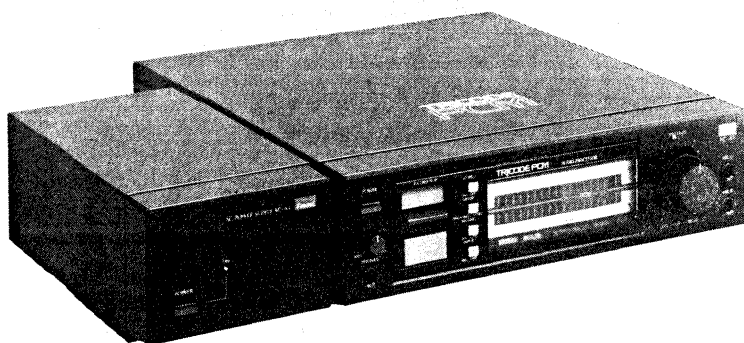


SERVICE MANUAL

TRICODE PCM AUDIO PROCESSOR

SANSUI PC-X1



CAUTION

1. Parts identified by the $\triangle$ symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

•SPECIFICATIONS

Signal format	Set to NTSC or PAL/SECAM depending on locality of use
Code format	EIAJ standard format
Audio channels	2 channels
Sampling frequency	44.056 kHz
Quantized bits	14-bit linear quantization
Emphasis	Automatic switching ON/OFF (identity code detection)
Preemphasis (during recording)	Fixed at ON
Deemphasis (during playback)	Automatic switching ON/OFF (identity code detection)
Error compensation type	Error correction and compensation by CRCC and parity
Input sensitivity/Input impedance (1,000Hz)	
LINE IN	90mV/47kilohms
VIDEO IN	1Vp-p/75ohms
MIC	0.45mV/5kilohms
Maximum permissible input (1,000Hz, Total harmonic distortion: 0.02 %)	
LINE IN	500mV
MIC	2.5mV
Output voltage (1,000Hz)	
LINE OUT	250mV/10kilohms (Maximum output voltage: 1.4/10kilohms)
VIDEO OUT, COPY OUT	1Vp-p/75ohms
Total harmonic distortion (1,000Hz)	less than 0.007 %
Dynamic range	more than 86dB
Frequency response	5Hz to 20,000Hz +0dB, -0.5dB
Power source	
Battery pack	DC 12V (Type LCS-2012V or VW-VB10)
Car battery	DC 12V
Power consumption	16 watts
Power requirements for accessory DC power supply: AC-X1	
Power voltage	120/220/240V (50/60Hz)
For U.S.A. and Canada	120V (60Hz)
Power consumption	35 watts

Dimensions

PC-X1	266 mm (10-1/2")W
	73 mm (2-7/8")H
	287 mm (11-3/16")D
AC-X1	101 mm (4")W
	73 mm (2-7/8")H
	201 mm (7-11/16")D
Weight	2.5kg (5.5 lbs): main unit
	PC-X1 only
	1.5kg (3.3 lbs): power supply
	AC-X1 only

* Design and specifications subject to change without notice for improvements.

* In order to simplify the explanation illustrations may sometimes differ from the originals.

Sansui

SANSUI ELECTRIC CO., LTD.

CAUTION

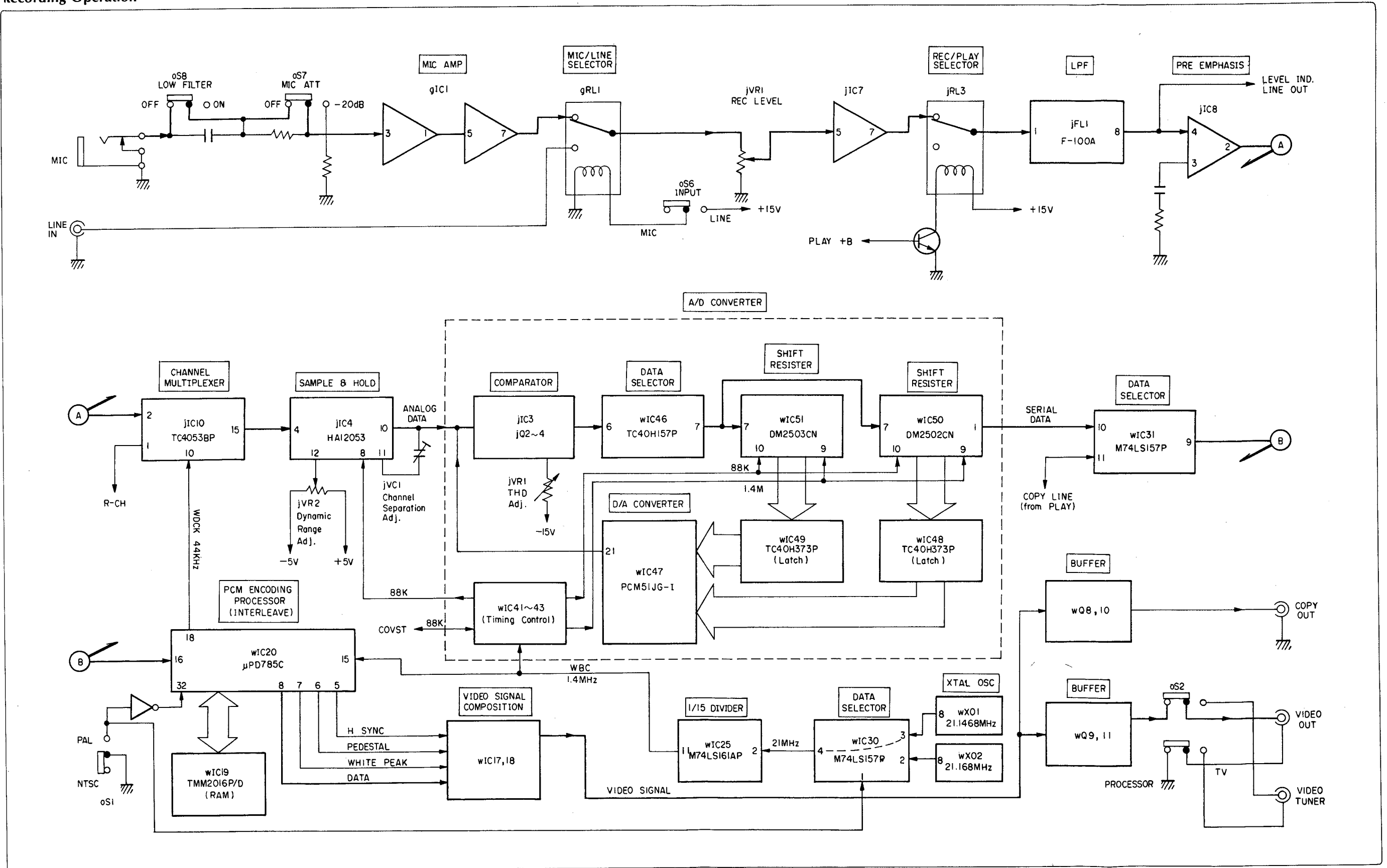
1. The symbols, UL, CSA, BS, UK, AS, EU and XX on the parts list and the schematic diagram mean followings respectively.
UL..... Manufactured for U.S.A market.
(Underwriters Laboratories approved model.)
CSA Manufactured for Canadian market.
BS, UK Manufactured for United Kingdom market.
EU Manufactured for European market.
AS..... Manufactured for Australian market.
XX..... Standard Version.
NON MARK Common Parts.
2. Some printed circuit boards are not supplied as the assembled.
To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.
3. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.
4. Abbreviations in this service manual are as follows.

•Abbreviations List

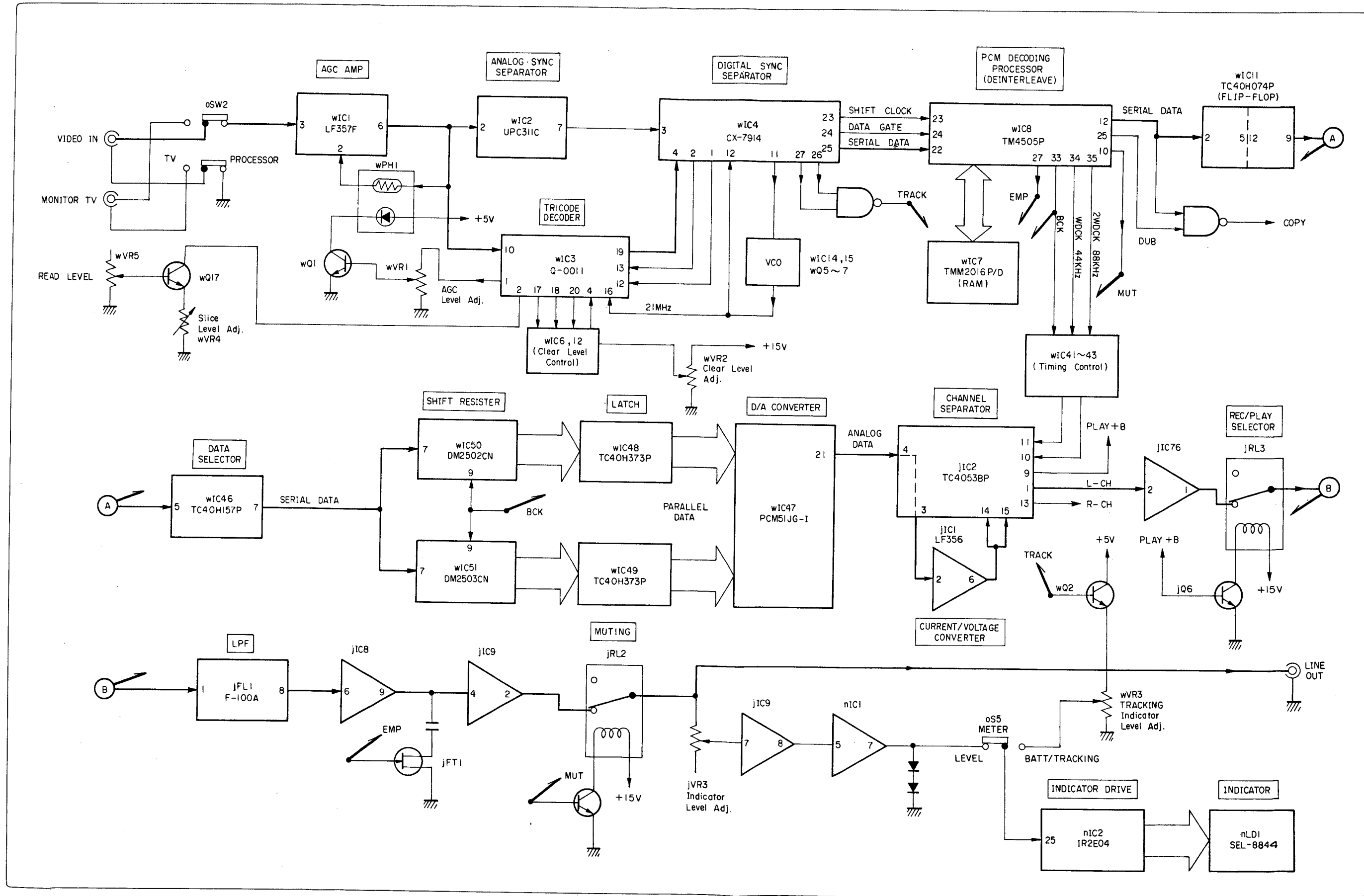
C.R.	: Carbon Resistor	E.B.	: Bi-Polar Electrolytic Capacitor
S.R.	: Solid Resistor	E.B.L.	: Low Leak Bi-Polar Electrolytic Capacitor
Ce.R.	: Cement Resistor	Ta.C.	: Tantalum Capacitor
M.R.	: Metal Film Resistor	F.C.	: Film Capacitor
F.R.	: Fusing Resistor	M.P.	: Metalized Paper Capacitor
N.I.R.	: Non-Inflammable Resistor	P.C.	: Polystyrene Capacitor
A.R.	: Array Resistor	G.C.	: Gimmic Capacitor
C.C.	: Ceramic Capacitor	A.C.	: Array Capacitor
C.T.	: Ceramic Capacitor, Temperature Compensation	V.R.	: Variable Resistor
E.C.	: Electrolytic Capacitor	S.V.R.	: Semi Variable Resistor
E.L.	: Low Leak Electrolytic Capacitor	SW.	: Switch

1. BLOCK DIAGRAM

1-1. Recording Operation

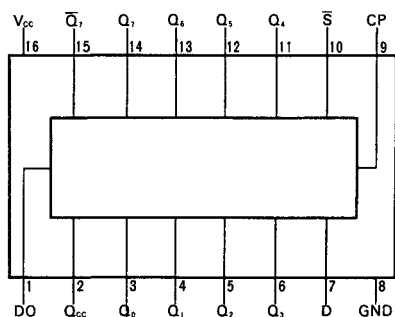


1-2. Play Back Operation



2. INTERIOR BLOCK DIAGRAM & TERMINAL FUNCTION OF IC

•DM2502 (8 bit Shift Resister)

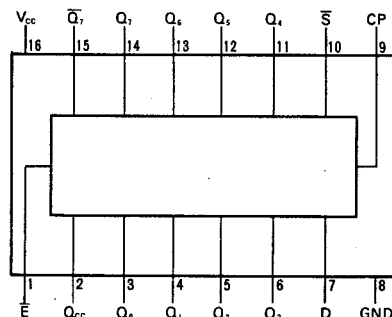


<DM2502>

[illegible]

H = High Level
L = Low Level
X = Don't Care
NC = No Change

•DM2503 (8 bit Shift Resister)

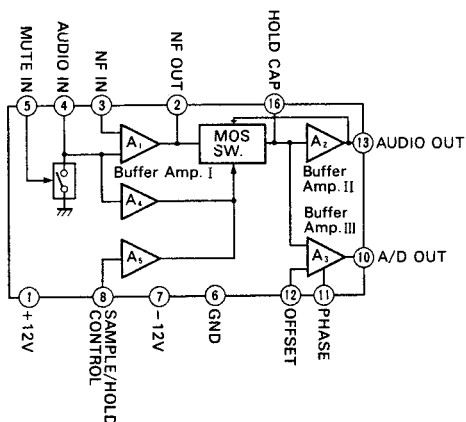


<DM2503>

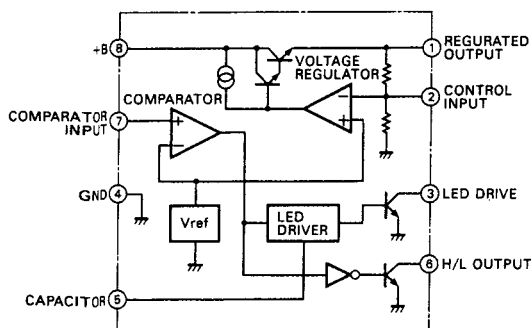
[illegible]

H = High Level
L = Low Level
X = Don't Care
NC = No Change

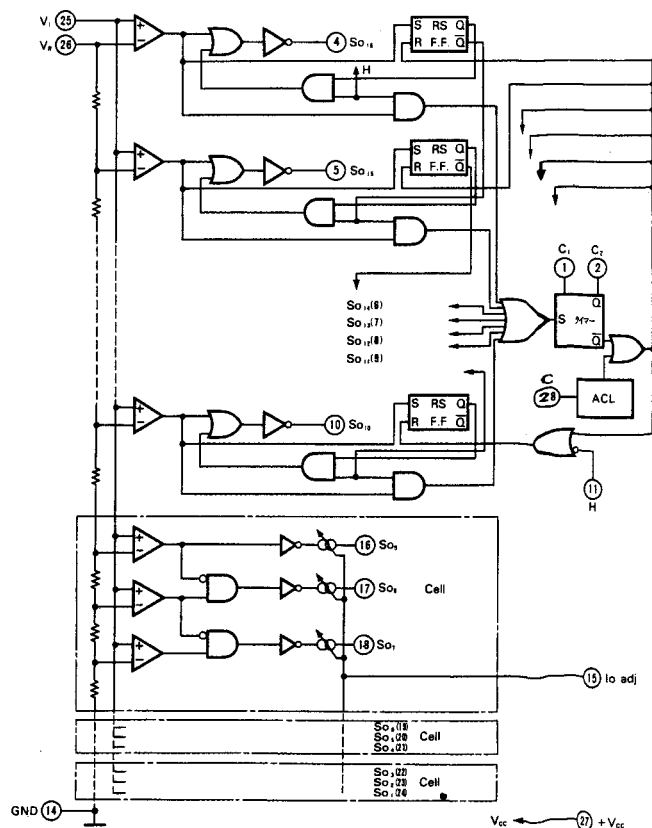
•HA12053 (Sample & Hold)



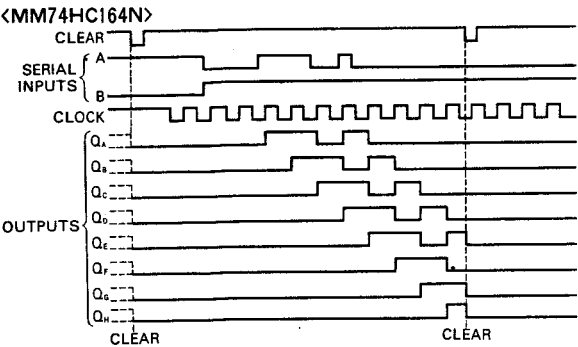
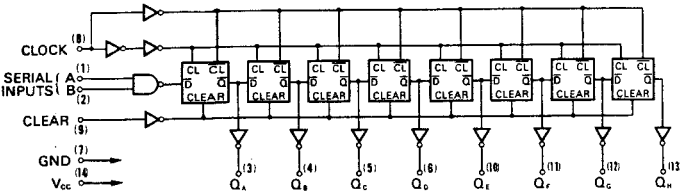
• **M5232L (LED Driver)**



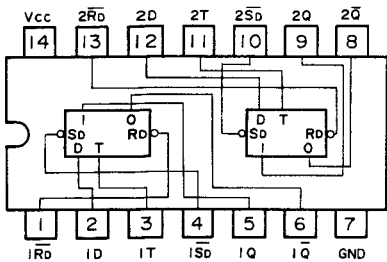
•IR2E04 (Level Indicator Driver)



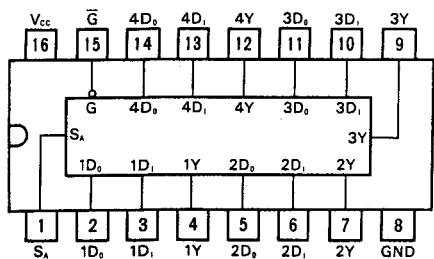
•MM74HC164N
(8 bit Serial Input Parallel Output Shift Register)



•M74LS74AP (Dual D-type Flip-Flop)



•M74LS157P (Quad 2 Line to 1 Line Data Selector)

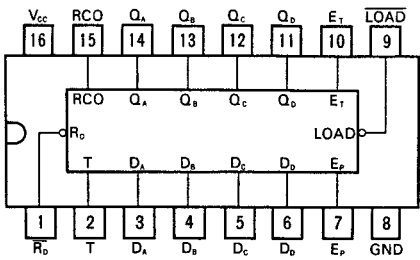


<M74LS157P>

INPUTS				OUTPUT
G-bar	S _A	D ₀	D ₁	Y
H	X	X	X	L
L	L	L	X	L
L	L	H	X	H
L	H	X	L	L
L	H	X	H	H

X = Don't Care

•M74LS161AP (Synchronous 4 bit Binary Counter)

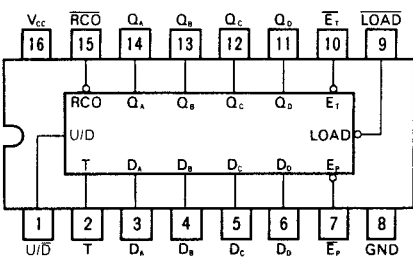


<M74LS161AP>

INPUTS					OUTPUTS				
R ₀ -bar	LOAD	E _T	E _P	T	Q _A	Q _B	Q _C	Q _D	RCO
L	X	X	X	X	L	L	L	L	L
H	L	L	X	↑	D _A	D _B	D _C	D _D	L
H	L	H	X	↑					*
H	H	H	H	↑	Count				*
H	H	L	X	X	Non-Count				L
H	H	H	L	X	Non-Count				*

↑ = Positive Edge Trigger
X = Don't Care
* = Q_A·Q_B·Q_C·Q_D·E_T

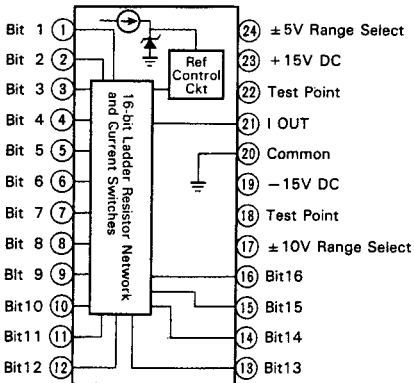
•M74LS669P (Synchronous 4 bit Binary Counter)



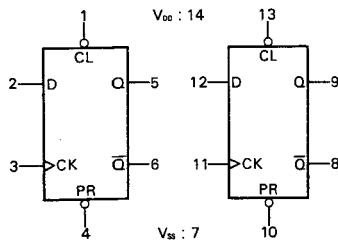
INPUTS					OUTPUTS				
LOAD	EP	ET	U/D	T	Q _A	Q _B	Q _C	Q _D	RCO
L	X	X	X	↑	D _A	D _B	D _C	D _D	H
H	L	L	L	↑	Count UP				*
H	L	L	L	↑	Count DOWN				*
H	H	X	X	X	Non-Count				H
H	X	H	X	X	Non-Count				H

↑ = Positive Edge Trigger
X = Don't care
* Count UP RCO = Q_A·Q_B·Q_C·Q_D·(U/D)·E_T
Count DOWN RCO = Q_A·Q_B·Q_C·Q_D·(U/D)·E_T

•PCM51JG-I (D/A Converter)



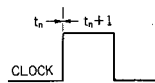
•TC40H074 (Dual D-type Flip-Flop)



D-MODE(*1)

tn	tn+1	
D	Q	$\bar{Q}$
L	L	H
H	H	L

*1 CLEAR and PRESET are kept "H" level.

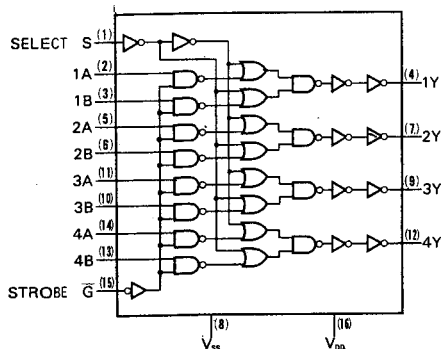


R-S MODE(*2)

INPUTS		OUTPUTS	
CLEAR	PRESET	$\bar{Q}$	Q
H	L	L	H
L	H	H	L
L	L	H	H
H	H	D-MODE	

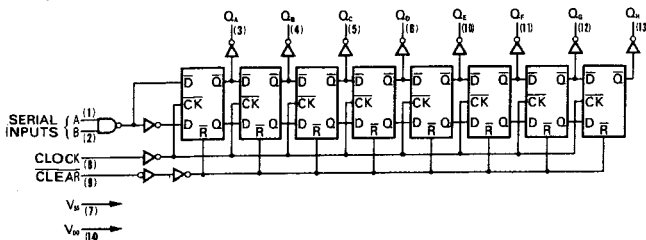
*2 D and CLOCK are kept "H" or "L" level.

•TC40H157P (Quad 2 Input 1 Output Data Selector)

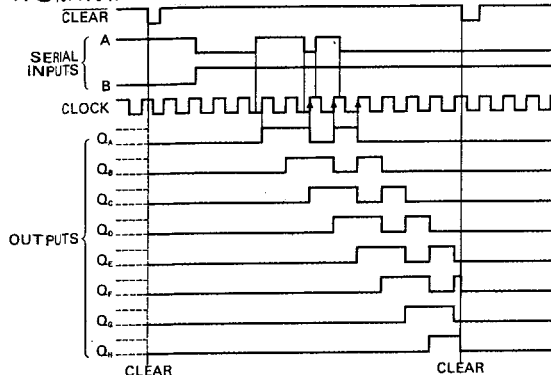


•TC40H164P

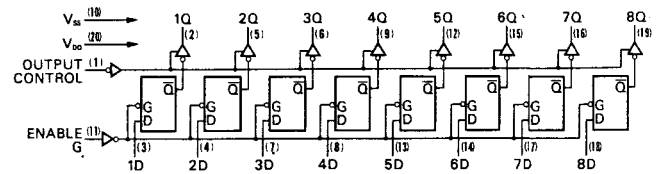
(8 bit Serial Input Parallel Output Shift Register)



<TC40H164P>



•TC40H373P (Octad D-type Latch)

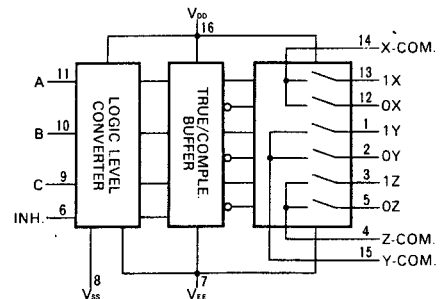


<TC40H373P>

INPUTS			OUTPUT
OUTPUT CONTROL	ENABLE G	DATA	Q
L	H	H	H
L	H	L	L
L	L	X	Q ₀
H	X	X	High impedance

X = Don't Care

•TC4053BP (Triple 2-CH Multiplexer)

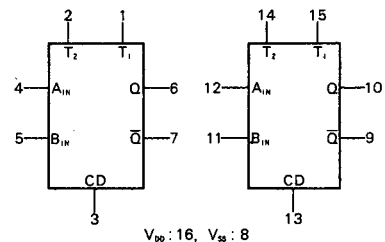


<TC4053BP>

CONTROL INPUT				"ON" CHANNEL
INHIBIT	C	B	A	
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y, 0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	X	X	X	NONE

X = Don't Care

•TC4528BP (Dual Monostable Multi-vibrator)

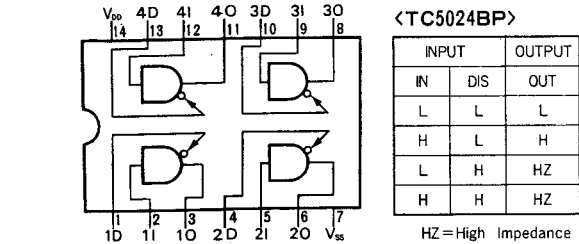


<TC4528BP>

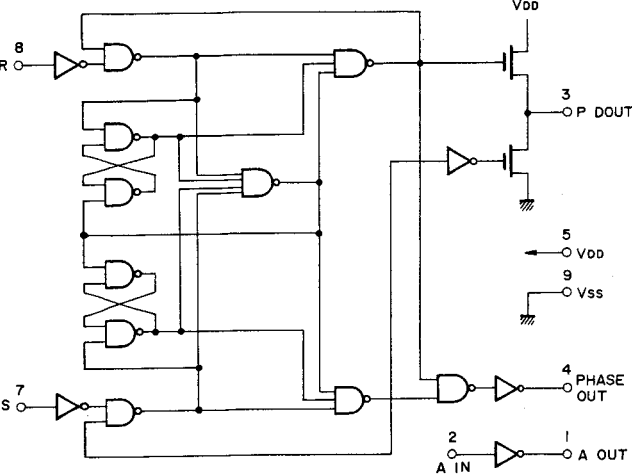
INPUT		OUTPUT		NOTE
A	B	CD	Q	
	H	H		OUTPUT PULSE
	L	H	L	INHIBIT
H		H	L	INHIBIT
L		H		OUTPUT PULSE
X	X	L	L	INHIBIT

X = Don't Care

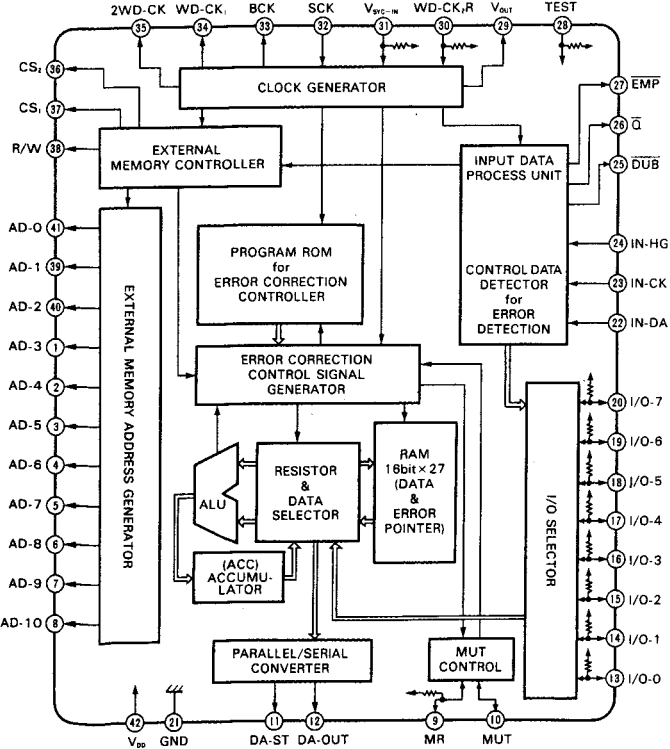
•TC5024BP (Quad BUS Buffer)



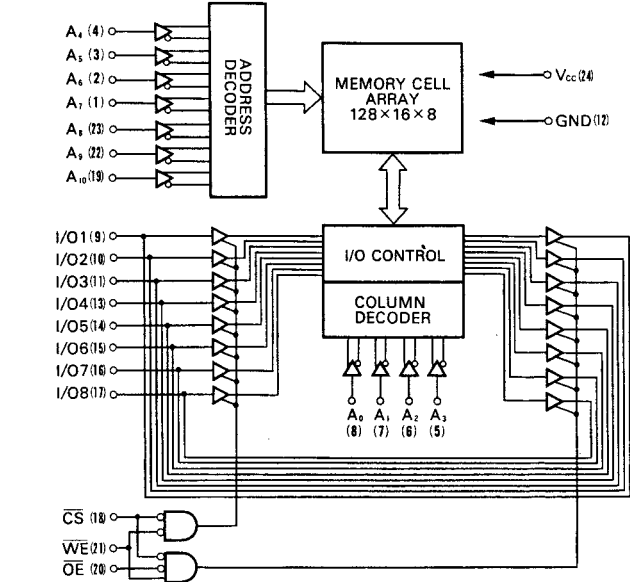
•TC5081P (PLL Phase Detector)



•TM4505P (PCM Decoding Processor)



•TMM2016P/D (2K Word x 8 bit Static RAM)



◆ Terminal Function <TM4505P>

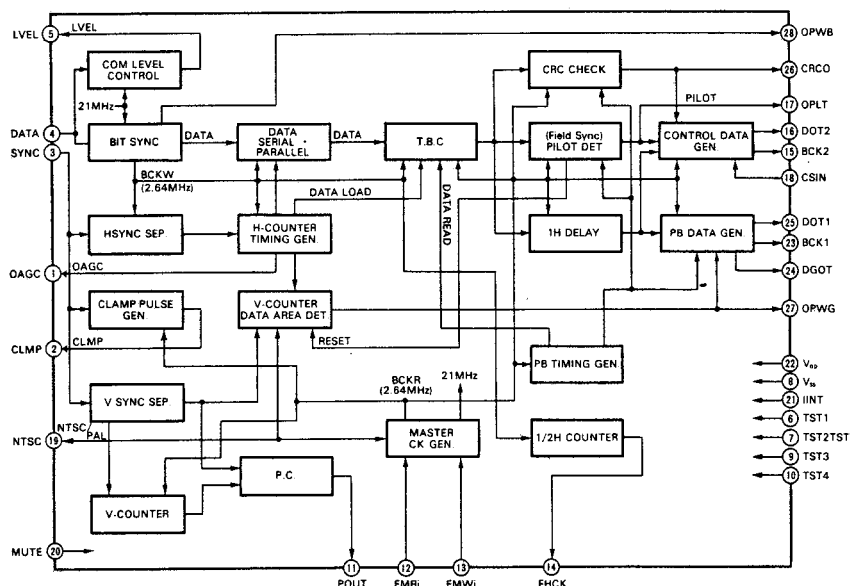
Pin No.	Pin Name	I/O	Function
1	AD-3	O	RAM Address output terminal "L" level when Co-H data is applied. "H" level when other timing.
2	AD-4	O	RAM address output terminal "L" level when Error data by CRCC is ap- plied from I/O-7 terminal.
3	AD-5	O	RAM address output terminal "L" level when external control key switch data is applied to (I/O-0)-(I/O-3) "H" level when other timing.
4	AD-6	O	RAM address output terminal "H" level when other timing.
8	AD-10		
9	MR		
9	MR	I/O	Master muting input/output terminal for muting control "L" level when internal abnormal detec- tion circuit detects abnormal input data. At the same time, MUT terminal changes to "L" level by positive edge trigger of 2WD-CK. Since this MR terminal is pull up by high high resistance, by connecting a capacitor, muting time can be changed longer. Also muting signal is generated by grounding this terminal.
10	MUT	O	Muting signal output terminal "L" level by positive edge trigger of 2WD-CK when MR terminal is "L" level. "H" level when 2nd control signal bloc of input data is applied after MR terminal changes to "H" level.
11	DA-ST	O	Status signal output terminal Outputs 15 status signals such as corre- ction of data, identity signal, receiving con- tents from control key switch, internal status of LSI and etc.

◆ Terminal Function <TM4505P>

Pin No.	Pin Name	I/O	Function
12	DA-OUT	O	Corrected digital data output terminal
13	I/O-0	I/O	RAM data input/output terminal
16	I/O-3		Also used as input terminal of output Key-SW signal for control signal block data.
17	I/O-4	I/O	RAM data input/output terminal
19	I/O-6		Also used as output terminal for control signal block data.
20	I/O-7	I/O	RAM data input/output terminal Also used as output terminal for Error data in a horizontal period by CRCC.
21	GND	—	Ground terminal
22	IN-DA	I	Digital data input terminal Digital data separated from video signal by sync separator is inputted.
23	IN-CK	I	Shift clock input terminal Digital data applied to IN-DA terminal is inputted by shift clock (2.6 MHz) applied to this terminal. The digital data must be triggered with this shift clock.
24	IN-HG	I	Data block period signal input terminal During this terminal is "H" level, digital data applied to IN-DA terminal is inputted.
25	DUB	O	Copy prohibition signal output terminal "L" level when tape copy is prohibited. "H" level when tape copy is not prohibited.
26	$\bar{Q}$	O	"Q" parity output terminal "H" level when "Q" parity bit is "L" level. "L" level when "Q" parity bit is "H" level
27	EMP	O	Emphasis control signal output terminal "H" level when emphasis is ON. "L" level when emphasis is OFF.
28	TEST	I	Test terminal Normally this terminal is kept open, or connected to VDD.
29	V-OUT	O	V-sync clock signal output terminal This signal is used for PLL circuit of play-back system, and generated by dividing 2WD-CK with following rates. 1470 in NTSC system 1764 in PAL system
30	WD-CK2R	I	Word clock signal input terminal This signal is used for synchronization between play-back and recording word clock during digital copy operation.
31	Vsync-IN	I	V-sync signal input terminal This signal is used for synchronization of PCM total system including VTR when electronic editing system is operated.
32	SCK	I	Master clock input terminal To this terminal, master clock signal (≈ 10 MHz) generated in TRICODE decoder is inputted.
33	BCK	O	Data bit clock output terminal This signal is used to output data from TM4505P in bit serial. $BCK = SCK/7.5$
34	WD-CK1	O	Data word clock output terminal This signal specifies data word period. "H" level when R-ch data is outputted from TM4505P. "L" level when L-ch data is outputted from TM4505P.

Pin No.	Pin Name	I/O	Function
35	2WD-CK	O	Double frequency word clock output terminal Double frequency signal of WD-CK1 is outputted. "H" level when LSB 8 bits of output data is outputted. "L" level when MSB 8 bits of output data is outputted.
36	CS2	O	This terminal outputs "L" level pulse when following operations are performed. When control signal block data is outputted from (I/O-0)-(I/O-7). When data block error signal is outputted. When external Key-SW data is inputted.
37	CS1	O	Chip select signal output terminal for RAM "L" level pulse is outputted when reading/writing data from/to RAM.
38	R/W	O	READ/WRITE select signal output terminal for RAM "L" level pulse is outputted when (I/O-0)-(I/O-7) terminals output data to RAM.
39	AD-1	O	RAM address output terminal Also this terminal is used for discrimination of 2nd block when Co-H data is outputted.
40	AD-2	O	RAM address output terminal Also this terminal is used for discrimination of 3rd block when Co-H data is outputted.
41	AD-0	O	RAM address output terminal From this terminal, double frequency signal of 2WD-CK is always outputted. Also this terminal is used for discrimination of the smallest block when Co-H data is outputted.
42	VDD	—	+5V terminal

•CX-7914 (Digital Sync Separator)



◆ Terminal Function <CX-7914>

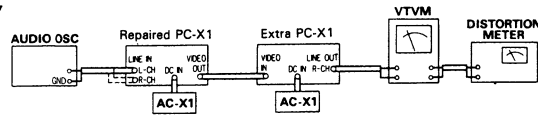
Pin No.	Pin Name	I/O	Function
1	OAGC	(I)/O	Gate signal output terminal This terminal outputs gate signal for AGC level detection when data is separated from video signal. ("H" active) Also this terminal is used as input terminal for measurement.
2	CLMP	(I)/O	Pedestal clamp signal output terminal This signal is used for pedestal clamp to video signal. ("H" clamp) Also this terminal is used as input terminal for measurement.
3	SYNC	I	Composite sync signal input terminal ("L" active) Input signal must be TTL level.
4	DATA	I	PCM data input terminal ("H" active) Input signal must be TTL level.
5	LVEL	O	Slice level control signal output terminal By detecting bit width of input data, tri-state output is applied from this terminal. "H" level when under width. "L" level when over width. High impedance when optimum width.
6	TST1	I	Test terminal Normally connected to "L" level.
7	TST2	I	Test terminal Normally connected to "L" level.
8	VSS	—	(—) Power supply terminal
9	TST3	I	Test terminal Normally connected to "L" level.
10	TST4	I	Test terminal Normally connected to "L" level.
11	POUT	O	READ PLL phase comparator output terminal
12	FMRI	I	Master clock input terminal Master clock signal (21 MHz) generated in READ PLL circuit, is inputted to this terminal. (This terminal is used instead of FMWI when FMWI is kept in "H" or "L" level.)
13	FMWI	I	Master clock input terminal Master clock signal (21 MHz) generated in WRITE PLL circuit, is inputted to this terminal.

Pin No.	Pin Name	I/O	Function
14	FHCK	O	1/672 frequency output of WRITE PLL master clock
15	BCK2	O	Shift clock (2.64 MHz) output terminal This signal is used for inputting control data applied from DOT2 terminal to external circuit. Control data is outputted from DOT2 at positive edge of this signal.
16	DOT2	O	Control data terminal 7 bits of control data are outputted at negative edge of CSIN signal.
17	OPLT	O	Control signal output terminal Control signal which specifies control data period, is outputted from this terminal. "H" level during control data is outputted.
18	CSIN	I	Trigger pulse input terminal By this trigger pulse, control data of DOT2 and shift clock of BCK2 are outputted. ("L" active) When OPLT terminal is "H" level, trigger pulse is not effective.
19	NTSC	(I)/O	Television system mode output terminal "H" level when composite sync signal is NTSC system. "L" level when composite sync signal is PAL system. Also this terminal is used as input terminal for measurement.
20	MUTE	I	Muting state input terminal "L" level is inputted when play back circuit is in muting operation. "H" level must be inputted for initialization when power is turned on. (Output of OPLT may be inputted.)
21	IINT	I	Test terminal Normally connected to "H" level.
22	VDD	—	(+) power supply terminal
23	BCK1	O	Shift clock (2.6 MHz) output terminal This signal is used for inputting serial data applied from DOT1 terminal to play back section.

3-2. Recording Adjustment (Refer to Fig. 3-11)

- Condition: 1. RECORD/PLAY RECORD
 2. COPY OFF
 3. METER LEVEL
 4. MUTING ON
 5. INPUT LINE
 6. REC LEVEL Maximum
 7. TV/PROCESSOR PROCESSOR
 8. READ LEVEL Center position
 9. Connect the test equipments as Fig. 3-7.

Fig. 3-7

**A. Dynamic range adjustment**

- 1) Turn output control of the audio oscillator to minimum.
- 2) Connect the DC volt meter between pin No. 10 of jC4 (HA12053) and ground.
- 3) Adjust jVR2 to obtain DC 0V.

B. Channel separation adjustment

- 1) Feed 1 kHz 500 mV signal from the audio oscillator to LINE IN left channel.
- 2) Perform the play back operation of the extra PC-X1.
- 3) Adjust jVC1 to minimize output level from LINE OUT right channel of the extra PC-X1.

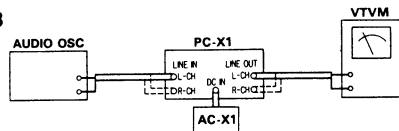
C. Distortion level adjustment

- 1) Feed 1 kHz 450 mV signal from the audio oscillator to LINE IN right channel.
- 2) Perform the play back operation of the extra PC-X1.
- 3) Adjust jVR1 to minimize distortion level (especially noise level) from LINE OUT right channel of the extra PC-X1.

3-3. Indicator Level Adjustment (Refer to Fig. 3-11)

- Condition: 1. Same condition as 1 to 8 of Recording Adjustment.
 2. Connect the test equipments as Fig. 3-8.

Fig. 3-8

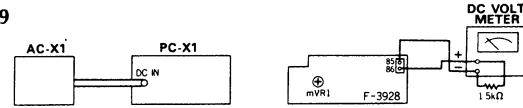


- 1) Feed 1 kHz signal from the audio oscillator to LINE IN left (right) channel.
- 2) Adjust output control of the audio oscillator to apply 250 mV output signal from LINE OUT left (right) channel.
- 3) Adjust jVR3L (jVR3R) to light the 0 dB LED.

3-4. Charge Level Adjustment

Condition: Connect the test equipments as Fig. 3-9.

Fig. 3-9



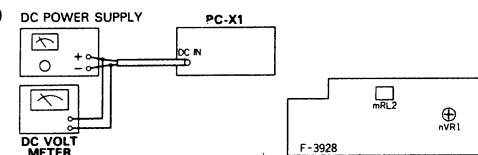
- 1) Turn the POWER switch of the PC-X1 to OFF, and the POWER switch of the AC-X1 to ON.
- 2) Adjust mVR1 to obtain 14.3V between connector pin No. 85 and 86 (Batter terminals).

Note: Be sure to connect 1.5 kohm resistor between leads of DC volt meter.

3-5. Shut Off Level Adjustment

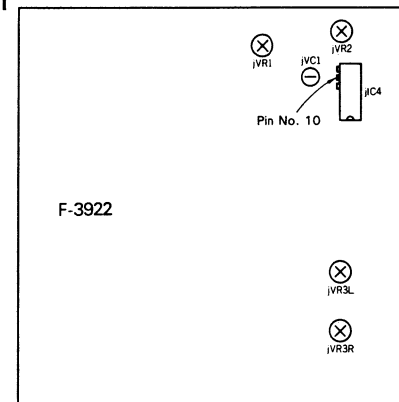
Condition: Connect the test equipments as Fig. 3-10.

Fig. 3-10

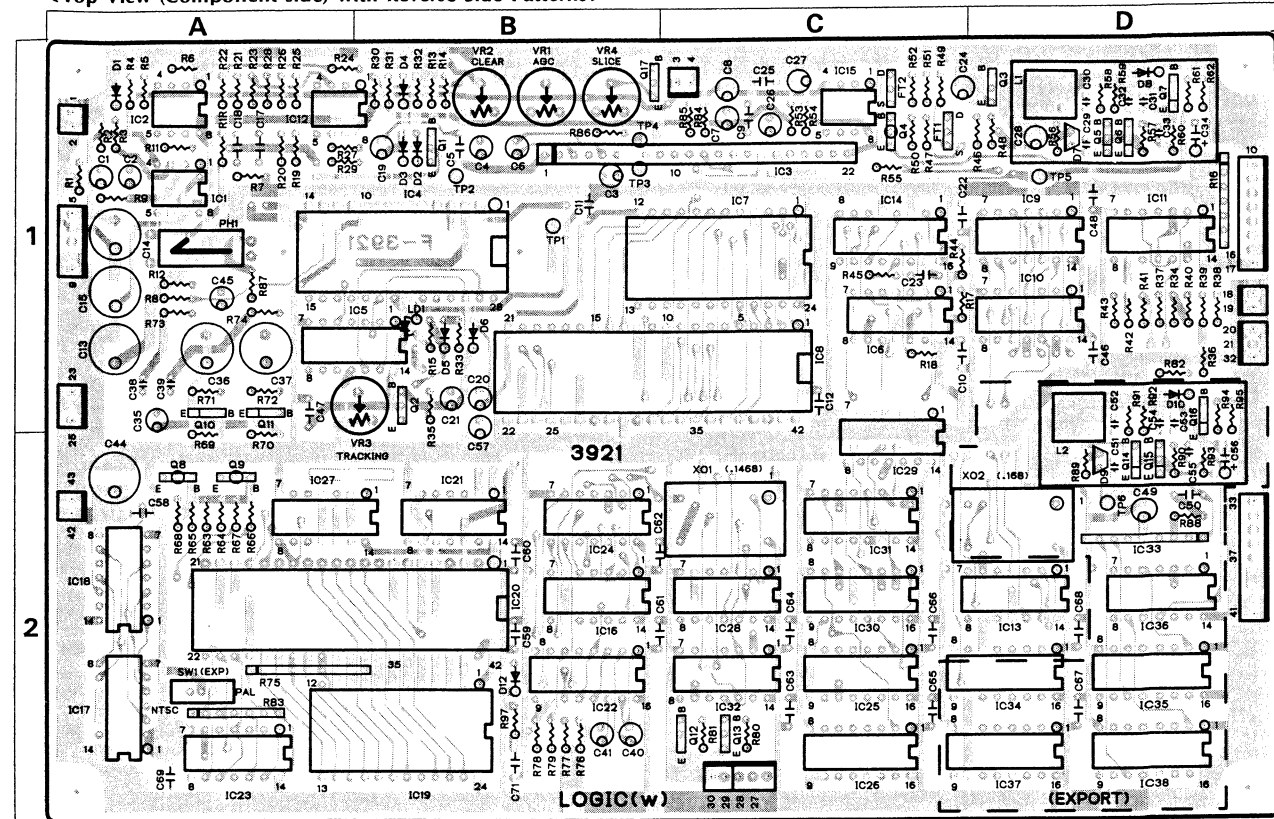


- 1) Set output voltage of the DC power supply to 14.5V. And turn the POWER switch of the PC-X1 to ON.
- 2) Turn nVR1 fully counter clockwise. And decrease the output voltage of the DC power supply to 7V.
- 3) Turn nVR1 slowly clockwise until mRL2 switches OFF.
- 4) Turn the POWER switch of the PC-X1 to OFF. And increase the output voltage of the DC power supply to 12V.
- 5) Turn the POWER switch of the PC-X1 again to ON.
- 6) Confirm that mRL2 is switched OFF at 7V $\pm$ 0.5V by decreasing the output voltage of the DC power supply.

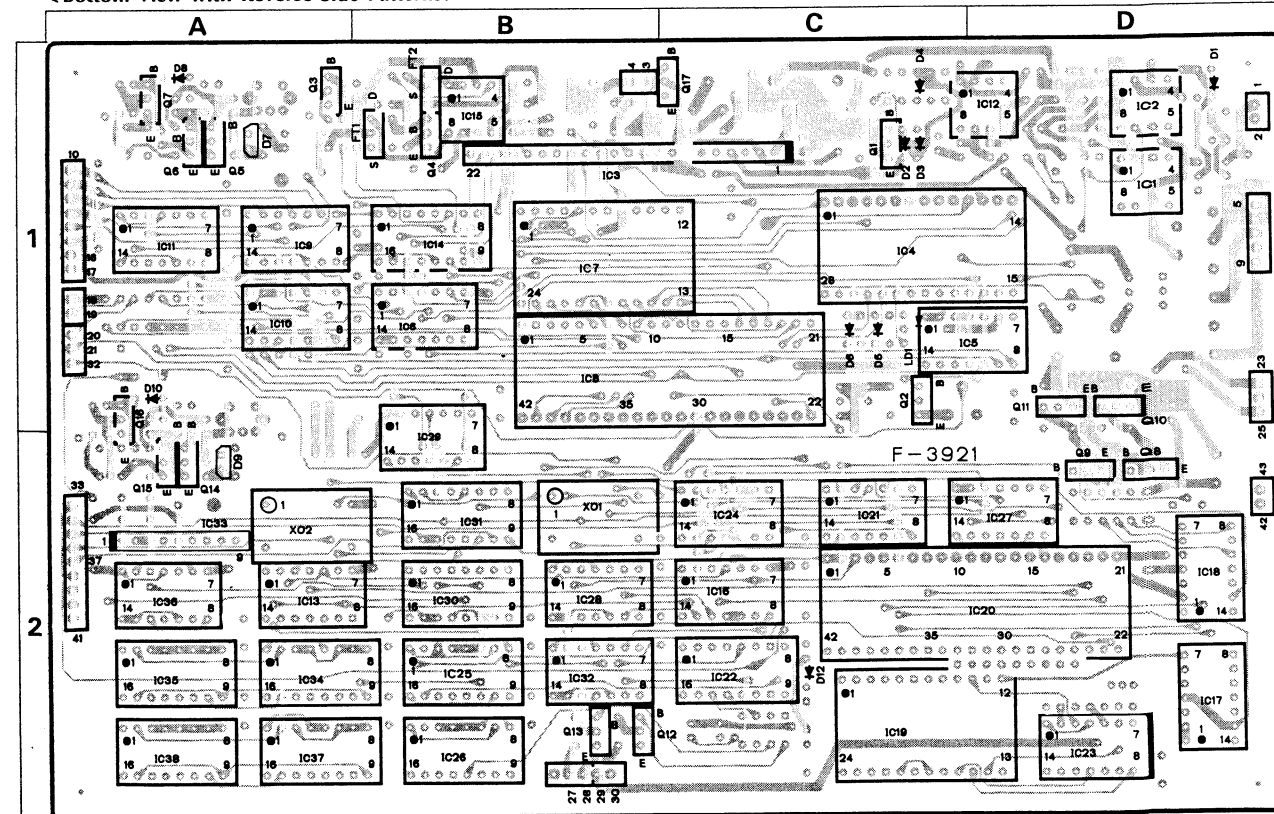
Fig. 3-11

**4. PARTS LOCATION & PARTS LIST****4-1. F-3921 PCM Decoder Board (Stock No. 00755101)**

<Top View (Component side) with Reverse Side Patterns>



<Bottom View with Reverse Side Patterns>



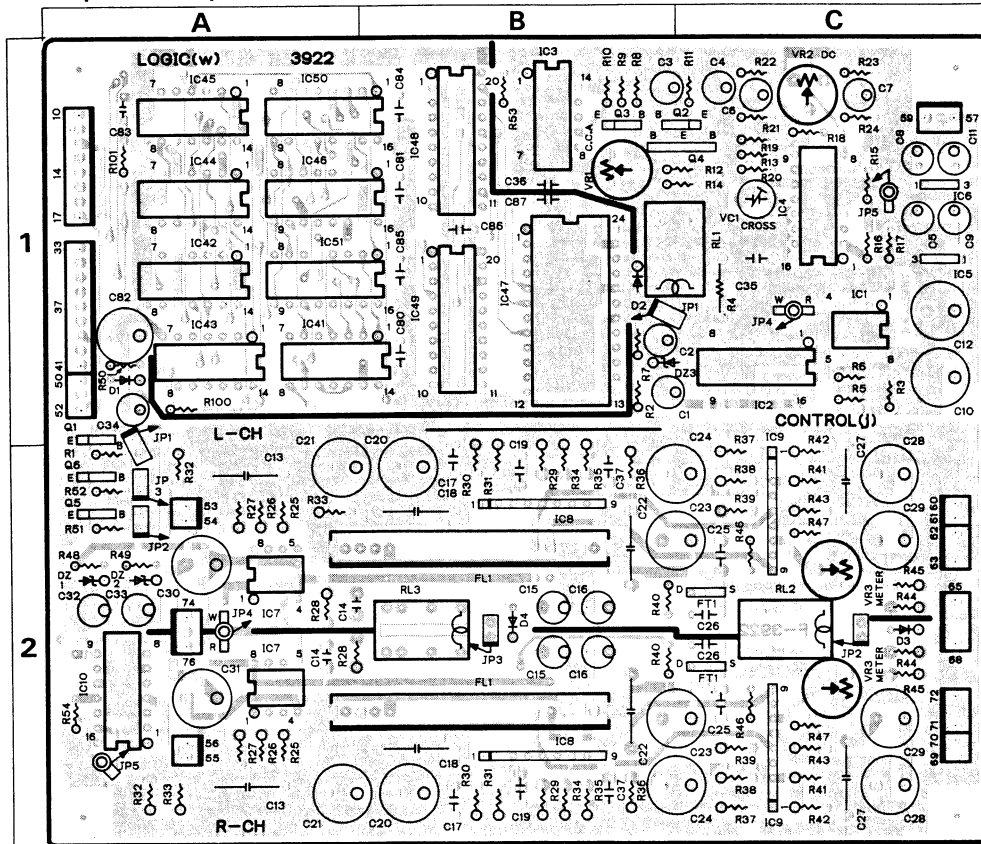
Parts List

Parts No.	Stock No.	Description
oS1	46637100	Slide SW., NTSC/PAL
•Transistor		
wQ1	46078801	2SC2458
wQ2	46078801	2SC2458
wQ3	46078801	2SC2458
wQ4	46078701	2SA1048
wQ5	46614501	2SC3078M
wQ6	46614501	2SC3078M
wQ7	46614501	2SC3078M
wQ8	46078701	2SA1048
wQ9	46078701	2SA1048
wQ10	46614501	2SC3078M
wQ11	46614501	2SC3078M
wQ12	46078801	2SC2458
wQ13	46078801	2SC2458
wQ14	46614501	2SC3078M
wQ15	46614501	2SC3078M
wQ16	46614501	2SC3078M
wQ17	46078801	2SC2458
•FET		
wFT1	03703401 or 03703402 or 03703403	2SK163-K2 2SK163-L1 2SK163-L2
wFT2	03703405	2SK163-M2
•IC		
wIC1	46427600	LF-357N
wIC2	46436800	μPC311C
wIC3	46543100	Q-0011
wIC4	46427700	CX-7914
wIC5	46428700	TC40H000P
wIC6	46613500	MM74HC86N
wIC7	46436900	TMM-2016P
wIC8	46437100	TM4505P
wIC9	46545300	M74LS05P
wIC10	46545300	M74LS05P
wIC11	46429200	TC40H074P
wIC12	07208900	NJM4558D-X
wIC13	46636600	M74LS08P
wIC14	03612900	TC4528BP
wIC15	07208900	NJM4558D-X
wIC16	46429000	TC40H008P
wIC17	46545400	M74LS27P
wIC18	46545300	M74LS05P
wIC19	46436900	TMM-2016P
wIC20	46427800	μPD785C
wIC21	46428900	TC40H004P
wIC22	03612900	TC4528BP
wIC23	46545900	TC5024BP
wIC24	07265400	MB74LS02
wIC25	46613600	M74LS161AP
wIC26	46613600	M74LS161AP
wIC27	46429300	TC40H164P
wIC28	46429200	TC40H074P
wIC29	46675000	MM74HC164N
wIC30	46545700	M74LS157P
wIC31	46545700	M74LS157P
wIC32	46429200	TC40H074P
wIC33	03604600	TC5081M
wIC34	46636700	M74LS669P
wIC35	46636700	M74LS669P
wIC36	46636800	M74LS74
wIC37	46636700	M74LS669P
wIC38	46636700	M74LS669P

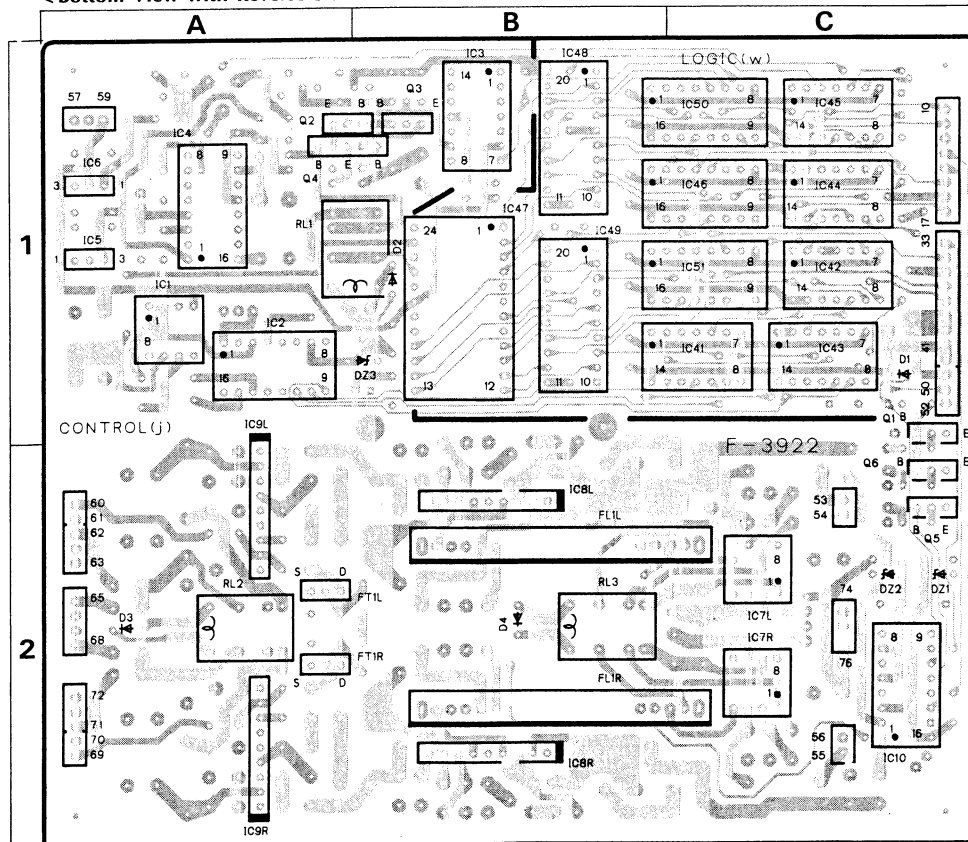
Parts No.	Stock No.	Description
•Diode		
wD1	03111600	1S2473
wD2	03111600	1S2473
wD3	03111600	1S2473
wD4	03111600	1S2473
wD5	03111600	1S2473
wD6	03401700	Varistor MV103
wD7	46546400	Varactor SVC-201SP
wD8	03111600	1S2473
wD9	46546400	Varactor SVC-201SP
wD10	03111600	1S2473
wD12	03111600	1S2473
wPH1	09201100	Photo Coupler P873-G35-552
wLD1	46095200	LED TLR123, Error Indicator
wR16	46344400	1kΩ × 6 1/8W A.R.
wR75	46349300	10kΩ × 8 1/8W A.R.
wR83	46345600	10kΩ × 6 1/8W A.R.
wC1	46276800	4.7μF 50V E.C.
wC2	46276800	4.7μF 50V E.C.
wC3	46276200	0.22μF 50V E.C.
wC4	46275700	22μF 16V E.C.
wC6	46275700	22μF 16V E.C.
wC7	46275700	22μF 16V E.C.
wC8	46275700	22μF 16V E.C.
wC20	46276200	0.22μF 50V E.C.
wC21	46276600	2.2μF 50V E.C.
wC24	46276500	1μF 50V E.C.
wC26	46275500	0.68μF 50V E.C.
wC27	46276300	0.33μF 50V E.C.
wC28	46276800	4.7μF 50V E.C.
wC34	46638600	3.3μF 16V Ta.C.
wC35	46275900	47μF 16V E.C.
wC40	46276500	1μF 50V E.C.
wC41	46276500	1μF 50V E.C.
wC45	46276600	2.2μF 50V E.C.
wC49	46275900	47μF 16V E.C.
wC56	46638600	3.3μF 16V Ta.C.
wC57	46276600	2.2μF 50V E.C.
wX01	46546300	Crystal Element 21.1468MHz
wX02	46547600	Crystal Element 21.168MHz
wL1	46541700	PCM VCO Coil
wL2	46541700	PCM VCO Coil
wVR1	10343300	100kΩ(B) S.V.R., AGC Level Adj.
wVR2	10342500	4.7kΩ(B) Clear Level Adj.
wVR3	10342500	4.7kΩ(B) S.V.R., Tracking Indicator Level Adj.
wVR4	10342700	100kΩ(B) S.V.R., Slice Level Adj.

4-2. F-3922 PCM Encoder Board (Stock No. 00755201)

<Top View (Component Side) with Reverse Side Patterns>

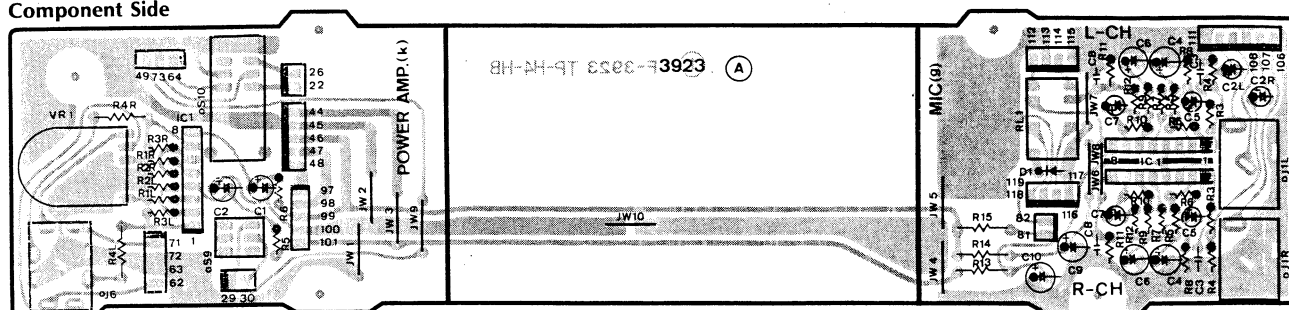


<Bottom View with Reverse Side Patterns>



4-3. F-3923 MIC. Amp. Board (Stock No. 00755301)

Component Side



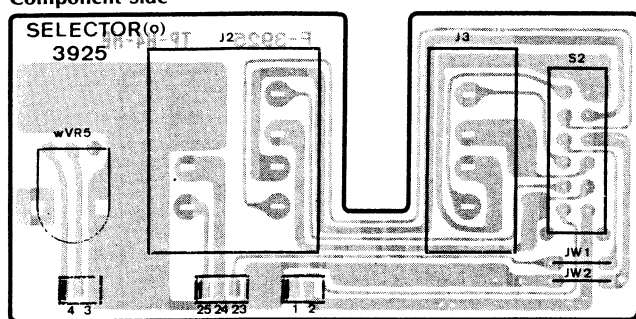
Parts List

Parts No.	Stock No.	Description
•IC		
gIC1	46288800	M5220L
•Diode		
gD1	03111600	1S2473
gC2	46276500	1 μ F 50V E.C.
gC4	46276000	100 μ F 16V E.C.
gC5	46276600	2.2 μ F 50V E.C.
gC6	46276000	100 μ F 16V E.C.
gC7	46276500	1 μ F 50V E.C.
gC9	46275900	47 μ F 16V E.C.
gC10	46275900	47 μ F 16V E.C.
gRL1	46630700	Relay

Parts No.	Stock No.	Description
•IC		
kIC1	46579100	M5219L
kC1	46275900	47 μ F 16V E.C.
kC2	46275900	47 μ F 16V E.C.
kVR1	46631500	50k Ω (A) $\times$ 2 V.R., PHONES
oS9	46631300	Push SW., REC MUTE
oS10	46631100	Lever SW., RECORD/PLAY
oJ1	46637000	Jack, MIC
oJ6	46636900	Jack, PHONES
qZ430	00279300	Jumper Resistor

4-4. F-3925 VIDEO IN/OUT Terminal Board

Component Side

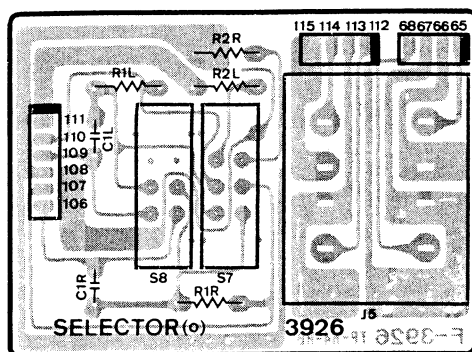


Parts List

Parts No.	Stock No.	Description
oS2	46631000	Slide SW., TV/PROCESSOR
oJ2	46546500	3P Terminal Board, VIDEO IN/OUT/COPY OUT
oJ3	22005600	2P Terminal Board, MONITOR TV/VIDEO TUNER
wVR5	46631600	10k Ω (B) V.R., READ LEVEL

4-5. F-3926 LINE IN/OUT Terminal Board

Component Side

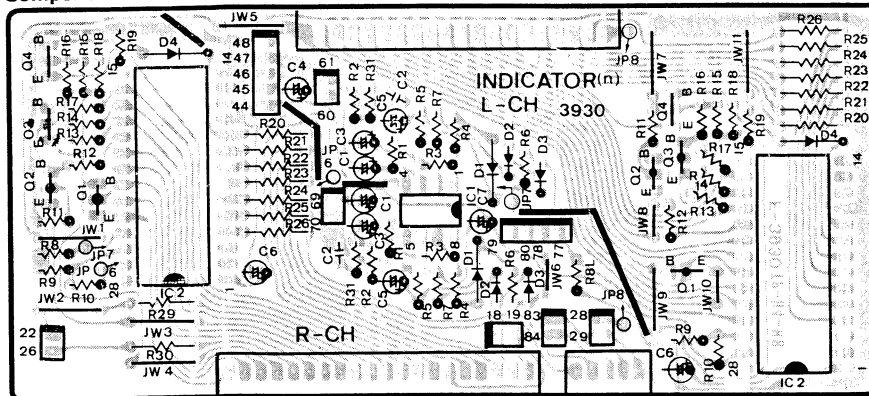


Parts List

Parts No.	Stock No.	Description
gC1	46279100	0.068 μ F 50V F.C.
oS7	46630900	Slide SW., MIC ATT
oS8	46630900	Slide SW., LOW FILTER
oJ5	22005900	4P Terminal Box rd. LINE IN/OUT

4-6. F-3930 Indicator Driver Board (Stock No. 00755901)

Component Side



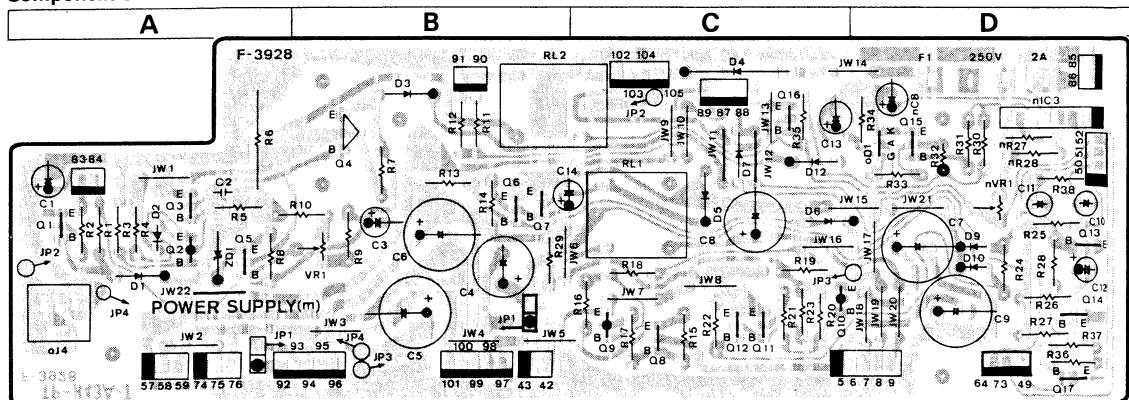
Parts List

Parts No.	Stock No.	Description
•Transistor		
nQ1	46078701	2SA1048
nQ2	46078701	2SA1048
nQ3	46078701	2SA1048
nQ4	46078801	2SC2458
•IC		
nIC1	07208900	NJM4558D-X
nIC2	46546100	IR2E04

Parts No.	Stock No.	Description
•Diode		
nD1	46421300	1N60PSP
nD2	03111600	1S2473
nD3	03111600	1S2473
nD4	03111600	1S2473
nC1	46276300	0.33μF 50V E.C.
nC3	46275600	10μF 16V E.C.
nC4	46275600	10μF 16V E.C.
nC5	46276500	1μF 50V E.C.
nC6	46275600	10μF 16V E.C.
nC7	46275600	10μF 16V E.C.

4-7. F-3928 PC-X1 Power Supply Circuit Board (Stock No. 00755701)

Component Side



Parts List

Parts No.	Stock No.	Description
•Transistor		
mQ1	07299701	2SC2603
mQ2	07299601	2SA1115
mQ3	07206901	2SC2001
Δ mQ4	03083901	2SD313AL
mQ5	07206901	2SC2001
mQ6	07299701	2SC2603
mQ7	07299701	2SC2603
mQ8	07299701	2SC2603
mQ9	07299601	2SA1115
mQ10	07299601	2SA1115
mQ11	07299701	2SC2603
mQ12	07299701	2SC2603
mQ13	07299701	2SC2603
mQ14	07299701	2SC2603
mQ15	07299701	2SC2603
Δ mQ16	07299701	2SC2603
mQ17	07299701	2SC2603
mQ18	07299701	2SC2603

Parts No.	Stock No.	Description
•Diode		
mD1	46421300	1N60PSP
mD2	03401500	Varistor MV12
Δ mD3	46670800	21DQ03
Δ mD4	46637300	31DQ03
mD5	03111600	1S2473
mD6	46421300	1N60PSP
mD7	46421300	1N60PSP
mD8	03103400	10D1
mD9	46421300	1N60PSP
mD10	46421300	1N60PSP
mD11	03111600	1S2473
mD12	03111600	1S2473
Δ mOD1	07109900	Thyristor 03P05M
•Zener Diode		
mDZ1	46100700	05Z 4.7-Y
mDZ2	46102800	05Z 9.1-Y

A	B	C	D
---	---	---	---

5. SCHEMATIC DIAGRAM

5-1. PC-X1

1

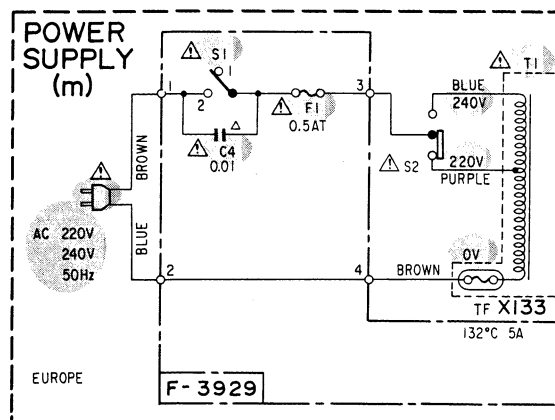
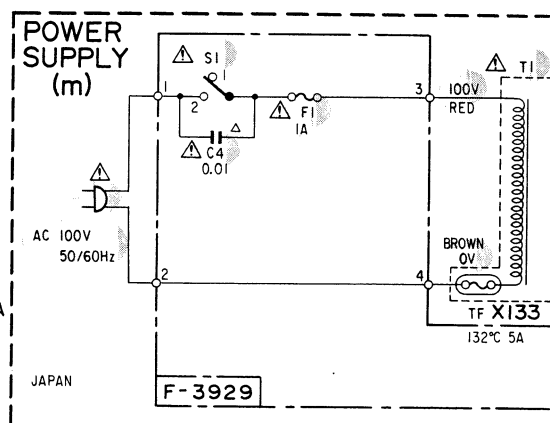
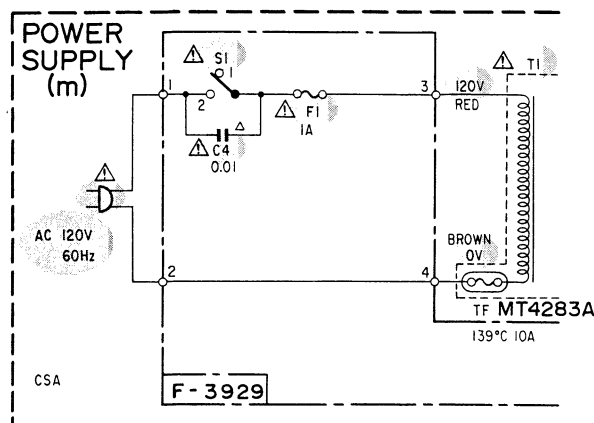
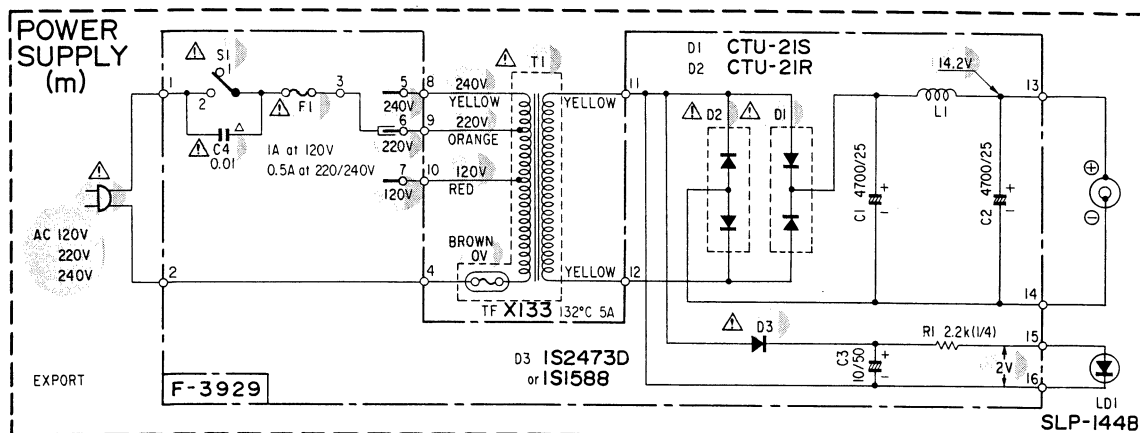
2

3

4

5

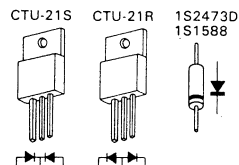
5-2. AC-X1



SYMBOL

⚠ is Safety Parts.
Use only replacement parts
recommended by the manufacturer

Each D.C. Voltage shows the nominal
value in volts at no input signal



*Design and specifications subject to change without notice for improvement.
*La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
*Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

Parts List

Parts No.	Stock No.	Description
•Transistor		
jQ1	46614600	DTC124F
jQ2	46614501	2SC3078M
jQ3	46614501	2SC3078M
jQ4	03064901	2SC1583
jQ5	46614600	DTC124F
jQ6	46614600	DTC124F
•FET		
jFT1	03703405	2SK163-M2
•IC		
jFL1	46546200	F-100A
jIC1	46545000	LF-356
jIC2	46545800	TC4053BP
jIC3	46544800	μPC319C
jIC4	46545200	HA12053
jIC5	46614700	NJM78L12
jIC6	46544400	NJM79L12A
jIC7	46544900	LF-353N
jIC8	46613900	NJM072S
jIC9	46613900	NJM072S
jIC10	46545800	TC4053BP
•Diode		
jD1	03111600	1S2473
jD2	03111600	1S2473
jD3	03111600	1S2473
jD4	03111600	1S2473
•Zener Diode		
jDZ1	46101000	05Z 5.1-Y
jDZ2	46101000	05Z 5.1-Y
jDZ3	46101000	05Z 5.1-Y
jDZ4	46101600	05Z 6.2-Y
jR3	46018400	3.9kΩ 1/2W C.R.
jR4	46017000	1kΩ 1/2W C.R.
jR5	46018200	3.3kΩ 1/2W C.R.
jR6	46018200	3.3kΩ 1/2W C.R.
jR25	46458300	470kΩ 1/2W C.R.
jR26	46454200	9.1kΩ 1/2W C.R.
jR27	46454300	10kΩ 1/2W C.R.
jR28	46019400	10kΩ 1/2W C.R.
jR29	46454300	10kΩ 1/2W C.R.
jR30	46455100	22kΩ 1/2W C.R.
jR31	46452100	1.2kΩ 1/2W C.R.
jR32	46017800	2.2kΩ 1/2W C.R.
jR33	46454300	10kΩ 1/2W C.R.
jR34	46455400	30kΩ 1/2W C.R.
jR35	46454300	10kΩ 1/2W C.R.
jR36	46456700	100kΩ 1/2W C.R.
jR37	46455100	22kΩ 1/2W C.R.
jR38	46452100	1.2kΩ 1/2W C.R.
jR39	46454300	10kΩ 1/2W C.R.
jR41	46018600	4.7kΩ 1/2W C.R.
jR42	46018600	4.7kΩ 1/2W C.R.
jR43	46020400	27kΩ 1/2W C.R.
jR44	46451500	680Ω 1/2W C.R.
jR45	46451500	680Ω 1/2W C.R.

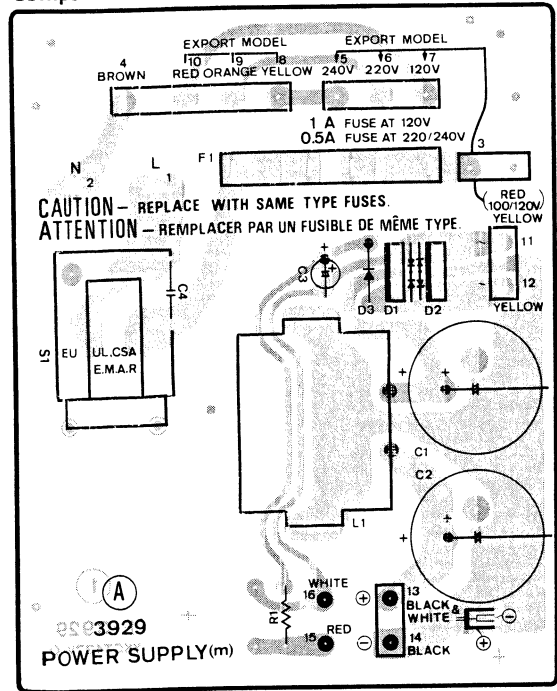
Parts No.	Stock No.	Description
jC10	46627900	47μF 50V E.C.
jC12	46627900	47μF 50V E.C.
jC13	46222800	0.22μF 100V F.C.
jC18	46643200	0.01μF 50V F.C.
jC19	46642900	1500pF 125V P.C.
jC20	46627900	47μF 50V E.C.
jC21	46627900	47μF 50V E.C.
jC22	46643200	0.01μF 50V E.C.
jC23	46627900	47μF 50V E.C.
jC24	46627900	47μF 50V E.C.
jC25	46642900	1500pF 125V P.C.
jC26	46643200	0.01μF 50V F.C.
jC27	46643200	0.01μF 50V F.C.
jC28	46627900	47μF 50V E.C.
jC29	46627900	47μF 50V E.C.
jC30	46628100	100μF 50V E.C.
jC31	46628100	100μF 50V E.C.
jVC1	46162800	20pF Trimmer Capacitor, Channel Separation Adj.
jVR1	10342900	22kΩ(B) S.V.R., THD Adj.
jVR2	10342900	22kΩ(B) S.V.R., Dynamic Range Adj.
jVR3	10351700	47kΩ(B) S.V.R., Level Indicator Adj.
jRL1	46630700	Relay
jRL2	46630700	Relay
jRL3	46630700	Relay
•IC		
wIC41	46429000	TC40H008P
wIC42	46428700	TC40H000P
wIC43	46429300	TC40H164P
wIC44	46429000	TC40H008P
wIC45	46613500	MM74HC86N
wIC46	46613700	TC40H157P
wIC47	46436500	PCM51JG-I
wIC48	46546000	TC40H373P
wIC49	46546000	TC40H373P
wIC50	46436700	DM-2502CN
wIC51	46436600	DM-2503CN

Parts List<F-3928>

Parts No.	Stock No.	Description
△ mR6	00187100	1.5Ω 2W N.I.R.
mC5	46316800	1000μF 16V E.C.
mC6	46316800	1000μF 16V E.C.
mC7	46316800	1000μF 16V E.C.
mC9	46316800	1000μF 16V E.C.
mC10	00304900	3.3μF 16V E.B.
mC11	00304900	3.3μF 16V E.B.
mC16	00304900	3.3μF 16V E.B.
△ mFU1	46201900	Fuse 2.5A

Parts No.	Stock No.	Description
mVR1	10350500	470Ω(B) S.V.R., Charge Level Adj.
mRL1	46533700	Relay
△ mRL2	46533700	Relay
•IC		
nIC3	46637200	M5232L
nVR1	10351300	10kΩ(B) S.V.R, Shut-off Level Adj.
oJ4	46200310	Jack, DC IN 12V

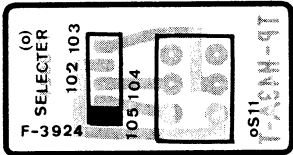
4-8. F-3929 AC-X1 Power Supply Circuit Board
Component Side



Parts List

Parts No.	Stock No.	Description
•Diode		
△ mD1	46534000	CTU-21S
△ mD2	46533900	CTU-21R
△ mD3	46078000	1SS133
mC1	46502900	4700μF 25V E.C.
mC2	46502900	4700μF 25V E.C.
△ mC4	46425800	0.01μF 400V C.C.
mL1	37000600	Choke Coil
△ mS1	07265300	Push SW., POWER (XX, CSA)
△	46499500	Push SW., POWER (EU)
△ mF1	07188400	1A Power Fuse, <120V> (XX, CSA)
△	07188200	0.5A Power Fuse, <220/240V> (XX)
△	07184400	0.5A Power Fuse, <220/240V> (EU)

4-9. F-3924 POWER Switch Board
Component Side



Parts No.	Stock No.	Description
oS11	46705100	Push SW., POWER

4-10. F-3927 LED Ass'y Board

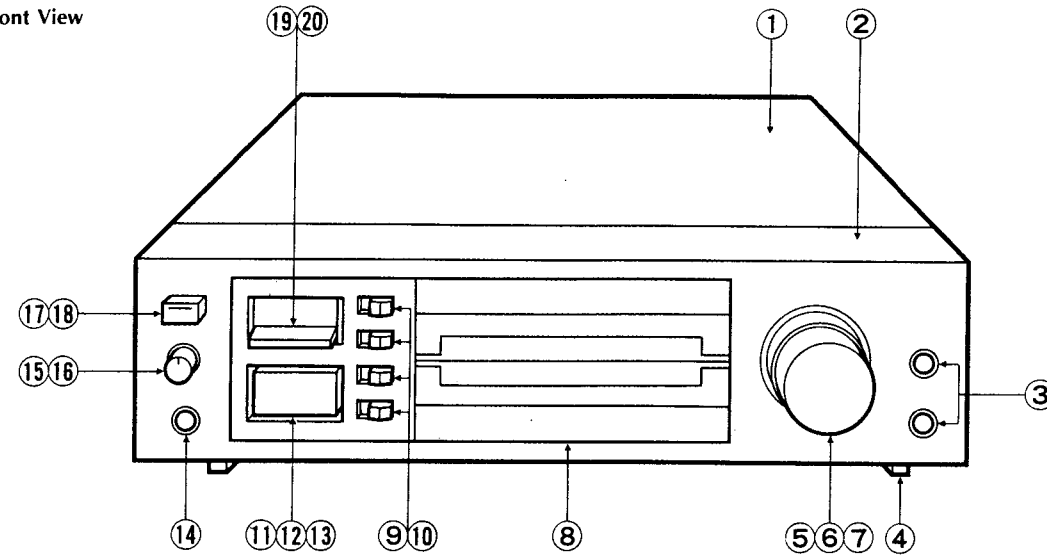
Parts List

Parts No.	Stock No.	Description
nLD	46637600	LED Ass'y, Peak Level Meter/ RECORD/PLAY/MUTING/NO COPY/ CHARGE
oS3	46630800	Slide SW., COPY
oS4	46630800	Slide SW., MUTING
oS5	46630800	Slide SW., METER
oS6	46630800	Slide SW., INPUT

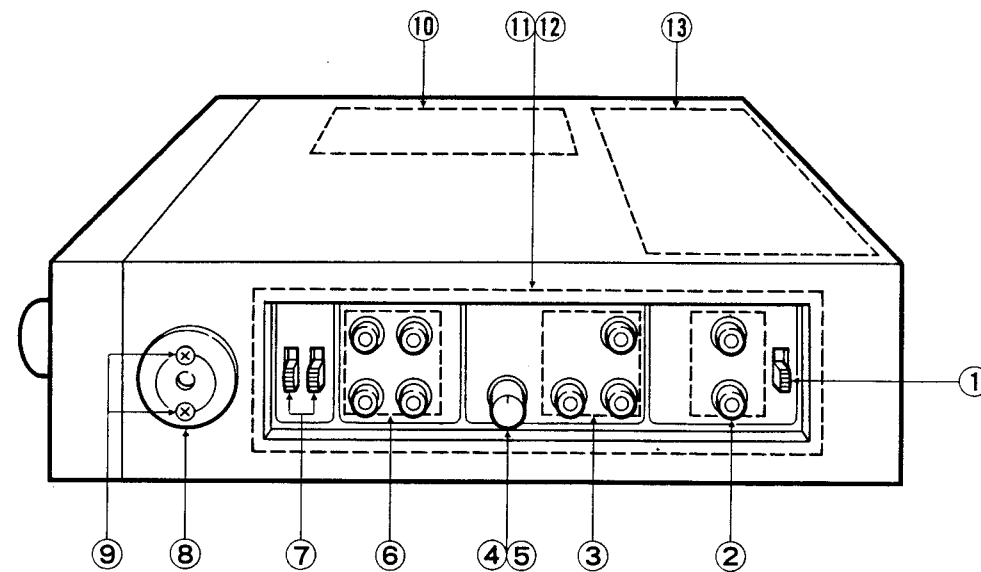
6. OTHER PARTS

6-1. PC-X1

A. Front View



B. Side View



Parts List <Front View>

Parts No.	Stock No.	Description
1	47226400	Bonnet
2	47274900	Front Pannel Ass'y
3	46637000	Jack, MIC
4	47253500	Leg
5	47223600	Knob, REC LEVEL (LEFT)
6	47223700	Knob, REC LEVEL (RIGHT)
7	46631400	50k Ω (A) $\times$ 2 V.R., REC LEVEL
8	47226100	Indicator Plate
9	47223100	Knob, COPY/MUTING/METER/INPUT
10	46630800	Slide SW., COPY/MUTING/METER INPUT
11	47223200	Knob, REC MUTE
12	07964300	Spring, REC MUTE
13	46631300	Push SW., REC MUTE
14	46636900	Jack, PHONES
15	47223400	Knob, PHONES
16	46631500	50k Ω (A) $\times$ 2 V.R., PHONES
17	47223300	Knob, POWER
18	46705100	Push SW., POWER
19	47223000	Knob, RECORD/PLAY
20	46631100	Lever SW., RECORD/PLAY

6-2. AC-X1

Parts List

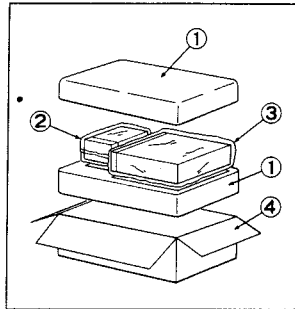
Stock No.	Description
47225000	Bonnet
47225500	Front Panel
47223300	Knob, POWER
46631700	LED SLP-144B, POWER Ind.
Δ 37000501	Power Transformer (XX)
Δ 37000503	Power Transformer (CSA)
Δ 37000505	Power Transformer (EU)
Δ 38004700	Power Supply Cord (XX, CSA)
Δ 38004500	Power Supply Cord (EU)
46611900	DC Cord
47253500	Leg

Parts List <Side View>

Parts No.	Stock No.	Description
1	46631000	Slide SW., TV/PROCESSOR
2	22005600	2P Terminal Board, MONITOR TV/VIDEO TUNER
3	46546500	3P Terminal Board, VIDEO IN/OUT/COPY OUT
4	47223500	Knob, READ LEVEL
5	46631600	500 Ω (B) V.R., RAD LEVEL
6	22005900	4P Terminal Board, LINE IN/OUT
7	46630900	Slide SW., MIC ATT/LOW FILTER
8	47224100	Belt Holder
9	00462800	M3 $\times$ 10 Countersunk Head Tapping Screw
10	46627100	DC-DC Converter
11	47225800	Side Cover Plate
12	47225700	Side Cover
13	47253900	Battery Case Ass'y (XX)
	47271000	Battery Case Ass'y (CSA)
	47271100	Battery Case Ass'y (EU)
13-1	47225600	Battery Case Cover
13-2	47223900	Battery Terminal
13-3	47254100	Battery Eject Lever
13-4	47254300	Eject Lever Spring
13-5	47234800	Eject Lever Holder
13-6	47270400	Battery Door (XX, EU)
	47270500	Battery Door (CSA)
13-7	47254200	Door Shaft
13-8	47224200	Door Shaft Holder
13-9	07907500	Door Spring
—	47224000	Battery Spring

7. PACKING LIST

Parts No.	Stock No.	Description
1	47226600	Styrofoam Packing
2	91165200	Vinyl Bag for AC-X1
3	47253100	Vinyl Bag for PC-X1
4	47253400	Carton Case



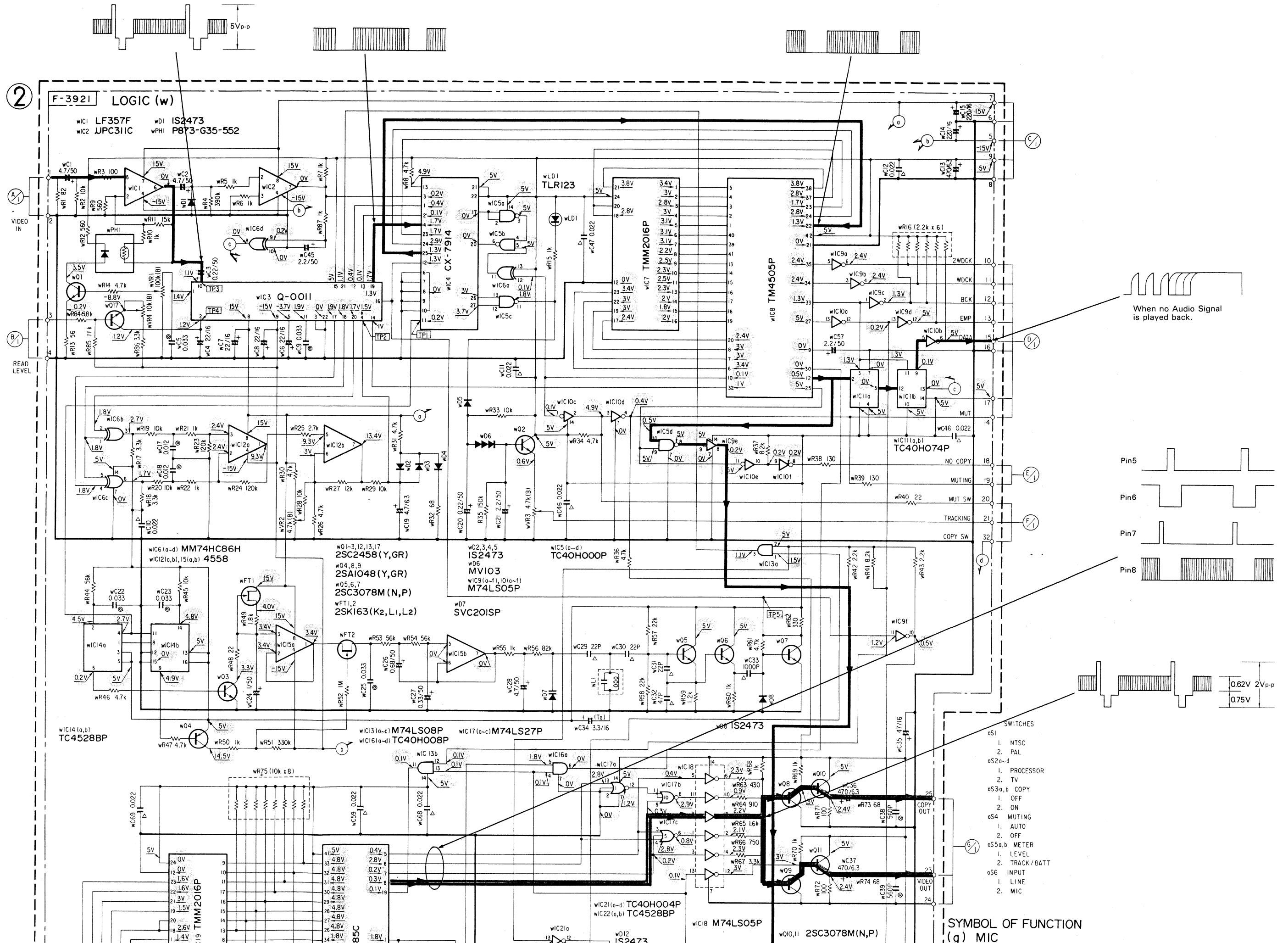
8. ACCESSORY LIST

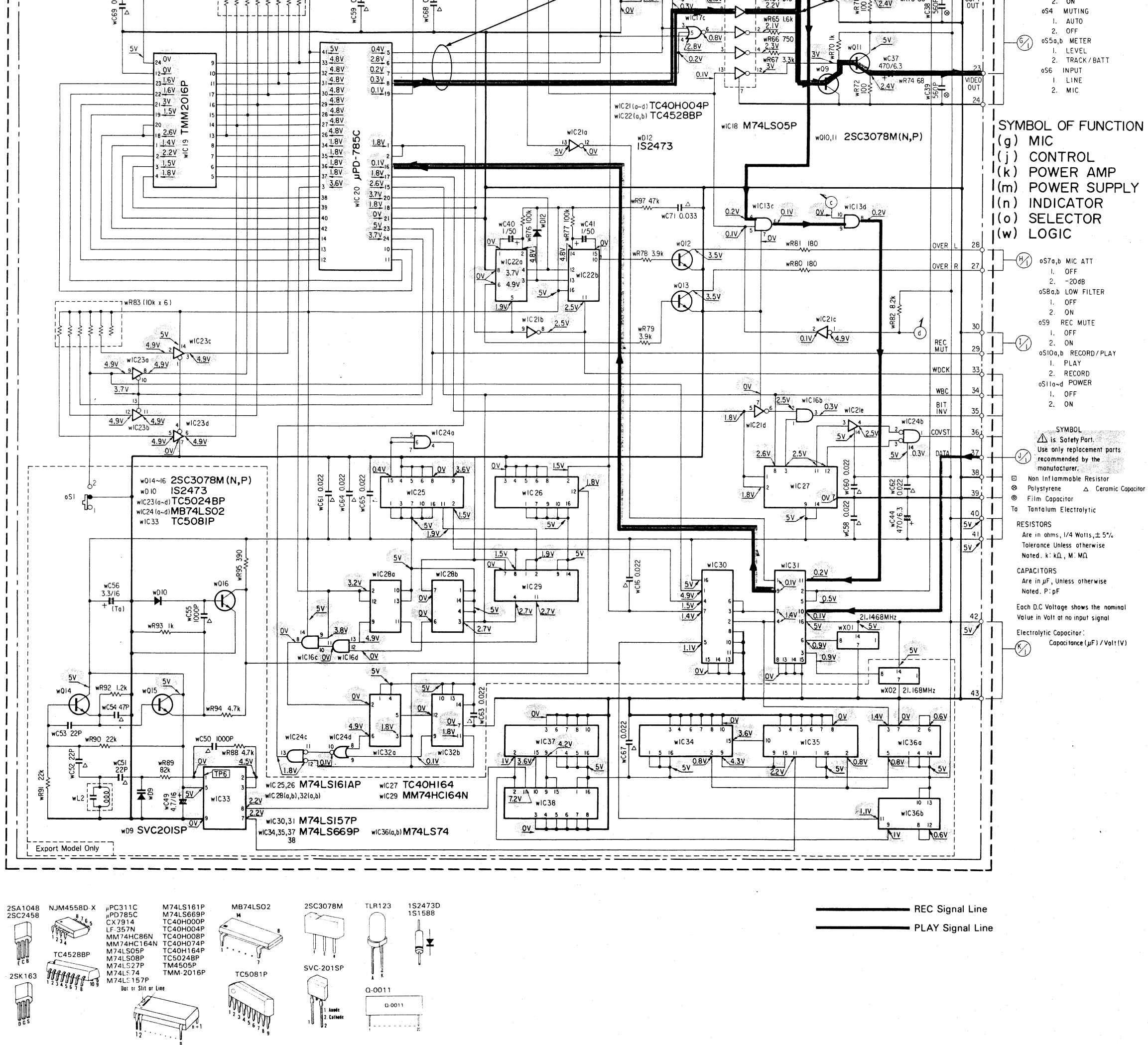
Stock No.	Description
38103300	PJP Cord
46639600	Video Cord
47224800	Dress Screw
46525800	Operating Instruction

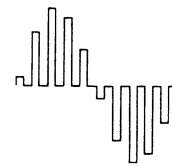
Sansui

SANSUI ELECTRIC CO., LTD.
SANSUI ELECTRONICS CORPORATION
SANSUI ELECTRONICS (U.K.) LTD.
SANSUI ELECTRONICS G.M.B.H.

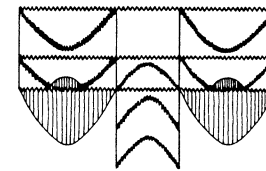
14-1, Izumi 2-chome, Suginami-ku, Tokyo 168 Japan
PHONE: (03) 324-8891/TELEX: 232-2076 (International Division)
1250 Valley Brook Ave. Lyndhurst, N.J. 07071 U.S.A.
333 West Alondra Blvd. Gardena, California 90247 U.S.A.
3036 Koa-paka St. Honolulu, Hawaii 96819 U.S.A.
Unit 10A, Lyon Industrial Estate, Rockware Avenue, Greenford, Middx UB6 0AA, England
Paul Ehrlich Strasse 8, 6074 Rödermark 2, West Germany



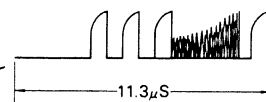




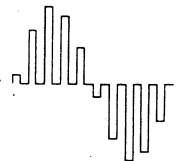
When only L-CH Audio Signal is played back.



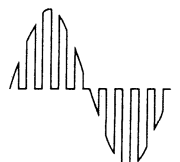
When only L-CH Audio Signal is inputted.



When no Audio Signal is inputted.



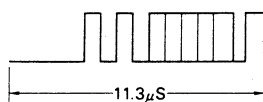
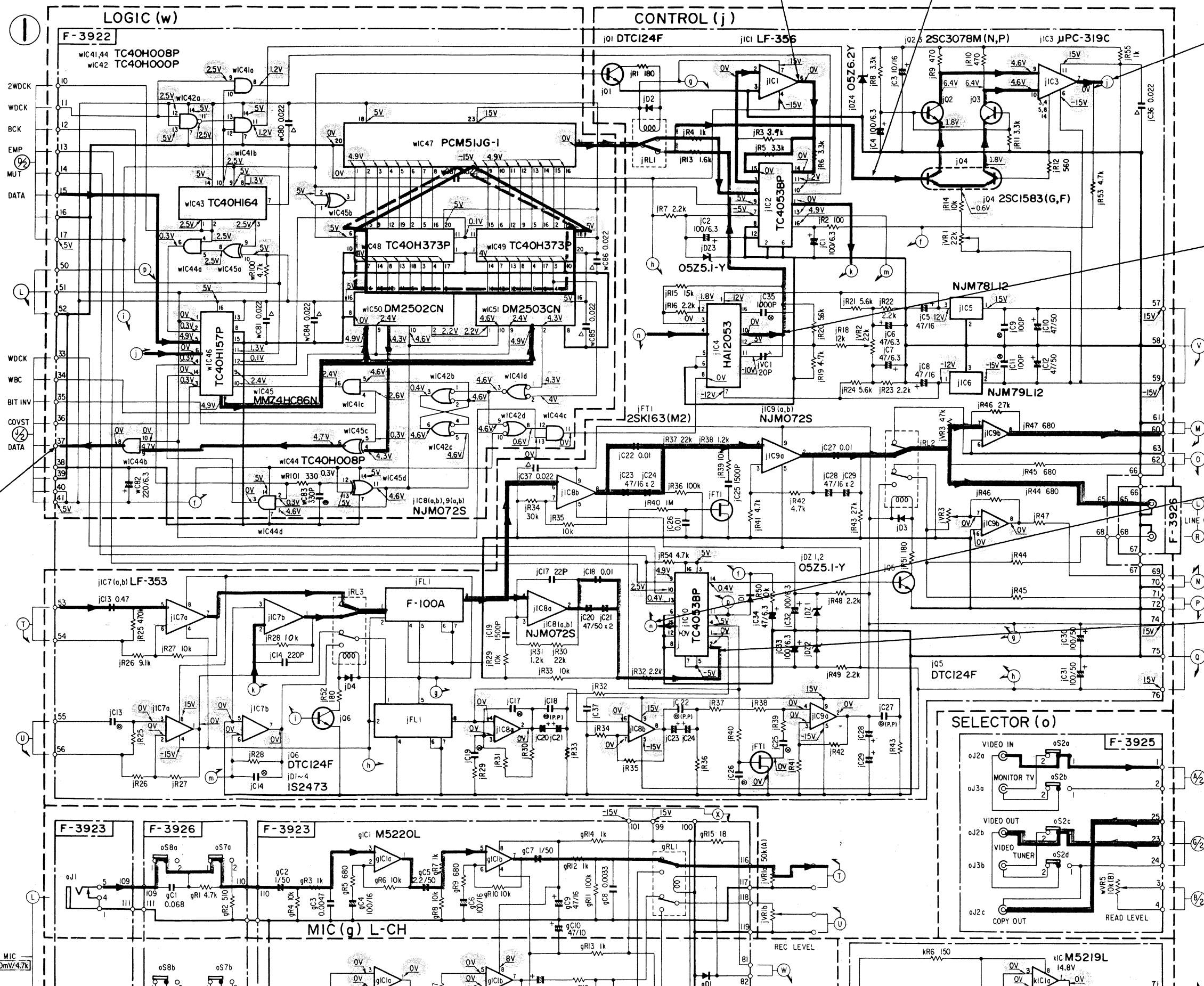
When only L-CH Audio Signal is inputted.



When only L-CH Audio Signal is inputted.



L-CH Audio Input Signal



When no Audio Signal is inputted.

MIC 90mV/4.7k

SANSUI PC-X1 SCHEMATIC DIAGRAM

