode

The diode number is indicated on the top surface of the chip diode using Two alphabet letters.



Letter	Diode No.	Letter	Diode No.
MA	MA151A	MI	MA152K
MB	MA152A	MK	MA28W-B
MC	MA153	ML	MA28T-A
MD	MA28-A	MN	MA151WA
ME	MA28-B	MO	MA152WA
MF	MA28W-A	MT	MA151WK
MH	MA151K	MU	MA152WK

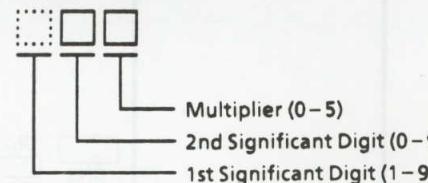
Appearance and Symbols



	1	2	3
MA28/MA28W/MA28T	-	Anode	Cathode
MA151K/MA152K	-	Anode	Cathode
MA151A/MA152A	-	Cathode	Anode
MA151WK/MA152WK	Anode	Anode	Cathode
MA151WA/MA152WA	Cathode	Cathode	Anode
MA153	Cathode	Anode	Common

3. Chip Resistor

The resistor value is indicated on the bottom surface of the chip resistor using three digit numbers.



Example : 330 → $33 \times 10^0 = 33$ ohms
561 → $56 \times 10^1 = 560$ ohms
123 → $12 \times 10^3 = 12K$ ohms

Note : Zero ohm resistor (jumper chip) is colored red or green.

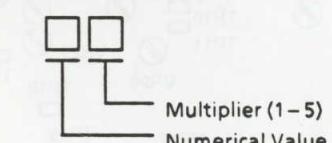
4. Chip Capacitor

The capacitive value of replacement chip capacitors is indicated on the bottom surface. Original parts do not have value indication.

If the capacitive value is less than 100 pF, the value will be indicated by one or two digit number expressing the capacity directly in pF.

Example : 0.5 → 0.5 pF 2.5 → 2.5 pF
.75 → 0.75 pF 33 → 33 pF
1 → 1 pF 82 → 82 pF

If the capacitive value is 100 pF or greater, the value will be indicated by an alpha-numeric code. The letter precedes the number and expresses a numerical value to be multiplied by the number which follows.



Numerical Value

Letter	Value	Letter	Value
A	10	N	33
B	11	P	36
C	12	O	39
D	13	R	43
E	15	S	47
F	16	T	51
G	18	U	56
H	20	V	62
J	22	W	68
K	24	X	75
L	27	Y	82
M	30	Z	91

*Letters I and O are not used

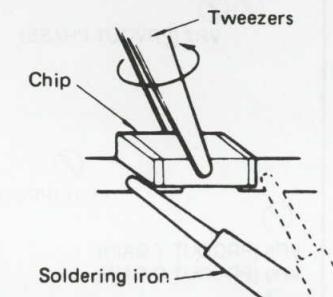
Example : A1 → $10 \times 10^1 = 100$ pF
N2 → $33 \times 10^2 = 3300$ pF
S3 → $47 \times 10^3 = 47000$ pF

5. Precautions in replacing the chip component

1. Make sure that the unit is turned OFF when replacing the chip.
2. Use tweezers to prevent any damage to the chip surface.
3. Do not re-use the chips after removal.
4. Do not rub the electrode of chips.
5. Do not subject the chips to excessive stress.
6. It is recommended that a pencil-type soldering iron to be used.
7. The solder whose diameter is less than 0.5 mm is recommended.
8. Do not heat the chip beyond 3 seconds.
9. Maintain temperature control under 260°C (500°F) when soldering.

5-1 Removal (Transistor, Diode, Resistor and Capacitor)

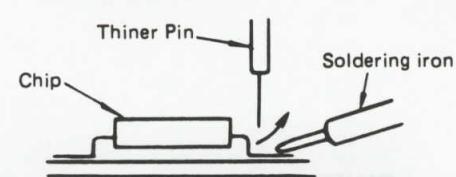
1. Add the solder to both ends of the chip (three leads for chip transistor).
2. While attaching the soldering iron to both ends of the chip (three leads for chip transistor) as shown below, remove the chip by turning it with tweezers.
Note : Be careful not to damage other chips.

**5-2 Removal (IC)**

1. Add the solder wick and solder iron to each lead of the IC and remove solder.



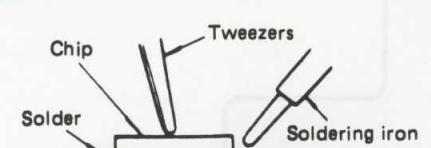
2. Add the solder iron to each lead of the IC and left each lead of the IC using thinner pin.



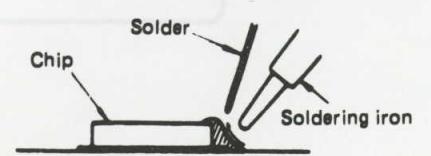
3. Remove IC turning it with plier.

**5-3 Mounting**

1. Place the solder thinly on the chip mounting foil.
2. Solder the chip temporarily while holding the chip with the tweezers.

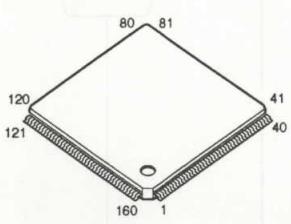


3. Solder both ends of chip (three leads for chip transistor).

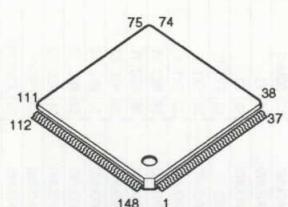


IC & TRANSISTORS

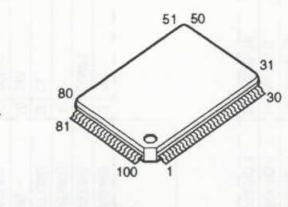
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YWL7A1077



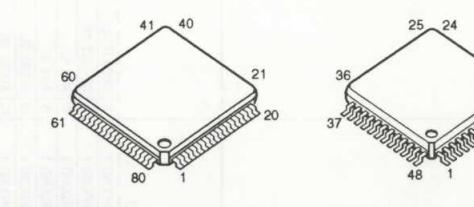
MN5306-LBY



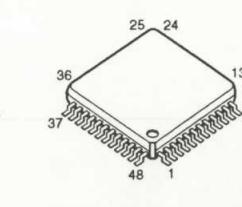
YWL7A09646



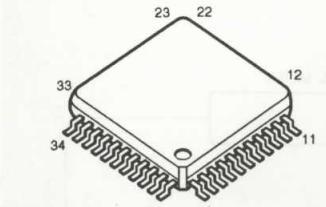
YWH7532F0MX1



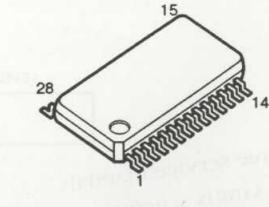
YWMC141625FU



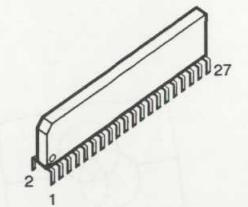
YWUPD65012C25



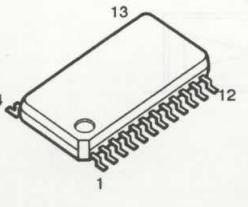
MN676011NPS, MN676012PPS
YWM51271FP



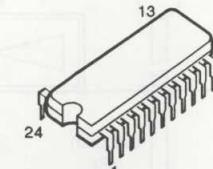
YWM5MC500AL



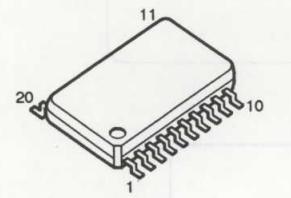
YWCXD1175AM
YWUPD42102G3



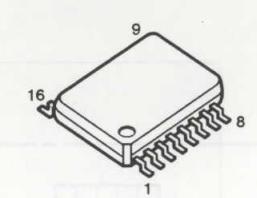
YWM66310P



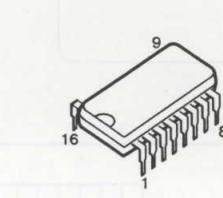
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YWMC74AC374M



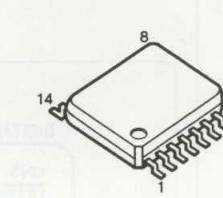
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YWUPD4538BG, MC74HC4053F
MC74HC4051F



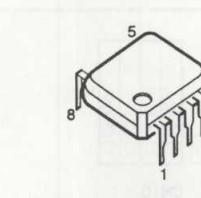
YWM5283P



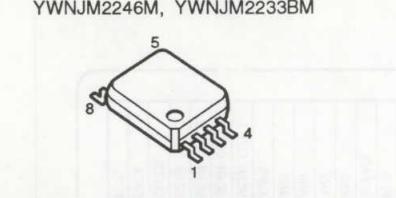
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YWUPC4064G2



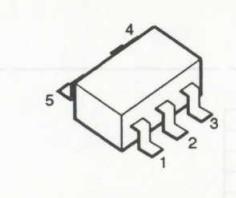
NJM2068MD
YWFA5304P



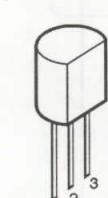
YWM51953AFP, YWM51955AFP
YWLM1881M, YWM5216FP, NJM2904M
YWTC4W53FL, YWNJM2245M
YWNJM2246M, YWNJM2233BM



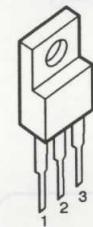
YWSC7S08F, YWSC7SU04F
YWTC7S32F, YWSC7S32F



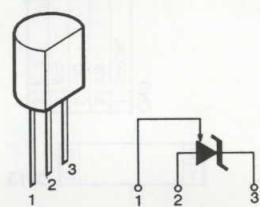
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YWNJM78L09A, NJM79Lo5A



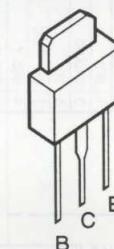
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YWUPC2412HF



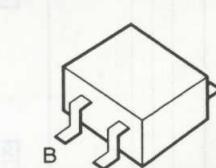
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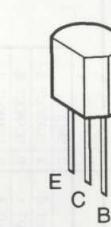
2SA1244-Y



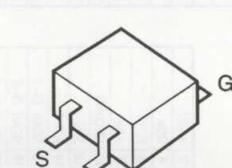
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2SD1328RS, DTB114EK, 2SD1992A
2SA1733K



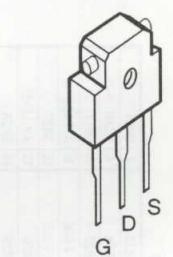
2SA933, 2SC1740
2SC3377



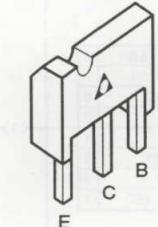
2SK198-PQR



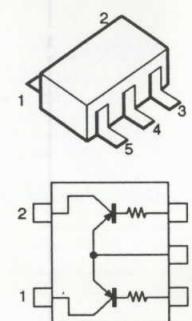
2SK960, 2SK947
2SK897



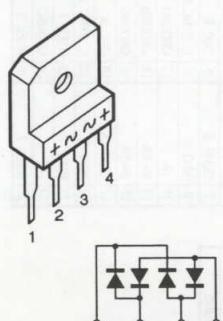
2SB642QRS



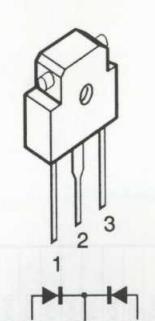
FMA4T149



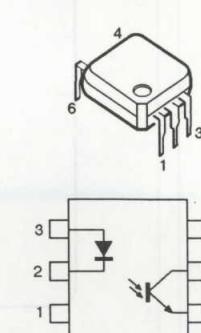
YWRBV406



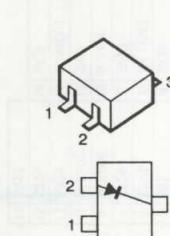
YWESAB85M009
YWESAC82M004



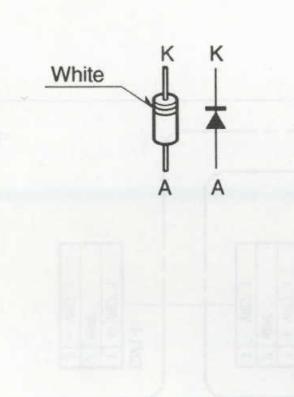
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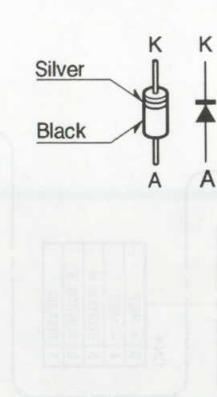
YWDAN212K, MA151K
YWRB421D



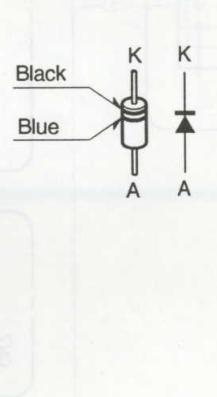
MA165



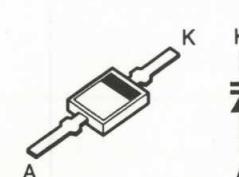
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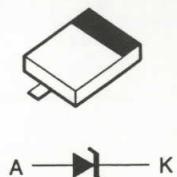
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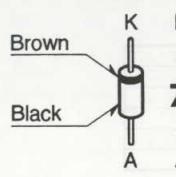
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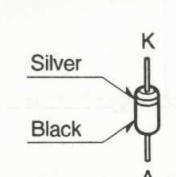
MA8033



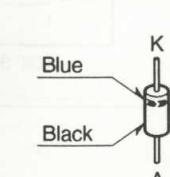
RU1P



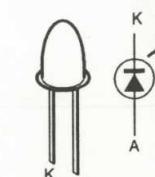
YWEQA0325



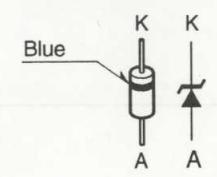
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YWSLR34VR90T

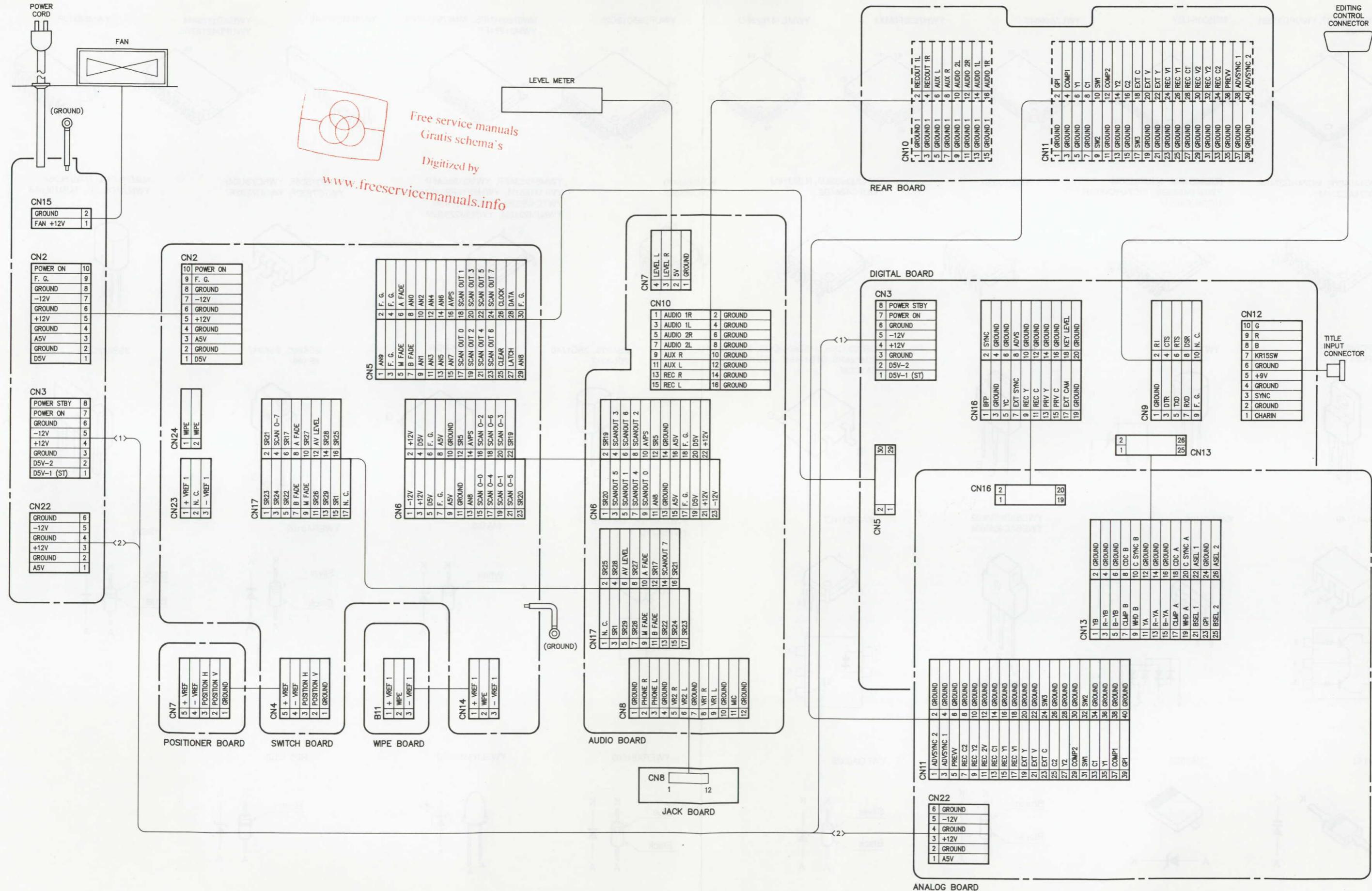


RD5.1JB2

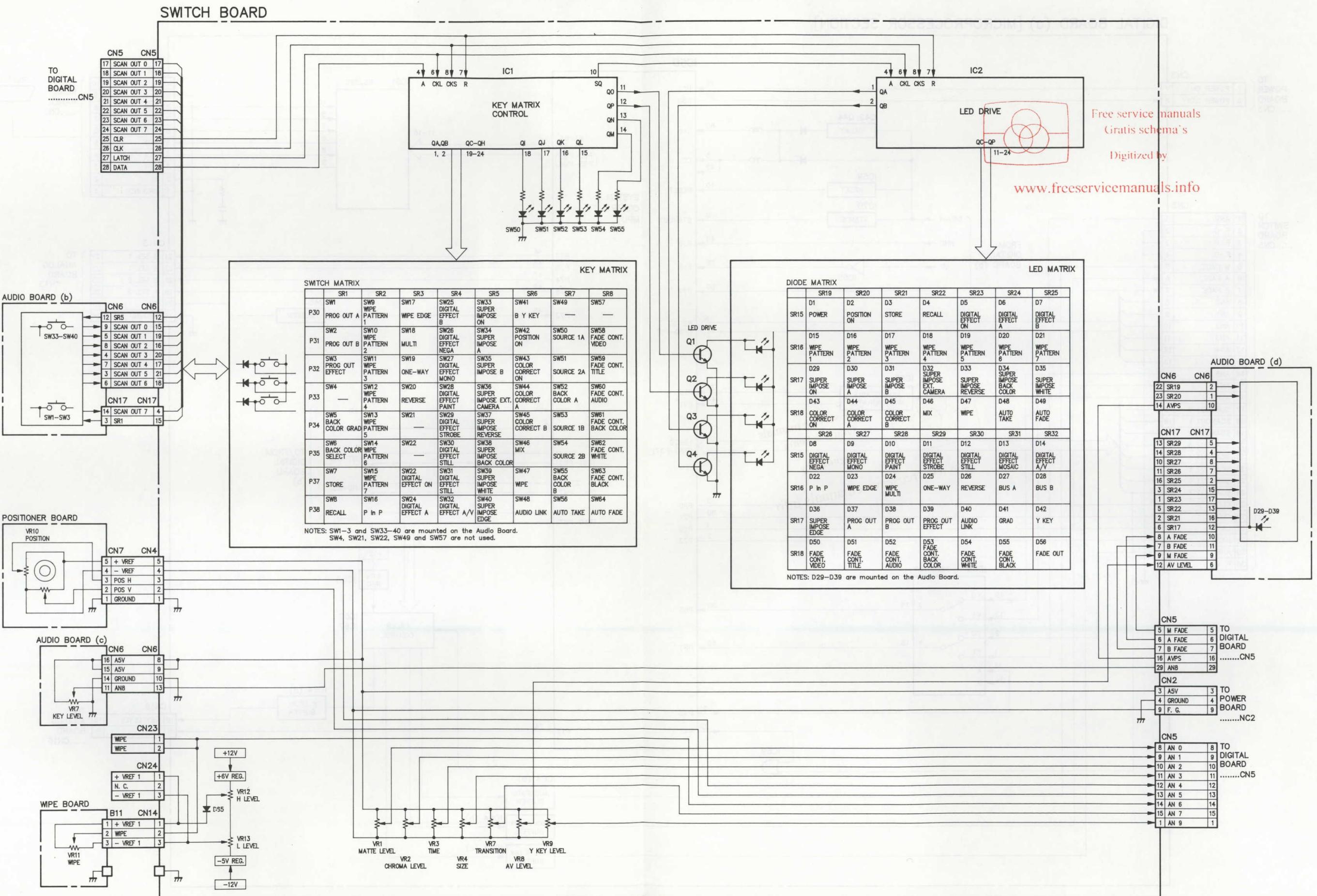


WJ-MX30 WJ-MX30

WIRING DIAGRAM

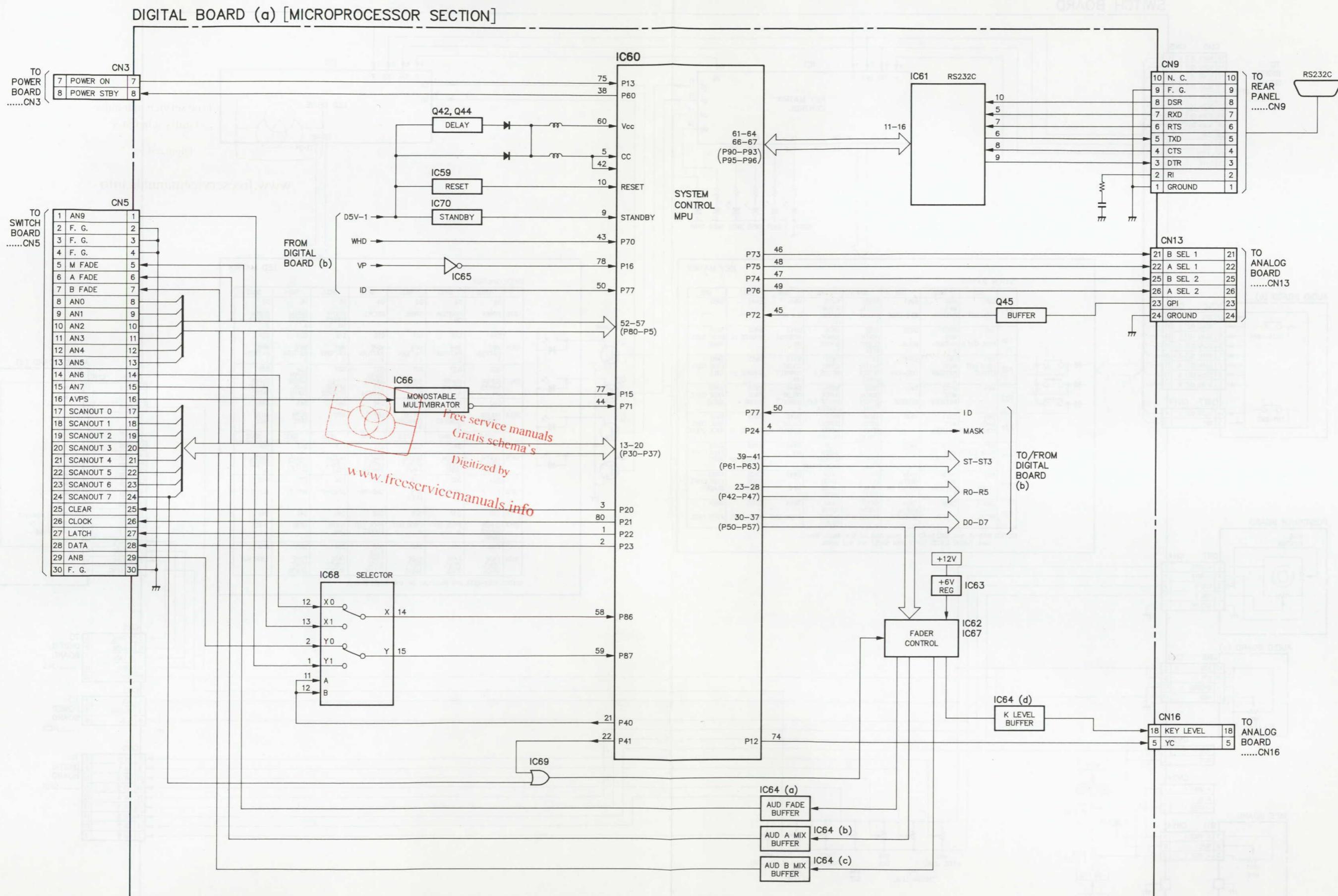


BLOCK DIAGRAM OF SWITCH BOARD



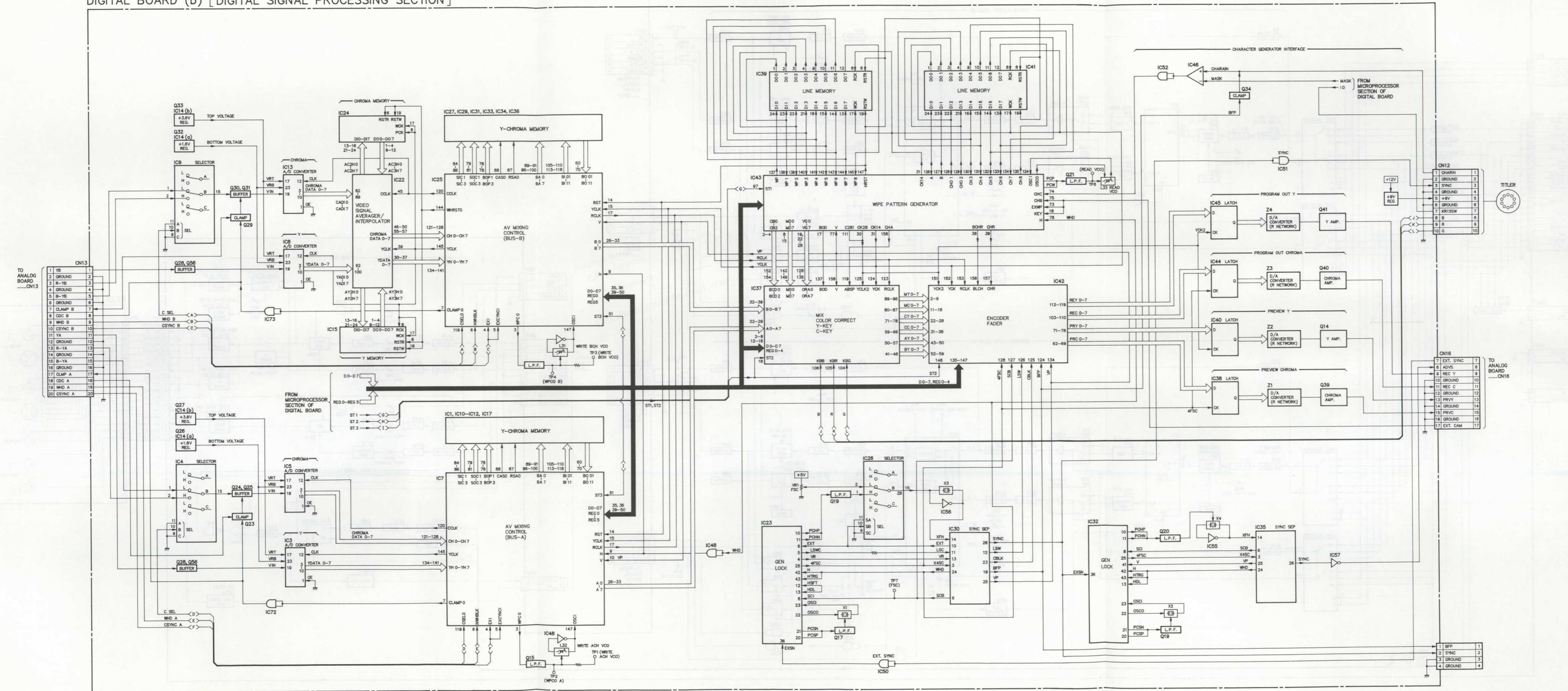
WJ-MX30 WJ-MX30

BLOCK DIAGRAM OF DIGITAL BORAD (Microprocessor Section)



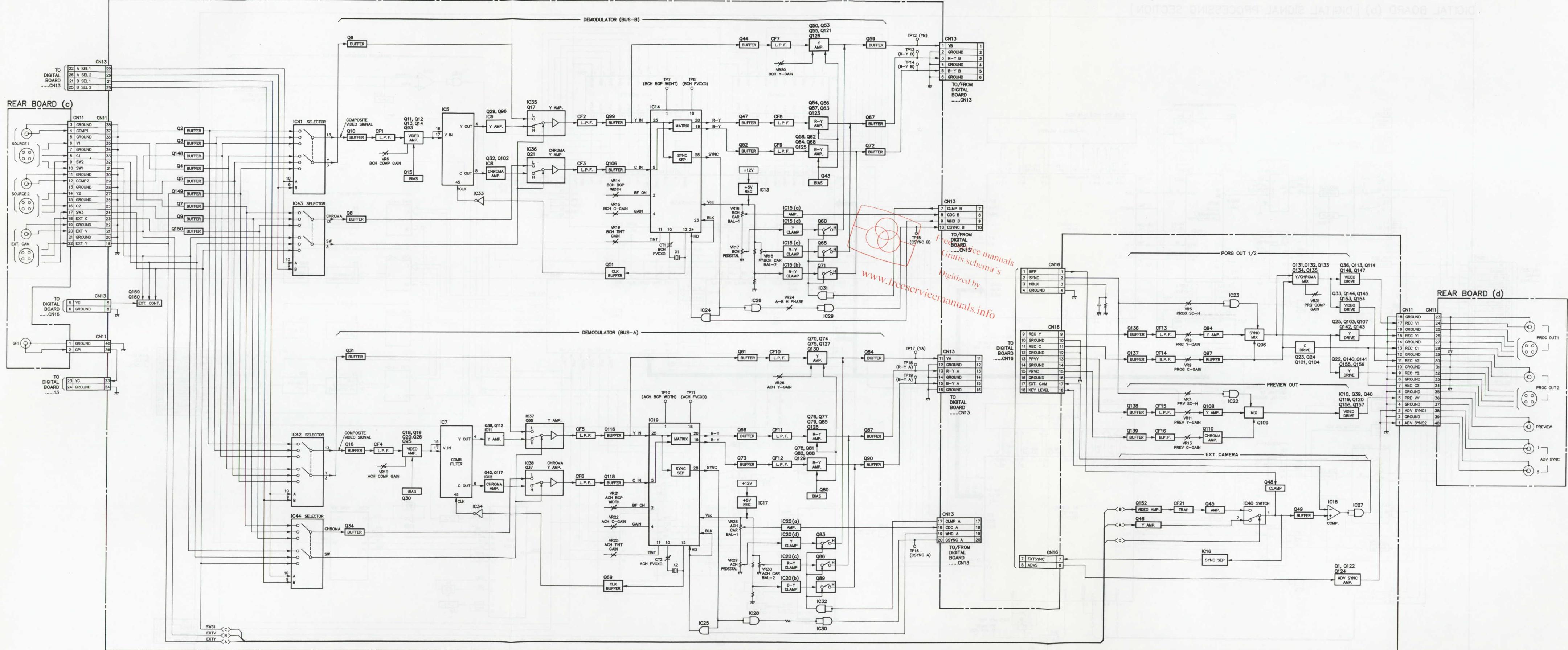
BLOCK DIAGRAM OF DIGITAL BORAD (Digital Signal Processing Section)

DIGITAL BOARD (b) [DIGITAL SIGNAL PROCESSING SECTION]

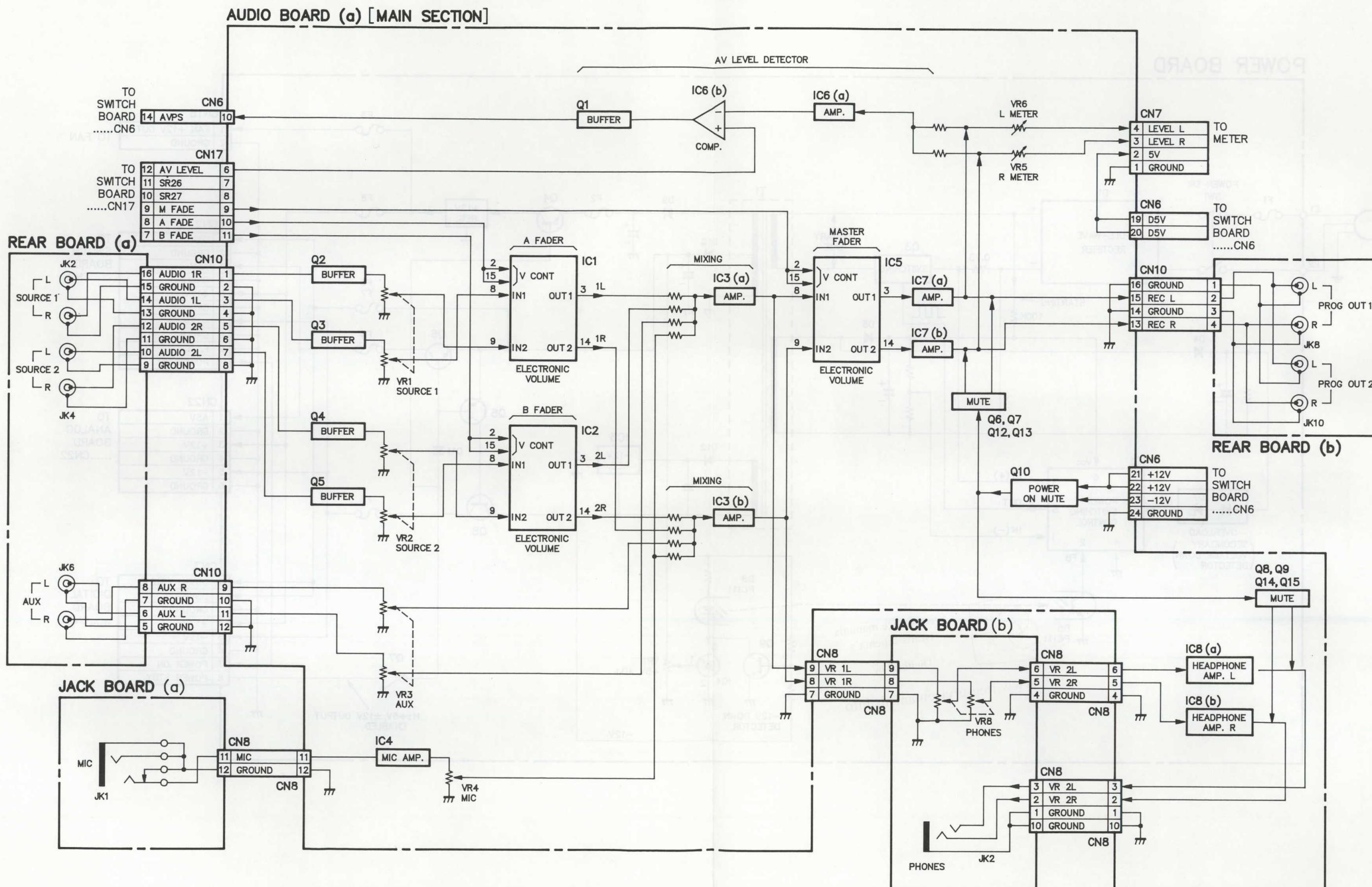


BLOCK DIAGRAM OF ANALOG BOARD

ANALOG BOARD

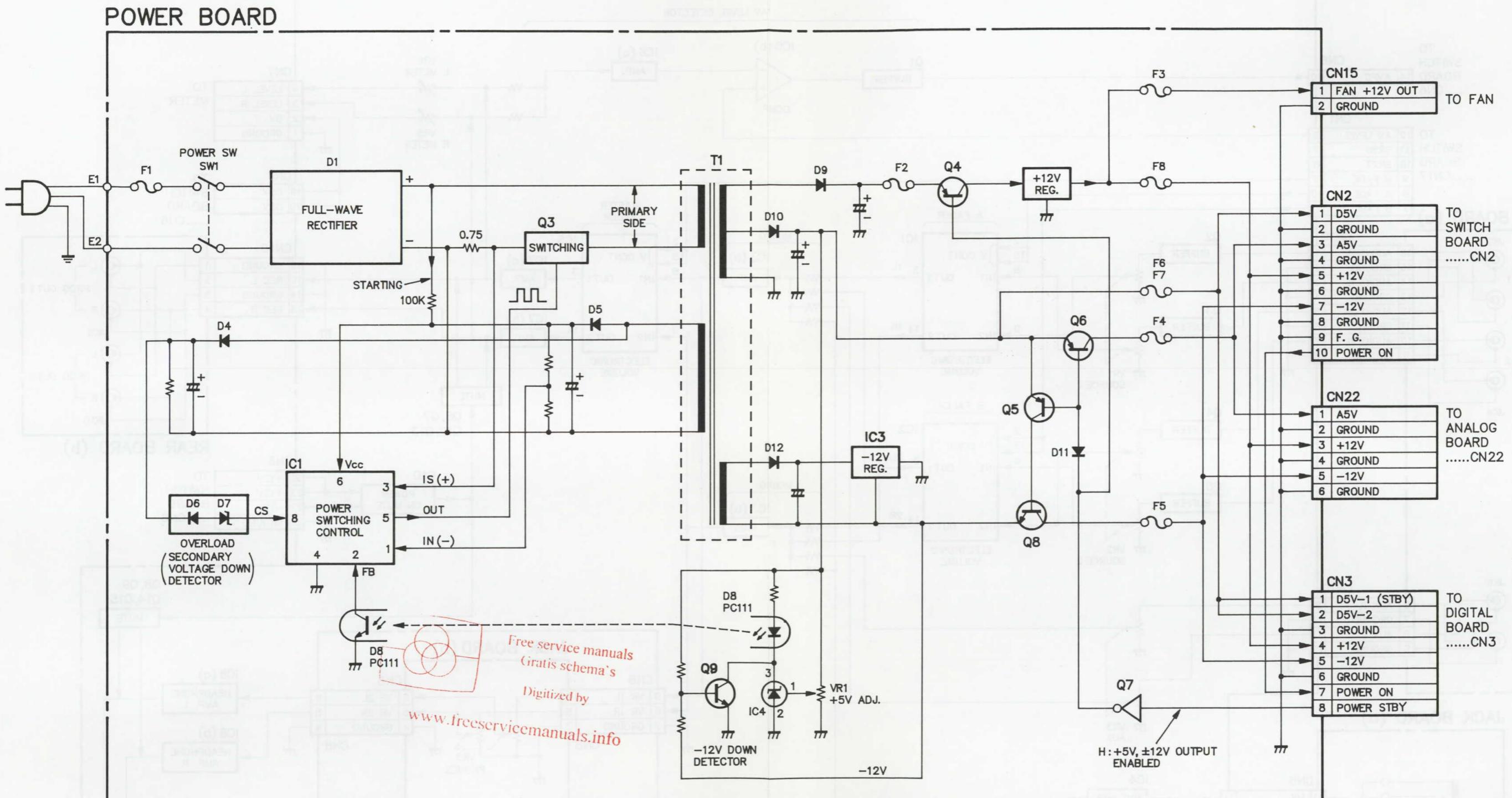


BLOCK DIAGRAM OF AUDIO BOARD



WJ-MX30 WJ-MX30

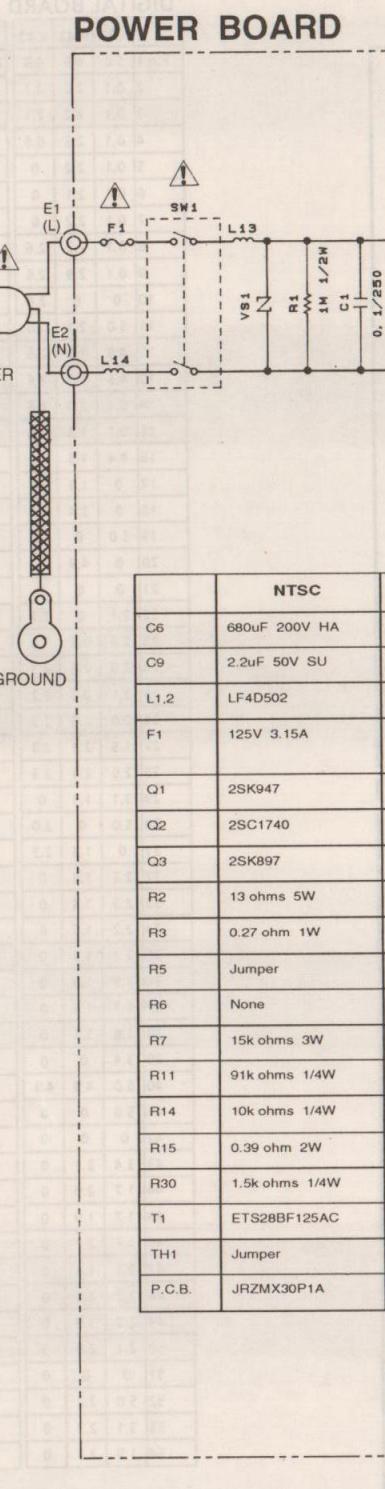
BLOCK DIAGRAM OF POWER BOARD



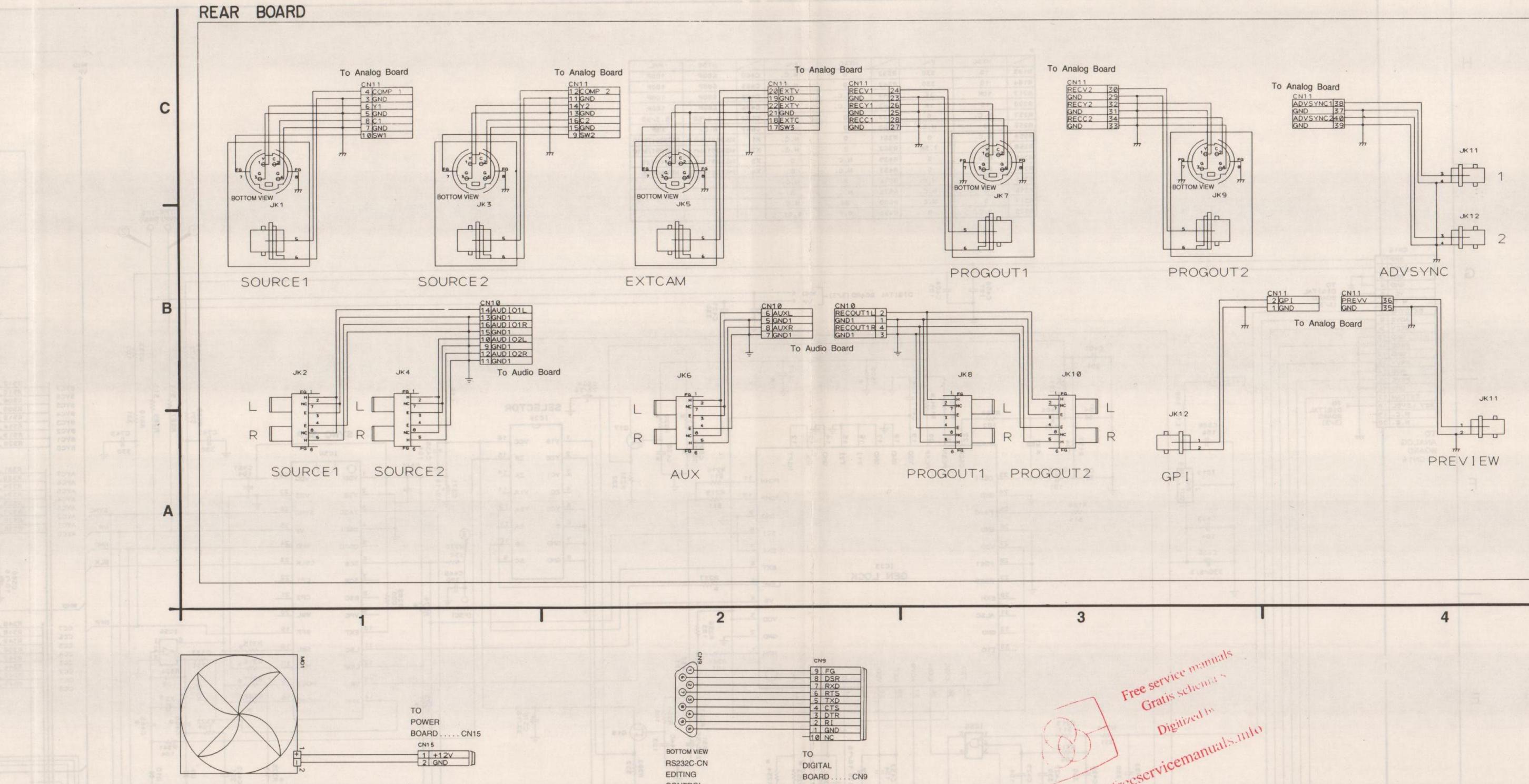
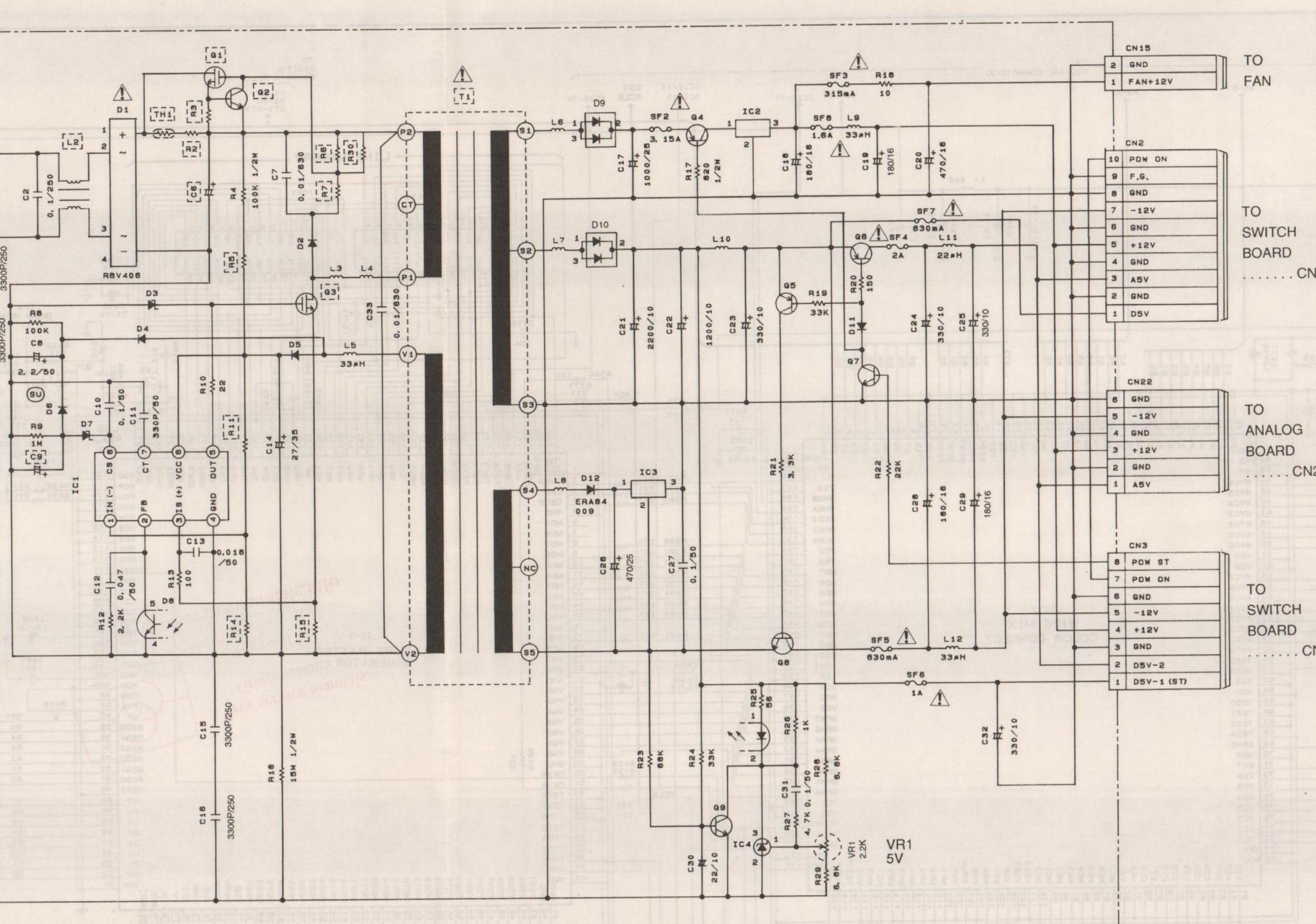
SCHEMATIC DIAGRAM OF POWER BOARD

SCHEMATIC DIAGRAM OF DIGITAL BOARD (13)

SCHEMATIC DIAGRAM OF REAR BOARD



NTSC		PAL	
C6	680uF 200V HA	150uF 400V HA	
C9	2.2uF 50V SU	1uF 50V SU	
L1,2	LF40183	LF40183	
P1	125V 3.15A	250V/115V (XB21C16TOA)	
C1	2SK947	None	
C2	2SC1740	None	
C3	2SK997	2SK970	
R2	13 ohms 5W	3.3 ohms 5W	
R3	0.27 ohm 1W	None	
R5	Jumper 100k ohms 1/2W		
R6	None 10k ohms 3W		
R7	15k ohms 3W	10k ohms 3W	
R11	91k ohms 1/4W	56k ohms 1/4W	
R14	10k ohms 1/4W	6.2k ohms 1/4W	
R15	0.39 ohms 2W	0.75 ohms 2W	
R20	1.5k ohms 1/4W	None	
T1	ET520BF125AC	ET520BF136AC	
TH1	Jumper 16D13		
P.C.B.	JRZMX30P1A	JRZMX30E1A	



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COMPONENT IDENTIFIED WITH THE Δ MARK HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN SERVICING ANY OF THESE COMPONENTS, IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFIED PARTS BE USED.

<Index>

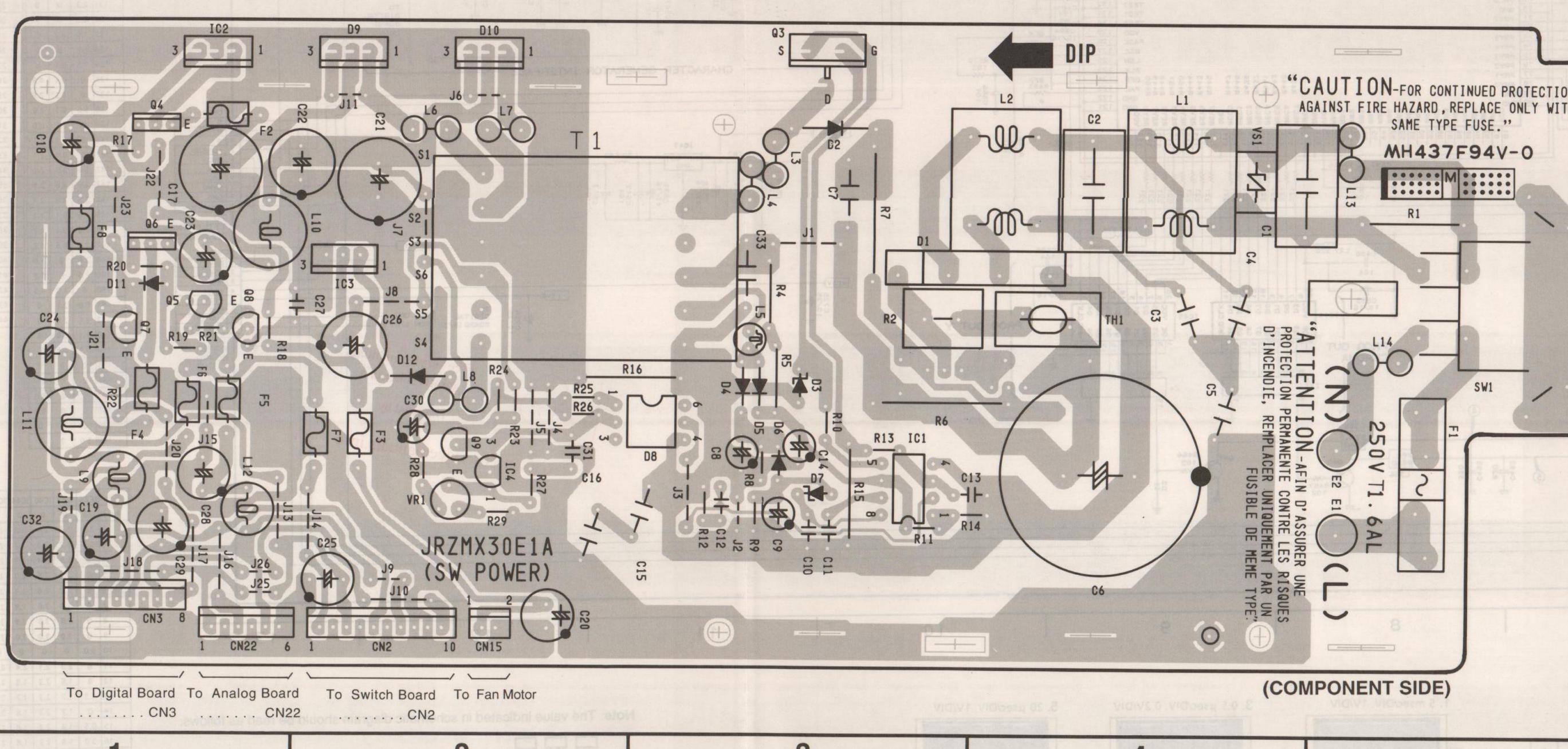
Power Board

IC1 B2 Q3 C2 Q7 B3 D2 C2 D6 B2 D10 C8
IC2 C3 Q4 C3 Q8 A3 D3 C2 D7 B2 D9 C3
IC3 B3 Q5 C3 Q9 A3 D4 C2 D8 A3/B2 D12 B3
IC4 A3 Q6 C3 D1 C2 D5 B2 SW1 C1

POWER BOARD			
I1	I2	I3	I4
Pin 1 1.4 15.8 3.9 2.4	Q1 2.16 0 -12.0 -16.0	C1 4 15.1 15.8 15.8	C3 0 12.0 0 4.2
3 0 12.0 0 4.2	5 4.5 5.1 5.2	5 4.5 5.1 5.2	6 4.5 5.1 5.2
4 0	6 4.5 5.1 5.2	6 4.5 5.1 5.2	7 0.7 0.4 -12.4
5 1.7	8 11.3 -12.0 -12.0	8 11.3 -12.0 -12.0	9 0.5 4.2 0
6 2.0	10 0.1 0.1 0.1	10 0.1 0.1 0.1	11 0.1 0.1 0.1
7 1.4	12 0.1 0.1 0.1	12 0.1 0.1 0.1	13 0.1 0.1 0.1
8 1.6	14 0.1 0.1 0.1	14 0.1 0.1 0.1	15 0.1 0.1 0.1

CONDUCTOR VIEW OF POWER BOARD

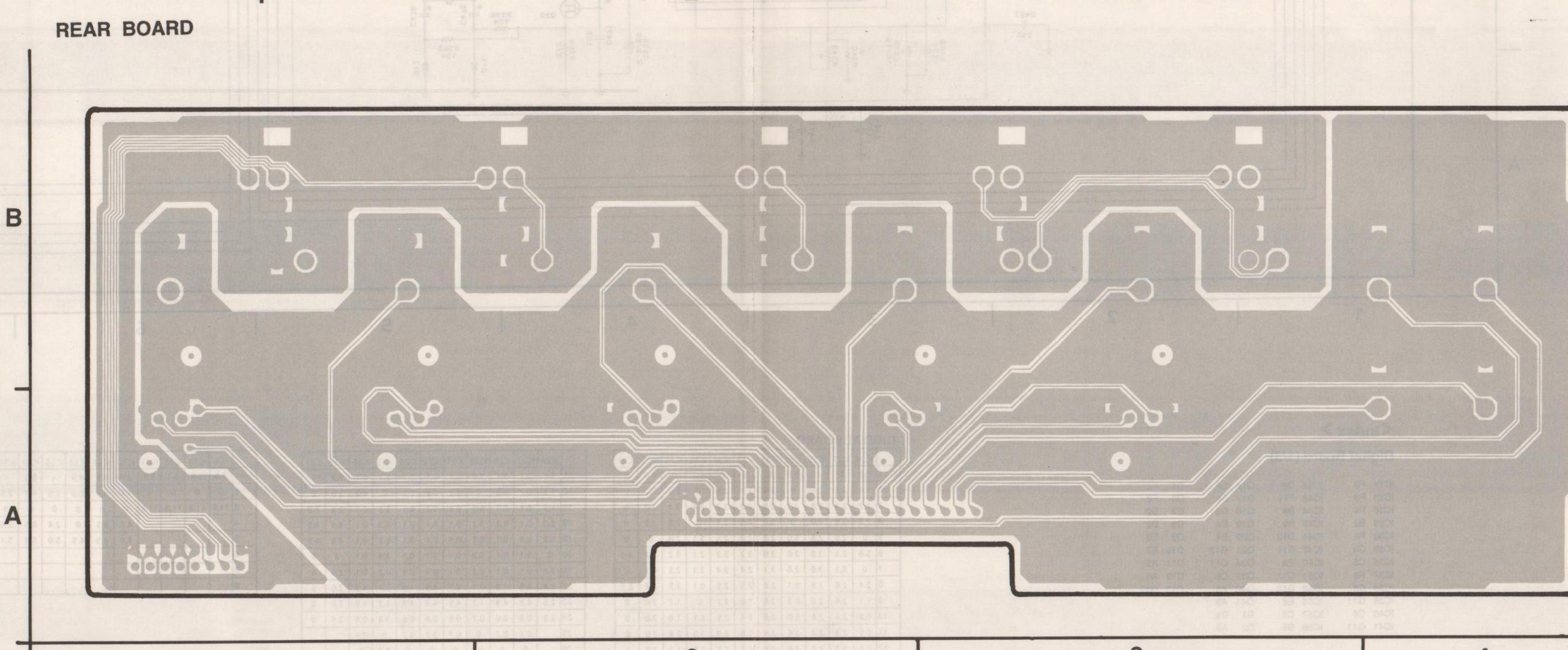
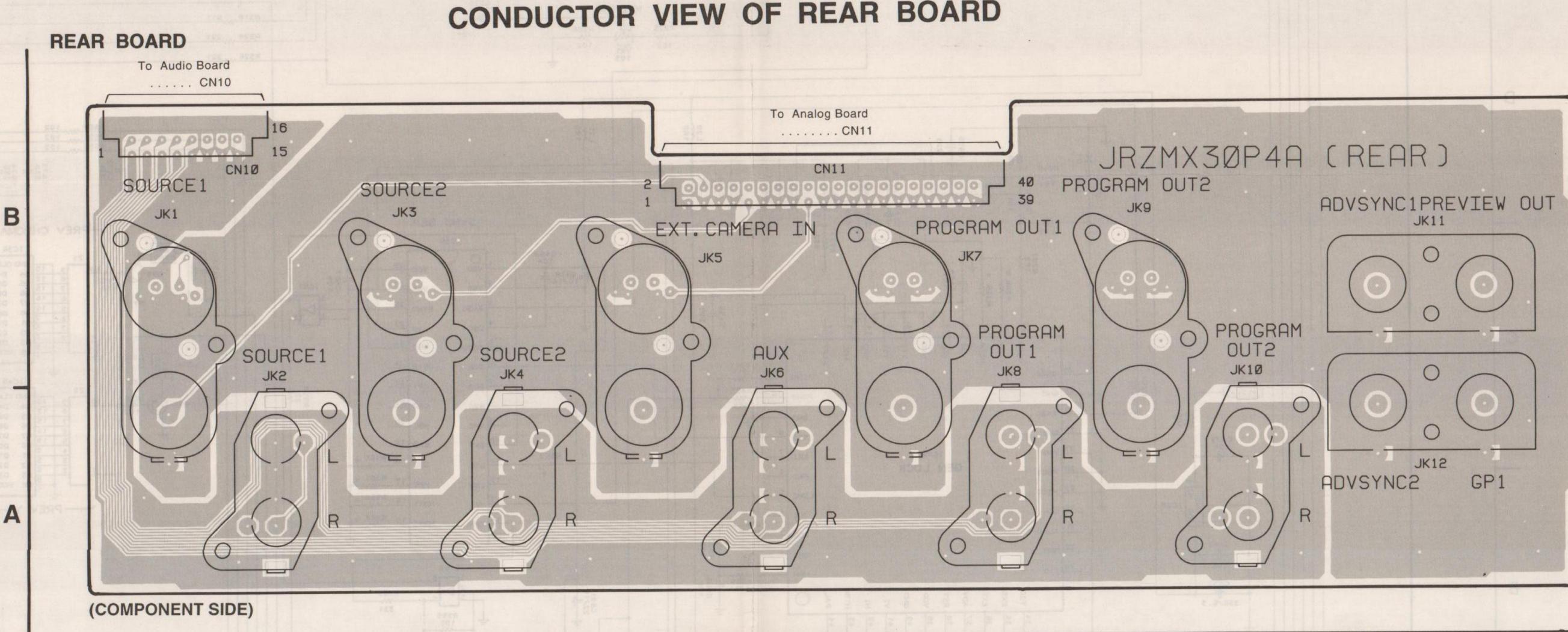
POWER BOARD



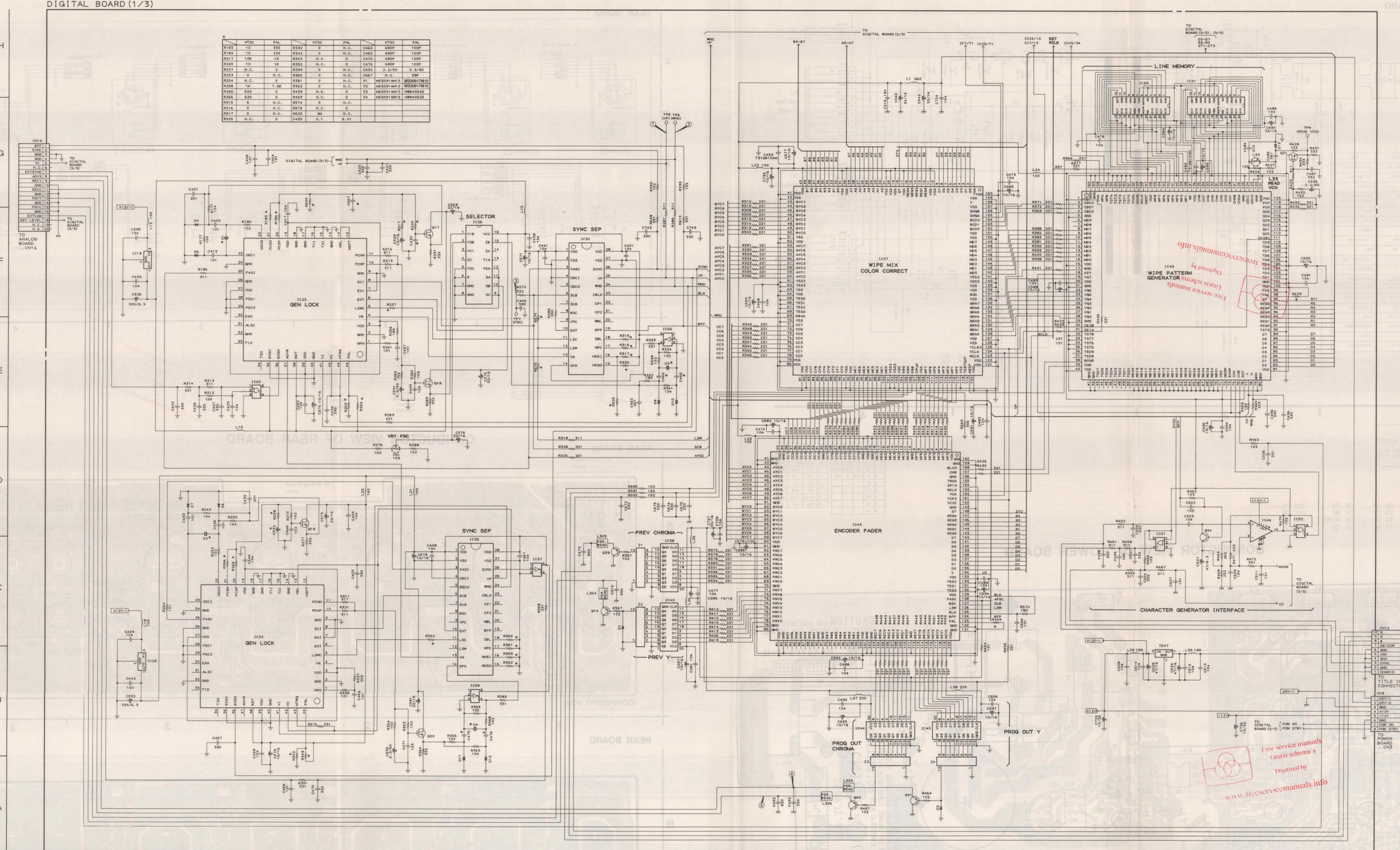
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Power Board

IC1 A3 Q3 C3 Q7 B1 D2 C3 D6 A6 D10 C2
IC2 C1 Q4 C1 Q8 B1 D3 B3 D11 B10 x 2 D12 B2
IC3 B2 Q5 B1 Q9 B2 D4 B3 D8 B3 D12 B2
IC4 A2 Q6 B1 D1 B4 D5 B3 D9 C2 SW1 B5



SCHEMATIC DIAGRAM OF DIGITAL BOARD (1/3)



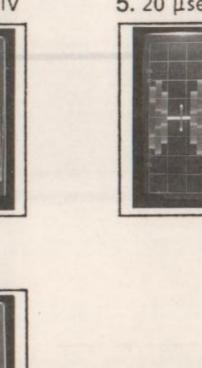
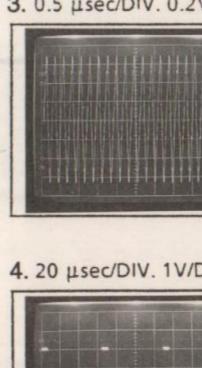
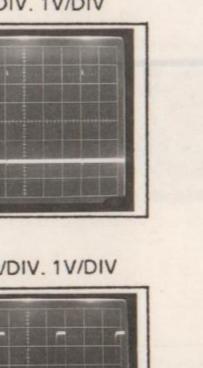
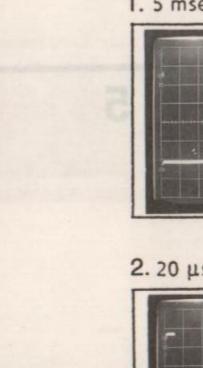
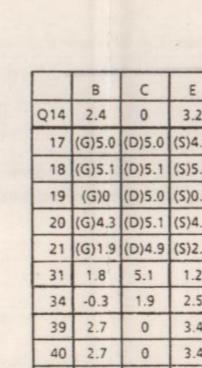
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Digital Board (1/3)

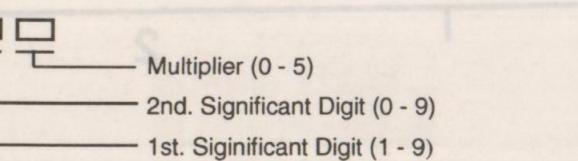
IC19	F2	IC42	D8	Q14	C6	D4	F2	Pin
IC23	F3	IC43	F11	Q17	F4	D6	F2	
IC26	F5	IC44	B8	Q18	D3	D7	D2	
IC28	B2	IC45	B9	Q19	E4	D8	D2	
IC30	F6	IC46	D12	Q20	B4	D9	E6	
IC32	C3	IC47	B11	Q21	G12	D10	E7	
IC35	C5	IC50	E3	Q34	D11	D11	A5	
IC37	F8	IC51	C11	Q39	C6	D12	A5	
IC38	C6	IC52	D12	Q40	A8	D13	G12	
IC39	G11	IC56	E6	Q41	A9			
IC40	C6	IC57	C5	D1	C6			
IC41	G11	IC58	B5	D2	A9			

DIGITAL BOARD											
	IC24	IC27	IC29	IC30	IC31	IC33	IC34	IC35	IC36	IC39	IC41
1	1.8	0	0	5.0	0	0	0	5.1	0	2.0	0
2	1.8	2.6	2.6	0	2.6	2.7	2.8	0	2.8	2.0	0
3	1.7	2.9	2.8	2.3	2.8	3.2	3.2	2.4	3.2	2.0	0
4	2.3	3.0	3.0	0	3.0	2.5	2.5	0	2.5	2.0	0
5	0	2.8	2.8	5.0	2.8	2.8	2.8	5.1	2.8	0	0
6	5.0	2.9	3.0	2.0	3.0	3.2	3.2	2.1	3.2	0.7	4.9
7	0	3.1	3.0	2.0	3.1	2.4	2.4	2.1	2.5	0.5	0
8	2.4	2.8	2.9	0.1	2.8	2.5	2.5	0.1	2.5	2.3	2.3
9	1.1	2.6	2.6	0.3	2.6	1.6	1.7	0	1.7	2.0	0
10	0.8	2.6	2.6	5.0	2.6	2.4	2.5	5.1	2.4	2.0	0
11	0.9	2.4	2.4	1.6	2.4	2.8	2.8	1.6	2.8	2.0	0
12	2.8	2.3	2.4	2.5	2.4	1.3	1.4	2.6	1.4	2.0	0
13	3.8	2.5	2.5	5.0	2.5	2.5	2.5	5.0	2.5	2.0	0

	IC24	IC27	IC29	IC30	IC31	IC33	IC34	IC35	IC36	IC39	IC41
15	1.1	0.1	0.1	5.0	0.1	0.1	0.1	5.1	0.1	2.0	0
16	1.5	0.2	0.2	0	0.2	0.2	0.2	0	0.2	2.0	0
17	1.9	0.1	0.1	5.0	0.1	0.1	0.1	5.1	0.1	2.3	0
18	5.0	0.1	0.1	4.2	0.1	0.1	0.1	4.3	0.1	4.9	0
19	5.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	4.9
20	0	0.1	0.1	3.3	0.1	0.1	0.1	3.4	0.1	0	0
21	3.2	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	2.0	0
22	2.4	4.9	4.9	0.1	4.9	4.9	4.9	0.1	4.9	2.0	0
23	2.6	4.9	4.9	1.2	4.9	4.9	4.9	1.3	4.9	2.0	0
24	2.3	0.6	0.6	0.7	0.6	0.6	0.6	0.8	0.6	2.6	0
25	0.7	0.7	0	0.7	0.7	0.7	0.7	0	0.7	0	0
26	0	0	4.4	0	0	0	0	4.7	0	0	0
27	4.3	4.3	0	4.3	4.3	4.3	4.3	0	4.3	0	0



The value indicated in schematic diagram should be read as follows:



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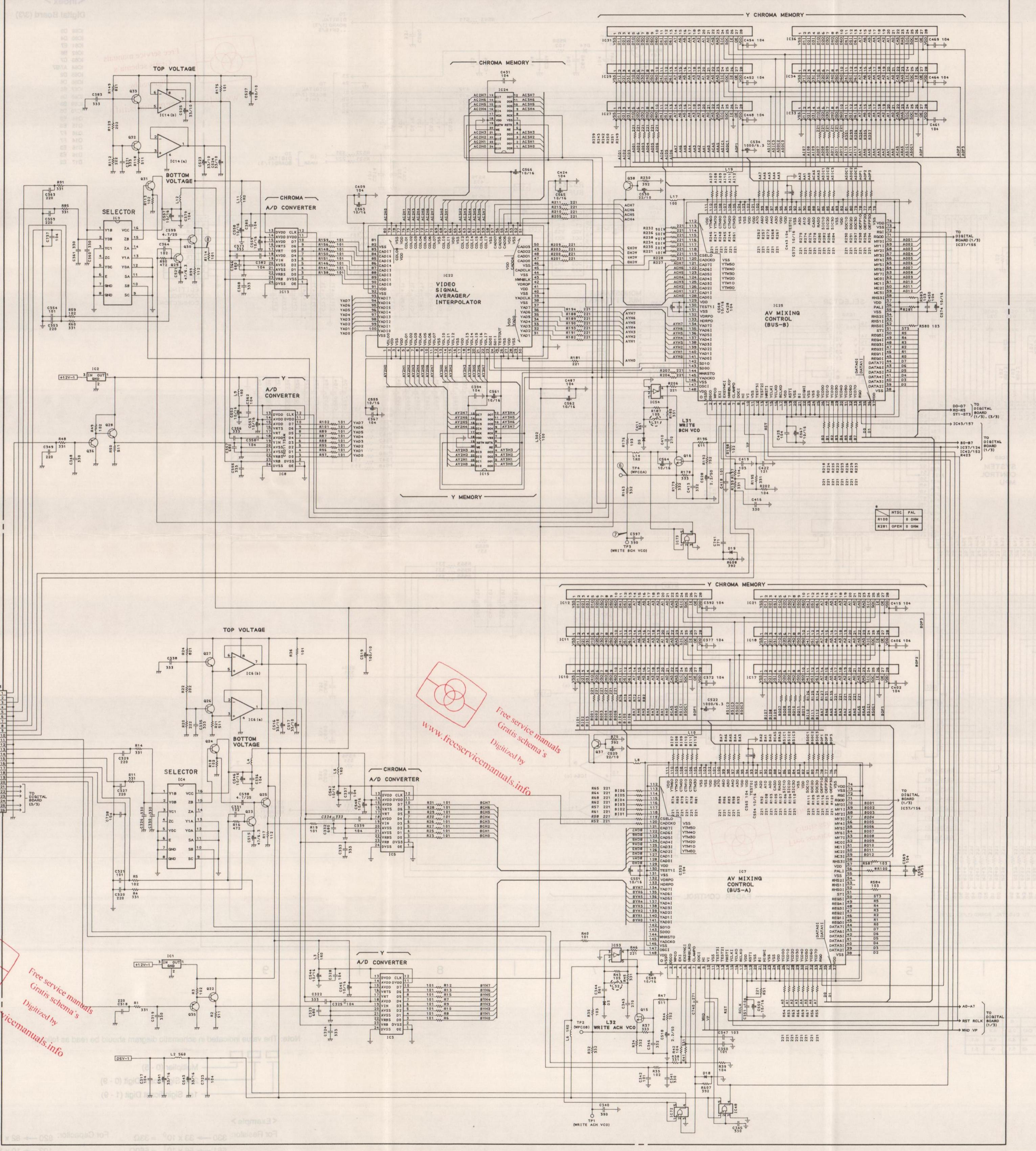
$$\text{istor: } 330 \rightarrow 33 \times 10^0 = 33\Omega$$

For Capac

The suffix attached to capacitance indicates a type of capacitor.

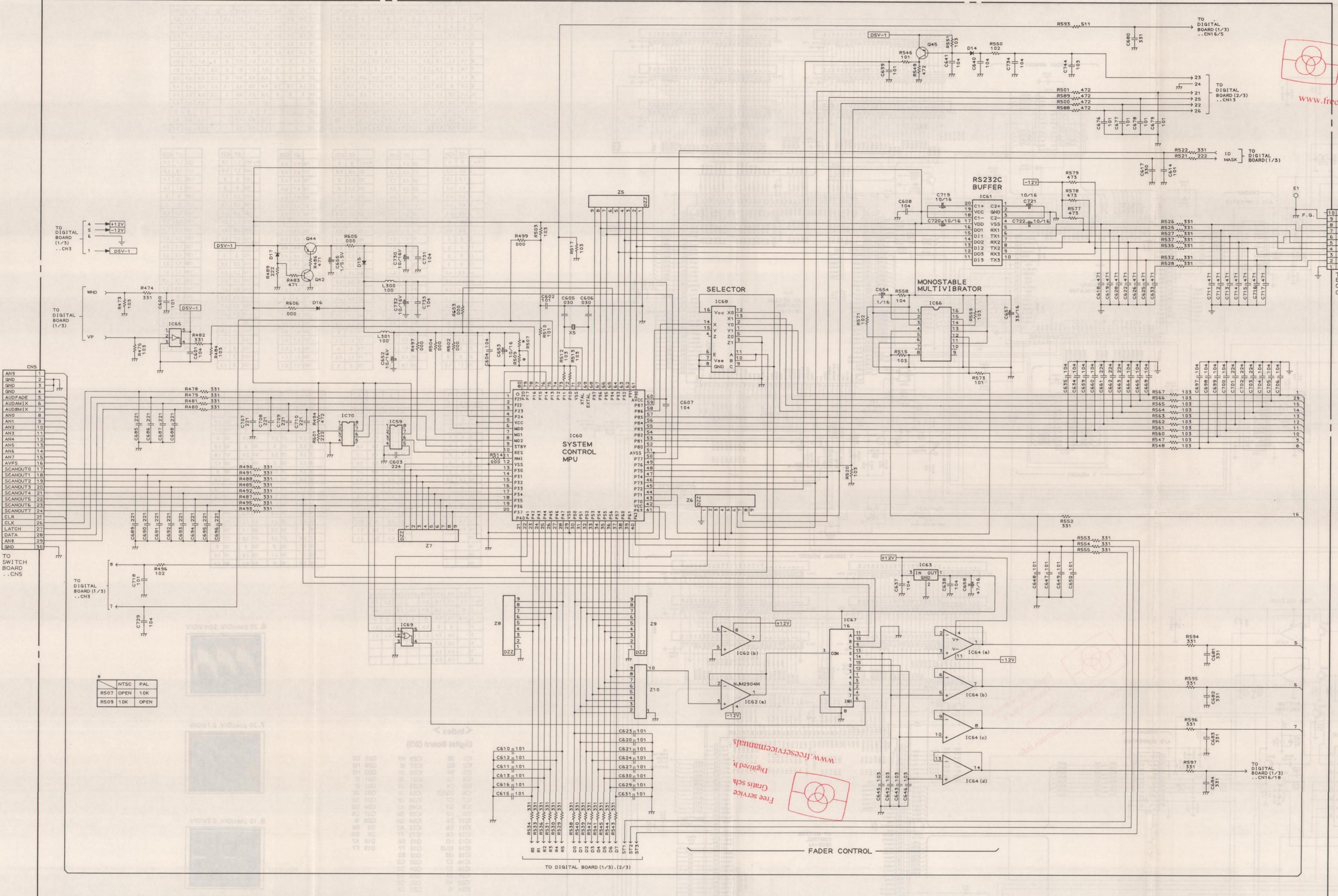
SCHEMATIC DIAGRAM OF DIGITAL BOARD (2/3)

DIGITAL BOARD (2/3)



SCHEMATIC DIAGRAM OF DIGITAL BOARD (3/3)

DIGITAL BOARD (3/3)



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Digital Board (3/3)

IC59	D3
IC60	D4
IC61	E7
IC62	B6
IC63	C7
IC64	A7/B7
IC65	D2
IC66	D6
IC67	B6
IC68	D9
IC69	B9
IC70	D9
Q14	E9
Q15	E3
Q16	F7
Q17	E3
Q18	F7
Q19	E3
Q20	E3
Q21	E3
Q22	E3
Q23	E3
Q24	E3
Q25	E3
Q26	E3
Q27	E3
Q28	E3
Q29	E3
Q30	E3
Q31	E3
Q32	E3
Q33	E3
Q34	E3
Q35	E3
Q36	E3
Q37	E3
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Q40	E3
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Q189	E3
Q190	E3
Q191	E3
Q192	E3
Q193	E3
Q194	E3
Q195	E3
Q196	E3
Q197	E3
Q198	E3
Q199	E3
Q200	E3

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Digital Board (3/3)

IC59	D3
IC60	D4
IC61	E7
IC62	B6
IC63	C7
IC64	A7/B7
IC65	D2
IC66	D6
IC67	B6
IC68	D9
IC69	B9
IC70	D9
Q14	E9
Q15	E3
Q16	F7
Q17	E3
Q18	F7
Q19	E3
Q20	E3
Q21	E3
Q22	E3
Q23	E3
Q24	E3
Q25	E3
Q26	E3
Q27	E3
Q28	E3
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Q153	E3
Q154	E3
Q155	E3
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Q157	E3
Q158	E3
Q159	E3
Q160	E3

SCHEMATIC DIAGRAM OF ANALOG BOARD

ANALOG BOARD

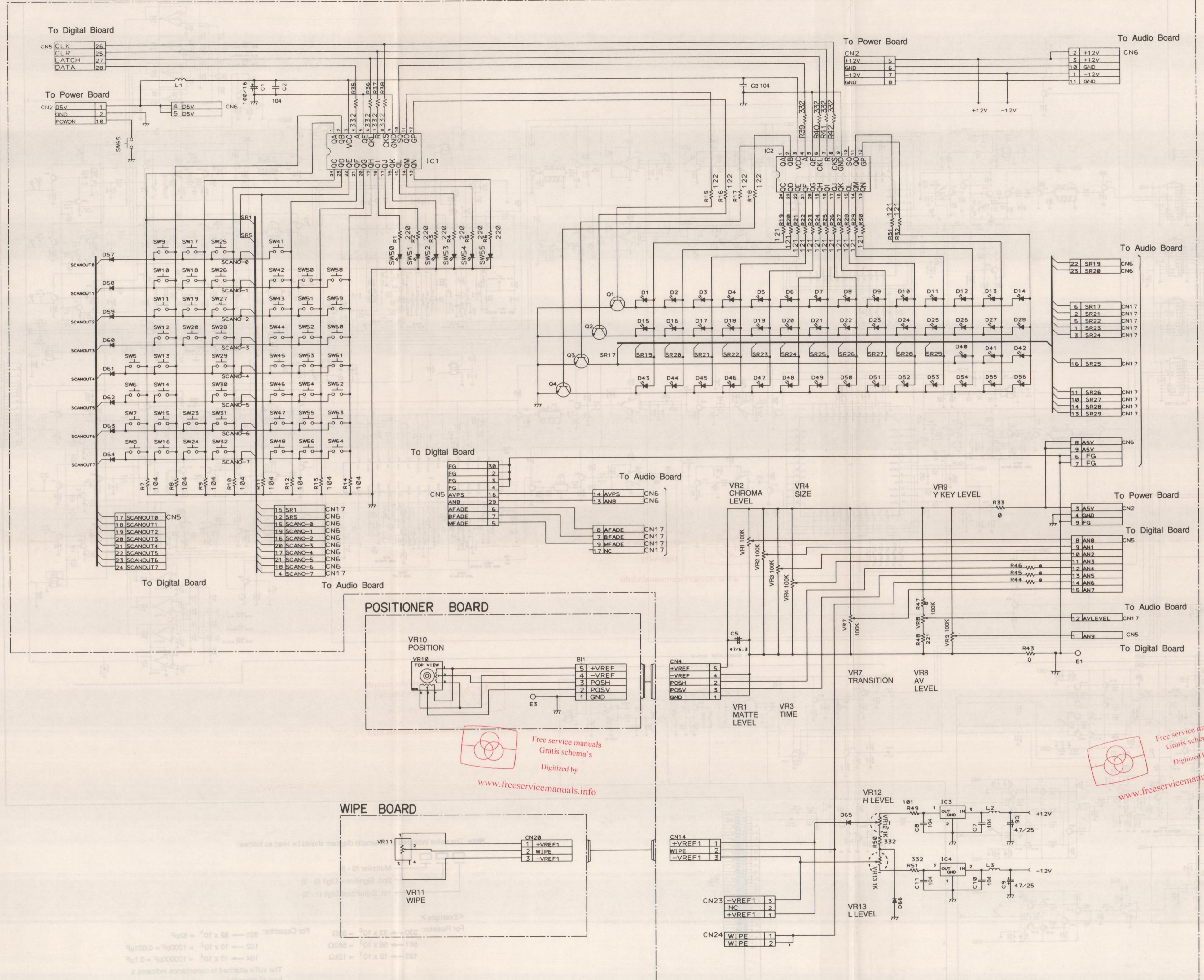
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Pin 1	4.0	6.3	4.4	4.1	4.0	6.2	5.1	5.1	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
2	0	0	0	0	0	2.1	0	5.0	0.1	0.1	0.1	5.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	4.0	6.3	4.4	4.1	4.0	6.2	8.9	4.9	8.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	9.3	9.3	10.3	9.4	9.3	0	0	4.6	4.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	4.0	6.3	4.7	4.0	4.2	6.2	4.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6	9.3	9.3	10.3	9.4	9.3	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	3.3	4.4	4.8	3.3	4.3	4.3	1.4	2.3	1.4	2.2	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	IC1	IC2	IC3	IC4	IC5	IC6	IC7	IC8	IC9	IC10	IC11	IC12	IC13	IC14	IC15	IC16	IC17	IC18	IC19	IC20	IC21	IC22	IC23	IC24	IC25	IC26	IC27	
Pin 1	5.0	5.0	5.0	4.9	4.9	0.8	1.6	2.1	3.0	2.0	3.0	0	1.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	2.2	0	2.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	
3	0	0	0	0	0	0	0	0	0	2.1	2.9	2.0	2.9	2.1	0	0	0	0	0	0	0	0	0	0	0	0	0	
4	0	0	0	0	0	0.2	0.2	2.4	2.4	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	5.0	5.0	5.0	4.9	4.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
6	9.3	9.3	10.3	9.4	9.3	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	3.3	4.4	4.8	3.3	4.3	4.3	1.4	2.3	1.4	2.2	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Analog Board

	B	C	E		B	C	E		B	C	E		B	C	E		B	C	E		B	C	E		B	C	E	
Q1	7.9	0	8.6		O45	2.4	5.0	1.8	O85	6.1	2.4	2.4		Q159	1.5	0	3.6		Q131	4.1	5.0	3.6		Q159	1.5	0	3.6	
2	3.1	0	5.2		46	2.3	5.0	1.8	132	4.1	5.0	3.5		132	4.1	5.0	3.5		133	4.1	6.8	3.5		133	4.1	6.8	3.5	
3	3.1	0	5.2		47	2.1	5.0	1.5	133	4.1	6.8	3.5		134	4.0	10.7	4.2		134	4.0	10.7	4.2		135	6.8	10.7	6.4	
4	3.1	0	5.2		48	0.1	2.8	2.7	135	6.8	10.7	6.4		136	5.1	11.8	3.3		136	5.1	11.8	3.3		137	5.1	11.8	5.4	
5	3.1	0	5.2		49	2.7	5.0	2.1	137	5.1	11.8	5.4		138	5.5	11.8	4.9		138	5.5	11.8	4.9		139	5.5	11.8	5.0	
6	2.5	0	5.0		50	2.5	4.9	1.5	139	5.5	11.8	5.0		140	2.7	5.0	2.1		140	2.7	5.0	2.1		141	1.4	5.0	2.1	
7	3.1	0	5.2		51	3.6	5.0	2.9	141	1.4	5.0	2.1		142	2.4	5.0	2.0		142	2.4	5.0	2.0		143	2.0	1.4	2.0	
8	2.5	0	5.0		52	2.1	5.0	1.5	143	2.0	1.4	2.0		144	0.6	5.0	0		144	0.6	5.0	0		145	0.6	-0.6	5.1	
9	3.1	0	5.2		53	3.1	5.0	2.5	145	0.6	-0.6	5.1		146	3.1	5.0	2.5		146	3.1	5.0	2.5		147	0.6	0	0.6	
10	2.5	0	5.0		54	3.0	5.0	2.4	147	0.6	0	0.6		148	3.1	5.0	2.5		148	3.1	5.0	2.5		149	3.1	5.0	2.5	
11	3.1	0	5.2		55	6.5	11.4	5.9	149	3.1	5.0	2.5		150	3.1	5.0	2.4		150	3.1	5.0	2.4		151	6.3	11.4	5.7	
12	6.3	11.1	5.7		56	6.3	11.4	5.7	151	6.3	11.4	5.7		152	3.1	5.0	2.4		152	3.1	5.0	2.4		153	0	0	0	
13	3.1	6.3	2.4		57	3.0	6.3	2.4	153	0	0	0		154	0	-0.6	0		154	0	-							

SWITCH BOARD



KEY SCAN MATRIX									
	SR1	SR2	SR3	SR4	SR5	SR6	SR7	SR8	
P30	SW1 PROG OUT A	SW9 WIPE PATTERN 1	SW17 WIPE EDGE	SW25 DIGITAL EFFECT B	SW33 SUPER IMPOSE ON	SW41 B Y KEY	SW49	SW57	
P31	SW2 PROG OUT B	SW10 WIPE PATTERN 2	SW18 MULTI	SW26 DIGITAL EFFECT NEGA	SW34 SUPER IMPOSE A	SW42 POSITION ON	SW50 SOURCE 1A	SW58 FADE CONTRO L VIDEO	
P32	SW3 PROG OUT EFFECT	SW11 WIPE PATTERN 3	SW19 ONE-WAY	SW27 DIGITAL EFFECT MONO	SW35 SUPER IMPOSE B	SW43 COLOR CORREC T ON	SW51 SOURCE 2A	SW59 FADE CONTRO L TITLE	
P33	SW4	SW12 WIPE PATTERN 4	SW20 REVERSE	SW28 DIGITAL EFFECT PAINT	SW36 SUPER IMPOSE EXT. CAMERA	SW44 COLOR CORREC T A	SW52 BACK COLOR A	SW60 FADE CONTRO L AUDIO	
P34	SW5 BACK COLOR GRAD	SW13 WIPE PATTERN 5	SW21	SW29 DIGITAL EFFECT STROBE	SW37 SUPER IMPOSE REVERSE	SW45 COLOR CORREC T B	SW53 SOURCE 1B	SW61 FADE CONTRO L BACK COLOR	
P35	SW6 BACK COLOR SELECT	SW14 WIPE PATTERN 6	SW22	SW30 DIGITAL EFFECT STILL	SW38 SUPER IMPOSE BACK COLOR	SW46 MIX	SW54 SOURCE 2B	SW62 FADE CONTRO L WHITE	
P36	SW7 STORE	SW15 WIPE PATTERN 7	SW23 DIGITAL EFFECT ON	SW31 DIGITAL EFFECT MOSAIC	SW39 SUPER IMPOSE WHITE	SW47 WIPE	SW55 BACK COLOR B	SW63 FADE CONTRO L BLACK	
P37	SW8 RECALL	SW16 P in P	SW24 DIGITAL EFFECT A	SW32 DIGITAL EFFECT A/V	SW40 SUPER IMPOSE EDGE	SW48 AUDIO LINK	SW56 AUTO TAKE	SW64 AUTO FADE	

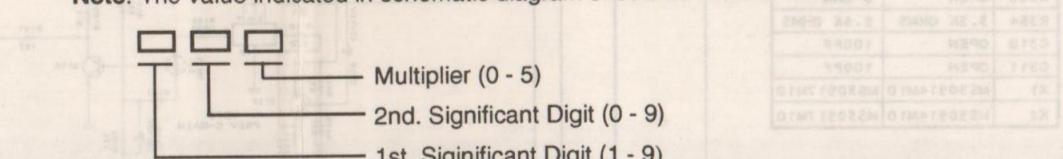
Notes: SW1 - SW3 and SW33 - SW40 are mounted on the Audio Board. SW4, SW21, SW49, and SW57 are not used.

LED MATRIX															
	SR19	SR20	SR21	SR22	SR23	SR24	SR25	SR26	SR27	SR28	SR29	SR30	SR31	SR32	
SR15	D1 POWER	D2 POSITION ON	D3 STORE	D4 RECALL	D5 DIGITAL EFFECT ON	D6 DIGITAL EFFECT A	D7 DIGITAL EFFECT B	D8 DIGITAL EFFECT NEGA	D9 DIGITAL EFFECT MONO	D10 DIGITAL EFFECT PAINT	D11 DIGITAL EFFECT STROBE	D12 DIGITAL EFFECT STILL	D13 DIGITAL EFFECT MOSAIC	D14 DIGITAL EFFECT A/V	
	D15 WIPE PATTERN 1	D16 WIPE PATTERN 2	D17 WIPE PATTERN 3	D18 WIPE PATTERN 4	D19 WIPE PATTERN 5	D20 WIPE PATTERN 6	D21 WIPE PATTERN 7	D22 P in P	D23 WIPE EDGE	D24 WIPE MULTI	D25 ONE-WAY	D26 REVERSE	D27 BUS A	D28 BUS B	
SR17	D29 SUPER IMPOSE ON	D30 SUPER IMPOSE A	D31 SUPER IMPOSE B	D32 SUPER IMPOSE EXT. CAMERA	D33 SUPER IMPOSE REVERSE	D34 SUPER IMPOSE BACK COLOR	D35 SUPER IMPOSE WHITE	D36 SUPER IMPOSE BLACK	D37 PROG OUT A	D38 PROG OUT B	D39 PROG OUT EFFECT	D40 AUDIO LINK	D41 GRAD	D42 Y KEY	
	D43 COLOR CORRECT ON	D44 COLOR CORRECT A	D45 COLOR CORRECT B	D46 MIX	D47 WIPE	D48 AUTO TAKE	D49 AUTO FADE	D50 FADE CONTROL VIDEO	D51 FADE CONTROL TITLE	D52 FADE CONTROL AUDIO	D53 FADE CONTROL BACK COLOR	D54 FADE CONTROL WHITE	D55 FADE CONTROL BLACK	D56 FADE OUT	

Note: D29 - D39 are mounted on the Audio Board.

	IC1	IC2	IC3	IC4		B	C	E	
Pin 1	0	1.1	6.0	0		Q1	0.5	1.1	0
2	0	1.8	0	-12.0		2	0.4	1.0	0
3	5.1	5.1	12.0	-5.0		3	0.3	0.8	0
4	0	0.8				4	0.6	0.7	0
5	0	0							
6	0	0							
7	4.9	4.9							
8	0	0							
9	0	0							
10	0.8	0							
11	1.2	-							
12	1.2	0.7							
13	-	1.8							
14	4.7	-							
15	-	0.7							
16	-	-							
17	-	-							
18	4.6	-							
19	0	2.4							
20	0	-							
21	0	-							
22	0	-							
23	0	-							
24	0	-							

Note: The value indicated in schematic diagram should be read as follows:



<Example>

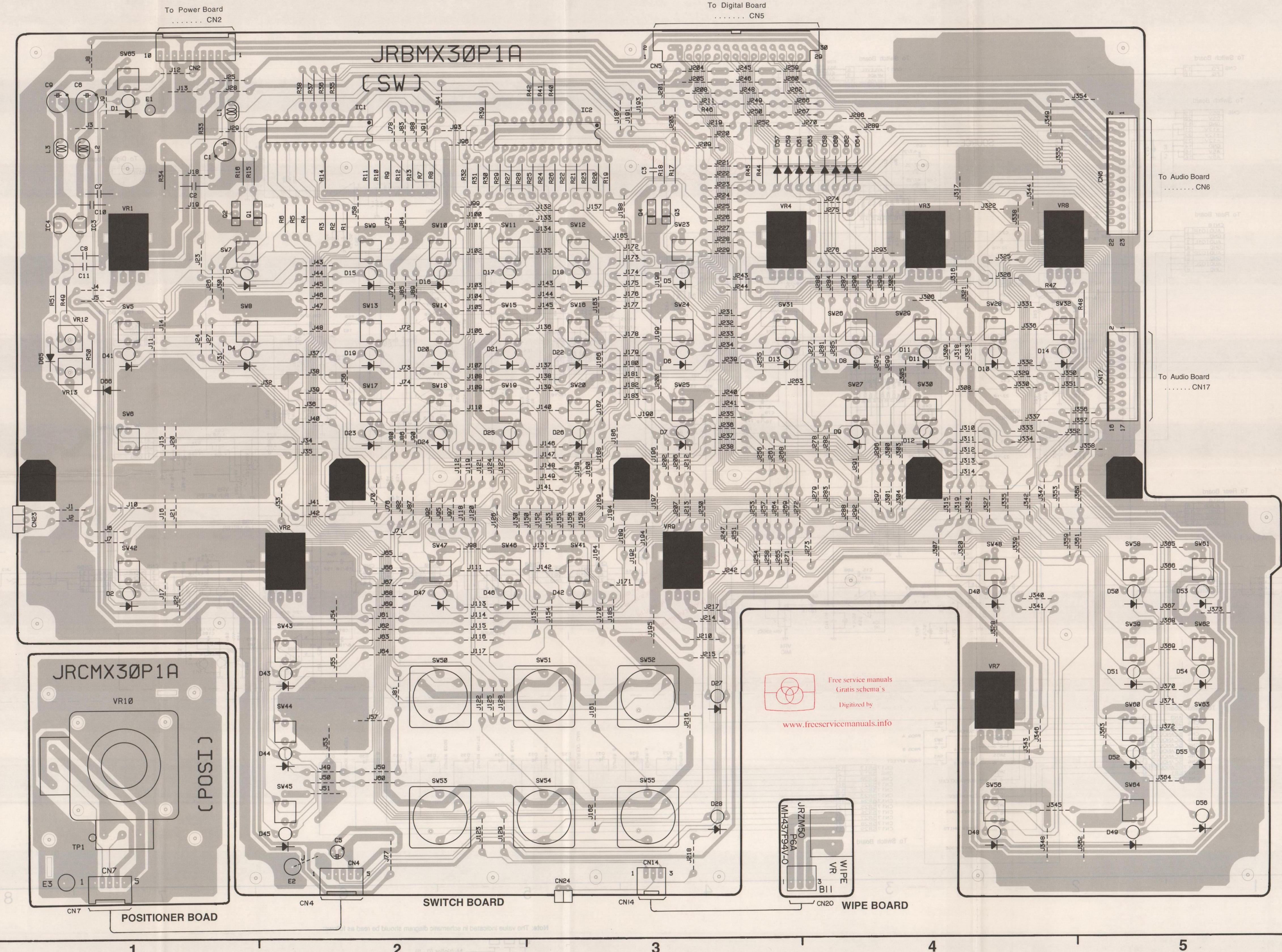
For Resistor: $330 \rightarrow 33 \times 10^0 = 33\Omega$ $561 \rightarrow 56 \times 10^1 = 560\Omega$ $122 \rightarrow 12 \times 10^3 = 12k\Omega$	For Capacitor: $820 \rightarrow 82 \times 10^0 = 82pF$ $102 \rightarrow 10 \times 10^2 = 1000pF = 0.1nF$ $104 \rightarrow 10 \times 10^4 = 100000pF = 0.1nF$
--	---

The suffix attached to capacitance indicates type of capacitor.

SWITCH BOARD

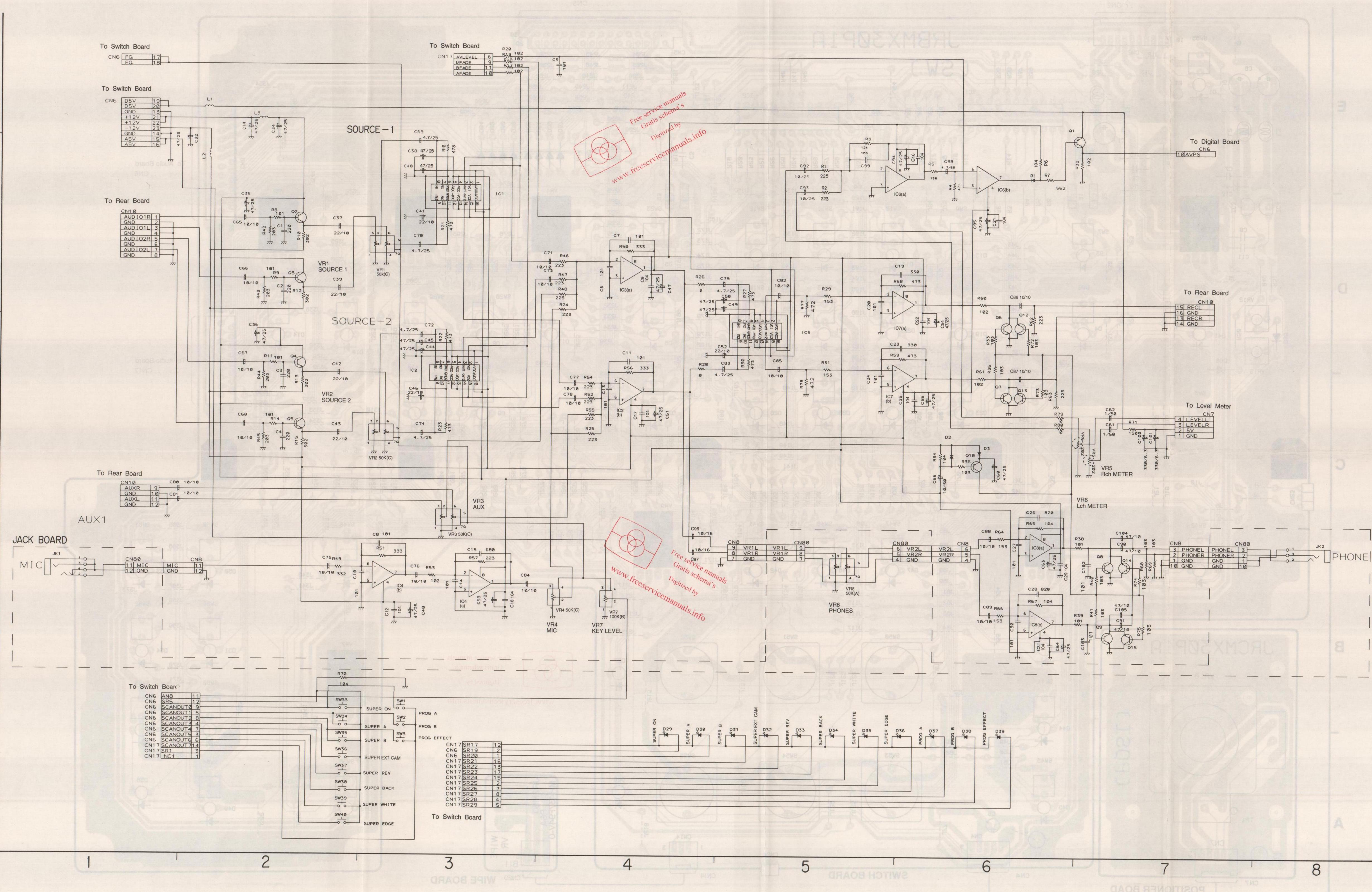
<Index>
Switch Board

IC1	E2	SW5	D1
IC2	E3	SW6	C1
IC3	D1	SW7	D1
IC4	D1	SW8	D1
Q1	D1	SW9	D2
Q2	D1	SW10	D2
Q3	D3	SW11	D2
Q4	D3	SW12	D3
D1	E1	SW13	D2
D2	B1	SW14	D2
D3	D1	SW15	D2
D4	D1	SW16	D3
D5	D3	SW17	C2
D6	D3	SW18	C2
D7	C3	SW19	C2
D8	D4	SW20	C3
D9	C4	SW23	D3
D10	D4	SW24	D3
D11	D4	SW25	C3
D12	C4	SW26	D4
D13	D3	SW27	C4
D14	D4	SW28	D4
D15	D3	SW29	D4
D16	D3	SW30	C4
D17	D3	SW31	D3
D18	D3	SW32	D4
D19	D2	SW41	B3
D20	D2	SW42	B2
D21	D2	SW43	B2
D22	D3	SW44	B2
D23	C2	SW45	A2
D24	C2	SW46	B2
D25	C2	SW47	B2
D26	C3	SW48	B4
D27	B3	SW50	A2
D28	A3	SW51	B3
D40	B4	SW52	B3
D41	D1	SW53	A2
D42	B3	SW54	A3
D43	B2	SW55	A3
D44	A2	SW56	A4
D45	A2	SW58	B5
D46	B2	SW59	B5
D47	B2	SW60	A5
D48	A4	SW61	B5
D49	A5	SW62	B5
D50	B5	SW63	A5
D51	B5	SW64	A5
D52	A5	SW65	E1
D53	B5		
D54	B5		
D55	A5		
D56	A5		
D57	E3		
D58	E4		
D59	E3		
D60	E4		
D61	E3		
D62	E4		
D63	E4		
D64	E4		
D65	D1		
D66	C1		



SCHEMATIC DIAGRAM OF AUDIO BOARD

AUDIO BOARD

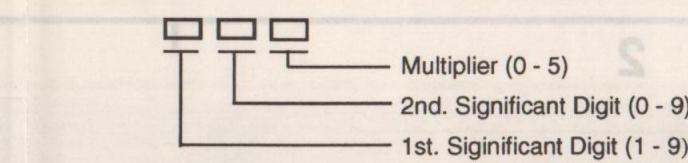


AUDIO BOARD								
Pin 1	IC1	IC2	IC3	IC4	IC5	IC6	IC7	IC8
2	11.5	11.5	0	0	11.5	0	0	0
3	0	0	0	0	3.6	0	0	0
4	11.7	-11.7	-11.7	-11.7	-11.7	-11.7	-11.7	-11.7
5	11.7	-11.7	0	0	-11.7	2.4	0	0
6	0	0	0	0	0	0	0	0
7	-	-	0	-	11.2	0	0	0
8	0	0	11.5	11.5	0	11.5	11.5	11.5
9	0	0	0	0	0	0	0	0
10	-	-	-	-	-	-	-	-
11	0	0	0	0	0	0	0	0
12	11.7	-11.7	-	-	-	-	-	-11.7
13	11.7	-11.7	-	-	-	-	-	-11.7
14	0	0	0	0	0	0	0	0
15	0	0	0	0	3.6	0	0	0
16	11.5	11.5	0	0	0	0	0	0

B	C	E
Q1	11.4	0
2	-0.2	11.5
3	-0.2	11.5
4	-0.2	11.5
5	-0.2	11.5
6	-	0
7	-	0
8	-	0
9	-	0
10	11.4	0.3
12	-	0
13	-	0
14	-	0
15	-	0

<Index>	
AUDIO BOARD	D3
IC1	C3
IC2	C3, D4
IC3	C4, D4
IC4	B3
IC5	C5
IC6	D5, D6
IC7	C5, D5
IC8	B6
Q1	E7
Q2	D2
Q3	D2
Q4	C2
Q5	C2
Q6	C5
Q7	C6
Q8	B7
Q9	B7
Q10	C6
Q12	C6
Q13	C6
Q14	B7
Q15	B7
D1	D6
D2	C6
D3	C6
D29	A4
D30	A4
D31	A5
D32	A5
D33	A5
D34	A5
D35	A5
D36	A6
D37	A6
D38	A6
D39	A6

Note: The value indicated in schematic diagram should be read as follows:



<Example>
 For Resistor: 330 → 33 × 10⁰ = 33Ω
 561 → 56 × 10¹ = 560Ω
 123 → 12 × 10³ = 12kΩ

The suffix attached to capacitance indicates a type of capacitor.

CONDUCTOR VIEW OF DIGITAL BOARD

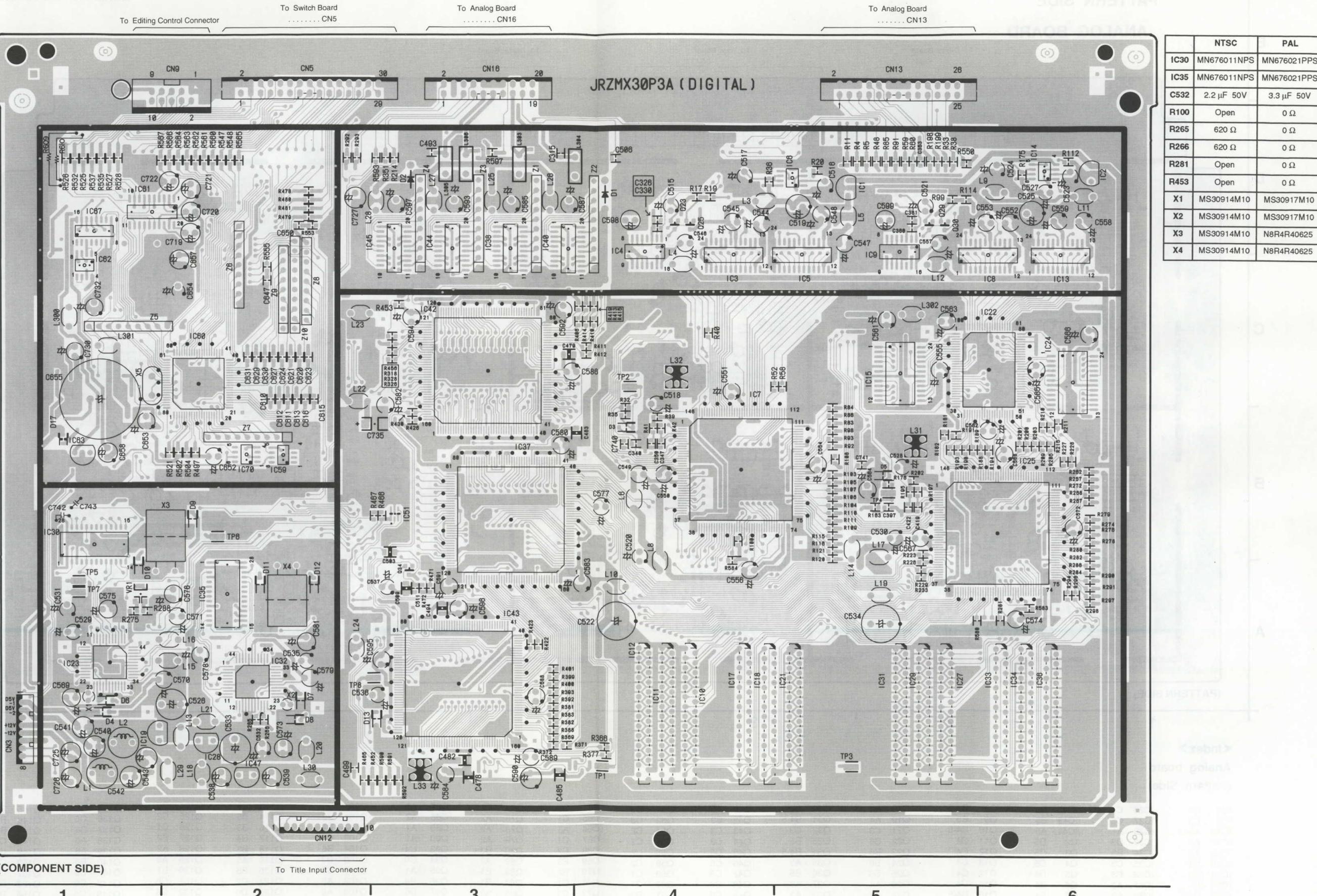
COMPONENT SIDE

<Index>

Digital Board
(Component Side)

IC1 E5
IC2 E6
IC3 D4
IC4 D5/D6
IC5 D5
IC6 E5
IC7 C4
IC8 D5/D6
IC9 A5
IC10 A4/B4
IC11 A4/B4
IC12 A4/B4
IC13 D6
IC14 E6
IC15 CS/D5
IC16 A4/B4
IC17 A4/B4
IC18 A4/B4
IC19 A1
IC20 A5/B5
IC21 CS-6/D5-6
IC22 C5-6/D5-6
IC23 B1
IC24 C6/D6
IC25 BS-6/C5-6
IC27 A5/B5
IC28 A2
IC29 A5/B5
IC30 C1
IC31 A5/B5
IC32 B2
IC33 A6/B6
IC34 A6/B6
IC35 C2
IC36 A6/B6
IC37 B3/C3
IC38 D3
IC39 D3
IC40 D3
IC41 C3/D3
IC43 A3
IC44 D3
IC45 D3
IC47 A2
IC51 C3
IC59 C2
IC60 C2
IC61 D1-2
IC62 D1
IC63 C1
IC67 D1
IC70 C2
Q23 D4
Q25 D4
Q29 D5
Q30 D5
Q34 B3
D1 E3
D2 E3
D3 E4
D4 B1
D5 C5
D6 B1
D7 B2
D8 B2
D9 C2
D10 B1
D11 B2
D12 B2
D13 A3
D17 C1

DIGITAL BOARD



PATTERN SIDE

<Index>

Digital Board
(Pattern Side)

NTSC PAL
IC30 MN67601NPS MN676021PPS

IC35 MN67601NPS MN676021PPS

C532 2.2 μ F 50V 3.3 μ F 50V

R100 Open 0 Ω

R265 620 Ω 0 Ω

R266 620 Ω 0 Ω

R281 Open 0 Ω

R433 Open 0 Ω

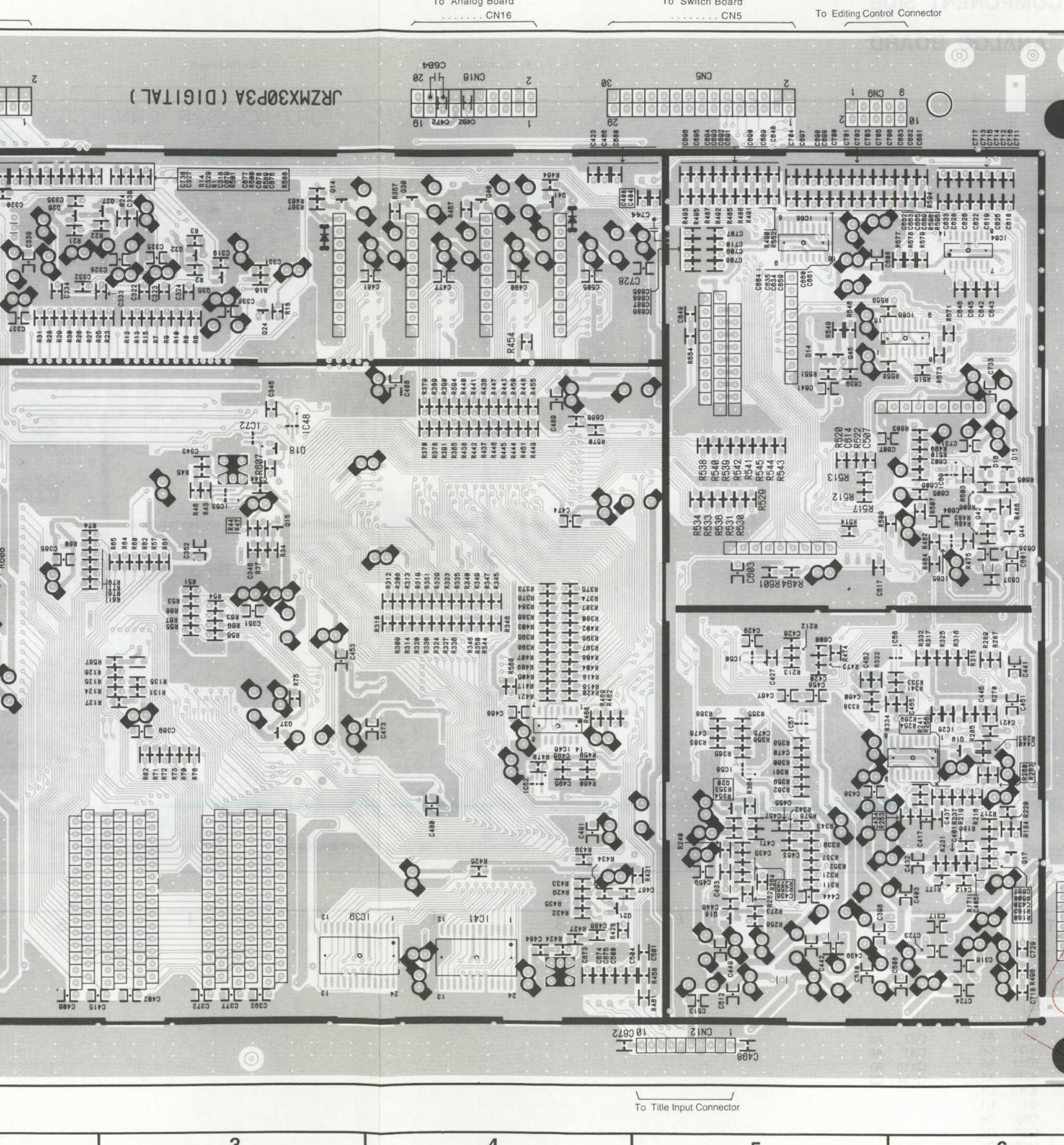
X1 MS30914M10 MS30917M10

X2 MS30914M10 MS30917M10

X3 MS30914M10 N8R4R40625

X4 MS30914M10 N8R4R40625

DIGITAL BOARD



COMPONENT SIDE

NTSC PAL
C430 0.1 μ F 0.01 μ F

C460 680 pF 100 pF

C465 680 pF 100 pF

C475 680 pF 100 pF

C476 680 pF 100 pF

C667 Open 100 pF

R183 10 Ω 330 Ω

R184 10 Ω 330 Ω

R217 10 k Ω 1 k Ω

R220 10 Ω 330 Ω

R237 Open 0 Ω

R253 0 Ω Open

R254 Open 0 Ω

R258 1 k Ω 7.5 k Ω

R315 0 Ω Open

R316 0 Ω Open

R317 0 Ω Open

R325 Open 0 Ω

R332 0 Ω Open

R342 0 Ω Open

R433 Open 0 Ω

R352 Open 0 Ω

R359 0 Ω Open

R360 0 Ω Open

R361 0 Ω Open

R362 0 Ω Open

R439 Open 0 Ω

R507 Open 0 Ω

R509 10 k Ω Open

R574 0 Ω Open

R575 Open 0 Ω

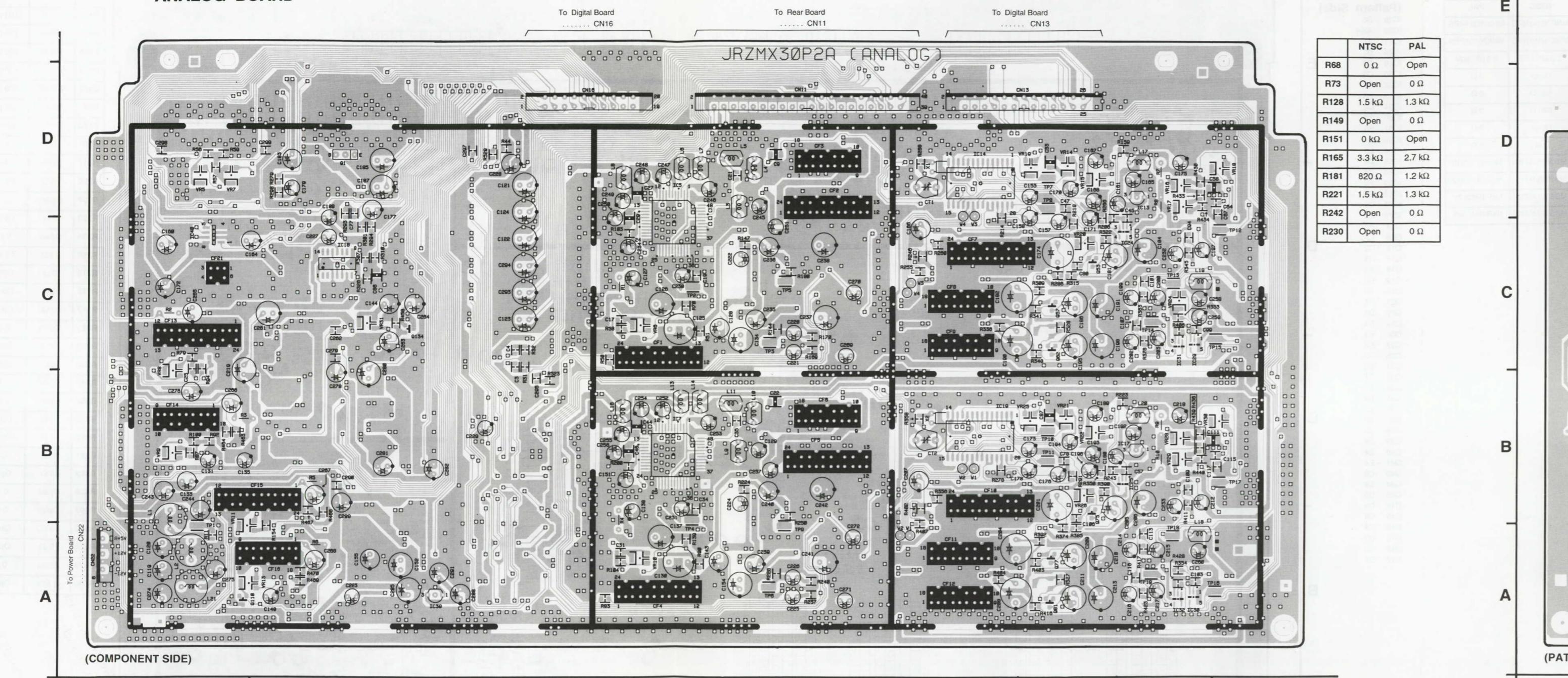
R600 2 M Ω Open

PowerBoard
CN5
Service manual
Digitized by
www.freeservicemanuals.info

CONDUCTOR VIEW OF ANALOG BOARD

COMPONENT SIDE

ANALOG BOARD

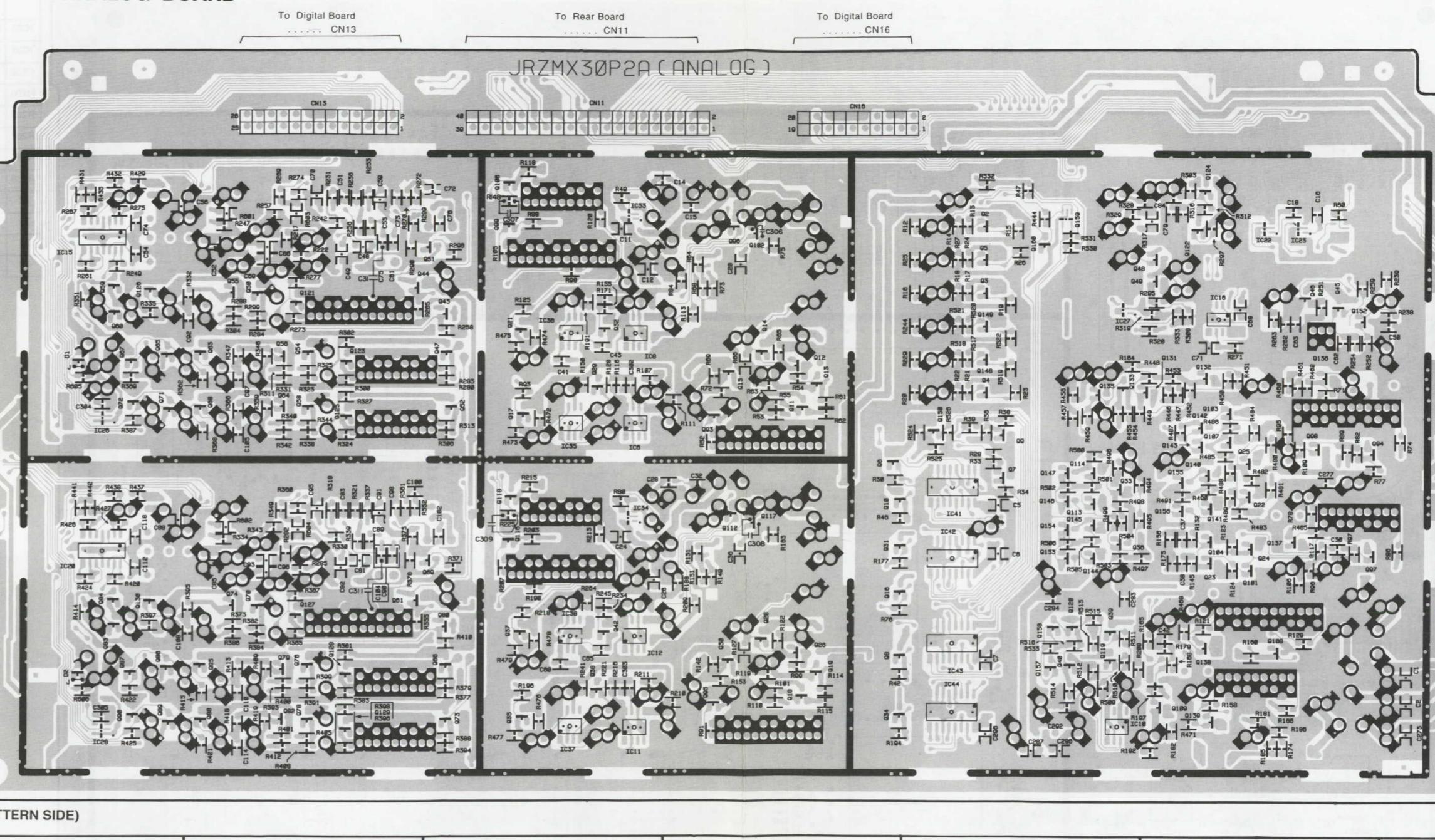


<Index>
Analog Board
(Component Side)

IC5	C4/D4	IC30	A6	Q77	A6
IC7	B4	IC31	C6	Q81	A6
IC13	D6	IC32	A6	Q110	A1
IC14	D5	IC39	A1	Q134	C2
IC17	B6	IC40	C1		
IC18	C2	Q1	D1		
IC19	B5	Q53	C6		
IC24	D6	Q57	C6		
IC25	B6	Q62	C6		
IC29	C6	Q75	B6		

PATTERN SIDE

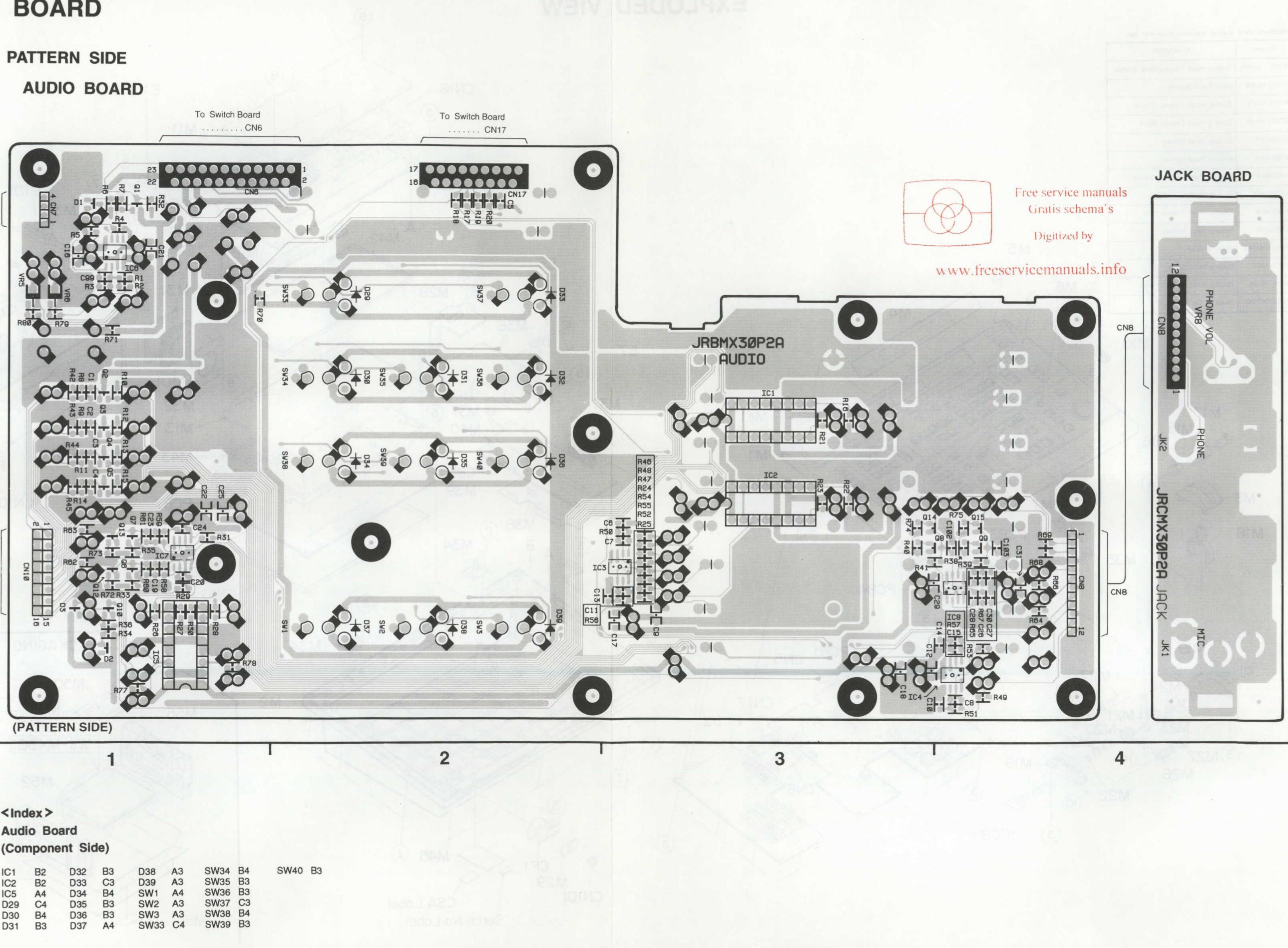
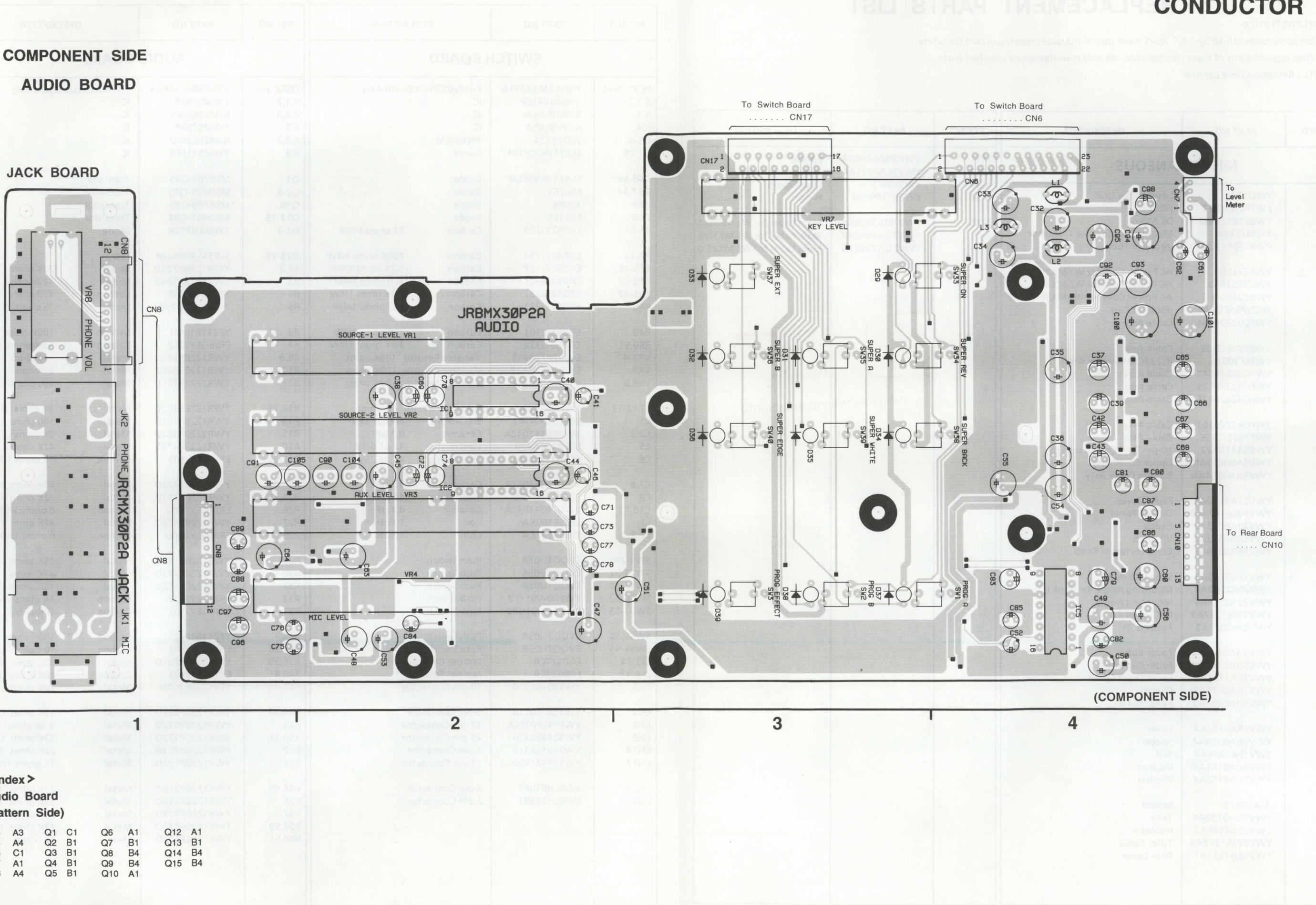
ANALOG BOARD



<Index>
Analog board
(Pattern Side)

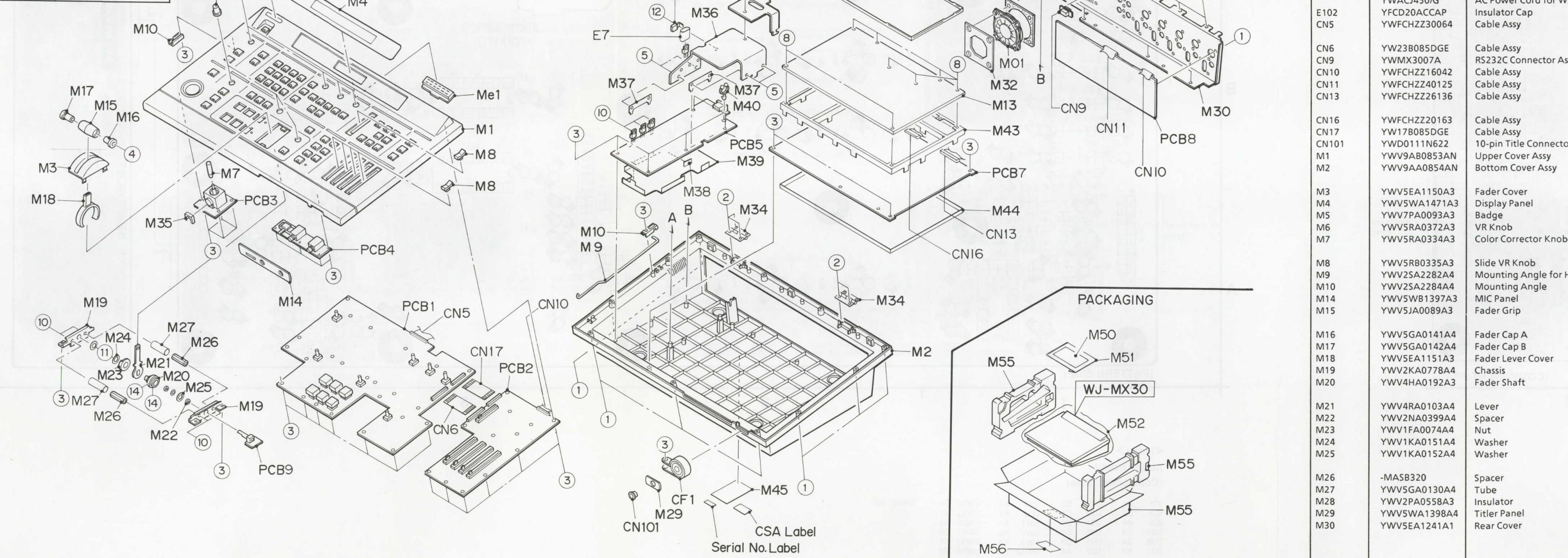
IC6	C3	IC26	C1	IC42	B5	Q8	B4-5	Q18	A4	Q30	A4	Q40	A5	Q51	D3	Q64	C2	Q74	B2	Q87	A1	Q99	D3	Q113	B5	Q124	D6	Q135	C5	Q145	B5	Q156	B6
IC8	C3	IC27	C5	IC43	B5	Q9	C5	Q19	A4	Q31	B4-5	Q42	B3	Q52	C3	Q65	C1	Q76	A2	Q88	A2	Q101	B5	Q114	B5	Q125	C2	Q136	C6	Q146	B5	Q157	A5
IC10	A5	IC28	A1	IC44	A5	Q10	B4-5	Q21	C3	Q32	C3	Q43	C3	Q54	C2	Q66	A3	Q78	A2	Q89	A1	Q102	D4	Q116	B3	Q126	C1	Q137	B6	Q147	B5	Q158	B5
IC11	A3	IC33	D3	Q2	D5	Q11	C4	Q22	B6	Q33	B5	Q44	C3	Q55	C2	Q67	C1	Q79	A2	Q90	A1	Q103	C6	Q117	B4	Q127	B2	Q138	A6	Q148	C5	Q159	D5
IC12	A3	IC34	B3	Q3	C5	Q12	C4	Q23	B6	Q34	B5	Q45	C6	Q56	C2	Q68	C2	Q80	B3	Q93	C4	Q104	B6	Q118	B3	Q128	A2	Q139	A6	Q149	C5	Q160	D5
IC15	C1	IC35	C3	Q4	C5	Q13	C4	Q24	B6	Q35	A3	Q46	C6	Q58	B3	Q69	B3	Q82	A2	Q94	C6	Q105	D3	Q119	A5	Q129	A2	Q140	B6	Q150	C5	Q161	D1
IC16	C6	IC36	C3	Q5	D5	Q14	C4	Q25	B6	Q36	B5	Q47	C3	Q59	C1	Q70	B2	Q83	B1	Q95	A4	Q107	C6	Q120	B5	Q130	B1	Q141	B6	Q152	C6	Q162	A1
IC20	B1	IC37	A3	Q6	B4	Q15	C4	Q26	A4	Q37	A3	Q48	C6	Q60	C1	Q71	C1	Q84	B1	Q96	D4	Q108	A6	Q121	C2	Q131	C6	Q142	C6	Q153	B5	Q163	D1
IC22	D6	IC38	A3	Q6	B4	Q16	B4-5	Q28	A4	Q38	A3	Q49	C6	Q61	B2	Q72	C1	Q85	A2	Q97	B6	Q109	A6	Q122	D6	Q132	C6	Q143	C6	Q154	B5	Q164	B5
IC23	D6	IC41	B5	Q7	B5	Q17	C3	Q29	C3	Q39	B5	Q50	C2	Q62	C2	Q73	A3	Q86	A1	Q98	C6	Q112	B4	Q123	C2	Q133	C5	Q144	B5	Q155	B6		

CONDUCTOR VIER OF AUDIO BOARD



EXPLODED VIEW

Numbers show screws, washers, nuts and etc	
Screws	Description
XTB3+10CFXK	Binding Head Tapping Back Screws
XTS3+10CFX	Flush Head Screws
XTB3+10CFX	Binding Head Tapping Screws
XTB3+14FXK	Binding Head Tapping Black
XSB3+4FX	Binding Head Screws
XSB4+6FX	Binding Head Screws
XWC4BFX	External Toothed Lock Washer
XSB26+6FX	Binding Head Screws
XSB3+6FX	Binding Head Screws
XSB3+8FX	Binding Head Screws
YW4JA0446A4	Wave Washer
XYS3+14FX	Binding Head Screws
XSB4+16FXK	Binding Head Black Screws
XXE26D8FXK	Hexagon Set Screws



RENT PARTS LIST

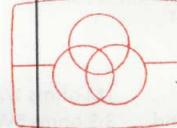
1

- ics important for safety.
er's specified parts.

DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
	M31	YWV2NA0400A4	Spacer
	M32	YWV3BA0091A4	Supporting Angle
it	M33	YWSR6W1	Cord Clamp
	M34	YWTHTMN086	Hinge
er for Transistor	M45	YWV7QA2938A4	Main Label for WJ-MX30/A
		YWV7QA2949A4	Main Label for WJ-MX30/B
for WJ-MX30/A		YWV7QA2950A4	Main Label for WJ-MX30/G
for WJ-MX30/B			
for WJ-MX30/G			
ector Assy			
nnectorAssy			
ssy			
Assy			
Knob			
e for Hook L			
e			
ver			

F.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
SWITCH BOARD					AUDIO BOARD
1 (RTL)	YWJKBMX30P1A	Printed Circuit Board Assy	PCB2 (RTL)	YWJKBMX30P2A	Printed Circuit Board Assy
2	YWM66310P	IC	IC1,2	YWM5283P	IC
4	NJM78L06A	IC	IC3,4	NJM2068MD	IC
8	NJM79L05A	IC	IC5	YWM5283P	IC
-56	2SD1992A	Transistor	IC6,7	NJM2068MD	IC
-64	SLR34VR90KLM	Diode	IC8	YWM5216FP	IC
5	SLR34VR90KLM	Diode	Q1	MSB709-QRS	Transistor
	MA165	Diode	Q2-9	MSD601-QRS	Transistor
	1SS99	Diode	Q10	MSB709-QRS	Transistor
	MA165	Diode	Q12-15	MSD601-QRS	Transistor
	ERDS2TJ220	Carbon	D1-3	YWDAN212K	Diode
4	ERDS2TJ104	Carbon	D29-39	SLR34VR90KLM	LED
18	ERDS2TJ122	Carbon	R1,2	YWR1220P223D	Metal
32	ERDS2TJ121	Carbon	R3	YWR1220P124D	Metal
42	ERDS2TJ332	Carbon	R4	YF2116471JT	Carbon
	ERDS2TJ221	Carbon	R5	YWR1220Q750D	Metal
51	ERDS2TJ101	Carbon	R6	YF2116104JT	Carbon
-4	ERDS2TJ332	Carbon	R7	ERJ6GEYJ562	Carbon
	EVJ02AF20B15	Variable Resistor	R8,9	YWR1220P101D	Metal
	EVJ02AF20A15	Variable Resistor	R10	YWR1220P302D	Metal
	EVJ02AF20B15	Variable Resistor	R11	YWR1220P101D	Metal
2,13	YWH0683C1K	Variable Resistor	R12,13	YWR1220P302D	Metal
	ECEA1CKA101	Electrolytic	R14	YWR1220P101D	Metal
	YWUP05F104ZA	Ceramic	R15	YWR1220P302D	Metal
	ECEA0JKA470	Electrolytic	R16	YWR1220P473D	Metal
	ECEA1EKA470	Electrolytic	R17-20	ERJ6GEYJ102	Carbon
11	YWUP05F104ZA	Ceramic	R21-23	YWR1220P473D	Metal
	ECEA1EKA470	Electrolytic	R24,25	YWR1220P223D	Metal
	YWUP05F104ZA	Ceramic	R26	ERJ6GEY0R00	Carbon
	ELESE100KA	Coil	R27	YWR1220P473D	Metal
	ELESE101KA	Coil	R28	ERJ6GEY0R00	Carbon
-20	EVQQTU05R	Push Switch	R29	YWR1220P153D	Metal
3-32	EVQQTU05R	Push Switch	R30	YWR1220P473D	Metal
1-48	EVQQTU05R	Push Switch	R31	YWR1220P153D	Metal
0-52	YW600W01YP2	Push Switch	R32	ERJ6GEYJ102	Carbon
3-55	YW600W01GP2	Push Switch	R33	ERJ6GEYJ103	Carbon
6,58	EVQQTU05R	Push Switch	R34	YF2116104JT	Carbon
9-65	EVQQTU05R	Push Switch	R35,36	ERJ6GEYJ103	Carbon
34	ERDS2TC0	Jumper Resistor	R38,39	YWR1220P101D	Metal
47	ERDS2TC0	Jumper Resistor	R40,41	ERJ6GEYJ103	Carbon
	YW530151010	10-pin Connector	R42-45	YFR1220P203D	Metal
	YW530150510	5-pin Connector	R46-48	YWR1220P223D	Metal
	YWF795P030LA	30-pin Connector	R49	YWR1220P332D	Metal
	YW524922320	23-pin Connector	R50,51	YWR1220P333D	Metal
4	YW530150310	3-pin Connector	R52	YWR1220P223D	Metal
7	YW524921720	17-pin Connector	R53	YWR1220P102D	Metal
3	JMI8LH03BBT	3-pin Connector	R54,55	YWR1220P223D	Metal
4	JMI8LH02BBT	2-pin Connector	R56	YWR1220P333D	Metal
			R57	YWR1220P223D	Metal
			R58,59	YWR1220P473D	Metal
			R60,61	YWR1220P102D	Metal

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
R62,63	YWR1220P152D	Metal 1.5K ohms 1/10W	C73	ECEA1ASN100	Electrolytic 10 µF 10V
R64	YWR1220P153D	Metal 15K ohms 1/10W	C74	ECEA1EKN4R7	Electrolytic 4.7 µF 25V
R65	YFR1220P104D	Metal 100K ohms 1/10W	C75-78	ECEA1AKN100	Electrolytic 10 µF 10V
R66	YWR1220P153D	Metal 15K ohms 1/10W	C79	ECEA1EKN4R7	Electrolytic 4.7 µF 25V
R67	YFR1220P104D	Metal 100K ohms 1/10W	C80-82	ECEA1AKN100	Electrolytic 10 µF 10V
R68,69	YWR1220P103D	Metal 10K ohms 1/10W	C83	ECEA1EKN4R7	Electrolytic 4.7 µF 25V
R70	YF2116104JT	Carbon 100K ohms 1/10W	C84-89	ECEA1AKN100	Electrolytic 10 µF 10V
R71	2116150JT	Carbon 15 ohms 1/10W	C90,91	ECEA1AKN470	Electrolytic 47 µF 10V
R72-75	ERJ6GEYJ103	Carbon 10K ohms 1/10W	C92,93	ECEA1EKN100	Electrolytic 10 µF 10V
R77,78	YWR1220P472D	Metal 4.7K ohms 1/10W	C94,95	ECEA1EKA470	Electrolytic 47 µF 25V
R79,80	ERJ6GEY0R00	Carbon 0 ohms 1/10W	C96	ECEA1CKN100	Electrolytic 10 µF 16V
VR1-3	EWAQA1X05C54	Variable Resistor 50K ohms	C97	ECEA1CSN100	Electrolytic 10 µF 16V
VR4	EWAQFEX05B15	Variable Resistor 100K ohms	C98	ECEA1HKN4R7	Electrolytic 4.7 µF 50V
VR5,6	EVM7JGA30B23	Variable Resistor 2K ohms	C99	YF400183XKT	Ceramic 0.018 µF
VR7	EWApFEX05B15	Variable Resistor 100K ohms	C100,101	ECEA0JKA331	Electrolytic 330 µF 6.3V
C1-4	YF400220CHJT	Ceramic 22 pF	C102,103	YF400101CHJT	Ceramic 100 pF
C5-8	YF400101CHJT	Ceramic 100 pF	C104,105	ECEA1AKN470	Electrolytic 47 µF 10V
C9	YWT316B104MT	Ceramic 0.1 µF	L1-3	ELESE101KA	Coil 100 µH
C10,11	YF400101CHJT	Ceramic 100 pF	SW1-3	EVQQTU05R	Push Switch
C12	YWT316B104MT	Ceramic 0.1 µF	SW33-40	EVQQTU05R	Push Switch
C13,14	YF400101CHJT	Ceramic 100 pF	CN6	YW524922320	23-pin Connector
C15	YF400680CHJT	Ceramic 68 pF	CN7	YW530150410	4-pin Connector
C16-18	YWT316B104MT	Ceramic 0.1 µF	CN8	YW530151210	12-pin Connector
C19	YF400330CHJT	Ceramic 33 pF	CN10	YWFT95P016LA	16-pin Connector
C20	YF400101CHJT	Ceramic 100 pF	CN17	YW524921720	17-pin Connector
C21,22	YWT316B104MT	Ceramic 0.1 µF			Free service manuals
C23	YF400330CHJT	Ceramic 33 pF			Gratis schema's
C24	YF400101CHJT	Ceramic 100 pF			Digitized by
C25	YWT316B104MT	Ceramic 0.1 µF			
C26	YF400820CHJT	Ceramic 82 pF			
C27	YF400101CHJT	Ceramic 100 pF			
C28	YF400820CHJT	Ceramic 82 pF			
C29	YWT316B104MT	Ceramic 0.1 µF			
C30	YF400101CHJT	Ceramic 100 pF			
C31	YWT316B104MT	Ceramic 0.1 µF			
C32-36	ECEA1EKA470	Electrolytic 47 µF 25V	PCB3 (RTL)	YWJKCMX30P1A	Printed Circuit Board Assy
C37	ECEA1AKN220	Electrolytic 22 µF 10V	VR10	YWRKJXB100KB	Variable Resistor 100K ohms
C38	ECEA1EKA470	Electrolytic 47 µF 25V	CN7	YW530150510	5-pin Connector
C39	ECEA1AKN220	Electrolytic 22 µF 10V	E1	YW32BM10	Terminal
C40	ECEA1EKA470	Electrolytic 47 µF 25V	M35	YWV2HA1094A4	Insulator Sheet
C41	ECEA1AKA220	Electrolytic 22 µF 10V			
C42,43	ECEA1AKN220	Electrolytic 22 µF 10V			
C44,45	ECEA1EKA470	Electrolytic 47 µF 25V			
C46	ECEA1AKA220	Electrolytic 22 µF 10V			
C47-51	ECEA1EKA470	Electrolytic 47 µF 25V			
C52	ECEA1AKA220	Electrolytic 22 µF 10V			
C53-55	ECEA1EKA470	Electrolytic 47 µF 25V			
C56	ECEA1HKA100	Electrolytic 10 µF 50V			
C60	ECEA1EKA470	Electrolytic 47 µF 25V			
C61,62	ECEA1HKN010	Electrolytic 1 µF 50V			
C63,64	ECEA1EKA470	Electrolytic 47 µF 25V			
C65-68	ECEA1AKN100	Electrolytic 10 µF 10V			
C69,70	ECEA1EKN4R7	Electrolytic 4.7 µF 25V			
C71	ECEA1ASN100	Electrolytic 10 µF 10V			
C72	ECEA1EKN4R7	Electrolytic 4.7 µF 25V			



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POSITIONER BOARD

PCB3 (RTL)	YWJKCMX30P1A	Printed Circuit Board Assy
VR10	YWRKJXB100KB	Variable Resistor 100K ohms
CN7	YW530150510	5-pin Connector
E1	YW32BM10	Terminal
M35	YWV2HA1094A4	Insulator Sheet

JACK BOARD

PCB4 (RTL)	YWJKCMX30P2A	Printed Circuit Board Assy
VR8	YWRKJXB100KB	Variable Resistor 250K ohms
CN80	YW530151210	12-pin Connector
JK1	YWLIJ23083090	Jack
JK2	YWLIJ23083020	Jack

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
POWER BOARD							
PCB5 (RTL)	YWJKZMX30E1A	Printed Circuit Board Assy		C6	EC0S2GA151DA	Electrolytic	150 μ F 140V
IC1	YWFA5304P	IC		C7	ECQE6103KZ	Plastic	0.01 μ F
IC2	YWUPC2412HF	IC		C8	ECEA1HU2R2	Electrolytic	2.2 μ F 50V
IC3	YWUPC24M12HF	IC		C9	ECEA1HU010	Electrolytic	1 μ F 50V (SU)
IC4	YWT76431S	IC		C10	ECQM1H104JZ	Plastic	0.1 μ F 50V
Q3	2SK960	FET		C11	ECQP1H331JZ	Plastic	330P 50V
Q4	2SA1244Y	Transistor		C12	ECQM1H473JZ	Plastic	0.047 μ F 50V
Q5	2SA933	Transistor		C13	ECQB1H183JZ	Plastic	0.018 μ F 50V
Q6	2SA1244Y	Transistor		C14	ECA1VFQ270	Electrolytic	27 μ F 35V
Q7	2SC1740	Transistor		C15,16	ECKDRS332ME	Ceramic	3300 pF
Q8	2SC3377	Transistor		C17	ECA1EFQ102	Electrolytic	1000 μ F 25V
Q9	2SC1740	Transistor		C18,19	ECA1CFQ181B	Electrolytic	180 μ F 16V
D1	▲ YWRBV406	Diode		C20	ECA1CFQ471	Electrolytic	470 μ F 16V
D2	RU1P	Diode		C21	ECA1AFQ222	Electrolytic	2200 μ F 10V
D3	YWEQA0325	Diode		C22	ECA1AFQ122	Electrolytic	1200 μ F 10V
D4,5	YWERA9102	Diode		C23-25	ECA1AFQ331	Electrolytic	330 μ F 10V
D6	MA165	Diode		C26	ECA1EFQ471	Electrolytic	470 μ F 25V
D7	RD5.1JB2	Diode		C27	ECQM1H104JZ	Plastic	0.1 μ F 50V
D8	YWP111LY	Diode		C28,29	ECA1CFQ181B	Electrolytic	180 μ F 16V
D9	YWESAB85M009	Diode		C30	ECEA1AN220S	Electrolytic	22 μ F 10V
D10	ESAB82M004	Diode		C31	ECQM1H104JZ	Plastic	0.1 μ F 50V
D11	MA165	Diode		C32	ECA1AFQ331	Electrolytic	330 μ F 10V
D12	YWERA84009	Diode		C33	ECQE6103KZ	Plastic	0.01 μ F
TH1	YW16D13	Thermistor		L1,2	YWLW4D183	Coil	
VS1	ERZC07DK471U	ZNR		L3,4	YFBLO2RN2R62	Coil	2.6 μ H
R1	ERC12ZGK105	Solid	1M ohms 1/2W	L5	EL05SI330K	Coil	33 μ H
R2	ERF5TK3R3	Wire Wound	3.3 ohms 5W	L6-8	YFBLO2RN2R62	Coil	2.6 μ H
R4,5	ERD50FJ104	Carbon	100K ohms 1/2W	L9	YWPC7330K	Coil	33 μ H
R6,7	ERG3SJ103	Metal	10K ohms 3W	L10,11	YWPC10220K	Coil	22 μ H
R8	ERDS2TJ104	Carbon	100K ohms 1/4W	L12	YWPC7330K	Coil	33 μ H
R9	ERDS2TJ105	Carbon	1M ohms 1/4W	L13,14	YFBLO2RN2R62	Coil	2.6 μ H
R10	ERDS2TJ220	Carbon	22 ohms 1/4W	T1 ▲	ETS28BF136AC	Power Transformer	
R11	ERDS2TJ563	Carbon	56K ohms 1/4W	SW1 ▲	YWSJP4A01BBM	Seesaw Switch	
R12	ERDS2TJ222	Carbon	2.2K ohms 1/4W	F1 ▲	XBA2C16ET0A	Current Fuse	1.6A 250V
R13	ERDS2TJ101	Carbon	100 ohms 1/4W	F2 ▲	SSFR3.15AF02	Current Fuse	3.15A
R14	ERDS2TJ622	Carbon	6.2K ohms 1/4W	F3 ▲	SSFR315F002	Current Fuse	3.15A
R15	ERX2SJR75	Metal	0.75 ohms 2W	F4 ▲	YWSSFR2AF002	Current Fuse	2A
R16	ERC12ZGM156	Solid Resistor	15M ohms 1/2W	F5 ▲	SSFR630F002	Current Fuse	6.3A
R17	ERDS1VJ821	Carbon	820 ohms 1/2W	F6 ▲	YWSSFR1AF002	Current Fuse	1A
R18	ERDS2TJ100	Carbon	10 ohms 1/4W	F7 ▲	SSFR630F002	Current Fuse	6.3A
R19	ERDS2TJ333	Carbon	33K ohms 1/4W	F8 ▲	SSFR1.6A002	Current Fuse	1.6A
R20	ERDS2TJ151	Carbon	150 ohms 1/4W	CN2	YW530141010	10-pin Connector	
R21	ERDS2TJ332	Carbon	3.3K ohms 1/4W	CN3	YW530140810	8-pin Connector	
R22	ERDS2TJ223	Carbon	22K ohms 1/4W	CN15	YW53014-0210	2-pin Connector	
R23	ERDS2TJ683	Carbon	68K ohms 1/4W	CN22	YW530140610	6-pin Connector	
R24	ERDS2TJ333	Carbon	33K ohms 1/4W	E1,2	YWMTM028B	Terminal	
R25	ERDS2TJ560	Carbon	56 ohms 1/4W	E3,4	S-N5057	Fuse Holder	
R26	ERDS2TJ102	Carbon	1K ohms 1/4W	E5	YWMX5027A	Cable	
R27	ERDS2TJ472	Carbon	4.7K ohms 1/4W	E8-10	YW851248	Insulator	
R28,29	ER0S2CKF6801	Metal	6.8K ohms 1/4W	M36	YVV7DA0351A2	Heat Sink	
VR1	YFH0621A2R2K	Variable Resistor	2.2K ohms	M37	YVW2SA2452A4	Mounting Angle for Heat Sink	
C1,2	ECQU2A104MV	Plastic	0.1 μ F	M38	YVW2PA0572A4	Insulator Sheet for Shield Cover	
C3-5	ECKDRS332ME	Ceramic	3300 pF	M39	YVW2HA1101B3	Shield Cover	
				M40	YW5076	Cord Clamp	

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
ANALOG BOARD					
PCB6 (RTL)	YWJKZMX30E2A	Printed Circuit Board Assy	Q102	MSB709-QRS	Transistor
IC5	YWMC141625FU	IC	Q103	MSD601-QRS	Transistor
IC6	YWNJM2246M	IC	Q104,106	MSB709-QRS	Transistor
IC7	YWMC141625FU	IC	Q107,108	MSB709-QRS	Transistor
IC8	YWNJM2245M	IC	Q109	MSD601-QRS	Transistor
IC10,11	YWNJM2246M	IC	Q110,112	MSB709-QRS	Transistor
IC12	YWNJM2245M	IC	Q113	MSD601-QRS	Transistor
IC13	NJM78L05A	IC	Q114,116	MSB709-QRS	Transistor
IC14	YWM51271FP	IC	Q117-130	MSB709-QRS	Transistor
IC15	YWNJM3403AM	IC	Q131-140	MSD601-QRS	Transistor
IC16	YWLM1881M	IC	Q141	MSB709-QRS	Transistor
IC17	NJM78L05A	IC	Q142	MSD601-QRS	Transistor
IC18	NJM319M	IC	Q143	MSB709-QRS	Transistor
IC19	YWM51271FP	IC	Q144	MSD601-QRS	Transistor
IC20	YWNJM3403AM	IC	Q145	MSB709-QRS	Transistor
IC22-32	YWSC7S08F	IC	Q146	MSD601-QRS	Transistor
IC33,34	YWSC7SU04F	IC	Q147	MSB709-QRS	Transistor
IC35	YWNJM2246M	IC	Q148-150	MSD601-QRS	Transistor
IC36	YWNJM2233BM	IC	Q152,153	MSD601-QRS	Transistor
IC37	YWNJM2246M	IC	Q154	MSB709-QRS	Transistor
IC38	YWNJM2233BM	IC	Q155	MSD601-QRS	Transistor
IC39	NJM79L05A	IC	Q156	MSB709-QRS	Transistor
IC40	YWTC4W53FL	IC	Q157	MSD601-QRS	Transistor
IC41-44	MC74HC4052F	IC	Q158	MSB709-QRS	Transistor
Q1	2SB642-QRS	Transistor	Q159	FMA4	Transistor
Q2-19	MSD601-QRS	Transistor	Q160	DTB114EK	Transistor
Q21-24	MSD601-QRS	Transistor	D1,2	MA151K	Diode
Q25	MSB709-QRS	Transistor	R1	ERDS2TJ100	Carbon
Q26,28	MSD601-QRS	Transistor	R2	ERDS2TJ751	Carbon
Q29-35	MSD601-QRS	Transistor	R3	ERDS2TJ331	Carbon
Q36	MSB709-QRS	Transistor	R4	ERDS2TJ100	Carbon
Q37-40	MSD601-QRS	Transistor	R5	ERDS2TJ751	Carbon
Q42-47	MSD601-QRS	Transistor	R6	ERDS2TJ331	Carbon
Q48	2SD1328-RS	Transistor	R7	ERDS2TJ470	Carbon
Q49-59	MSD601-QRS	Transistor	R8	ERDS2TJ100	Carbon
Q60	2SD1328-RS	Transistor	R9	ERDS2TJ470	Carbon
Q61-64	MSD601-QRS	Transistor	R10	ERDS2TJ100	Carbon
Q65	2SD1328-RS	Transistor	R11	ERJ6GEYJ103	Carbon
Q66-70	MSD601-QRS	Transistor	R12	ERJ6GEYJ750	Carbon
Q71	2SD1328-RS	Transistor	R13	ERJ6GEYJ393	Carbon
Q72-82	MSD601-QRS	Transistor	R14	YF2116753JT	Carbon
Q83	2SD1328-RS	Transistor	R15	YF2116122JT	Carbon
Q84,85	MSD601-QRS	Transistor	R16	ERJ6GEYJ750	Carbon
Q86	2SD1328-RS	Transistor	R17	ERJ6GEYJ393	Carbon
Q87,88	MSD601-QRS	Transistor	R18	YF2116753JT	Carbon
Q89	2SD1328-RS	Transistor	R19	YF2116122JT	Carbon
Q90	MSD601-QRS	Transistor	R20	ERJ6GEYJ750	Carbon
Q93-97	MSB709-QRS	Transistor	R21	ERJ6GEYJ393	Carbon
Q98	MSD601-QRS	Transistor	R22	YF2116753JT	Carbon
Q99,101	MSB709-QRS	Transistor	R23	YF2116122JT	Carbon
			R24	ERJ6GEYJ393	Carbon
			R25	ERJ6GEYJ750	Carbon
			R26	YF2116122JT	Carbon
			R27	YF2116753JT	Carbon
			R28	ERJ6GEYJ393	Carbon

WJ-MX30

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R30	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R107	YF2116101JT	Carbon	100 ohms 1/10W
R31,32	ERJ6GEYJ750	Carbon	75 ohms 1/10W	R109	YF2116273GT	Carbon	27K ohms 1/10W
R33	YF2116753JT	Carbon	75K ohms 1/10W	R110	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R34	YF2116122JT	Carbon	1.2K ohms 1/10W	R111	YF2116474JT	Carbon	470K ohms 1/10W
R36	ERJ6GEYJ393	Carbon	39K ohms 1/10W	R113	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R38	YF2116122JT	Carbon	1.2K ohms 1/10W	R114,115	YF2116152JT	Carbon	1.5K ohms 1/10W
R39	YF2116753JT	Carbon	75K ohms 1/10W	R116	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R42,44	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R117	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R46	ERJ6GEYJ182	Carbon	1.8K ohms 1/10W	R118	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R47	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R119	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R49	ERJ6GEYJ105	Carbon	1M ohms 1/10W	R120,121	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R50	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R122	YF2116332JT	Carbon	3.3K ohms 1/10W
R51	YF2116332JT	Carbon	3.3K ohms 1/10W	R123,124	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R52	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R125	YF2116471JT	Carbon	470 ohms 1/10W
R53	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R127	ERJ8GCSG221	Carbon	220 ohms 1/8W
R54	YF2116202JT	Carbon	2K ohms 1/10W	R128	ERJ6GEYJ132	Carbon	1.3K ohms 1/10W
R55	YF2116101JT	Carbon	100 ohms 1/10W	R129,131	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R56,57	ERJ6GEYJ512	Carbon	5.1K ohms 1/10W	R132	YF2116680JT	Carbon	68 ohms 1/10W
R58	YF2116181JT	Carbon	180 ohms 1/10W	R139	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R59,60	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R142	YF2116912GT	Carbon	9.1K ohms 1/10W
R61,62	YF2116152JT	Carbon	1.5K ohms 1/10W	R144	YF2116122JT	Carbon	1.2K ohms 1/10W
R63	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R145	YF2116680JT	Carbon	68 ohms 1/10W
R64	ERJ6GEY0R00	Carbon	0 ohms 1/10W	R147	YF2116101JT	Carbon	100 ohms 1/10W
R65	YF2116332JT	Carbon	3.3K ohms 1/10W	R148	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R66	ERJ8GCSG221	Carbon	220 ohms 1/8W	R149	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R69	YF2116912GT	Carbon	9.1K ohms 1/10W	R150	ERJ6GEYJ100	Carbon	10 ohms 1/10W
R70,71	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R153	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R72	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W	R154	YF2116751JT	Carbon	750 ohms 1/10W
R73,74	ERJ6GEY0R00	Carbon	0 ohms 1/10W	R155	YF2116681JT	Carbon	680 ohms 1/10W
R75	YF2116912GT	Carbon	9.1K ohms 1/10W	R156	YF2116104JT	Carbon	100K ohms 1/10W
R76	ERJ6GEYJ182	Carbon	1.8K ohms 1/10W	R158	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R77,78	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R159	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R79	YF2116681JT	Carbon	680 ohms 1/10W	R160	YF2116511JT	Carbon	510 ohms 1/10W
R80	ERJ6GEYJ105	Carbon	1M ohms 1/10W	R163	YF2116912GT	Carbon	9.1K ohms 1/10W
R82	YWR1220P102D	Metal	1K ohms 1/10W	R164	YF2116101JT	Carbon	100 ohms 1/10W
R83,84	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R165	YWR1220P272D	Metal	2.7K ohms 1/10W
R86	ERJ6GEY0R00	Carbon	0 ohms 1/10W	R166	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R87	YF2116152JT	Carbon	1.5K ohms 1/10W	R168	YWR1220P102D	Metal	1K ohms 1/10W
R88	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R169,170	YF2116474JT	Carbon	470K ohms 1/10W
R89	YWR1220P512D	Metal	5.1K ohms 1/10W	R171	YF2116152JT	Carbon	1.5K ohms 1/10W
R90	YF2116332JT	Carbon	3.3K ohms 1/10W	R174	YF2116332JT	Carbon	3.3K ohms 1/10W
R91	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R175	YF2116104JT	Carbon	100K ohms 1/10W
R92	YF2116332JT	Carbon	3.3K ohms 1/10W	R177	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R93	YF2116471JT	Carbon	470 ohms 1/10W	R179	YWR1220P512D	Metal	5.1K ohms 1/10W
R94	YWR1220P222D	Metal	2.2K ohms 1/10W	R180	YF2116392JT	Carbon	3.9K ohms 1/10W
R95	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R181	YF2116122JT	Carbon	1.2K ohms 1/10W
R96	ERJ6GEYJ512	Carbon	5.1K ohms 1/10W	R182	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R97,98	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R185	YF2116511JT	Carbon	510 ohms 1/10W
R99	YF2116202JT	Carbon	2K ohms 1/10W	R186	YF2116332JT	Carbon	3.3K ohms 1/10W
R100	YF2116332JT	Carbon	3.3K ohms 1/10W	R188,190	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R101	YF2116101JT	Carbon	100 ohms 1/10W	R191	ERJ6GEYJ100	Carbon	10 ohms 1/10W
R103	YF2116754JT	Carbon	750K ohms 1/10W	R192	YF2116474JT	Carbon	470K ohms 1/10W
R104	YF2116181JT	Carbon	180 ohms 1/10W	R194	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R105	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R196	YF2116471JT	Carbon	470 ohms 1/10W
R106	ERJ6GEYJ512	Carbon	5.1K ohms 1/10W	R197	ERJ6GEYJ102	Carbon	1K ohms 1/10W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R200	YF2116754JT	Carbon	750K ohms 1/10W	R273	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R203	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R274	YF2116183GT	Carbon	18K ohms 1/10W
R206	YF2116104JT	Carbon	100K ohms 1/10W	R275	ERJ6GEYJ510	Carbon	51 ohms 1/10W
R207	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R277	YF2116202JT	Carbon	2K ohms 1/10W
R208	YF2116101JT	Carbon	100 ohms 1/10W	R278	ERJ6GEYJ393	Carbon	39K ohms 1/10W
R209	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R279,280	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R210	YF2116474JT	Carbon	470K ohms 1/10W	R282	YF2116433GT	Carbon	43K ohms 1/10W
R211	YF2116101JT	Carbon	100 ohms 1/10W	R283,284	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R213	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R285	YF2116391JT	Carbon	390 ohms 1/10W
R214	ERJ6GEYJ393	Carbon	39K ohms 1/10W	R286	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R215,216	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R288	YF2116202JT	Carbon	2K ohms 1/10W
R217	YF2116433GT	Carbon	43K ohms 1/10W	R289	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R218	YF2116471JT	Carbon	470 ohms 1/10W	R290	YF2116392JT	Carbon	3.9K ohms 1/10W
R219	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R291	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R221	ERJ6GEYJ132	Carbon	1.3K ohms 1/10W	R293	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R222	YF2116391JT	Carbon	390 ohms 1/10W	R294	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R223	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R295	ERJ6GEYJ512	Carbon	5.1K ohms 1/10W
R224	YF2116101JT	Carbon	100 ohms 1/10W	R296	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R225	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R297	YF2116222GT	Carbon	2.2K ohms 1/10W
R226	YF2116122JT	Carbon	1.2K ohms 1/10W	R298	YF2116432JT	Carbon	4.3K ohms 1/10W
R229	ERJ6GEYJ750	Carbon	75 ohms 1/10W	R299	YF2116181JT	Carbon	180 ohms 1/10W
R231	YF2116754JT	Carbon	750K ohms 1/10W	R300	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R234	YF2116681JT	Carbon	680 ohms 1/10W	R301	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R236	ERJ6GEYJ223	Carbon	22K ohms 1/10W	R302	YF2116202JT	Carbon	2K ohms 1/10W
R237	YF2116474JT	Carbon	470K ohms 1/10W	R303	YF2116332JT	Carbon	3.3K ohms 1/10W
R238	ERJ6GEYJ393	Carbon	39K ohms 1/10W	R304,306	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R239	YF2116753JT	Carbon	75K ohms 1/10W	R307	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R240	YF2116474JT	Carbon	470K ohms 1/10W	R308	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R241	ERJ6GEYJ100	Carbon	10 ohms 1/10W	R309	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R242	ERJ6GEY0R00	Carbon	0 ohms 1/10W	R310	YF2116153JT	Carbon	15K ohms 1/10W
R243	YF2116104JT	Carbon	100K ohms 1/10W	R311	YWR1220P202D	Metal	2K ohms 1/10W
R244	ERJ6GEYJ750	Carbon	75 ohms 1/10W	R312	YF2116112JT	Carbon	1.1K ohms 1/10W
R245	YF2116152JT	Carbon	1.5K ohms 1/10W	R313	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R246	YF2116912GT	Carbon	9.1K ohms 1/10W	R315	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R247	YF2116153JT	Carbon	15K ohms 1/10W	R316	YF2116222GT	Carbon	2.2K ohms 1/10W
R249	ERJ6GEYJ510	Carbon	51 ohms 1/10W	R317	ERJ8GCSG511	Carbon	510 ohms 1/8W
R250	YF2116392JT	Carbon	3.9K ohms 1/10W	R318	YF2116754JT	Carbon	750K ohms 1/10W
R251,252	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R319	YF2116332JT	Carbon	3.3K ohms 1/10W
R253	YF2116202JT	Carbon	2K ohms 1/10W	R320	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R254	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R321	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R255	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W	R322	YF2116332JT	Carbon	3.3K ohms 1/10W
R256	YF2116561JT	Carbon	560 ohms 1/10W	R323,324	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R257	YF2116754JT	Carbon	750K ohms 1/10W	R325	R1220P331D	Metal	330K ohms 1/10W
R258-260	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R326	YF2116123JT	Carbon	12K ohms 1/10W
R261	ERJ6GEYJ510	Carbon	51 ohms 1/10W	R327	YF2116202JT	Carbon	2K ohms 1/10W
R262,263	ERJ6GEYJ393	Carbon	39K ohms 1/10W	R328,329	YF2116680JT	Carbon	68 ohms 1/10W
R264	ERJ6GEYJ100	Carbon	10 ohms 1/10W	R330	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R265	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R331	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R266	ERJ6GEYJ512	Carbon	5.1K ohms 1/10W	R332	YF2116511JT	Carbon	510 ohms 1/10W
R267	ERJ6GEYJ510	Carbon	51 ohms 1/10W	R333	YW2116305JT	Carbon	3M ohms 1/10W
R268	YF2116331JT	Carbon	330 ohms 1/10W	R334	YF2116153JT	Carbon	15K ohms 1/10W
R269	ERJ6GEYJ223	Carbon	22K ohms 1/10W	R335	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R270	YF2116151JT	Carbon	150 ohms 1/10W	R336	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R271	ERJ6GEYJ684	Carbon	680K ohms 1/10W	R337	YF2116202JT	Carbon	2K ohms 1/10W
R272	YW2116620JT	Carbon	62 ohms 1/10W	R338	ERJ6GEYJ102	Carbon	1K ohms 1/10W

WJ-MX30

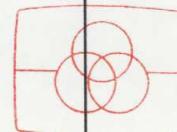
REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R339	YF2116561JT	Carbon	560 ohms 1/10W	R409	YF2116332JT	Carbon	3.3K ohms 1/10W
R340	YWR1220P202D	Metal	2K ohms 1/10W	R410	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R341	ERJ6GEYJ223	Carbon	22K ohms 1/10W	R411	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R342	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R412	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R343	YF2116754JT	Carbon	750K ohms 1/10W	R413,414	YF2116511JT	Carbon	510 ohms 1/10W
R344	YWR1220P181D	Metal	180 ohms 1/10W	R415	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R345	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R416	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R346	YF2116332JT	Carbon	3.3K ohms 1/10W	R417	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R347	YF2116511JT	Carbon	510 ohms 1/10W	R418	YF2116511JT	Carbon	510 ohms 1/10W
R348,349	ERJ6GEYJ223	Carbon	22K ohms 1/10W	R419	YF2116332JT	Carbon	3.3K ohms 1/10W
R350	ERJ6GEYJ512	Carbon	5.1K ohms 1/10W	R420	ERJ6GEYJ510	Carbon	51 ohms 1/10W
R351	YF2116511JT	Carbon	510 ohms 1/10W	R421,422	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R352	YW2116620JT	Carbon	62 ohms 1/10W	R423	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R353	YWR1220P682D	Metal	6.8K ohms 1/10W	R424	ERJ6GEYJ510	Carbon	51 ohms 1/10W
R354	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W	R425	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R355,356	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R426,427	ERJ6GEYJ510	Carbon	51 ohms 1/10W
R358	YF2116331JT	Carbon	330 ohms 1/10W	R428	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R359	YF2116332JT	Carbon	3.3K ohms 1/10W	R429	YWR1220P682D	Metal	6.8K ohms 1/10W
R360	YF2116183GT	Carbon	18K ohms 1/10W	R430	YWR1220P512D	Metal	5.1K ohms 1/10W
R361	YF2116151JT	Carbon	150 ohms 1/10W	R431,432	YWR1220P242D	Metal	2.4K ohms 1/10W
R362	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R433	YWR1220P162D	Metal	1.6K ohms 1/10W
R363	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R434	YWR1220P622D	Metal	6.2K ohms 1/10W
R365	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R435	YWR1220P682D	Metal	6.8K ohms 1/10W
R366	YF2116511JT	Carbon	510 ohms 1/10W	R436	YWR1220P512D	Metal	5.1K ohms 1/10W
R367	YF2116202JT	Carbon	2K ohms 1/10W	R437	YWR1220P682D	Metal	6.8K ohms 1/10W
R368,369	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R438	YWR1220P242D	Metal	2.4K ohms 1/10W
R371	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R439	YWR1220P162D	Metal	1.6K ohms 1/10W
R373	YF2116202JT	Carbon	2K ohms 1/10W	R440	YWR1220P622D	Metal	6.2K ohms 1/10W
R374	ERJ6GEYJ223	Carbon	22K ohms 1/10W	R441	YWR1220P242D	Metal	2.4K ohms 1/10W
R375,376	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R442	YWR1220P682D	Metal	6.8K ohms 1/10W
R377	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R444	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R378	YF2116392JT	Carbon	3.9K ohms 1/10W	R446	YF2116101JT	Carbon	100 ohms 1/10W
R379	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R447	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R381	YF2116202JT	Carbon	2K ohms 1/10W	R448	YWR1220P152D	Metal	1.5K ohms 1/10W
R382	YF2116181JT	Carbon	180 ohms 1/10W	R449	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R383,384	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R450	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R385	ERJ6GEYJ223	Carbon	22K ohms 1/10W	R451	YF2116101JT	Carbon	100 ohms 1/10W
R386-388	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R452	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R390	YF2116332JT	Carbon	3.3K ohms 1/10W	R453	YWR1220P152D	Metal	1.5K ohms 1/10W
R391	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R454	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R392	ERJ6GEYJ223	Carbon	22K ohms 1/10W	R455	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R393	YWR1220P202D	Metal	2K ohms 1/10W	R456	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R394	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R457	YF2116432JT	Carbon	4.3K ohms 1/10W
R395	YF2116511JT	Carbon	510 ohms 1/10W	R458	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R396,397	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R459	YF2116332JT	Carbon	3.3K ohms 1/10W
R398	YF2116202JT	Carbon	2K ohms 1/10W	R460,461	YF2116333GT	Carbon	33K ohms 1/10W
R399	R1220P331D	Metal	330K ohms 1/10W	R462	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R400	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R463,464	YF2116333GT	Carbon	33K ohms 1/10W
R401	YWR1220P202D	Metal	2K ohms 1/10W	R465	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R402	YF2116912GT	Carbon	9.1K ohms 1/10W	R466,467	YF2116333GT	Carbon	33K ohms 1/10W
R403,404	ERJ6GEYJ223	Carbon	22K ohms 1/10W	R468	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R405	YWR1220P181D	Metal	180 ohms 1/10W	R469,470	YF2116333GT	Carbon	33K ohms 1/10W
R406	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R471	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R407	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W	R472	ERJ6GEYJ393	Carbon	39K ohms 1/10W
R408	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R473	YF2116473GT	Carbon	47K ohms 1/10W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R474	ERJ6GEYJ393	Carbon	39K ohms 1/10W	VR25	EVM1DSW30B24	Variable Resistor	20K ohms
R475	YF2116473GT	Carbon	47K ohms 1/10W	VR26	EVM1DSW30BY2	Variable Resistor	330 ohms
R476	ERJ6GEYJ393	Carbon	39K ohms 1/10W	VR28,29	EVM1DSW30BE3	Variable Resistor	2.2K ohms
R477	YF2116473GT	Carbon	47K ohms 1/10W	VR30	EVM1DSW30BQ3	Variable Resistor	4.7K ohms
R478	ERJ6GEYJ393	Carbon	39K ohms 1/10W	VR31	EVM1DSW30B33	Variable Resistor	3K ohms
R479	YF2116473GT	Carbon	47K ohms 1/10W	C1,2	YWT316B104MT	Ceramic	0.1 μF
R480,481	YF2116101JT	Carbon	100 ohms 1/10W	C3,4	YF400103XKT	Ceramic	0.01 μF
R482,483	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C5-7	YWT316B104MT	Ceramic	0.1 μF
R484,485	YF2116101JT	Carbon	100 ohms 1/10W	C9,11	YWT316B104MT	Ceramic	0.1 μF
R486	YF2116330JT	Carbon	33 ohms 1/10W	C12	YWT316B104MT	Ceramic	0.1 μF
R487	YF2116330JT	Carbon	33 ohms 1/10W	C14	YF400070CHDT	Ceramic	7pF
R488,489	YF2116101JT	Carbon	100 ohms 1/10W	C15	YF400180CHJT	Ceramic	18 pF
R490,491	YF2116330JT	Carbon	33 ohms 1/10W	C16	YF400680CHJT	Ceramic	68 pF
R494	YF2116273GT	Carbon	27K ohms 1/10W	C17	YF400560CHJT	Ceramic	56 pF
R495,496	YF2116101JT	Carbon	100 ohms 1/10W	C18	YF400680CHJT	Ceramic	68 pF
R497	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C19	YF400151CHJT	Ceramic	150 pF
R498	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C20	YWT316B104MT	Ceramic	0.1 μF
R499,500	YF2116101JT	Carbon	100 ohms 1/10W	C21	YF400102XKT	Ceramic	1000 pF
R501,502	YF2116330JT	Carbon	33 ohms 1/10W	C22,24	YWT316B104MT	Ceramic	0.1 μF
R503,504	YF2116101JT	Carbon	100 ohms 1/10W	C25	YF400100CHJT	Ceramic	10 pF
R505,506	YF2116330JT	Carbon	33 ohms 1/10W	C26,27	YWT316B104MT	Ceramic	0.1 μF
R509	YF2116273GT	Carbon	27K ohms 1/10W	C28	YF400070CHDT	Ceramic	7pF
R510,511	YF2116101JT	Carbon	100 ohms 1/10W	C29	YWT316B104MT	Ceramic	0.1 μF
R512,513	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C30	YF400222XKT	Ceramic	2200 pF
R514,515	YF2116101JT	Carbon	100 ohms 1/10W	C31	YF400560CHJT	Ceramic	56 pF
R516	YF2116330JT	Carbon	33 ohms 1/10W	C32	YF400180CHJT	Ceramic	18 pF
R517	ERJ6GEYJ393	Carbon	39K ohms 1/10W	C34	YF400151CHJT	Ceramic	150 pF
R518	YF2116753JT	Carbon	75K ohms 1/10W	C35	YF400102XKT	Ceramic	1000 pF
R519	YF2116122JT	Carbon	1.2K ohms 1/10W	C36	YWT316B104MT	Ceramic	0.1 μF
R520	ERJ6GEYJ393	Carbon	39K ohms 1/10W	C37,38	YF400222XKT	Ceramic	2200 pF
R521	YF2116753JT	Carbon	75K ohms 1/10W	C41	YF400103XKT	Ceramic	0.01 μF
R522	YF2116122JT	Carbon	1.2K ohms 1/10W	C42	YF400100CHJT	Ceramic	10 pF
R523	ERJ6GEYJ750	Carbon	75 ohms 1/10W	C43	YF400103XKT	Ceramic	0.01 μF
R524	ERJ6GEYJ393	Carbon	39K ohms 1/10W	C44	YWT316B104MT	Ceramic	0.1 μF
R525	YF2116753JT	Carbon	75K ohms 1/10W	C45	YF400103XKT	Ceramic	0.01 μF
R526	YF2116122JT	Carbon	1.2K ohms 1/10W	C46	YWT316B104MT	Ceramic	0.1 μF
R527,528	R1220P151D	Metal	150 ohms 1/10W	C47	YF400201CHJT	Ceramic	200 pF
R529-532	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C48-50	YWT316B473MT	Ceramic	0.047 μF
R533	YF2116330JT	Carbon	33 ohms 1/10W	C51	YF400102XKT	Ceramic	1000 pF
R601-604	L311J103J332	Thermistor	3.3K ohms	C52,53	YWT316B104MT	Ceramic	0.1 μF
R605,606	YF2116473GT	Carbon	47K ohms 1/10W	C54	YF400103XKT	Ceramic	0.01 μF
VR5	EVM1DSW30BE3	Variable Resistor	2.2K ohms	C55	YF400222XKT	Ceramic	2200 pF
VR6	EVM1DSW30BY2	Variable Resistor	330 ohms	C56	YWT316B104MT	Ceramic	0.1 μF
VR7	EVM1DSW30BE3	Variable Resistor	2.2K ohms	C57	YF400103XKT	Ceramic	0.01 μF
VR8-11	EVM1DSW30BY2	Variable Resistor	330 ohms	C58,59	YWT316B104MT	Ceramic	0.1 μF
VR13	EVM1DSW30BY2	Variable Resistor	330 ohms	C60	YF400103XKT	Ceramic	0.01 μF
VR14	EVM1DSW30B54	Variable Resistor	50K ohms	C61	YF400102XKT	Ceramic	1000 pF
VR15	EVM1DSW30B24	Variable Resistor	20K ohms	C62,63	YF400220CHJT	Ceramic	22 pF
VR16,17	EVM1DSW30BE3	Variable Resistor	2.2K ohms	C64,65	YF400103XKT	Ceramic	0.01 μF
VR18	EVM1DSW30BQ3	Variable Resistor	4.7K ohms	C66	YWT316B104MT	Ceramic	0.1 μF
VR19	EVM1DSW30B24	Variable Resistor	20K ohms	C67	YF400103XKT	Ceramic	0.01 μF
VR20	EVM1DSW30BY2	Variable Resistor	330 ohms	C68-71	YWT316B104MT	Ceramic	0.1 μF
VR21	EVM1DSW30B54	Variable Resistor	50K ohms	C72	YF400561CHJT	Ceramic	560 pF
VR22	EVM1DSW30B24	Variable Resistor	20K ohms	C73	YF400050CHDT	Ceramic	5 pF
VR24	EVM1DSW30BQ3	Variable Resistor	4.7K ohms	C74	YF400103XKT	Ceramic	0.01 μF

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REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
C75	YF400102XKT	Ceramic	1000 pF	C148	ECEA1AKA220	Electrolytic	22 µF 10V
C76	YF400222XKT	Ceramic	2200 pF	C151	ECEA1HKAR47	Electrolytic	0.47 µF 50V
C77	YF400103XKT	Ceramic	0.01 µF	C152	ECEA1AKA101	Electrolytic	100 µF 10V
C78	YF400201CHJT	Ceramic	200 pF	C153	ECEA1HKA010	Electrolytic	1 µF 50V
C79	YF400330CHJT	Ceramic	33 pF	C154	ECEA1AKA101	Electrolytic	100 µF 10V
C80	YF400121CHJT	Ceramic	120 pF	C155	ECEA1CKA470	Electrolytic	47 µF 16V
C81,82	YWT316B473MT	Ceramic	0.047 µF	C157	ECEA1HKA010	Electrolytic	1 µF 50V
C83	YF400102XKT	Ceramic	1000 pF	C158	ECEA1HKAR47	Electrolytic	0.47 µF 50V
C84	YF400820CHJT	Ceramic	82 pF	C160	ECEA1AKA220	Electrolytic	22 µF 10V
C85-88	YWT316B104MT	Ceramic	0.1 µF	C161	ECEA0JKA470	Electrolytic	47 µF 6.3V
C89	YF400222XKT	Ceramic	2200 pF	C164	ECEA1AKA220	Electrolytic	22 µF 10V
C90	YF400102XKT	Ceramic	1000 pF	C165	ECEA1CKA220	Electrolytic	22 µF 16V
C91	YWT316B104MT	Ceramic	0.1 µF	C166	ECEA1AKA470	Electrolytic	47 µF 10V
C92	YF400330CHJT	Ceramic	33 pF	C167	ECEA1EKA4R7	Electrolytic	0.47 µF 25V
C93	YWT316B104MT	Ceramic	0.1 µF	C168	ECEA0JKA470	Electrolytic	47 µF 6.3V
C94	YF400102XKT	Ceramic	1000 pF	C170,171	ECEA1HKA010	Electrolytic	1 µF 50V
C95,96	YWT316B104MT	Ceramic	0.1 µF	C172	ECEA1AKA470	Electrolytic	47 µF 10V
C97	YF400330CHJT	Ceramic	33 pF	C173	ECEA1HKA010	Electrolytic	1 µF 50V
C98	YF400050CHDT	Ceramic	5 pF	C174	ECEA1VKS470	Electrolytic	47 µF 35V
C99	YF400101CHJT	Ceramic	100 pF	C175	ECEA1CKA220	Electrolytic	22 µF 16V
C100	YF400561CHJT	Ceramic	560 pF	C176	ECEA1HKA010	Electrolytic	1 µF 50V
C101	YF400102XKT	Ceramic	1000 pF	C177	ECEA0JKA470	Electrolytic	47 µF 6.3V
C102	YF400222XKT	Ceramic	2200 pF	C178	ECEA1HKAR47	Electrolytic	0.47 µF 50V
C103	YF400101CHJT	Ceramic	100 pF	C179	ECEA1HKS3R3	Electrolytic	3.3 µF 50V
C104	YF400102XKT	Ceramic	1000 pF	C180	ECEA0JKA470	Electrolytic	47 µF 6.3V
C105	YF400330CHJT	Ceramic	33 pF	C181	ECEA1AKA101	Electrolytic	100 µF 10V
C106	YF400121CHJT	Ceramic	120 pF	C182	ECEA1VKS470	Electrolytic	47 µF 35V
C107	YF400102XKT	Ceramic	1000 pF	C183	ECEA1CKA470	Electrolytic	47 µF 16V
C108	YF400330CHJT	Ceramic	33 pF	C184	ECEA1CKA101	Electrolytic	100 µF 16V
C109	YF400102XKT	Ceramic	1000 pF	C185-187	ECEA1AKA101	Electrolytic	100 µF 10V
C110	YF400330CHJT	Ceramic	33 pF	C188	ECEA1AKA220	Electrolytic	22 µF 10V
C111	YWT316B104MT	Ceramic	0.1 µF	C189	ECEA1EKA4R7	Electrolytic	4.7 µF 25V
C112	YF400103XKT	Ceramic	0.01 µF	C190	ECEA1VKS470	Electrolytic	47 µF 35V
C113	YF400102XKT	Ceramic	1000 pF	C191	ECEA1CKA101	Electrolytic	100 µF 16V
C114	YF400330CHJT	Ceramic	33 pF	C192	ECEA1CKA220	Electrolytic	22 µF 16V
C115	YF400103XKT	Ceramic	0.01 µF	C193	ECEA0JKA470	Electrolytic	47 µF 6.3V
C116	YF400102XKT	Ceramic	1000 pF	C194	ECEA1HKA010	Electrolytic	1 µF 50V
C117,118	YF400103XKT	Ceramic	0.01 µF	C195	ECEA1AKA101	Electrolytic	100 µF 10V
C119	ECEA1CKA470	Electrolytic	47 µF 16V	C196	ECEA1HKA010	Electrolytic	1 µF 50V
C120	ECEA1AKA470	Electrolytic	47 µF 10V	C197	ECEA0JKA470	Electrolytic	47 µF 6.3V
C121-124	ECEA1AKA101	Electrolytic	100 µF 10V	C198	ECEA1CKA101	Electrolytic	100 µF 16V
C125	ECEA1VKS470	Electrolytic	47 µF 35V	C199	ECEA1HKA2R2	Electrolytic	2.2 µF 50V
C126	ECEA1AKA101	Electrolytic	100 µF 10V	C200	ECEA0JKA470	Electrolytic	47 µF 6.3V
C127	ECEA1CKA470	Electrolytic	47 µF 16V	C201	ECEA1VKS470	Electrolytic	47 µF 35V
C128	ECEA1AKA470	Electrolytic	47 µF 10V	C202	ECEA1HKA2R2	Electrolytic	2.2 µF 50V
C129	ECSF1CE106	Tantalum	10 µF 16V	C203	ECEA0JKA470	Electrolytic	47 µF 6.3V
C130	ECEA1VKS470	Electrolytic	47 µF 35V	C204	ECEA1VKS470	Electrolytic	47 µF 35V
C131	ECEA1AKA220	Electrolytic	22 µF 10V	C205	ECEA1AKA101	Electrolytic	100 µF 10V
C133	ECEA1AKA470	Electrolytic	47 µF 10V	C206	ECEA1CKA101	Electrolytic	100 µF 16V
C134	ECEA1AKA101	Electrolytic	100 µF 10V	C207	ECEA1AKA470	Electrolytic	47 µF 10V
C135	ECEA0GKA470	Electrolytic	47 µF 4V				
C137	ECEA1AKA101	Electrolytic	100 µF 10V				
C138	ECEA1CKA470	Electrolytic	47 µF 16V				
C143	ECEA1AKA470	Electrolytic	47 µF 10V				
C144	ECEA1CKA470	Electrolytic	47 µF 16V				

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
C208	ECEA1VKS470	Electrolytic 47 µF 35V	C297	YF400331CHJT	Ceramic 330 pF
C209	ECEA1AKA101	Electrolytic 100 µF 10V	C298,299	YF400330CHJT	Ceramic 33 pF
C210	ECEA1CKA101	Electrolytic 100 µF 16V	C302,303	YF400680CHJT	Ceramic 68 pF
C211	ECEA1AKA101	Electrolytic 100 µF 10V	C304,305	YF400300CHJT	Ceramic 30 pF
C212	ECEA0JKA470	Electrolytic 47 µF 6.3V	C306	ECCF1H101JC	Ceramic 100 pF 50V
C213	ECEA1CKA101	Electrolytic 100 µF 16V	C307	ECCF1H220JC	Ceramic 22 pF 50V
C214	ECEA1HKA2R2	Electrolytic 2.2 µF 50V	C308	ECCF1H101JC	Ceramic 100 pF 50V
C215	ECEA0JKA470	Electrolytic 47 µF 6.3V	C309	ECCF1H220JC	Ceramic 22 pF 50V
C216	ECEA1HKA2R2	Electrolytic 2.2 µF 50V	C310,311	ECCF1H101JC	Ceramic 100 pF 50V
C217	ECEA0JKA470	Electrolytic 47 µF 6.3V	CT1,2	YFTZ03R200FR	Trimmer Capacitor 20 pF
C218	ECEA1CKA220	Electrolytic 22 µF 16V	L1,2	ELC08D082	Coil 56 µH
C219	ECEA1AKA101	Electrolytic 100 µF 10V	L3	ELESE1R0KA	Coil 1 µH
C220-222	ECEA1AKN100	Electrolytic 10 µF 10V	L4	ELESE180KA	Coil 18 µH
C223	ECEA1CKN4R7	Electrolytic 4.7 µF 16V	L5	ELESE6R8KA	Coil 6.8 µH
C224-226	ECEA1AKN100	Electrolytic 10 µF 10V	L6-9	ELESE1R0KA	Coil 1 µH
C227	ECEA1HKS3R3	Electrolytic 3.3 µF 50V	L10	ELESE180KA	Coil 18 µH
C228,229	ECSF1CE106	Tantalum 10 µF 16V	L11	ELESE6R8KA	Coil 6.8 µH
C230,231	ECSF1HE474	Tantalum 0.47 µF 50V	L13,14	ELESE1R0KA	Coil 1 µH
C232,233	ECSF1HE105	Tantalum 1 µF 50V	L16	ELESE1R0KA	Coil 1 µH
C234	ECEA1HKAR47	Electrolytic 4.7 µF 50V	L17-20	ELESE101KA	Coil 100 µH
C235,236	ECSF1EE226	Tantalum 22 µF 25V	L21	ELC08D082	Coil 56 µH
C237,238	ECEA1AKA101	Electrolytic 100 µF 10V	X1,2	YFMS30917M10	Crystal Oscillator
C239,240	ECSF1EE226	Tantalum 22 µF 25V	CF1,2	YWYS40075	Filter
C241,242	ECEA1AKA101	Electrolytic 10 µF 10V	CF3	YWYS30030	Filter
C243	ECSF1CE106	Tantalum 10 µF 16V	CF4,5	YWYS40075	Filter
C244	ECSF1EE106	Tantalum 10 µF 25V	CF6	YWYS30030	Filter
C245-248	ECSF1CE106	Tantalum 10 µF 16V	CF7	YWYS40030	Filter
C249,250	ECSF1CE336	Tantalum 33 µF 16V	CF8,9	YWYS30031	Filter
C251-254	ECSF1CE106	Tantalum 10 µF 16V	CF10	YWYS40030	Filter
C255,256	ECSF1CE336	Tantalum 33 µF 16V	CF11,12	YWYS30031	Filter
C257-260	ECSF1CE106	Tantalum 10 µF 16V	CF13	YWYS40075	Filter
C261	ECEA1AKA101	Electrolytic 100 µF 10V	CF14	YWYS30030	Filter
C262	YF400222XKT	Ceramic 2200 pF	CF15	YWYS40075	Filter
C263-268	ECEA1CKA470	Electrolytic 47 µF 16V	CF16	YWYS30030	Filter
C269-272	ECEA1CKN100	Electrolytic 10 µF 16V	CF21	YWY5G0382	Filter
C273	YWT316B104MT	Ceramic 0.1 µF	CN11	YWF794P040LA	40-pin Connector
C274	ECEA1CKA470	Electrolytic 47 µF 16V	CN13	YWF794P026LA	26-pin Connector
C275	ECSF1EE106	Tantalum 10 µF 25V	CN16	YWF794P020LA	20-pin Connector
C276	ECEA1CKA470	Electrolytic 47 µF 16V	CN22	YW530140610	6-pin Connector
C277	YF400103XKT	Ceramic 0.01 µF	TP1-19	YWRCS3216TPV	Test Point
C278	ECEA1CKA470	Electrolytic 47 µF 16V	M11	YVV2HA1100A1	Shield Cover
C279	YF400103XKT	Ceramic 0.01 µF	M12	YVV2SA2451A3	Mounting Angle
C280	ECEA1AKA101	Electrolytic 100 µF 10V	M41	YVV2HA1098A1	Shield Parts
C281,282	ECEA1CKA470	Electrolytic 47 µF 16V	M42	YVV2HA1099A2	Bottom Shield Case
C283,284	YF400103XKT	Ceramic 0.01 µF			
C285	ECEA1EKA470	Electrolytic 47 µF 25V			
C286,287	YWT316B104MT	Ceramic 0.1 µF			
C288	ECEA1AKA470	Electrolytic 47 µF 10V			
C289	ECEA1CKA470	Electrolytic 47 µF 16V			
C290	YF400103XKT	Ceramic 0.01 µF			
C291	ECEA1CKA470	Electrolytic 47 µF 16V			
C292	YF400103XKT	Ceramic 0.01 µF			
C293,294	ECEA1AKA101	Electrolytic 100 µF 10V			
C295	YF400103XKT	Ceramic 0.01 µF			
C296	YWT316B104MT	Ceramic 0.1 µF			



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WJ-MX30

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
DIGITAL BOARD					
PCB7 (RTL)	YWJKZMX30E3A	Printed Circuit Board Assy	IC64	YWUPC4064G2	IC
IC1,2	NJM78L05A	IC	IC65	YWSC7SU04F	IC
IC3	YWCXD1175AM	IC	IC66	YWUPD4538BG	IC
IC4	MC74HC4053F	IC	IC67	NJU4051BM	IC
IC5	YWCXD1175AM	IC	IC68	NJU4053BM	IC
IC6	NJM2904M	IC	IC69	YWSC7S32FER	IC
IC7	MN53060LBY2	IC	IC70	YWM51955AFT1	IC
IC8	YWCXD1175AM	IC	IC72,73	YWSC7S08F	IC
IC9	MC74HC4053F	IC	Q14	2SA1733	Transistor
IC10-12	YWM5M4C500AL	IC	Q15-21	2SK198-Q	FET
IC13	YWCXD1175AM	IC	Q22	MSD601-QRS	Transistor
IC14	NJM2904M	IC	Q23	2SD1328-RS	Transistor
IC15	YWUPD42102G3	IC	Q24-28	MSD601-QRS	Transistor
IC17,18	YWM5M4C500AL	IC	Q29	2SD1328-RS	Transistor
IC19	NJM78L05A	IC	Q30-34	MSD601-QRS	Transistor
IC21	YWM5M4C500AL	IC	Q35-40	MSB709-QRS	Transistor
IC22	YWL7A0946	LSI	Q41	2SA1733	Transistor
IC23	YWPD65012C25	IC	Q42	MSD601-QRS	Transistor
IC24	YWUPD42102G3	IC	Q44	2SB710-QRS	Transistor
IC25	MN53060LBY2	IC	Q45	MSB709-QRS	Transistor
IC26	MC74HC4053F	IC	D1,2	1SS99	Diode
IC27	YWM5M4C500AL	IC	D3-13	1SV153	Diode
IC28	NJM78L05A	IC	D14	YWDAN212K	Diode
IC29	YWM5M4C500AL	IC	D15,16	YWRB421D	Diode
IC30	MN676021PPS	IC	D17	MA8033	Diode
IC31	YWM5M4C500AL	IC	D18,19	MA151K	Diode
IC32	YWPD65012C25	IC	R1	YF2116331JT	Carbon
IC33,34	YWM5M4C500AL	IC	R2	YF2116511JT	Carbon
IC35	MN676021PPS	IC	R3	ERJ6GEYJ102	Carbon
IC36	YWM5M4C500AL	IC	R4	YF2116331JT	Carbon
IC37	YWL7A1077	LSI	R5	ERJ6GEYJ102	Carbon
IC38	MC74HC374AF	IC	R6-10	YF2116101JT	Carbon
IC39	YWUPD42102G3	IC	R11	YF2116331JT	Carbon
IC40	YWM74AC374M	IC	R12,13	YF2116101JT	Carbon
IC41	YWUPD42102G3	IC	R14	YF2116331JT	Carbon
IC42	YWPD65082067	IC	R15	YF2116101JT	Carbon
IC43	YWUPD91361	IC	R16	ERJ6GEYJ472	Carbon
IC44	MC74HC374AF	IC	R17	YF2116112JT	Carbon
IC45	YWM74AC374M	IC	R18	ERJ6GEYJ102	Carbon
IC46	NJM319M	IC	R19	YF2116101JT	Carbon
IC47	YWNJM78L09A	IC	R20	YF2116222GT	Carbon
IC48,50	YWSC7S08F	IC	R21	YF2116511JT	Carbon
IC51,52	YWSC7S08F	IC	R22	YF2116202JT	Carbon
IC53,54	YWSC7SU04F	IC	R23	YF2116101JT	Carbon
IC56-58	YWSC7SU04F	IC	R24	YF2116821GT	Carbon
IC59	YWM51953AFP	IC	R25-31	YF2116101JT	Carbon
IC60	YWH7532F0MX1	IC	R32	YF2116332JT	Carbon
IC61	YWM74AC374M	IC	R33	ERJ6GEYJ102	Carbon
IC62	NJM2904M	IC	R34	YF2116332JT	Carbon
IC63	NJM78L06A	IC	R35	ERJ6GEYJ103	Carbon
			R36	YF2116101JT	Carbon
			R37	YF2116333GT	Carbon
			R38	YF2116331JT	Carbon
			R39	YF2116104JT	Carbon
			R40	YF2116101JT	Carbon

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R41	YF2116331JT	Carbon	330 ohms 1/10W	R192	YF2116752JT	Carbon	7.5K ohms 1/10W
R42	YF2116104JT	Carbon	100K ohms 1/10W	R193,194	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R43	ERJ6GEYJ105	Carbon	1M ohms 1/10W	R195	YF2116331JT	Carbon	330 ohms 1/10W
R44	YF2116752JT	Carbon	7.5K ohms 1/10W	R196	YF2116511JT	Carbon	510 ohms 1/10W
R45	YF2116331JT	Carbon	330 ohms 1/10W	R197	YF2116104JT	Carbon	100K ohms 1/10W
R46	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R198	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R47	YF2116511JT	Carbon	510 ohms 1/10W	R199	YF2116331JT	Carbon	330 ohms 1/10W
R48	YF2116331JT	Carbon	330 ohms 1/10W	R200,201	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R49	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R202	YF2116104JT	Carbon	100K ohms 1/10W
R50	YF2116511JT	Carbon	510 ohms 1/10W	R203-206	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R51-58	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R207	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R59	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R209-210	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R60	YF2116331JT	Carbon	330 ohms 1/10W	R211	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R61-74	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R212	YF2116104JT	Carbon	100K ohms 1/10W
R75	YF2116392JT	Carbon	3.9K ohms 1/10W	R213	YF2116511JT	Carbon	510 ohms 1/10W
R76-84	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R214	YF2116331JT	Carbon	330 ohms 1/10W
R85	YF2116331JT	Carbon	330 ohms 1/10W	R215	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R86	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R216	YF2116511JT	Carbon	510 ohms 1/10W
R87-89	YF2116101JT	Carbon	100 ohms 1/10W	R217	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R90	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W	R218	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R91	YF2116331JT	Carbon	330 ohms 1/10W	R219	YF2116511JT	Carbon	510 ohms 1/10W
R92,93	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R220	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R95-97	YF2116101JT	Carbon	100 ohms 1/10W	R221-229	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R98	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R230	YF2116392JT	Carbon	3.9K ohms 1/10W
R99	YF2116112JT	Carbon	1.1K ohms 1/10W	R231	YF2116332JT	Carbon	3.3K ohms 1/10W
R100	ERJ6GEY0R00	Carbon	0 ohms 1/10W	R232-236	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R101,102	YF2116101JT	Carbon	100 ohms 1/10W	R237	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R103-111	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R238,239	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R112	YF2116222GT	Carbon	2.2K ohms 1/10W	R240	YF2116104JT	Carbon	100K ohms 1/10W
R113	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R241	YF2116101JT	Carbon	100 ohms 1/10W
R114	YF2116101JT	Carbon	100 ohms 1/10W	R242-251	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R115,116	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R252	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R118	YF2116511JT	Carbon	510 ohms 1/10W	R254	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R120,121	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R255	YF2116104JT	Carbon	100K ohms 1/10W
R124-127	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R256	YF2116183GT	Carbon	18K ohms 1/10W
R129	YF2116202JT	Carbon	2K ohms 1/10W	R257	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R131,135	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R258	YF2116752JT	Carbon	7.5K ohms 1/10W
R138,141	YF2116101JT	Carbon	100 ohms 1/10W	R260	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R146,148	YF2116101JT	Carbon	100 ohms 1/10W	R261,262	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R149	YF2116821GT	Carbon	820 ohms 1/10W	R263	YF2116752JT	Carbon	7.5K ohms 1/10W
R150,151	YF2116101JT	Carbon	100 ohms 1/10W	R264	YF2116101JT	Carbon	100 ohms 1/10W
R156,159	YF2116101JT	Carbon	100 ohms 1/10W	R265,266	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R163	YF2116332JT	Carbon	3.3K ohms 1/10W	R267-269	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R171	YF2116104JT	Carbon	100K ohms 1/10W	R270	YF2116332JT	Carbon	3.3K ohms 1/10W
R175	YF2116101JT	Carbon	100 ohms 1/10W	R272	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R176	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R273	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R177	YF2116104JT	Carbon	100K ohms 1/10W	R274	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R178	YF2116333GT	Carbon	33K ohms 1/10W	R275	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R179	YF2116332JT	Carbon	3.3K ohms 1/10W	R276	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R180	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R277	YF2116332JT	Carbon	3.3K ohms 1/10W
R181,182	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R278-280	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R183-185	YF2116331JT	Carbon	330 ohms 1/10W	R281	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R186	YF2116561JT	Carbon	560 ohms 1/10W	R282	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R187	ERJ6GEYJ105	Carbon	1M ohms 1/10W	R283	YF2116332JT	Carbon	3.3K ohms 1/10W
R188-191	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R284	ERJ6GEYJ221	Carbon	220 ohms 1/10W

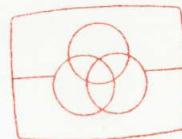
WJ-MX30

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R285	ERJ6GEY0R00	Carbon	0ohms 1/10W	R436-438	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R286	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R439	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R287	YF2116511JT	Carbon	510 ohms 1/10W	R440-451	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R288	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R452	YF2116511JT	Carbon	510 ohms 1/10W
R289	YF2116511JT	Carbon	510 ohms 1/10W	R453	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R290,291	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R454	YF2116101JT	Carbon	100 ohms 1/10W
R292,293	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R455,456	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R294,296	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R457	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R297-299	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R458	YF2116511JT	Carbon	510 ohms 1/10W
R301,304	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R459	YF2116153JT	Carbon	15K ohms 1/10W
R305-310	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R460	YF2116203JT	Carbon	20K ohms 1/10W
R311	YF2116511JT	Carbon	510 ohms 1/10W	R461	YF2116511JT	Carbon	510 ohms 1/10W
R312-314	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R462	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R318	YF2116511JT	Carbon	510 ohms 1/10W	R463,464	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R319,320	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R465	YF2116511JT	Carbon	510 ohms 1/10W
R321	YF2116511JT	Carbon	510 ohms 1/10W	R466	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R322	YF2116104JT	Carbon	100K ohms 1/10W	R467	YF2116511JT	Carbon	510 ohms 1/10W
R323,324	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R468	YF2116222GT	Carbon	2.2K ohms 1/10W
R325	ERJ6GEY0R00	Carbon	0 ohms 1/10W	R469	YF2116362GT	Carbon	3.6K ohms 1/10W
R326-331	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R470	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R333	YF2116331JT	Carbon	330 ohms 1/10W	R471	YF2116222GT	Carbon	2.2K ohms 1/10W
R334	ERJ6GEYJ105	Carbon	1M ohms 1/10W	R472	YF2116331JT	Carbon	330 ohms 1/10W
R335,336	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R473	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R337	YF2116203JT	Carbon	20K ohms 1/10W	R474	YF2116331JT	Carbon	330 ohms 1/10W
R338	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R475	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R339	YF2116101JT	Carbon	100 ohms 1/10W	R478-482	YF2116331JT	Carbon	330 ohms 1/10W
R340	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R483	YF2116471JT	Carbon	470 ohms 1/10W
R341	YF2116104JT	Carbon	100K ohms 1/10W	R484	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R343	ERJ6GEY0R00	Carbon	0 ohms 1/10W	R485	YF2116331JT	Carbon	330 ohms 1/10W
R344-350	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R486	YF2116471JT	Carbon	470 ohms 1/10W
R351	YF2116331JT	Carbon	330 ohms 1/10W	R487,488	YF2116331JT	Carbon	330 ohms 1/10W
R352	ERJ6GEY0R00	Carbon	0 ohms 1/10W	R489	YF2116222GT	Carbon	2.2K ohms 1/10W
R353,354	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R490-493	YF2116331JT	Carbon	330 ohms 1/10W
R355	ERJ6GEYJ105	Carbon	1M ohms 1/10W	R494	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R356	YF2116104JT	Carbon	100K ohms 1/10W	R495	YF2116331JT	Carbon	330 ohms 1/10W
R357	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R496	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R358	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R497,499	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R363	YF2116104JT	Carbon	100K ohms 1/10W	R500,501	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R364	YF2116332JT	Carbon	3.3K ohms 1/10W	R502	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R365	YF2116331JT	Carbon	330 ohms 1/10W	R503	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R366	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R504	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R367,368	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R507	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R369-422	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R510	YF2116101JT	Carbon	100 ohms 1/10W
R423	YF2116101JT	Carbon	100 ohms 1/10W	R512,513	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R424	ERJ6GEYJ105	Carbon	1M ohms 1/10W	R514	ERJ6GEY0R00	Carbon	0 ohms 1/10W
R425,426	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R515,517	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R427	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R520	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R428	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R521	YF2116222GT	Carbon	2.2K ohms 1/10W
R429	YF2116511JT	Carbon	510 ohms 1/10W	R522,525	YF2116331JT	Carbon	330 ohms 1/10W
R430	ERJ6GEYJ221	Carbon	220 ohms 1/10W	R526-545	YF2116331JT	Carbon	330 ohms 1/10W
R431	YF2116332JT	Carbon	3.3K ohms 1/10W				
R432	YF2116331JT	Carbon	330 ohms 1/10W				
R433	YF2116752JT	Carbon	7.5K ohms 1/10W				
R434	YF2116333GT	Carbon	33K ohms 1/10W				
R435	YF2116331JT	Carbon	330 ohms 1/10W				

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R546	YF2116101JT	Carbon	100 ohms 1/10W	C344	YF400561CHJT	Ceramic	560pF
R547,548	ERJ6GEYJ103	Carbon	10K ohms 1/10W	C345	YF400330CHJT	Ceramic	33 pF
R549	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W	C346	YF400332XKT	Ceramic	3300 pF
R550	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C347	YF400103XKT	Ceramic	0.01 F
R551	ERJ6GEYJ103	Carbon	10K ohms 1/10W	C348	YF400330CHJT	Ceramic	33 pF
R552-555	YF2116331JT	Carbon	330 ohms 1/10W	C349	YF400220CHJT	Ceramic	22 pF
R558	YFR1220P104D	Metal	100K ohms 1/10W	C350	YF400101CHJT	Ceramic	100 pF
R559-567	ERJ6GEYJ103	Carbon	10K ohms 1/10W	C351,352	YWT316B104MT	Ceramic	0.1 μF
R569	ERJ6GEY0R00	Carbon	0 ohms 1/10W	C353	YF400220CHJT	Ceramic	22 pF
R570	ERJ6GEYJ182	Carbon	1.8K ohms 1/10W	C354	YF400101CHJT	Ceramic	100 pF
R571	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C355,356	YF400333XKT	Ceramic	0.033 μF
R573	YF2116101JT	Carbon	100 ohms 1/10W	C357	YF400680CHJT	Ceramic	68 pF
R575	ERJ6GEY0R00	Carbon	0 ohms 1/10W	C358	YWT316B104MT	Ceramic	0.1 μF
R576	YF2116331JT	Carbon	330 ohms 1/10W	C359	YF400220CHJT	Ceramic	22 pF
R577-579	YF2116473GT	Carbon	47K ohms 1/10W	C360,361	YF400330CHJT	Ceramic	33 pF
R580,583	ERJ6GEYJ103	Carbon	10K ohms 1/10W	C362	YWT316B104MT	Ceramic	0.1 μF
R584,587	ERJ6GEYJ103	Carbon	10K ohms 1/10W	C363	YF400220CHJT	Ceramic	22 pF
R588,589	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W	C364	YF400102XKT	Ceramic	1000 pF
R590-592	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C365	YWT316B104MT	Ceramic	0.1 μF
R593	YF2116511JT	Carbon	510 ohms 1/10W	C366	YF400680CHJT	Ceramic	68 pF
R594-597	YF2116331JT	Carbon	330 ohms 1/10W	C367	YWT316B104MT	Ceramic	0.1 μF
R601	YF2116222GT	Carbon	2.2K ohms 1/10W	C368	YF400333XKT	Ceramic	0.033 μF
R603	ERJ6GEY0R00	Carbon	0 ohms 1/10W	C369	YWT316B104MT	Ceramic	0.1 μF
R605,606	ERJ6GEY0R00	Carbon	0 ohms 1/10W	C371	YF400333XKT	Ceramic	0.033 μF
R607,608	YF2116392JT	Carbon	3.9K ohms 1/10W	C372	YWT316B104MT	Ceramic	0.1 μF
R609,610	ERDS2FJ331	Carbon	330 ohms 1/4W	C373	YF400333XKT	Ceramic	0.033 μF
VR1	EVM1DSW30B14	Variable Resistor	10K ohms	C377,379	YWT316B104MT	Ceramic	0.1 μF
Z1-4	YWRKM10L102F	Block Resistor		C382	YWT316B104MT	Ceramic	0.1 μF
Z5-9	EXBF9E103J	Block Resistor		C383	YF400333XKT	Ceramic	0.033 μF
Z10	YWRKM10L503F	Block Resistor		C385,392	YWT316B104MT	Ceramic	0.1 μF
C315	YF400330CHJT	Ceramic	33 pF	C394	YWT316B104MT	Ceramic	0.1 μF
C316,317	YWT316B104MT	Ceramic	0.1 μF	C397	YF400390CHJT	Ceramic	39 pF
C318	YF400220CHJT	Ceramic	22 pF	C398	YWT316B104MT	Ceramic	0.1 μF
C319	YF400330CHJT	Ceramic	33 pF	C401	YF400201CHJT	Ceramic	200 pF
C320	YF400220CHJT	Ceramic	22 pF	C402,403	YWT316B104MT	Ceramic	0.1 μF
C321	YF400101CHJT	Ceramic	100 pF	C404,405	YF400101CHJT	Ceramic	100 pF
C322	YF400333XKT	Ceramic	0.033 μF	C406,407	YWT316B104MT	Ceramic	0.1 μF
C323	YF400680CHJT	Ceramic	68 pF	C408	YF400101CHJT	Ceramic	100 pF
C324	YF400333XKT	Ceramic	0.033 μF	C409	YWT316B104MT	Ceramic	0.1 μF
C325	YWT316B104MT	Ceramic	0.1 μF	C410	YF400270CHJT	Ceramic	27 pF
C326	YF400330CHJT	Ceramic	33 pF	C411	YF400561CHJT	Ceramic	560 pF
C327	YF400220CHJT	Ceramic	22 pF	C412	YF400101CHJT	Ceramic	100 pF
C328	YWT316B104MT	Ceramic	0.1 μF	C413	YF400332XKT	Ceramic	3300 pF
C329	YF400220CHJT	Ceramic	22 pF	C415	YWT316B104MT	Ceramic	0.1 μF
C330	YF400330CHJT	Ceramic	33 pF	C416	YF400330CHJT	Ceramic	33 pF
C331	YF400102XKT	Ceramic	1000 pF	C417	YWT316B104MT	Ceramic	0.1 μF
C332	YF400680CHJT	Ceramic	68 pF	C418	YF400101CHJT	Ceramic	100 pF
C333-335	YF400333XKT	Ceramic	0.033 μF	C419	YF400103XKT	Ceramic	0.01 μF
C336,337	YWT316B104MT	Ceramic	0.1 μF	C420,421	YF400330CHJT	Ceramic	33 pF
C338	YF400333XKT	Ceramic	0.033 μF	C422	YF400121CHJT	Ceramic	120 pF
C339	YWT316B104MT	Ceramic	0.1 μF	C423	YF400330CHJT	Ceramic	33 pF
C340	YF400390CHJT	Ceramic	39 pF	C424,425	YWT316B104MT	Ceramic	0.1 μF
C341	YF400330CHJT	Ceramic	33 pF	C426,427	YF400330CHJT	Ceramic	33 pF
C342	YF400101CHJT	Ceramic	100 pF	C428,429	YWT316B104MT	Ceramic	0.1 μF
C343	YF400270CHJT	Ceramic	27 pF	C430	YF400103XKT	Ceramic	0.01 μF

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
C431,432	YWT316B104MT	Ceramic	0.1 μ F	C527	ECEA1AKA101	Electrolytic	100 μ F 10V
C433	YF400101CHJT	Ceramic	100 pF	C528	ECEA1HKA2R2	Electrolytic	2.2 μ F 50V
C434	YF400390CHJT	Ceramic	39 pF	C529	ECEA1CKA100	Electrolytic	10 μ F 16V
C435	YF400201CHJT	Ceramic	200 pF	C530	ECEA1AKA220	Electrolytic	22 μ F 10V
C436,437	YF400101CHJT	Ceramic	100 pF	C531	ECEA1HKA2R2	Electrolytic	2.2 μ F 50V
C438,439	YWT316B104MT	Ceramic	0.1 μ F	C532	ECEA1HKS3R3	Electrolytic	3.3 μ F 50V
C440	YF400103XKT	Ceramic	0.01 μ F	C533	ECEA0JKA331	Electrolytic	330 μ F 6.3V
C441-444	YWT316B104MT	Ceramic	0.1 μ F	C534	ECEA0JU102	Electrolytic	1000 μ F 6.3V
C445	YF400390CHJT	Ceramic	39 pF	C535,536	ECEA1HKA2R2	Electrolytic	2.2 μ F 50V
C446	YF400103XKT	Ceramic	0.01 μ F	C537	ECEA0JKA470	Electrolytic	47 μ F 6.3V
C448-454	YWT316B104MT	Ceramic	0.1 μ F	C538,539	ECEA1CKA470	Electrolytic	47 μ F 16V
C455,457	YF400390CHJT	Ceramic	39 pF	C540-543	ECSF1CE336	Tantalum	33 μ F 16V
C458,459	YWT316B104MT	Ceramic	0.1 μ F	C544-559	ECSF1CE106	Tantalum	10 μ F 16V
C460	YF400101CHJT	Ceramic	100 pF	C561-568	ECSF1CE106	Tantalum	10 μ F 16V
C461	YWT316B104MT	Ceramic	0.1 μ F	C569	ECSF1CE226	Tantalum	22 μ F 16V
C462	YF400201CHJT	Ceramic	200 pF	C570-572	ECSF1CE106	Tantalum	10 μ F 16V
C463	YF400101CHJT	Ceramic	100 pF	C573	ECSF1CE226	Tantalum	22 μ F 16V
C464	YWT316B104MT	Ceramic	0.1 μ F	C574	ECSF1CE106	Tantalum	10 μ F 16V
C465,466	YF400101CHJT	Ceramic	100 pF	C575,576	ECSF1CE226	Tantalum	22 μ F 16V
C467-469	YWT316B104MT	Ceramic	0.1 μ F	C577-580	ECSF1CE106	Tantalum	10 μ F 16V
C470	YF400330CHJT	Ceramic	33 pF	C581	ECSF1CE226	Tantalum	22 μ F 16V
C471	YF400103XKT	Ceramic	0.01 μ F	C582-589	ECSF1CE106	Tantalum	10 μ F 16V
C472	YF400820CHJT	Ceramic	82 pF	C590	ECSF1CE336	Tantalum	33 μ F 16V
C473,474	YWT316B104MT	Ceramic	0.1 μ F	C591-597	ECSF1CE106	Tantalum	10 μ F 16V
C475,476	YF400101CHJT	Ceramic	100 pF	C598,599	ECEA1EKN4R7	Electrolytic	4.7 μ F 25V
C477-483	YWT316B104MT	Ceramic	0.1 μ F	C600	YF400101CHJT	Ceramic	100 pF
C484	YF400270CHJT	Ceramic	27 pF	C601	YWT316B104MT	Ceramic	0.1 μ F
C485	YWT316B104MT	Ceramic	0.1 μ F	C602	YF400101CHJT	Ceramic	100 pF
C486	YF400561CHJT	Ceramic	560 pF	C603	YWT316B224MT	Ceramic	0.22 μ F
C487	YF400332XKT	Ceramic	3300 pF	C604	YWT316B104MT	Ceramic	0.1 μ F
C488-491	YWT316B104MT	Ceramic	0.1 μ F	C605,606	YF400030CHDT	Ceramic	3 pF
C492	YF400820CHJT	Ceramic	82 pF	C607,608	YWT316B104MT	Ceramic	0.1 μ F
C493	YF400330CHJT	Ceramic	33 pF	C610-616	YF400101CHJT	Ceramic	100 pF
C494	YWT316B104MT	Ceramic	0.1 μ F	C617	YF400330CHJT	Ceramic	33 pF
C495,496	YF400330CHJT	Ceramic	33 pF	C618,619	YF400471CHJT	Ceramic	470 pF
C498	YF400330CHJT	Ceramic	33 pF	C620,621	YF400101CHJT	Ceramic	100 pF
C499	YF400390CHJT	Ceramic	39 pF	C622	YF400471CHJT	Ceramic	470 pF
C500,501	YF400330CHJT	Ceramic	33 pF	C623,624	YF400101CHJT	Ceramic	100 pF
C503	YWT316B104MT	Ceramic	0.1 μ F	C625,626	YF400471CHJT	Ceramic	470 pF
C504	YF400330CHJT	Ceramic	33 pF	C627	YF400101CHJT	Ceramic	100 pF
C505	YWT316B104MT	Ceramic	0.1 μ F	C628	YF400471CHJT	Ceramic	470 pF
C506	YF400221CHJT	Ceramic	220 pF	C629-631	YF400101CHJT	Ceramic	100 pF
C507	YF400101CHJT	Ceramic	100 pF	C633	YF400471CHJT	Ceramic	470 pF
C508-510	YWT316B104MT	Ceramic	0.1 μ F	C634,635	YF400104FZT	Ceramic	0.1 μ F
C511	YF400101CHJT	Ceramic	100 pF	C637,638	YWT316B104MT	Ceramic	0.1 μ F
C512,513	YWT316B104MT	Ceramic	0.1 μ F	C639	YF400101CHJT	Ceramic	100 pF
C515	ECEA0JKA470	Electrolytic	47 μ F 6.3V	C640,641	YWT316B104MT	Ceramic	0.1 μ F
C516,517	ECEA1AKS330	Electrolytic	33 μ F 10V (KA)	C642,643	YF400103XKT	Ceramic	0.01 μ F
C518	ECEA1HKA2R2	Electrolytic	2.2 μ F 50V	C645,646	YF400103XKT	Ceramic	0.01 μ F
C519	ECEA1AKA101	Electrolytic	100 μ F 10V	C647-650	YF400101CHJT	Ceramic	100 pF
C520	ECEA1AKA220	Electrolytic	22 μ F 10V	C652,653	ECSF1CE106	Tantalum	10 μ F 16V
C521	ECEA0JKA470	Electrolytic	47 μ F 6.3V	C654	ECSF1CE105	Tantalum	1 μ F 16V
C522	ECEA0JU102	Electrolytic	000 μ F 6.3V	C655	EECF5R5U105	Electrolytic	1 μ F 16V
C523-525	ECEA1AKS330	Electrolytic	33 μ F 10V (KA)	C657	ECEA1CKA330	Electrolytic	33 μ F 16V
C526	ECEA0JKA331	Electrolytic	330 μ F 6.3V	C658	ECEA1CKA470	Electrolytic	47 μ F 16V

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
C659,660	YF400104FZT	Ceramic	0.1 μ F	CN3	YW530140810	8-pin Connector	
C661-663	YF400224FZT	Ceramic	0.22 μ F	CN5	YWF794P030LA	30-pin Connector	
C664,665	YF400104FZT	Ceramic	0.1 μ F	CN9	YW6091027	10-pin Connector	
C666	YF400101CHJT	Ceramic	100 pF	CN13	YWF794P026LA	26-pin Connector	
C667	YF400390CHJT	Ceramic	39 pF	CN16	YWF794P020LA	20-pin Connector	
C669	YF400104FZT	Ceramic	0.1 μ F	CN12	YW530141010	10-pin Connector	
C672-675	YF400330CHJT	Ceramic	33 pF	TP1-8	YWRCS3216TPV	Test Point	
C676-679	YF400101CHJT	Ceramic	100 pF	M13	YWV2HA1097A2	Upper Shield Cover	
C680-683	YF400331CHJT	Ceramic	330 pF	M43	YWV2HA1095A1	Shield Case	
C684	ECKF1H331KB	Ceramic	330 pF 50V	M44	YWV2HA1096A2	Bottom Shield Cover	
C685-696	YF400221CHJT	Ceramic	220 pF	REAR BOARD			
C697-700	YF400104FZT	Ceramic	0.1 μ F	PCB8 (RTL)	YWJKZMX30P4A	Printed Circuit Board Assy	
C701-703	YF400224FZT	Ceramic	0.22 μ F	CN10	YWF795P016LA	16-pin Connector	
C704-706	YF400104FZT	Ceramic	0.1 μ F	CN11	YWF795P040LA	40-pin Connector	
C707-710	YF400221CHJT	Ceramic	220 pF	JK1	YW0096	Jack	
C711-717	YF400471CHJT	Ceramic	470 pF	JK2	YWT6575AABA	Jack	
C718	YF400101CHJT	Ceramic	100 pF	JK3	YW0096	Jack	
C719-722	ECEA1CKA100	Electrolytic	10 μ F 16V	JK4	YWT6575AABA	Jack	
C723,724	YWT316B104MT	Ceramic	0.1 μ F	JK5	YW0096	Jack	
C725,726	ECSF1EE106	Tantalum	10 μ F 25V	JK6	YWT6575AABA	Jack	
C727	ECSF1CE336	Tantalum	33 μ F 16V	JK7	YW0096	Jack	
C728	YWT316B104MT	Ceramic	0.1 μ F	JK8	YWT6575AABA	Jack	
C729	YF400104FZT	Ceramic	0.1 μ F	JK9	YW0096	Jack	
C730	ECSF1CE106	Tantalum	10 μ F 16V	JK10	YWT6575AABA	Jack	
C731	YWT316B104MT	Ceramic	0.1 μ F	JK11,12	YWP2200B	Jack	
C732	ECSF1CE106	Tantalum	10 μ F 16V	WIPE BOARD			
C733,734	YWT316B104MT	Ceramic	0.1 μ F	PCB9 (RTL)	YWJKZMX50P6A	Printed Circuit Board Assy	
C735	ECST1CC106	Tantalum	10 μ F 16V	VR1	EWVAAK001B15	Variable Resistor 100K ohms	
C737,738	YWT316B104MT	Ceramic	0.1 μ F	ACCESSORY PARTS/PACKAGING PARTS			
C740,741	YF400271CHJT	Ceramic	270 pF	M50	YWV8QA2935AN	Operating Instructions	
C742,743	ECCF1H330JC	Ceramic	33 pF 50V	M51	XZB26X40C05	Polyethylene Bag	
L1,2	ELC08D082	Coil		M52	XZB55X71C1	Polyethylene Bag	
L3-6	ELESE1R0KA	Coil	1 μ H	M55	YWV9CA1942AN	Packaging Assy	
L8	ELESE100KA	Coil	10 μ H	M56	YWV8FA0200A4	Packaging Label for WJ-MX30/B	
L9	ELESE1R0KA	Coil	1 μ H				
L10	ELESE100KA	Coil	10 μ H				
L11,12	ELESE1R0KA	Coil	1 μ H				
L13	ELESE100KA	Coil	10 μ H				
L14-16	ELESE1R0KA	Coil	1 μ H				
L17-19	ELESE100KA	Coil	10 μ H				
L20,21	ELESE1R0KA	Coil	1 μ H				
L22-24	ELESE100KA	Coil	10 μ H				
L25-28	ELESE220KA	Coil	22 μ H				
L29,30	ELESE1R0KA	Coil	1 μ H				
L31-33	YWS5LE0554	Coil					
L300-302	ELESE100KA	Coil	10 μ H				
L303-306	YFBLO2RN2R62	Coil	2.6 μ H				
X1,2	YFMS30917M10	Crystal Oscillator					
X3,4	YWN8R4R40625	Crystal Oscillator					
X5	YWCSA1966MXT	Crystal Oscillator					



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