

LAI

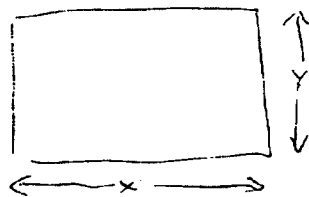
SERVICE MANUAL

MONOCHROME

X-Y MONITOR

LAI-KZ-14XYB

LAI-KZ-20XYB



SPECIFICATIONS

Power Supply	3 - pin connector		
	connection of pins	Pin No.1 . . . +21V \pm 10%	
	14" . . . 0.7amp. 20" . . . 0.9amp. average by diagonal pattern	Pin No.2 . . . ground	
		Pin No.3 . . . -21V \pm 10%	
5 - pin connector	connection of pins	Pin No.1 . . . No connection	
		Pin No.2 . . . ground	
		Pin No.3 . . . ground	
		Pin No.4 . . . ground (return)	
		Pin No.5 . . . +17V \pm 10%	
	14" . . . 1.0amp. 20" . . . 1.3amp. average by diagonal pattern		
Input Signals	6 - pin connector		
	connection of pins		
	X axis input	Pin No.1 & 2 (ground) . . \pm 7.5V (\pm 5V min.)	
	Y axis input	Pin No.3 & 4 (ground) . . \pm 7.5V (\pm 5V min.)	
	Z axis input	Pin No.5 & 6 (ground) . . 0 to 5V (with contrast control)	
Picture Tube		14"	20"
	Type number	340CGB4 or 340CHB4	500BRB4 or 500BMB4
	Screen size	14 inch diagonal	20 inch diagonal
	Deflection angle	90 degrees	110 degrees
	Phosphor	P4 (white)	P4 (white)
X - Y amp. Slew Rate		2.3KHz at \pm 21V	2.3KHz at \pm 21V
Voltage		13.0 - 14.0KV (Ik = 0)	13.5 - 14.5KV (Ik = 0)
Oscillation Frequency		15.75KHz center	15.75KHz center
Semiconductors	IC	2	IC 2
	Transistor	22	Transistor 22
	Diode	21	Diode 21

WARNINGS

1. POWER DOWN

REMOVE INPUT SIGNAL FROM GAME BOARD TO MONITOR BOARD BEFORE THE MONITOR IS POWER DOWN.

2. X - RADIATION

ALL CATHODE-RAY TUBES (CRT) EMIT SOME X-RAYS. THIS CHASSIS HAS BEEN DESIGNED FOR MINIMUM X-RADIATION. HOWEVER, TO AVOID POSSIBLE EXPOSURE TO SOFT X-RADIATION, ENSURE THAT HIGH VOLTAGE VALUE IS CORRECTLY SET. SHIELDING OF THIS CRT FOR X-RAY RADIATION MAY BE NEEDED TO PROTECT AGAINST POSSIBLE DANGER OF PERSONAL INJURY FROM PROLONGED EXPOSURE AT CLOSE RANGE. REPLACE WITH A TUBE OF THE SAME TYPE NUMBER FOR CONTINUED X-RADIATION PROTECTION.

3. HIGH VOLTAGE (H.V.)

THIS X-Y MONITOR CONTAINS HIGH VOLTAGES DERIVED FROM POWER SUPPLIES CAPABLE OF DELIVERING LETHAL QUANTITIES OF ENERGY. TO AVOID DANGER TO LIFE, DO NOT ATTEMPT TO SERVICE THE CHASSIS UNTIL ALL PRECAUTIONS NECESSARY FOR WORKING ON HIGH VOLTAGE EQUIPMENT HAVE BEEN OBSERVED. IN ORDER TO PREVENT DAMAGE TO SOLID STATE DEVICES, DO NOT ARC CRT ANODE LEAD TO CHASSIS OR EARTH GROUND.

4. CRT HANDLING

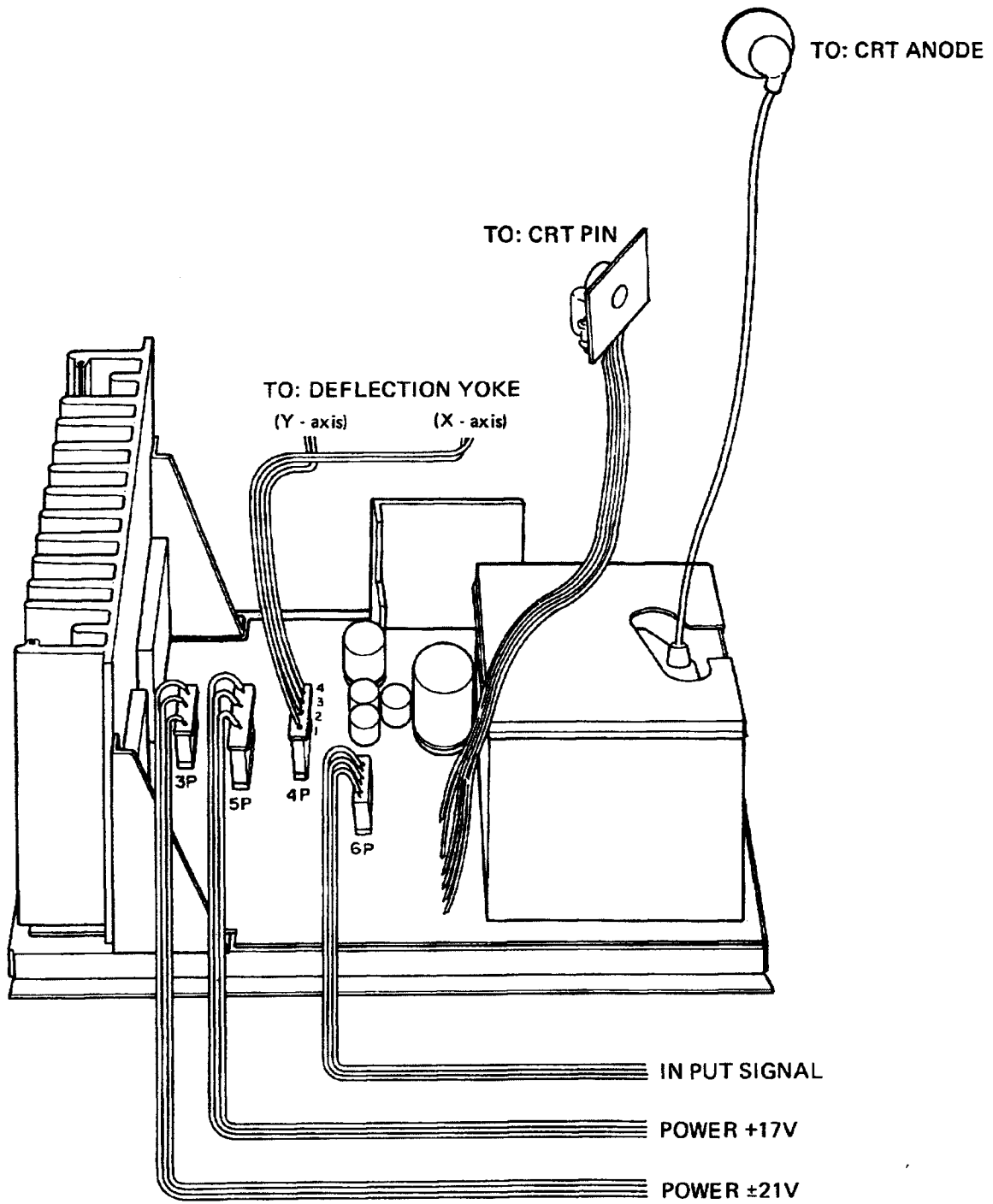
HIGH VACUUM PICTURE TUBE IS DANGEROUS TO HANDLE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. THE PICTURE TUBE ENCLOSES A HIGH VACUUM AND DUE TO THE LARGE SURFACE AREA IS SUBJECT TO EXTREME FORCE. CARE MUST BE TAKEN NOT TO BUMP OR SCRATCH THE PICTURE TUBE AS THIS MAY CAUSE THE TUBE TO IMplode RESULTING IN PERSONAL INJURY AND PROPERTY DAMAGE. SHATTER-PROOF GOGGLES MUST ALWAYS BE WORN BY INDIVIDUALS WHILE HANDLING THE CRT OR INSTALLING IT IN THE MONITOR. DO NOT HANDLE THE CRT BY THE NECK.

5. TO PREVENT FIRE OR SHOCK HAZARD DO NOT EXPOSE THIS MONITOR TO RAIN OR MOISTURE.

IMPORTANT NOTICE FOR SERVICE PERSONNEL BEFORE SERVICING

PLEASE READ BEFORE ATTEMPTING SERVICE

- 1. Do not discharge, arc or meter second anode lead of the picture tube and high voltage circuit for protection of transistors in the monitor. Disconnect the lead and discharge the CRT anode to the CRT conductive coating only.**
- 2. While the monitor is in operation, do not attempt to connect or disconnect any wires.**
- 3. Make sure the power cord is disconnected before replacing any parts in the monitor.**
- 4. When the power is on, do not attempt to short any portion of the circuit. This shorting may cause damage to the transistors in the receiver.**
- 5. When servicing the H.V. area, make certain that the CRT anode is safely discharged to ground before removing the anode cap.**
- 6. Caution must be exercised when servicing this monitor. The regulator has no current limiting and even a momentary short of output voltage could cause destruction of the pass transistors.**
- 7. A spot killer circuit is used to blank the CRT under a no signal condition. When the spot killer is active, the CRT will be extinguished.**



X - Y DISPLAY ADJUSTMENT

PRELIMINARY

1. Signal

Test Pattern of X, Y, Z and Game Signal

2. Chassis Condition

- (1) Each VR should be positioned to "center". (VR201, VR202, VR501, VR601, and VR701)
- (2) The core of L801 (Horizontal Oscillation Coil) should be pulled out.

3. Power Supply

Connect the following voltages to the positions indicated on the circuit diagram.

- DC +21V to the first terminal of 3P Mini Pin
- DC -21V to the third terminal of 3P Mini Pin
- DC +17V to the fifth terminal of 5P Mini Pin

ADJUSTMENT

Perform the adjustments in the following order.

1. +B Adjustment

Adjust the emitter of Q703 or the terminal output of J702 (Jumper Lead) to $11.5V \pm 0.2V$ with VR701 (Volume for B-Adj.).

2. High Voltage (H.V.) Adjustment

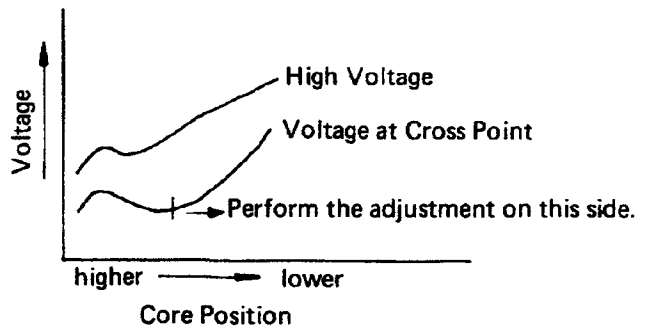
Adjust the cross points of Resistors R807 and R808 to $245 \pm 2V$ with L801.

Confirm that H.V. is in the following range.

- 20" . . . 13.5 - 14.5KV ($I_k=0$)
- 14" . . . 13.0 - 14.0KV ($I_k=0$)

Note:

The right drawing shows the voltage variation according to the core positions of L801. Perform the adjustment checking H.V.



3. Brightness and Contrast (Game Signal) Adjustment

- (1) Make the picture appear with VR202 (Bright Volume) and perform the rough adjustment to the point where spots disappear.
- (2) Perform the adjustment by turning VR201 (Contrast Volume) to the brightest point where no blooming appears.
- (3) Re-adjust VR202 to the point where spots disappear.
- (4) These controls are preset at the factory, but may be adjusted to suit program material. They are located near H.V. output transformer (See Figure 1)

4. Image Adjustment (Test Pattern Signal)

(1) DY Fixation

Fix DY after horizontal positioning.

(2) Centering Adjustment

Adjust the test pattern to the center.

(3) Magnet Adjustment (only 20")

Correct the vertical distortion with the right and left magnets.

5. X - Y Gain Adjustment (Test Pattern Signal)

The unit is factory adjusted to the following values. However, re-adjust the unit until the optimum value is obtained.

(1) Adjust VR501 (X-GAIN) until the following value is obtained for the horizontal amplitude.

(2) Adjust VR601 (Y-GAIN) until the following value is obtained for the vertical amplitude.

Horizontal Amplitude 20" 350 ±10mm

14" 250 ±10mm

Vertical Amplitude 20" 250 ±10mm

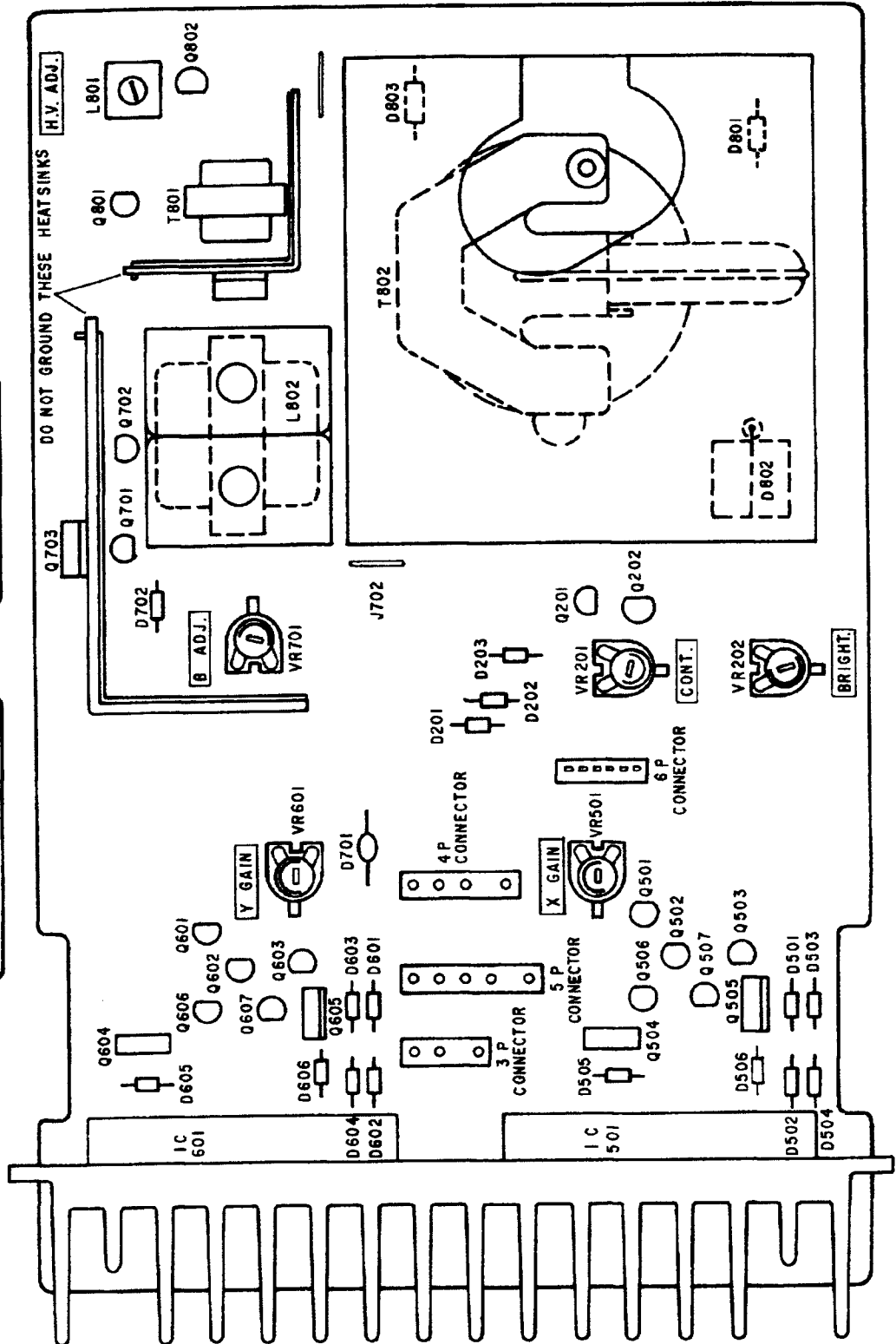
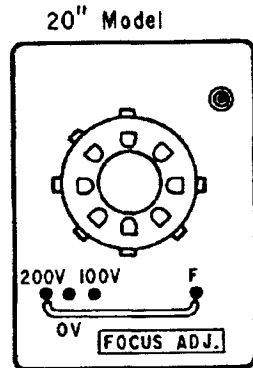
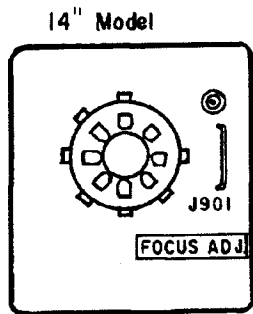
14" 190 ±10mm

6. Focus Adjustment

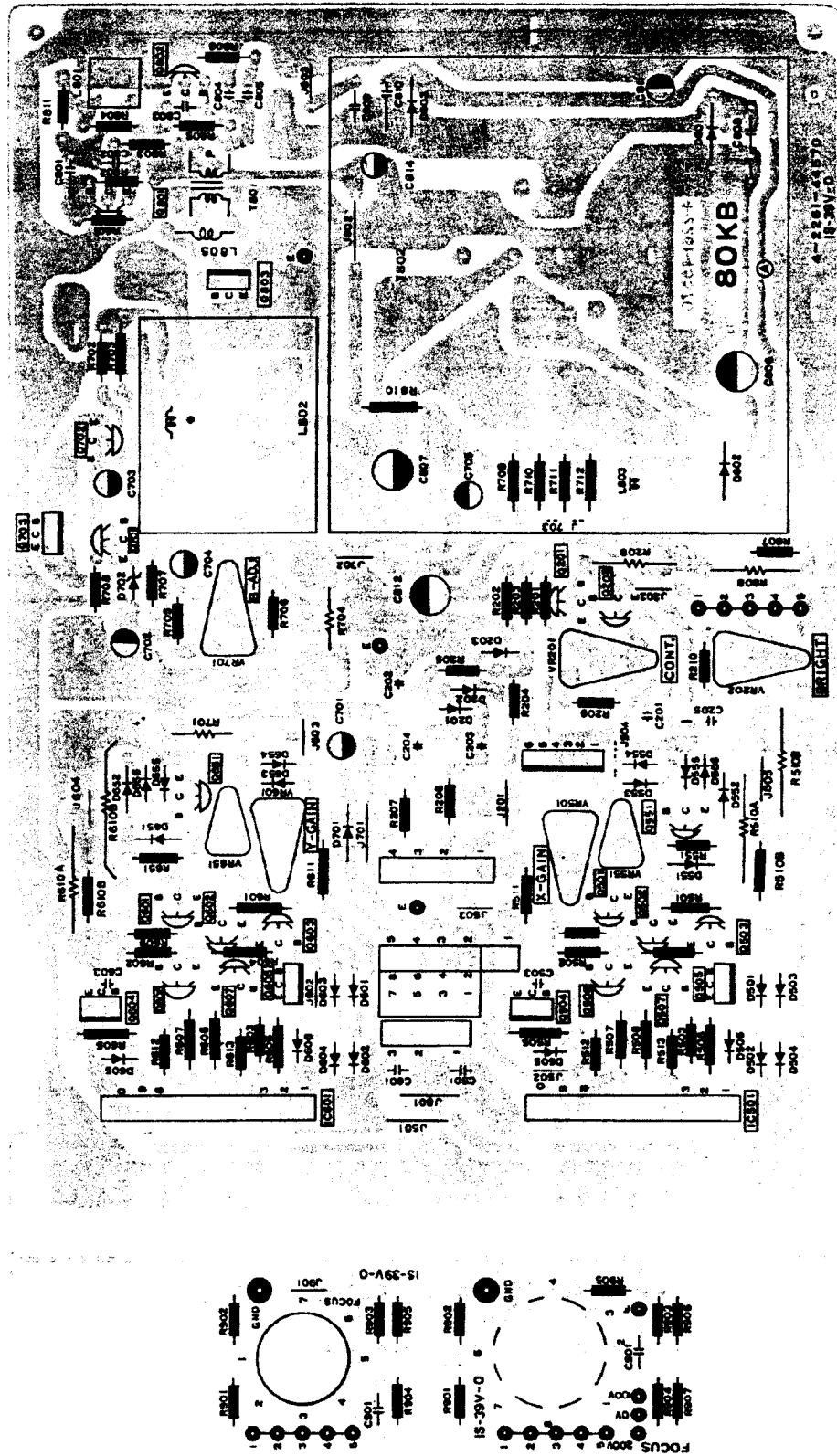
20" . . . Focus adjustment terminals are located near CRT socket. Connect the white lead from point F to one of three terminals (0, 100, 200V) for the best focus.

14" . . . Focus adjustment jumper wire is located near picture tube socket. If focus is inadequate clip the jumper wire (J901).

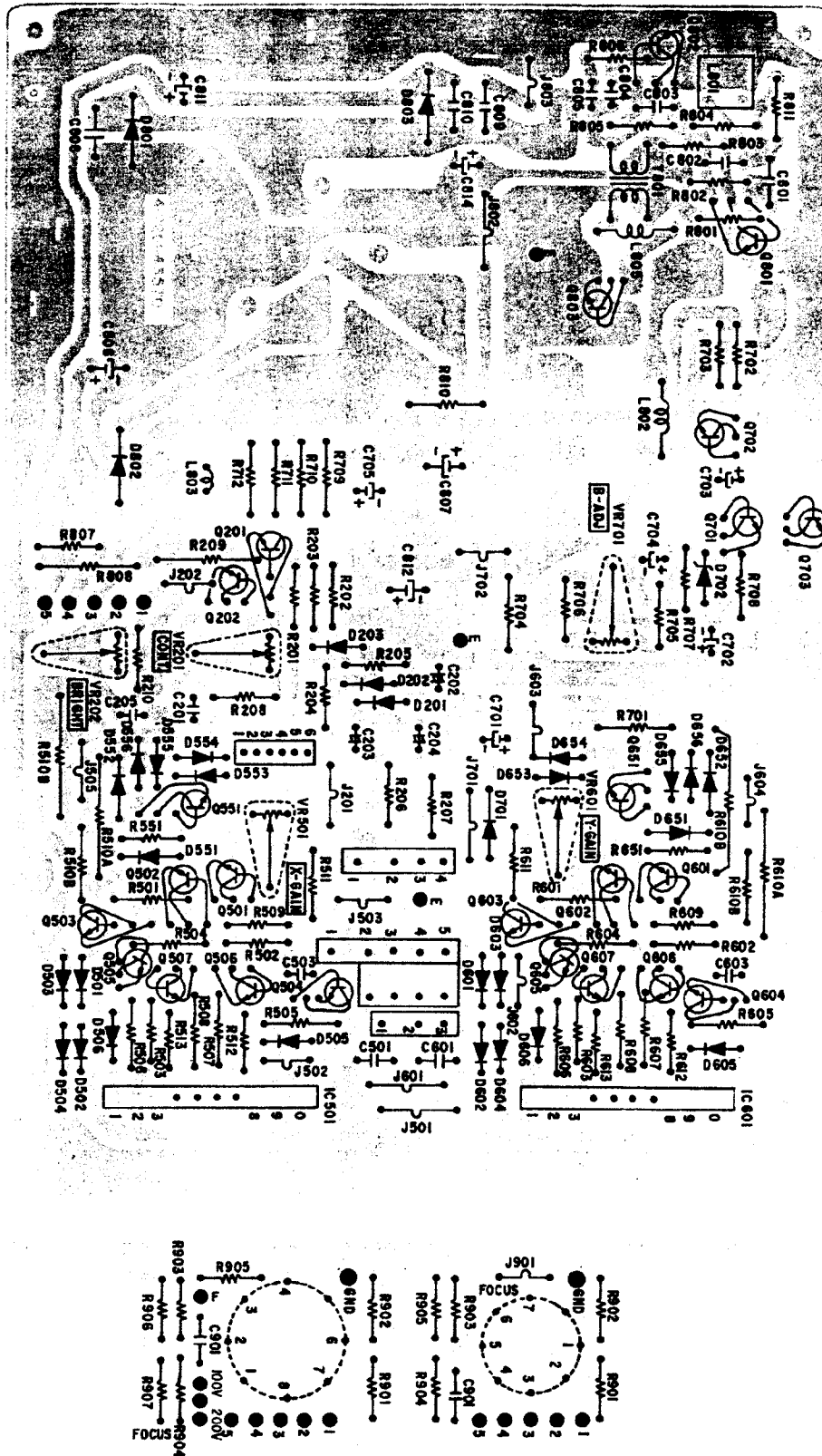
PARTS LOCATION



CIRCUIT BOARD DIAGRAM (Parts side)



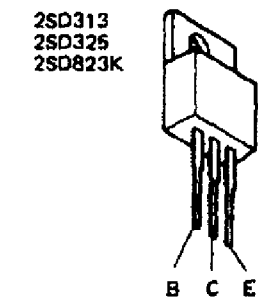
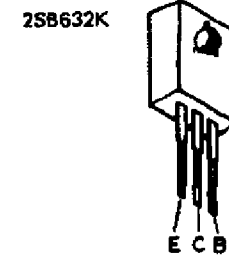
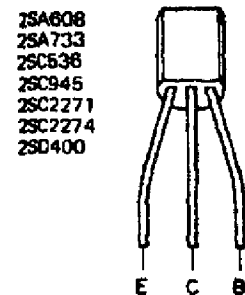
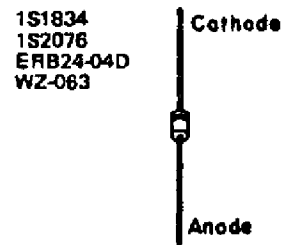
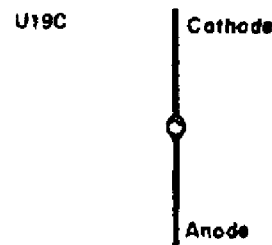
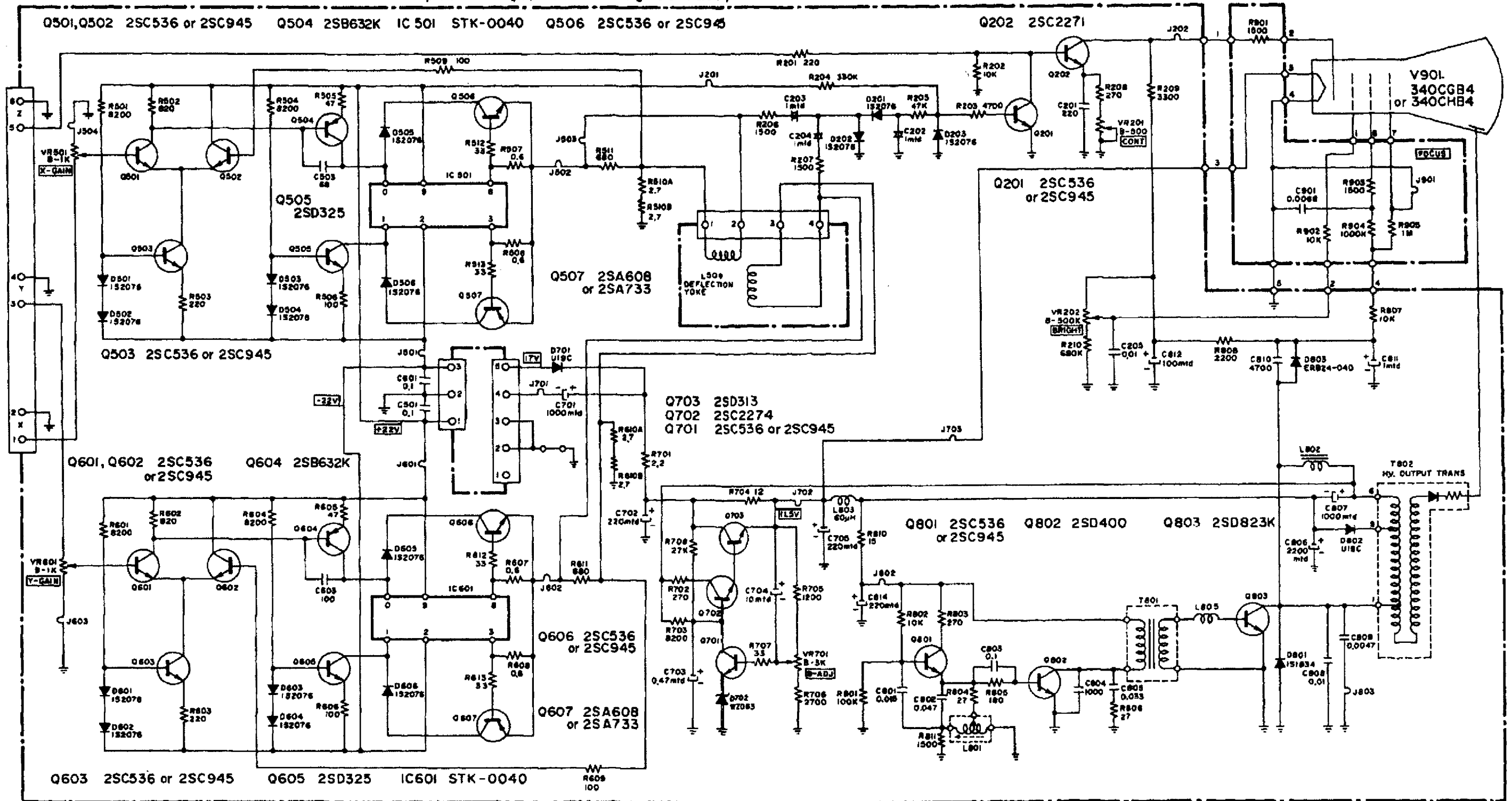
CIRCUIT BOARD DIAGRAM (Foil side)



SCHEMATIC DIAGRAM (model LA1-KZ-14XYB)

NOTES:

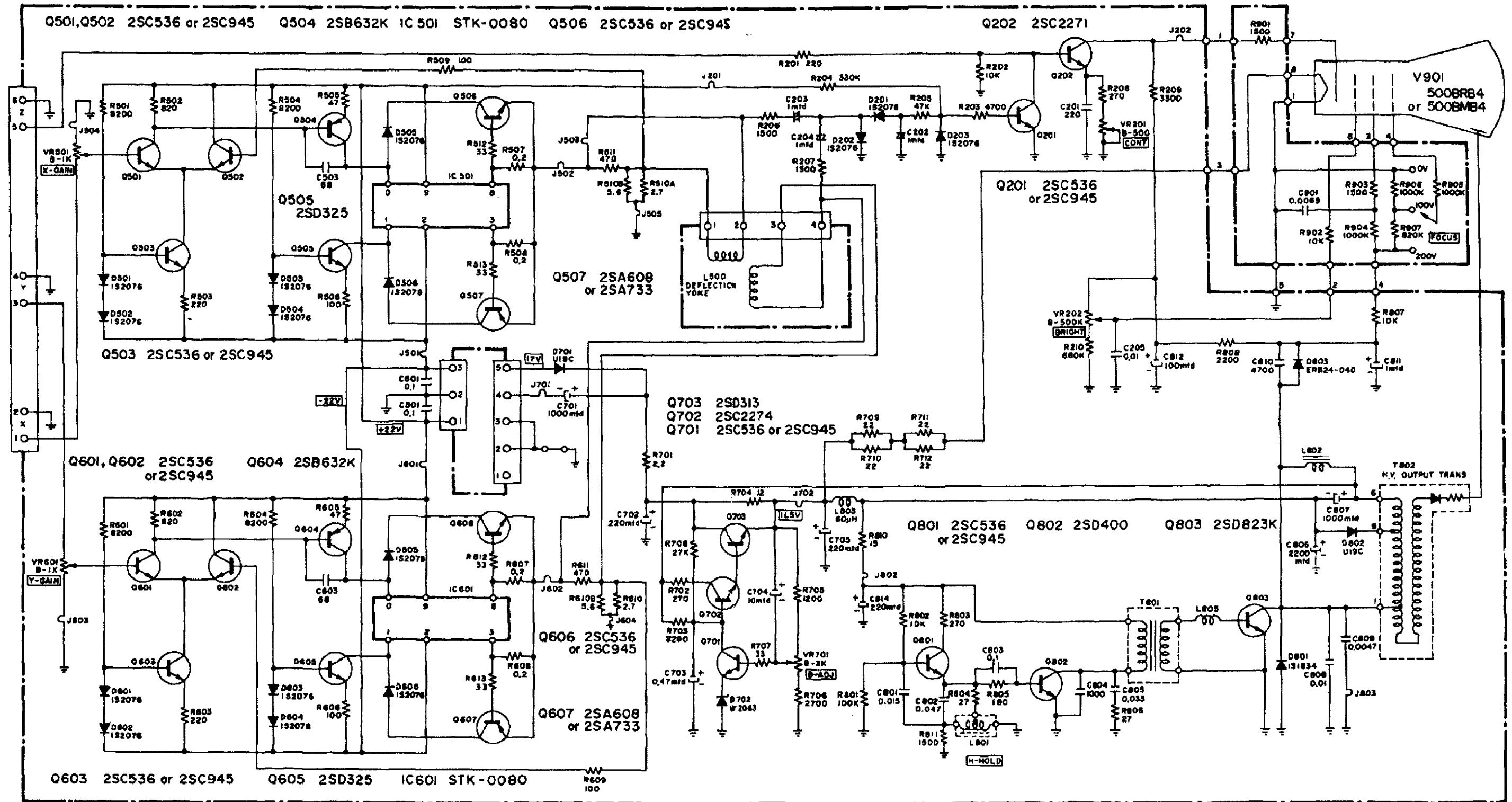
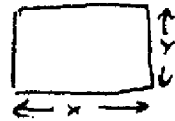
1. All resistance values are in ohm. K = 1,000 M = 1,000,000
2. Unless otherwise noted in schematic diagram, all capacitors less than 1 are expressed in mfd(μ F) and the values larger than 1 are in pF.
3. This is a fundamental circuit diagram. Some production changes may be made without revision of the diagram.



SCHEMATIC DIAGRAM (model LAI-KZ-20XYB)

NOTES:

1. All resistance values are in ohm. K = 1,000 M = 1,000,000
2. Unless otherwise noted in schematic diagram, all capacitors less than 1 are expressed in mfd(μ F) and the values larger than 1 are in pF.
3. This is a fundamental circuit diagram. Some production changes may be made without revision of the diagram.



PARTS LIST

Model LAI-KZ-14XYB

Model LAI-KZ-20XYB

Schematic Location	Parts No.	Description	Q'ty	Schematic Location	Parts No.	Description	Q'ty
CHASSIS PARTS				CHASSIS PARTS			
	111 2 3121	19370 CHASSIS FRAME-MCH	1		111 2 3121	19370 CHASSIS FRAME-MCH	1
	111 2 3391	12770 RADIATOR BRKT-TJJ	1		111 2 3391	12770 RADIATOR BRKT-TJJ	1
	111 2 3391	13370 CHAS MTG BRKT-MCH	2		111 2 3391	13370 CHAS MTG BRKT-MCH	2
	111 2 6111	29470 FBT SHIELD CASE-MCH	1		111 2 6111	29470 FBT SHIELD CASE-MCH	1
	111 2 6111	29570 FBT SHIELD COVER-MCH	1		111 2 6111	29570 FBT SHIELD COVER-MCH	1
	111 2 6111	29670 DY SHIELD CASE-MCH	1		111 2 6111	29670 DY SHIELD CASE-MCH	1
	111 2 6211	22570 RADIATOR PLATE-TJJ	1		111 2 6211	22570 RADIATOR PLATE-TJJ	1
	111 2 6211	23870 HOR RAD PLATE-TMH	1		111 2 6211	23870 HOR RAD PLATE-TMH	1
	111 2 6211	24070 DI RAD PLATE-TMH-B	1		111 2 6211	24070 DI RAD PLATE-TMH-B	1
	111 2 6211	24470 SOUND RAD PLATE-TMH	1		111 2 6211	24470 SOUND RAD PLATE-TMH	1
	111 2 6211	25670 IC RADIATOR-MCJ	1		111 2 6211	25470 IC RADIATOR-MCH	1
SCREWS-CHASSIS				SCREWS-CHASSIS			
	102 3 2203	00802 SBT . 3.0X 8.Z1	14		102 3 2203	00802 SBT . 3.0X 8.Z1	14
	102 3 2203	01602 SBT . 3.0X 16.Z1	4		102 3 2203	01602 SBT . 3.0X 16.Z1	4
ELECTRICAL PARTS				ELECTRICAL PARTS			
	L500	4 2761 51970 DEFLECTION YOKE	1		L500	4 2761 51870 DEFLECTION YOKE	1
	L801	4 2731 06170 HORIZ OSC COIL	1		or	4 2761 51878 DEFLECTION YOKE	1
	L802	4 2731 06570 HORIZ CHOKE	1		L801	4 2731 06170 HORIZ OSC COIL	1
	L803	4 2530 03600 HORIZ FILTER CHOKE	1		L802	4 2731 06470 HORIZ CHOKE	1
	L805	4 2531 09870 FILTER COIL	1		L803	4 2530 03600 HORIZ FILTER CHOKE	1
	T801	4 2731 05970 HOR DRIVE TRANS	1		L805	4 2531 09870 FILTER COIL	1
	T802	4 2751 50609 FLYBACK TRANS	1		T801	4 2731 05970 HOR DRIVE TRANS	1
					T802	4 2751 50609 FLYBACK TRANS	1
SMALL PARTS				SMALL PARTS			
	4 2261	45570 PC BOARD 80KB	1		4 2261	45570 PC BOARD 80KB	1
	4 2351	05470 CRT SOCKET	1		4 2351	05670 CRT SOCKET	1
	4 2360	04300 GT PIN	1		4 2360	04300 GT PIN	1
	4 2361	07270 3P MINI PIN	1		4 2361	07270 3P MINI PIN	1
	4 2361	07370 4P MINI PIN	1		4 2361	07370 4P MINI PIN	1
	4 2361	07470 5P MINI PIN	1		4 2361	07470 5P MINI PIN	1
	4 2361	13471 6P MICRO PLUG	1		4 2361	13471 6P MICRO PLUG	1
	111 0 9011	14670 GROUNDING CONNECTOR	1		111 0 9011	14570 GROUNDING CONNECTOR	1
	111 0 9081	03046 3P MINI SOCKET ASSY	1		111 0 9081	03046 3P MINI SOCKET ASSY	1
	111 0 9081	04031 4P MINI SOCKET ASSY	1		111 0 9081	04031 4P MINI SOCKET ASSY	1
	111 0 9081	05014 5P MINI SOCKET ASSY	1		111 0 9081	05014 5P MINI SOCKET ASSY	1
	111 0 9081	06010 6P MICRO SOCKET ASSY	1		111 0 9081	06010 6P MICRO SOCKET ASSY	1
VARIABLE RESISTORS				VARIABLE RESISTORS			
	VR201	4 2221 31370 10L2FRB-500	1		VR201	4 2221 31370 10L2FRB-500	1
	or	4 2221 38770 10L2FRB-500K	1		or	4 2221 38770 10L2FRB-500K	1
	VR501	4 2220 30271 10L2FR B-1K	1		VR501	4 2220 30271 10L2FR B-1K	1
	VR601	4 2220 30271 10L2FR B-1K	1		VR601	4 2220 30271 10L2FR B-1K	1
	VR701	4 2221 07570 10L2FRB-3K	1		VR701	4 2221 07570 10L2FRB-3K	1
CAPACITORS				CAPACITORS			
	C201	C1HYDK221W-- CERAMIC 220P W 50V	1		C201	C1HYDK221W-- CERAMIC 220P W 50V	1
	C202	C2CAEN105A-- ELECT 1M 160V	1		C202	C2CAEN105A-- ELECT 1M 160V	1
	C203	C2CAEN105A-- ELECT 1M 160V	1		C203	C2CAEN105A-- ELECT 1M 160V	1
	C204	C2CAEN105A-- ELECT 1M 160V	1		C204	C2CAEN105A-- ELECT 1M 160V	1
	C205	C2HYDP103Z-- CERAMIC 0.01M Z 500V	1		C205	C2HYDP103Z-- CERAMIC 0.01M Z 500V	1
	C501	C1HFRK104A-- MYLAR 0.1M 50V	1		C501	C1HFRK104A-- MYLAR 0.1M 50V	1
	C503	C1HCDK680SL-- CERAMIC 68P SL 50V	1		C503	C1HCDK680SL-- CERAMIC 68P SL 50V	1
	C601	C1HFRK104A-- MYLAR 0.1M 50V	1		C601	C1HFRK104A-- MYLAR 0.1M 50V	1
	C603	C1HCDK680SL-- CERAMIC 68P SL 50V	1		C603	C1HCDK680SL-- CERAMIC 68P SL 50V	1
	C701	C1VRE-108A-- ELECT 1000M 35V	1		C701	C1VRE-108A-- ELECT 1000M 35V	1
	C702	C1VRE-227A-- ELECT 220M 35V	1		C702	C1VRE-227A-- ELECT 220M 35V	1
	C703	C1HRE-474A-- ELECT 0.47M 50V	1		C703	C1HRE-474A-- ELECT 0.47M 50V	1
	C704	C1CRE-106A-- ELECT 10M 16V	1		C704	C1CRE-106A-- ELECT 10M 16V	1
	C705	C1CRE-227A-- ELECT 220M 16V	1		C705	C1CRE-227A-- ELECT 220M 16V	1
	C801	C2DQRK153A-- POLYPR 0.015M 200V	1		C801	C2DQRK153A-- POLYPR 0.015M 200V	1
	C802	C1HFRK473A-- MYLAR 0.047M 50V	1		C802	C1HFRK473A-- MYLAR 0.047M 50V	1
	C803	C1HFRK104A-- MYLAR 0.1M 50V	1		C803	C1HFRK104A-- MYLAR 0.1M 50V	1
	C804	C2HYDK102W-- CERAMIC 1000P W 500V	1		C804	C2HYDK102W-- CERAMIC 1000P W 500V	1
	C805	C1HFRK333A-- MYLAR 0.033M 50V	1		C805	C1HFRK333A-- MYLAR 0.033M 50V	1
	C806	C1CRE-228A-- ELECT 2200M 16V	1		C806	C1CRE-228A-- ELECT 2200M 16V	1
	C807	C1ERE-108A-- ELECT 1000M 25V	1		C807	C1ERE-108A-- ELECT 1000M 25V	1
	C808	C2GQRK103A-- POLYPR 0.01M 400V	1		C808	C2GQRK103A-- POLYPR 0.01M 400V	1
	C809	C2GQRK472A-- POLYPR 0.0047M 400V	1		C809	C2GQRK472A-- POLYPR 0.0047M 400V	1
	C810	C2HYDK472W-- CERAMIC 4700P W 500V	1		C810	C2HYDK472W-- CERAMIC 4700P W 500V	1
	C811	C2FRE-105A-- ELECT 1M 315V	1		C811	C2FRE-105A-- ELECT 1M 315V	1
	C812	C2ERE-107A-- ELECT 100M 250V	1		C812	C2ERE-107A-- ELECT 100M 250V	1
	C814	C1CRE-227A-- ELECT 220M 16V	1		C814	C1CRE-227A-- ELECT 220M 16V	1

NOTES:

1. Parts orders must contain Model Number, Parts Number and Description.
2. Ordering quantity of resistors, capacitors and screws must be multiple of 10 pcs.

PARTS LIST

Model LAI-KZ-14XYB

Model LAI-KZ-20XYB

Schematic Location	Parts No.	Description	Q'ty	Schematic Location	Parts No.	Description	Q'ty
C901	C2JQRK682A--	POLYPR 0.0068M 630V	1	C901	C2JQRK682A--	POLYPR 0.0068M 630V	1
FIXED RESISTORS				FIXED RESISTORS			
R201	R2ESPJ221A	CARBON 220 1/4WJ	1	R201	R2ESPJ221A	CARBON 220 1/4WJ	1
R202	R2ESPJ103A	CARBON 10K 1/4WJ	1	R202	R2ESPJ103A	CARBON 10K 1/4WJ	1
R203	R2ESPJ472A	CARBON 4.7K 1/4WJ	1	R203	R2ESPJ472A	CARBON 4.7K 1/4WJ	1
R204	R2ESPJ334A	CARBON 330K 1/4WJ	1	R204	R2ESPJ334A	CARBON 330K 1/4WJ	1
R205	R2ESPJ473A	CARBON 47K 1/4WJ	1	R205	R2ESPJ473A	CARBON 47K 1/4WJ	1
R206	R2ESPJ152A	CARBON 1.5K 1/4WJ	1	R206	R2ESPJ152A	CARBON 1.5K 1/4WJ	1
R207	R2ESPJ152A	CARBON 1.5K 1/4WJ	1	R207	R2ESPJ152A	CARBON 1.5K 1/4WJ	1
R208	R2ESPJ271A	CARBON 270 1/4WJ	1	R208	R2ESPJ271A	CARBON 270 1/4WJ	1
R209	R3DXPK332A	OXIDE-M 3.3K 2WK	1	R209	R3DXPK332A	OXIDE-M 3.3K 2WK	1
R210	R2ESPJ684A	CARBON 680K 1/4WJ	1	R210	R2ESPJ684A	CARBON 680K 1/4WJ	1
R501	R2HCPK822A	SOLID 8.2K 1/2WK	1	R501	R2HCPK822A	SOLID 8.2K 1/2WK	1
R502	R2ESPJ821A	CARBON 820 1/4WJ	1	R502	R2ESPJ821A	CARBON 820 1/4WJ	1
R503	R2ESPJ221A	CARBON 220 1/4WJ	1	R503	R2ESPJ221A	CARBON 220 1/4WJ	1
R504	R2HCPK822A	SOLID 8.2K 1/2WK	1	R504	R2HCPK822A	SOLID 8.2K 1/2WK	1
R505	R2HCPK470A	SOLID 47 1/2WK	1	R505	R2HCPK470A	SOLID 47 1/2WK	1
R506	R2HCPK101A	SOLIDE 100 1/2WK	1	R506	R2HCPK101A	SOLIDE 100 1/2WK	1
R507	R3APPKR06A	OXIDE-M 0.6 1WJ	1	R507	R3APPKR06A	OXIDE-M 0.6 1WJ	1
R508	R3APPKR06A	OXIDE-M 0.6 1WJ	1	R508	R3APPKR06A	OXIDE-M 0.6 1WJ	1
R509	R2ESPJ101A	CARBON 100 1/4WJ	1	R509	R2ESPJ101A	CARBON 100 1/4WJ	1
R510A	R3WPPK2R7A	OXIDE-M 2.7 3WK	1	R510	R3WPPK2R7A	OXIDE-M 2.7 3WK	1
R510B	R3WPPK2R7A	OXIDE-M 2.7 3WK	1	R510B	R3WPPK2R7A	OXIDE-M 2.7 3WK	1
R511	R2HCPK681A	SOLID 680 1/2WK	1	R511	R2HCPK681A	SOLID 680 1/2WK	1
R512	R2ESPJ330A	CARBON 33 1/4WJ	1	R512	R2ESPJ330A	CARBON 33 1/4WJ	1
R513	R2ESPJ330A	CARBON 33 1/4WJ	1	R513	R2ESPJ330A	CARBON 33 1/4WJ	1
R601	R2HCPK822A	SOLID 8.2K 1/2WK	1	R601	R2HCPK822A	SOLID 8.2K 1/2WK	1
R602	R2ESPJ821A	CARBON 820 1/4WJ	1	R602	R2ESPJ821A	CARBON 820 1/4WJ	1
R603	R2ESPJ221A	CARBON 220 1/4WJ	1	R603	R2ESPJ221A	CARBON 220 1/4WJ	1
R604	R2HCPK822A	SOLID 8.2K 1/2WK	1	R604	R2HCPK822A	SOLID 8.2K 1/2WK	1
R605	R2HCPK470A	SOLID 47 1/2WK	1	R605	R2HCPK470A	SOLID 47 1/2WK	1
R606	R2HCPK101A	SOLIDE 100 1/2WK	1	R606	R2HCPK101A	SOLIDE 100 1/2WK	1
R607	R3APPKR06A	OXIDE-M 0.6 1WJ	1	R607	R3APPKR06A	OXIDE-M 0.6 1WJ	1
R608	R3APPKR06A	OXIDE-M 0.6 1WJ	1	R608	R3APPKR06A	OXIDE-M 0.6 1WJ	1
R609	R2ESPJ101A	CARBON 100 1/4WJ	1	R609	R2ESPJ101A	CARBON 100 1/4WJ	1
R610A	R3WPPK2R7A	OXIDE-M 2.7 3WK	1	R610	R3WPPK2R7A	OXIDE-M 2.7 3WK	1
R610B	R3WPPK2R7A	OXIDE-M 2.7 3WK	1	R610B	R3WPPK2R7A	OXIDE-M 2.7 3WK	1
R611	R2HCPK681A	SOLID 680 1/2WK	1	R611	R2HCPK681A	SOLID 680 1/2WK	1
R612	R2ESPJ330A	CARBON 33 1/4WJ	1	R612	R2ESPJ330A	CARBON 33 1/4WJ	1
R613	R2ESPJ330A	CARBON 33 1/4WJ	1	R613	R2ESPJ330A	CARBON 33 1/4WJ	1
R701	R3HWYJ2R2A	WIRE-W 2.2 5WJ	1	R701	R3HWYJ2R2A	WIRE-W 2.2 5WJ	1
R702	R2ESPJ271A	CARBON 270 1/4WJ	1	R702	R2ESPJ271A	CARBON 270 1/4WJ	1
R703	R2HCPK822A	SOLID 8.2K 1/2WK	1	R703	R2HCPK822A	SOLID 8.2K 1/2WK	1
R704	R3HWYK120A	WIRE-W 12 5WK	1	R704	R3HWYK120A	WIRE-W 12 5WK	1
R705	R2ESPJ122A	CARBON 1.2K 1/4WJ	1	R705	R2ESPJ122A	CARBON 1.2K 1/4WJ	1
R706	R2ESPJ272A	CARBON 2.7K 1/4WJ	1	R706	R2ESPJ272A	CARBON 2.7K 1/4WJ	1
R707	R2ESPJ330A	CARBON 33 1/4WJ	1	R707	R2ESPJ330A	CARBON 33 1/4WJ	1
R708	R2ESPJ273A	CARBON 27K 1/4WJ	1	R708	R2ESPJ273A	CARBON 27K 1/4WJ	1
R801	R2ESPJ104A	CARBON 100K 1/4WJ	1	R709	R2HCPK220A	SOLID 22 1/2WK	1
R802	R2ESPJ103A	CARBON 10K 1/4WJ	1	R710	R2HCPK220A	SOLID 22 1/2WK	1
R803	R2ESPJ271A	CARBON 270 1/4WJ	1	R711	R2HCPK220A	SOLID 22 1/2WK	1
R804	R2ESPJ270A	CARBON 27 1/4WJ	1	R712	R2HCPK220A	SOLID 22 1/2WK	1
R805	R2ESPJ181A	CARBON 180 1/4WJ	1	R801	R2ESPJ104A	CARBON 100K 1/4WJ	1
R806	R2ESPJ270A	CARBON 27 1/4WJ	1	R802	R2ESPJ103A	CARBON 10K 1/4WJ	1
R807	R2ESPJ103A	CARBON 10K 1/4WJ	1	R803	R2ESPJ271A	CARBON 270 1/4WJ	1
R808	R3DXPJ222A	OXIDE-M 2.2K 2WJ	1	R804	R2ESPJ270A	CARBON 27 1/4WJ	1
R810	R3DXPJ150A	OXIDE-M 15 2WJ	1	R805	R2ESPJ181A	CARBON 180 1/4WJ	1
R811	R2ESPJ152A	CARBON 1.5K 1/4WJ	1	R806	R2ESPJ270A	CARBON 27 1/4WJ	1
R901	R2ESPJ152A	CARBON 1.5K 1/4WJ	1	R807	R2ESPJ103A	CARBON 10K 1/4WJ	1
R902	R2ESPJ103A	CARBON 10K 1/4WJ	1	R808	R3DXPJ222A	OXIDE-M 2.2K 2WJ	1
R903	R2ESPJ162A	CARBON 1.5K 1/4WJ	1	R810	R3DXPJ150A	OXIDE-M 15 2WJ	1
R904	R2ESPJ105A	CARBON 1M 1/4WJ	1	R811	R2ESPJ152A	CARBON 1.5K 1/4WJ	1
R905	R2ESPJ105A	CARBON 1M 1/4WJ	1	R901	R2ESPJ152A	CARBON 1.5K 1/4WJ	1
				R902	R2ESPJ103A	CARBON 10K 1/4WJ	1
				R903	R2ESPJ162A	CARBON 1.5K 1/4WJ	1
				R904	R2ESPJ105A	CARBON 1M 1/4WJ	1
				R905	R2ESPJ105A	CARBON 1M 1/4WJ	1
				R906	R2ESPJ105A	CARBON 1M 1/4WJ	1
				R907	R2ESPJ824A	CARBON 820K 1/4WJ	1
TUBES AND SEMICONDUCTORS				TUBES AND SEMICONDUCTORS			
D201	4 2021 07470	SI DIODE 1S2076	1	D201	4 2021 07470	SI DIODE 1S2076	1
D202	4 2021 07470	SI DIODE 1S2076	1	D202	4 2021 07470	SI DIODE 1S2076	1
D203	4 2021 07470	SI DIODE 1S2076	1	D203	4 2021 07470	SI DIODE 1S2076	1
D501	4 2021 07470	SI DIODE 1S2076	1	D501	4 2021 07470	SI DIODE 1S2076	1

NOTES:

1. Parts orders must contain Model Number, Parts Number and Description.
2. Ordering quantity of resistors, capacitors and screws must be multiple of 10 pcs.

PARTS LIST

Model LAI-KZ-14XYB

Model LAI-KZ-20XYB

Schematic Location	Parts No.	Description	Q'ty	Schematic Location	Parts No.	Description	Q'ty
D502	4 2021 07470	SI DIODE 1S2076	1	D502	4 2021 07470	SI DIODE 1S2076	1
D503	4 2021 07470	SI DIODE 1S2076	1	D503	4 2021 07470	SI DIODE 1S2076	1
D504	4 2021 07470	SI DIODE 1S2076	1	D504	4 2021 07470	SI DIODE 1S2076	1
D505	4 2021 07470	SI DIODE 1S2076	1	D505	4 2021 07470	SI DIODE 1S2076	1
D506	4 2021 07470	SI DIODE 1S2076	1	D506	4 2021 07470	SI DIODE 1S2076	1
D601	4 2021 07470	SI DIODE 1S2076	1	D601	4 2021 07470	SI DIODE 1S2076	1
D602	4 2021 07470	SI DIODE 1S2076	1	D602	4 2021 07470	SI DIODE 1S2076	1
D603	4 2021 07470	SI DIODE 1S2076	1	D603	4 2021 07470	SI DIODE 1S2076	1
D604	4 2021 07470	SI DIODE 1S2076	1	D604	4 2021 07470	SI DIODE 1S2076	1
D605	4 2021 07470	SI DIODE 1S2076	1	D605	4 2021 07470	SI DIODE 1S2076	1
D606	4 2021 07470	SI DIODE 1S2076	1	D606	4 2021 07470	SI DIODE 1S2076	1
D701	4 2021 19470	SI DIODE U19C	1	D701	4 2021 19470	SI DIODE U19C	1
D702	4 2021 14870	ZE DIODE WZ-063	1	D702	4 2021 14870	ZE DIODE WZ-063	1
D801	4 2021 09670	SI DIODE 1S1834	1	D801	4 2021 09670	SI DIODE 1S1834	1
D802	4 2021 19470	SI DIODE U19C	1	D802	4 2021 19470	SI DIODE U19C	1
D803	4 2021 10270	SI DIODE ERB24-04D	1	D803	4 2021 10270	SI DIODE ERB24-04D	1
IC501	4 2061 10370	IC-STK0040	1	IC501	4 2061 10270	IC-STK0080	1
IC601	4 2061 10370	IC-STK0040	1	IC601	4 2061 10270	IC-STK0080	1
Q201	TG2SC536-----	SI TR 2SC536	1	Q201	TG2SC536-----	SI TR 2SC536	1
or	TN2SC945-----	SI TR 2SC945	1	or	TN2SC945-----	SI TR 2SC945	1
Q202	TG2SC2271-----	SI TR 2SC2271	1	Q202	TG2SC2271-----	SI TR 2SC2271	1
Q501	TG2SC536--F--	SI TR 2SC536	1	Q501	TG2SC536--F--	SI TR 2SC536	1
or	TN2SC945--Q--	SI TR 2SC945	1	or	TN2SC945--Q--	SI TR 2SC945	1
Q502	TG2SC536--F--	SI TR 2SC536	1	Q502	TG2SC536--F--	SI TR 2SC536	1
or	TN2SC945--Q--	SI TR 2SC945	1	or	TN2SC945--Q--	SI TR 2SC945	1
Q503	TG2SC536--F--	SI TR 2SC536	1	Q503	TG2SC536--F--	SI TR 2SC536	1
or	TN2SC945--Q--	SI TR 2SC945	1	or	TN2SC945--Q--	SI TR 2SC945	1
Q504	TG2SB632K-F--	SI TR 2SB632K	1	Q504	TG2SB632K-F--	SI TR 2SB632K	1

Leisure & Allied Industrys
34 Palmerston St, Perth, W.A. 6000 Australia
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