

HB-G900P / F

SERVICE MANUAL



PERSONAL COMPUTER
SONY[®]

Part 2

*Scanned and converted to PDF by HansO, 2001
Original by Bas Kornalijnslijper, MCWF*

CHAPTER 4 SCHEMATIC DIAGRAM AND PRINTED CIRCUIT BOARD

4-1. SEMICONDUCTOR PIN ASSIGNMENT

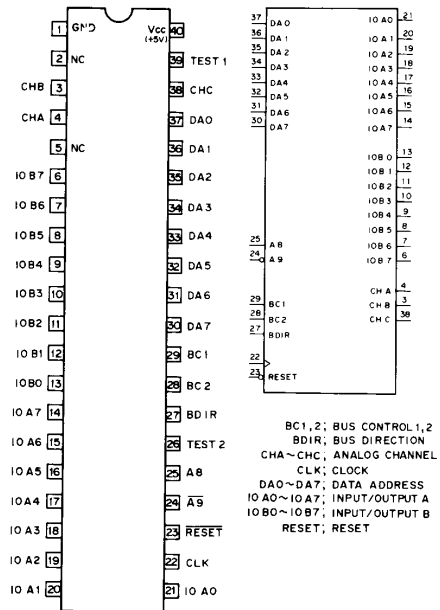
The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

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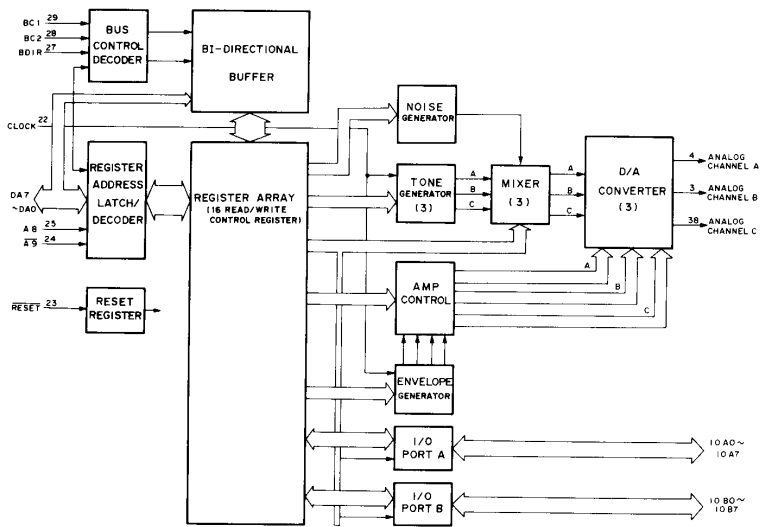
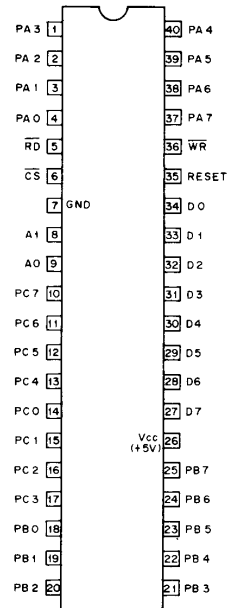
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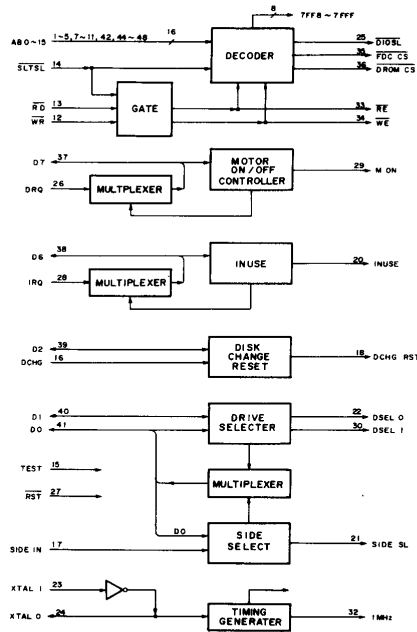
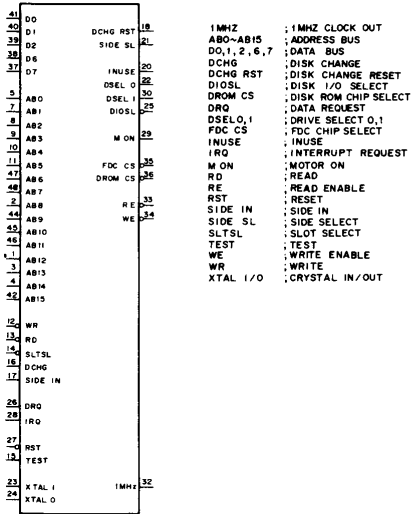
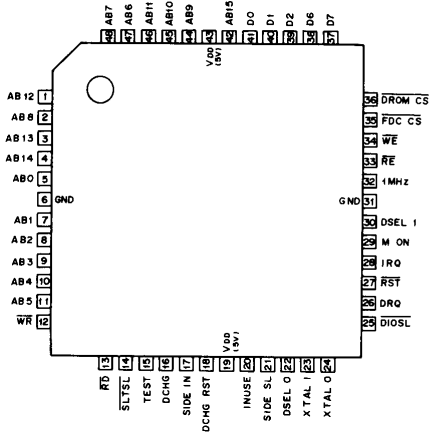
AY-3-8910 (GENERAL INSTRUMENT)
 YM-2149 (YAMAHA)
 PROGRAMMABLE SOUND GENERATOR
 — TOP VIEW —



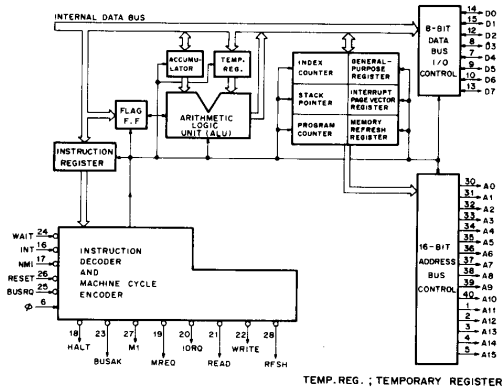
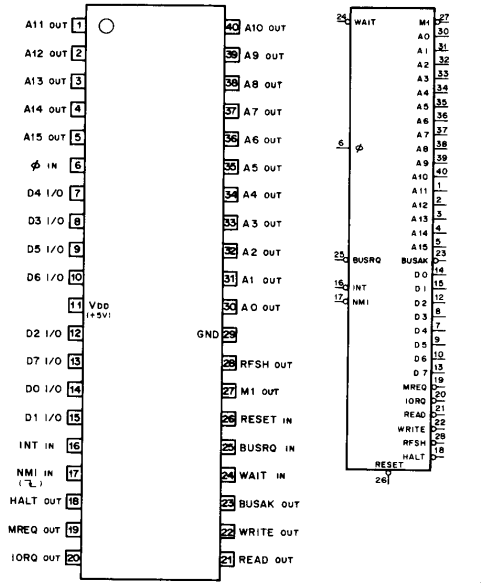
UPD8255AC-5 (NEC)
 PROGRAMMABLE PERIPHERAL INTERFACE
 — TOP VIEW —



CXD1032Q (SONY)
 C-MOS MSX FLOPPY DISK INTERFACE CONTROLLER
 — TOP VIEW —



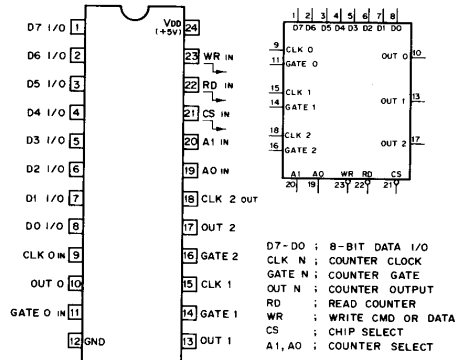
LH0080 (SHARP)
 UPD780C (NEC)
 N-MOS 8-BIT MICROPROCESSOR
 — TOP VIEW —



- phi : CLOCK
- A0-A15 : 3-STATE ADDRESS OUTPUT
- BUSAK : BUS ACKNOWLEDGE
- BUSRQ : BUS REQUEST
- D0-D7 : 3-STATE DATA INPUT/OUTPUT
- HALT : HALT STATE
- INT : INTERRUPT REQUEST
- IORQ : 3-STATE I/O REQUEST
- M1 : MACHINE CYCLE 1
- MREQ : 3-STATE MEMORY REQUEST
- NMI : NON-MASKABLE INTERRUPT (DOWN EDGE TRIGGER)
- READ : 3-STATE MEMORY READ
- RFSH : REFRESH
- WRITE : 3-STATE MEMORY WRITE

TEMP. REG. : TEMPORARY REGISTER

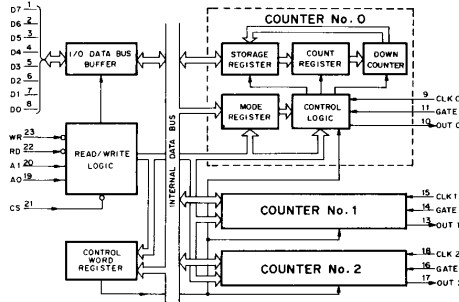
UPD8253C (NEC)
 N-MOS PROGRAMMABLE INTERVAL TIMER
 — TOP VIEW —



FUNCTION TABLE

INPUTS				FUNCTION
CS	RD	WR	A1 A0	
0	1	0	0	Load Counter No. 0
0	1	0	1	Load Counter No. 1
0	1	0	1	Load Counter No. 2
0	1	0	1	Control Word
0	0	1	0	Read Counter 0
0	0	1	1	Read Counter 1
0	0	1	1	Read Counter 2
0	0	1	1	No-Operation (HI-Z)
1	X	X	X	Disable (HI-Z)
0	1	1	X	No-Operation (HI-Z)

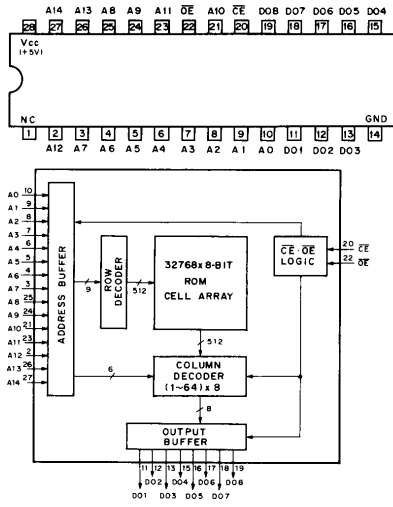
- 0: LOW LEVEL
- 1: HIGH LEVEL
- X: DON'T CARE
- HI-Z: HIGH IMPEDANCE



CONTROL WORD FORMAT

D7	D6	D5	D4	D3	D2	D1	D0	OPERATION
SC1	SCO	RL1	RL0	M2	M1	MO	BCD	
0	0	0	0	0	0	0	0	16-BIT BINARY
0	0	0	0	0	0	0	0	BCD (4-DECADE)
M2 M1 MO MODE								
0	0	0	0	0	0	0	0	
0	0	1	1	1	1	1	1	
X	1	1	0	2				
X	1	1	1	3				
1	0	0	1	4				
1	0	1	1	5				
RL1 RL0 OPERATION								
0	0	0	0	0	0	0	0	COUNTER LATCHING
0	1	0	0	0	0	0	0	READ/LOAD LSB ONLY
1	0	0	0	0	0	0	0	READ/LOAD MSB ONLY
1	1	1	1	1	1	1	1	LSB FIRST THEN MSB
SC1 SCO SELECTED COUNTER								
0	0	0	0	0	0	0	0	COUNTER No. 0
0	1	0	0	0	0	0	0	COUNTER No. 1
1	0	0	0	0	0	0	0	COUNTER No. 2
1	1	1	1	1	1	1	1	ILLEGAL

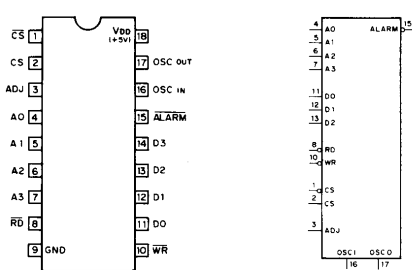
MB83256 (FUJITSU)
C-MOS MASK ROM
— TOP VIEW —



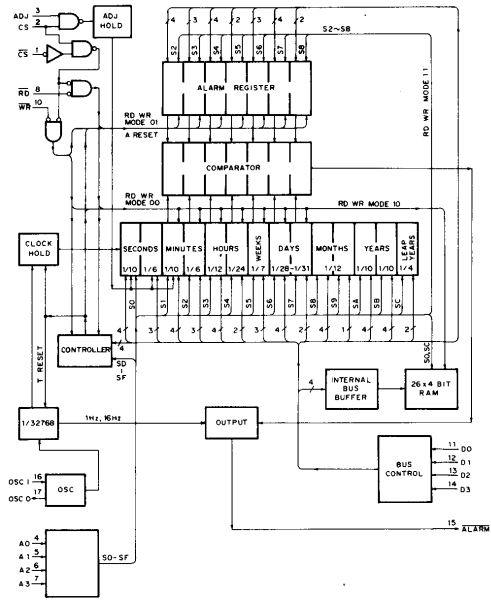
CE	OE	DATA OUTPUT
1	X	HIGH-Z
0	1	HIGH-Z
0	0	OUTPUT DATA

1, HIGH LEVEL
0, LOW LEVEL
X, DON'T CARE
HIGH-Z, HIGH IMPEDANCE

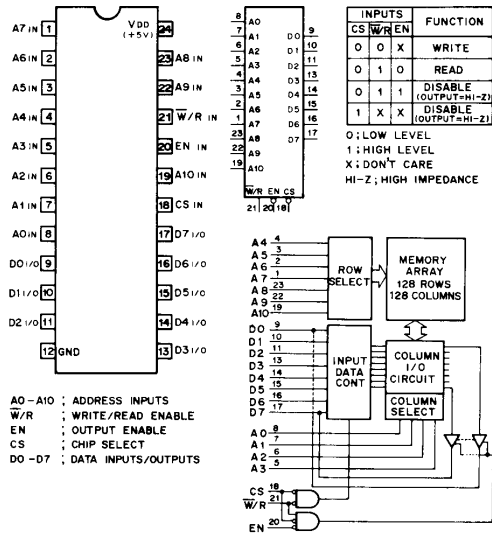
RP5C01 (RICOH)
C-MOS REAL TIME CLOCK
— TOP VIEW —



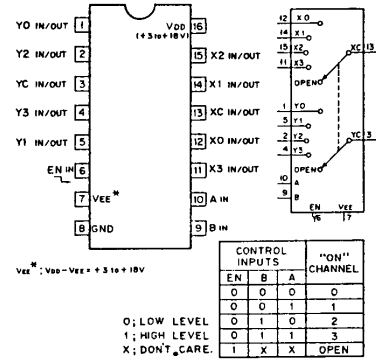
A0-A3: ADDRESS BUS
ADJ: ADJUSTMENT IN
ALARM: ALARM OUT
CS, CS: CHIP SELECT
D0-D3: DATA BUS
OSC IN/OUT: CLOCK IN/OUT
RD: READ IN
WR: WRITE IN



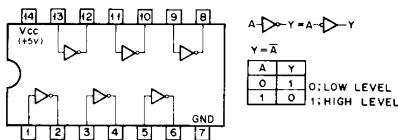
M88416A-15 (FUJITSU) (ACCESS TIME = 150 nS)
 C-MOS 16384(2048x8)-BIT HIGH SPEED STATIC RAM
 — TOP VIEW —



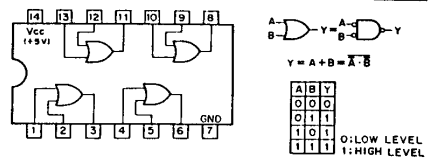
HD14052BP (HITACHI)
 C-MOS 4-CHANNEL MULTIPLEXER/DEMULTIPLEXER
 — TOP VIEW —



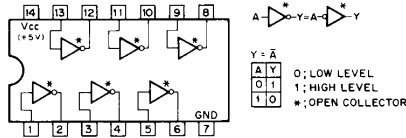
SN7404N (TI)
 SN74LS04N (TI)
 TTL INVERTER
 — TOP VIEW —



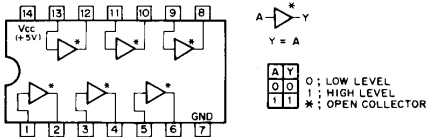
SN74LS32N (TI)
 TTL 2-INPUT POSITIVE-OR GATE
 — TOP VIEW —



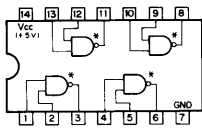
SN7406N (TI)
 TTL INVERTER BUFFER/DRIVER WITH OPEN-COLLECTOR
 — TOP VIEW —



SN7407N (TI)
 TTL BUFFER/DRIVER WITH OPEN-COLLECTOR
 — TOP VIEW —



SN7438N (TI)
TTL 2-INPUT POSITIVE-NAND GATE BUFFER WITH OPEN-COLLECTOR
— TOP VIEW —

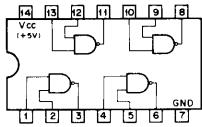


$A \text{---} B \text{---} Y = A \cdot B$
 $Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
 1; HIGH LEVEL
 *; OPEN COLLECTOR

SN74LS00N (TI)
TTL 2-INPUT POSITIVE-NAND GATE
— TOP VIEW —

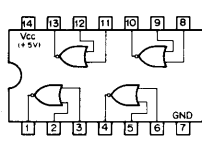


$A \text{---} B \text{---} Y = A \cdot B$
 $Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
 1; HIGH LEVEL

SN74LS02N (TI)
TTL 2-INPUT POSITIVE-NOR GATE
— TOP VIEW —

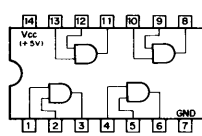


$A \text{---} B \text{---} Y = \overline{A \cdot B}$
 $Y = \overline{A \cdot B} = \overline{\overline{\overline{A} + \overline{B}}}$

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
 1; HIGH LEVEL

SN74LS08N (TI)
TTL 2-INPUT POSITIVE-AND GATE
— TOP VIEW —

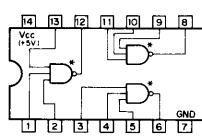


$A \text{---} B \text{---} Y = A \cdot B$
 $Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0; LOW LEVEL
 1; HIGH LEVEL

SN74LS12N (TI)
TTL 3-INPUT POSITIVE-NAND GATE WITH OPEN-COLLECTOR OUTPUT
— TOP VIEW —

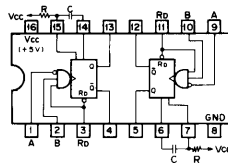


$A \text{---} B \text{---} C \text{---} Y = A \cdot B \cdot C$
 $Y = A \cdot B \cdot C = \overline{\overline{A} + \overline{B} + \overline{C}}$

A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

0; LOW LEVEL
 1; HIGH LEVEL

SN74LS123N (TI)
TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET
— TOP VIEW —



INPUTS	OUTPUTS			
Rd	A	B	Q	Q'
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	1	1	1
1	1	1	1	1

0; LOW LEVEL
 1; HIGH LEVEL
 X; DON'T CARE

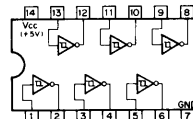
OUTPUT PULSE WIDTH

$T_w = 0.28 \left(1 + \frac{2R}{R'}\right) CR$
 $T_{123}; T_w = 0.33 \left(1 + \frac{2R}{R'}\right) CR$

$T_w = 0.25 \left(1 + \frac{2R}{R'}\right) CR$
 $T_{123}; T_w = 0.29 \left(1 + \frac{2R}{R'}\right) CR$

$T_{15123}; T_w = 0.45CR$

SN74LS14N (TI)
TTL SCHMITT TRIGGER INVERTER
— TOP VIEW —



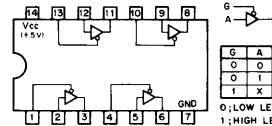
$A \text{---} Y = \overline{A}$
 $V \text{ IN} \text{---} V \text{ OUT}$

A	Y
0	1
1	0

0; LOW LEVEL
 1; HIGH LEVEL

SN7414N-----0.9 1.7V
 SN74LS14N---0.8 1.6V

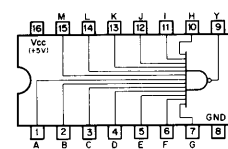
SN74LS125AN (TI)
TTL BUS BUFFER GATES WITH 3-STATE OUTPUT
— TOP VIEW —



G	A	Y
0	0	0
0	1	1
1	X	HI-Z

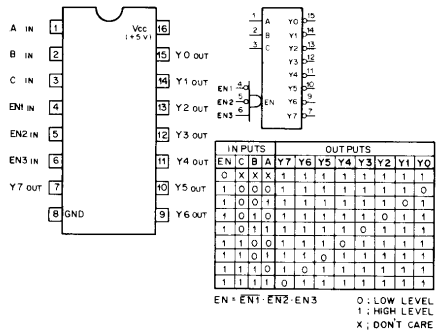
0; LOW LEVEL
 1; HIGH LEVEL
 HI-Z; HIGH IMPEDANCE
 X; DON'T CARE

SN74ALS133N (TI)
TTL 13-INPUT NAND GATE
— TOP VIEW —

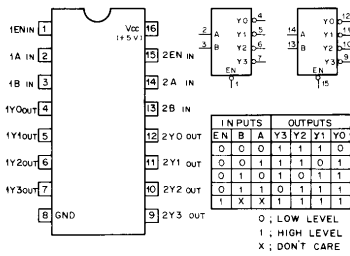


$Y = \overline{A \cdot B \cdot C \cdot D \cdot E \cdot F \cdot G \cdot H \cdot I \cdot J \cdot K \cdot L \cdot M}$

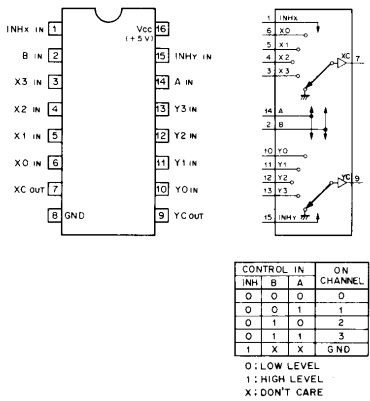
SN74LS138N (TI)
TTL 3-TO-8-LINE DECODER/DEMULPLEXER
— TOP VIEW —



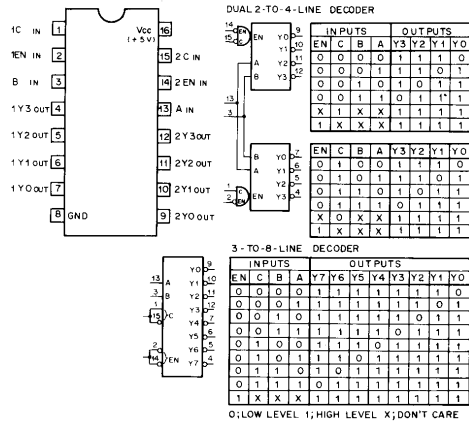
SN74LS138N (TI)
TTL 2-TO-4-LINE DECODER/DEMULPLEXER
— TOP VIEW —



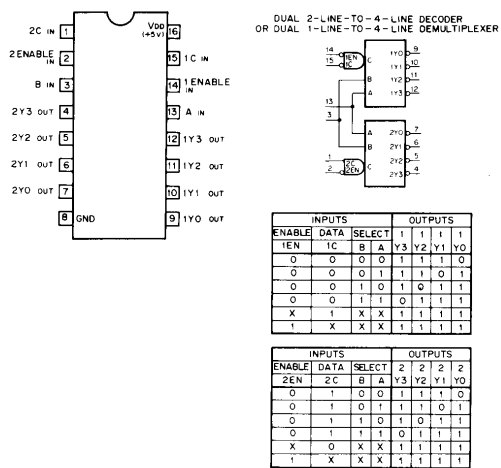
SN74LS153N (TI)
TTL 4-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —



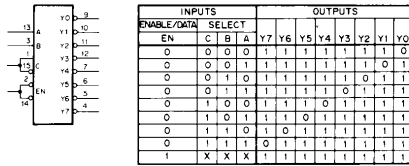
SN74LS156N (TI)
TTL DUAL 2-TO-4-LINE DECODER/DEMULPLEXER
— TOP VIEW —



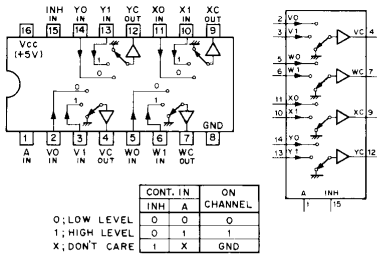
SN74LS156N (TI)
TTL DUAL 2-LINE-TO-4-LINE DECODER/DEMULPLEXER (OPEN COLLECTOR OUTPUT)
— TOP VIEW —



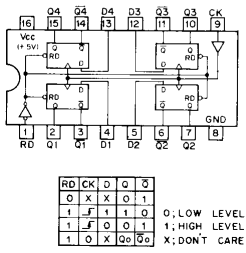
3-LINE-TO-B-LINE DECODER
OR 1-LINE-TO-B-LINE DEMULPLEXER



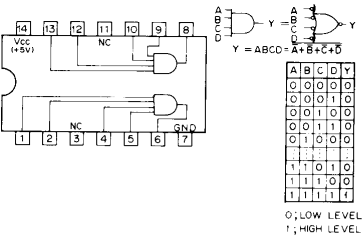
SN74LS157N (TI)
TTL 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —



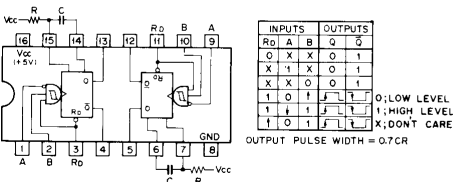
SN74LS175N (TI)
TTL D-TYPE FLIP-FLOP WITH CLEAR
— TOP VIEW —



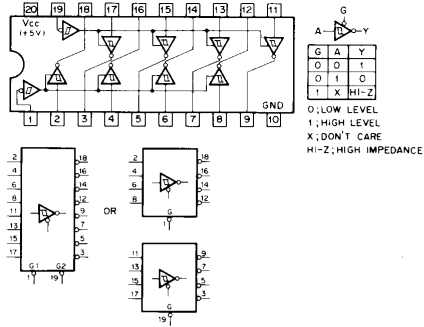
SN74LS21N (TI)
TTL 4-INPUT POSITIVE AND GATE
— TOP VIEW —



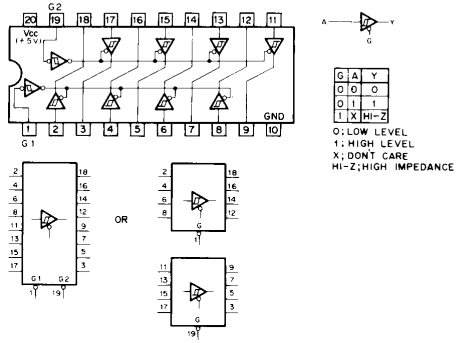
SN74LS221N (TI)
TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT
— TOP VIEW —



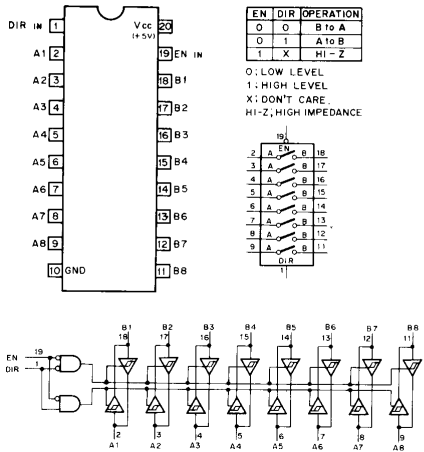
SN74LS240N (TI)
TTL 3-STATE SCHMITT TRIGGER INVERTER/LINE DRIVER
— TOP VIEW —



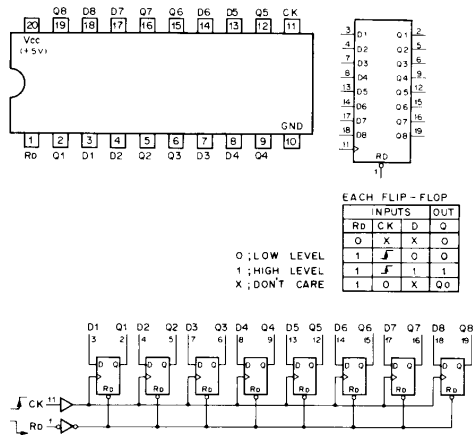
SN74LS244N (TI)
TTL 3-STATE SCHMITT TRIGGER BUFFER/DRIVER
— TOP VIEW —



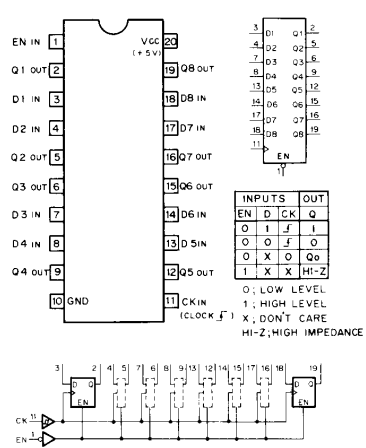
SN74LS245N (TI)
TTL BILATERAL SCHMITT TRIGGER BUS TRANSCEIVERS WITH 3-STATE OUTPUT
— TOP VIEW —



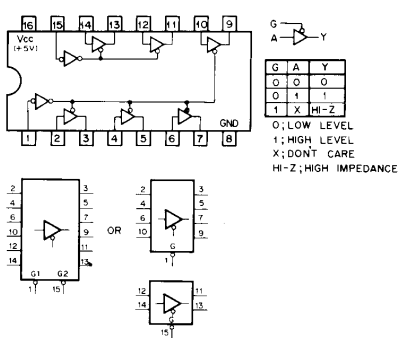
SN74LS273N (TI)
TTL D-TYPE FLIP-FLOP WITH DIRECT RESET
— TOP VIEW —



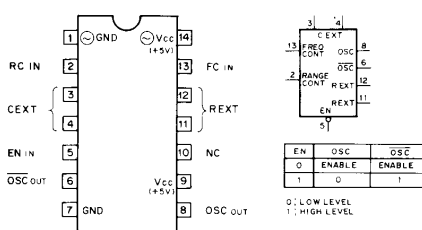
SN74LS374N (TI)
TTL 3-STATE OUTPUTS OCTAL D-TYPE FLIP-FLOP
— TOP VIEW —



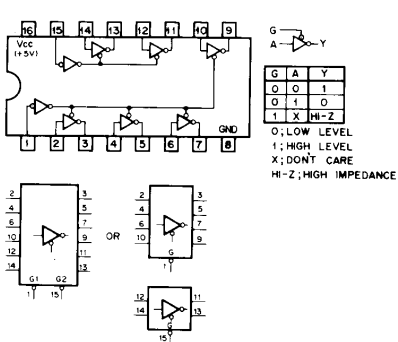
SN74LS367AN (TI)
TTL BUS DRIVER WITH 3-STATE OUTPUTS
— TOP VIEW —



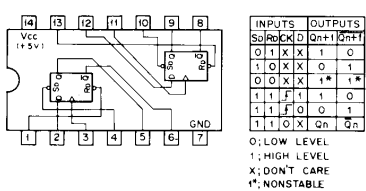
SN74LS628N (TI)
TTL VOLTAGE-CONTROLLED OSCILLATOR
— TOP VIEW —



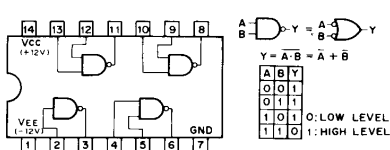
SN74LS368AN (TI)
TTL BUS INVERTER WITH 3-STATE OUTPUTS
— TOP VIEW —



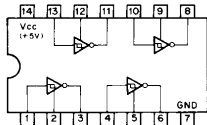
SN74LS74AN (TI)
TTL D-TYPE FLIP FLOP WITH DIRECT SET/RESET
— TOP VIEW —



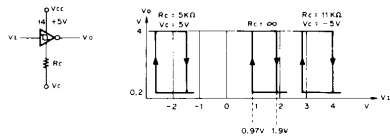
SN75188N (TI)
2-INPUT (1-INPUT) POSITIVE-NAND LINE DRIVER
— TOP VIEW —



SN75189AN (TI)
QUADRUPLE LINE RECEIVER
— TOP VIEW —



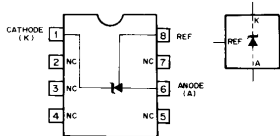
INPUT THRESHOLD SHIFTING



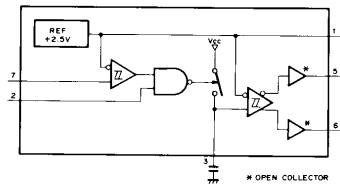
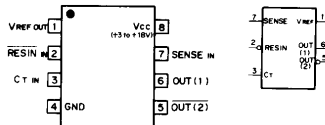
INPUT NOISE FILTERING



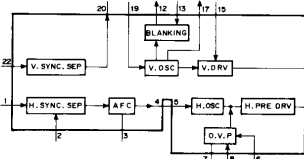
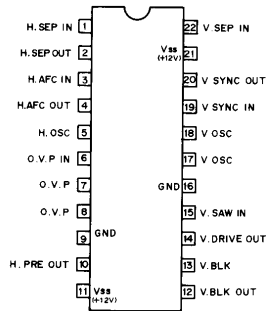
TL431 CP (TI)
ADJUSTABLE PRECISION SHUNT REGULATOR
— TOP VIEW —



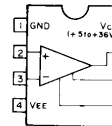
TL7705CP (TI)
POWER VOLTAGE SUPERVISOR
— TOP VIEW —



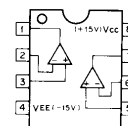
uPC1377C (NEC)
SYNCHRONIZATION SIGNAL PROCESSOR
— TOP VIEW —



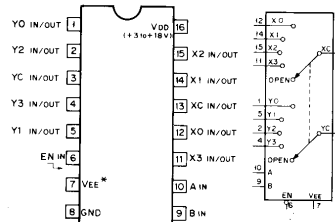
uPC311C (NEC)
VOLTAGE COMPARATOR
— TOP VIEW —



uPC4558C (NEC)
OPERATIONAL AMPLIFIER
— TOP VIEW —



uPD4052BC (NEC)
C-MOS 4-CHANNEL MULTIPLEXER/DEMULPLEXER
— TOP VIEW —

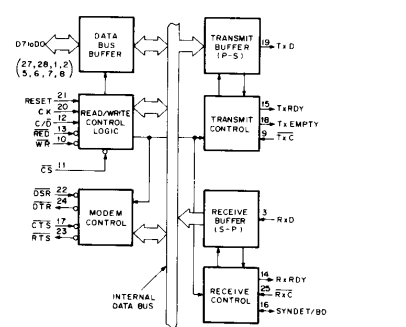
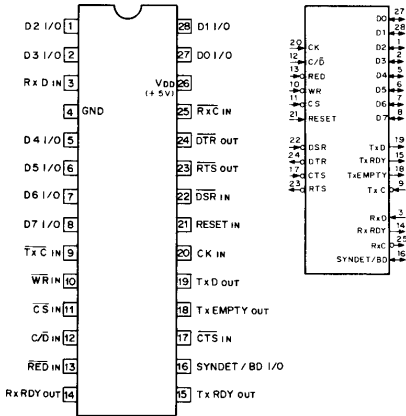


* VEE = -VEE = +3 to +18V

CONTROL INPUTS				"ON" CHANNEL
EN	B	A		
0	0	0	0	0
0	0	1	1	1
0	1	0	2	2
0	1	1	3	3
1	X	X	X	OPEN

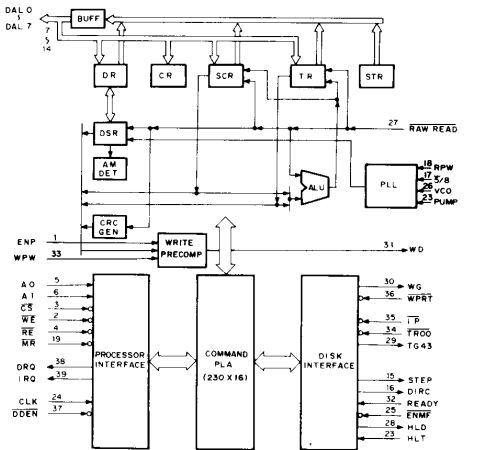
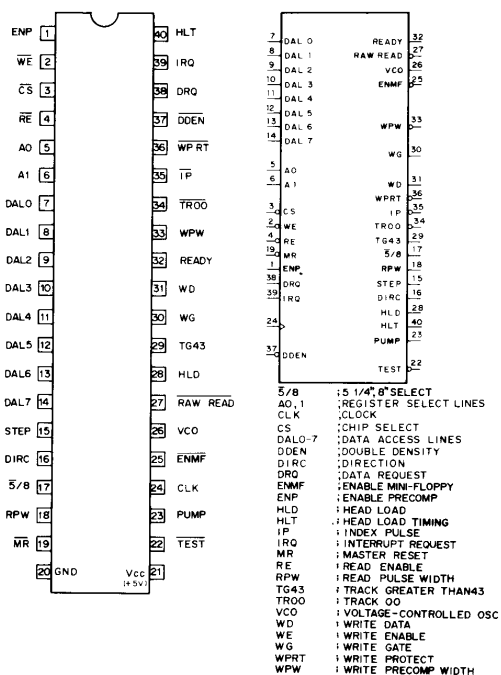
0; LOW LEVEL
1; HIGH LEVEL
X; DONT CARE

uPDB251 AFC (NEC)
N-MOS PROGRAMMABLE COMMUNICATION INTERFACE
— TOP VIEW —



- PIN NAMES**
- D0-D7 : DATA BUS
 - C/D : CONTROL of DATA IS TO BE WRITTEN or READ
 - RDY : READ DATA COMMAND
 - WR : WRITE DATA or CONTROL COMMAND
 - CS : CHIP ENABLE
 - CK : CLOCK PULSE
 - RESET : RESET
 - TxC : TRANSMITTER CLOCK
 - TxD : TRANSMITTER DATA
 - RxC : RECEIVER CLOCK
 - RxD : RECEIVER DATA
 - RxDY : RECEIVER READY
 - TxDY : TRANSMITTER READY
 - DSR : DATA SET READY
 - DTR : DATA TERMINAL READY
 - SYNDET/BD : SYNC DETECT/BREAK DETECT
 - RTS : REQUEST TO SEND DATA
 - CTS : CLEAR TO SEND DATA
 - TXEMPTY : TRANSMITTER EMPTY

WD2793A-PL02 (WESTERN DIGITAL)
N CHANNEL E/D MOD FLOPPY DISK FORMATTER/CONTROLLER
— TOP VIEW —

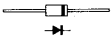


- CR : COMMAND REGISTER
- DR : DATA REGISTER
- DSR : DATA SHIFT REGISTER
- SCR : SECTOR REGISTER
- TR : TRACK REGISTER
- STR : STATUS REGISTER

REGISTER SELECTION

CS	A1	AO	RE = 0	WE = 0
1	X	X	NON SELECT	DAL=HI-Z
0	0	0	STR	CR
0	0	1	TR	TR
0	1	0	SCR	SCR
0	1	1	DR	DR

- 0 : LOW LEVEL
- 1 : HIGH LEVEL
- X : DON'T CARE
- HI-Z : HIGH IMPEDANCE



1S1555
 1S5119
 1S5133
 1S5148



2SC1740S
 2SC2458
 2SC2603

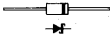
TYPE NO.
 PRINTED



2SC2785



2SC945



ERA81-004

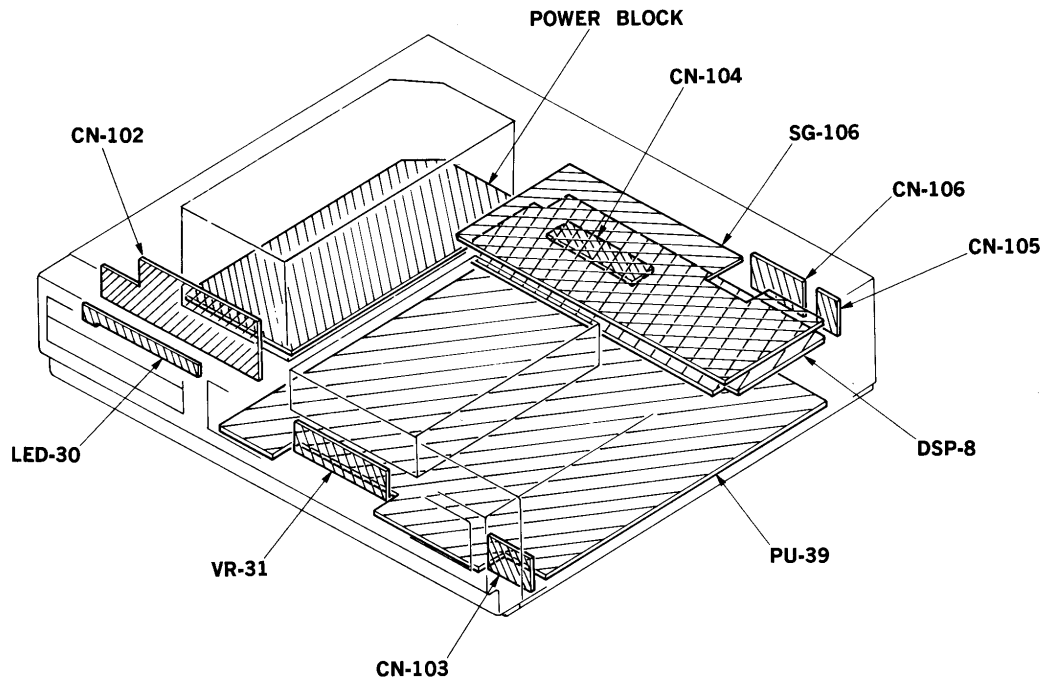


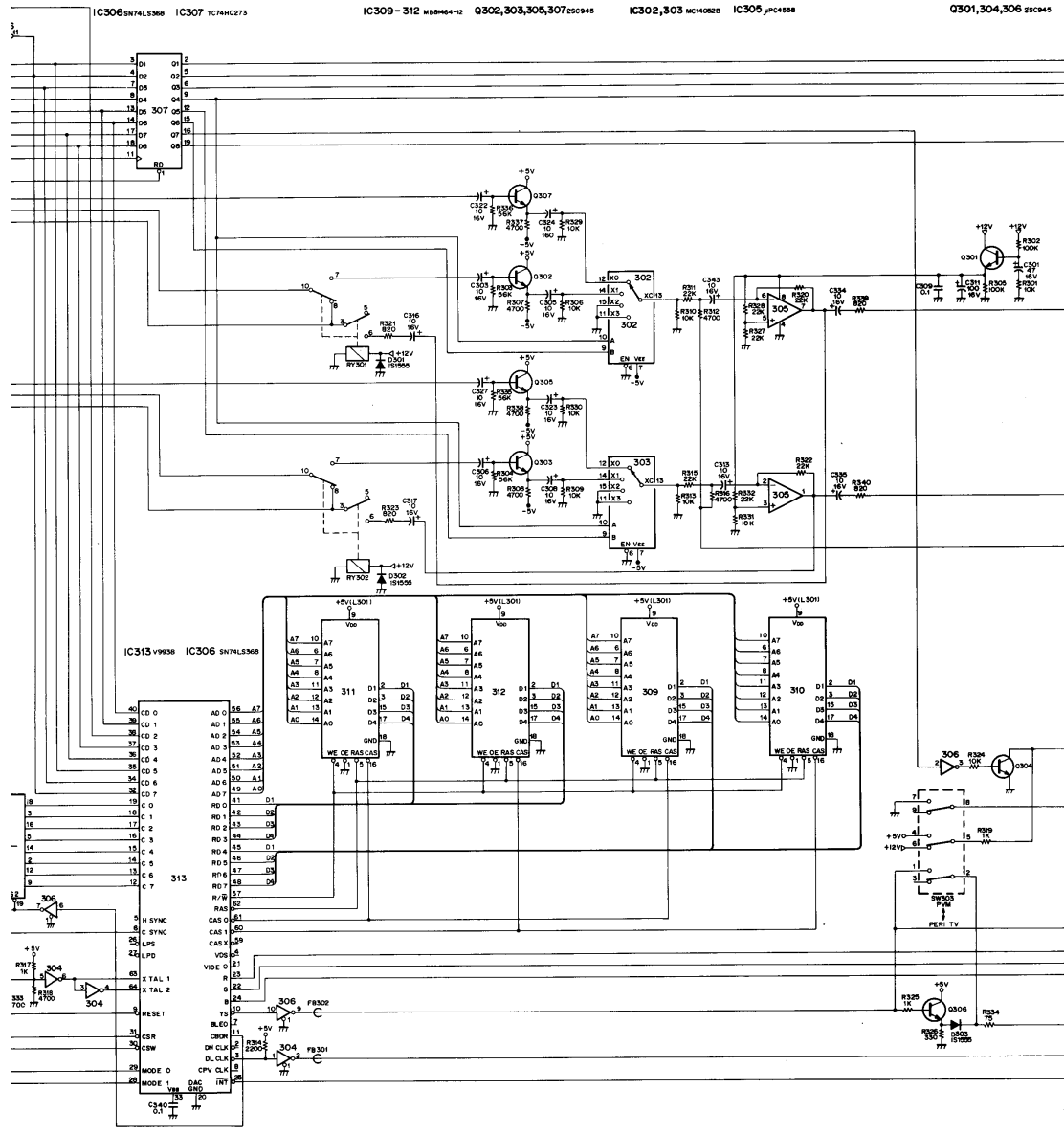
SVC203



GL-1EG101

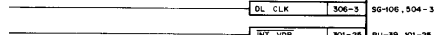
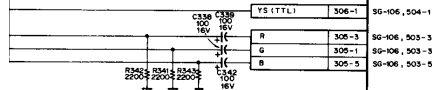
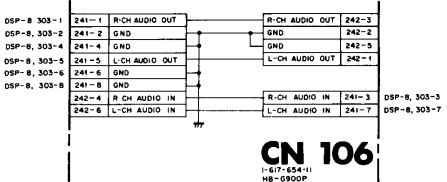
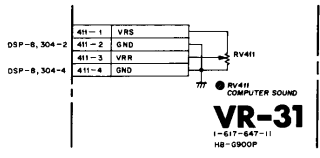
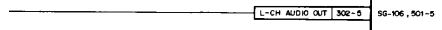
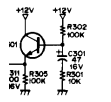
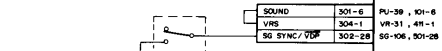
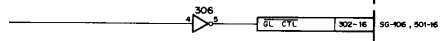
4-2 - CIRCUIT BOARDS LOCATION





71,304,306 25C945

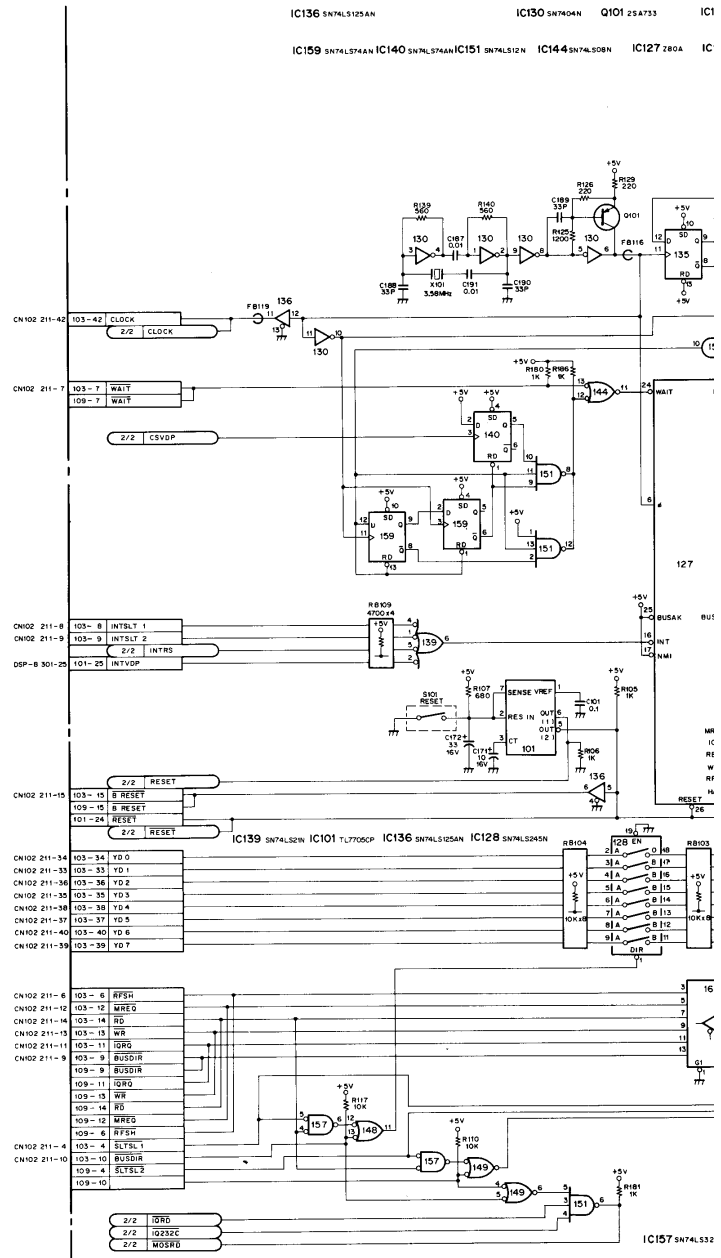
IC306 6N74LS368

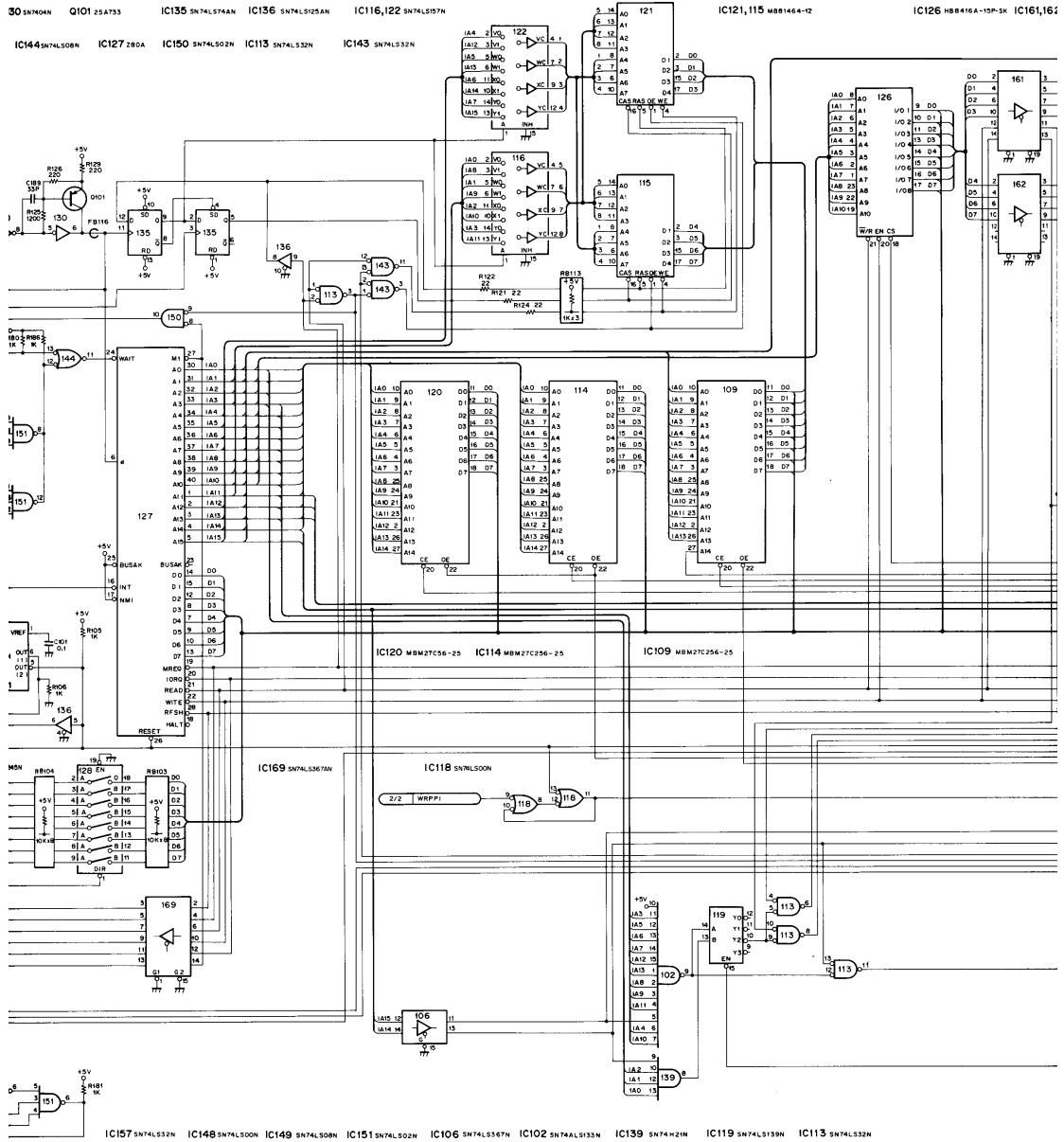


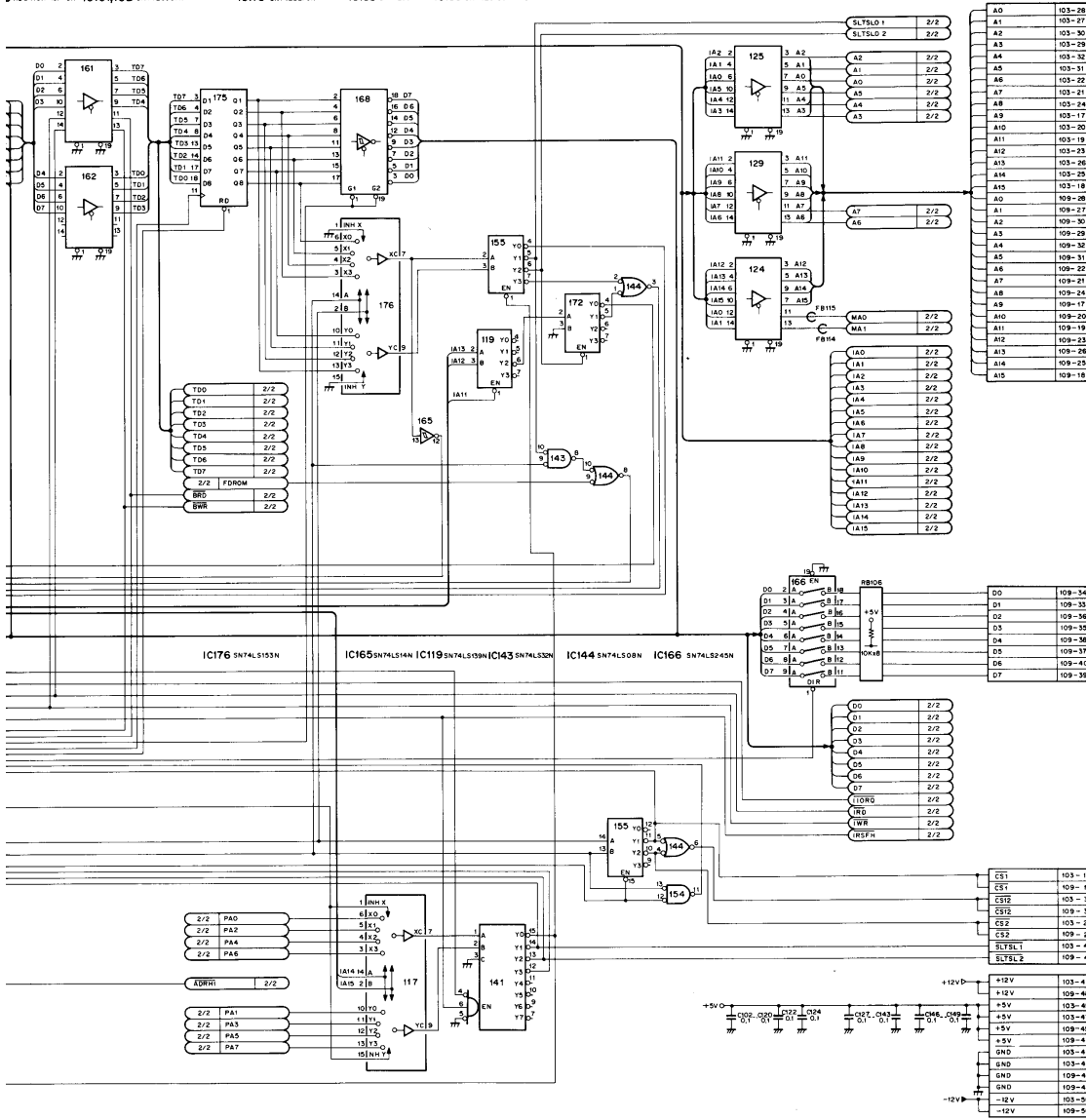
REF.NO	TYPE	PIN NO.				
		+12V	+5V	GND	-5V	-12V
IC301	NJM79L05A	Refer to Schematic Diagram				
IC302	MC14052BCP, TC4052BP	16	8	7		
IC303	MC14052BCP, TC4052BP	16	8	7		
IC304	SN74LS04N, SN74S04N	14	7			
IC305	μ PC4558C	Refer to Schematic Diagram				
IC306	SN74LS368AN	16	8			
IC307	TC74HC273P	20	10			
IC308	SN74LS244N	20	10			
IC309	MB81464-12	24	12			
IC310	MB81464-12	24	12			
IC311	MB81464-12	24	12			
IC312	MB81464-12	24	12			
IC313	V9938	58	1			

CN301	H-4	IC309	C-2
CN302	C-4	IC310	C-2
CN303	G-2	IC311	A-2
CN304	F-4	IC312	A-2
CN305	A-4	IC313	B-4
CN306	G-4	L301	D-2
D301	I-2	Q301	I-3
D302	I-3	Q302	H-2
D303	E-4	Q303	H-3
		Q304	F-4
EP301	E-4	Q305	E-2
		Q306	E-4
FB301	G-4	Q307	D-2
FB302	E-3		
		RB301	D-4
IC301	H-4		
IC302	G-2		
IC303	G-3	RY301	I-2
IC304	G-4	RY302	I-3
IC305	F-2		
IC306	E-4	SW301	A-1
IC307	D-3	SW302	B-1
IC308	D-4	SW303	B-1

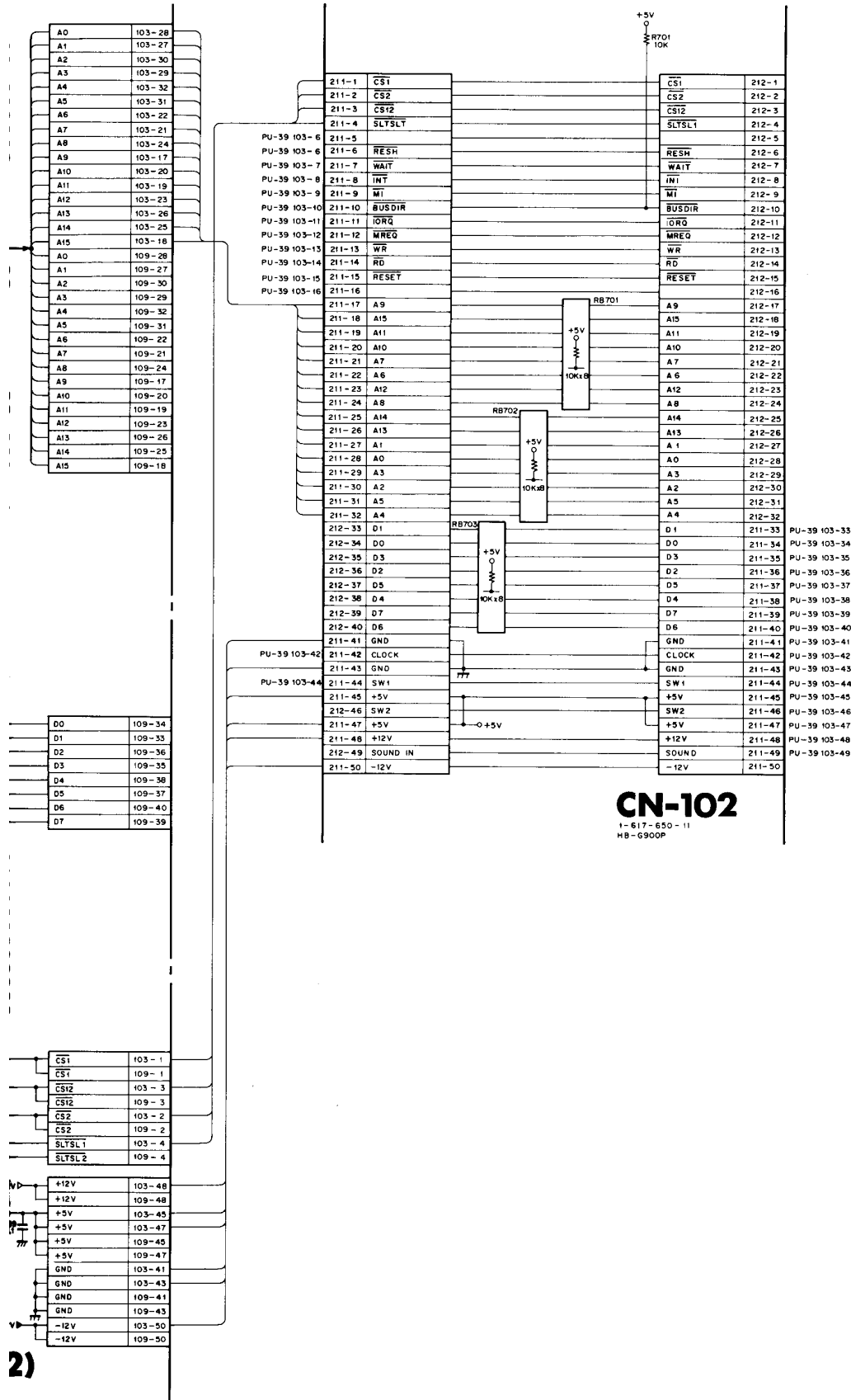
4-4. PU-39 (1/2), CN-102 BOARDS







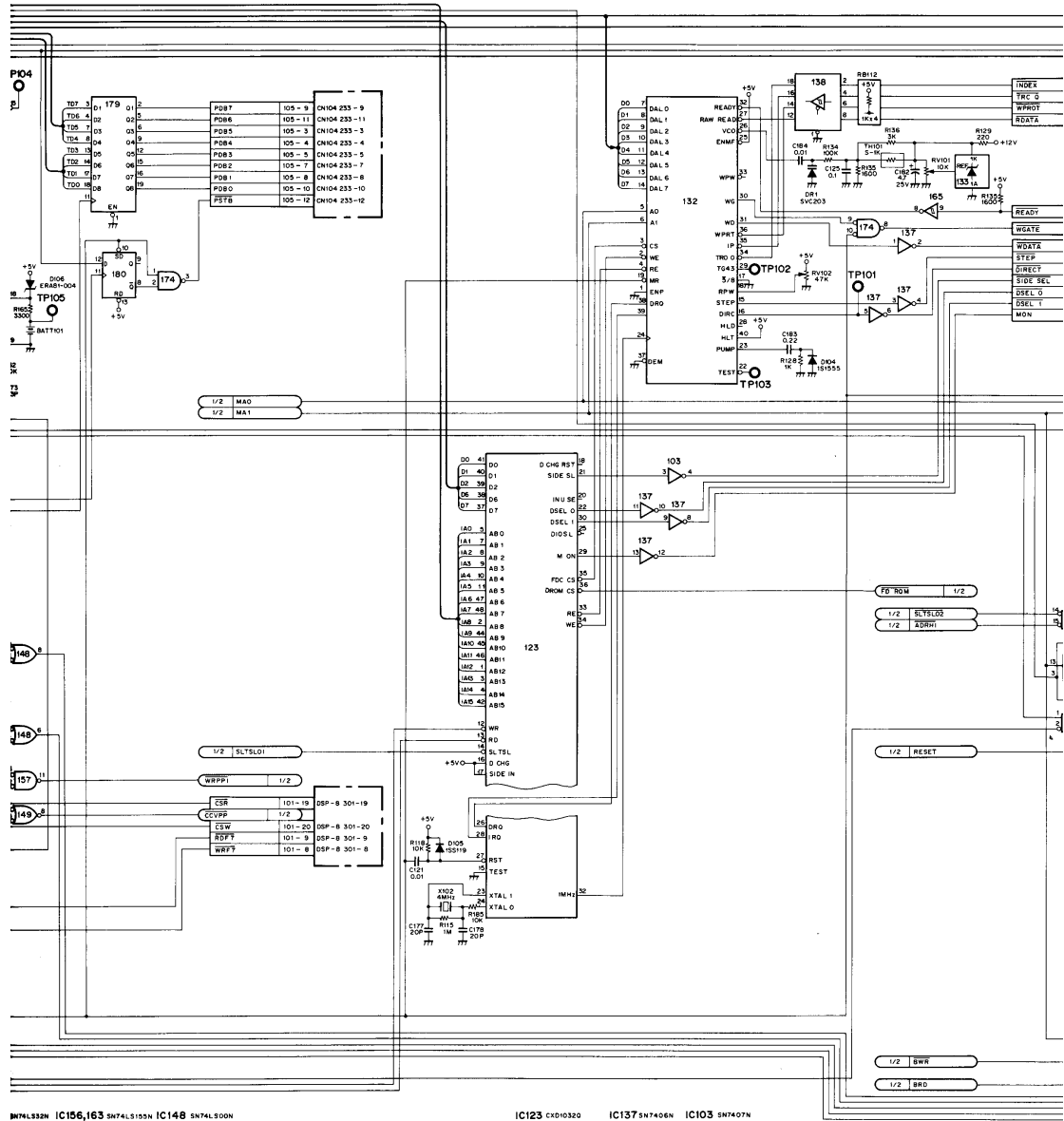
PU-39(1/2)
†-617-648-711
 HB-6900P

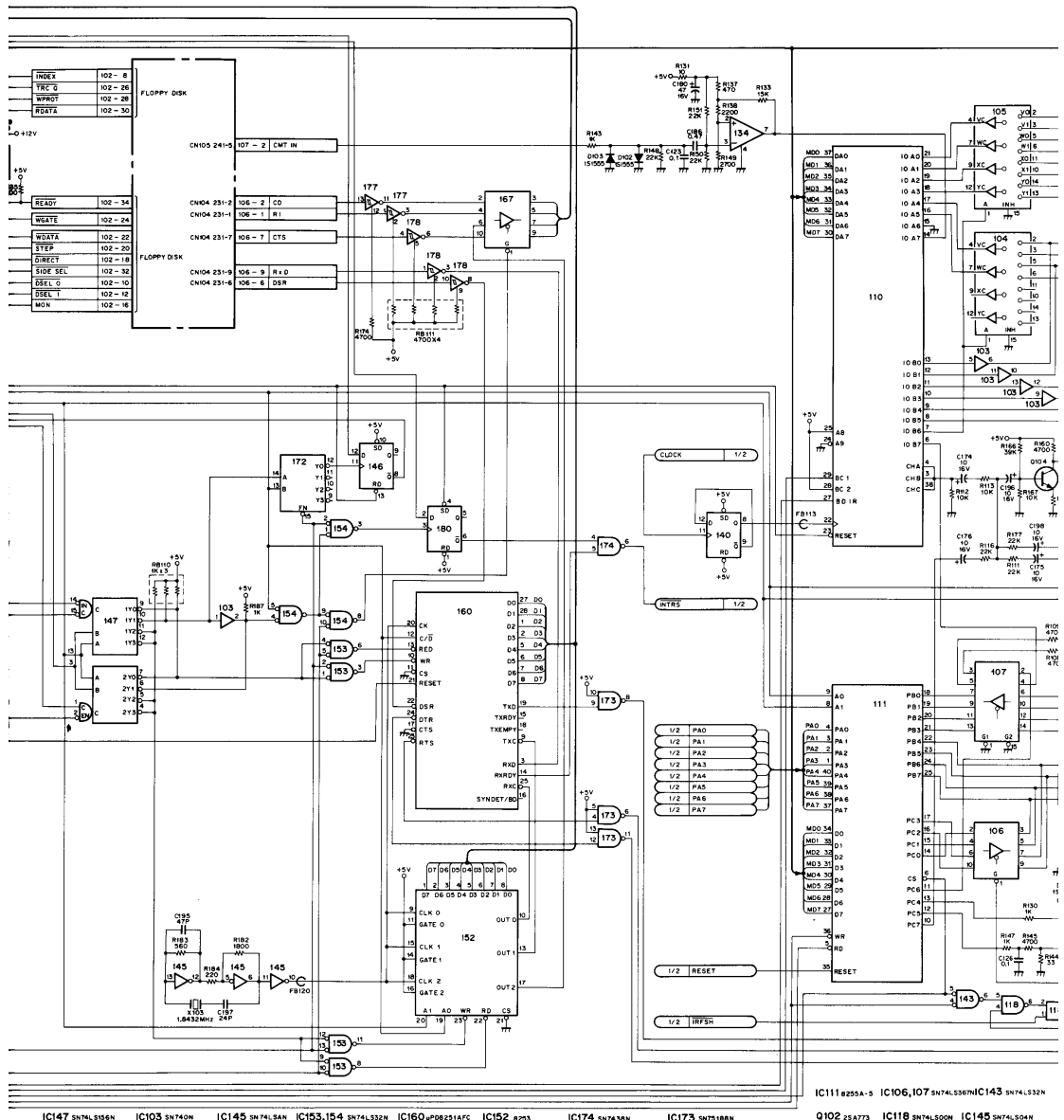


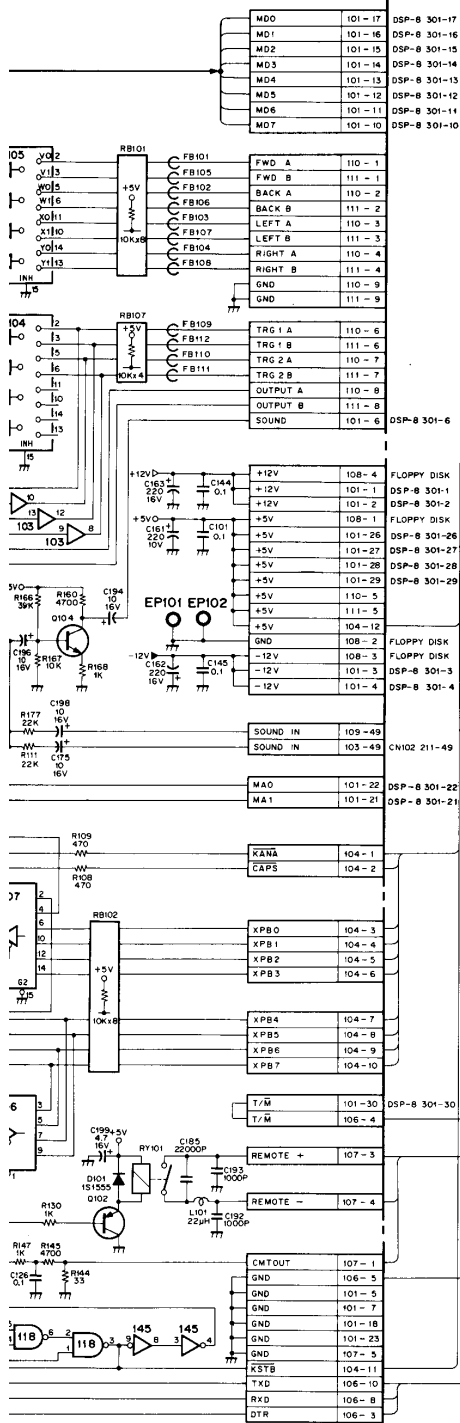
REF.NO	TYPE	PIN NO.				
		+12V	+5V	GND	-5V	-12V
IC101	TL770SCP		8	4		
IC102	SN74LS133N		16	8		
IC103	SN7407N		14	7		
IC104	SN74LS157N		16	8		
IC105	SN74LS157N		16	8		
IC106	SN74LS367AN		16	8		
IC107	SN74LS367SN		16	8		
IC108	RP5C01	Refer				to Schematic Diagram
IC109	MBM27C256-25		28	14		
IC110	AY3-3-8910		40	1		
IC111	MPD8255AC-5		26	7		
IC112	SN74LS175N		16	8		
IC113	SN74LS32N		14	7		
IC114	MBM27C256-25		28	14		
IC115	MB81464-12		9	18		
IC116	SN74LS157N		16	8		
IC117	SN74LS157N		16	8		
IC118	SN74LS00N		14	7		
IC119	SN74LS139N		16	8		
IC120	MBM27C256-25		28	14		
IC121	MB81464-12		9	18		
IC122	SN74LS157N		16	8		
IC124	SN74LS367AN		16	8		
IC125	SN74LS367AN		16	8		
IC126	MB8416A-15P-SK		24	12		
IC127	μ PD780C-1, Z80A		11	29		
IC128	SN74LS245N		20	10		
IC129	CXD1032Q		19, 43	6, 31		
IC130	SN74LS367AN		16	8		
IC131	SN7404N		14	7		
IC132	SN74LS245N		20	10		
IC133	TL431CP	Refer				to Schematic Diagram
IC134	WD2793A-PL02		21	20		
IC135	SN74LS74AN		14	7		
IC136	SN74LS125AN		14	7		
IC137	SN7406N		14	7		
IC138	SN74LS244N		20	10		
IC139	SN74LS21N		14	7		
IC140	SN74LS74AN		14	7		
IC141	SN74LS138N		16	8		
IC142	SN74LS32N		14	7		
IC143	SN74LS32N		14	7		
IC144	SN74LS08N		14	7		
IC145	SN74LS04N		14	7		
IC146	SN74LS74AN		14	7		
IC147	SN74LS156N		16	8		

REF.NO	TYPE	PIN NO.				
		+12V	+5V	GND	-5V	-12V
IC148	SN74LS00N		14	7		
IC149	SN74LS08N		14	7		
IC150	SN74LS02N		14	7		
IC151	SN74LS12N		14	7		
IC152	μ PD8253C-5		24	12		
IC153	SN74LS32N		14	7		
IC154	SN74LS32N		14	7		
IC155	SN74LS139N		16	8		
IC156	SN74LS155N		16	8		
IC157	SN74LS32N		14	7		
IC158	SN74LS32N		14	7		
IC159	SN74LS74AN		14	7		
IC160	μ PD8251AFC		26	4		
IC161	SN74LS367AN		16	8		
IC162	SN74LS367AN		16	8		
IC163	SN74LS155N		16	8		
IC164	SN74LS138N		16	8		
IC165	SN74LS14N		14	7		
IC166	SN74LS245N		20	10		
IC167	SN74LS367AN		16	8		
IC168	SN74L240N		20	10		
IC169	SN74LS367AN		16	8		
IC170	SN74LS138N		16	8		
IC171	SN74L138N		16	8		
IC172	SN74LS139N		16	8		
IC173	SN74LS188N		14	7		
IC174	SN74L38AN		14	7		
IC175	SN74LS273N		20	10		
IC176	SN74LS153N		16	8		
IC177	SN74189AN		14	7		
IC178	SN74189AN		14	7		
IC179	SN74LS374N		20	10		
IC180	SN74LS74AN		14	7		

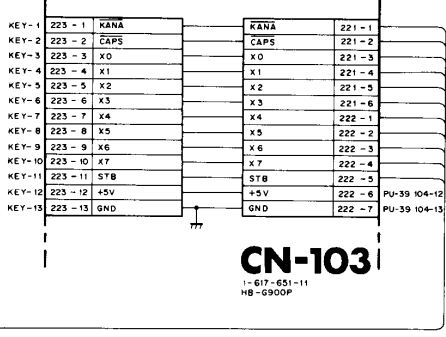
CN101	G-9	IC116	D-6	IC174	J-4
CN102	G-3	IC117	D-4	IC175	J-3
CN103	E-1	IC118	D-2	IC176	J-2
CN105	K-3	IC119	D-1	IC177	J-5
CN106	K-4	IC121	D-7	IC178	J-4
CN107	H-9	IC122	D-6	IC179	J-3
CN108	G-5	IC124	D-3	IC180	J-2
CN109	K-8	IC125	D-2		
CN110	A-6	IC126	E-9	L101	G-9
CN111	A-8	IC127	E-7	L102	E-2
		IC128	E-3		
CV101	B-2	IC129	E-2	Q101	F-7
		IC130	F-7	Q102	F-9
D101	F-9	IC131	F-6	Q103	B-1
D102	F-9	IC132	F-4	Q104	H-9
D103	F-9	IC133	F-2		
D104	F-2	IC134	F-8	RB101	B-6
D105	E-5	IC135	G-6	RB102	B-8
D106	B-2	IC136	G-5	RB103	F-6
D111	C-1	IC137	G-3	RB104	E-1
D121	F-2	IC138	G-2	RB105	F-8
		IC139	G-7	RB106	J-6
EP101	J-1	IC140	G-6	RB107	B-7
EP102	C-9	IC141	G-1	RB108	C-2
		IC142	H-8	RB109	H-7
FB101	A-6	IC143	H-7	RB111	K-4
FB102	A-6	IC144	H-6	RB112	G-2
FB103	A-6	IC145	H-3	RB113	D-7
FB104	A-6	IC146	H-2		
FB105	A-7	IC147	H-1	RY101	F-9
FB106	A-7	IC148	H-9		
FB107	A-7	IC149	H-8	S101	A-1
FB108	A-7	IC150	H-7		
FB109	A-5	IC151	H-6	TH101	F-2
FB110	A-5	IC152	H-4		
FB111	A-6	IC153	H-3	TP101	E-4
FB112	A-7	IC154	H-2	TP102	E-4
FB113	D-8	IC155	H-1	TP103	F-3
FB114	D-4	IC156	I-9	TP104	B-2
FB115	D-3	IC157	I-8	TP105	B-2
FB116	G-6	IC158	I-7		
FB119	G-4	IC159	I-6	X101	G-7
FB120	H-3	IC160	I-4	X102	D-4
		IC161	I-3	X103	H-4
IC101	A-2	IC162	I-1	X104	B-2
IC102	B-9	IC163	J-9		
IC103	B-8	IC164	J-8		
IC104	B-7	IC165	J-7		
IC105	B-6	IC166	J-6		
IC106	B-5	IC167	I-3		
IC107	B-4	IC168	I-2		
IC108	C-2	IC169	J-9		
IC110	C-6	IC170	J-8		
IC111	C-4	IC171	J-7		
IC112	C-2	IC172	J-6		
IC115	D-7	IC173	J-5		



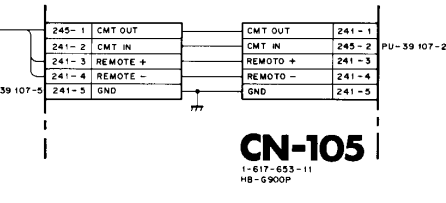




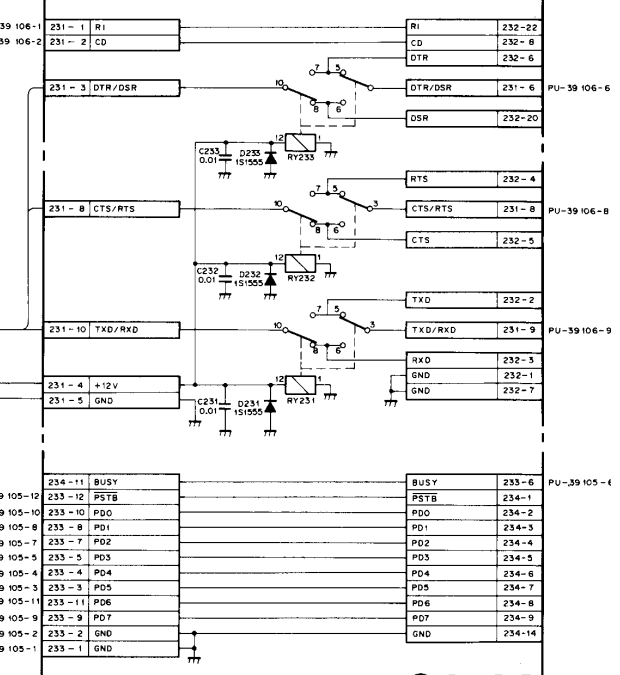
3 SN74LS32N
174LS04N
PU-39 (2/2)
1-617-648-11
HB-G900P



CN-103
1-617-651-11
HB-G900P



CN-105
1-617-653-11
HB-G900P



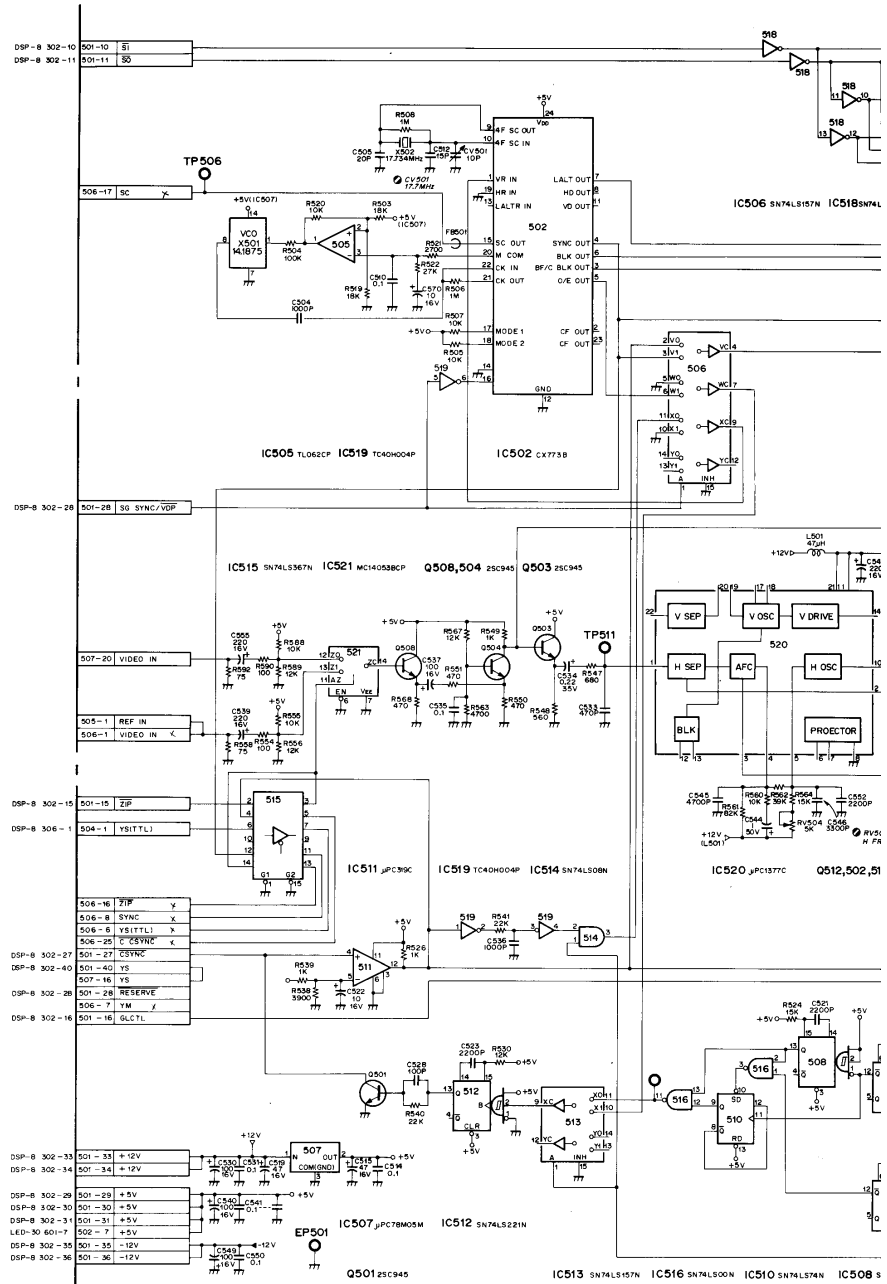
CN-104
1-617-652-11
HB-G900P

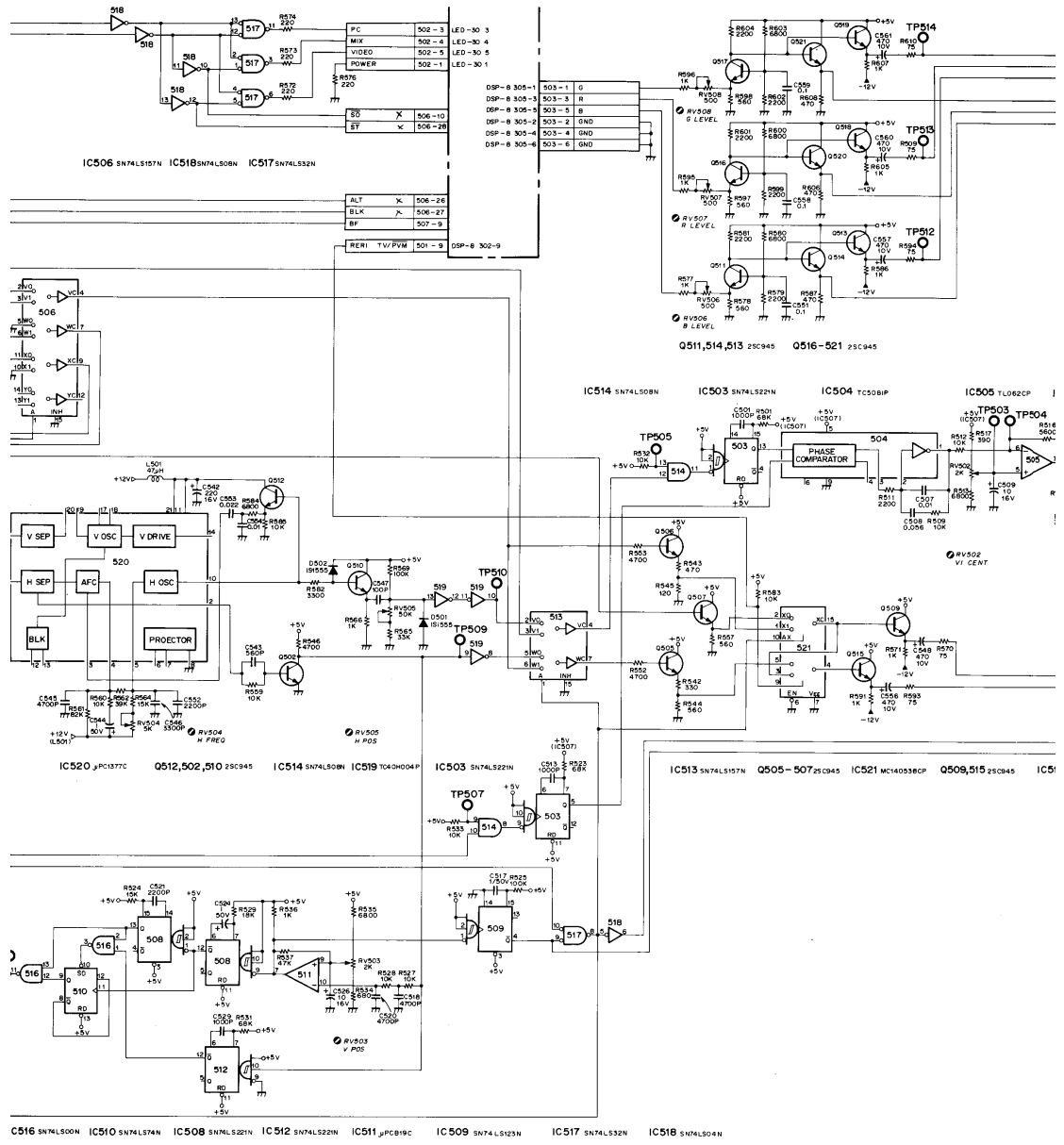
REF.NO	TYPE	PIN NO.				
		+12V	+5V	GND	-5V	-12V
IC101	TL770SCP		8	4		
IC102	SN74LS133N		16	8		
IC103	SN7407N		14	7		
IC104	SN74LS157N		16	8		
IC105	SN74LS157N		16	8		
IC106	SN74LS367AN		16	8		
IC107	SN74LS367SN		16	8		
IC108	RP5C01	Refer	to	Schematic	Diagram	
IC109	MBM27C256-25		28	14		
IC110	AY3-3-8910		40	1		
IC111	MPD8255AC-5		26	7		
IC112	SN74LS175N		16	8		
IC113	SN74LS32N		14	7		
IC114	MBM27C256-25		28	14		
IC115	MB81464-12		9	18		
IC116	SN74LS157N		16	8		
IC117	SN74LS157N		16	8		
IC118	SN74LS00N		14	7		
IC119	SN74LS139N		16	8		
IC120	MBM27C256-25		28	14		
IC121	MB81464-12		9	18		
IC122	SN74LS157N		16	8		
IC124	SN74LS367AN		16	8		
IC125	SN74LS367AN		16	8		
IC126	MB8416A-15P -SK		24	12		
IC127	μ PD780C-1, Z80A		11	29		
IC128	SN74LS245N		20	10		
IC129	CXD1032Q		19, 43	6, 31		
IC130	SN74LS367AN		16	8		
IC131	SN7404N		14	7		
IC132	SN74LS245N		20	10		
IC133	TL431CP	Refer	to	Schematic	Diagram	
IC134	WD2793A-PL02		21	20		
IC135	SN74LS74AN		14	7		
IC136	SN74LS125AN		14	7		
IC137	SN7406N		14	7		
IC138	SN74LS244N		20	10		
IC139	SN74LS21N		14	7		
IC140	SN74LS74AN		14	7		
IC141	SN74LS138N		16	8		
IC142	SN74LS32N		14	7		
IC143	SN74LS32N		14	7		
IC144	SN74LS08N		14	7		
IC145	SN74LS04N		14	7		
IC146	SN74LS74AN		14	7		
IC147	SN74LS156N		16	8		

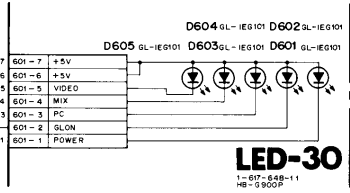
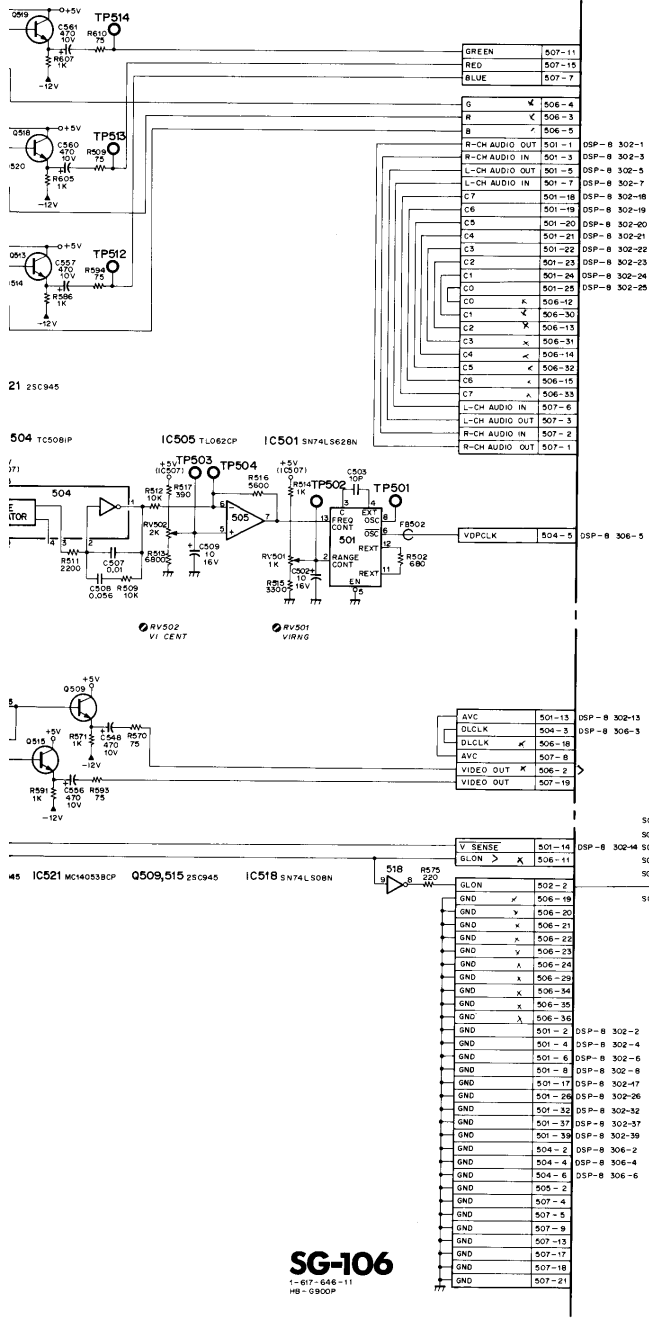
REF.NO	TYPE	PIN NO.				
		+12V	+5V	GND	-5V	-12V
IC148	SN74LS00N		14	7		
IC149	SN74LS08N		14	7		
IC150	SN74LS02N		14	7		
IC151	SN74LS12N		14	7		
IC152	μ PD8253C-5		24	12		
IC153	SN74LS32N		14	7		
IC154	SN74LS32N		14	7		
IC155	SN74LS139N		16	8		
IC156	SN74LS155N		16	8		
IC157	SN74LS32N		14	7		
IC158	SN74LS32N		14	7		
IC159	SN74LS74AN		14	7		
IC160	μ PD8251AFC		26	4		
IC161	SN74LS367AN		16	8		
IC162	SN74LS367AN		16	8		
IC163	SN74LS155N		16	8		
IC164	SN74LS138N		16	8		
IC165	SN74LS14N		14	7		
IC166	SN74LS245N		20	10		
IC167	SN74LS367AN		16	8		
IC168	SN74L240N		20	10		
IC169	SN74LS367AN		16	8		
IC170	SN74LS138N		16	8		
IC171	SN74L138N		16	8		
IC172	SN74LS139N		16	8		
IC173	SN74LS188N		14	7		
IC174	SN74L38AN		14	7		
IC175	SN74LS273N		20	10		
IC176	SN74LS153N		16	8		
IC177	SN74189AN		14	7		
IC178	SN74189AN		14	7		
IC179	SN74LS374N		20	10		
IC180	SN74LS74AN		14	7		

CN101	G-9	IC116	D-6	IC174	J-4
CN102	G-3	IC117	D-4	IC175	J-3
CN103	E-1	IC118	D-2	IC176	J-2
CN105	K-3	IC119	D-1	IC177	J-5
CN106	K-4	IC121	D-7	IC178	J-4
CN107	H-9	IC122	D-6	IC179	J-3
CN108	G-5	IC124	D-3	IC180	J-2
CN109	K-8	IC125	D-2		
CN110	A-6	IC126	E-9	L101	G-9
CN111	A-8	IC127	E-7	L102	E-2
		IC128	E-3		
CV101	B-2	IC129	E-2	Q101	F-7
		IC130	F-7	Q102	F-9
D101	F-9	IC131	F-6	Q103	B-1
D102	F-9	IC132	F-4	Q104	H-9
D103	F-9	IC133	F-2		
D104	F-2	IC134	F-8	RB101	B-6
D105	E-5	IC135	G-6	RB102	B-8
D106	B-2	IC136	G-5	RB103	F-6
D111	C-1	IC137	G-3	RB104	E-1
D121	F-2	IC138	G-2	RB105	F-8
		IC139	G-7	RB106	J-6
EP101	J-1	IC140	G-6	RB107	B-7
EP102	C-9	IC141	G-1	RB108	C-2
		IC142	H-8	RB109	H-7
FB101	A-6	IC143	H-7	RB111	K-4
FB102	A-6	IC144	H-6	RB112	G-2
FB103	A-6	IC145	H-3	RB113	D-7
FB104	A-6	IC146	H-2		
FB105	A-7	IC147	H-1	RY101	F-9
FB106	A-7	IC148	H-9		
FB107	A-7	IC149	H-8	S101	A-1
FB108	A-7	IC150	H-7		
FB109	A-5	IC151	H-6	TH101	F-2
FB110	A-5	IC152	H-4		
FB111	A-6	IC153	H-3	TP101	E-4
FB112	A-7	IC154	H-2	TP102	E-4
FB113	D-8	IC155	H-1	TP103	F-3
FB114	D-4	IC156	I-9	TP104	B-2
FB115	D-3	IC157	I-8	TP105	B-2
FB116	G-6	IC158	I-7		
FB119	G-4	IC159	I-6	X101	G-7
FB120	H-3	IC160	I-4	X102	D-4
		IC161	I-3	X103	H-4
IC101	A-2	IC162	I-1	X104	B-2
IC102	B-9	IC163	J-9		
IC103	B-8	IC164	J-8		
IC104	B-7	IC165	J-7		
IC105	B-6	IC166	J-6		
IC106	B-5	IC167	I-3		
IC107	B-4	IC168	I-2		
IC108	C-2	IC169	J-9		
IC110	C-6	IC170	J-8		
IC111	C-4	IC171	J-7		
IC112	C-2	IC172	J-6		
IC115	D-7	IC173	J-5		

4-5. SG-106, LED-30 BOARDS

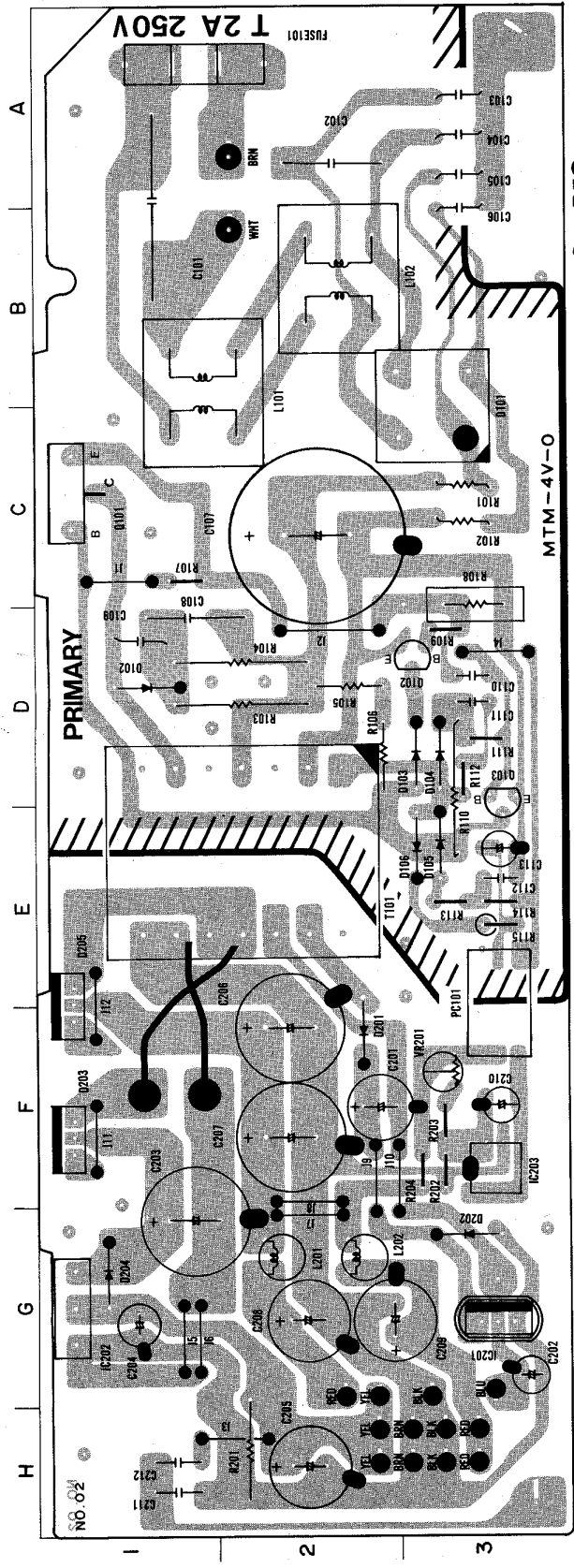




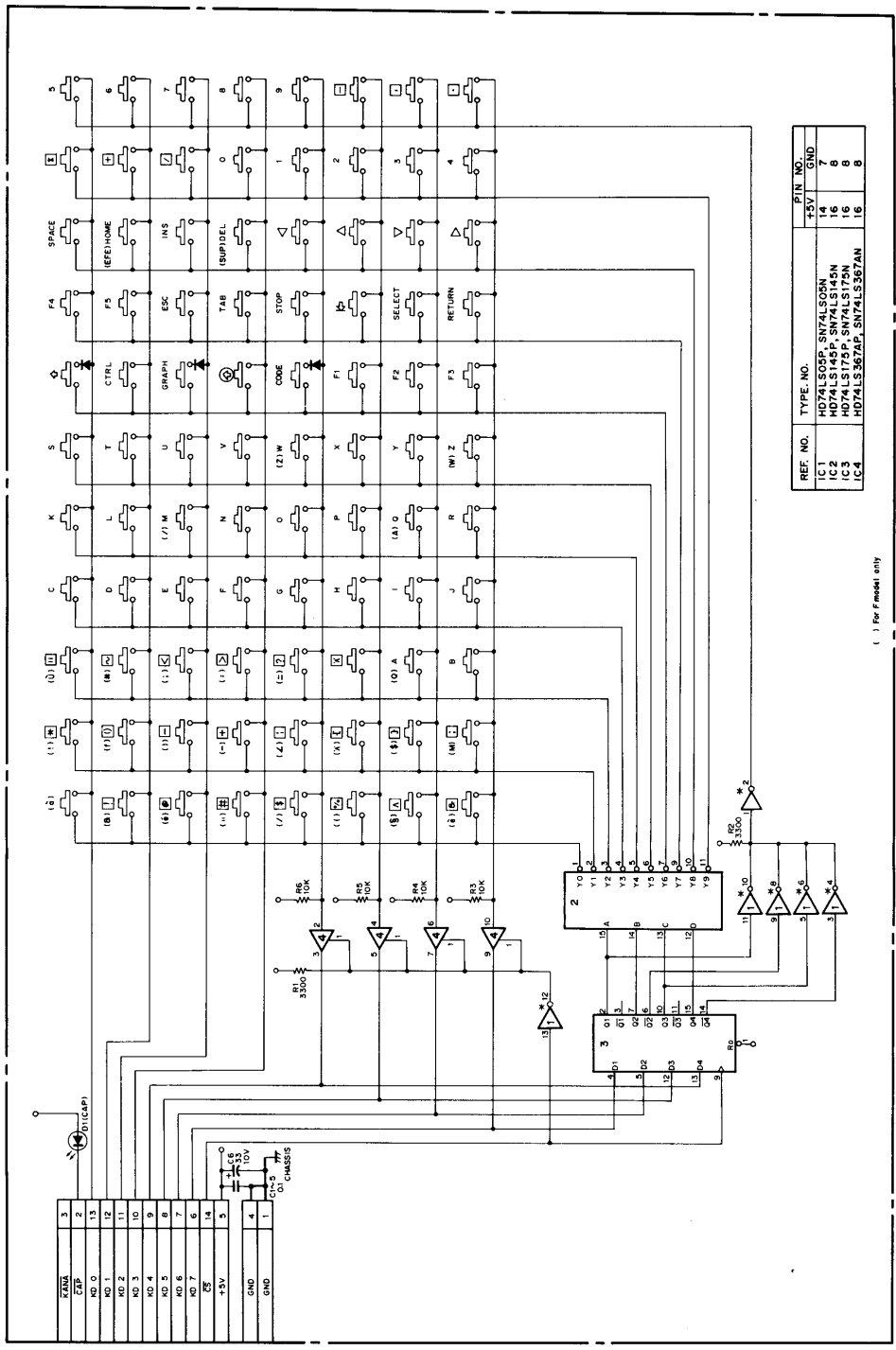


SG-106
1-617-648-11
HB-9500P

POWER POWER



SW REG - COMPONENT SIDE
HB-6900P

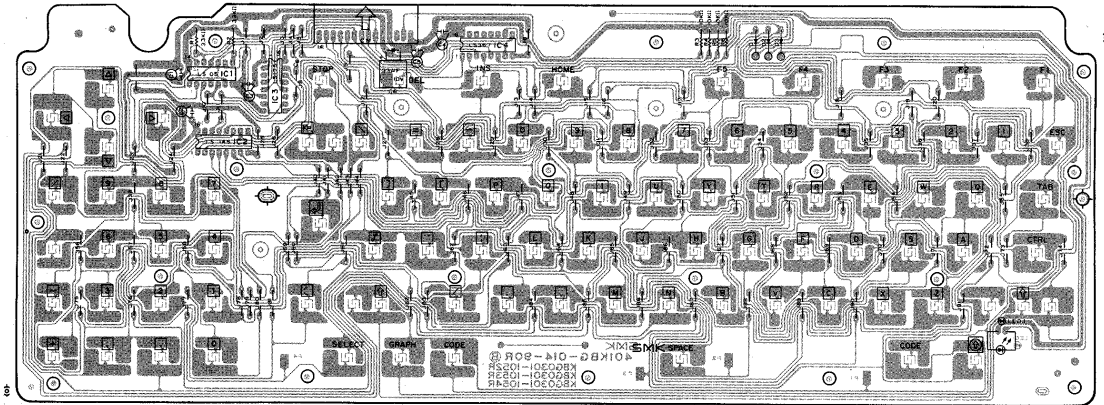


TO/FROM
CH-103, 221, 222

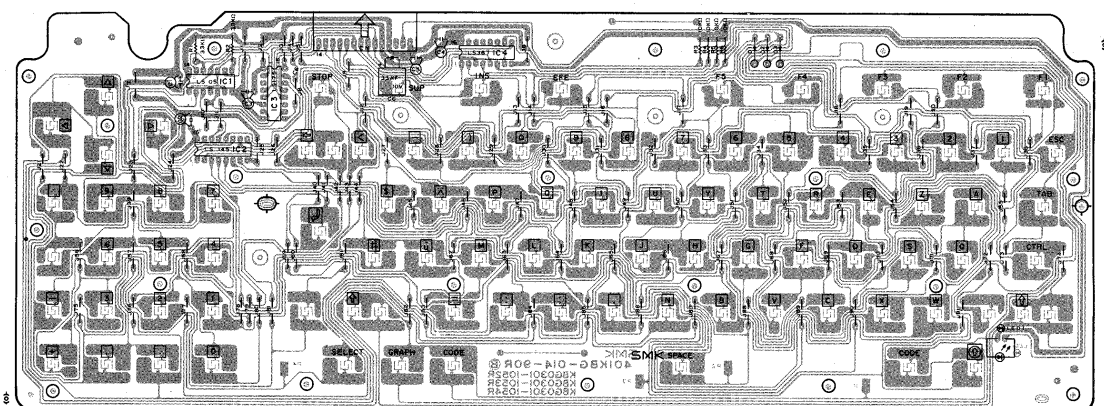
REF. NO.	TYPE. NO.	PIN NO.
IC1	HD74LS05P, SN74LS05N	14
IC2	HD74LS145P, SN74LS145N	7
IC3	HD74LS145P, SN74LS145N	16
IC4	HD74LS145P, SN74LS145N	16

() For Forward only

KEY
1-464-567-11
HB-0000P/F

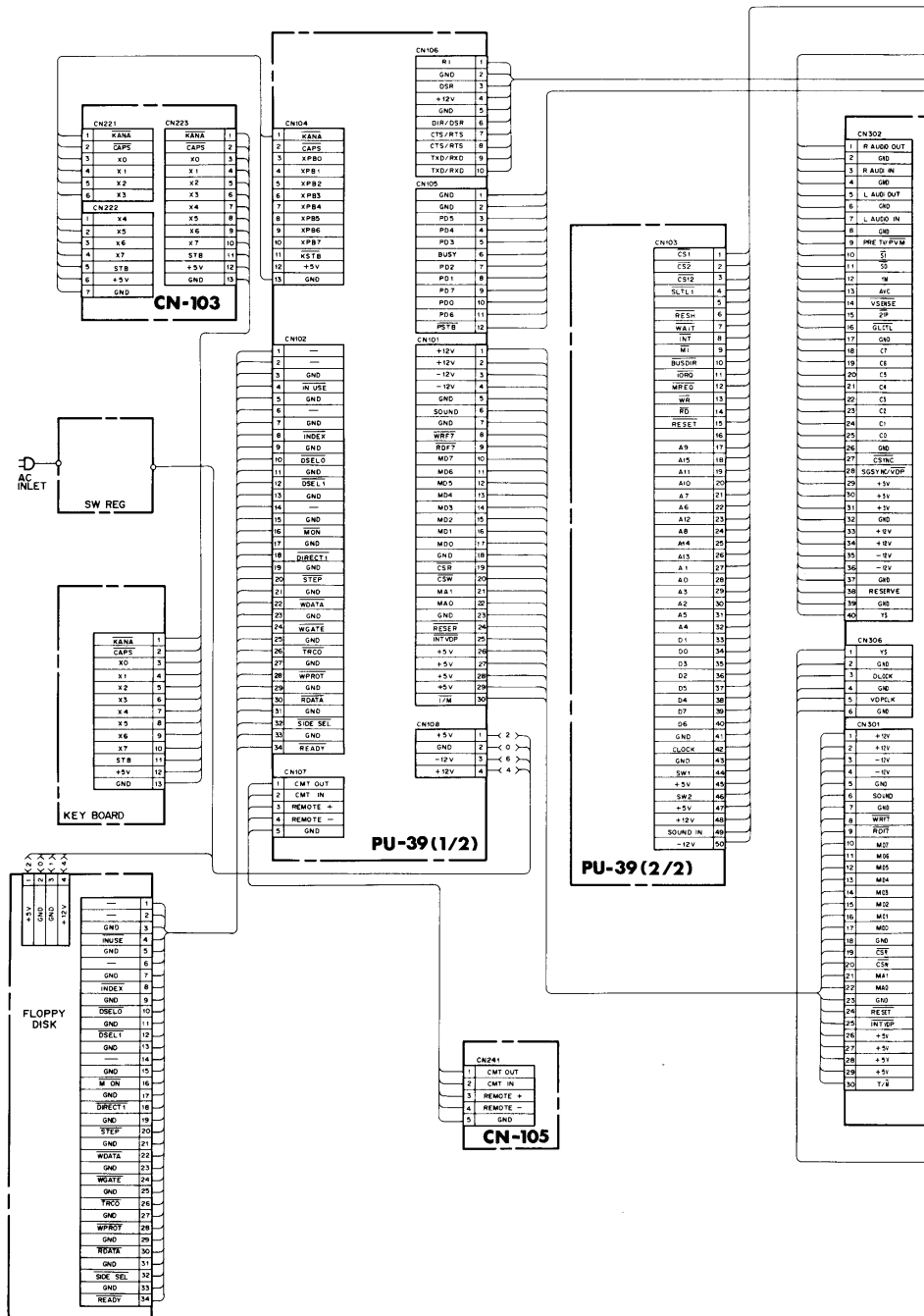


KEY - COMPONENT SIDE -
 1-484-587-11
 HB-G900P



KEY - COMPONENT SIDE -
 1-484-587-11
 HB-G900P/F

4-8. FRAME



CHAPTER 5 ALIGNMENT

SG-106 BOARD ALIGNMENT

5-1. ADJUSTMENT

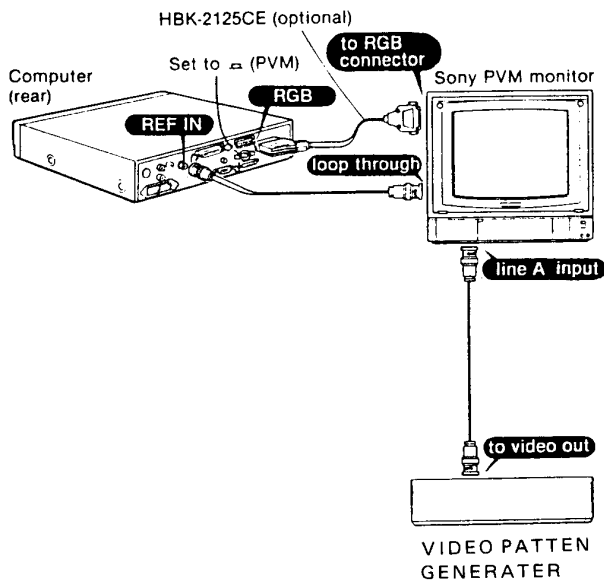
- (1) VDP clock adjustment (RV501 and RV502)
 - (2) Subcarrier adjustment (CV501)
 - (3) RGB level adjustment (RV506, RV507, and RV508)
 - (4) AFC adjustment (RV504)
 - (5) First field detector adjustment (RV503)
 - (6) H-position (RV505)
2. Outline of Adjustment

5-1-1 VDP clock Adjustment (RV501 and RV502)

Equipment required: Oscilloscope, Frequency counter

- 1) Adjust RV501 (VCO (74LS628) range control) so that the level at TP502 (check land and test pin provided) is $3.3\text{ V} \pm 0.1\text{ V}$
- 2) Short-circuit between TP505 and GND (one input signal from the PLL circuit is masked).
- 3) Adjust RV502 (V_iCENT: offset) so that the counter value at TP501 is $20.4 \pm 0.1\text{ MHz}$.
- 4) Short-circuit between TP507 and GND (the other input signal from the PLL circuit is masked). Adjust RV501 so that the counter value at TP501 is $22.4 \pm 0.1\text{ MHz}$.
- 5) Short-circuit between TP505 and GND.
- 6) Readjust as in Step 3.

Connection



5-2. PREPARTION

5-2-1. The Programming Example for Adjustment (BASIC)

```
1000 REM =====
1010 REM CHECK PRDG for HB-6900P
1020 REM C[c]:COMPUTER-MODE
1030 REM S[s]:SUPERIMPOSE-MODE
1040 REM V[v]:VIDEO-MODE
1050 REM M[m]:MIX-MODE
1060 REM W[w]:ALL-WHITE
1070 REM K[k]:ALL-BLACK
1080 REM B[b]:ALL-BLUE
1090 REM D[d]:VIDEOTIZE
1100 REM (SP):DRAW COLOR-BAR
1110 REM=====
1120 /
1130 SCREEN 5
1140 SET VIDEO 0,,1,,1
1150 /
1160 COLOR=(15,7,7,7)
1170 COLOR=(10,5,5,0)
1180 COLOR=( 7,0,5,5)
1190 COLOR=( 2,0,5,0)
1200 COLOR=(13,5,0,5)
1210 COLOR=( 8,5,0,0)
1220 COLOR=( 4,0,0,5)
1230 COLOR=( 1,0,0,0)
1240 /-----
1250 / DRAW COLOR-BAR
1260 /-----
1270 COLOR ,0,0
1280 RESTORE 1340
1290 SET PAGE 0,0
1300 FOR I=0 TO 7
1310 READ C
1320 LINE(I*32,0)-(I*32+31,211),C,BF
1330 NEXT I
1340 DATA 15,10,7,2,13,8,4,1
1350 /
1360 /-----
1370 / GET COMMAND
1380 /-----
1390 /
1400 A#=INKEY#:IF A#="" THEN GOTO 1400
1410 IF (A#="C" OR A#="c") THEN SET VIDEO 0,,1,,1,1
1420 IF (A#="S" OR A#="s") THEN SET VIDEO 2,,1,,1,1
1430 IF (A#="V" OR A#="v") THEN SET VIDEO 3,,1,,1,0
1440 IF (A#="M" OR A#="m") THEN OUT &HF7,&H1C:VDP(10)=&H92
1450 IF (A#="W"OR A#="w") THEN SCREEN 0:COLOR=(15,7,7,7):COLOR 15,15,15
1460 IF (A#="K" OR A#="k") THEN SCREEN 0:COLOR=(1,0,0,0):COLOR 1,1,1
1470 IF (A#="B" OR A#="b") THEN SCREEN 0:COLOR=(4,0,0,7):COLOR 4,4,4
1480 IF (A#="D" OR A#="d") THEN GOTO 1520
1490 IF (A#=" ") THEN SCREEN 5:GOTO 1240
1500 GOTO 1400
```

```

1510 /
1520 /=====
1530 /      HBI-G900P VIDEOTIZE
1540 /      T [t]:VIDEOTIZE (THROUGH)
1550 /      F [f]:FREEZE
1560 /=====
1570 /
1580 SCREEN 8
1590 SET VIDEO ,,1:VDP(7)=&HFF:COPY SCREEN
1600 /
1610 A#=INKEY#:IF A#=""THEN GOTO 1610
1620 IF (A#="Q" OR A#="q") THEN SET VIDEO ,,0:GOTO 1130
1630 IF (A#="T"OR A#="t") THEN SET VIDEO ,,1:COPY SCREEN
1640 IF (A#="F" OR A#="f") THEN SET VIDEO ,,1:COPY SCREEN:SET VIDEO ,,0
1650 GOTO 1610

```

5-2-2. Set the Program given above to run Condition

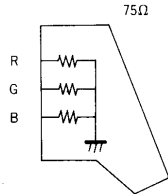
5-2-3 Subcarrier Adjustment (CV501)

Equipment required: Frequency Counter

- 1) Connect a counter to TP506.
Adjust CV501 so that the level at TP506 is $4,433,618 \pm 10$ Hz.

5-2-4 RGB Level Adjustment (RV506, RV507, and RV508)

Equipment required: Oscilloscope, 21-pin 75-ohm terminator



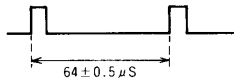
- 1) Connect a 75-ohm terminator to the 21-pin connector.
- 2) key in "W" (screen appears white.)
- 3) Adjust RV506 so that the level at TP512 is 0.7 ± 0.02 V. (B level)
- 4) Adjust RV507 so that the level at TP513 is 0.7 ± 0.02 V. (R level)
- 5) Adjust RV508 so that the level at TP514 is 0.7 ± 0.02 V. (G level)

5-2-5 AFC Adjustment (RV504)

The frequency is adjusted when μ PC1377 is free running.

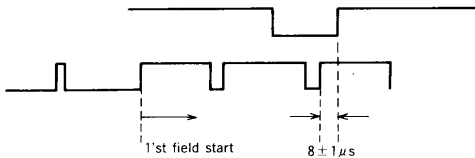
Equipment required: Oscilloscope

- 1) Connect an oscilloscope CH1 to TP510.
- 2) Adjust RV504 (H-FREQ) so that the level at TP510 is $64 \pm 0.5 \mu$ s.



5-2-6 First Field Detector Adjustment (RV503)

Equipment required: Signal generator, oscilloscope

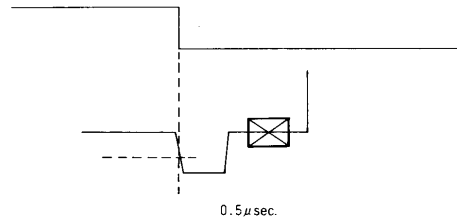


- 1) key in "S" (superimpose mode)
- 2) Connect an oscilloscope CH1 to TP 508 and CH2 to TP509 (triggerable).
- 3) Adjust RV503 (V-POSITION) so that the level at TP508 and TP509 is $8 \pm 1 \mu$ sec.

5-2-7 H-Position (RV505)

Equipment required: Oscilloscope, signal generator

- 1) key in "S" (superimpose mode)
- 2) Connect an oscilloscope CH1 to TP501 and CH2 to TP511 (triggerable).



- 3) Adjust RV505 (H-POSITION) so that each trailing edge is the same.

I/O Address Map

PU-39 BOARD ALIGNMENT

• VCO ADJ

Equipment required: Frequency counter

Condition: POWER switch to ON and after 3 minutes, Connect jumper between TP103 and GROUND

Check point: TP-101

Specification: $250 \text{ kHz} \pm 1.25 \text{ kHz}$

ADJ point: RV101

Note: after adjustment, Remove the jumper

• Read pulse width ADJ

Equipment required: Oscilloscope

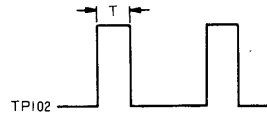
Condition: POWER switch to ON and after 3 minutes, Connect jumper between TP103 and GROUND

Check point: TP102

Specification: $T = 0.5 \mu\text{s} \pm 10 \text{ nS}$

ADJ point: RV102

Note: after adjustment, Remove the jumper

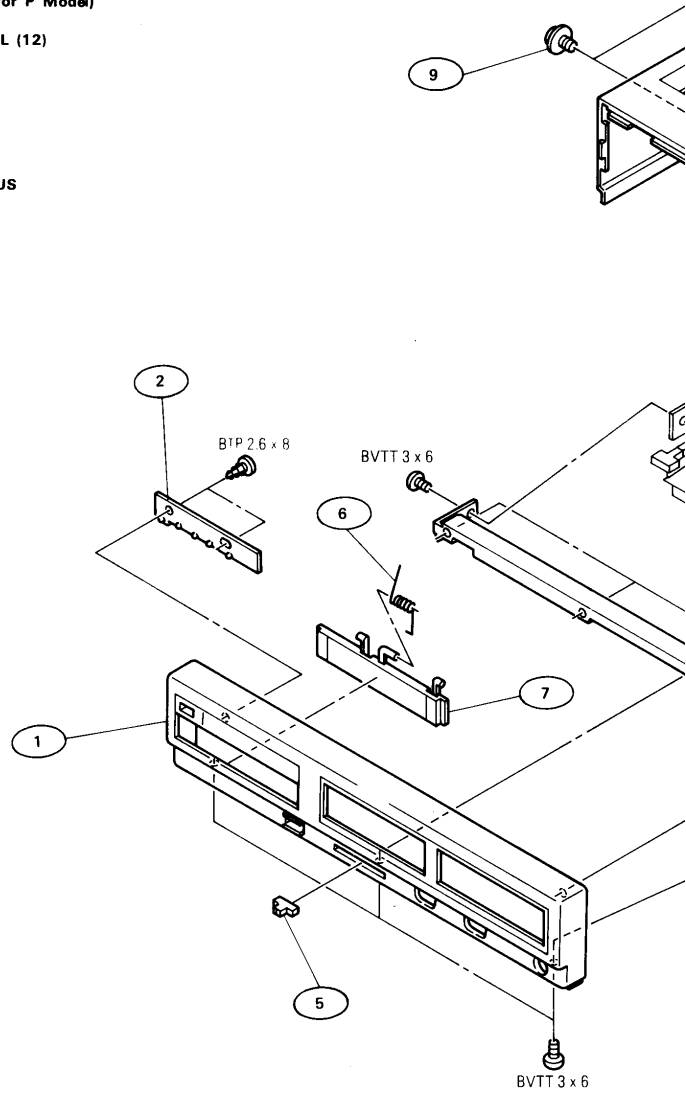


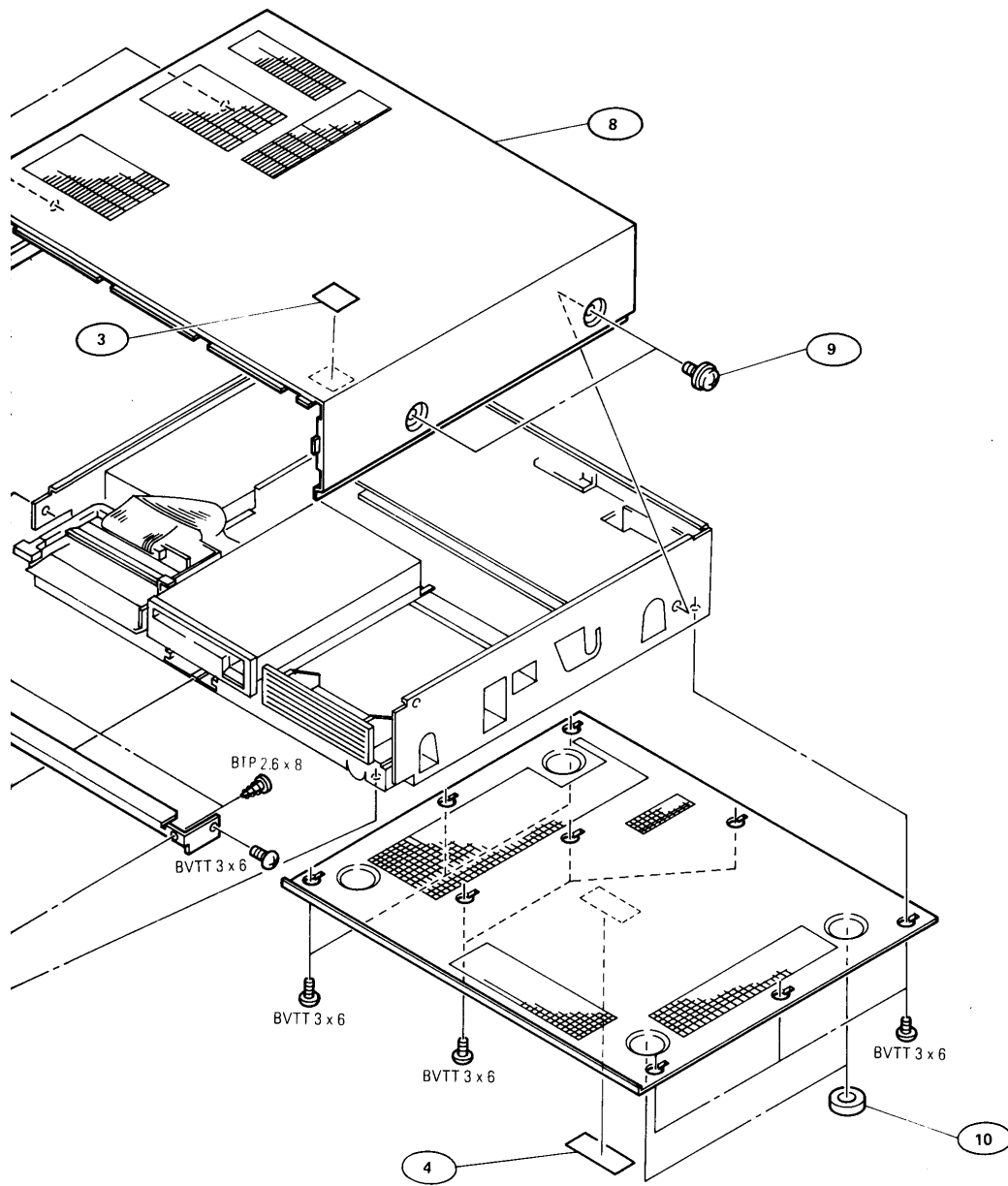
CHAPTER 6 REPAIR PARTS AND FIXTURE

6-1. EXPLODED VIEWS

6-1-1. MAIN Assembly (1)

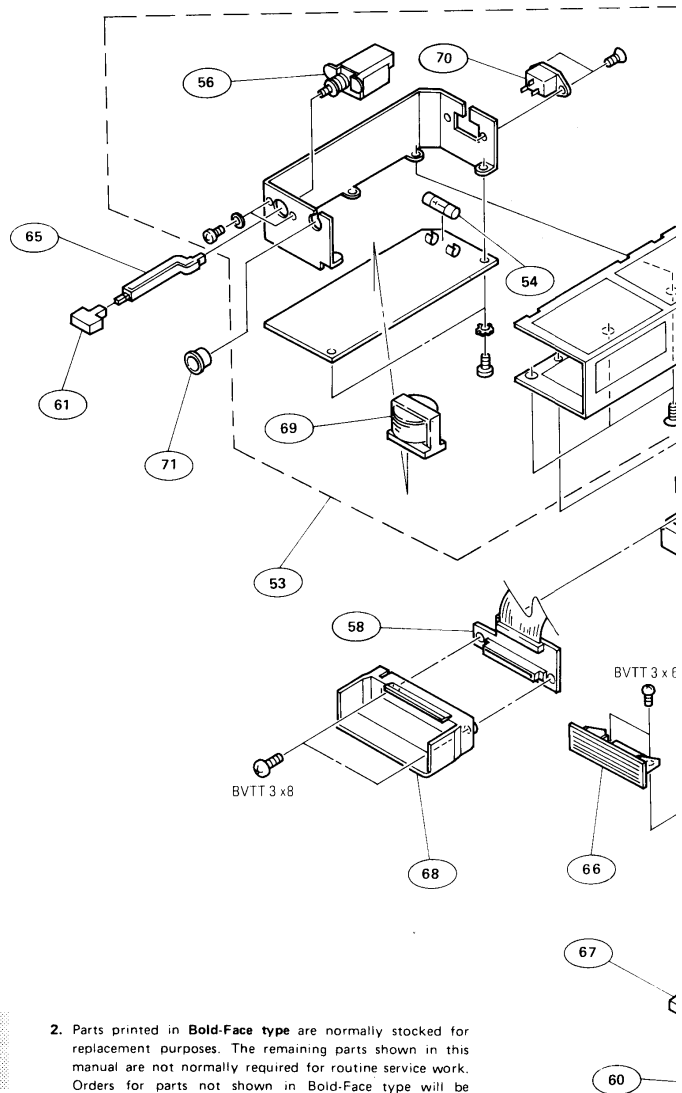
No	Parts No	Description
1	X-4604-446-01	PANEL ASSY.FRONT (For F Model)
	X-4604-444-1	PANEL ASSY.FRONT (For P Model)
2	1-617-648-11	PC BOARD,LED-30
3	3-703-710-01	STICKER,SONY SYMBOL (12)
4	4-605-478-01	LABEL,CAUTION
5	4-605-606-11	KNOB,CONTROL
6	4-605-615-01	SPRING
7	4-608-914-01	LID,CARTRIDGE
8	4-608-924-01	CASE
9	4-820-330-51	SCREW,BW,PLUS MINUS
10	4-838-906-01	FOOT,F





6-1-2. MAIN Assembly (2)

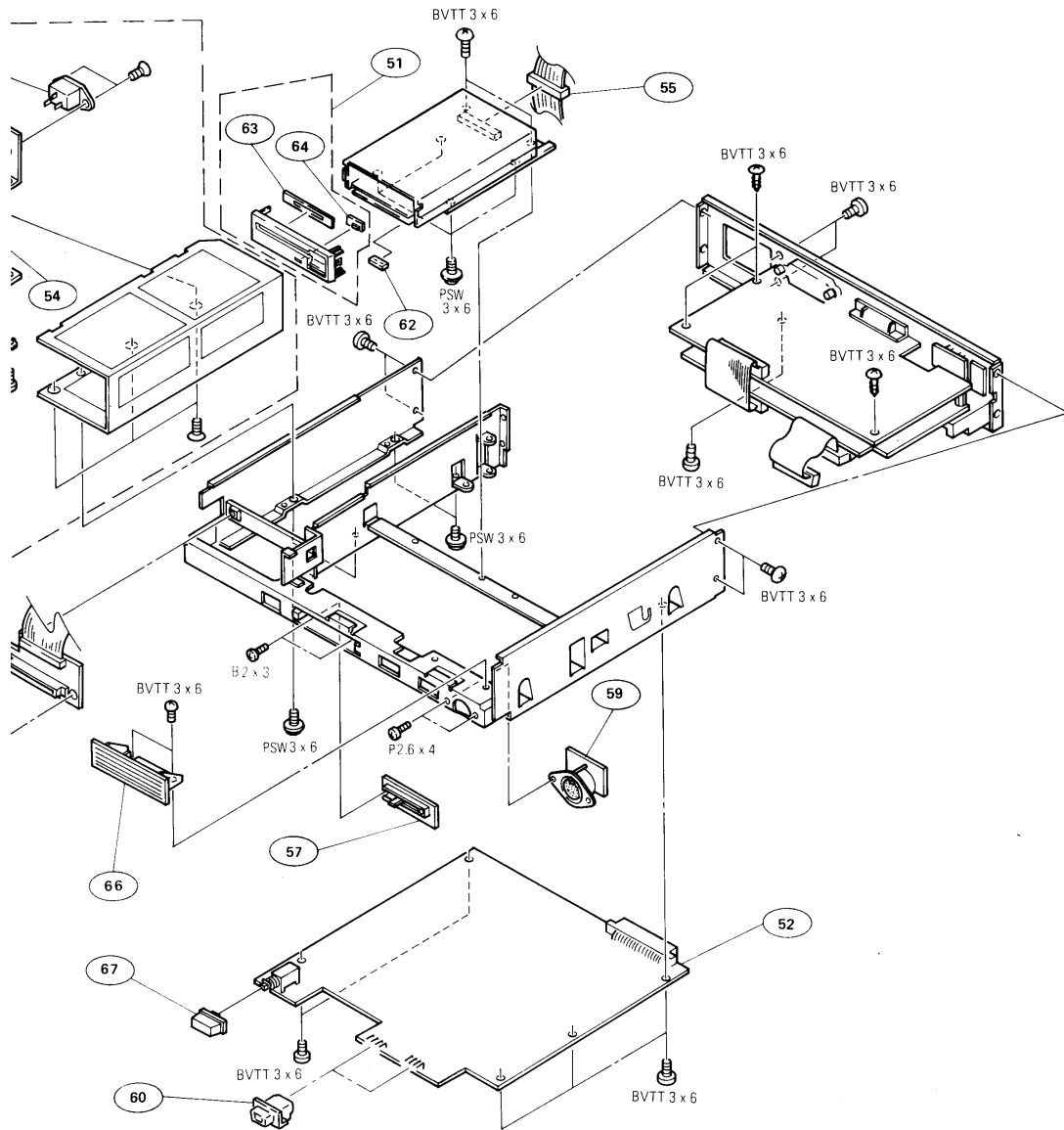
No	Parts No	Description
51	A-8030-348-A	PANEL ASSY,FRONT
52	A-8080-122-A	MOUNTED PCB,PU-39
53	1-413-234-11	REGULATOR,SWITCHING
▲ 54	1-532-203-11	FUSE
55	1-558-341-11	CABLE ASSY,FLAT (FDD)
▲ 56	1-570-544-11	SWITCH POWER
57	1-617-647-11	PC BOARD,VR-31
58	1-617-650-11	PC BOARD,CN-102
59	1-617-651-11	PC BOARD,CN-103
60	4-605-456-11	COVER,CONNECTOR
61	4-605-609-21	BUTTON, POWER
62	4-606-087-03	BUTTON, EJECT
63	4-606-088-01	SPRING
64	4-606-092-02	LENS
65	4-608-619-01	ROD, PS
66	4-608-620-01	PLATE, BLIND
67	4-608-904-01	BUTTON, RESET
68	4-608-915-01	HOLDER, CARTRIDGE
▲ 69	9-989-666-01	TRANS
70	9-989-667-01	INLET, 3P
71	9-989-668-01	BUSHING, CORD



NOTE:

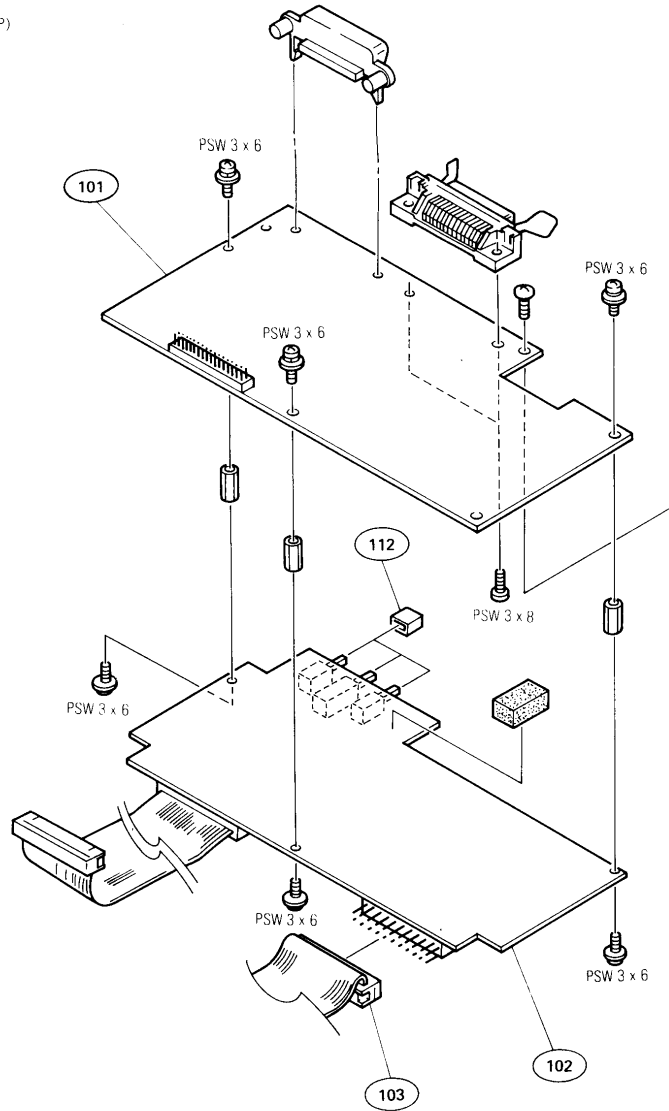
1. The shaded and ▲-marked components are critical to safety. Replace only with same components as specified.

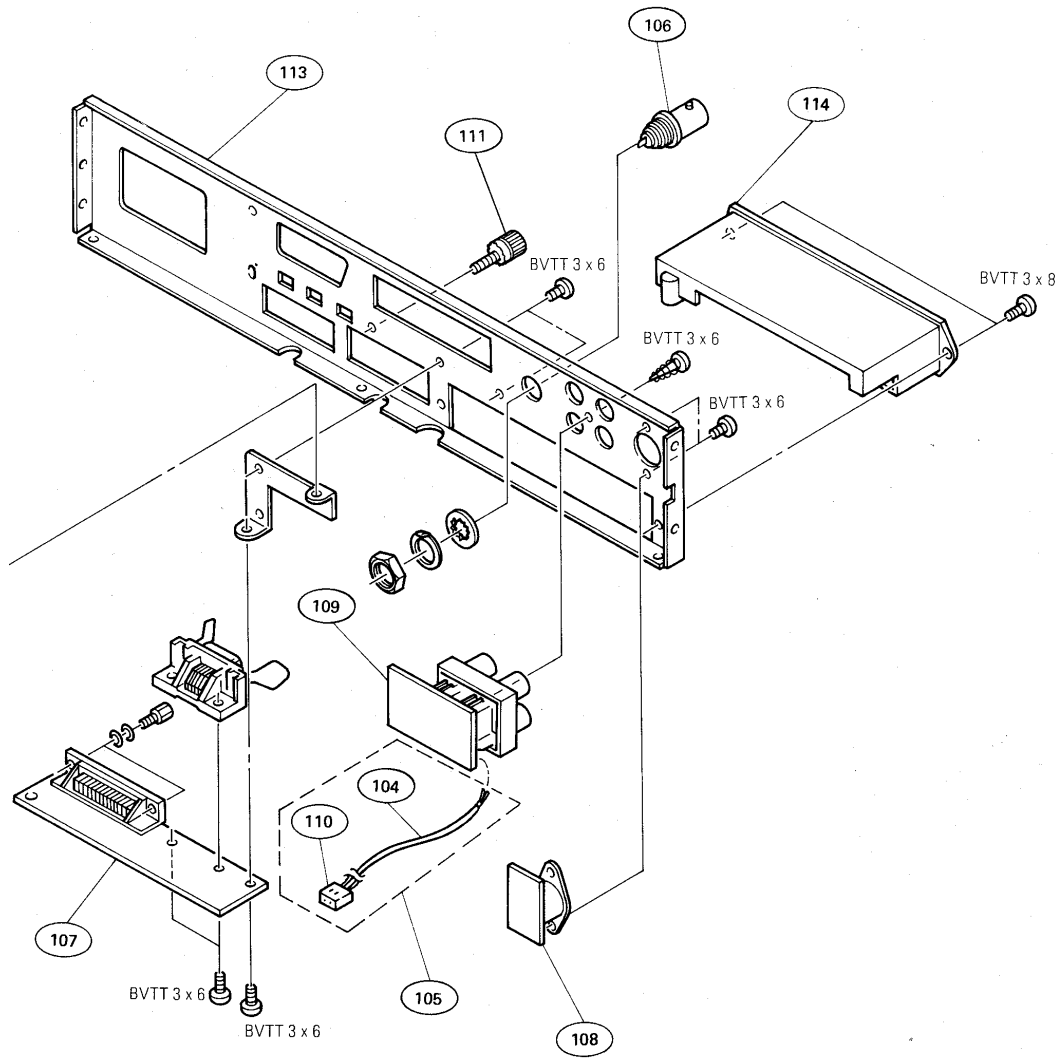
2. Parts printed in Bold-Face type are normally stocked for replacement purposes. The remaining parts shown in this manual are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.



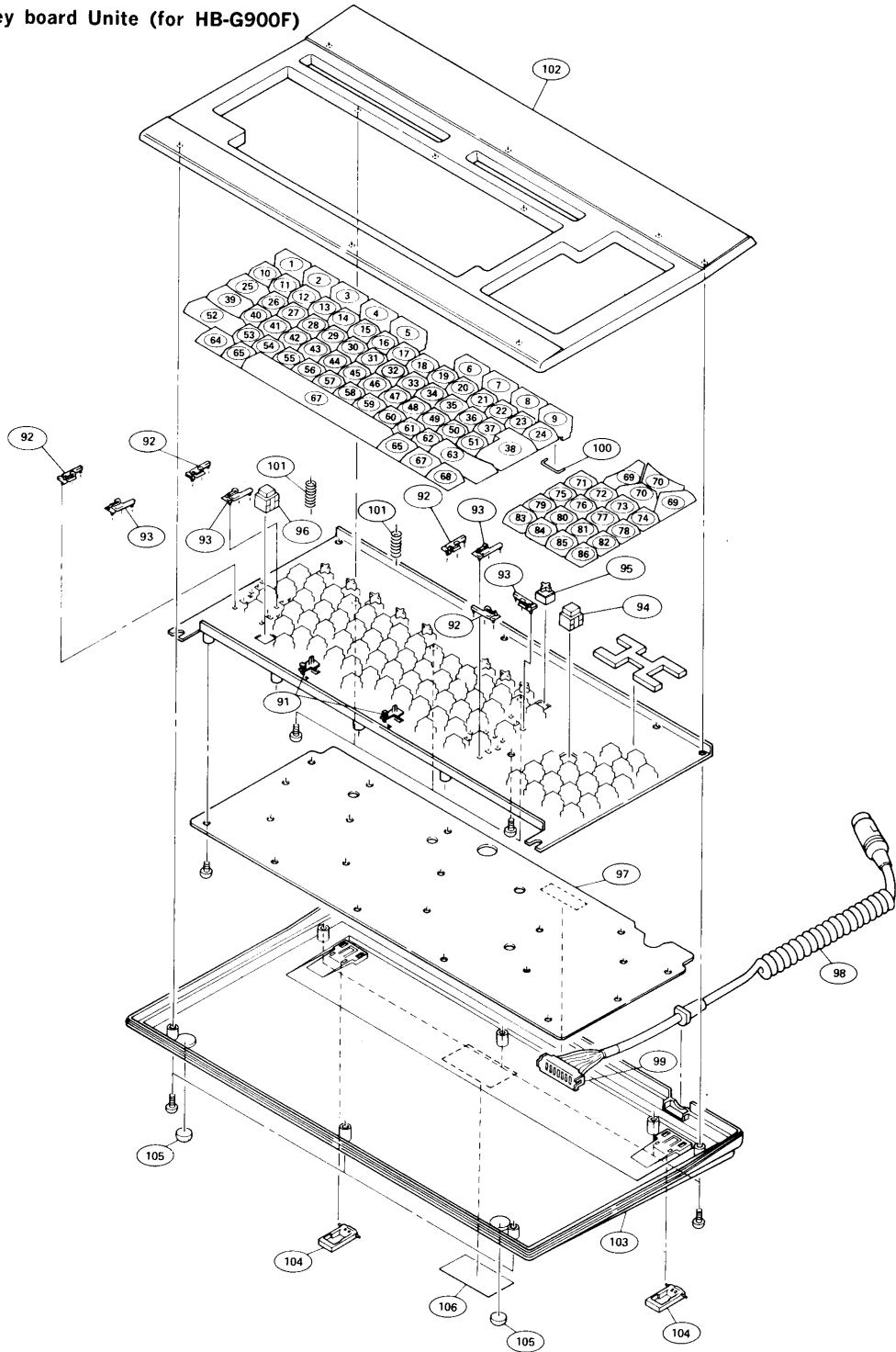
6-1-3. Chassis Assembly

No	Parts No	Description
101	A-8080-113-A	MOUNTED PCB,SG-106
102	A-8080-114-A	MOUNTED PCB,DSP-8
103	1-558-340-11	CABLE ASSY,FLAT 30P
104	1-560-372-00	TERMINAL,SOLDERLESS
105	1-561-514-11	CONNECTOR HOUSING,I.LG(2P)
106	1-562-261-00	CONNECTOR,COAXIAL (BNC)
107	1-617-652-11	PC BOARD,CN-104
108	1-617-654-11	PC BOARD,CN-105
109	1-617-654-11	PC BOARD,CN-106
110	1-936-891-11	HARNESS (REF)
111	3-706-891-11	SCREW
112	4-025-004-00	BUTTON, SWITCH
113	4-608-626-01	PLATE, JACK
114	4-608-908-01	COVER, CARTRIDGE



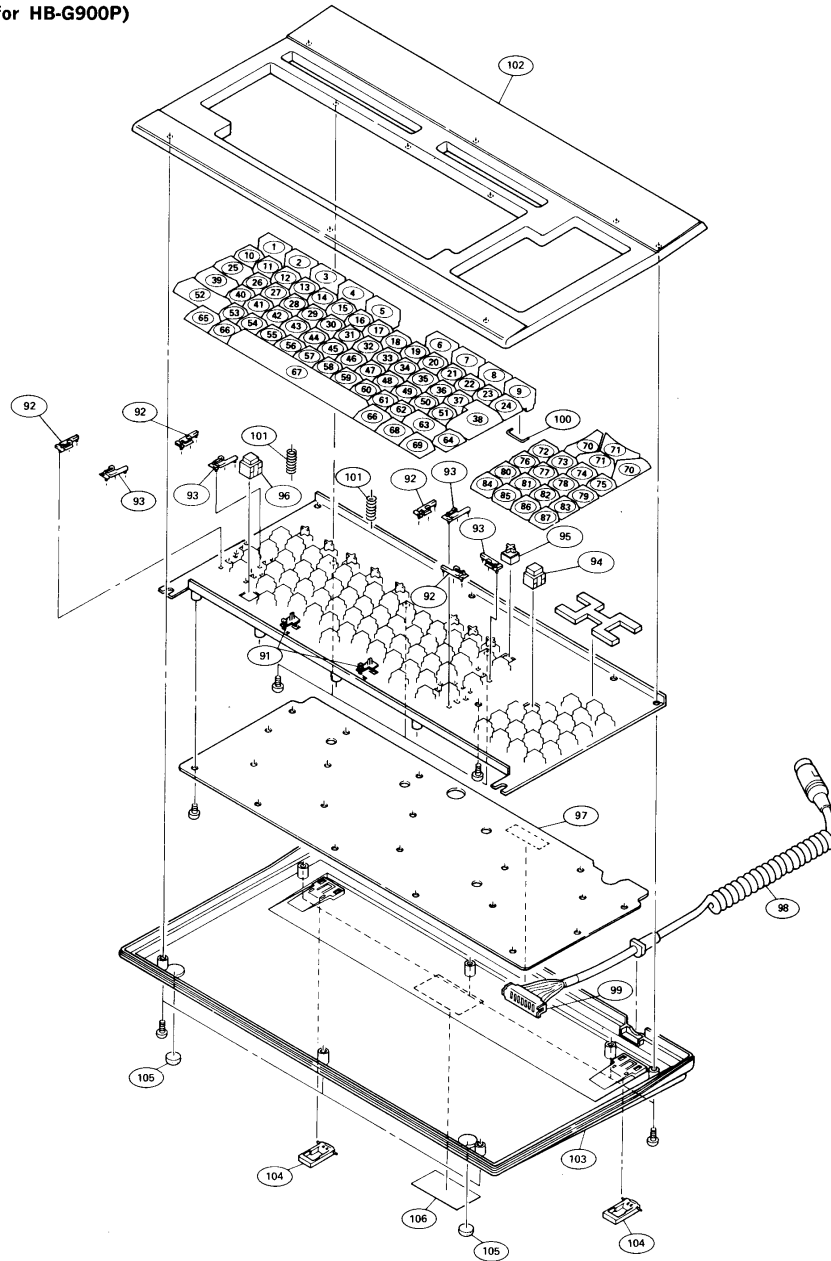


6-1-4. Key board Unit (for HB-G900F)



Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
1	9-989-209-01	KEY TOP F1	56	9-989-412-01	KEY TOP V
2	9-989-210-01	KEY TOP F2	57	9-989-413-01	KEY TOP B
3	9-989-211-01	KEY TOP F3	58	9-989-414-01	KEY TOP N
4	9-989-212-01	KEY TOP F4	59	9-989-415-01	KEY TOP ?
5	9-989-213-01	KEY TOP F5	60	9-989-416-01	KEY TOP :
6	9-989-370-01	KEY TOP EFE	61	9-989-417-01	KEY TOP :
7	9-989-215-01	KEY TOP INS	62	9-989-418-01	KEY TOP =
8	9-989-371-01	KEY TOP SUP	63	9-989-422-01	KEY SHIFT RIGHT ASSY
9	9-989-217-01	KEY TOP STOP	64	9-989-363-01	KEY TOP ()
10	9-989-218-01	KEY TOP ESC	65	9-989-364-01	KEY TOP CODE.
11					
12	9-989-372-01	KEY TOP &	66	9-989-313-01	KEY SPACE ASSY
13	9-989-373-01	KEY TOP e	67	9-989-270-01	KEY TOP GRAPH
13	9-989-374-01	KEY TOP "	68	9-989-272-01	KEY TOP SELECT
14	9-989-375-01	KEY TOP '	69	9-989-273-01	CURSOR KEY SNY
15	9-989-376-01	KEY TOP (70	9-989-274-01	CURSOR KEY SNY
16	9-989-377-01	KEY TOP §	71	9-989-275-01	KEY TOP 7
17	9-989-378-01	KEY TOP e	72	9-989-276-01	KEY TOP 8
18	9-989-379-01	KEY TOP !	73	9-989-277-01	KEY TOP 9
19	9-989-380-01	KEY TOP c	74	9-989-278-01	KEY TOP /
20	9-989-381-01	KEY TOP a	75	9-989-279-01	KEY TOP 4
21	9-989-382-01	KEY TOP)	76	9-989-280-01	KEY TOP 5
22	9-989-383-01	KEY TOP —	77	9-989-281-01	KEY TOP 6
23	9-989-384-01	KEY TOP <	78	9-989-282-01	KEY TOP *
24	9-989-327-01	KEY TOP {	79	9-989-283-01	KEY TOP 1
25	9-989-233-01	KEY TOP TAB	80	9-989-284-01	KEY TOP 2
26	9-989-385-01	KEY TOP A	81	9-989-285-01	KEY TOP 3
27	9-989-386-01	KEY TOP Z	82	9-989-286-01	KEY TOP —
28	9-989-387-01	KEY TOP E	83	9-989-287-01	KEY TOP 0
29	9-989-388-01	KEY TOP R	84	9-989-288-01	KEY TOP .
30	9-989-389-01	KEY TOP T	85	9-989-289-01	KEY TOP ,
31	9-989-390-01	KEY TOP Y	86	9-989-290-01	KEY TOP +
32	9-989-391-01	KEY TOP U	87		
33	9-989-392-01	KEY TOP I	88		
34	9-989-393-01	KEY TOP O	89		
35	9-989-394-01	KEY TOP P	90		
36	9-989-395-01	KEY TOP ^	91	9-989-291-01	HOOK A
37	9-989-396-01	KEY TOP \$	92	9-989-292-01	HOOK C
38	9-989-369-01	KEY RETURN ASSY	93	9-989-293-02	HOOK D
39	9-989-310-01	KEY CTRL ASSY	94	9-989-294-01	KEY SWITCH
40	9-989-397-01	KEY TOP Q	95	9-989-295-01	KEY SWITCH
41	9-989-398-01	KEY TOP S	96	9-989-296-01	KEY SWITCH
42	9-989-399-01	KEY TOP D	97	9-989-419-01	PW BOARD
43	9-989-400-01	KEY TOP F	98	9-989-366-01	CONNECTOR, CORDE ASSY
44	9-989-401-01	KEY TOP G	99	9-989-299-01	CONNECTOR
45	9-989-402-01	KEY TOP H	100	9-989-300-01	CRANK SHAFT
46	9-989-403-01	KEY TOP J	101	9-989-301-01	SPRING
47	9-989-404-01	KEY TOP K	102	9-989-303-01	CASE, UPPER
48	9-989-405-01	KEY TOP L	103	9-989-304-01	CASE, LOWER
49	9-989-406-01	KEY TOP M	104	9-989-305-01	BLACKET
50	9-989-407-01	KEY TOP ù	105	9-989-306-01	FOOD, RUBBER
51	9-989-408-01	KEY TOP #	106	9-989-421-01	LABEL(A) KBD-2F
52	9-989-311-01	KEY SHIFT LEFT ASSY			
53	9-989-409-01	KEY TOP W			
54	9-989-410-01	KEY TOP X			
55	9-989-411-01	KEY TOP C			

6-1-5. Key board Unite (for HB-G900P)



Ref.NO	Part.NO	Discription	Ref.NO	Part.NO	Discription
1	9-989-209-01	KEY TOP F1	56	9-989-355-01	KEY TOP V
2	9-989-210-01	KEY TOP F2	57	9-989-356-01	KEY TOP B
3	9-989-211-01	KEY TOP F3	58	9-989-357-01	KEY TOP N
4	9-989-212-01	KEY TOP F4	59	9-989-358-01	KEY TOP M
5	9-989-213-01	KEY TOP F5	60	9-989-359-01	KEY TOP ,
6	9-989-214-01	KEY TOP HOME	61	9-989-360-01	KEY TOP .
7	9-989-215-01	KEY TOP INS	62	9-989-361-01	KEY TOP /
8	9-989-216-01	KEY TOP DEL	63	9-989-312-01	KEY SHIFT RIGHT ASSY
9	9-989-217-01	KEY TOP STOP	64	9-989-362-01	KEY TOP *
10	9-989-228-01	KEY TOP ESC	65	9-989-363-01	KEY TOP Ⓢ
11	9-989-314-01	KEY TOP 1	66	9-989-364-01	KEY TOP CODE
12	9-989-315-01	KEY TOP 2	67	9-989-313-01	KEY SPACE ASSY
13	9-989-316-01	KEY TOP 3	68	9-989-270-01	KEY TOP GRAPH
14	9-989-317-01	KEY TOP 4	69	9-989-272-01	KEY TOP SELECT
15	9-989-318-01	KEY TOP 5	70	9-989-273-01	CURSOR KEY SNY
16	9-989-319-01	KEY TOP 6	71	9-989-274-01	CURSOR KEY SNY
17	9-989-320-01	KEY TOP 7	72	9-989-275-01	KEY TOP 7
18	9-989-321-01	KEY TOP 8	73	9-989-276-01	KEY TOP 8
19	9-989-322-01	KEY TOP 9	74	9-989-277-01	KEY TOP 9
20	9-989-323-01	KEY TOP 0	75	9-989-278-01	KEY TOP /
21	9-989-324-01	KEY TOP -	76	9-989-279-01	KEY TOP 4
22	9-989-325-01	KEY TOP =	77	9-989-280-01	KEY TOP 5
23	9-989-326-01	KEY TOP	78	9-989-281-01	KEY TOP 6
24	9-989-327-01	KEY TOP ⇨	79	9-989-282-01	KEY TOP *
25	9-989-233-01	KEY TOP TAB	80	9-989-283-01	KEY TOP 1
26	9-989-328-01	KEY TOP Q	81	9-989-284-01	KEY TOP 2
27	9-989-329-01	KEY TOP W	82	9-989-285-01	KEY TOP 3
28	9-989-330-01	KEY TOP E	83	9-989-286-01	KEY TOP -
29	9-989-331-01	KEY TOP R	84	9-989-287-01	KEY TOP 0
30	9-989-332-01	KEY TOP T	85	9-989-288-01	KEY TOP ,
31	9-989-333-01	KEY TOP Y	86	9-989-289-01	KEY TOP .
32	9-989-334-01	KEY TOP U	87	9-989-290-01	KEY TOP +
33	9-989-335-01	KEY TOP I	91	9-989-291-01	HOOK A
34	9-989-336-01	KEY TOP O	92	9-989-292-01	HOOK C
35	9-989-337-01	KEY TOP P	93	9-989-293-01	HOOK D
36	9-989-338-01	KEY TOP [94	9-989-294-01	KEY SWITCH
37	9-989-339-01	KEY TOP]	95	9-989-295-01	KEY SWITCH
38	9-989-369-01	RETURN KEY ASSY	96	9-989-296-01	KEY SWITCH
39	9-989-310-01	CTRL KEY ASSY	97	9-989-365-01	PW BOARD
40	9-989-340-01	KEY TOP A	98	9-989-366-01	CONNECTOR,CORDE ASSY
41	9-989-341-01	KEY TOP S	99	9-989-299-01	CONNECTOR
42	9-989-342-01	KEY TOP D	100	9-989-300-01	CRANK SHAFT
43	9-989-343-01	KEY TOP F	101	9-989-301-01	SPRING
44	9-989-344-01	KEY TOP G	102	9-989-303-01	CASE,UPPER
45	9-989-345-01	KEY TOP H	103	9-989-304-01	CASE,LOWER
46	9-989-346-01	KEY TOP J	104	9-989-305-01	BLACKET
47	9-989-347-01	KEY TOP K	105	9-989-306-01	FOOT,RUBBER .
48	9-989-348-01	KEY TOP L	106	9-989-368-01	LABEL(A) KBD-2P
49	9-989-349-01	KEY TOP ;			
50	9-989-350-01	KEY TOP '			
51	9-989-351-01	KEY TOP £			
52	9-989-311-01	KEY TOP Ⓢ			
53	9-989-352-01	KEY TOP Z			
54	9-989-353-01	KEY TOP X			
55	9-989-354-01	KEY TOP C			

6-2. ELECTRICAL PARTS LIST

6-2-1. DSP-8 Board

Ref.No.	Parts No	Discription	Ref.No.	Parts No	Discription
	A-8080-114-A	DSP-8 MOUNT	CN301	1-563-109-11	CONNECTOR, P 30P
	1-562-528-11	CONNECTOR ASSY (40P)	CN302	1-558-387-11	CABLE ASSY, FLAT 40P
	4-870-266-00	SUPPORT, BLOCK	CN303	1-560-361-00	CONNECTOR POST HEADER, ILG (8P)
			CN304	1-560-366-00	CONNECTOR POST HEADER, ILG (4P)
C301	1-123-332-00	ELECT 47MF 20% 16V	D301	8-719-815-55	DIODE 1S1555
C302	1-123-321-00	ELECT 220MF 20% 16V	D302	8-719-815-55	DIODE 1S1555
C303	1-123-356-00	ELECT 10MF 20% 16V	D303	8-719-815-55	DIODE 1S1555
C305	1-123-356-00	ELECT 10MF 20% 16V	FB301	1-154-247-21	BEAD, FERRITE
C306	1-123-356-00	ELECT 10MF 20% 16V	FB302	1-154-247-21	BEAD, FERRITE
C308	1-123-356-00	ELECT 10MF 20% 16V	IC301	8-759-700-65	IC NJM79L05A
C309	1-162-561-11	CERAMIC 0,1MF 16V	IC302	8-759-240-52	IC TC4052BP
C310	1-162-561-11	CERAMIC 0,1MF 16V	IC303	8-759-240-52	IC TC4052BP
C311	1-123-333-00	ELECT 100MF 20% 16V	IC304	8-759-910-04	IC SN74S04N
C312	1-123-333-00	ELECT 100MF 20% 16V	IC305	8-759-145-58	IC UPC4558C
C313	1-123-356-00	ELECT 10MF 20% 16V	IC306	8-759-903-68	IC SN74LS368AN
C314	1-162-561-11	CERAMIC 0,1MF 16V	IC307	8-759-203-21	IC TC74HC273P
C315	1-123-321-00	ELECT 220MF 20% 16V	IC308	8-759-902-44	IC SN74LS244N
C316	1-123-356-00	ELECT 10MF 20% 16V	IC309	8-759-922-42	IC MB81464-12
C317	1-123-356-00	ELECT 10MF 20% 16V	IC310	8-759-922-42	IC MB81464-12
C318	1-102-110-00	CERAMIC 220PF 10% 50V	IC311	8-759-922-42	IC MB81464-12
C319	1-162-561-11	CERAMIC 0,1MF 16V	IC312	8-759-922-42	IC MB81464-12
C322	1-123-356-00	ELECT 10MF 20% 16V	IC313	8-759-922-51	IC V9938
C323	1-123-356-00	ELECT 10MF 20% 16V	L301	1-408-417-00	MICRO INDUCTOR 47UH
C324	1-123-356-00	ELECT 10MF 20% 16V	L302	1-408-417-00	MICRO INDUCTOR 47UH
C325	1-162-561-11	CERAMIC 0,1MF 16V	Q301	8-729-178-55	TRANSISTOR 2SC2785E
C326	1-162-561-11	CERAMIC 0,1MF 16V	Q302	8-729-178-55	TRANSISTOR 2SC2785E
C327	1-123-356-00	ELECT 10MF 20% 16V	Q303	8-729-178-55	TRANSISTOR 2SC2785E
C328	1-123-333-00	ELECT 100MF 20% 16V	Q304	8-729-178-55	TRANSISTOR 2SC2785E
C329	1-162-561-11	CERAMIC 0,1MF 16V	Q305	8-729-178-55	TRANSISTOR 2SC2785E
C330	1-162-561-11	CERAMIC 0,1MF 16V	Q306	8-729-178-55	TRANSISTOR 2SC2785E
C331	1-162-561-11	CERAMIC 0,1MF 16V	Q307	8-729-178-55	TRANSISTOR 2SC2785E
C332	1-162-561-11	CERAMIC 0,1MF 16V			
C333	1-162-561-11	CERAMIC 0,1MF 16V			
C334	1-123-356-00	ELECT 10MF 20% 16V			
C335	1-123-356-00	ELECT 10MF 20% 16V			
C338	1-123-333-00	ELECT 100MF 20% 16V			
C339	1-123-333-00	ELECT 100MF 20% 16V			
C340	1-162-561-11	CERAMIC 0,1MF 16V			
C341	1-162-561-11	CERAMIC 0,1MF 16V			
C342	1-123-333-00	ELECT 100MF 20% 16V			
C343	1-123-356-00	ELECT 10MF 20% 16V			
C344	1-162-561-11	CERAMIC 0,1MF 16V			

Ref.No	Part.No	Description	Ref.No	Part.No	Description
R301	1-249-429-11	CARBON 10K 5% 1/6W	RB301	1-235-716-11	RES, ENCAPSULATED CERMET
R302	1-247-879-00	CARBON 100K 5% 1/6W			
R303	1-247-873-00	CARBON 56K 5% 1/6W	RY301	1-515-519-00	RELAY
R304	1-247-873-00	CARBON 56K 5% 1/6W	RY302	1-515-519-00	RELAY
R305	1-247-873-00	CARBON 100K 5% 1/6W	S301	1-552-425-00	SWITCH, PUSH
			S302	1-552-425-00	SWITCH, PUSH
			S303	1-553-261-00	SWITCH, PUSH
R306	1-247-855-00	CARBON 10K 5% 1/6W			
R307	1-247-847-00	CARBON 4,7K 5% 1/6W			
R308	1-247-847-00	CARBON 4,7K 5% 1/6W	LED-30 BOARD		
R309	1-247-855-00	CARBON 10K 5% 1/6W		1-617-648-11	PC BOARD, LED-30
R310	1-247-855-00	CARBON 10K 5% 1/6W			
			D601	8-719-937-45	DIODE GL-1EG101
R311	1-247-863-00	CARBON 22K 5% 1/6W	D602	8-719-937-45	DIODE GL-1EG101
R312	1-247-847-00	CARBON 4,7K 5% 1/6W	D603	8-719-937-45	DIODE GL-1EG101
R313	1-247-855-00	CARBON 10K 5% 1/6W	D604	8-719-937-45	DIODE GL-1EG101
R314	1-247-839-00	CARBON 2,2K 5% 1/6W	D605	8-719-937-45	DIODE GL-1EG101
R315	1-247-863-00	CARBON 22K 5% 1/6W			
			CN-102 BOARD		
R316	1-249-425-11	CARBON 4,7K 5% 1/6W		1-607-650-11	PC BOARD, CN-102
R317	1-247-831-00	CARBON 1K 5% 1/6W	CN211	1-558-339-11	CABLE ASSY, FLAT (SLT)
R318	1-249-425-11	CARBON 4,7K 5% 1/6W	CN212	1-562-383-00	SOCKET, CONNECTOR
R319	1-247-831-00	CARBON 1K 5% 1/6W			
R320	1-247-863-00	CARBON 22K 5% 1/6W			
			CN-104 BOARD		
R321	1-247-829-00	CARBON 820K 5% 1/6W		1-617-562-11	PC BOARD, CN-104
R322	1-247-863-00	CARBON 22K 5% 1/6W	C231	1-101-004-00	CERAMIC 0,01MF 50V
R323	1-247-829-00	CARBON 820 5% 1/6W	C232	1-101-004-00	CERAMIC 0,01MF 50V
R324	1-249-429-11	CARBON 10K 5% 1/6W	C233	1-101-004-00	CERAMIC 0,01MF 50V
R325	1-247-831-00	CARBON 1K 5% 1/6W	CN232	1-563-161-11	CONNECTOR, D-SUB (MOUNT TYPE) 25P
			CN234	1-562-856-21	CONNECTOR 14P
R326	1-247-819-00	CARBON 330 5% 1/6W			
R327	1-247-863-00	CARBON 22K 5% 1/6W	D231	8-719-911-19	DIODE 1SS119
R328	1-247-863-00	CARBON 22 5% 1/6W	D232	8-719-911-19	DIODE 1SS119
R329	1-249-429-11	CARBON 10K 5% 1/6W	D233	8-719-911-19	DIODE 1SS119
R330	1-249-429-11	CARBON 10K 5% 1/6W	RY231	1-515-519-00	RELAY
			RY232	1-515-519-00	RELAY
			RY233	1-515-519-00	RELAY
R331	1-249-429-11	CARBON 10K 5% 1/6W			
R332	1-247-863-00	CARBON 22K 5% 1/6W	CN-105 BOARD		
R333	1-249-425-11	CARBON 4,7K 5% 1/6W		1-617-653-11	PC BOARD, CN-105
R334	1-247-804-00	CARBON 75 5% 1/6W	CN242	1-563-103-11	JACK, DIN 8P
R335	1-247-873-00	CARBON 56K 5% 1/6W			
			CN-106 BOARD		
R336	1-247-873-00	CARBON 56K 5% 1/6W		1-617-654-11	PC BOARD, CN-106
R337	1-249-425-11	CARBON 4,7K 5% 1/6W	CN422	1-507-909-11	JACK, PIN 4P
R338	1-249-425-11	CARBON 4,7K 5% 1/6W			
R339	1-247-829-00	CARBON 820 5% 1/6W			
R340	1-247-829-00	CARBON 820 5% 1/6W	CN-103 BOARD		
				1-617-651-11	PC BOARD, CN-103
R341	1-249-421-11	CARBON 2,2K 5% 1/6W	CN223	1-563-111-11	JACK, 13P
R342	1-249-421-11	CARBON 2,2K 5% 1/6W			
R343	1-249-421-11	CARBON 2,2K 5% 1/6W			
			VR-31 BOARD		
				1-617-647-11	PC BOARD, VR-31
			VR411	1-228-882-00	RES, VAR, SLID 100K

6-2-2. PU-39 Board

Ref.No.	Parts No	Description	Ref.No	Part,No	Description
A-8080-122-A	MOUNTED PCB,PU-39		C161	1-123-308-00	ELECT 220MF 20% 10V
3-662-075-00	COVER, CONTROL		C162	1-123-321-00	ELECT 220 20% 16V
			C163	1-123-321-00	ELECT 220MF 20% 16V
BAT1	1-152-171-11	BATTERY, STORAGE, NI-CD	C171	1-123-316-00	ELECT 10MF 20% 16V
C101	1-162-561-11	CERAMIC 0,1MF 16V	C172	1-123-318-00	ELECT 33MF 20% 16V
C102	1-162-561-11	CERAMIC 0,1MF 16V			
C103	1-162-561-11	CERAMIC 0,1MF 16V	C173	1-102-518-00	CERRAMIC 33PF 5% 50V
C104	1-162-561-11	CERAMIC 0,1MFF 16V	C174	1-123-356-00	ELECT 10MF 20% 16V
			C175	1-123-356-00	ELECT 10MF 20% 16V
C105	1-162-561-11	CERAMIC 0,1MF 16V	C176	1-123-356-00	ELECT 10MF 20% 16V
C106	1-162-561-11	CERAMIC 0,1MF 16V	C177	1-101-974-00	CERAMIC 20PF 5% 50V
C107	1-162-561-11	CERAMIC 0,1MF 16V			
C108	1-162-561-11	CERAMIC 0,1MF 16V	C178	1-101-974-00	CERAMIC 20PF 5% 50V
C109	1-162-561-11	CERAMIC 0,1MF 16V	C180	1-123-332-00	ELECT 47MF 20% 16V
			C181	1-123-356-00	ELECT 10MF 20% 16V
C110	1-162-561-11	CERAMIC 0,1MF 16V	C182	1-123-369-00	ELECT 4,7MF 20% 25V
C112	1-162-561-11	CERAMIC 0,1MF 16V	C183	1-130-499-00	MYLAR 0,22MF 5% 50V
C113	1-162-561-11	CERAMIC 0,1MF 16V			
C114	1-162-561-11	CERAMIC 0,1MF 16V	C184	1-101-004-00	CERAMIC 0,01MF 50V
C115	1-162-561-11	CERAMIC 0,1MF 16V	C185	1-101-005-00	CERAMIC 0,022MF 50V
			C186	1-136-173-00	FILM 0,47MF 5% 50V
C116	1-162-561-11	CERAMIC 0,1MF 16V	C187	1-101-004-00	CERAMIC 0,01MF 50V
C117	1-162-561-11	CERAMIC 0,1MFF 16V	C188	1-102-518-00	CERAMIC 33PF 5% 50V
C118	1-162-561-11	CERAMIC 0,1MF 16V			
C119	1-162-561-11	CERAMIC 0,1MF 16V	C189	1-102-518-00	CERAMIC 33PF 5% 50V
C120	1-162-561-11	CERAMIC 0,1MF 16V	C190	1-102-518-00	CERAMIC 33PF 5% 50V
			C191	1-101-004-00	CERAMIC 0,01MF 50V
C121	1-101-004-00	CERAMIC 0,01MF 50V	C192	1-102-074-00	CERAMIC 0,001MF 10% 50V
C122	1-162-561-11	CERAMIC 0,1MF 16V	C193	1-102-074-00	CERAMIC 0,001MF 10% 50V
C123	1-162-561-11	CERAMIC 0,1MF 16V			
C124	1-162-561-11	CERAMIC 0,1MFF 16V	C194	1-123-356-00	ELECT 10MF 20% 16V
C125	1-162-561-11	CERAMIC 0,1MF 16V	C196	1-123-356-00	ELECT 10MF 20% 16V
			C197	1-102-518-00	CERAMIC 24PF 5% 50V
C126	1-162-561-11	CERAMIC 0,1MF 16V	C198	1-123-356-00	ELECT 10MF 20% 16V
C127	1-162-561-11	CERAMIC 0,1MF 16V	C199	1-123-332-00	ELECT 4,7MF 20% 16V
C129	1-162-561-11	CERAMIC 0,1MF 16V			
C130	1-162-561-11	CERAMIC 0,1MF 16V	CN101	1-506-612-11	CONNECTOR, P(DIP TYPE) 30P
C131	1-162-561-11	CERAMIC 0,1MF 16V	CN102	1-564-399-11	CONNECTOR, P(DIP TYPE) 34P
			CN103	1-506-658-11	HEADER 50P
C132	1-162-561-11	CERAMIC 0,1MF 16V	CN105	1-560-363-00	CONNECTOR POST HEADER, ILG(12P)
C133	1-162-561-11	CERAMIC 0,1MF 16V	CN106	1-560-362-00	CONNECTOR POST HEADER, ILG(10P)
C134	1-162-561-11	CERAMIC 0,1MFF 16V			
C135	1-162-561-11	CERAMIC 0,1MF 16V	CN107	1-560-359-00	CONNECTOR POST HEADER, ILG(5P)
C136	1-162-561-11	CERAMIC 0,1MF 16V	CN108	1-564-421-11	HEADER, SPRING (POWER) 4P
			CN109	1-562-626-11	SOCKET, CONNECTOR
C137	1-162-561-11	CERAMIC 0,1MF 16V	CN110	1-564-372-00	PIN, CONNECTOR 9P
C138	1-162-561-11	CERAMIC 0,1MF 16V	CN111	1-564-372-00	PIN, CONNECTOR 9P
C139	1-162-561-11	CERAMIC 0,1MF 16V			
C140	1-162-561-11	CERAMIC 0,1MFF 16V	CV101	1-141-254-00	CAP, TRIMMER
C141	1-162-561-11	CERAMIC 0,1MF 16V	D101	8-719-911-19	DIODE 1SS119
			D102	8-719-911-19	DIODE 1SS119
C142	1-162-561-11	CERAMIC 0,1MF 16V	D103	8-719-911-19	DIODE 1SS119
C143	1-162-561-11	CERAMIC 0,1MF 16V	D104	8-719-911-19	DIODE 1SS119
C144	1-162-561-11	CERAMIC 0,1MF 16V			
C145	1-162-561-11	CERAMIC 0,1MF 16V	D105	8-719-911-19	DIODE 1SS119
C146	1-162-561-11	CERAMIC 0,1MF 16V	D106	8-719-981-01	DIODE ERA81-004
			D111	8-719-101-49	RD5,1EL1
C147	1-162-561-11	CERAMIC 0,1MFF 16V	D121	8-719-908-57	DIODE SVC203
C148	1-162-561-11	CERAMIC 0,1MF 16V			
C149	1-162-561-11	CERAMIC 0,1MF 16V			
C127	1-162-561-11	CERAMIC 0,1MF 16V			

Ref.No	Part.No	Description	Ref.No.	Parts No	Description
FB101	1-543-274-21	BEAD, FERRITE	IC133	8-759-911-41	IC TL431CP
FB102	1-543-274-24	BEAD, FERRITE	IC134	8-759-131-11	IC UPC311C
FB103	1-543-274-21	BEAD, FERRITE	IC135	8-759-900-74	IC SN74LS74AN
FB104	1-543-274-24	BEAD, FERRITE	IC136	8-759-901-25	IC SN74LS125AN
FB105	1-543-274-21	BEAD, FERRITE	IC137	8-759-974-06	IC SN7406N
FB106	1-543-274-14	BEAD, FERRITE	IC138	8-759-902-44	IC SN74LS244N
FB107	1-543-274-21	BEAD, FERRITE	IC139	8-759-900-21	IC SN74LS21N
FB108	1-543-274-24	BEAD, FERRITE	IC140	8-759-900-74	IC SN74LS74AN
FB109	1-543-274-21	BEAD, FERRITE	IC141	8-759-901-38	IC SN74LS138N
FB110	1-543-274-24	BEAD, FERRITE	IC142	8-759-900-32	IC SN74LS32N
FB111	1-543-274-21	BEAD, FERRITE	IC143	8-759-900-32	IC SN74LS32N
FB112	1-543-274-24	BEAD, FERRITE	IC144	8-759-900-08	IC SN74LS08N
FB113	1-543-274-21	BEAD, FERRITE	IC145	8-759-900-04	IC SN74LS04N
FB114	1-543-274-24	BEAD, FERRITE	IC146	8-759-900-74	IC SN74LS74AN
FB115	1-543-274-21	BEAD, FERRITE	IC147	8-759-901-56	IC SN74LS156N
FB116	1-543-274-24	BEAD, FERRITE	IC148	8-759-900-00	IC SN74LS00N
FB119	1-543-274-24	BEAD, FERRITE	IC149	8-759-900-08	IC SN74LS08N
FB120	1-543-274-24	BEAD, FERRITE	IC150	8-759-900-02	IC SN74LS02N
IC101	8-759-908-35	IC TL7705CP	IC151	8-759-900-12	IC SN74LS12N
IC102	8-759-904-53	IC SN74ALS133N	IC152	8-759-182-53	IC UPD8253C-5
IC103	8-759-974-07	IC SN7407N	IC153	8-759-900-32	IC SN74LS32N
IC104	8-759-901-57	IC SN74LS157N	IC154	8-759-900-32	IC SN74LS32N
IC105	8-759-901-57	IC SN74LS157N	IC155	8-759-901-39	IC SN74LS139N
IC106	8-759-903-67	IC SN74LS367SN	IC156	8-759-901-55	IC SN74LS155N
IC107	8-759-903-67	IC SN74LS367SN	IC157	8-759-900-32	IC SN74LS32N
IC108	8-759-910-57	IC RP5C01	IC158	8-759-900-32	IC SN74LS32N
IC109			IC159	8-759-900-74	IC SN74LS74AN
IC110	8-759-908-60	IC AY3-3-8910	IC160	8-759-103-27	IC UPD8251AFC
IC111	8-759-182-55	IC UPD8255AC-5	IC161	8-759-903-67	IC SN74LS367AN
IC111	8-759-834-11	IC SOCKET, IC 28P	IC162	8-759-903-67	IC SN74LS367AN
IC112	8-759-901-75	IC SN74LS175N	IC163	8-759-901-55	IC SN74LS155N
IC113	8-759-900-32	IC SN74LS32N	IC164	8-759-901-38	IC SN74LS138N
IC114	8-759-925-61	MB83256-252(for HB-G900P)	IC165	8-759-900-14	IC SN74LS14N
IC114	8-759-927-69	MB83256-254(for HB-G900F)	IC166	8-759-902-45	IC SN74LS245N
IC115	8-759-922-42	IC MB81464-12	IC167	8-759-903-67	IC SN74LS367AN
IC116	8-759-901-57	IC SN74LS157N	IC168	8-759-902-40	IC SN74LS240N
IC117	8-759-901-53	IC SN74LS157N	IC169	8-759-903-67	IC SN74LS367AN
IC118	8-759-900-00	IC SN74LS00N	IC170	8-759-901-38	IC SN74LS138N
IC119	8-759-901-39	IC SN74LS139N	IC171	8-759-901-38	IC SN74LS138N
IC120	8-759-926-62	MB83256-251(for HB-G900P)	IC172	8-759-901-39	IC SN74LS139N
IC120	8-759-927-68	MB83256-253(for HB-G900F)	IC173	8-759-951-88	IC SN74LS188N
IC121	8-759-922-42	IC MB81464-12	IC174	8-759-974-38	IC SN74LS38NN
IC122	8-759-901-57	IC SN74LS157N	IC175	8-759-902-73	IC SN74LS273N
IC124	8-759-903-67	IC SN74LS367AN	IC176	8-759-901-53	IC SN74LS153N
IC125	8-759-903-67	IC SN74LS367AN	IC177	8-759-951-89	IC SN74189AN
IC126	8-759-911-93	IC MB8416A-15P-SK	IC178	8-759-951-89	IC SN75189AN
IC127	1-526-835-11	IC SOCKET, IC 40P	IC179	8-759-903-74	IC SN74LS374N
IC127	8-759-107-81	IC UPD780C-1	IC180	8-759-900-74	IC SN74LS74AN
IC128	8-759-902-45	IC SN74LS245N			
IC129	8-759-922-98	IC CXD1032Q			
IC130	8-759-903-67	IC SN74LS367AN			
IC131	8-759-974-04	IC SN7404N			
IC132	8-759-902-45	IC SN74LS245N			
IC132	1-526-835-11	IC SOCKET, IC 40P			
IC134	8-759-910-82	IC WD2793A-PL02			

Ref.No	Part.No	Discription	Ref.No	Part.No	Discription
Q101	8-729-173-37	TRANSISTOR 2SA773P	R160	1-249-425-11	CARBON 4,7K5% 1/6W
Q102	8-729-173-37	TRANGISTOR 2SA773P	R161	1-249-429-11	CARBON 10K 5% 1/6W
Q103	8-729-173-37	TRANGISTOR 2SA773P	R162	1-247-879-00	CARBON 100K5% 1/6W
			R163	1-247-823-00	CARBON 470 5% 1/6W
			R164	1-249-437-11	CARBON 47K 5% 1/6W
R105	1-247-831-00	CARBON 1K 5% 1/6W			
R106	1-247-831-00	CARBON 1K 5% 1/6W	R165	1-247-843-00	CARBON 3,3K5% 1/6W
R107	1-247-827-00	CARBON 680 5% 1/6W	R166	1-247-869-00	CARBON 39K 5% 1/6W
R108	1-247-823-00	CARBON 470 5% 1/6W	R167	1-249-429-11	CARBON 10K 5% 1/6W
R109	1-247-823-00	CARBON 470 5% 1/6W	R168	1-247-831-00	CARBON 1K 5% 1/6W
			R171	1-249-425-11	CARBON 4,7K5% 1/6W
R110	1-247-855-00	CARBON 10K 5% 1/6W			
R111	1-247-863-00	CARBON 22K 5% 1/6W	R172	1-249-429-11	CARBON 10K 5% 1/6W
R112	1-247-831-00	CARBON 1K 5% 1/6W	R173	1-249-429-11	CARBON 10K 5% 1/6W
R113	1-249-429-11	CARBON 10K 5% 1/6W	R174	1-249-425-11	CARBON 4,7K5% 1/6W
R115	1-247-903-00	CARBON 1M 5% 1/6W	R177	1-247-863-00	CARBON 22K 5% 1/6W
			R180	1-247-831-00	CARBON 1K 5% 1/6W
R116	1-247-863-00	CARBON 22K 5% 1/6W			
R117	1-249-429-11	CARBON 10K 5% 1/6W	R181	1-247-831-00	CARBON 1K 5% 1/6W
R118	1-249-429-11	CARBON 10K 5% 1/6W	R182	1-247-837-00	CARBON 1,8K5% 1/6W
R121	1-247-791-00	CARBON 22 5% 1/6W	R183	1-247-825-00	CARBON 560 5% 1/6W
R122	1-247-791-00	CARBON 22 5% 1/6W	R184	1-247-815-00	CARBON 220 5% 1/6W
			R185	1-249-429-11	CARBON 10K 5% 1/6W
R124	1-247-791-00	CARBON 22 5% 1/6W			
R125	1-247-833-00	CARBON 1,2K5% 1/6W	R186	1-247-831-00	CARBON 1K 5% 1/6W
R126	1-247-815-00	CARBON 220 5% 1/6W	R187	1-247-831-00	CARBON 1K 5% 1/6W
R127	1-247-696-11	CARBON 47 5% 1/6W	R195	1-247-852-00	CERAMIC 47PF5% 1/6W
R128	1-247-831-00	CARBON 1K 5% 1/6W			
R129	1-247-815-00	CARBON 220 5% 1/6W			
R130	1-247-831-00	CARBON 1K 5% 1/6W			
R131	1-247-783-00	CARBON 10 5% 1/6W			
R133	1-247-859-00	CARBON 15K 5% 1/6W			
R134	1-247-879-00	CARBON 100K5% 1/6W			
R135	1-247-836-00	CARBON 1,6K5% 1/6W			
R136	1-247-842-00	CARBON 3K 5% 1/6W			
R137	1-247-823-00	CARBON 470 5% 1/6W			
R138	1-249-421-11	CARBON 2,2K5% 1/6W			
R139	1-247-825-00	CARBON 560 5% 1/6W			
R140	1-247-825-00	CARBON 560 5% 1/6W			
R143	1-247-831-00	CARBON 1K 5% 1/6W			
R144	1-247-795-00	CARBON 33 5% 1/6W			
R145	1-247-847-00	CARBON 4,7K5% 1/6W			
R147	1-247-831-00	CARBON 1K 5% 1/6W			
R148	1-247-863-00	CARBON 22K 5% 1/6W			
R149	1-247-841-00	CARBON 2,7K5% 1/6W			
R150	1-247-863-00	CARBON 22K 5% 1/6W			
R151	1-247-863-00	CARBON 22K 5% 1/6W			
R155	1-247-831-00	CARBON 1K 5% 1/6W			

6-2-3. SG-106 Board

Ref.No.	Parts No	Discription	Ref.No	Part,No	Discription
RB101	1-235-724-11	RES, ENCAPSULATED CERMET	A-8080-113-A	SG-106 MOUNT	
RB102	1-235-724-11	RES, ENCAPSULATED CERMET			
RB103	1-235-724-11	RES, ENCAPSULATED CERMET	C501	1-130-471-00	MYLAR 0,001MF 5% 50V
RB104	1-235-724-11	RES, ENCAPSULATED CERMET	C502	1-123-356-00	ELECT 10MF 20% 16V
RB105	1-235-724-11	RES, ENCAPSULATED CERMET	C503	1-107-202-00	MICA 10PF 5% 16V
			C504	1-102-074-00	CERAMIC 0,001MF 10% 50V
			C505	1-107-209-00	MICA 20PF 5% 500V
RB106	1-235-724-11	RES, ENCAPSULATED CERMET	C506	1-162-561-11	CERAMIC 0,1MF 16V
RB107	1-235-724-11	RES, ENCAPSULATED CERMET	C507	1-130-483-00	MYLAR 0,01MF 5% 50V
RB108	1-235-724-11	RES, ENCAPSULATED CERMET	C508	1-136-162-00	MYLAR 0,056MF 5% 50V
RB109	1-235-724-11	RES, ENCAPSULATED CERMET	C509	1-123-356-00	ELECT 10MF 20% 16V
RB110	1-235-724-11	RES, ENCAPSULATED CERMET	C510	1-162-561-11	CERAMIC 0,1MF 16V
RB111	1-235-724-11	RES, ENCAPSULATED CERMET	C511	1-162-561-11	CERAMIC 0,1MF 16V
RB112	1-235-724-11	RES, ENCAPSULATED CERMET	C512	1-107-206-00	MICA 15PF 5% 500V
RB113	1-235-724-11	RES, ENCAPSULATED CERMET	C513	1-130-471-00	MYLAR 0,001MF 5% 50V
RY101	1-515-608-11	RELAY	C514	1-162-561-11	CERAMIC 0,1MF 16V
S101	1-553-522-00	SWITCH, PUSH	C515	1-123-332-00	ELECT 47MF 20% 16V
TH101	1-800-198-XX	THERMISTOR S-1K			
X101	1-527-396-00	CRYSTAL, OSC			
X102	1-527-726-00	VIBRATOR, CRYSTAL	C516	1-162-561-11	CERAMIC 0,1MF 16V
X103	1-567-564-11	VIBRATOR, CRYSTAL	C517	1-123-380-00	ELECT 1MF 20% 50V
X104	1-527-990-00	VIBRATOR, CRYSTAL	C518	1-130-479-00	MYLAR 0,0047MF5% 50V
			C519	1-123-332-00	ELECT 47MF 20% 16V
			C520	1-130-479-00	MYLAR 0,0047MF5% 50V
			C521	1-130-475-00	MYLAR 0,0022MF5% 50V
			C522	1-123-356-00	ELECT 10MF 20% 16V
			C523	1-130-475-00	MYLAR 0,0022MF5% 50V
			C524	1-123-380-00	ELECT 1MF 20% 50V
			C525	1-162-561-11	CERAMIC 0,1MF 16V
			C526	1-123-316-00	ELECT 10MF 20% 16V
			C527	1-162-561-11	CERAMIC 0,1MF 16V
			C528	1-102-529-00	CERAMIC 100PF 5% 50V
			C529	1-130-471-00	MYLAR 0,001MF 5% 50V
			C530	1-123-333-00	ELECT 100MF 20% 16V
			C531	1-162-561-11	CERAMIC 0,1MF 16V
			C532	1-162-561-11	CERAMIC 0,1MF 16V
			C533	1-102-114-00	CERAMIC 470PF 10% 50V
			C534	1-131-343-00	TANTALUM 0,22MF 10% 35V
			C535	1-162-561-11	CERAMIC 0,1MF 16V
			C536	1-130-471-00	MYLAR 0,001MF 5% 50V
			C537	1-123-333-00	ELECT 100MF 20% 16V
			C538	1-162-561-11	CERAMIC 0,1MF 16V
			C539	1-123-321-00	ELECT 220MF 20% 16V
			C540	1-123-333-00	ELECT 100MF 20% 16V
			C541	1-162-561-11	CERAMIC 0,1MF 16V
			C542	1-123-321-00	ELECT 220MF 20% 16V
			C543	1-102-115-00	CERAMIC 560PF 10% 50V
			C544	1-123-380-00	ELECT 1MF 20% 50V
			C545	1-130-479-00	MYLAR 0,0047MF5% 50V
			C546	1-136-147-00	FILM 0,0033MF5% 50V
			C547	1-107-169-00	MICA 100PF 5% 500V
			C548	1-123-310-00	ELECT 470MF 20% 10V
			C549	1-123-333-00	ELECT 100MF 20% 16V
			C550	1-162-561-11	CERAMIC 0,1MF 16V
			C551	1-162-561-11	CERAMIC 0,1MF 16V
			C552	1-106-180-00	MYLAR 0,0022MF5% 50V

Ref. No	Part. No	Discription	Ref. No.	Parts No	Discription
C553	1-101-005-00	CERAMIC 0,022MF 50V	Q501	8-729-606-33	TRANSISTOR 2SC2603F
C554	1-130-483-00	MYLAR 0,01MF 5% 50V	Q502	8-729-606-33	TRANSISTOR 2SC2603F
C555	1-123-321-00	ELECT 220MF 20% 16V	Q503	8-729-606-33	TRANSISTOR 2SC2603F
C556	1-123-310-00	ELECT 470MF 20% 10V	Q504	8-729-606-33	TRANSISTOR 2SC2603F
C557	1-123-310-00	ELECT 470MF 20% 10V	Q505	8-729-606-33	TRANSISTOR 2SC2603F
C558	1-162-561-11	CERAMIC 0,1MF 16V	Q506	8-729-606-33	TRANSISTOR 2SC2603F
C559	1-162-561-11	CERAMIC 0,1MF 16V	Q507	8-729-606-33	TRANSISTOR 2SC2603F
C560	1-123-310-00	ELECT 470MF 20% 10V	Q508	8-729-606-33	TRANSISTOR 2SC2603F
C561	1-123-310-00	ELECT 470MF 20% 10V	Q509	8-729-606-33	TRANSISTOR 2SC2603F
C570	1-123-356-00	ELECT 10MF 20% 16V	Q510	8-729-606-33	TRANSISTOR 2SC2603F
CN501	1-560-983-00	CONNECTOR,P (DIP TYPE)40P	Q511	8-729-606-33	TRANSISTOR 2SC2603F
CN502	1-560-618-00	CONNECTOR POST HEADER, ILG 7P	Q512	8-729-606-33	TRANSISTOR 2SC2603F
CN503	1-560-368-00	CONNECTOR POST HEADER, ILG 6P	Q513	8-729-606-33	TRANSISTOR 2SC2603F
CN504	1-560-368-00	CONNECTOR POST HEADER, ILG 6P	Q514	8-729-606-33	TRANSISTOR 2SC2603F
CN505	1-560-356-00	CONNECTOR POST HEADER, ILG 2P	Q515	8-729-606-33	TRANSISTOR 2SC2603F
CN506	1-563-104-11	RECEPTEALE 36P	Q516	8-729-606-33	TRANSISTOR 2SC2603F
CN507	1-561-534-00	SOCKET 21P	Q517	8-729-606-33	TRANSISTOR 2SC2603F
CV501	1-141-304-21	TRIMMER	Q518	8-729-606-33	TRANSISTOR 2SC2603F
D501	8-759-911-19	DIODE 1SS119	Q519	8-729-606-33	TRANSISTOR 2SC2603F
D502	8-759-911-19	DIODE 1SS119	Q520	8-729-606-33	TRANSISTOR 2SC2603F
FB501	1-543-274-21	BEAD, FERRITE	Q521	8-729-606-33	TRANSISTOR 2SC2603F
FB502	1-543-274-21	BEAD, FERRITE			
IC501	8-759-906-28	IC SN74LS628N	R501	1-247-875-00	CARBON 68K 5% 1/6W
IC502	8-757-732-00	IC CX-773B	R502	1-247-827-00	CARBON 680 5% 1/6W
IC503	8-759-902-21	IC SN74LS221N	R503	1-247-861-00	CARBON 18K 5% 1/6W
IC504	8-759-250-81	IC TC5081AP	R504	1-247-876-00	CARBON 100K 5% 1/6W
IC505	8-759-990-62	IC TL062CP	R505	1-249-429-11	CARBON 10K 5% 1/6W
IC506	8-759-901-57	IC SN74LS157N	R506	1-247-903-00	CARBON 1M 5% 1/6W
IC507	8-759-170-05	IC UPCT78M05H	R507	1-249-429-11	CARBON 10K 5% 1/6W
IC508	8-759-902-21	IC SN74LS221N	R508	1-247-903-00	CARBON 1M 5% 1/6W
IC509	8-759-901-23	IC SN74LS123N	R509	1-249-429-11	CARBON 10K 5% 1/6W
IC510	8-759-900-74	IC SN74LS74AN	R511	1-249-421-11	CARBON 2,2K 5% 1/6W
IC511	8-759-103-19	IC UPC319C	R512	1-249-429-11	CARBON 10K 5% 1/6W
IC512	8-759-902-21	IC SN74LS221N	R513	1-247-851-00	CARBON 6,8K 5% 1/6W
IC513	8-759-901-57	IC SN74LS157N	R514	1-247-831-00	CARBON 1K 5% 1/6W
IC514	8-759-900-08	IC SN74LS08N	R515	1-247-843-00	CARBON 3,3K 5% 1/6W
IC515	8-759-903-67	IC SN74LS367AN	R516	1-247-849-00	CARBON 5,6K 5% 1/6W
IC516	8-759-900-00	IC SN74LS00N	R517	1-247-821-00	CARBON 390 5% 1/6W
IC517	8-759-900-32	IC SN74LS32N	R518	1-249-429-11	CARBON 10K 5% 1/6W
IC518	8-759-900-04	IC SN74LS04N	R519	1-249-432-11	CARBON 18K 5% 1/6W
IC519	8-759-220-04	IC TC40H004P	R520	1-249-429-11	CARBON 10K 5% 1/6W
IC520	8-759-100-60	IC UPC1377C	R521	1-247-841-00	CARBON 2,7K 5% 1/6W
IC521	8-759-040-53	IC MC14053BCP	R522	1-249-434-11	CARBON 27K 5% 1/6W
L501	1-408-417-00	MICRO INDUCTOR 47UH	R523	1-247-875-00	CARBON 68K 5% 1/6W
			R524	1-247-859-00	CARBON 15K 5% 1/6W
			R525	1-247-879-00	CARBON 100K 5% 1/6W
			R526	1-247-831-00	CARBON 1K 5% 1/6W
			R527	1-249-429-11	CARBON 10K 5% 1/6W
			R528	1-249-429-11	CARBON 10K 5% 1/6W
			R529	1-249-432-11	CARBON 18K 5% 1/6W
			R530	1-247-857-00	CARBON 12K 5% 1/6W
			R531	1-247-875-00	CARBON 68K 5% 1/6W

Ref. No	Part. No	Description	Ref. No	Part. No	Description
R533	1-249-429-11	CARBON 10K	R585	1-249-429-11	CARBON 10K
R534	1-247-827-00	CARBON 680	R586	1-247-831-00	CARBON 1K
R535	1-247851-00	CARBON 6,8K	R587	1-247-823-00	CARBON 470
R536	1-247-831-00	CARBON 1K	R588	1-249-429-11	CARBON 10K
R537	1-249-437-11	CARBON 47K	R589	1-247-857-00	CARBON 12K
R538	1-247-845-00	CARBON 3,9K	R590	1-247-807-00	CARBON 100
R539	1-247-831-00	CARBON 1K	R591	1-247-831-00	CARBON 1K
R540	1-247-863-00	CARBON 22K	R592	1-247-804-00	CARBON 75
R541	1-247-863-00	CARBON 22K	R593	1-247-804-00	CARBON 75
R542	1-247-819-00	CARBON 330	R594	1-247-804-00	CARBON 75
R543	1-247-823-00	CARBON 470	R595	1-247-831-00	CARBON 1K
R544	1-247-825-00	CARBON 560	R596	1-247-831-00	CARBON 1K
R545	1-247-809-00	CARBON 120	R597	1-247-825-00	CARBON 560
R546	1-249-425-11	CARBON 4,7K	R598	1-247-825-00	CARBON 560
R547	1-247-827-00	CARBON 680	R699	1-249-421-11	CARBON 2,2K
R548	1-247-825-00	CARBON 560	R600	1-247-851-00	CARBON 6,8K
R549	1-247831-00	CARBON 1K	R601	1-249-421-11	CARBON 2,2K
R550	1-247-819-00	CARBON 330	R602	1-249-421-11	CARBON 2,2K
R551	1-247-823-00	CARBON 470	R603	1-247-851-00	CARBON 6,8K
R552	1-249-425-11	CARBON 4,7K	R604	1-249-421-11	CARBON 2,2K
R553	1-249-425-11	CARBON 4,7K	R605	1-247-831-00	CARBON 1K
R554	1-247-807-00	CARBON 100	R606	1-247-823-00	CARBON 470
R555	1-249-429-11	CARBON 10K	R607	1-247-831-00	CARBON 1K
R556	1-247-857-00	CARBON 12K	R608	1-247-823-00	CARBON 470
R557	1-247-825-00	CARBON 560	R609	1-247-804-00	CARBON 75
R558	1-247-804-00	CARBON 75	R610	1-247-804-00	CARBON 75
R559	1-249-429-11	CARBON 10K	RV501	1-224-937-00	RES, ADJ, CERMET 1K
R560	1-249-429-11	CARBON 10K	RV502	1-224-938-00	RES, ADJ, CERMET 2K
R561	1-247-877-00	CARBON 82K	RV503	1-224-938-00	RES, ADJ, CERMET 2K
R562	1-247-869-00	CARBON 39K	RV504	1-224-939-00	RES, ADJ, CERMET 5K
R563	1-249-425-11	CARBON 4,7K	RV505	1-224-942-00	RES, ADJ, CERMET 50K
R564	1-247-859-00	CARBON 15K	RV506	1-224-936-00	RES, ADJ, CERMET 500
R565	1-247-867-00	CARBON 33K-	RV507	1-224-936-00	RES, ADJ, CERMET 500
R566	1-247-831-00	CARBON 1K	RV508	1-114-936-00	RES, ADJ, CERMET 500
R567	1-247-857-00	CARBON 12K	X501	1-527-729-00	OSCILLATOR, CRYSTAL
R568	1-247-823-00	CARBON 470	X502	1-527-724-21	VIBRATOR, CRYSTAL
R569	1-247-879-00	CARBON 100K			
R570	1-247-804-00	CARBON 75			
R571	1-247-831-00	CARBON 1K			
R572	1-247-815-00	CARBON 220			
R573	1-247-815-00	CARBON 220			
R574	1-247-815-00	CARBON 220			
R575	1-247-815-00	CARBON 220			
R576	1-247-815-00	CARBON 220			
R577	1-247-831-00	CARBON 1K			
R578	1-247825-00	CARBON 560			
R579	1-129-421-11	CARBON 2,2			
R580	1-247-851-00	CARBON 6,8K			
R581	1-249-421-11	CARBON 2,2K			
R582	1-247-843-00	CARBON 3,3K			
R583	1-249-429-11	CARBON 10K			
R584	1-247-851-00	CARBON 6,8K			

Ref.No.	Parts No	Discription	Ref.No	Part,No	Discription
△ F101	1-532-203-11	Fuse	Q101	9-989-640-01	TPANSISTOR 2SC3376
△ C101	9-989-648-01	FILM 0.33 μ F 250V	Q102	8-729-265-52	TRANSISTOR 2SC2655Y
C102	9-989-649-01	FILM 0.1 μ F 250V	Q103	8-729-265-52	TRANSISTOR 2SC2655Y
C103	9-989-653-01	CERAMIC 0.001 μ F,400V	R101	9-989-663-01	THEMISTER
C104	9-989-653-01	CERAMIC 0.001 μ F,400V	R102	9-989-663-01	THEMISTER
C105	9-989-654-01	CERAMIC 0.0022 μ F,400V	R103	9-989-657-01	METAL 120K 2W
△ C106	9-989-654-01	CERAMIC 0.0022 μ F,400V	R104	9-989-657-01	METAL 120K 2W
C107	9-989-645-01	ELECT 120 μ F,400V	R105	9-989-661-01	CARBON 220K 1/2W
C108	9-989-650-01	FILM 0.01 μ F 250V	R106	9-989-661-01	CARBON 220K 1/2W
C109	9-989-655-01	CERAMIC 220P 1K	R107	1-239-827-11	CARBON 2.2K 1/6W
C110	9-989-218-01	MYLAR 0.047 μ F 50V	R108	9-989-660-01	METAL 0.82 5W
C111	9-989-651-01	MYLAR 0.1 μ F 50V	R109	1-247-791-11	CARBON 22 1/6W
C112	9-989-651-01	MYLAR 0.1 μ F 50V	R110	7-989-658-01	METAL 33 2W
C113	1-124-045-11	ELECT 4.7 μ F 50V	R111	1-247-827-11	CARBON 680 1/6W
C201	1-124-510-11	ELECT 220 μ F 35V	R112	1-247-807-11	CARBON 100 1/6W
C202	1-124-126-11	ELECT 47 μ F 25V	R113	1-247-799-11	CARBON 47 1/6W
C203	1-124-129-11	ELECT 2200 μ F 25V	R114	1-247-827-11	CARBON 680 1/6W
C204	1-124-126-11	ELECT 47 μ F 25V	R115	9-989-656-11	CARBON 56 3/4W
C205	1-123-985-11	ELECT 1000 μ F 16V	R201	9-989-659-01	METAL 680 1W
C206	1-123-959-11	ELECT 2200 μ F 10V	R202	1-239-841-11	CARBON 2.7K 1/6W
C207	1-123-959-11	ELECT 2200 μ F 10V	R203	1-239-827-11	CARBON 2.2K 1/6W
C208	9-989-647-01	ELECT 2200 μ F 10V	R204	1-247-791-11	CARBON 22 1/6W
C209	9-989-646-01	ELECT 2200 μ F 10V	VR201	9-989-662-01	RES,ADJ,1K
C210	1-123-352-11	ELECT 1 μ F 50V	L101	9-989-664-01	INDUCTOR
C211	9-989-654-01	CERAMIC 0.0022 μ F 400V	L102	9-989-664-01	INDUCTOR
C212	9-989-654-01	CERAMIC 0.0022 μ F 400V	L201	9-989-665-01	COIL,CHOKE 5 μ H
D101	8-719-530-60	DIODE S3WB-60	L202	9-989-666-01	COIL,CHOKE 5 μ H
D102	9-989-642-01	DIODE F1-08	△ T101	9-989-666-01	TRANSFORMER SWITCHING
D103	8-719-907-40	DIODE ERB43-2			
D104	8-719-907-40	DIODE ERB43-2			
D105	8-719-907-40	DIODE ERB43-2			
D106	8-719-907-40	DIODE ERB43-2			
D201	9-989-643-01	DIODE F1-02			
D202	8-719-907-40	DIODE ERB43-2			
D203	8-719-907-40	DIODE ERB43-2			
D205	8-719-920-40	D10DE ESAC82-004			
△ PC101	9-989-641-01	PHOTO CUPLER TLP-581			
IC201	8-759-170-12	IC μ PC78MIZ			
IC202	8-749-931-22	IC SI-3122V			
IC203	9-989-639-01	IC IR9431			

NOTE:

- The shaded and **△**-marked components are critical to safety. Replace only with same components as specified.
- Parts printed in **Bold-Face type** are normally stocked for replacement purposes. The remaining parts shown in this manual are not normally required for routine service work. Orders for parts not shown in **Bold-Face type** will be processed, but allow for additional delivery time.

Ref, No	Part, No	Description
	9-989-419-01	PC Board
	9-989-294-01	KEY BOARD
	9-989-295-01	KEY BOARD (F1, F2, F3, F4, F5, HOME, INS, DEL, STOP)
	9-989-296-01	KEY BOARD (CAP)
C1	1-161-974-00	CERAMIC 0.1 20% 16V
C2	1-161-974-00	CERAMIC 0.1 20% 16V
C3	1-161-974-00	CERAMIC 0.1 20% 16V
C4	1-161-974-00	CERAMIC 0.1 20% 16V
C5	1-161-974-00	CERAMIC 0.1 20% 16V
C6	1-124-896-00	ELECT 33 20% 16V
LED1	8-719-934-35	BR3432S
D1	8-719-815-55	DIODE 1S1555
D2	8-719-815-55	DIODE 1S1555
D3	8-719-815-55	DIODE 1S1555
IC1	8-759-900-05	SN74LS05N
IC2	8-759-901-45	SN74LS145N
IC3	8-759-901-75	SN74LS175N
IC4	8-759-903-67	SN74LS367AN
R1	1-246-485-00	CARBON 3.3K 5% 1/4W
R2	1-246-485-00	CARBON 3.3K 5% 1/4W
R3	1-247-725-11	CARBON 10K 5% 1/4W
R4	1-247-725-11	CARBON 10K 5% 1/4W
R5	1-247-725-11	CARBON 10K 5% 1/4W
R6	1-247-725-11	CARBON 10K 5% 1/4W

ACCESSORY & PACKING

Part, No	Description
1-556-760-11	CORD, POWER (3 CORE)
3-764-300-11	CHART, REFERENCE MSX (ENGLISH)
3-764-300-31	CHART, REFERENCE, MSXZ BASIC (FRENCH)
3-764-301-11	INSTRUCTION MSX-BASIC (ENGLISH)
3-764-301-31	INSTRUCTION, MSXZ BASIC (FRENCH)
3-764-312-11	MANUAL RS-232C (ENGLISH)
3-764-312-31	MANUAL, RS-232C (FRENCH)
3-764-318-11	INSTRUCTION MSX-BASIC (ENGLISH)
3-764-318-31	INSTRUCTION, MSXZ BASIC (FRENCH)
3-764-331-11	MANUAL INSTRUCTION (ENGLISH)
3-764-331-31	MANUAL, INSTRUCTION (FRENCH)
3-765-016-11	MANUAL INSTRUCTION (ENGLISH)
3-765-016-41	MANUAL INSTRUCTION (GERMAN)
3-765-016-51	MANUAL INSTRUCTION (FRENCH)
4-605-109-03	SEAL, GRAPHIC
4-605-110-03	SHEET, GRAPHIC
4-608-310-02	BOX, ACCESSORY
4-608-311-01	CUSHION (KEY BOARD LEFT)
4-608-312-01	CUSHION (KEY BOARD RIGHT)
4-608-314-01	CUSHION (MAIN LEFT)
4-608-315-01	CUSHION (MAIN RIGHT)
4-609-321-01	INDIVIDUAL CRATON (G900P)
4-609-321-11	INDIVIDUAL CARTON (-G900F)
4-609-356-01	SHEET, PROTECTION

**HBD-G900
ACCESSORY & PACKING**

Part, No	Description
3-765-005-11	MANUAL, INSTRUCTION
4-606-087-02	BUTTON, EJECT
4-606-088-01	SPRING
4-606-092-02	LENS
4-609-307-01	INDIVIDUAL CARTON
4-609-308-01	CUSHION
7-682-947-01	SCREW + PSW 3×6
A-8030-349-A	PANEL ASSY, FRONT