

# SERVICE MANUAL

PC-X1

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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	
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 (7-13/16")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.

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### CAUTION

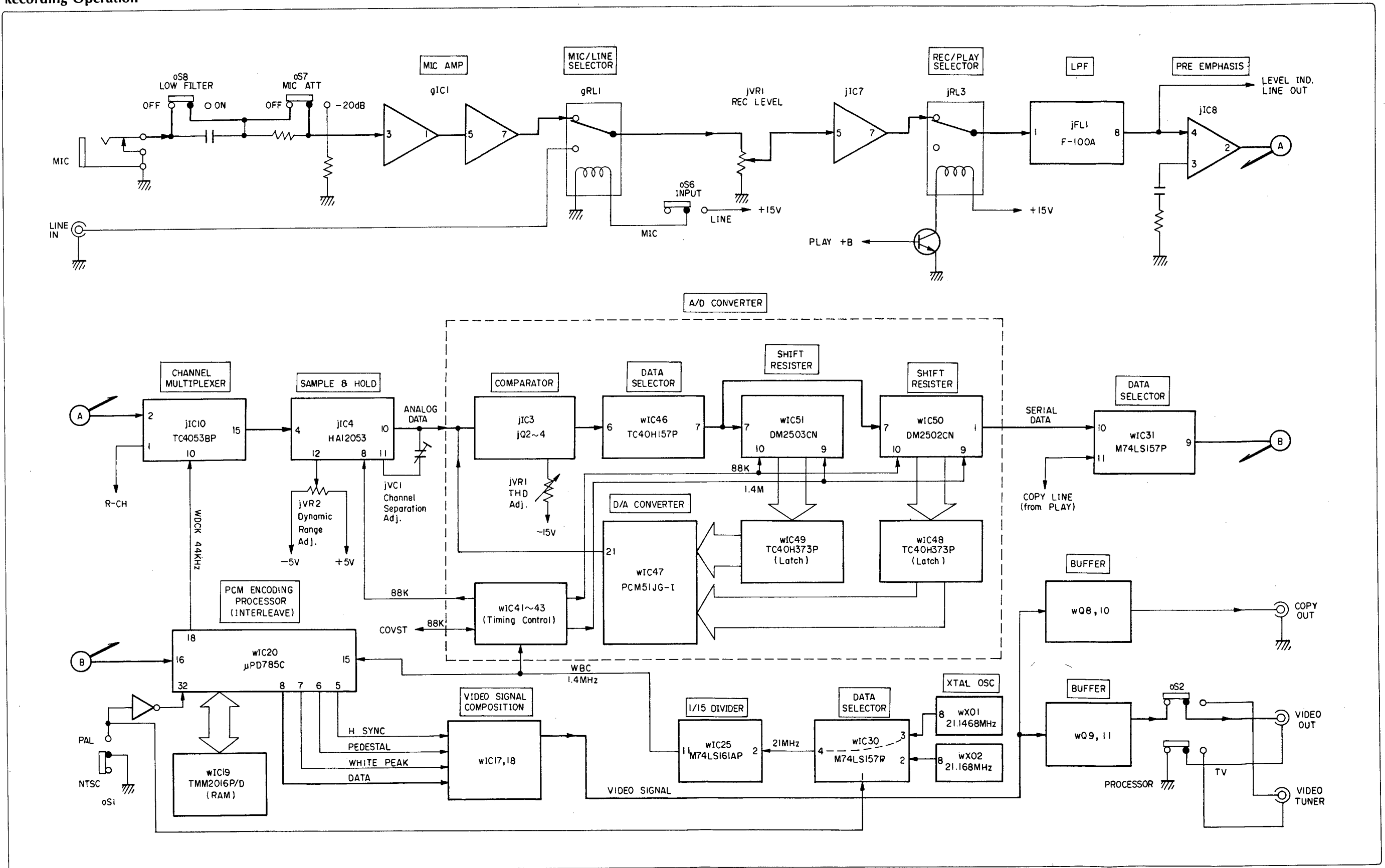
1. The symbols, UL, CSA, BS, UK, EU, AS and XX on the parts list and the schematic diagram mean followings respectively.  
UL..... Manufactured for U.S.A market.  
(Underwriters Laboratories approved model.)  
CSA..... Manufactured for Canadian market.  
BS, UK ..... Manufactured for United Kingdom market.  
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

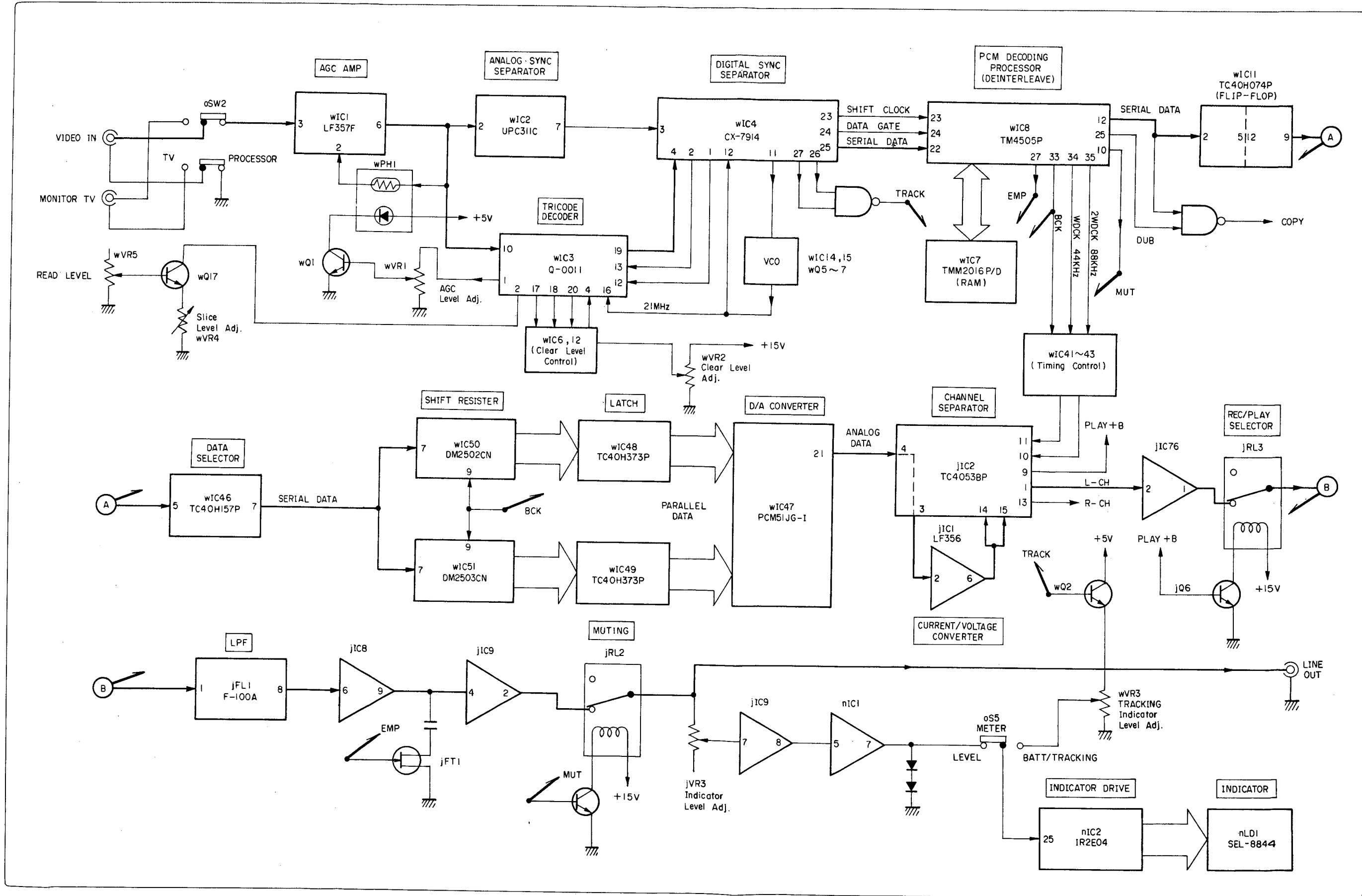
C.R.	: Carbon Resistor	E.B.	: Bi-Polar Electrolytic Capacitor
S.R.	: Solid Resistor	E.B.L.	: Low Leak Bi-Polar Electrolytic Capacitor
Ce.R.	: Cement Resistor	Ta.C.	: Tantalum Capacitor
M.R.	: Metal Film Resistor	F.C.	: Film Capacitor
F.R.	: Fusing Resistor	M.P.	: Metalized Paper Capacitor
N.I.R.	: Non-Inflammable 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, Temoerature 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

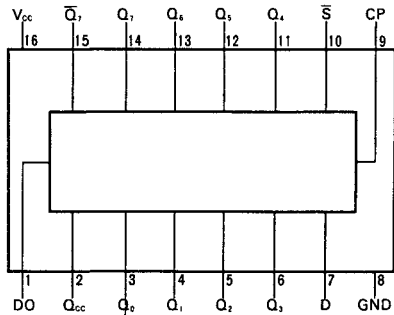


1-2. Play Back Operation



## 2. INTERIOR BLOCK DIAGRAM & TERMINAL FUNCTION OF IC

### •DM2502 (8 bit Shift Register)

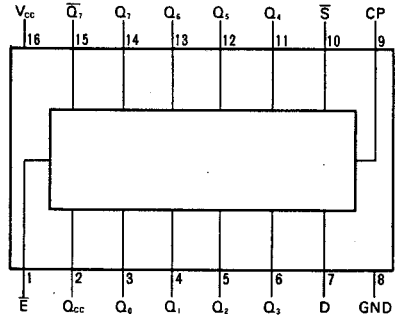


<DM2502>

TIME	INPUTS		OUTPUTS									
	D	S	D0	Q7	Q6	Q5	Q4	Q3	Q2	Q1	Q0	Qcc
0	x	L	x	x	x	x	x	x	x	x	x	x
1	D7	H	x	L	H	H	H	H	H	H	H	H
2	D6	H	D7	D7	L	H	H	H	H	H	H	H
3	D5	H	D6	D7	D6	L	H	H	H	H	H	H
4	D4	H	D5	D7	D6	D5	L	H	H	H	H	H
5	D3	H	D4	D7	D6	D5	D4	L	H	H	H	H
6	D2	H	D3	D7	D6	D5	D4	D3	L	H	H	H
7	D1	H	D2	D7	D6	D5	D4	D3	D2	L	H	H
8	D0	H	D1	D7	D6	D5	D4	D3	D2	D1	L	H
9	x	H	D0	D7	D6	D5	D4	D3	D2	D1	D0	L
10	x	x	x	D7	D6	D5	D4	D3	D2	D1	D0	L
	x	x	x	H	NC	NC	NC	NC	NC	NC	NC	NC

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

### •DM2503 (8 bit Shift Register)

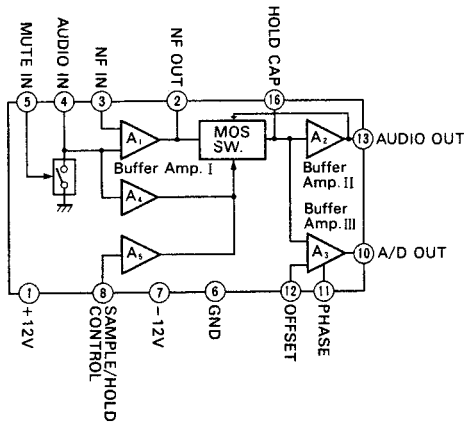


<DM2503>

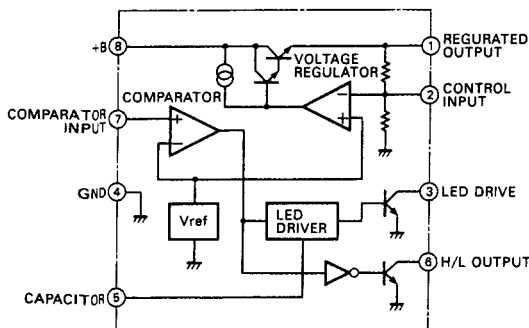
TIME	INPUTS			OUTPUTS								
	D	S	E	Q7	Q6	Q5	Q4	Q3	Q2	Q1	Q0	Qcc
0	x	L	L	x	x	x	x	x	x	x	x	x
1	D7	H	L	L	H	H	H	H	H	H	H	H
2	D6	H	L	D7	L	H	H	H	H	H	H	H
3	D5	H	L	D7	D6	L	H	H	H	H	H	H
4	D4	H	L	D7	D6	D5	L	H	H	H	H	H
5	D3	H	L	D7	D6	D5	D4	L	H	H	H	H
6	D2	H	L	D7	D6	D5	D4	D3	L	H	H	H
7	D1	H	L	D7	D6	D5	D4	D3	D2	L	H	H
8	D0	H	L	D7	D6	D5	D4	D3	D2	D1	L	H
9	x	H	L	D7	D6	D5	D4	D3	D2	D1	D0	L
10	x	x	L	D7	D6	D5	D4	D3	D2	D1	D0	L
	x	x	H	H	NC	NC	NC	NC	NC	NC	NC	NC

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

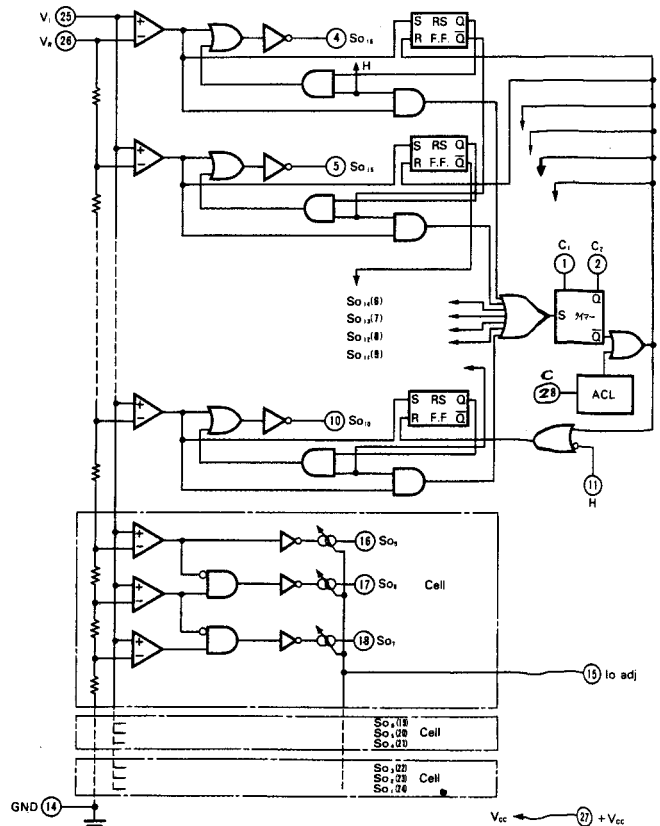
### •HA12053 (Sample & Hold)



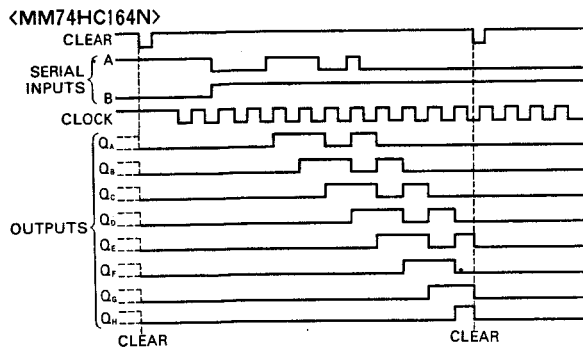
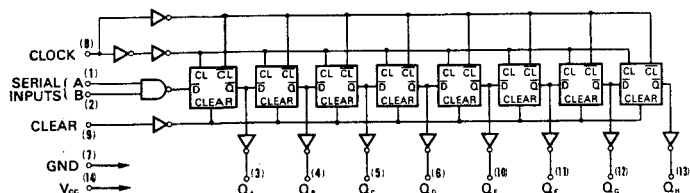
### •M5232L (LED Driver)



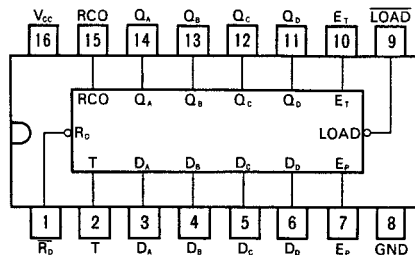
### •IR2E04 (Level Indicator Driver)



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



•M74LS161AP (Synchronous 4 bit Binary Counter)

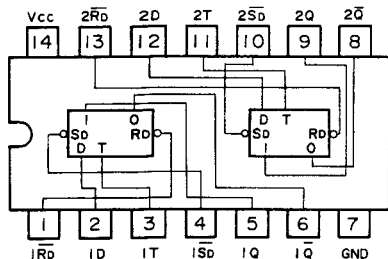


<M74LS161AP>

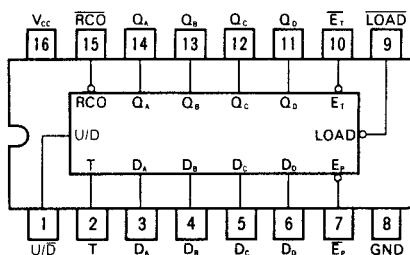
INPUTS				OUTPUTS					
R <sub>0</sub>	LOAD	E <sub>T</sub>	E <sub>P</sub>	T	Q <sub>A</sub>	Q <sub>B</sub>	Q <sub>C</sub>	Q <sub>D</sub>	RCO
L	X	X	X	X	L	L	L	L	L
H	L	L	X	↑	D <sub>A</sub>	D <sub>B</sub>	D <sub>C</sub>	D <sub>D</sub>	L
H	L	H	X	↑					*
H	H	H	H	↑	Count				*
H	H	L	X	X	Non-Count				L
H	H	H	L	X	Non-Count				*

↑ = Positive Edge Trigger  
X = Don't Care  
\* = Q<sub>A</sub>·Q<sub>B</sub>·Q<sub>C</sub>·Q<sub>D</sub>·E<sub>T</sub>

•M74LS74AP (Dual D-type Flip-Flop)



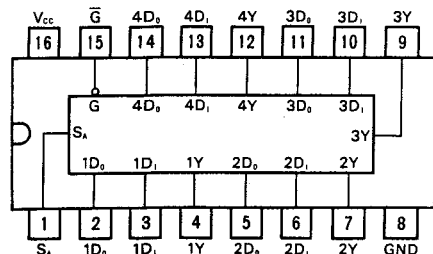
•M74LS669P (Synchronous 4 bit Binary Counter)



INPUTS				OUTPUTS					
LOAD	EP	ET	U/D	T	Q <sub>A</sub>	Q <sub>B</sub>	Q <sub>C</sub>	Q <sub>D</sub>	RCO
L	X	X	X	↑	D <sub>A</sub>	D <sub>B</sub>	D <sub>C</sub>	D <sub>D</sub>	H
H	L	L	H	↑	Count UP				*
H	L	L	L	↑	Count DOWN				*
H	H	X	X	X	Non-Count				H

↑ = Positive Edge Trigger  
X = Don't care  
\* Count UP RCO = Q<sub>A</sub>·Q<sub>B</sub>·Q<sub>C</sub>·Q<sub>D</sub>·(U/D)·E<sub>T</sub>  
Count DOWN RCO = Q<sub>A</sub>·Q<sub>B</sub>·Q<sub>C</sub>·Q<sub>D</sub>·(U/D)·E<sub>T</sub>

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

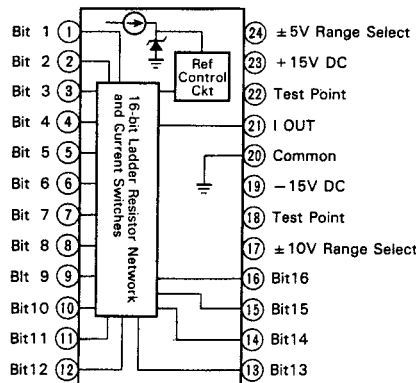


<M74LS157P>

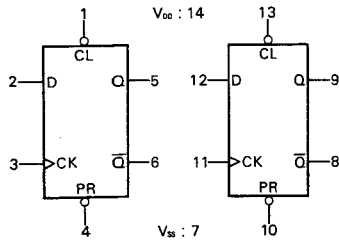
INPUTS				OUTPUT
G	S <sub>x</sub>	D <sub>0</sub>	D <sub>1</sub>	Y
H	X	X	X	L
L	L	L	X	L
L	L	H	X	H
L	H	X	L	L
L	H	X	H	H

X = Don't Care

•PCM51JG-I (D/A Converter)



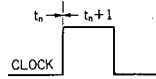
•TC40H074 (Dual D-type Flip-Flop)



D-MODE (\*1)

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

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

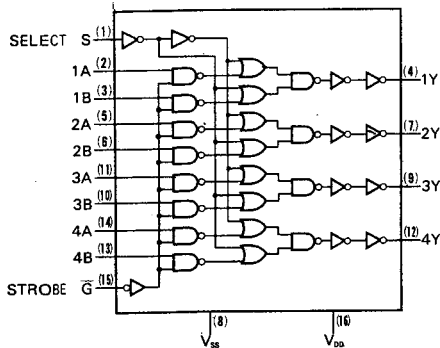


R-S MODE (\*2)

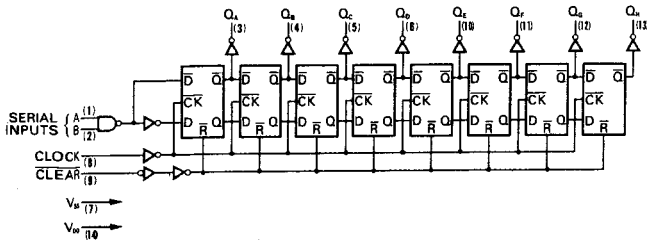
INPUTS		OUTPUTS	
CLEAR	PRESET	$\bar{Q}$	Q
H	L	L	H
L	H	H	L
L	L	H	H
H	H	D-MODE	

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

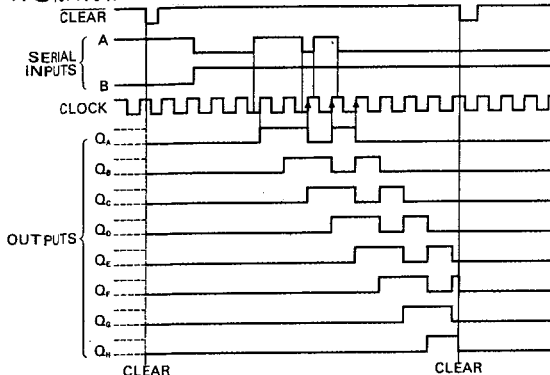
•TC40H157P (Quad 2 Input 1 Output Data Selector)



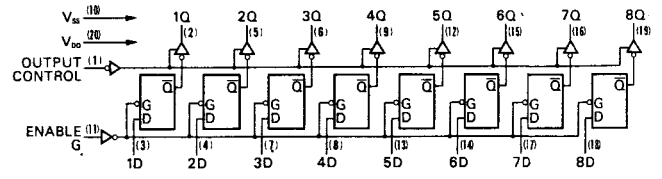
•TC40H164P (8 bit Serial Input Parallel Output Shift Register)



<TC40H164P>



•TC40H373P (Octad D-type Latch)

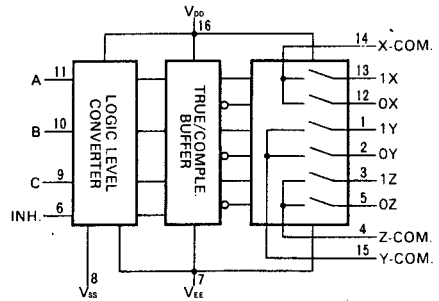


<TC40H373P>

INPUTS			OUTPUT
OUTPUT CONTROL	ENABLE G	DATA	Q
L	H	H	H
L	H	L	L
L	L	X	Q <sub>0</sub>
H	X	X	High impedance

X = Don't Care

•TC4053BP (Triple 2-CH Multiplexer)

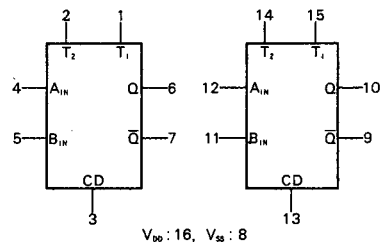


<TC4053BP>

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)

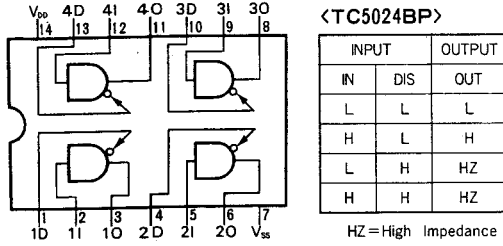


<TC4528BP>

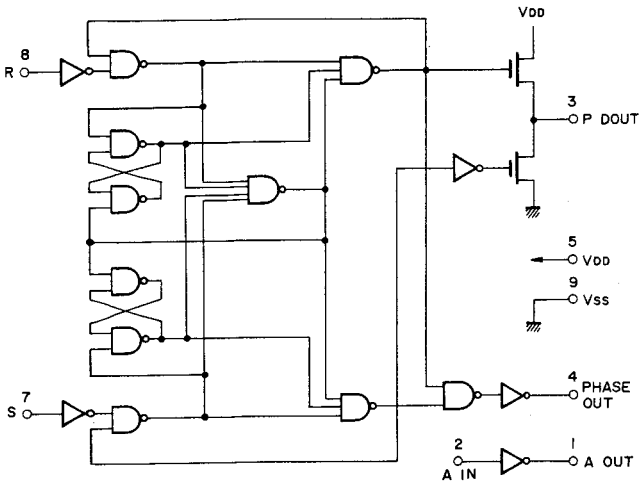
INPUT			OUTPUT		NOTE
A	B	CD	Q	$\bar{Q}$	
	H	H			OUTPUT PULSE
	L	H	L	H	INHIBIT
H		H	L	H	INHIBIT
L		H			OUTPUT PULSE
X	X	L	L	H	INHIBIT

X = Don't Care

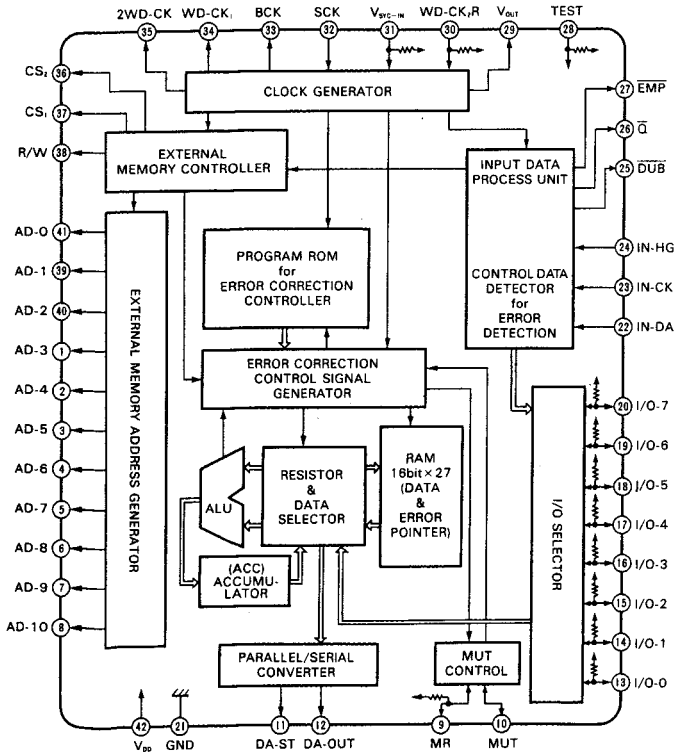
•TC5024BP (Quad BUS Buffer)



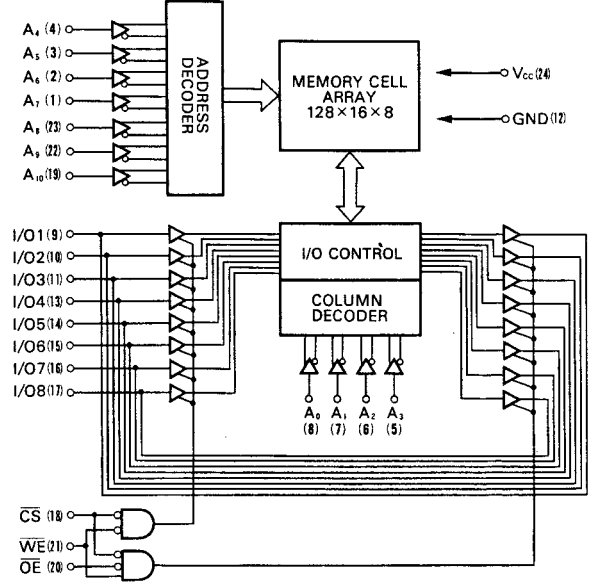
•TC5081P (PLL Phase Detector)



•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 applied 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			I/O	Master muting input/output terminal for muting control "L" level when internal abnormal detection 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 block 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 correction of data, identity signal, receiving contents from control key switch, internal status of LSI and etc.		

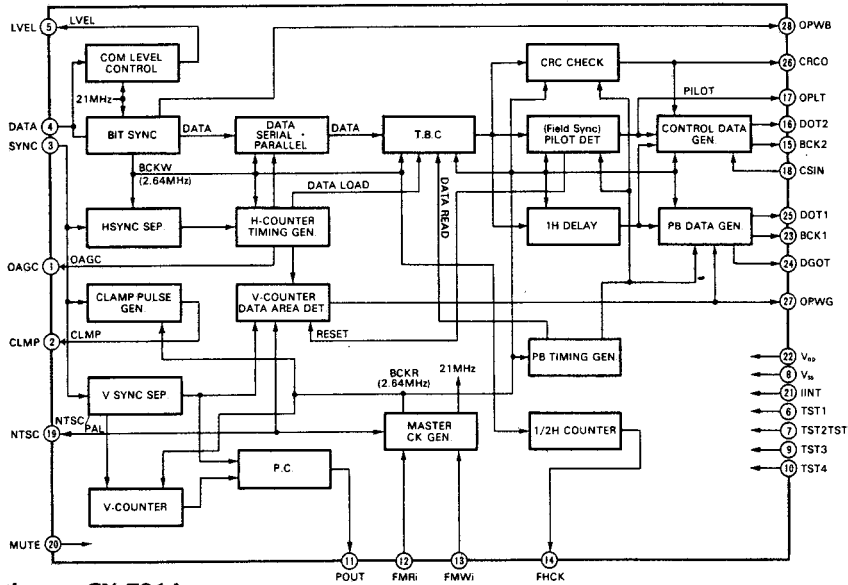


## ◆ Terminal Function &lt;TM4505P&gt;

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	I/O	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	I/O	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 ( $\approx 10$ 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)



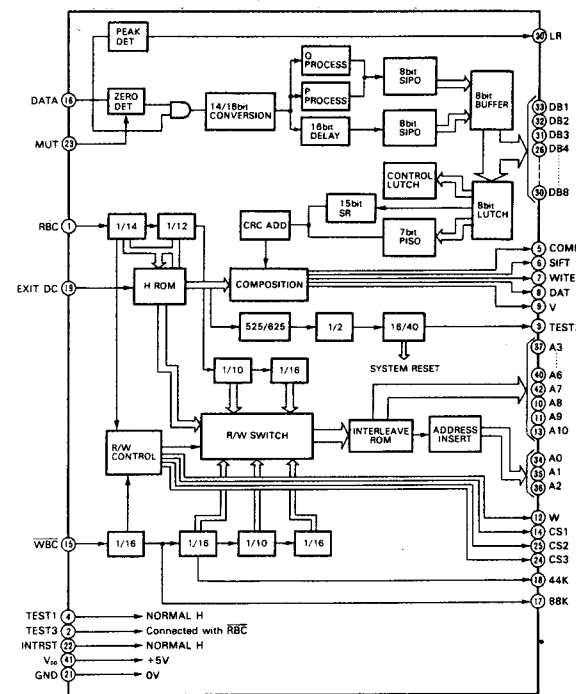
◆ Terminal Function <CX-7914>

Pin No.	Pin Name	I/O	Function	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.	14	FHCK	O	1/672 frequency output of WRITE PLL master clock
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.	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.
3	SYNC	I	Composite sync signal input terminal ("L" active) Input signal must be TTL level.	16	DOT2	O	Control data terminal 7 bits of control data are outputted at negative edge of CSIN signal.
4	DATA	I	PCM data input terminal ("H" active) Input signal must be TTL level.	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.
5	LEVEL	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.	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.
6	TST1	I	Test terminal Normally connected to "L" level.	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.
7	TST2	I	Test terminal Normally connected to "L" level.	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.)
8	VSS	-	(-) Power supply terminal	21	IINT	I	Test terminal Normally connected to "H" level.
9	TST3	I	Test terminal Normally connected to "L" level.	22	VDD	-	(+) power supply terminal
10	TST4	I	Test terminal Normally connected to "L" level.	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.
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.				

◆ Terminal Function <CX-7914>

Pin No.	Pin Name	I/O	Function
24	DGOT	O	Control signal output terminal Control signal which specifies serial data period, is outputted from this terminal.
25	DOT1	O	Serial data output terminal This terminal outputs serial data (128 bits) separated from video signal. This data is delayed 1H from input data.
26	CRCO	O	Error signal output terminal This terminal outputs "H" pulse of 128 bits width when error data is inputted.

◆ μPD785C (PCM Encoding Processor)



◆ Terminal Function <μPD785C>

Pin No.	Pin Name	I/O	Function
1	RBC	I	Master clock input terminal This clock pulse (2.6 MHz) is used when reading data from RAM. To this terminal, divided signal of 21 MHz/8 is inputted.
2	TEST3	I	Test terminal Normally this terminal is connected to RBC terminal.
3	TEST2	O	Test terminal Normally this terminal outputs system reset pulse. In NTSC system, 1 pulse every 16 frames. In PAL system, 1 pulse every 40 frames.
4	TEST1	I	Test terminal Normally kept in "H" level.
5	COMP	O	Composite pulse (Television sync signal) output terminal
6	SIFT	O	Shift pulse output terminal This pulse is used for separation between Zero level and Pedestal level. (133 bits)
7	WITE	O	White pulse output terminal This pulse is used to generate white level at the end of horizontal scanning period. (4 bits)

Pin No.	Pin Name	I/O	Function
27	OPWG	(I)/O	Gate signal output terminal This terminal outputs "H" level gate signal during data block period. Also this terminal is used as input terminal for measurement.
28	OPWB	O	Clock signal output terminal This signal is used for selection of input data.

Pin No.	Pin Name	I/O	Function
8	DAT	O	Data output terminal Data applied to DATA terminal is outputted from this terminal after interleave of the data and addition of difuseness bit.
9	V	O	Vertical sync signal output terminal
10	A8	O	RAM address output terminal
11	A9	O	RAM address output terminal
12	W	O	Write pulse output terminal Write pulse is applied when writing data to RAM. This terminal is connected to $\overline{WE}$ terminal of RAM.
13	A10	O	RAM address output terminal
14	CSI	O	Chip select signal output terminal
15	WBC	I	Master clock input terminal This clock pulse (1.4 MHz) is used when writing data to RAM. To this terminal, divided signal of 21 MHz/15 is inputted.
16	DATA	I	Data input terminal Data is applied to this terminal by positive edge trigger of WBC signal.
17	88K	O	$\overline{WBC}/16$ signal output terminal
18	44K	O	88K/2 signal output terminal This signal specifies L-ch and R-ch data. "H" level when R-ch data is outputted. "L" level when L-ch data is outputted.
19	EXITDC	I	Emphasis control signal input terminal "L" level when emphasis is ON. "H" level when emphasis is OFF.
20	LR	O	Peak level output terminal "L" level when peak level is detected.
21	GND	-	0V terminal
22	INTRST	I	Test terminal Normally kept "H" level.
23	MUT	I	Recording mute control signal input terminal Muting is performed when "L" level is inputted.
24	CS3	O	Timing signal output terminal for reading codes of tape copy prohibition and changing scanning line to 625. "L" level pulse is outputted once in 1 field.
25	CS2	O	Timing signal output terminal for reading codes of address signal and contents discrimination signal. "L" level pulse is outputted 9 times in 1 field.

◆ Terminal Function <μPD785C>

Pin No.	Pin Name	I/O	Function
26	DB4	I/O	Data bus terminals
30	DB8		DB8: Emphasis ON/OFF
31	DB3		DB7: 14/16 bit select
32	DB2		DB6: 525/625 line select
33	DB1		DB5: Tape copy prohibition DB2: Reset when power is applied.

Pin No.	Pin Name	I/O	Function
34	A0	O	RAM address terminals
40	A6		
41	VDD	-	+5V terminal
42	A7	O	RAM address terminal

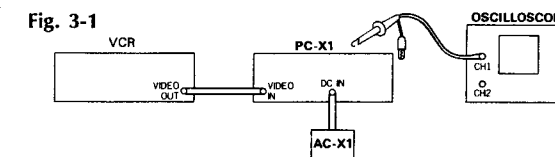
3. ADJUSTMENT

◆ Required test equipments

1. Video cassette recorder (VCR)
2. Video cassette tape on which PCM signal is recorded by the above VCR. (In following description, it is called as the test tape.)
3. Extra PC-X1 which is completely adjusted.
4. Dual channel oscilloscope
5. Reguated DC power supply
6. General audio test equipments

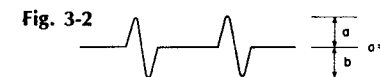
3-1. Play Back Adjustment (Refer to Fig. 3-6)

- Condition:
1. RECORD/PLAY ..... PLAY
  2. COPY ..... OFF
  3. METER ..... TRACK/BATT
  4. MUTING ..... ON
  5. INPUT ..... LINE
  6. TV/PROCESSOR ..... PROCESSOR
  7. READ LEVEL ..... Center position
  8. Connect the test equipments as Fig. 3-1.
  9. Adjust TRACKING control of the VCR for optimum tracking position.
  10. If the VCR features PICTURE SHARPNESS control, adjust it for optimum PCM play back.



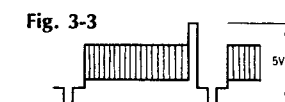
A. PLL adjustment

1. For NTSC system
  - 1) Turn oS1 to NTSC position.
  - 2) Connect CH1 probe of the oscilloscope to TP1. And play back the test tape.
  - 3) Adjust wL1 to obtain 50% duty ratio (equal widths of positive and negative pulses) of the pulse wave.
2. For PAL/SECAM system
  - 1) Turn oS1 to PAL/SECAM position and COLOR-B/W selector switch of the VCR to B/W position.
  - 2) Connect CH1 probe to TP6. And play back the test tape.
  - 3) Adjust wL2 to where DC level is positioned at the center of the wave form as Fig. 3-2.



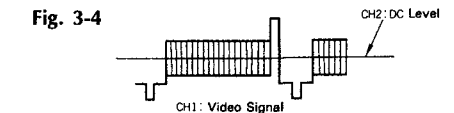
B. AGC level adjustment

- 1) Connect CH1 probe to TP3. And play back the test tape.
- 2) Adjust wVR1 to obtain 5Vp-p video signal as Fig. 3-3.



C. Slice level adjustment

- 1) Turn CH1 and CH2 INPUT SELECTORS of the oscilloscope to GND position.
- 2) Adjust both V-POSITIONs to meet both sweep lines at the center of the scope.
- 3) Return the INPUT SELECTORS to DC position. And set both INPUT SENSITIVITY switches to 1V/cm position.  
**Note:** If 10:1 probe is used, INPUT SENSITIVITY must be 0.1V/cm.
- 4) Connect CH1 probe to TP3 and CH2 probe to TP4.
- 5) Play back the test tape. Then adjust wVR4 to where DC level of the CH2 is positioned at the center of the data portion of the CH1 video signal as Fig. 3-4.



D. Clear level adjustment

- 1) Connect CH1 probe to TP3 and CH2 probe to pin No. 18 of wIC3 (Q-0011 Tricode IC).
- 2) Play back the test tape. And adjust wVR2 to meet the phases of video signal and of data signal as Fig. 3-5.

E. TRACKING indicator level adjustment

- 1) Play back the test tape.
- 2) Adjust wVR3 to light the +5 dB LED.

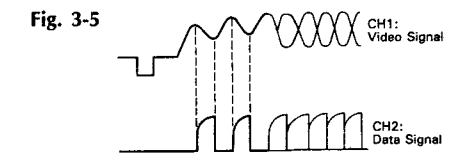
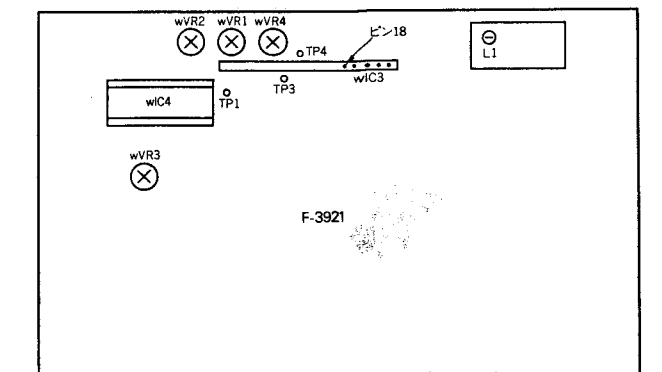


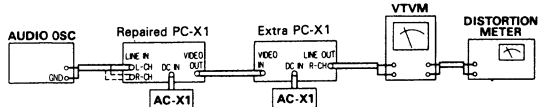
Fig. 3-6



**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 jIC4 (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.

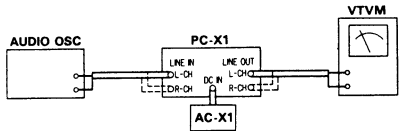
**C. Distortion level adjustment**

- 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

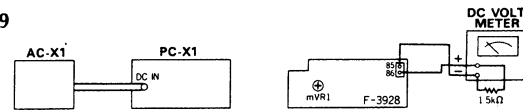


- 1) Feed 1 kHz signal from the audio oscillator to LINE IN left (right) channel.
- 2) Adjust output control of the audio oscillator to apply 250 mV output signal from LINE OUT left (right) channel.
- 3) Adjust jVR3L (jVR3R) to light the 0 dB LED.

**3-4. Charge Level Adjustment**

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

Fig. 3-9



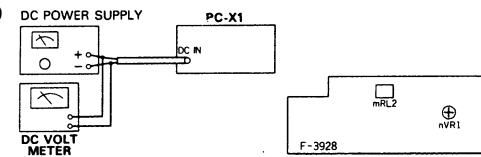
- 1) Turn the POWER switch of the PC-X1 to OFF, and the POWER switch of the AC-X1 to ON.
- 2) Adjust mVR1 to obtain 14.3V between connector pin No. 85 and 86 (Batter terminals).

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

**3-5. Shut Off Level Adjustment**

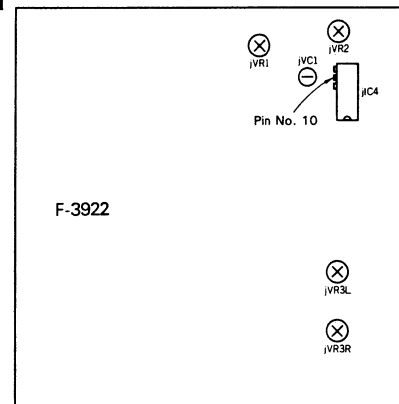
Condition: Connect the test equipments as Fig. 3-10.

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 ± 0.5V by decreasing the output voltage of the DC power supply.

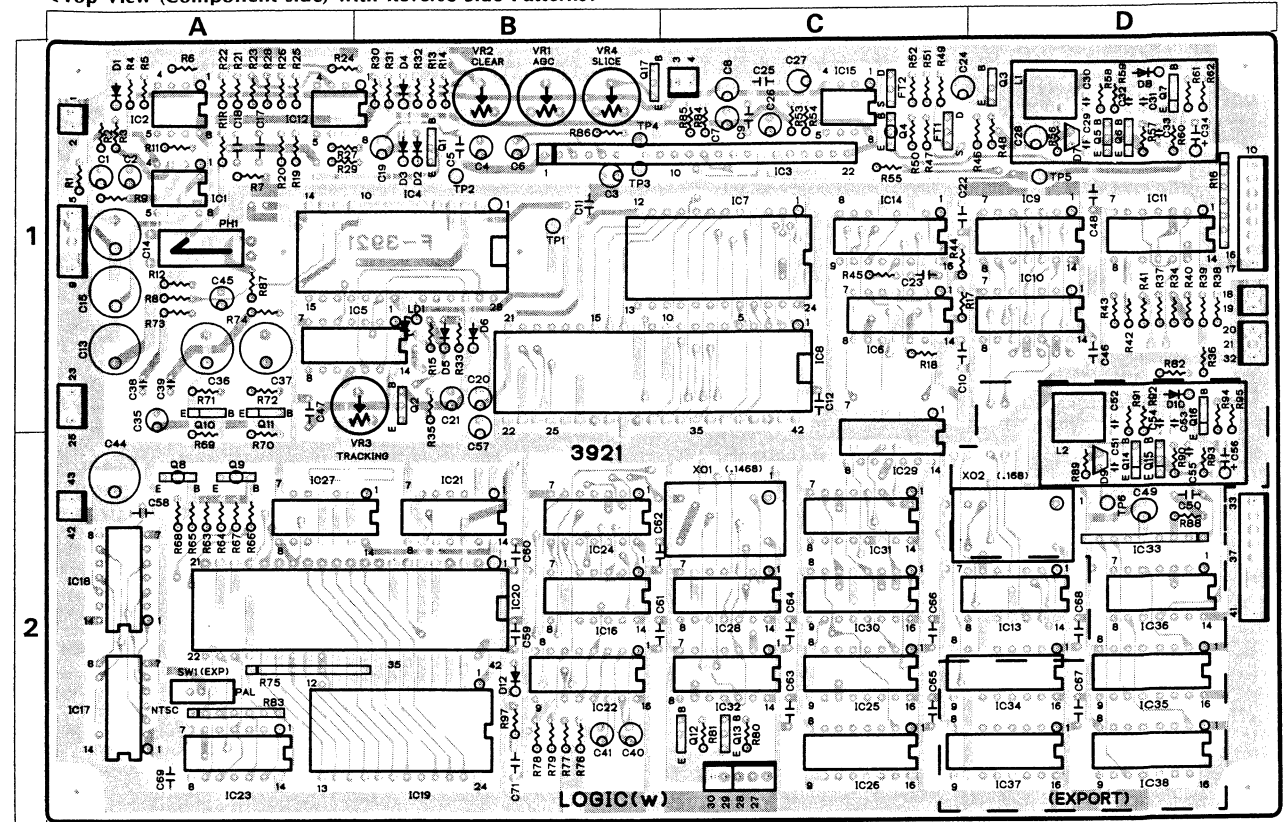
Fig. 3-11



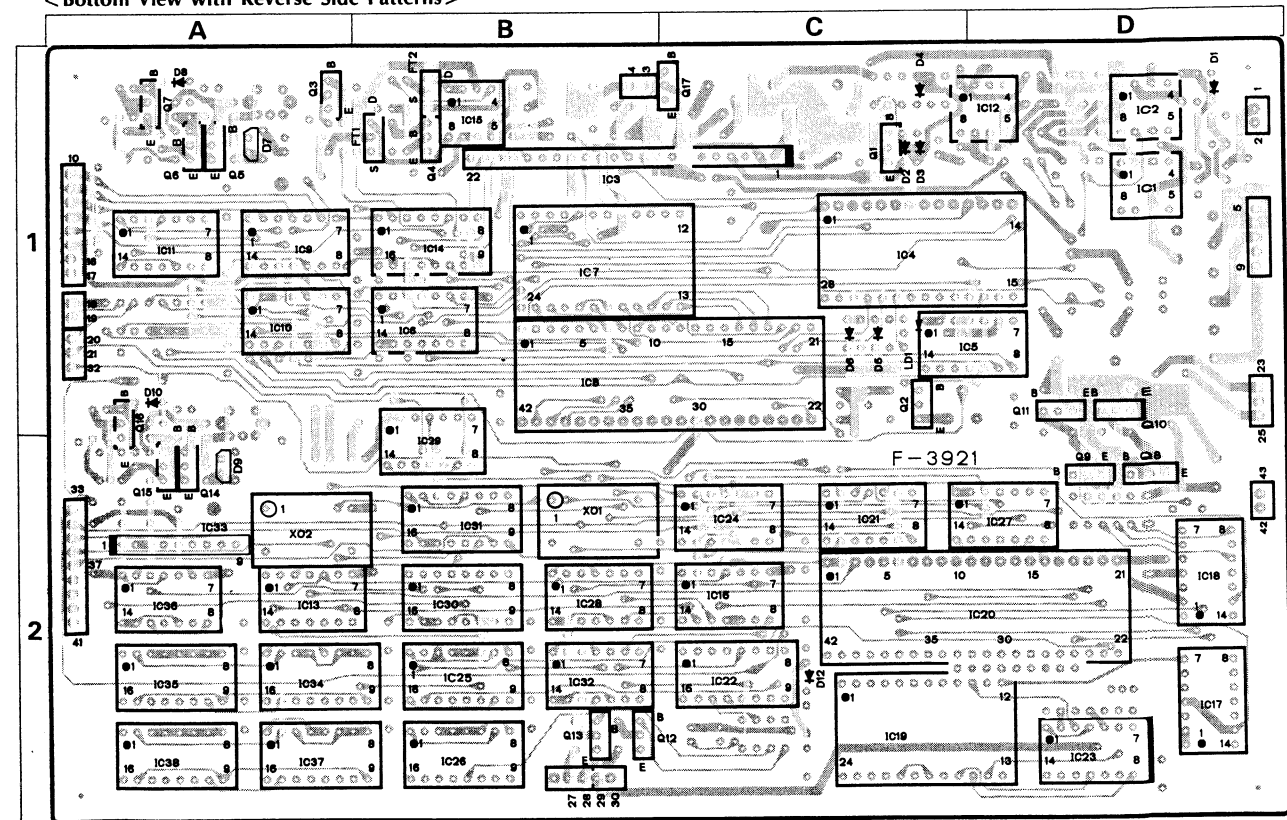
**4. PARTS LOCATION & PARTS LIST**

**4-1. F-3921 PCM Decoder Board (Stock No. 00755101)**

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



< Bottom View with Reverse Side Patterns >

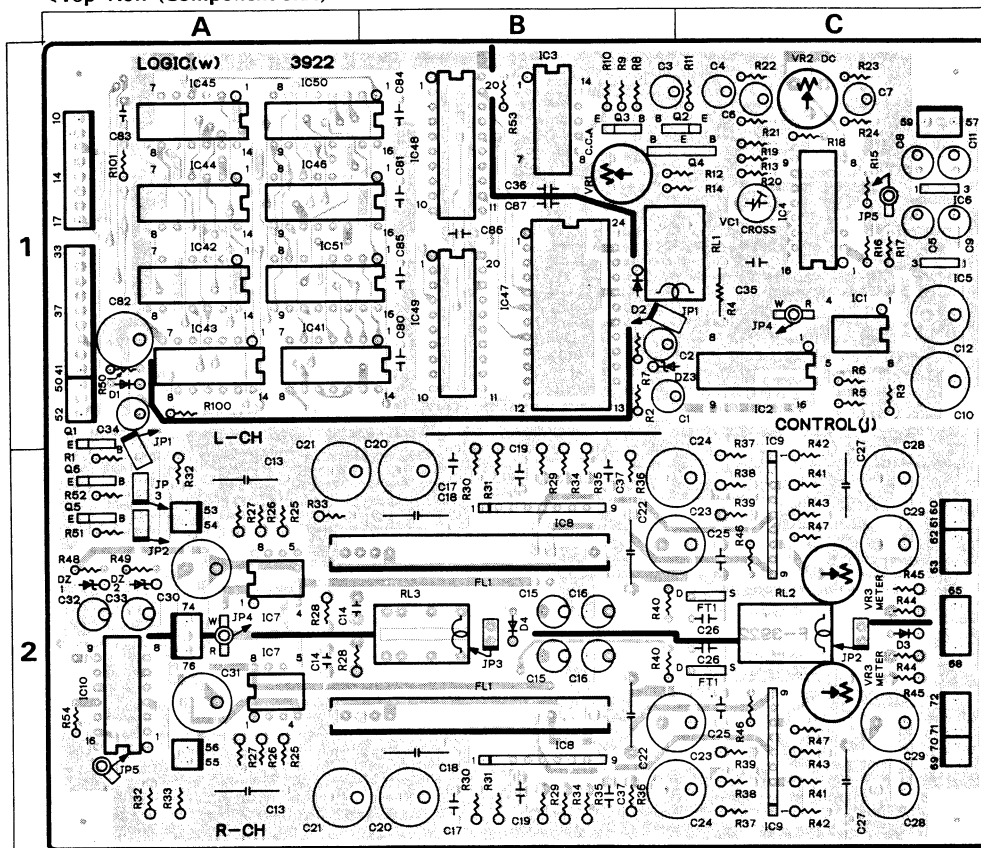


## Parts List

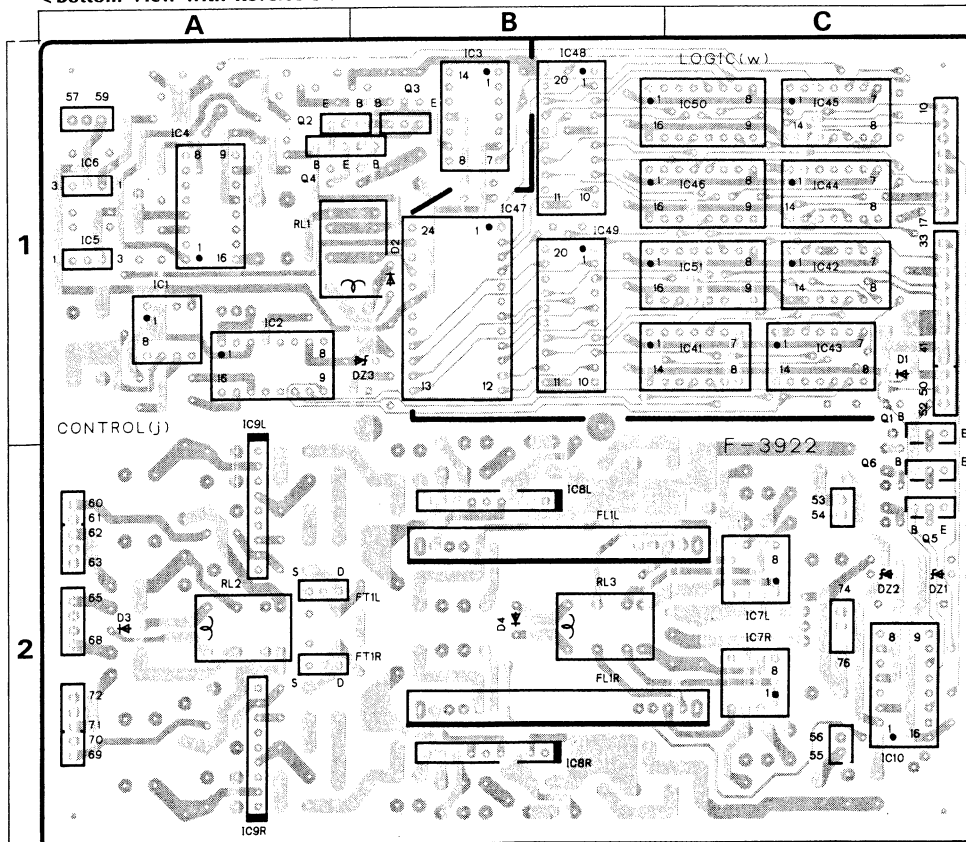
Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
oS1	46637100	Slide SW., NTSC/PAL	•Diode		
•Transistor			wD1	03111600	1S2473
wQ1	46078801	2SC2458	wD2	03111600	1S2473
wQ2	46078801	2SC2458	wD3	03111600	1S2473
wQ3	46078801	2SC2458	wD4	03111600	1S2473
wQ4	46078701	2SA1048	wD5	03111600	1S2473
wQ5	46614501	2SC3078M	wD6	03401700	Varistor MV103
wQ6	46614501	2SC3078M	wD7	46546400	Varactor SVC-201SP
wQ7	46614501	2SC3078M	wD8	03111600	1S2473
wQ8	46078701	2SA1048	wD9	46546400	Varactor SVC-201SP
wQ9	46078701	2SA1048	wD10	03111600	1S2473
wQ10	46614501	2SC3078M	wD12	03111600	1S2473
wQ11	46614501	2SC3078M	wPH1	09201100	Photo Coupler P873-G35-552
wQ12	46078801	2SC2458	wLD1	46095200	LED TLR123, Error Indicator
wQ13	46078801	2SC2458	wR16	46344400	1k $\Omega$ $\times$ 6 1/8W A.R.
wQ14	46614501	2SC3078M	wR75	46349300	10k $\Omega$ $\times$ 8 1/8W A.R.
wQ15	46614501	2SC3078M	wR83	46345600	10k $\Omega$ $\times$ 6 1/8W A.R.
wQ16	46614501	2SC3078M	wC1	46276800	4.7 $\mu$ F 50V E.C.
wQ17	46078801	2SC2458	wC2	46276800	4.7 $\mu$ F 50V E.C.
•FET			wC3	46276200	0.22 $\mu$ F 50V E.C.
wFT1	03703401 or 03703402 or 03703403	2SK163-K2 2SK163-L1 2SK163-L2	wC4	46275700	22 $\mu$ F 16V E.C.
wFT2	03703405	2SK163-M2	wC6	46275700	22 $\mu$ F 16V E.C.
•IC			wC7	46275700	22 $\mu$ F 16V E.C.
wIC1	46427600	LF-357N	wC8	46275700	22 $\mu$ F 16V E.C.
wIC2	46436800	$\mu$ PC311C	wC20	46276200	0.22 $\mu$ F 50V E.C.
wIC3	46543100	Q-0011	wC21	46276600	2.2 $\mu$ F 50V E.C.
wIC4	46427700	CX-7914	wC24	46276500	1 $\mu$ F 50V E.C.
wIC5	46428700	TC40H000P	wC26	46275500	0.68 $\mu$ F 50V E.C.
wIC6	46613500	MM74HC86N	wC27	46276300	0.33 $\mu$ F 50V E.C.
wIC7	46436900	TMM-2016P	wC28	46276800	4.7 $\mu$ F 50V E.C.
wIC8	46437100	TM4505P	wC34	46638800	3.3 $\mu$ F 16V Ta.C.
wIC9	46545300	M74LS05P	wC35	46275900	47 $\mu$ F 16V E.C.
wIC10	46545300	M74LS05P	wC40	46276500	1 $\mu$ F 50V E.C.
wIC11	46429200	TC40H074P	wC41	46276500	1 $\mu$ F 50V E.C.
wIC12	07208900	NJM4558D-X	wC45	46276600	2.2 $\mu$ F 50V E.C.
wIC13	46636600	M74LS08P	wC49	46275900	47 $\mu$ F 16V E.C.
wIC14	03612900	TC4528BP	wC56	46638800	3.3 $\mu$ F 16V Ta.C.
wIC15	07208900	NJM4558D-X	wC57	46276600	2.2 $\mu$ F 50V E.C.
wIC16	46429000	TC40H008P	wX01	46546300	Crystal Element 21.1468MHz
wIC17	46545400	M74LS27P	wX02	46547600	Crystal Element 21.168MHz
wIC18	46545300	M74LS05P	wL1	46541700	PCM VCO Coil
wIC19	46436900	TMM-2016P	wL2	46541700	PCM VCO Coil
wIC20	46427800	$\mu$ PD785C	wVR1	10343300	100k $\Omega$ (B) S.V.R., AGC Level Adj.
wIC21	46428900	TC40H004P	wVR2	10342500	4.7k $\Omega$ (B) Clear Level Adj.
wIC22	03612900	TC4528BP	wVR3	10342500	4.7k $\Omega$ (B) S.V.R., Tracking Indicator Level Adj.
wIC23	46545900	TC5024BP	wVR4	10342700	100k $\Omega$ (B) S.V.R., Slice Level Adj.
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			

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

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

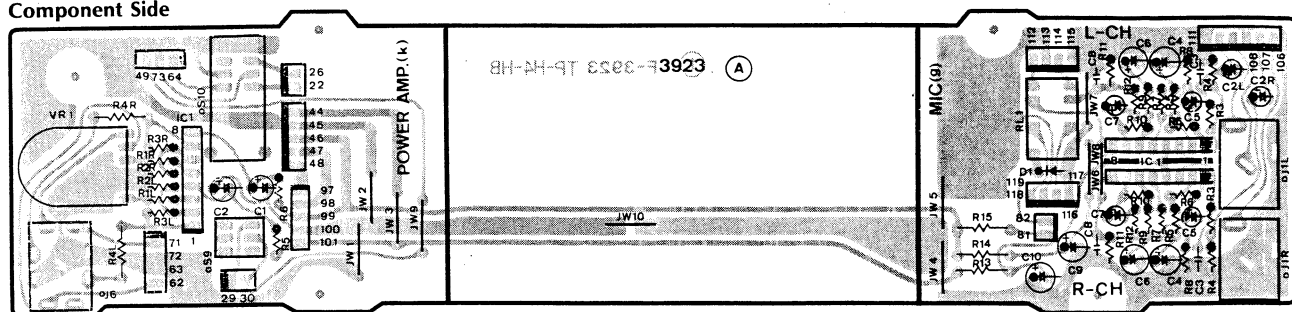


< Bottom View with Reverse Side Patterns >



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

Component Side



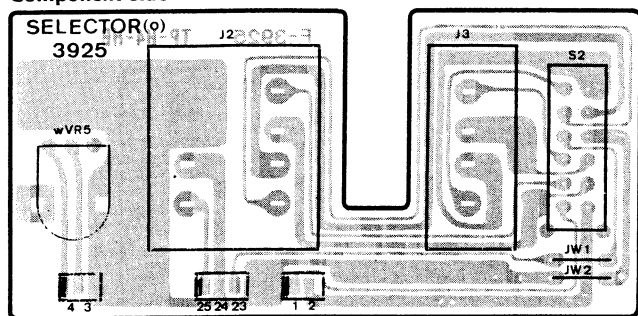
Parts List

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

Parts No.	Stock No.	Description
•IC		
kIC1	46579100	M5219L
kC1	46275900	47 $\mu$ F 16V E.C.
kC2	46275900	47 $\mu$ F 16V E.C.
kVR1	46631500	50k $\Omega$ (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

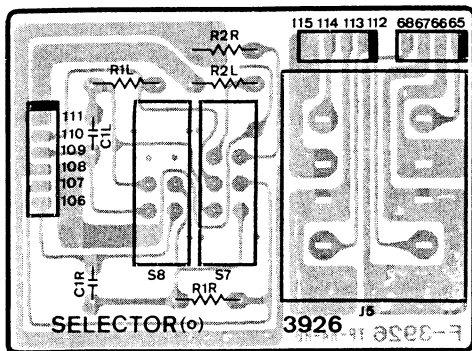


Parts List

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 $\Omega$ (B) V.R., READ LEVEL

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

Component Side

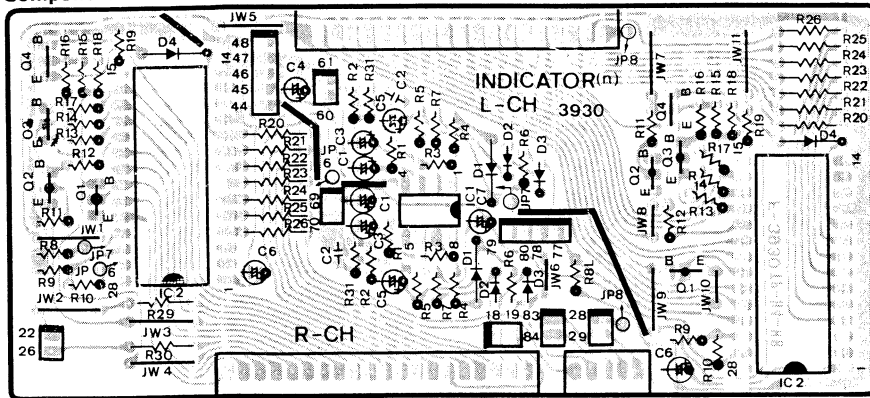


Parts List

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

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

Component Side



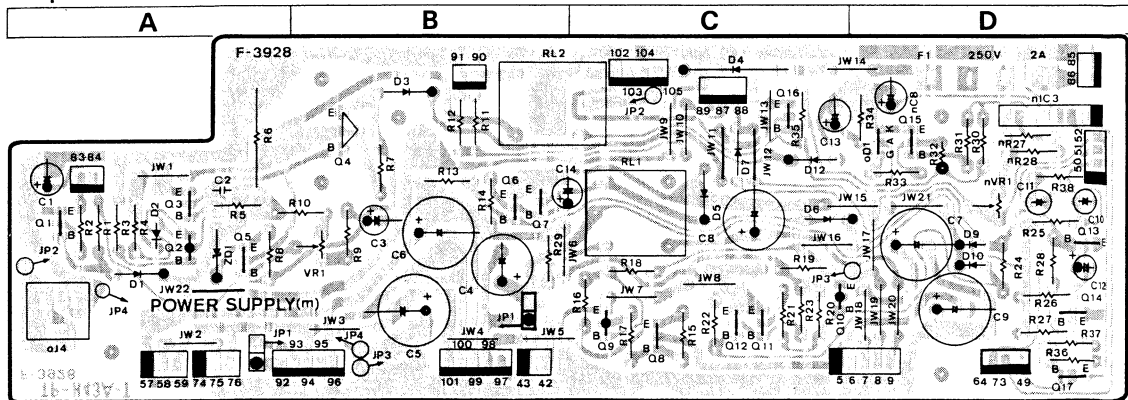
Parts List

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
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**5. SCHEMATIC DIAGRAM**

5-1. PC-X1

1
2
3
4
5

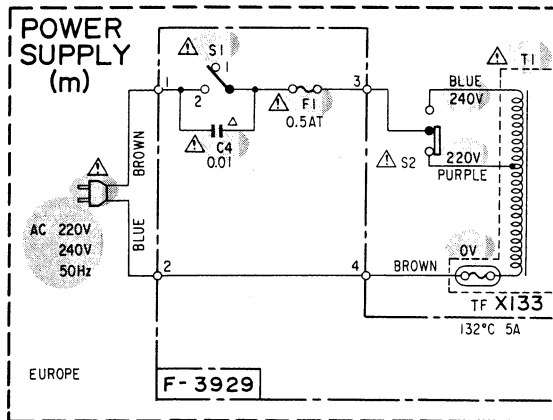
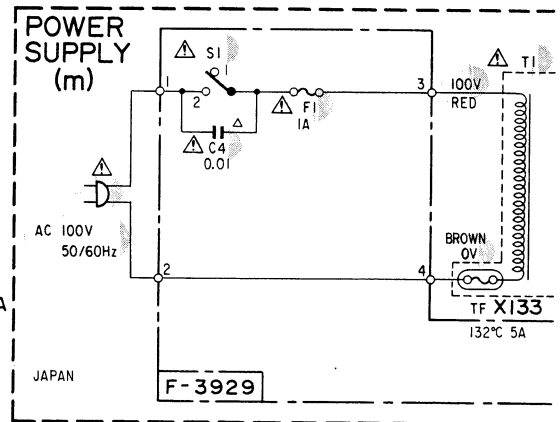
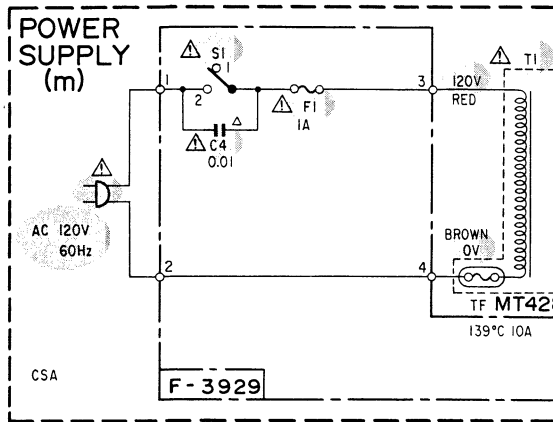
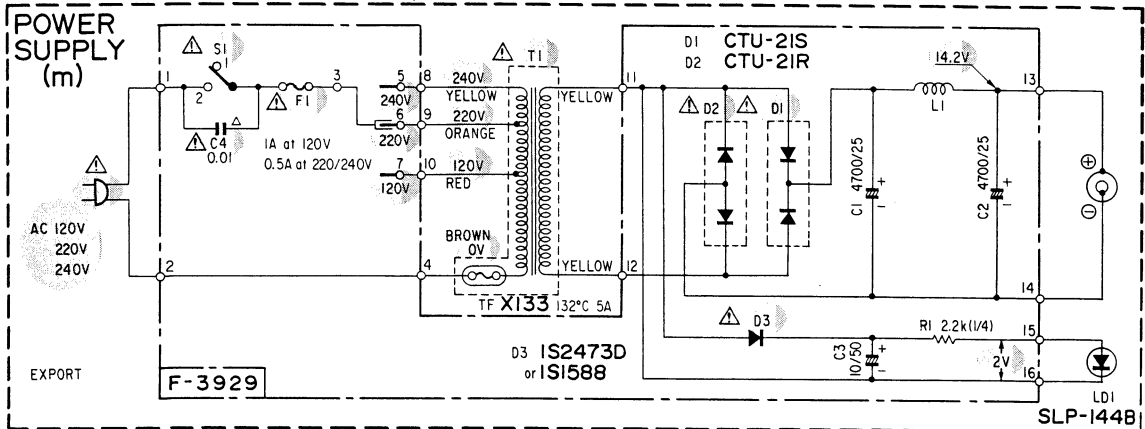
A


B

C

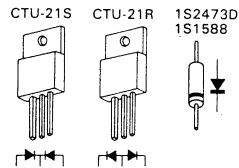
D

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.

1

2

3

4

5

## Parts List

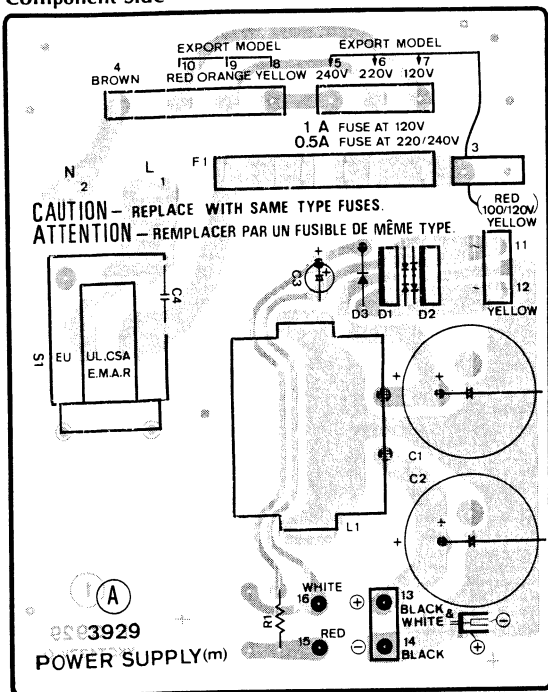
Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
<b>•Transistor</b>			jC10	46627900	47 $\mu$ F 50V E.C.
jQ1	46614600	DTC124F	jC12	46627900	47 $\mu$ F 50V E.C.
jQ2	46614501	2SC3078M	jC13	46222800	0.22 $\mu$ F 100V F.C.
jQ3	46614501	2SC3078M	jC18	46643200	0.01 $\mu$ F 50V F.C.
jQ4	03064901	2SC1583	jC19	46642900	1500pF 125V P.C.
jQ5	46614600	DTC124F	jC20	46627900	47 $\mu$ F 50V E.C.
jQ6	46614600	DTC124F	jC21	46627900	47 $\mu$ F 50V E.C.
<b>•FET</b>			jC22	46643200	0.01 $\mu$ F 50V E.C.
jFT1	03703405	2SK163-M2	jC23	46627900	47 $\mu$ F 50V E.C.
<b>•IC</b>			jC24	46627900	47 $\mu$ F 50V E.C.
jFL1	46546200	F-100A	jC25	46642900	1500pF 125V P.C.
jC1	46545000	LF-356	jC26	46643200	0.01 $\mu$ F 50V F.C.
jC2	46545800	TC4053BP	jC27	46643200	0.01 $\mu$ F 50V F.C.
jC3	46544800	$\mu$ PC319C	jC28	46627900	47 $\mu$ F 50V E.C.
jC4	46545200	HA12053	jC29	46627900	47 $\mu$ F 50V E.C.
jC5	46614700	NJM78L12	jC30	46628100	100 $\mu$ F 50V E.C.
jC6	46544400	NJM79L12A	jC31	46628100	100 $\mu$ F 50V E.C.
jC7	46544900	LF-353N	jVC1	46162800	20pF Trimmer Capacitor, Channel Separation Adj.
jC8	46613900	NJM072S	jVR1	10342900	22k $\Omega$ (B) S.V.R., THD Adj.
jC9	46613900	NJM072S	jVR2	10342900	22k $\Omega$ (B) S.V.R., Dynamic Range Adj.
jC10	46545800	TC4053BP	jVR3	10351700	47k $\Omega$ (B) S.V.R., Level Indicator Adj.
<b>•Diode</b>			jRL1	46630700	Relay
jD1	03111600	1S2473	jRL2	46630700	Relay
jD2	03111600	1S2473	jRL3	46630700	Relay
jD3	03111600	1S2473	<b>•IC</b>		
jD4	03111600	1S2473	wIC41	46429000	TC40H008P
<b>•Zener Diode</b>			wIC42	46428700	TC40H000P
jDZ1	46101000	05Z 5.1-Y	wIC43	46429300	TC40H164P
jDZ2	46101000	05Z 5.1-Y	wIC44	46429000	TC40H008P
jDZ3	46101000	05Z 5.1-Y	wIC45	46613500	MM74HC86N
jDZ4	46101600	05Z 6.2-Y	wIC46	46613700	TC40H157P
jR3	46018400	3.9k $\Omega$ 1/2W C.R.	wIC47	46436500	PCM51JG-I
jR4	46017000	1k $\Omega$ 1/2W C.R.	wIC48	46546000	TC40H373P
jR5	46018200	3.3k $\Omega$ 1/2W C.R.	wIC49	46546000	TC40H373P
jR6	46018200	3.3k $\Omega$ 1/2W C.R.	wIC50	46436700	DM-2502CN
jR25	46458300	470k $\Omega$ 1/2W C.R.	wIC51	46436600	DM-2503CN
jR26	46454200	9.1k $\Omega$ 1/2W C.R.			
jR27	46454300	10k $\Omega$ 1/2W C.R.			
jR28	46019400	10k $\Omega$ 1/2W C.R.			
jR29	46454300	10k $\Omega$ 1/2W C.R.			
jR30	46455100	22k $\Omega$ 1/2W C.R.			
jR31	46452100	1.2k $\Omega$ 1/2W C.R.			
jR32	46017800	2.2k $\Omega$ 1/2W C.R.			
jR33	46454300	10k $\Omega$ 1/2W C.R.			
jR34	46455400	30k $\Omega$ 1/2W C.R.			
jR35	46454300	10k $\Omega$ 1/2W C.R.			
jR36	46456700	100k $\Omega$ 1/2W C.R.			
jR37	46455100	22k $\Omega$ 1/2W C.R.			
jR38	46452100	1.2k $\Omega$ 1/2W C.R.			
jR39	46454300	10k $\Omega$ 1/2W C.R.			
jR41	46018600	4.7k $\Omega$ 1/2W C.R.			
jR42	46018600	4.7k $\Omega$ 1/2W C.R.			
jR43	46020400	27k $\Omega$ 1/2W C.R.			
jR44	46451500	680 $\Omega$ 1/2W C.R.			
jR45	46451500	680 $\Omega$ 1/2W C.R.			

**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

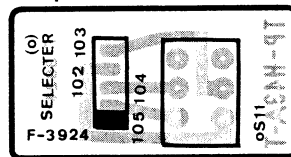
**4-8. F-3929 AC-X1 Power Supply Circuit Board**  
Component Side



**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**

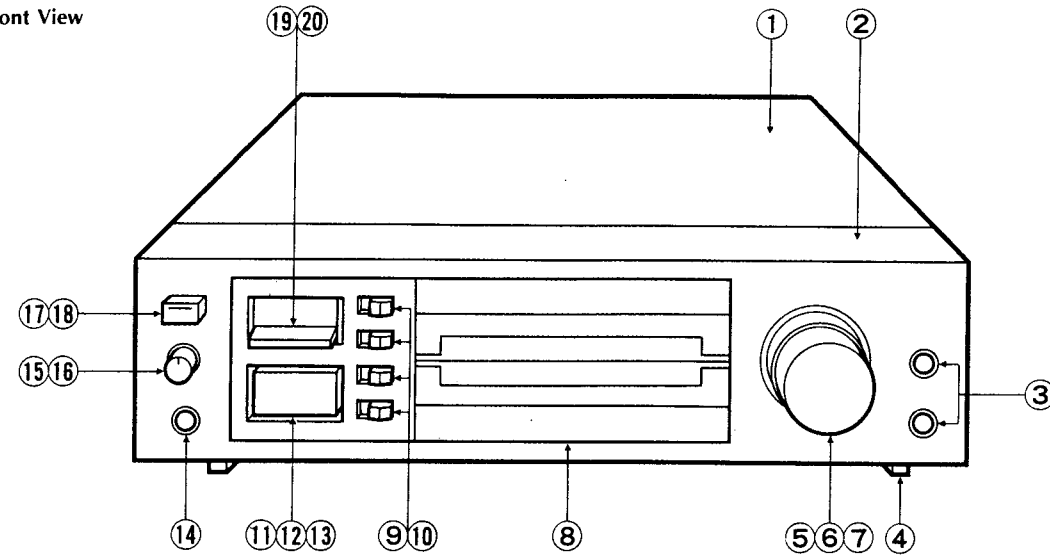
**Parts List**

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

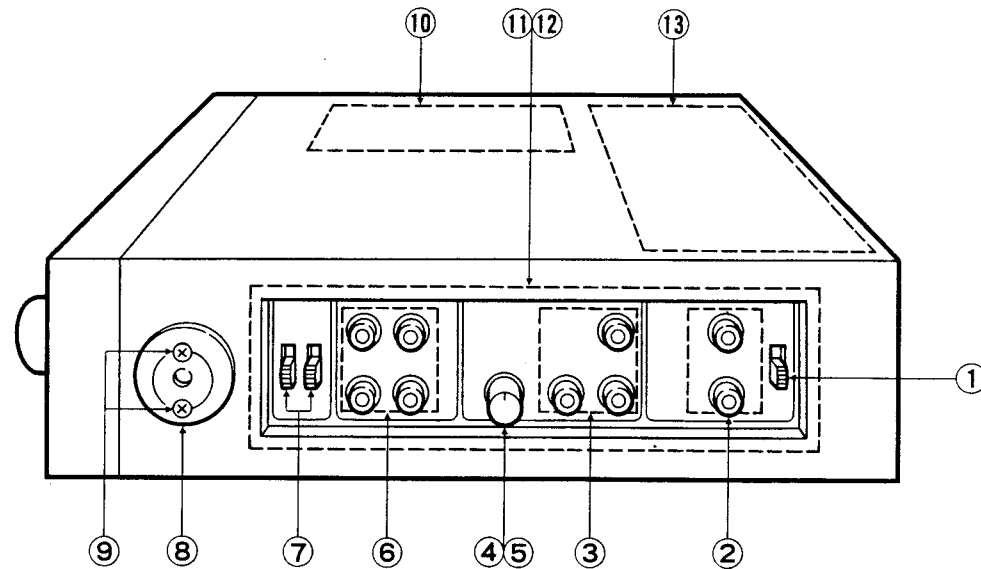
A. Front View



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	50kΩ(A) × 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	50kΩ(A) × 2 V.R., PHONES
17	47223300	Knob, POWER
18	46705100	Push SW., POWER
19	47223000	Knob, RECORD/PLAY
20	46631100	Lever SW., RECORD/PLAY

B. Side View



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	500Ω(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 × 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

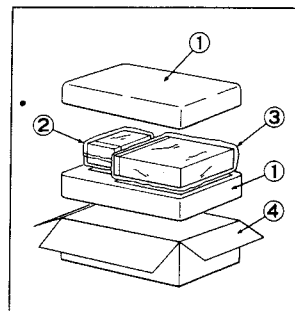
### 6-2. AC-X1

Parts List

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

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



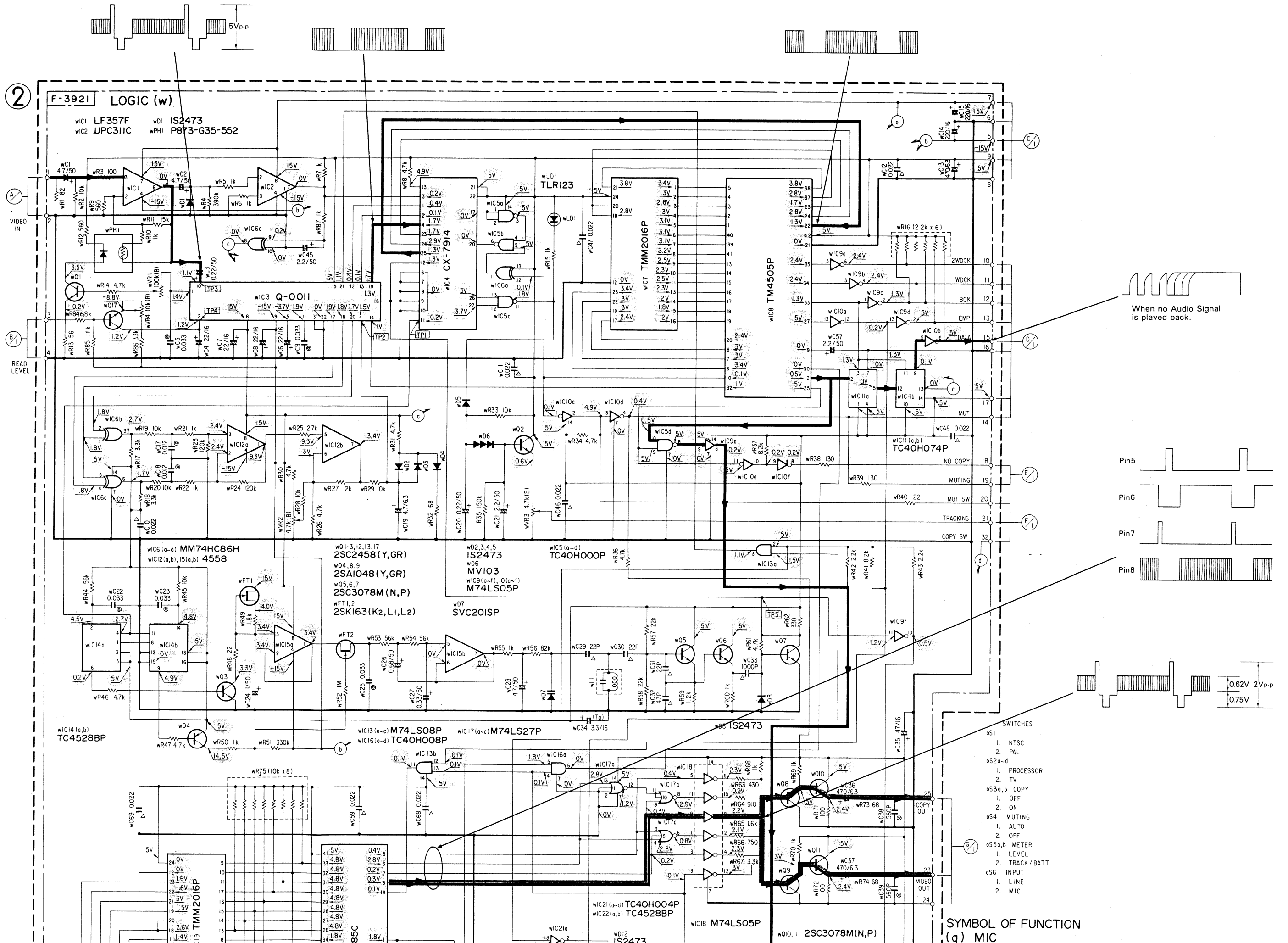
8. ACCESSORY LIST

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

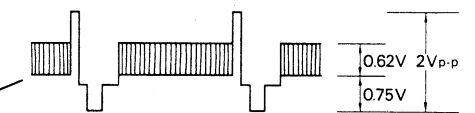
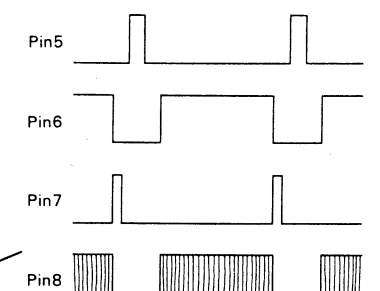


SANSUI ELECTRIC CO., LTD. 14-1, Izumi 2-chome, Suginami-ku, Tokyo 168 Japan  
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 SANSUI ELECTRONICS CORPORATION 1250 Valley Brook Ave., Lyndhurst, N.J. 07071 U.S.A.  
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 3036 Koapaka St., Honolulu, Hawaii 96819 U.S.A.  
 SANSUI ELECTRONICS (U.K.) LTD. Unit 10A, Lyon Industrial Estate, Rockware Avenue, Greenford, Middx UB8 0AA, England  
 SANSUI ELECTRONICS G.M.B.H. Paul Ehrlich Strasse 8, 6074 Röddermark 2, West Germany

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 改良のため、予告なく変更、仕様の一部を変更することがあります。



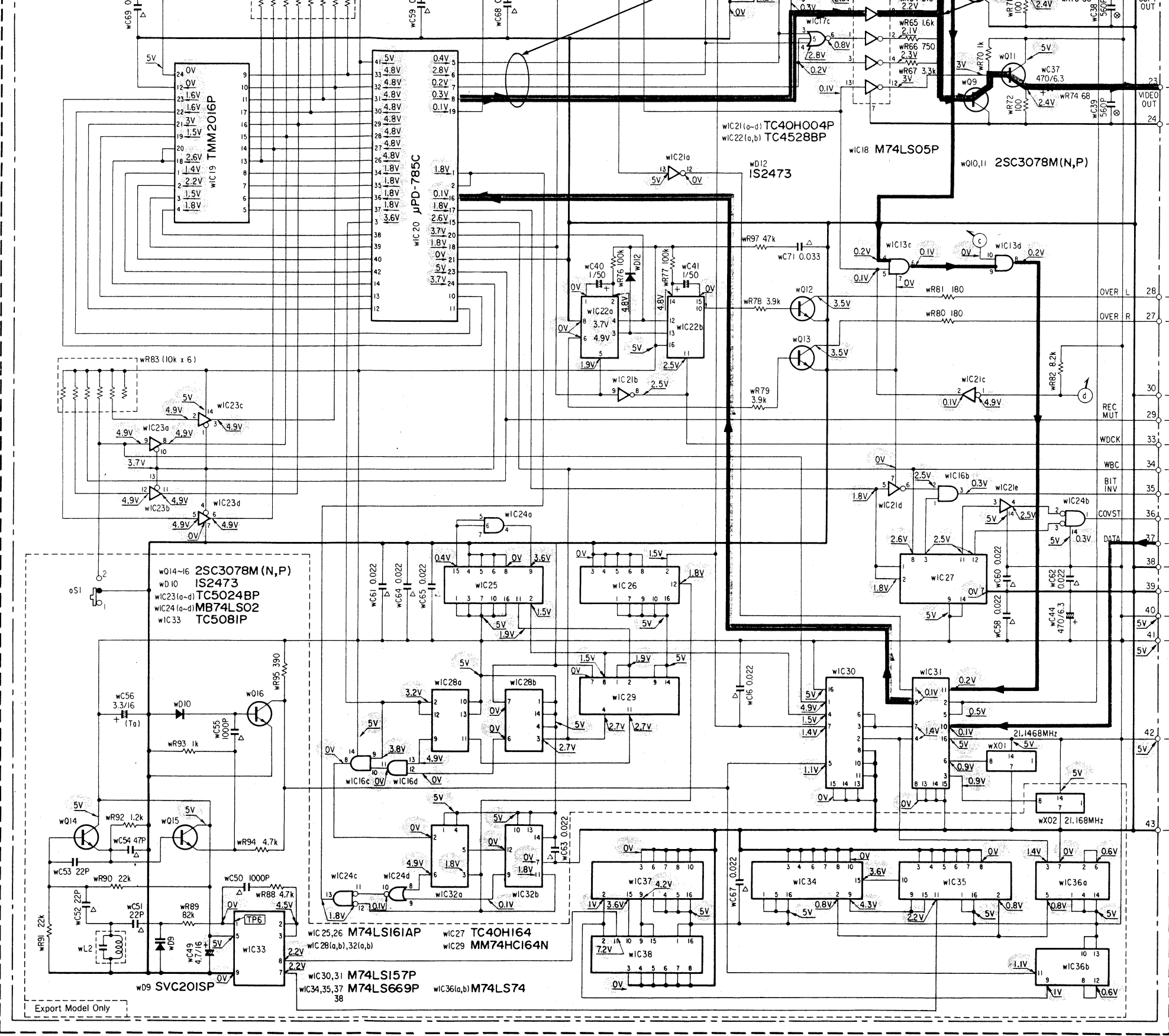
When no Audio Signal is played back.



- SWITCHES
- oS1 NTSC
  - 2 PAL
  - oS2a-d 1. PROCESSOR
  - 2. TV
  - oS3a,b COPY
  - 1. OFF
  - 2. ON
  - oS4 MUTING
  - 1. AUTO
  - 2. OFF
  - oS5a,b METER
  - 1. LEVEL
  - 2. TRACK / BATT
  - oS6 INPUT
  - 1. LINE
  - 2. MIC

SYMBOL OF FUNCTION (g) MIC

**SANSUI PC-X1 SCHEMATIC DIAGRAM**



**SYMBOL OF FUNCTION**

- (g) MIC
- (j) CONTROL
- (k) POWER AMP
- (m) POWER SUPPLY
- (n) INDICATOR
- (o) SELECTOR
- (w) LOGIC

- o54 MUTING
  - 1. AUTO
  - 2. OFF
- o55a,b METER
  - 1. LEVEL
  - 2. TRACK/BATT
- o56 INPUT
  - 1. LINE
  - 2. MIC
- o57a,b MIC ATT
  - 1. OFF
  - 2. -20dB
- o58a,b LOW FILTER
  - 1. OFF
  - 2. ON
- o59 REC MUTE
  - 1. OFF
  - 2. ON
- o510a,b RECORD/PLAY
  - 1. PLAY
  - 2. RECORD
- o511a-d POWER
  - 1. OFF
  - 2. ON

**SYMBOL**

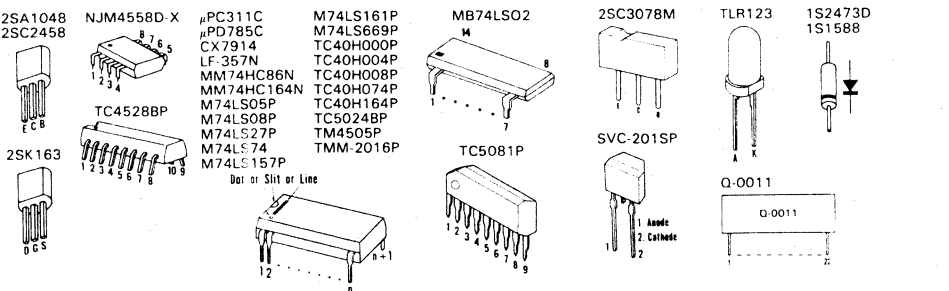
- △ is Safety Part. Use only replacement parts recommended by the manufacturer.
- ⊠ Non Inflammable Resistor
- ⊙ Polystyrene
- ⊚ Film Capacitor
- ⊛ Tantalum Electrolytic

**RESISTORS**  
Are in ohms, 1/4 Watts, ±5% Tolerance Unless otherwise Noted. k: kΩ, M: MΩ

**CAPACITORS**  
Are in μF, Unless otherwise Noted. p: pF

Each D.C Voltage shows the nominal Value in Volt at no input signal

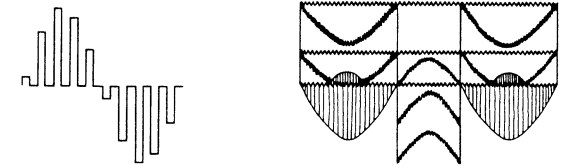
Electrolytic Capacitor: Capacitance (μF) / Volt (V)



— REC Signal Line  
— PLAY Signal Line

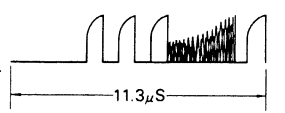


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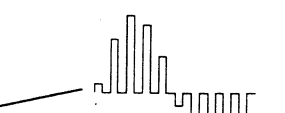


When only L-CH Audio Signal is played back.

When only L-CH Audio Signal is inputted.



When no Audio Signal is inputted.

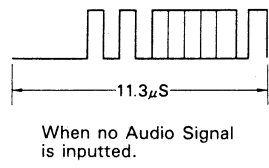
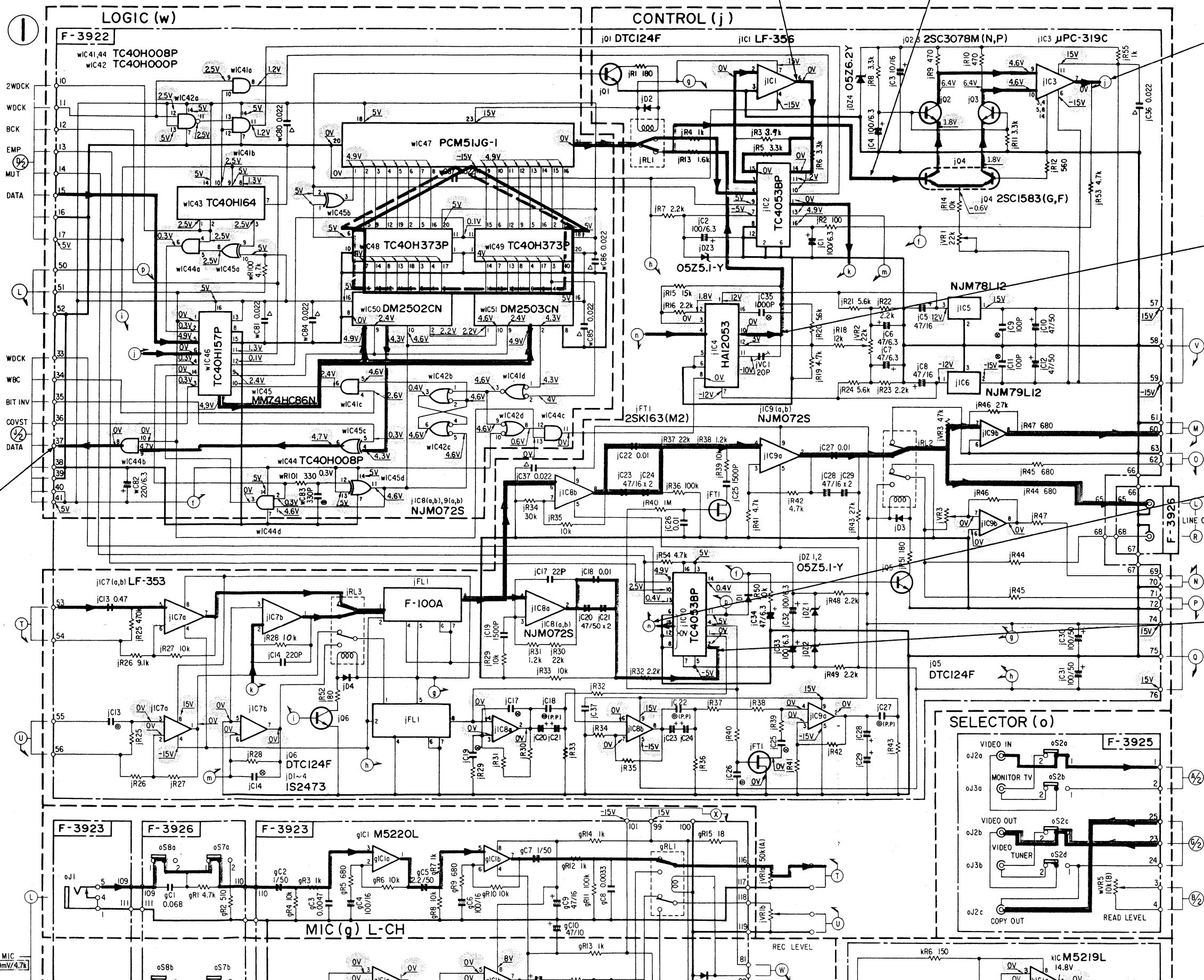


When only L-CH Audio Signal is inputted.



When only L-CH Audio Signal is inputted.

L-CH Audio Input Signal

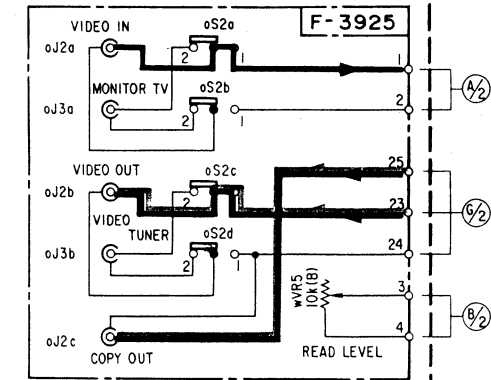


When no Audio Signal is inputted.

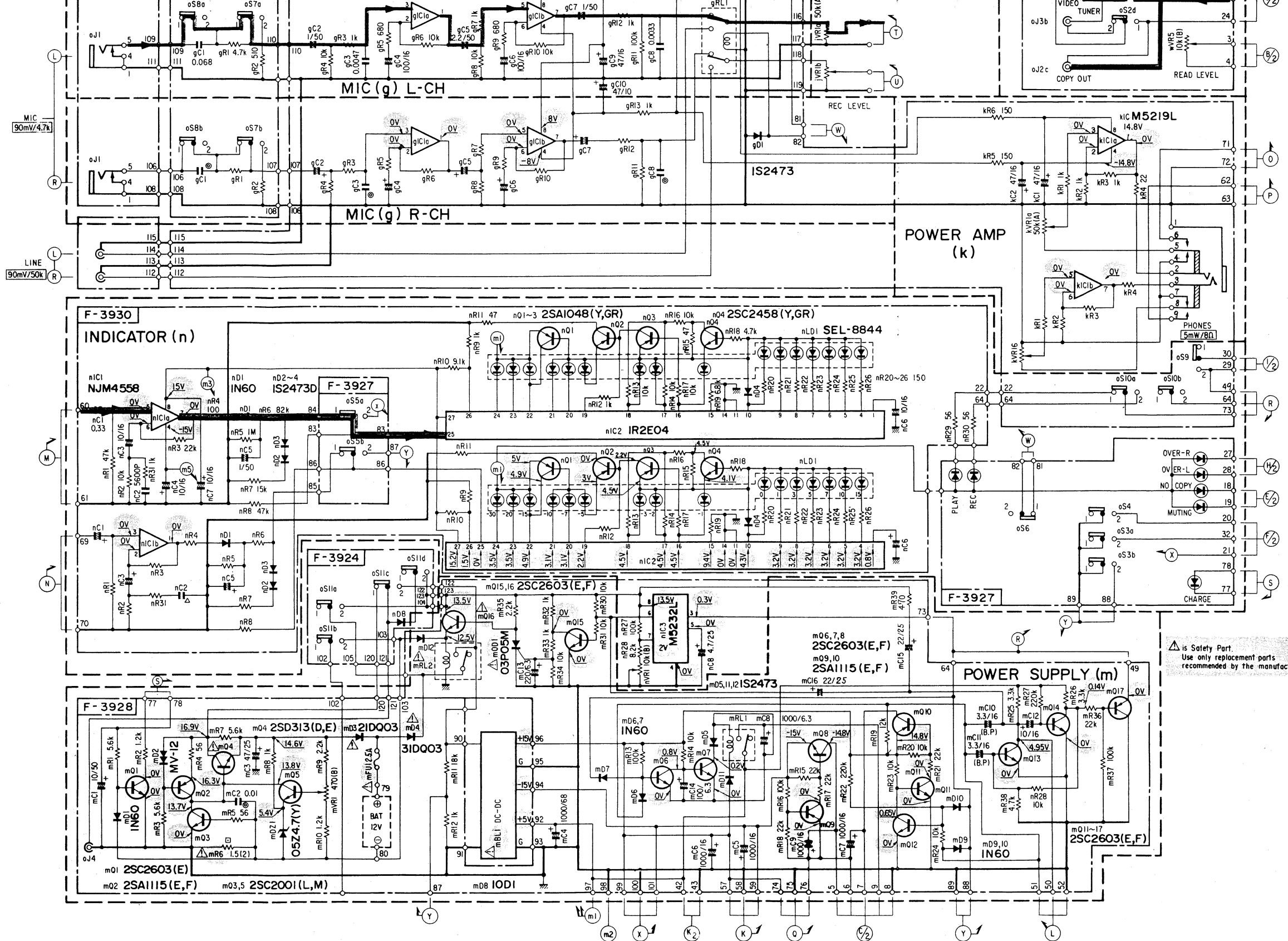
MIC 90mV/4.7k

REC LEVEL

SELECTOR (o)



# SANSUI PC-X1 SCHEMATIC DIAGRAM



△ is Safety Part.  
Use only replacement parts recommended by the manufacturer.

