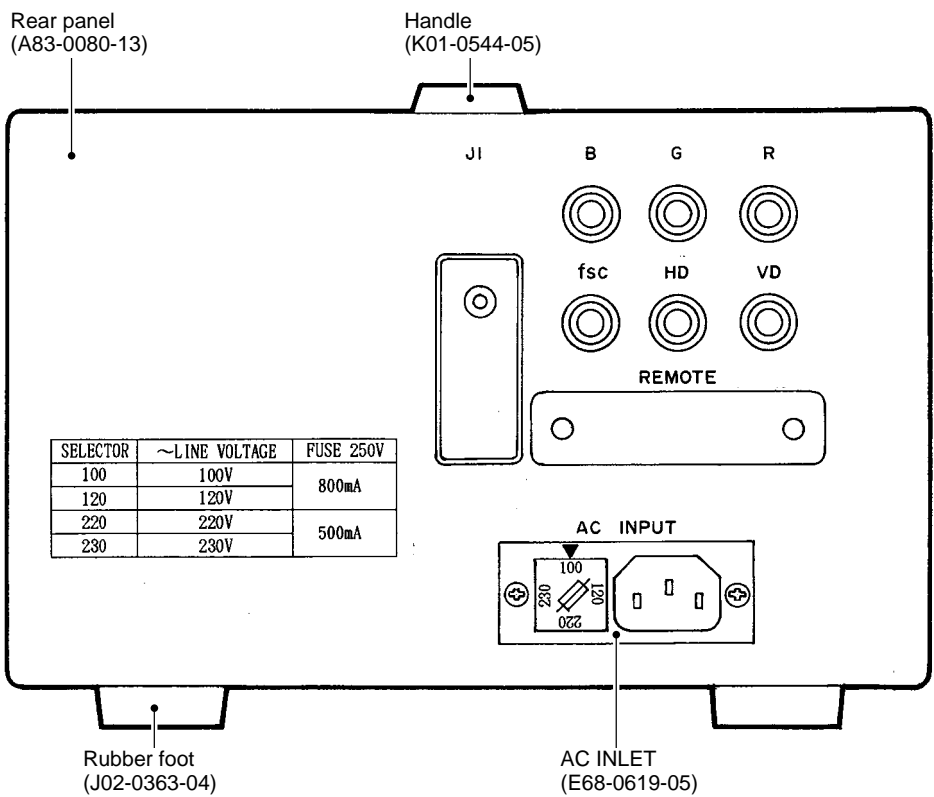
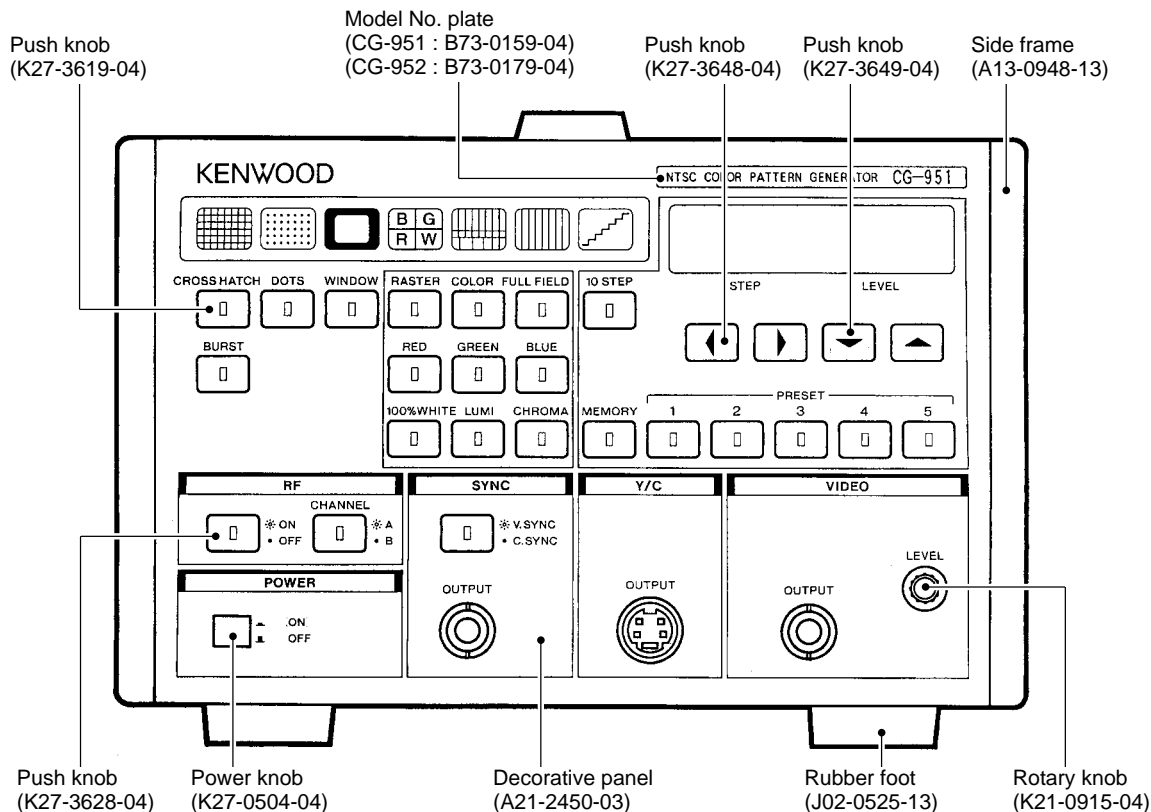


# CG-951

# CG-952

## SERVICE MANUAL



## WARNING

The following instructions are for use by qualified personnel only. To avoid electric shock, do not perform any servicing other than contained in the operating instructions unless you are qualified to do so.

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## SPECIFICATIONS

### Patterns

- 1) CROSS HATCH : 20(V) X 16(H) White on a black background, one dot in the screen center, and a corner maker in the upper left corner.
- 2) DOTS : 20(V) X 16(H) White on a black background, and a corner maker in the upper left corner.
- 3) WINDOW : 0.5 X 0.5 White on a black background.
- 4) RASTER : 100% white, 75% white, yellow, cyan, green, magenta, red, blue and black.
- 5) COLOR : Split field color bars : 7 colors
- 6) FULL FIELD : Full-field Color bars in the order of luminance: 8 colors
- 7) 10 STEP : Full-field 10-step bars  
Level resolution: 100  
A maximum of 5 patterns are pre-settable.
- 8) R, G & B : The R, G and B color signals can be turned on and off separately.

R	G	B	Color
OFF	OFF	OFF	Black
OFF	OFF	ON	Blue
OFF	ON	OFF	Green
OFF	ON	ON	Cyan
ON	OFF	OFF	Red
ON	OFF	ON	Magenta
ON	ON	OFF	Yellow
ON	ON	ON	75% white

- 9) LUMI : Color signal luminance components: ON/OFF selectable
- 10) CHROMA : Color signal chrominance components: ON/OFF selectable
- 11) 100% WHITE : 100 white and 75% white are selectable in the white parts of the raster and color bars. (White of the IQW {UVW} part is fixed to 100%)
- 12) BURST : color burst components of all pattern: ON/OFF selectable

### Video Output

- Output levels CAL : 1.0 Vp-p(Under 75 Ω load)  
VAR : 0 to 1.5 Vp-p(Under 75 Ω load)
- Output impedance : 75 Ω
- Polarity : Positive polarity (Synchronizing signal has the Negative polarity.)

### S Output

- Output levels  
Y + S (Sync to 100% white) : 1.0Vp-p (Under 75 Ω load)  
C (burst) : 286 {300}mVp-p (Under 75 Ω load)
- Output impedance : 75 Ω

# CG-951/CG-952

## SPECIFICATIONS

### RGB Output

RGB Output level : 0.7 Vp-p (Under 75  $\Omega$  load)

Output impedance : 75  $\Omega$

HD & VD Output level : Approx. 4 Vp-p (Open terminals)

Output impedance : 75  $\Omega$

Logic : Negative logic

\* The RGB output level is constant whether 100% white or 75% white is selected.  
100% white and 75% white RGB output level is 0.7 Vp-p.

\* The I-axis, Q-axis or black gradation of the split color bar is not reflected upon the RGB output.

### Synchronizing Signal Output

Frequency (Signal form) : Horizontal and vertical composite signal, and vertical Frequency.

Output level : Approx. 1 Vp-p (Open terminals)

Output impedance : 75  $\Omega$

### Sub-Carrier Wave Output

Frequency (CG-951) : 3.579545MHz  $\pm$ 100Hz

(CG-952) : 4.433619MHz  $\pm$ 100Hz

Output level : Approx. 1 Vp-p (Open terminals)

Output impedance : 75  $\Omega$

### RF Output (Optional)

Output connector : F connector {PAL connector}

Modulation : Negative modulation

Output level : 60dB $\mu$  or more

Output impedance : 75  $\Omega$

### Image Frequency

#### CG-951

CH	Japan (MHz)	USA(MHz)
A	CH1 91.25	CH3 61.25
B	CH2 97.25	CH4 67.25

#### CG-952

CH	West Europe (MHz)	Italy (MHz)	Australia (MHz)	New Zealand (MHz)	England (MHz)
A	CH2 48.25	CHA 53.75	CH1 57.25	CH2 55.25	CH71 495.25
B	CH3 55.25	CHB 62.25	CH2 64.25	CH3 62.25	CH77 543.25

### Synchronizing Signals

Horizontal scanning frequency : 15.734 kHz (CG-951)      15.625 kHz (CG-952)

Vertical scanning frequency : 59.94 Hz (CG-951)      50.00 Hz (CG-952)

# CG-951/CG-952

## SPECIFICATIONS

### Color burst

A minimum of 8 cycles in the back porch of the horizontal synchronizing signal (ON/OFF selectable)

### Video Signal Output Level

(CG-951)

	Lumi. level (mVp-p)	Chroma level (mVp-p)	Chroma phase ±5 (deg)
75% white	536		
Yellow	477	480	167
Cyam	375	681	283
Green	316	636	241
Magenta	220	636	61
Red	161	681	103
Blue	59	480	347
-I	0	286	303
100% white	714		
Q	0	286	33
Burst	0	286	180
Black	0		
Sync.signal	286		

(CG-952)

	Lumi.level (mVp-p)	Chroma level (mVp-p)	Chroma hase ± 5 (deg)	
			+V	-V
75% white	525			
Yellow	465	470	167	193
Cyam	368	664	283	77
Green	308	620	241	119
Magenta	217	620	61	299
Red	157	664	103	257
Blue	60	470	347	13
U	0	300	0	0
100% white	700			
V	0	300	90	270
Burst	0	300	135	225
Black	0			
Sync.signal	300			

Luminance level : Greater level, ±4% or ± 15mV.

Chroma level : Greater level, ±5% or ± 20mV.

# CG-951/CG-952

## SPECIFICATIONS

### Remote Control Optional

Input connector	: 24-pin Amphenol connector
Input level	: TTL level (H: 2.5 V or more or open, H: 0.8V or $\pm 20$ mV.)
Panel/remote selection	: 1 bit (Negative logic)
Control of patterns, etc	: 7 bits

### Power Source

Source voltage	: 100, 120, 220, or 230 VAC $\pm 10\%$ (250 VAC maximum), 50/60 Hz
Power consumption	: Approx. 28 W

### Temperature and Humidity Ranges

Operation guarantee range	: 0 to 40 °C, 85% RH or less
Specification guarantee range	: 10 to 35 °C, 85% RH or less

### Dimensions

Dimensions	: 212 (W) $\times$ 133 (H) $\times$ 272 (D) mm
Max. dimensions	: 212 (W) $\times$ 156 (W) $\times$ 298 (D) mm

### Weight

Approx. 5.3 kg

### Accessories

Power cord	: 1
Instruction manual	: 1
Fuse	: 1

# CG-951/CG-952

## ADJUSTMENT

To obtain the best performance, periodically calibrate the unit.. Sometimes, only one mode need be calibrated, while at other times, all modes should be calibrated. When one mode is calibrated, it must be noted that the other modes may be affected. When calibrating all modes, perform the calibration in the specified sequence.

The following calibration required an accurate measuring instrument and an insulated adjusting flat blade screwdriver.

If they are not available, contact your dealer. For optimum adjustment, turn the power on and warm up the unit sufficiently (more than 30 minutes) before starting.

Before calibrating the unit check the power supply voltage.

### TEST EQUIPMENT REQUIRED

The following instrument or their equivalent should be used for making adjustment.

Test Equipment	Model	Maker
Vector Scope (NTSC)	CV-1250	KENWOOD
Vector Scope (PAL)	CV-1255	KENWOOD
Oscilloscope	CS-6040	KENWOOD
Digital multimeter	45	FLUKE
Frequency Counter	FC-758	KENWOOD

	Items	Conditions	Adjuster	Procedures
1	Sub-carrier	CG-951	C9	Input the fsc signal output from the terminal on the rear panel to a frequency counter, and adjust its frequency to 3.579545 MHz.
		CG-952	C4	Input the fsc signal output from the terminal on the rear panel to a frequency counter, and adjust its frequency to 4.433619 MHz.
			C9	Input DC voltage at R2 into the DMM, and adjust it to about 2.5V.
2	RGB level	Select the window or 100% white luster	VR1	Input the G signal output from the terminal on the rear panel into an oscilloscope, and adjust its level to 0.7 Vp-p.
3	Y (luminance) Signal level	CG-951	VR7	Input the Y (luminance) signal output from the Y/C terminal on the front panel into an oscilloscope, and adjust the voltage between the pedestal and 100% white level to 714 Vp-p.
		CG-952	VR7	Input the Y (luminance) signal output from the Y/C terminal on the front panel into an oscilloscope, and adjust the voltage between the pedestal and 100% white level to 700 Vp-p.
4	SYNC. level	CG-951	VR6	Input the Y (luminance) signal output from the Y/C terminal on the front panel into an oscilloscope, and adjust the voltage between the pedestal and sync, level to 286 mVp-p.
		CG-952	VR6	Input the Y (luminance) signal output from the Y/C terminal on the front panel into an oscilloscope, and adjust the voltage between the pedestal and sync, level to 300 mVp-p.
5	fsc leak	Select the split color	VR3 VR4	Input the video signal output from the VIDEO terminal on the front panel into an oscilloscope, and minimize chroma leak to 100% white or 75% white with VR3 and VR4.

# CG-951/CG-952

## ADJUSTMENT

	Items	Conditions	Adjuster	Procedures
6	Chroma phase		C25	Input the video signal into a vector scope, and adjust each color into the maker.
7	Chroma filter Q	CG-951 Select the split color	T1 C29	Input the video signal into a vector scope, and adjust T1 first so that the lines between the points become straight, then adjust finely with C29.
		CG-952 Select the split color	T1 C29	Input the video signal into a vector scope, turn T1 fully clockwise, and adjust C29 so that the lines between the points become straight.. Then, adjust finely with T1.
8	C (chroma) Signal level	CG-951 Select the split color	VR10	Input the C (chroma) signal output from the Y/C terminal on the front panel into an oscilloscope, and adjust the cyan level to 641 mVp-p.
		CG-952 Select the split color	VR10	Input the C (chroma) signal output from the Y/C terminal on the front panel into an oscilloscope, and adjust the cyan level to 664 mVp-p.
9	Video output		VR11 VR12	Input the video signal output from the VIDEO terminal on the front panel into an oscilloscope, and adjust the Y (luminance) components with VR2. * Adjustments with VR11 and VR12 have mutual influences upon each other. Repeat adjustment twice or more.
10	10-step level	CG-951 Select the 10-step level.	VR5	Input the video signal output from the VIDEO terminal on the front panel into an oscilloscope, and adjust level 100 to 714 mVp-p.
		CG-952 Select the 10-step level.	T1 C29	Input the video signal output from the VIDEO terminal on the front panel into an oscilloscope, and adjust level 100 to 700 mVp-p.
*Adjustments shown below apply to the RF output option only.				
11	RF modification factor	(Only when the RF output option is installed) Select the 100% white luster	VR15	Input the RF output signal into an oscilloscope, and adjust the ratio as follows.: SYNC: pattern = 6:1
12	RF frequency	(Only when the RF output option is installed) Select the color, and turn off LUMI and CHROMA to select the black luster.	VR8 VR9	Input the RF output signal into a frequency counter. Adjust CH A with VR8 and CH B with VR9. The CH A and CH B frequencies differ with destinations. Consult the instruction manuals.



\* New Parts  
 Parts without **Parts No.** are not supplied.  
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①

Ref. No	Add-ress	Parts No.	Description
<b>CG-951 (Y78-1030-00)</b>			
		A01-1229-02 A01-1230-02 A13-0948-13 A21-2451-02 A22-1316-02	CASE;TOP CASE;BOTTOM SIDE FLAME DRESSING PANEL SUB PANEL
		A83-0080-13 B01-0705-03 B11-0557-04 B41-2085-04 B42-6138-04	REAR PANEL ESCUTCHEON FILTER CAUTION LABEL LABEL
		B42-3819-05 B63-0283-00 B73-0159-04 C90-3050-05 E68-0619-05	S/NO. LABEL INSTRUCTION MANUAL;JAP./ENG. NAME PLATE;MODEL NO. CAP. ELECTRO AC INLET
		E30-1950-05 E30-1952-05 F05-8012-05 F05-5015-05 F15-0703-04	JIS POWER CORD CEE POWER CORD FUSE (5*20) FUSE (5*20) BLIND PLATE
		F20-3035-03 H10-2851-02 H10-2852-02 H11-1202-03 H20-1743-04	INSULATOR FOAMED STYREN PAD;FRONT FOAMED STYREN PAD;REAR POLYSTYRENE FOAMED BOARD VINYL COVER
		H53-0181-04 J02-0363-04 J02-0525-13 J02-0528-04 K01-0544-05	CARTON BOX RUBBER FOOT;REAR RUBBER FOOT;FRONT RUBBER FOOT;TILT STAND HANDLE
		K21-0915-04 K27-0504-04 K27-3619-04 K27-3628-04 K27-3648-04	ROTARY KNOB PUSH KNOB;POWER KNOB;WHITE/HOLE KNOB;GRAY/HOLE KNOB;BLUE/STEP
		K27-3649-04 N10-2030-41 N10-2040-41 N11-0030-41 N30-2606-41	KNOB;BLUE/LEVEL NUT, HEX NUT, HEX FLANGE NUT SCREW, PAN HD
		N30-3008-41 N30-3010-41 N30-4010-41 N67-2608-41 N67-3006-41	SCREW, PAN HD SCREW, PAN HD SCREW, PAN HD SCREW, SEMS PAN HD SCREW, SEMS PAN HD
		N88-3006-41 N88-3008-41 N89-3006-41 L37-0052-05 L77-1060-05	SCREW, FLAT HD TAPTITE SCREW, FLAT HD TAPTITE SCREW, BINDING TAPTITE COIL CRYSTAL RESONATOR
		L77-2506-05 S70-0601-05 S70-0602-05 S40-2532-05	CRYSTAL RESONATOR TACT SWITCH TACT SWITCH PUSH SWITCH
			10000U - 25V

L : Scandinavia K : USA P : Canada R : Mexico  
 Y : PX(Far East, Hawaii) T : Europe E : Europe G : Germany  
 Y : AAFES(Europe) X : Australia M : Other Areas  $\Delta$  indicates safety critical components.

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Ref. No	Add-ress	Parts No.	Description
		R12-0886-05 R12-0887-05 R12-1857-05 R12-1858-05 R12-3598-05	RES. SEMI FIXED 220B RES. SEMI FIXED 470B RES. SEMI FIXED 1KB RES. SEMI FIXED 2.2KB RES. SEMI FIXED 10KB
		R12-5570-05 AT27C256R-90DC LC3564SS-10 Z84C0006PEC M5M5256BKP10LL	RES. SEMI FIXED 220KB IC,256K BIT EPROM IC,STATIC RAM IC,CENTRAL PROCESSING UNIT IC,CMOS STATIC RAM
		X24C04PI DAC-IC8BC MA700 W02-2399-08 W02-2402-08	IC,CMOS 4K BIT PROM IC,D/A CONVERTER DIODE MAIN UNIT PANEL UNIT
		W02-2403-08 W02-2404-08 E18-0365-05 E04-0259-05 E04-0259-05	CPU UNIT PATTERN GENERATOR UNIT INLET RF COAXIAL CONNECTOR RF COAXIAL CONNECTOR
J1		E29-0550-08	CONNECTOR
J2		E04-0259-05	RF COAXIAL CONNECTOR
J3		E04-0259-05	RF COAXIAL CONNECTOR
J4		E04-0259-05	RF COAXIAL CONNECTOR
J5		E04-0259-05	RF COAXIAL CONNECTOR
J6		E04-0259-05	RF COAXIAL CONNECTOR
J7		E04-0259-05	RF COAXIAL CONNECTOR
J8		E04-0259-05	RF COAXIAL CONNECTOR
J9		E04-0259-05	RF COAXIAL CONNECTOR
J10		E04-0259-05	RF COAXIAL CONNECTOR
R23		RN14BK2E7150F	RES. METAL FILM
R24		RN14BK2E3160F	RES. METAL FILM
U3		TA7805S	IC,+TERMINAL REGULATOR
U4		TA7805S	IC,+TERMINAL REGULATOR
VR6		R29-1511-08	V.R. 1K
			715 F 1/4W 4.7K F 1/4W

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PARTS LIST (UNIT)

CG-951/CG-952

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<b>CG-952 (Y78-1040-00)</b>			
		A01-1229-02 A01-1230-02 A13-0948-13 A21-2450-03 A22-1316-02	CASE;TOP CASE;BOTTOM FRAME DECORATIVE PANEL SUB PANEL
		A83-0080-13 B01-0705-03 B11-0557-04 B41-2085-04 B42-6138-04	REAR PANEL ESCUTCHEON FILTER CAUTION LABEL LABEL
		B42-3819-05 B63-0283-00 B73-0179-04 C90-3050-05 E68-0619-05	S/NO. LABEL INSTRUCTION MANUAL;JAP./ENG. NAME PLATE;MODEL NO. CAP. ELECTRO AC INLET
		E30-1950-05 E30-1952-05 F05-8012-05 F05-5015-05 F15-0703-04	JIS POWER CORD CEE POWER CORD FUSE (5*20) FUSE (5*20) BLIND PLATE
		F20-3035-03 H10-2851-02 H10-2852-02 H11-1202-03 H20-1743-04	INSULATOR FOAMED STYREN PAD;FRONT FOAMED STYREN PAD;REAR POLYSTYRENE FOAMED BOARD VINYL COVER
		H53-0181-04 J02-0363-04 J02-0525-13 J02-0528-04 J19-1676-04	CARTON BOX RUBBER FOOT;REAR RUBBER FOOT;FRONT RUBBER FOOT;TILT STAND HOLDER
		K01-0544-05 K21-0915-04 K27-0504-04 K27-3619-04 K27-3628-04	HANDLE ROTARY KNOB PUSH KNOB;POWER KNOB;WHITE/HOLE KNOB;GRAY/HOLE
		K27-3648-04 K27-3649-04 N10-2030-41 N10-2040-41 N11-0030-41	KNOB;BLUE/STEP KNOB;BLUE/LEVEL NUT, HEX NUT, HEX FLANGE NUT
		N30-2606-41 N30-3008-41 N30-3010-41 N30-4010-41 N67-2608-41	SCREW, PAN HD SCREW, PAN HD SCREW, PAN HD SCREW, PAN HD SCREW, SEMS PAN HD
		N67-3006-41 N88-3006-41 N88-3008-41 N89-3006-41 L37-0052-05	SCREW, SEMS PAN HD SCREW, FLAT HD TAPTITE SCREW, FLAT HD TAPTITE SCREW, BINDING TAPTITE COIL
		L77-1061-05 L77-2506-05 S70-0601-05 S70-0602-05	CRYSTAL RESONATOR CRYSTAL RESONATOR TACT SWITCH TACT SWITCH
			10000U - 25V

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Ref. No	Add-ress	Parts No.	Description
		S40-2532-05 R12-0886-05 R12-0887-05 R12-1857-05 R12-1858-05	PUSH SWITCH RES. SEMI FIXED 220B RES. SEMI FIXED 470B RES. SEMI FIXED 1KB RES. SEMI FIXED 2.2KB
		R12-3598-05 R12-5570-05 AT27C256R-90DC DAC-IC8BC LC3564SS-10	RES. SEMI FIXED 10KB RES. SEMI FIXED 220KB IC,256K BIT EPROM IC,D/A CONVERTER IC,STATIC RAM
		Z84C0006PEC M5M5256BKP10LL X24C04PI MA700 W02-2405-08	IC,CENTRAL PROCESSING UNIT IC,CMOC STATIC RAM IC,CMOS 4K BIT PROM DIODE MAIN UNIT
		W02-2402-08 W02-2403-08 W02-2404-08 E18-0365-05 E04-0259-05	PANEL UNIT CPU UNIT PATTERN GENERATOR UNIT INLET RF COAXIAL CONNECTOR
J1			
J2			
J3		E04-0259-05	RF COAXIAL CONNECTOR
J4		E29-0550-08	CONNECTOR
J5		E04-0259-05	RF COAXIAL CONNECTOR
J6		E04-0259-05	RF COAXIAL CONNECTOR
J7		E04-0259-05	RF COAXIAL CONNECTOR
J8		E04-0259-05	RF COAXIAL CONNECTOR
J9		E04-0259-05	RF COAXIAL CONNECTOR
J10		E04-0259-05	RF COAXIAL CONNECTOR
R23		RN14BK2E7150F	RES. METAL FILM 715 F 1/4W
R24		RN14BK2E3160F	RES. METAL FILM 316 F 1/4W
U3		TA7805S	IC,+TERMINALREGULATOR
U4		TA7805S	IC,+TERMINALREGULATOR
VR6		R29-1511-08	V.R. 1K

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PARTS LIST

CG-951/CG-952

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Ref. No	Add-ress	Parts No.	Description			
<b>CG-951 MAIN UNIT A, B (W02-2399-08)</b>						
C1		CC45FCH1H100D	CAP. CERAMIC	10P	D	50V
C2		CE04EW1C103M	CAP. ELECTRO	10000U	M	16V
C6		CM93BD2A220J	CAP. MICA	22P	J	100V
C9		C05-0472-05	CAP. TRIMMER	50P	-	110
C11		CK45FB2H102K	CAP. CERAMIC	1000P	K	500V
C12		CC45FCH1H470K	CAP. CERAMIC	47P	K	50V
C13		CK45FB2H102K	CAP. CERAMIC	1000P	K	500V
C14		CK45FB2H102K	CAP. CERAMIC	1000P	K	500V
C15		CE04EW1E100M	CAP. ELECTRO	10U	M	25V
C16		CM93BD2A680J	CAP. MICA	68P	J	100V
C17		CQ92V1H104K	CAP. CERAMIC	0.1U	K	50V
C18		CM93BD2A100J	CAP. MICA	10P	J	100V
C21		CQ92M1H104K	CAP. PLASTIC	0.1U	K	50V
C22		CQ92M1H104K	CAP. PLASTIC	0.1U	K	50V
C23		CQ92M1H104K	CAP. PLASTIC	0.1U	K	50V
C24		CM93BD2A680J	CAP. MICA	68P	J	100V
C25		C05-0472-05	CAP. TRIMMER	50P	-	110
C26		CM93BD2A220J	CAP. MICA	22P	J	100V
C27		CE04EW1E220M	CAP. ELECTRO	22U	M	25V
C28		CC45FCH1H101J	CAP. CERAMIC	100P	J	50V
C29		CM93BD2A470J	CAP. MICA	47P	J	100V
C30		CC45FCH1H100D	CAP. CERAMIC	10P	D	50V
C31		CC45FCH1H100D	CAP. CERAMIC	10P	D	50V
C32		CC45FCH1H050C	CAP. CERAMIC	5P	C	50V
C33		CC45FCH1H050C	CAP. CERAMIC	5P	C	50V
C34		CC45FCH1H050C	CAP. CERAMIC	5P	C	50V
C35		CC45FCH1H050C	CAP. CERAMIC	5P	C	50V
C36		CC45FCH1H050C	CAP. CERAMIC	5P	C	50V
C37		CC45FCH1H050C	CAP. CERAMIC	5P	C	50V
C41		CQ92M1H102K	CAP. PLASTIC	1000P	K	50V
C42		CE04EW1V470M	CAP. ELECTRO	47U	M	35V
C43		CQ92M1H104K	CAP. PLASTIC	0.1U	K	50V
C44		CE04EW1E100M	CAP. ELECTRO	10U	M	25V
C45		CK45F1H103Z	CAP. CERAMIC	0.01U	Z	50V
C46		CC45FCH1H050C	CAP. CERAMIC	5P	C	50V
C47		CC45FCH1H050C	CAP. CERAMIC	5P	C	50V
C50		CK45F1H103Z	CAP. CERAMIC	0.01U	Z	50V
C51		CE04EW1C470M	CAP. ELECTRO	47U	M	16V
C52		CK45F1H103Z	CAP. CERAMIC	0.01U	Z	50V
C53		CE04EW1C470M	CAP. ELECTRO	47U	M	16V
C54		CE04EW1E222M	CAP. ELECTRO	2200U	M	25V
C55		CE04EW1E222M	CAP. ELECTRO	2200U	M	25V
C56		CK45F1H103Z	CAP. CERAMIC	0.01U	Z	50V
C57		CE04EW1C470M	CAP. ELECTRO	47U	M	16V
C58		CK45F1H103Z	CAP. CERAMIC	0.01U	Z	50V
C59		CE04EW1C470M	CAP. ELECTRO	47U	M	16V
C60		C90-3050-05	CAP. ELECTRO	10000U	-	25V
C100		CE04EW1E100M	CAP. ELECTRO	10U	M	25V
C101		CK45F1H103Z	CAP. CERAMIC	0.01U	Z	50V
C102		CE04EW1E100M	CAP. ELECTRO	10U	M	25V
C103		CK45F1H103Z	CAP. CERAMIC	0.01U	Z	50V
C104		CE04EW1E100M	CAP. ELECTRO	10U	M	25V
C105		CK45F1H103Z	CAP. CERAMIC	0.01U	Z	50V
CNO		E40-7563-08	PIN CONNECTOR	15P		

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②

Ref. No	Add-ress	Parts No.	Description			
CN1		E40-7563-08	PIN CONNECTOR	15P		
CN2		E40-7561-08	PIN CONNECTOR	9P		
CN3		E40-7557-08	PIN CONNECTOR	2P		
CN4		E40-7557-08	PIN CONNECTOR	2P		
CN5		E40-7561-08	PIN CONNECTOR	9P		
CN6		E40-7558-08	PIN CONNECTOR	3P		
CN7		E40-7557-08	PIN CONNECTOR	2P		
CN8		E40-7557-08	PIN CONNECTOR	2P		
CN9		E40-7557-08	PIN CONNECTOR	2P		
CN10		E40-7559-08	PIN CONNECTOR	4P		
CN11		E40-7557-08	PIN CONNECTOR	2P		
CN12		E40-7557-08	PIN CONNECTOR	2P		
CN13		E40-7557-08	PIN CONNECTOR	2P		
CN14		E40-7564-08	PIN CONNECTOR	6P		
CN15		E40-7564-08	PIN CONNECTOR	6P		
D1		CM93BD2A680J	CAP. MICA	68P	J	100V
D3		MA700	DIODE			
D4		MA700	DIODE			
D5		MA700	DIODE			
D6		MA700	DIODE			
D7		RD5.1E(B2)	DIODE,ZENER			
D8		1S1588	DIODE			
D11		1S1588	DIODE			
D13		1S1588	DIODE			
D14		HZ27-3	DIODE			
D15		1S1588	DIODE			
D16		1S1588	DIODE			
D17		10D1	DIODE			
D18		10D1	DIODE			
D19		10D1	DIODE			
D20		10D1	DIODE			
D21		U05B	DIODE			
D22		U05B	DIODE			
D23		U05B	DIODE			
D24		U05B	DIODE			
F1		F05-8015-05	FUSE(6*30)			
L1		L77-1060-05	CRYSTAL RESONATOR			
L2		L39-0536-08	COIL	22U		
L3		L39-0536-08	COIL	47mH		
Q1		2SC3419(Y)	TR.SI,NPN			
Q4		2SC1815(Y)	TR.SI,NPN			
R00		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R1		RN14BK2E5102F	RES. METAL FILM	51K	F	1/4W
R2		RN14BK2E4021F	RES. METAL FILM	4.02K	F	1/4W
R6		RN14BK2E1002F	RES. METAL FILM	10K	F	1/4W
R7		RN14BK2E1002F	RES. METAL FILM	10K	F	1/4W
R10		RN14BK2E1600F	RES. METAL FILM	160	F	1/4W
R11		RN14BK2E51R0F	RES. METAL FILM	51	F	1/4W
R12		RN14BK2E36R0F	RES. METAL FILM	36	F	1/4W
R13		RN14BK2E1600F	RES. METAL FILM	160	F	1/4W
R14		RN14BK2E51R0F	RES. METAL FILM	51	F	1/4W
R15		RN14BK2E36R0F	RES. METAL FILM	36	F	1/4W
R16		RN14BK2E24R0F	RES. METAL FILM	24	F	1/4W
R16		RN14BK2E47R0F	RES. METAL FILM	47	F	1/4W
R17		RN14BK2E8200F	RES. METAL FILM	820	F	1/4W

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PARTS LIST (ELECTRICAL)

CG-951/CG-952

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Ref. No	Address	Parts No.	Description			
R18		R92-1061-05	JUMPING RES.	0	-	1/6W
R19		RN14BK2E24R0F	RES. METAL FILM	24	F	1/4W
R19		RN14BK2E47R0F	RES. METAL FILM	47	F	1/4W
R20		RN14BK2E8200F	RES. METAL FILM	820	F	1/4W
R21		R92-1061-05	JUMPING RES.	0	-	1/6W
R23		RN14BK2E68R0F	RES. METAL FILM	68	F	1/4W
R24		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R25		RN14BK2E4701F	RES. METAL FILM	4.7K	F	1/4W
R26		RN14BK2E1000F	RES. METAL FILM	100	F	1/4W
R27		RN14BK2E4701F	RES. METAL FILM	4.7K	F	1/4W
R28		RN14BK2E10R0F	RES. METAL FILM	10	F	1/4W
R30		RN14BK2E2211D	RES. METAL FILM	2.21K	D	1/4W
R31		RN14BK2E4421D	RES. METAL FILM	4.42K	D	1/4W
R32		RN14BK2E2401F	RES. METAL FILM	2.4K	F	1/4W
R33		RN14BK2E2401F	RES. METAL FILM	2.4K	F	1/4W
R34		RN14BK2E4421D	RES. METAL FILM	4.42K	D	1/4W
R35		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R36		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R37		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R38		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R39		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R40		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R41		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R42		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R43		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R44		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R45		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R46		RN14BK2E4701F	RES. METAL FILM	4.7K	F	1/4W
R47		RN14BK2E4701F	RES. METAL FILM	4.7K	F	1/4W
R48		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R55		RN14BK2E1652F	RES. METAL FILM	16.5K	F	1/4W
R56		RN14BK2E1241F	RES. METAL FILM	1K	F	1/4W
R57		RN14BK2E9312F	RES. METAL FILM	16.5K	F	1/4W
R58		RN14BK2E1471F	RES. METAL FILM	1.24K	F	1/4W
R59		RN14BK2E4022F	RES. METAL FILM	93.1K	F	1/4W
R60		RN14BK2E2871F	RES. METAL FILM	1.47K	F	1/4W
R61		RN14BK2E1332F	RES. METAL FILM	40.2K	F	1/4W
R62		RN14BK2E1621F	RES. METAL FILM	2.87K	F	1/4W
R65		RN14BK2E6042F	RES. METAL FILM	13.3K	F	1/4W
R66		RN14BK2E5901F	RES. METAL FILM	1.62K	F	1/4W
R67		RN14BK2E3012F	RES. METAL FILM	60.4K	F	1/4W
R68		RN14BK2E1621F	RES. METAL FILM	5.9K	F	1/4W
R69		RN14BK2E6042F	RES. METAL FILM	30.1K	F	1/4W
R70		RN14BK2E2261F	RES. METAL FILM	1.62K	F	1/4W
R71		RN14BK2E3652F	RES. METAL FILM	60.4K	F	1/4W
R72		RN14BK2E4420F	RES. METAL FILM	2.26K	F	1/4W
R73		RN14BK2E1962F	RES. METAL FILM	36.5K	F	1/4W
R74		RN14BK2E2051F	RES. METAL FILM	442	F	1/4W
R75		RN14BK2E6042F	RES. METAL FILM	19.6K	F	1/4W
R76		RN14BK2E5901F	RES. METAL FILM	2.05K	F	1/4W
R77		RN14BK2E4022F	RES. METAL FILM	60.4K	F	1/4W
R78		RN14BK2E2871F	RES. METAL FILM	5.9K	F	1/4W
R79		RN14BK2E4991F	RES. METAL FILM	40.2K	F	1/4W
R80		RN14BK2E4991F	RES. METAL FILM	2.87K	F	1/4W
R81		RN14BK2E4991F	RES. METAL FILM	4.99K	F	1/4W

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R82		RN14BK2E4991F	RES. METAL FILM	4.99K	F	1/4W
R83		RN14BK2E2201F	RES. METAL FILM	4.99K	F	1/4W
R84		RN14BK2E2201F	RES. METAL FILM	4.99K	F	1/4W
R85		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W
R86		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W
R89		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W
R90		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W
R91		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W
R92		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W
R93		RN14BK2E4702F	RES. METAL FILM	2.2K	F	1/4W
R94		RN14BK2E4702F	RES. METAL FILM	2.2K	F	1/4W
R95		RN14BK2E1001F	RES. METAL FILM	47K	F	1/4W
R96		RN14BK2E1001F	RES. METAL FILM	47K	F	1/4W
R97		RN14BK2E2201F	RES. METAL FILM	1K	F	1/4W
R98		RN14BK2E2201F	RES. METAL FILM	1K	F	1/4W
R99		RN14BK2E1001F	RES. METAL FILM	2.2K	F	1/4W
R100		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W
R101		RN14BK2E1501F	RES. METAL FILM	1K	F	1/4W
R102		RN14BK2E2201F	RES. METAL FILM	2.7K	F	1/4W
R103		RN14BK2E1501F	RES. METAL FILM	1.5K	F	1/4W
R104		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W
R105		RN14BK2E1001F	RES. METAL FILM	1.5K	F	1/4W
R106		RN14BK2E5492F	RES. METAL FILM	2.2K	F	1/4W
R108		RN14BK2E4990F	RES. METAL FILM	1K	F	1/4W
R109		RN14BK2E6042F	RES. METAL FILM	54.9K	F	1/4W
R110		RN14BK2E6341F	RES. METAL FILM	499	F	1/4W
R111		RN14BK2E1152F	RES. METAL FILM	60.4K	F	1/4W
R112		RN14BK2E1300F	RES. METAL FILM	6.34K	F	1/4W
R113		RN14BK2E2262F	RES. METAL FILM	11.5K	F	1/4W
R114		RN14BK2E1241F	RES. METAL FILM	130	F	1/4W
R115		RN14BK2E7502F	RES. METAL FILM	22.6K	F	1/4W
R116		RN14BK2E7502F	RES. METAL FILM	1.24K	F	1/4W
R119		RN14BK2E2202F	RES. METAL FILM	75K	F	1/4W
R120		RN14BK2E1001F	RES. METAL FILM	75K	F	1/4W
R121		RN14BK2E5601F	RES. METAL FILM	22K	F	1/4W
R122		RN14BK2E2552F	RES. METAL FILM	1K	F	1/4W
R123		RN14BK2E2401F	RES. METAL FILM	5.6K	F	1/4W
R124		RN14BK2E4421F	RES. METAL FILM	25.5K	F	1/4W
R125		RN14BK2E3301F	RES. METAL FILM	2.4K	F	1/4W
R126		RN14BK2E1182F	RES. METAL FILM	4.42K	F	1/4W
R127		RN14BK2E1271F	RES. METAL FILM	3.3K	F	1/4W
R128		RN14BK2E1372F	RES. METAL FILM	11.8K	F	1/4W
R129		RN14BK2E7500F	RES. METAL FILM	1.27K	F	1/4W
R130		RN14BK2E1242F	RES. METAL FILM	13.7K	F	1/4W
R131		RN14BK2E1300F	RES. METAL FILM	750	F	1/4W
R132		RN14BK2E1372F	RES. METAL FILM	12.4K	F	1/4W
R133		RN14BK2E7500F	RES. METAL FILM	130	F	1/4W
R134		RN14BK2E1212F	RES. METAL FILM	13.7K	F	1/4W
R135		RN14BK2E1301F	RES. METAL FILM	750	F	1/4W
R136		RN14BK2E1372F	RES. METAL FILM	12.1K	F	1/4W
R137		RN14BK2E7500F	RES. METAL FILM	1.3K	F	1/4W
R138		RN14BK2E2401F	RES. METAL FILM	13.7K	F	1/4W
R139		RN14BK2E3651F	RES. METAL FILM	750	F	1/4W
R140		RN14BK2E2401F	RES. METAL FILM	2.4K	F	1/4W
R141		RN14BK2E3651F	RES. METAL FILM	3.65K	F	1/4W

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PARTS LIST

CG-951/CG-952

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Ref. No	Add-ress	Parts No.	Description			
R142		RN14BK2E2401F	RES. METAL FILM	2.4K	F	1/4W
R143		RN14BK2E3651F	RES. METAL FILM	3.65K	F	1/4W
R145		RN14BK2E2431F	RES. METAL FILM	2.4K	F	1/4W
R146		RN14BK2E2431F	RES. METAL FILM	3.65K	F	1/4W
R147		RN14BK2E2431F	RES. METAL FILM	2.43K	F	1/4W
R148		RN14BK2E2202F	RES. METAL FILM	2.43K	F	1/4W
R149		RN14BK2E4702F	RES. METAL FILM	2.43K	F	1/4W
R150		RN14BK2E1001F	RES. METAL FILM	22K	F	1/4W
R151		RN14BK2E1502F	RES. METAL FILM	47K	F	1/4W
R152		RN14BK2E1002F	RES. METAL FILM	1K	F	1/4W
R153		RN14BK2E4701F	RES. METAL FILM	15K	F	1/4W
R154		RN14BK2E1002F	RES. METAL FILM	10K	F	1/4W
R155		RN14BK2E4701F	RES. METAL FILM	4.7K	F	1/4W
R156		RN14BK2E6200F	RES. METAL FILM	10K	F	1/4W
R157		RN14BK2E2001F	RES. METAL FILM	4.7K	F	1/4W
R158		RN14BK2E1501F	RES. METAL FILM	620	F	1/4W
R159		RN14BK2E2321F	RES. METAL FILM	2K	F	1/4W
R160		RN14BK2E1401F	RES. METAL FILM	1.5K	F	1/4W
R161		RN14BK2E2701F	RES. METAL FILM	2.32K	F	1/4W
R162		RN14BK2E1001F	RES. METAL FILM	1.4K	F	1/4W
R163		RN14BK2E51R0F	RES. METAL FILM	2.7K	F	1/4W
RL1		S76-0642-08	RELAY			
RL2		S76-0642-08	RELAY	1K	F	1/4W
RL3		S76-0642-08	RELAY	51	F	1/4W
S1		S40-2532-05	PUSH SWITCH			
T1		L37-0052-05	COIL			
U1		CXD1217M	IC,SYNC. SIGNAL GENERATOR			
U2		TC74HC161AP	IC,SYNC. BINARY COUNTER WITH ASYNC. CLEAR			
U3		TC74HC161AP	IC,SYNC. BINARY COUNTER WITH ASYNC. CLEAR			
U4		TC74HC161AP	IC,SYNC. BINARY COUNTER WITH ASYNC. CLEAR			
U5		TC74HC393AP	IC,DUAL BINARY COUNTER			
U6		TC74HC393AP	IC,DUAL BINARY COUNTER			
U7		TC74HC157AP	IC,QUAD 2-CH MPX			
U8		TC74HC157AP	IC,QUAD 2-CH MPX			
U9		TC74HC157AP	IC,QUAD 2-CH MPX			
U10		M5M5256BKP10	IC,OCTAL BUS BUFFER			
U11		TC74HC244AP	IC,OCTAL BUS BUFFER(3-STATE)			
U12		TC74HC157AP	IC,QUAD 2-CH MPX			
U13		TC74HC157AP	IC,QUAD 2-CH MPX			
U14		TC74HC157AP	IC,QUAD 2-CH MPX			
U16		M5M5256BKP10	IC,OCTAL BUS BUFFER			
U17		TC74HC244AP	IC,OCTAL BUS BUFFER(3-STATE)			
U18		TC74HC273AP	IC,OCTAL D F.F. WITH CLEAR			
U19		TC74HC273AP	IC,OCTAL D F.F. WITH CLEAR			
U20		DAC-IC8BC	IC,D/A CONVERTER			
U21		NJM4558D	IC,DUAL OP AMP			
U22		LM6361N	IC,HIGH SPEED OP AMP			
U23		TC74HC08AP	IC,QUAD 2-INPUT AND GATE			
U24		TC74HC32AP	IC,QUAD 2-INPUT OR GATE			
U25		TC74HC04AP	IC,HEX INVERTER			
U26		TC74HC74AP	IC,DUAL D F.F. WITH PRESET AND CLEAR			
U27		SN74LS06N	IC,HEX INVERTER			
U28		SN74LS07N	IC,HEX BUFFER/DRIVER			
U29		SN74LS07N	IC,HEX BUFFER/DRIVER			
U30		TC74HC08AP	IC,QUAD 2-INPUT AND GATE			

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U31		TC74HC08AP	IC,QUAD 2-INPUT AND GATE			
U32		TC74HC04AP	IC,HEX INVERTER			
U33		TC74HC32AP	IC,QUAD 2-INPUT OR GATE			
U34		TC74HC00AP	IC,QUAD 2-INPUT NAND GATE			
U35		LM6361N	IC,HIGH SPEED OP AMP			
U36		LM6361N	IC,HIGH SPEED OP AMP			
U37		LM6361N	IC,HIGH SPEED OP AMP			
U38		LM6361N	IC,HIGH SPEED OP AMP			
U40		MC1496P	IC,BALANCE MODULATOR DEMODULATOR			
U41		MC1496P	IC,BALANCE MODULATOR DEMODULATOR			
U42		LM6361N	IC,HIGH SPEED OP AMP			
U43		LM6361N	IC,HIGH SPEED OP AMP			
U44		LM6361N	IC,HIGH SPEED OP AMP			
U45		LM6361N	IC,HIGH SPEED OP AMP			
U46		LM6361N	IC,HIGH SPEED OP AMP			
U47		LM6361N	IC,HIGH SPEED OP AMP			
U48		LM6361N	IC,HIGH SPEED OP AMP			
U49		LM6361N	IC,HIGH SPEED OP AMP			
U50		LM6361N	IC,HIGH SPEED OP AMP			
U51		LM6361N	IC,HIGH SPEED OP AMP			
U52		PG05RF11	IC,4-TERMINAL LOW LOSS REGULATOR DC INPUT			
U53		TA79012S	IC,-3 TERMINAL REGULATOR			
VR1		R12-1858-05	RES. SEMI FIXED	2.2K		
VR3		R12-5570-05	RES. SEMI FIXED	220K		
VR4		R12-5570-05	RES. SEMI FIXED	220K		
VR5		R12-1857-05	RES. SEMI FIXED	1K		
VR6		R12-3598-05	RES. SEMI FIXED	10K		
VR7		R12-1857-05	RES. SEMI FIXED	1K		
VR8		R12-5556-05	RES. SEMI FIXED	100K		
VR9		R12-5556-05	RES. SEMI FIXED	100K		
VR10		R12-0887-08	RES. SEMI FIXED	470		
VR11		R12-0886-05	RES. SEMI FIXED	220		
VR12		R12-0886-05	RES. SEMI FIXED	220		
VR15		R12-5556-05	RES. SEMI FIXED	100K		
<b>CG-952 MAIN UNIT A, B (W02-2405-08)</b>						
C1		CE04EW1E100M	CAP. ELECTRO	10U	M	25V
C2		CE04EW1C103M	CAP. ELECTRO	10000U	M	16V
C3		CM93BD2A330J	CAP. MICA	33P	J	100V
C4		C05-0472-08	CAP. TRIMMER	50P	-	110V
C5		CM93BD2A470J	CAP. MICA	47P	J	100V
C6		CM93BD2A220J	CAP. MICA	22P	J	100V
C7		CK45F1H103Z	CAP. CERAMIC	0.01U	Z	50V
C8		CK45FB2H102K	CAP. CERAMIC	1000P	K	500V
C9		C05-0472-08	CAP. TRIMMER	50P	-	110V
C10		CM93BD2A680J	CAP. MICA	68P	J	100V
C11		CK45FB2H102K	CAP. CERAMIC	1000P	K	500V
C12		CM93BD2A470J	CAP. MICA	47P	J	100V
C13		CK45FB2H102K	CAP. CERAMIC	1000P	K	500V
C14		CK45FB2H102K	CAP. CERAMIC	1000P	K	500V
C15		CE04EW1E100M	CAP. ELECTRO	10U	M	25V
C16		CM93BD2A680J	CAP. MICA	68P	J	100V
C17		CQ92M1H104K	CAP. PLASTIC	0.1U	K	50V
C18		CM93BD2A100J	CAP. MICA	10P	J	100V
C20		CQ92M1H104K	CAP. PLASTIC	0.1U	K	50V

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PARTS LIST

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Ref. No	Add-ress	Parts No.	Description
C21		CQ92M1H104K	CAP. PLASTIC 0.1U K 50V
C22		CQ92M1H104K	CAP. PLASTIC 0.1U K 50V
C23		CQ92M1H104K	CAP. PLASTIC 0.1U K 50V
C24		CM93BD2A680J	CAP. MICA 68P J 100V
C25		C05-0472-05	CAP. TRIMMER 50P - 110V
C27		CE04EW1E220M	CAP. ELECTRO 22U M 25V
C28		CC45FCH1H101J	CAP. CERAMIC 100P J 50V
C29		CM93BD2A470J	CAP. MICA 47P J 100V
C30		CC45FCH1H100D	CAP. CERAMIC 10P D 50V
C31		CC45FCH1H100D	CAP. CERAMIC 10P D 50V
C32		CC45FCH1H050C	CAP. CERAMIC 5P C 50V
C33		CC45FCH1H050C	CAP. CERAMIC 5P C 50V
C34		CC45FCH1H050C	CAP. CERAMIC 5P C 50V
C35		CC45FCH1H050C	CAP. CERAMIC 5P C 50V
C36		CC45FCH1H050C	CAP. CERAMIC 5P C 50V
C37		CC45FCH1H050C	CAP. CERAMIC 5P C 50V
C46		CC45FCH1H050C	CAP. CERAMIC 5P C 50V
C47		CC45FCH1H050C	CAP. CERAMIC 5P C 50V
C50		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C51		CE04EW1C470M	CAP. ELECTRO 47U M 16V
C52		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C53		CE04EW1C470M	CAP. ELECTRO 47U M 16V
C54		CE04EW1E222M	CAP. ELECTRO 2200U M 25V
C55		CE04EW1E222M	CAP. ELECTRO 2200U M 25V
C56		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C57		CE04EW1C470M	CAP. ELECTRO 47U M 16V
C58		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C59		CE04EW1C470M	CAP. ELECTRO 47U M 16V
C60		C90-3050-05	CAP. ELECTRO 10000U - 25V
C100		CE04EW1E100M	CAP. ELECTRO 10U M 25V
C101		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C102		CE04EW1E100M	CAP. ELECTRO 10U M 25V
C103		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C104		CE04EW1E100M	CAP. ELECTRO 10U M 25V
C105		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
CN0		E40-7563-08	PIN CONNECTOR 15P
CN1		E40-7563-08	PIN CONNECTOR 15P
CN2		E40-7561-08	PIN CONNECTOR 9P
CN3		E40-7557-08	PIN CONNECTOR 2P
CN4		E40-7557-08	PIN CONNECTOR 2P
CN6		E40-7558-08	PIN CONNECTOR 3P
CN7		E40-7557-08	PIN CONNECTOR 2P
CN8		E40-7557-08	PIN CONNECTOR 2P
CN9		E40-7557-08	PIN CONNECTOR 2P
CN10		E40-7559-08	PIN CONNECTOR 4P
CN11		E40-7557-08	PIN CONNECTOR 2P
CN12		E40-7557-08	PIN CONNECTOR 2P
CN13		E40-7557-08	PIN CONNECTOR 2P
CN14		E40-7564-08	PIN CONNECTOR 6P
CN15		E40-7564-08	PIN CONNECTOR 6P
D1		FC54M	DIODE
D3		MA700	DIODE
D4		MA700	DIODE
D5		MA700	DIODE
D6		MA700	DIODE
D7		RD5.1E(B2)	DIODE,ZENER

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D8		1S1588	DIODE
D11		1S1588	DIODE
D17		10D1	DIODE
D18		10D1	DIODE
D19		10D1	DIODE
D20		10D1	DIODE
D21		U05B	DIODE
D22		U05B	DIODE
D23		U05B	DIODE
D24		U05B	DIODE
F1		F05-8015-05	FUSE(6*30)
L1		L39-0540-08	COIL 3.9U
L2		L39-0536-08	COIL 22U
L3		L39-0538-08	COIL 47mH
Q1		2SC3419(Y)	TR.SI,NPN
Q2		2SC1815(Y)	TR.SI,NPN
Q3		2SC1815(Y)	TR.SI,NPN
Q4		2SC1815(Y)	TR.SI,NPN
R0		RN14BK2E1001F	RES. METAL FILM 1K F 1/4W
R1		RN14BK2E2200F	RES. METAL FILM 220 F 1/4W
R2		RN14BK2E2201F	RES. METAL FILM 2.2K F 1/4W
R3		RN14BK2E1003F	RES. METAL FILM 100K F 1/4W
R4		RN14BK2E1002F	RES. METAL FILM 10K F 1/4W
R5		RN14BK2E3902F	RES. METAL FILM 39K F 1/4W
R6		RN14BK2E1002F	RES. METAL FILM 10K F 1/4W
R7		RN14BK2E1002F	RES. METAL FILM 10K F 1/4W
R10		RN14BK2E1600F	RES. METAL FILM 160 F 1/4W
R11		RN14BK2E51R0F	RES. METAL FILM 51 F 1/4W
R12		RN14BK2E36R0F	RES. METAL FILM 36 F 1/4W
R13		RN14BK2E1600F	RES. METAL FILM 160 F 1/4W
R14		RN14BK2E51R0F	RES. METAL FILM 51 F 1/4W
R15		RN14BK2E36R0F	RES. METAL FILM 36 F 1/4W
R16		RN14BK2E24R0F	RES. METAL FILM 24 F 1/4W
R16		RN14BK2E47R0F	RES. METAL FILM 47 F 1/4W
R17		RN14BK2E8200F	RES. METAL FILM 820 F 1/4W
R18		R92-1061-05	JUMPING RES. 0
R19		RN14BK2E24R0F	RES. METAL FILM 24 F 1/4W
R19		RN14BK2E47R0F	RES. METAL FILM 47 F 1/4W
R20		RN14BK2E8200F	RES. METAL FILM 820 F 1/4W
R21		R92-1061-05	JUMPING RES. 0
R23		RN14BK2E68R0F	RES. METAL FILM 68 F 1/4W
R24		RN14BK2E1001F	RES. METAL FILM 1K F 1/4W
R25		RN14BK2E4701F	RES. METAL FILM 4.7K F 1/4W
R26		RN14BK2E1000F	RES. METAL FILM 100 F 1/4W
R27		RN14BK2E4701F	RES. METAL FILM 4.7K F 1/4W
R28		RN14BK2E10R0F	RES. METAL FILM 10 F 1/4W
R30		RN14BK2E2211F	RES. METAL FILM 2.21K F 1/4W
R31		RN14BK2E4421F	RES. METAL FILM 4.42K F 1/4W
R32		RN14BK2E2401F	RES. METAL FILM 2.4K F 1/4W
R33		RN14BK2E2401F	RES. METAL FILM 2.4K F 1/4W
R34		RN14BK2E4421F	RES. METAL FILM 4.42K F 1/4W
R35		RN14BK2E1001F	RES. METAL FILM 1K F 1/4W
R36		RN14BK2E1001F	RES. METAL FILM 1K F 1/4W
R37		RN14BK2E1001F	RES. METAL FILM 1K F 1/4W
R38		RN14BK2E1001F	RES. METAL FILM 1K F 1/4W

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R39		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R40		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R41		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R42		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R43		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R44		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R45		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R46		RN14BK2E4701F	RES. METAL FILM	4.7K	F	1/4W	
R47		RN14BK2E4701F	RES. METAL FILM	4.7K	F	1/4W	
R48		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R55		RN14BK2E1652F	RES. METAL FILM	16.5K	F	1/4W	
R56		RN14BK2E1241F	RES. METAL FILM	1.24K	F	1/4W	
R57		RN14BK2E9312F	RES. METAL FILM	93.1K	F	1/4W	
R58		RN14BK2E1471F	RES. METAL FILM	1.47K	F	1/4W	
R61		RN14BK2E1332F	RES. METAL FILM	13.3K	F	1/4W	
R62		RN14BK2E1621F	RES. METAL FILM	1.62K	F	1/4W	
R63		RN14BK2E4752F	RES. METAL FILM	45.7K	F	1/4W	
R65		RN14BK2E3402F	RES. METAL FILM	34K	F	1/4W	
R67		RN14BK2E3012F	RES. METAL FILM	30.1K	F	1/4W	
R68		RN14BK2E1621F	RES. METAL FILM	1.62K	F	1/4W	
R69		RN14BK2E6042F	RES. METAL FILM	60.4K	F	1/4W	
R70		RN14BK2E2261F	RES. METAL FILM	2.26K	F	1/4W	
R71		RN14BK2E4752F	RES. METAL FILM	45.7K	F	1/4W	
R73		RN14BK2E1962F	RES. METAL FILM	19.6K	F	1/4W	
R74		RN14BK2E2051F	RES. METAL FILM	2.05K	F	1/4W	
R75		RN14BK2E3402F	RES. METAL FILM	34K	F	1/4W	
R79		RN14BK2E4991F	RES. METAL FILM	4.99K	F	1/4W	
R80		RN14BK2E4991F	RES. METAL FILM	4.99K	F	1/4W	
R81		RN14BK2E4991F	RES. METAL FILM	4.99K	F	1/4W	
R82		RN14BK2E4991F	RES. METAL FILM	4.99K	F	1/4W	
R83		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W	
R84		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W	
R85		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W	
R86		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W	
R87		RN14BK2E4701F	RES. METAL FILM	4.7K	F	1/4W	
R88		RN14BK2E4701F	RES. METAL FILM	4.7K	F	1/4W	
R89		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W	
R90		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W	
R91		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W	
R92		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W	
R93		RN14BK2E4702F	RES. METAL FILM	47K	F	1/4W	
R94		RN14BK2E4702F	RES. METAL FILM	47K	F	1/4W	
R95		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R96		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R97		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W	
R98		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W	
R99		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R100		RN14BK2E2701F	RES. METAL FILM	2.7K	F	1/4W	
R101		RN14BK2E1501F	RES. METAL FILM	1.5K	F	1/4W	
R102		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W	
R103		RN14BK2E1501F	RES. METAL FILM	1.5K	F	1/4W	
R104		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W	
R105		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R106		RN14BK2E5492F	RES. METAL FILM	54.9K	F	1/4W	
R108		RN14BK2E4990F	RES. METAL FILM	499	F	1/4W	

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R109		RN14BK2E6042F	RES. METAL FILM	60.4K	F	1/4W	
R110		RN14BK2E6341F	RES. METAL FILM	6.34K	F	1/4W	
R111		RN14BK2E1152F	RES. METAL FILM	11.5K	F	1/4W	
R112		RN14BK2E1300F	RES. METAL FILM	130	F	1/4W	
R113		RN14BK2E2262F	RES. METAL FILM	22.6K	F	1/4W	
R114		RN14BK2E1241F	RES. METAL FILM	1.24K	F	1/4W	
R115		RN14BK2E7502F	RES. METAL FILM	75K	F	1/4W	
R116		RN14BK2E7502F	RES. METAL FILM	75K	F	1/4W	
R119		RN14BK2E2202F	RES. METAL FILM	22K	F	1/4W	
R120		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W	
R121		RN14BK2E5601F	RES. METAL FILM	5.6K	F	1/4W	
R122		RN14BK2E2552F	RES. METAL FILM	25.5K	F	1/4W	
R123		RN14BK2E2401F	RES. METAL FILM	2.4K	F	1/4W	
R124		RN14BK2E4421F	RES. METAL FILM	4.42K	F	1/4W	
R125		RN14BK2E3301F	RES. METAL FILM	3.3K	F	1/4W	
R126		RN14BK2E1182F	RES. METAL FILM	11.8K	F	1/4W	
R127		RN14BK2E1271F	RES. METAL FILM	1.27K	F	1/4W	
R128		RN14BK2E1372F	RES. METAL FILM	13.7K	F	1/4W	
R129		RN14BK2E7500F	RES. METAL FILM	750	F	1/4W	
R130		RN14BK2E1242F	RES. METAL FILM	12.4K	F	1/4W	
R131		RN14BK2E1300F	RES. METAL FILM	130	F	1/4W	
R132		RN14BK2E1372F	RES. METAL FILM	13.7K	F	1/4W	
R133		RN14BK2E7500F	RES. METAL FILM	750	F	1/4W	
R134		RN14BK2E1212F	RES. METAL FILM	12.1K	F	1/4W	
R135		RN14BK2E1301F	RES. METAL FILM	1.3K	F	1/4W	
R136		RN14BK2E1372F	RES. METAL FILM	13.7K	F	1/4W	
R137		RN14BK2E7500F	RES. METAL FILM	750	F	1/4W	
R138		RN14BK2E2401F	RES. METAL FILM	2.4K	F	1/4W	
R139		RN14BK2E3651F	RES. METAL FILM	3.65K	F	1/4W	
R140		RN14BK2E2401F	RES. METAL FILM	2.4K	F	1/4W	
R141		RN14BK2E3651F	RES. METAL FILM	3.65K	F	1/4W	
R142		RN14BK2E2401F	RES. METAL FILM	2.4K	F	1/4W	
R143		RN14BK2E3651F	RES. METAL FILM	3.65K	F	1/4W	
R145		RN14BK2E2431F	RES. METAL FILM	2.43K	F	1/4W	
R146		RN14BK2E2431F	RES. METAL FILM	2.43K	F	1/4W	
R147		RN14BK2E2431F	RES. METAL FILM	2.43K	F	1/4W	
R151		RN14BK2E1502F	RES. METAL FILM	15K	F	1/4W	
R156		RN14BK2E6200F	RES. METAL FILM	620	F	1/4W	
R157		RN14BK2E2001F	RES. METAL FILM	2K	F	1/4W	
R158		RN14BK2E1501F	RES. METAL FILM	1.5K	F	1/4W	
R159		RN14BK2E2261F	RES. METAL FILM	2.26K	F	1/4W	
R160		RN14BK2E1401F	RES. METAL FILM	1.4K	F	1/4W	
R161		RN14BK2E2701F	RES. METAL FILM	2.7K	F	1/4W	
R163		RN14BK2E51R0F	RES. METAL FILM	51	F	1/4W	
RL1		L76-0642-08	RELAY				
S1		S40-2532-05	PUSH SWITCH				
T1		L37-0052-05	COIL				
U1		CXD1217M					
U2		TC74HC161AP	IC, SYNC. BINARY COUNTER WITH ASYNC. CLEAR				
U3		TC74HC161AP	IC, SYNC. BINARY COUNTER WITH ASYNC. CLEAR				
U4		TC74HC161AP	IC, SYNC. BINARY COUNTER WITH ASYNC. CLEAR				
U5		TC74HC393AP	IC, DUAL BINARY COUNTER				
U6		TC74HC393AP	IC, DUAL BINARY COUNTER				
U7		TC74HC157AP	IC, QUAD 2-CH MPX				
U8		TC74HC157AP	IC, QUAD 2-CH MPX				

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U9		TC74HC157AP	IC, QUAD 2-CH MPX
U10		M5M5256BKP10LL	IC, CMOS STATIC RAM
U11		TC74HC244AP	IC, OCTAL BUS BUFFER
U12		TC74HC157AP	IC, QUAD 2-CH MPX
U13		TC74HC157AP	IC, QUAD 2-CH MPX
U14		TC74HC157AP	IC, QUAD 2-CH MPX
U16		M5M5256BKP10LL	IC, CMOS STATIC RAM
U17		TC74HC244AP	IC, OCTAL BUS BUFFER
U18		TC74HC273AP	IC, OCTAL D F.F. EITH CLEAR
U19		TC74HC273AP	IC, OCTAL D F.F. EITH CLEAR
U20		DAC-IC8BC	IC, D/A CONVERTER
U21		NJM4558D	IC, DUAL OP AMP
U22		LM6361N	IC, HIGH SPEED OP AMP
U23		TC74HC08AP	IC, QUAD 2-INPUT AND GATE
U24		TC74HC32AP	IC, QUAD 2-INPUT OR GATE
U25		TC74HC04AP	IC, HEX INVERTER
U26		TC74HC74AP	IC, DUAL D F.F. WITH PRESET AND CLEAR
U27		SN74LS06N	IC, HEX INVERTER
U28		SN74LS07N	IC, HEX BUFFER/DRIVER
U29		SN74LS07N	IC, HEX BUFFER/DRIVER
U30		TC74HC08AP	IC, QUAD 2-INPUT AND GATE
U31		TC74HC08AP	IC, QUAD 2-INPUT AND GATE
U32		TC74HC04AP	IC, HEX INVERTER
U33		TC74HC32AP	IC, QUAD 2-INPUT OR GATE
U34		TC74HC00AP	IC, QUAD 2-INPUT NAND GATE
U35		LM6361N	IC, HIGH SPEED OP AMP
U36		LM6361N	IC, HIGH SPEED OP AMP
U37		LM6361N	IC, HIGH SPEED OP AMP
U38		LM6361N	IC, HIGH SPEED OP AMP
U40		MC1496P	IC, BALANCED MODULATOR DEMODULATOR
U41		MC1496P	IC, BALANCED MODULATOR DEMODULATOR
U42		LM6361N	IC, HIGH SPEED OP AMP
U43		LM6361N	IC, HIGH SPEED OP AMP
U44		LM6361N	IC, HIGH SPEED OP AMP
U45		LM6361N	IC, HIGH SPEED OP AMP
U46		LM6361N	IC, HIGH SPEED OP AMP
U47		LM6361N	IC, HIGH SPEED OP AMP
U48		LM6361N	IC, HIGH SPEED OP AMP
U49		LM6361N	IC, HIGH SPEED OP AMP
U50		LM6361N	IC, HIGH SPEED OP AMP
U51		LM6361N	IC, HIGH SPEED OP AMP
U52		PQ05RF11	IC, 4-TERMINAL LOW LOSS REGULATOR DC INPUT
U53		TA79012S	IC, -3 TERMINAL REGULATOR
VR1		R12-1858-05	RES. SEMI FIXED
VR3		R12-5570-05	RES. SEMI FIXED 220K
VR4		R12-5570-05	RES. SEMI FIXED 220K
VR5		R12-1857-05	RES. SEMI FIXED 1K
VR6		R12-3598-05	RES. SEMI FIXED 10K
VR7		R12-1857-05	RES. SEMI FIXED 1K
VR10		R12-9887-05	RES. SEMI FIXED 470
X1		L77-1061-05	CRYSTAL RESONATOR 2.2K

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Ref. No	Add-ress	Parts No.	Description
<b>PATTERN GENERATOR UNIT (W02-2404-08)</b>			
C2		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C3		CE04EW1E100M	CAP. ELECTRO 10U M 25V
C4		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C5		CE04EW1E100M	CAP. ELECTRO 10U M 25V
D1		1S1588	DIODE
D2		1S1588	DIODE
Q1		2SA1015(Y)	TR.SI,NPN
Q2		2SC3419(Y)	TR.SI,NPN
Q3		2SC1815(Y)	TR.SI,NPN
Q4		2SA1356(Y)	TR.SI,NPN
R1		RN73FH2A103D	RES.CHIP (2 -1.25) 10K D 1/10W
R2		RN73FH2A103D	RES.CHIP (2 -1.25) 10K D 1/10W
R3		RN73FH2A472D	RES.CHIP (2 -1.25) 4.7K D 1/10W
R4		RN73FH2A101D	RES.CHIP (2 -1.25) 100 D 1/10W
R5		RN73FH2A152D	RES.CHIP (2 -1.25) 1.5K D 1/10W
R6		RN73FH2A472D	RES.CHIP (2 -1.25) 4.7K D 1/10W
R7		RN73FH2A101D	RES.CHIP (2 -1.25) 100 D 1/10W
R8		RN73FH2A152D	RES.CHIP (2 -1.25) 1.5K D 1/10W
R9		RN73FH2A101D	RES.CHIP (2 -1.25) 100 D 1/10W
R10		RN73FH2A147D	RES.CHIP (2 -1.25) 147 D 1/10W
R13		RN73FH2A147D	RES.CHIP (2 -1.25) 147 D 1/10W
<b>PANEL UNIT (W02-2402-08)</b>			
C1		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C2		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C3		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C4		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C5		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C6		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C7		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C8		CK45F1H103Z	CAP. CERAMIC 0.01U Z 50V
C9		CE04EW1E470M	CAP. ELECTRO 47U M 25V
C10		CE04EW1E470M	CAP. ELECTRO 47U M 25V
C11		CE04EW1E470M	CAP. ELECTRO 47U M 25V
CN23		E40-7563-08	PIN CONNECTOR 15P
D1		1S1588	DIODE
D2		1S1588	DIODE
D3		1S1588	DIODE
D4		1S1588	DIODE
L2		S70-0602-05	TACT SWITCH
L3		S70-0602-05	TACT SWITCH
L4		S70-0602-05	TACT SWITCH
L5		S70-0602-05	TACT SWITCH
L6		S70-0602-05	TACT SWITCH
L7		S70-0602-05	TACT SWITCH
L8		S70-0602-05	TACT SWITCH
L9		S70-0602-05	TACT SWITCH
L10		S70-0602-05	TACT SWITCH
L11		S70-0602-05	TACT SWITCH
L12		S70-0602-05	TACT SWITCH
L13		S70-0602-05	TACT SWITCH
L14		S70-0602-05	TACT SWITCH
L15		S70-0602-05	TACT SWITCH

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PARTS LIST

CG-951/CG-952



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Ref. No	Add-ress	Parts No.	Description			
L16		S70-0602-05	TACT SWITCH			
L17		S70-0602-05	TACT SWITCH			
L18		S70-0602-05	TACT SWITCH			
L19		S70-0602-05	TACT SWITCH			
L20		S70-0602-05	TACT SWITCH			
L21		S70-0602-05	TACT SWITCH			
L26		S70-0602-05	TACT SWITCH			
L27		S70-0602-05	TACT SWITCH			
L28		S70-0602-05	TACT SWITCH			
L30		B30-3038-08	LED;7xSEGMENT			
L31		B30-3038-08	LED;7xSEGMENT			
L32		B30-3038-08	LED;7xSEGMENT			
L33		B30-3038-08	LED;7xSEGMENT			
L34		B30-3038-08	LED;7xSEGMENT			
R2		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R3		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R4		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R5		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R6		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R7		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R8		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R9		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R10		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R11		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R12		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R13		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R14		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R15		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
R20		RN14BK2E1002F	RES. METAL FILM	10K	F	1/4W
R21		RN14BK2E1002F	RES. METAL FILM	10K	F	1/4W
R22		RN14BK2E1002F	RES. METAL FILM	10K	F	1/4W
R23		RN14BK2E1002F	RES. METAL FILM	10K	F	1/4W
R24		RN14BK2E1002F	RES. METAL FILM	10K	F	1/4W
R25		RN14BK2E1002F	RES. METAL FILM	10K	F	1/4W
R26		RN14BK2E1002F	RES. METAL FILM	10K	F	1/4W
RM1		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
RM2		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
RM3		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
RM4		RN14BK2E3900F	RES. METAL FILM	390	F	1/4W
S2		S70-0602-05	TACT SWITCH			
S3		S70-0602-05	TACT SWITCH			
S4		S70-0602-05	TACT SWITCH			
S5		S70-0602-05	TACT SWITCH			
S6		S70-0602-05	TACT SWITCH			
S7		S70-0602-05	TACT SWITCH			
S8		S70-0602-05	TACT SWITCH			
S9		S70-0602-05	TACT SWITCH			
S10		S70-0602-05	TACT SWITCH			
S11		S70-0602-05	TACT SWITCH			
S12		S70-0602-05	TACT SWITCH			
S13		S70-0602-05	TACT SWITCH			
S14		S70-0602-05	TACT SWITCH			
S15		S70-0602-05	TACT SWITCH			
S16		S70-0602-05	TACT SWITCH			
S17		S70-0602-05	TACT SWITCH			

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Ref. No	Add-ress	Parts No.	Description			
S18		S70-0602-05	TACT SWITCH			
S19		S70-0602-05	TACT SWITCH			
S20		S70-0602-05	TACT SWITCH			
S21		S70-0602-05	TACT SWITCH			
S22		S70-0601-05	TACT SWITCH			
S23		S70-0601-05	TACT SWITCH			
S24		S70-0601-05	TACT SWITCH			
S25		S70-0601-05	TACT SWITCH			
S26		S70-0602-05	TACT SWITCH			
S27		S70-0602-05	TACT SWITCH			
S28		S70-0602-05	TACT SWITCH			
U1		TC74HC595AP	IC,8-BIT SHIFT REGISTER/LATCH			
U2		TC74HC595AP	IC,8-BIT SHIFT REGISTER/LATCH			
U3		TC74HC595AP	IC,8-BIT SHIFT REGISTER/LATCH			
U4		TC74HC595AP	IC,8-BIT SHIFT REGISTER/LATCH			
U5		TC74HC595AP	IC,8-BIT SHIFT REGISTER/LATCH			
U6		TC74HC595AP	IC,8-BIT SHIFT REGISTER/LATCH			
U7		TC74HC595AP	IC,8-BIT SHIFT REGISTER/LATCH			
U8		TC74HC595AP	IC,8-BIT SHIFT REGISTER/LATCH			
<b>CPU UNIT (W02-2403-08)</b>						
C1		C90-1315-05	CAP.CERAMIC	0.1U	-	-
C2		CE04EW1E470M	CAP. ELECTRO	47U	M	25V
C3		CM93BD2A220J	CAP. MICA	22P	J	100V
C4		CM93BD2A120J	CAP. MICA	12P	J	100V
C20		CE04EW1E470M	CAP. ELECTRO	47U	M	25V
C30		C90-1315-05	CAP.CERAMIC	0.1U	-	-
CN17		E40-7563-08	PIN CONNECTOR	15P		
CN18		E40-7562-08	PIN CONNECTOR	10P		
CN19		E40-7563-08	PIN CONNECTOR	15P		
CN20		E40-7563-08	PIN CONNECTOR	15P		
CN21		E40-7561-08	PIN CONNECTOR	9P		
CN22		E40-7557-08	PIN CONNECTOR	2P		
R1		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R2		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R3		RN14BK2E1001F	RES. METAL FILM	1K	F	1/4W
R4		RN14BK2E5600F	RES. METAL FILM	560	F	1/4W
R5		RN14BK2E2200F	RES. METAL FILM	220	F	1/4W
R6		RN14BK2E1801F	RES. METAL FILM	1.8K	F	1/4W
R7		RN14BK2E2201F	RES. METAL FILM	2.2K	F	1/4W
R8		RN14BK2E4701F	RES. METAL FILM	4.7K	F	1/4W
R9		RN14BK2E4701F	RES. METAL FILM	4.7K	F	1/4W
R10		RN14BK2E4701F	RES. METAL FILM	4.7K	F	1/4W
RM1		R90-0628-05	RES. MULTIPLE	10K		
RM2		R90-0628-05	RES. MULTIPLE	10K		
U1		TL7705	IC			
U3		LH0080BF	IC,Z80B CPU			
U4		AT27C256R-15D	IC,256K BIT EPROM			
U5		LC366SAL-10	IC			
U6		SN74LS139N	IC,DUAL 2 TO 4 DECOD./DE-MPX			
U7		TC74HC138AP	IC,3 TO 8 LINE DECODER			
U8		TC74HC138AP	IC,3 TO 8 LINE DECODER			
U9		TC74HC74AP	IC,DUAL D F.F. WITH PRESET AND CLEAR			
U10		TC74HC30AP	IC,8-INPUT NAND GATE			
U11		TC74HC244AP	IC,OCTAL BUS BUFFER (3-STATE)			
U12		TC74HC273AP	IC,OCTAL D F.F. WITH CLEAR			

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PARTS LIST

CG-951/CG-952

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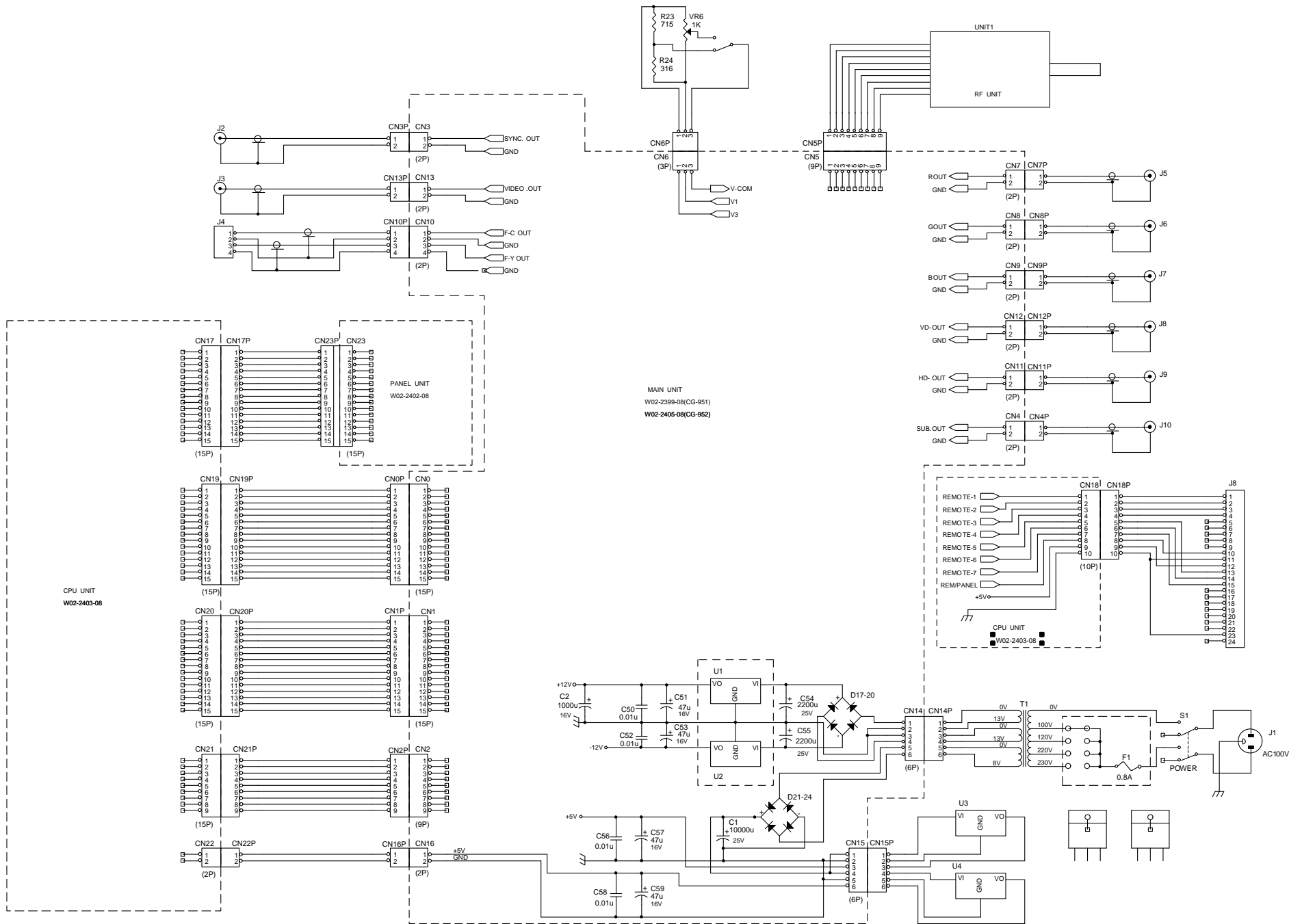
15

Ref. No	Add-ress	Parts No.	Description
U14		TC74HC244AP	IC,OCTAL BUS BUFFER (3-STATE)
U15		SN74LS07N	IC,HEX BUFFER/DRIVES
U16		X24C04PI	IC,512X8 BIT EEPROM
U17		TC74HC273AP	IC,OCTAL D.F.F. WITH CLEAR
U18		TC74HC244AP	IC,OCTAL BUS BUFFER (3-STATE)
U19		TC74HC244AP	IC,OCTAL BUS BUFFER (3-STATE)
U20		TC74HC244AP	IC,OCTAL BUS BUFFER (3-STATE)
U21		SN74LS04AN	IC,HEX INVERTER
U22		TC74HC273AP	IC,OCTAL D.F.F. WITH CLEAR
U23		TC74HC273AP	IC,OCTAL D.F.F. WITH CLEAR
X1		L77-2506-05	CRYSTAL RESONATOR

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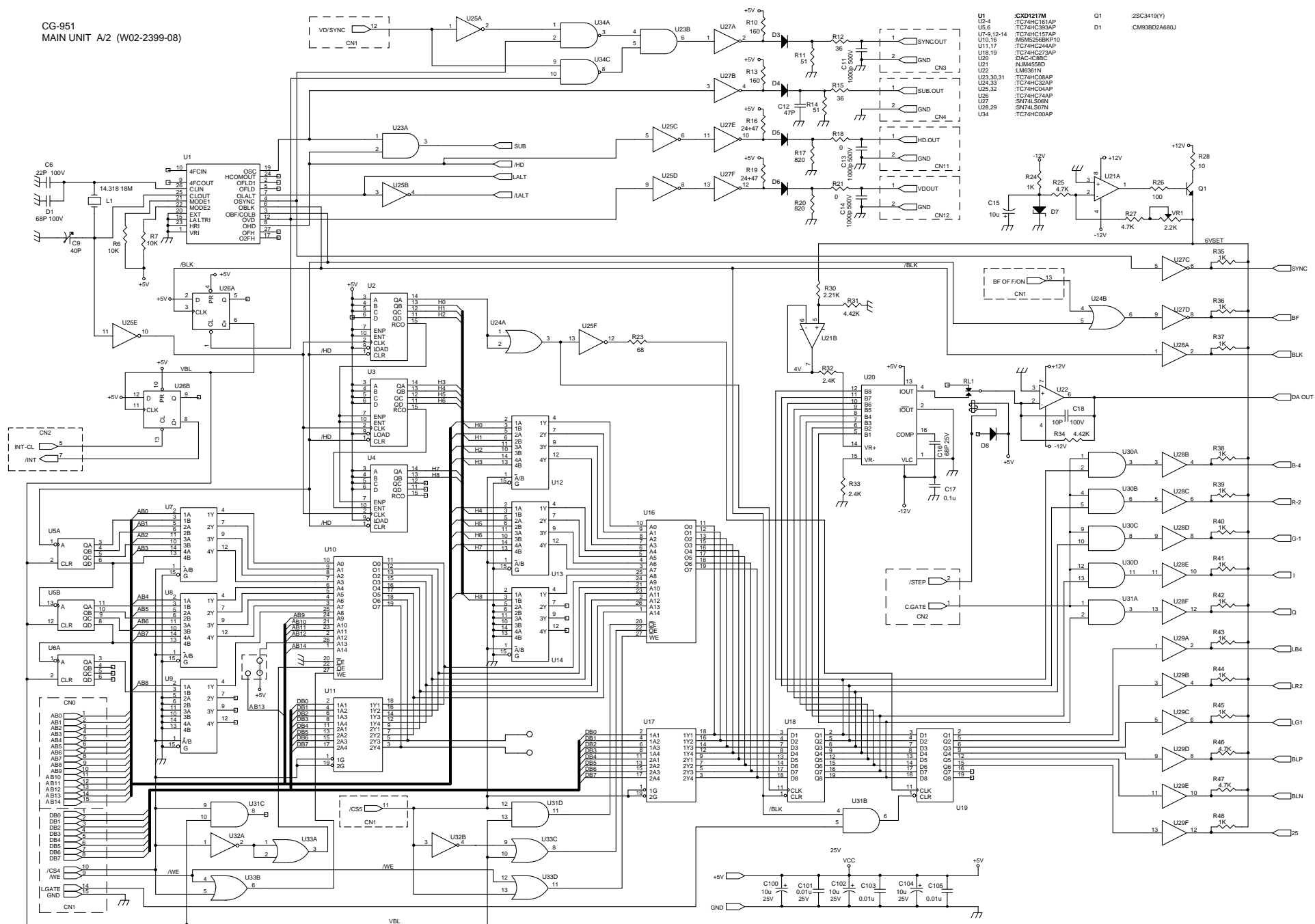
CG-951/CG-952  
PARTS LIST

# SCHEMATIC DIAGRAM



# SCHEMATIC DIAGRAM

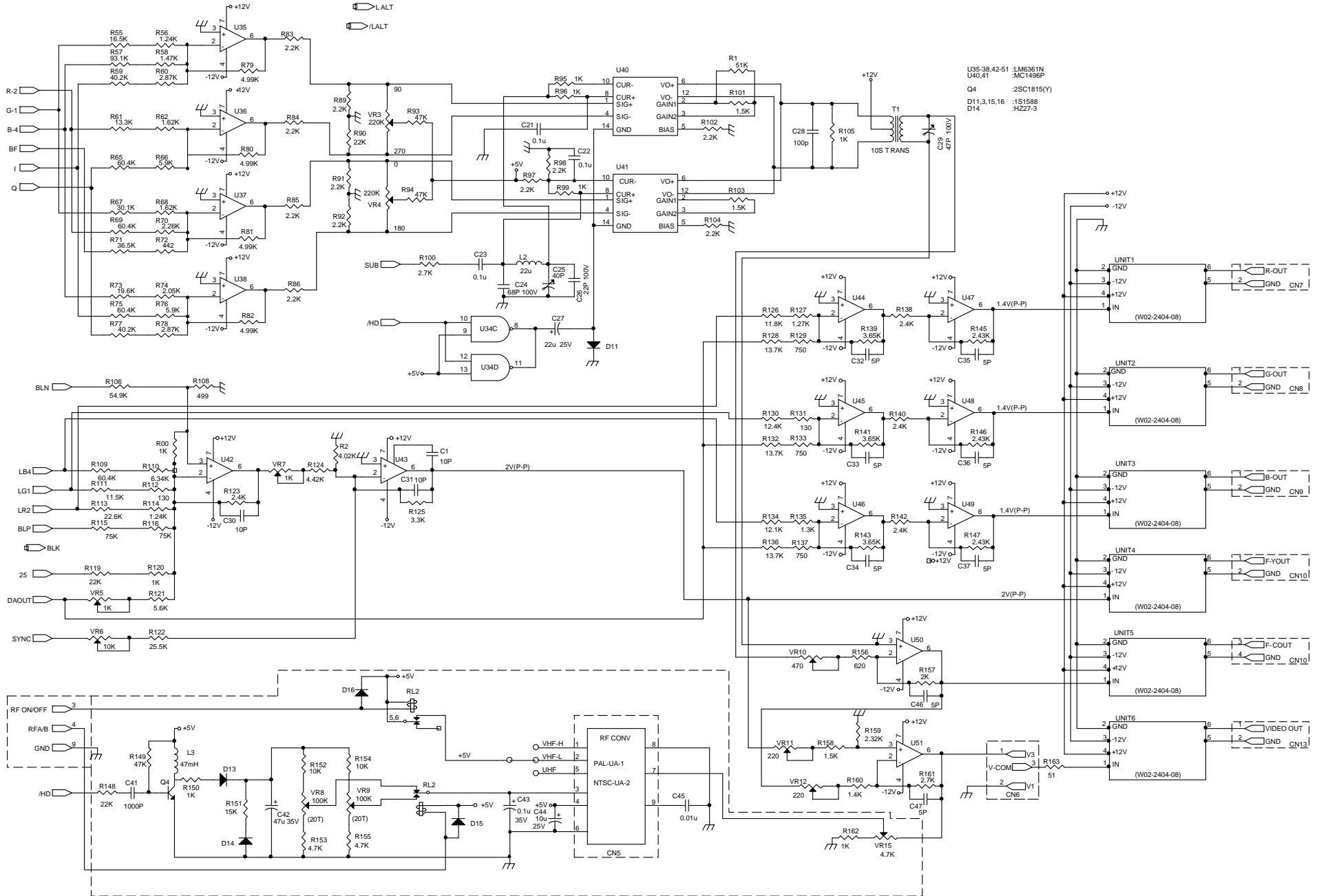
CG-951  
MAIN UNIT A/2 (W02-2399-08)



- |            |              |    |              |
|------------|--------------|----|--------------|
| U1         | :CXD1217M    | G1 | :2SC3419(Y)  |
| U2-4       | :TC74HC00    | D1 | :CM93B02A80J |
| U5,6       | :TC74HC393AP |    |              |
| U7-9,12-14 | :TC74HC153AP |    |              |
| U10,16     | :MSM25688P10 |    |              |
| U11,17     | :TC74HC244AP |    |              |
| U18,19     | :TC74HC273AP |    |              |
| U20        | :DAC-IC8BC   |    |              |
| U21        | :NLM6580D    |    |              |
| U22        | :LMS361N     |    |              |
| U23,30,31  | :TC74HC08AP  |    |              |
| U24,33     | :TC74HC32AP  |    |              |
| U25,32     | :TC74HC04AP  |    |              |
| U26        | :TC74HC74AP  |    |              |
| U27        | :SN74LS00N   |    |              |
| U28,29     | :SN74LS07N   |    |              |
| U34        | :TC74HC00AP  |    |              |

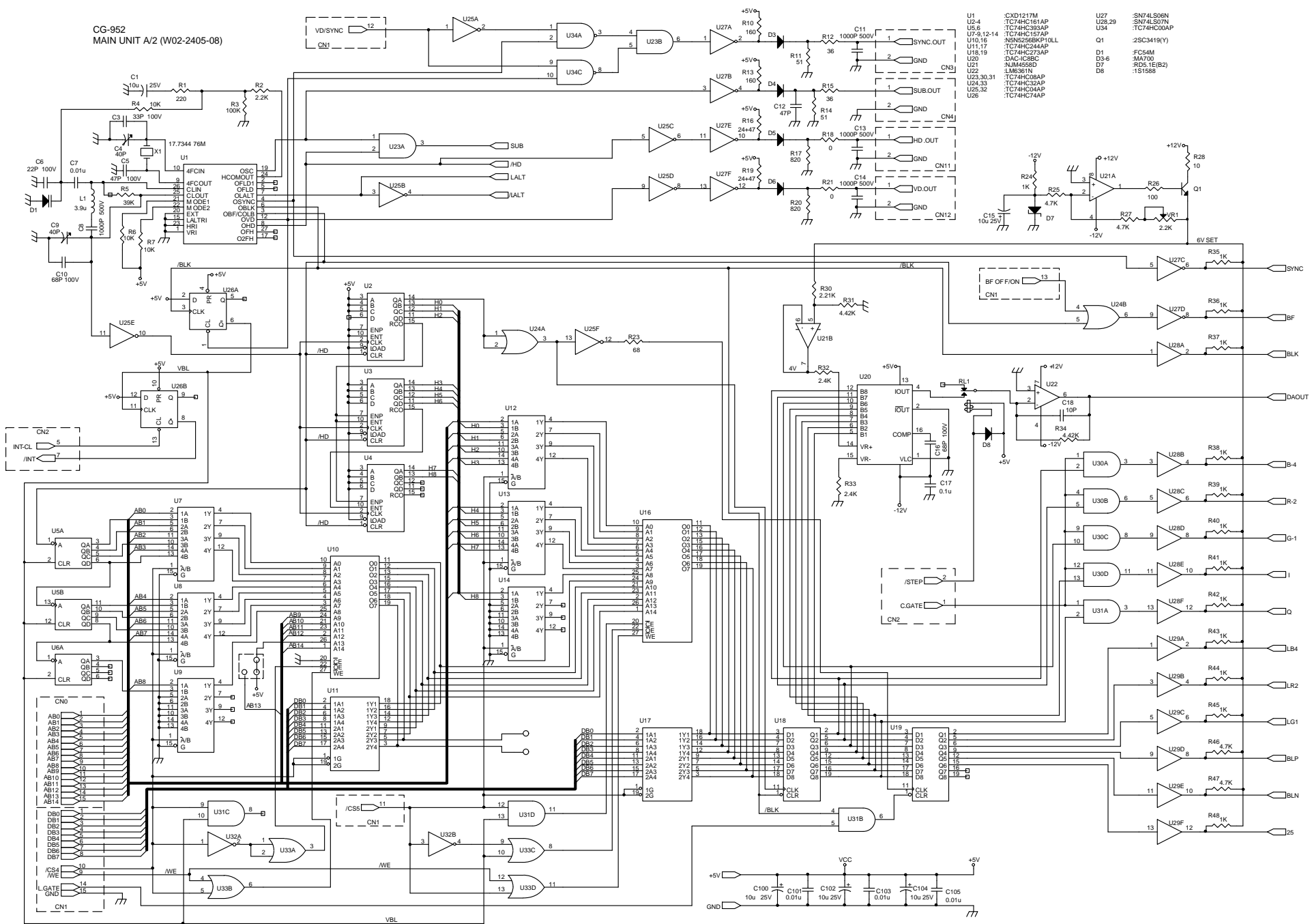
# SCHEMATIC DIAGRAM

CG-951  
MAIN UNIT B/2 (W02-2399-08)

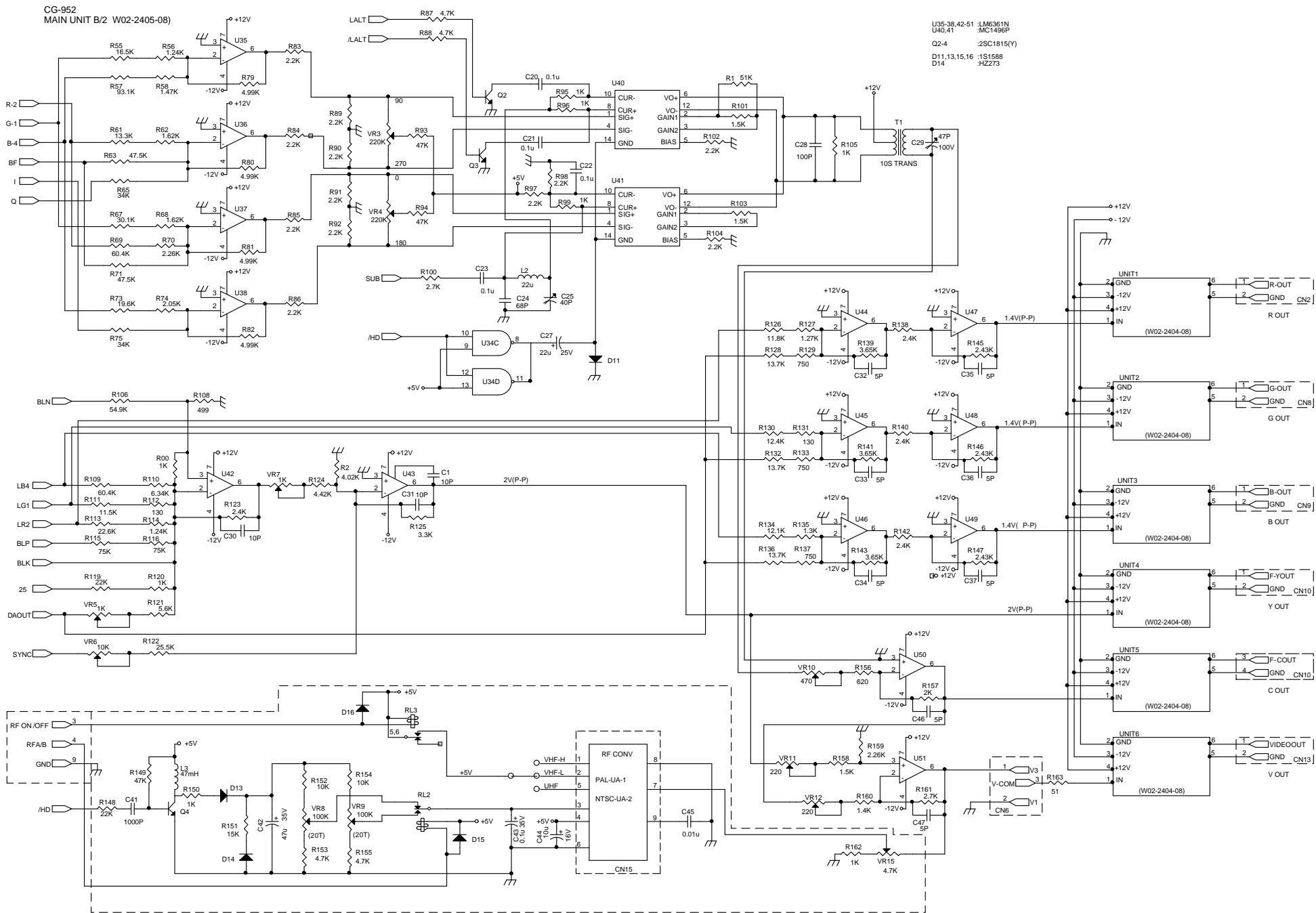


# SCHEMATIC DIAGRAM

CG-952  
MAIN UNIT A/2 (W02-2405-08)

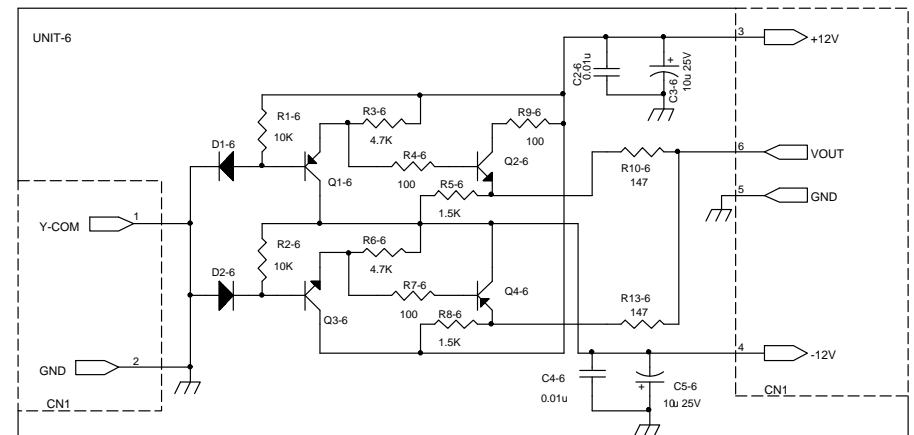
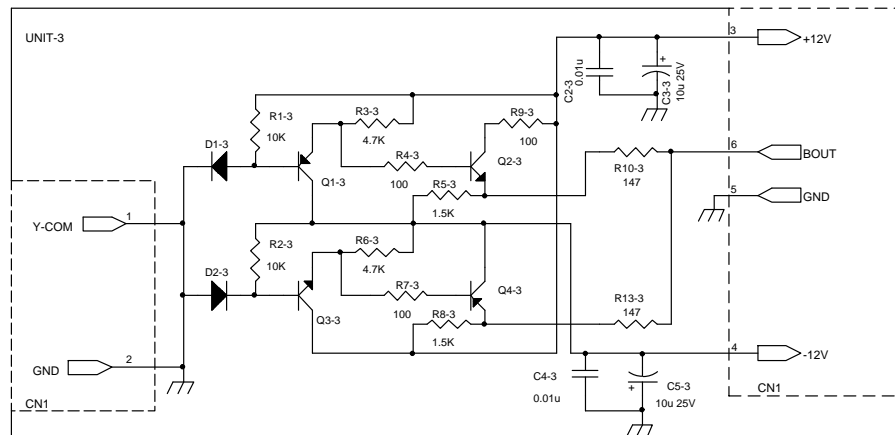
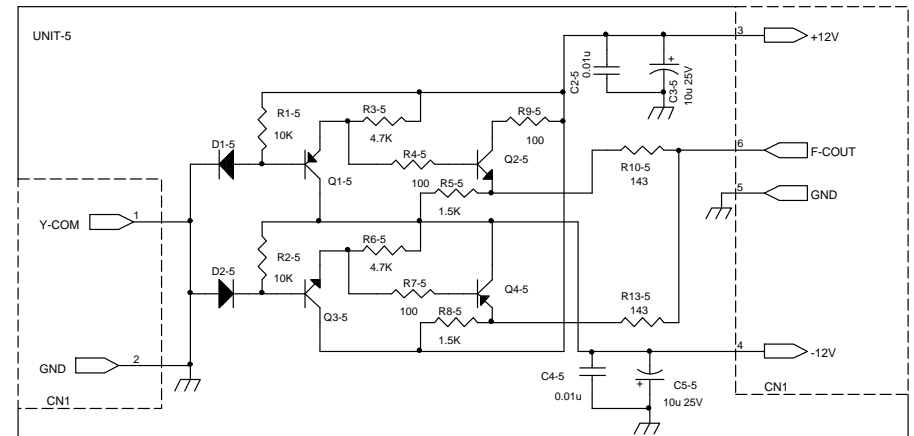
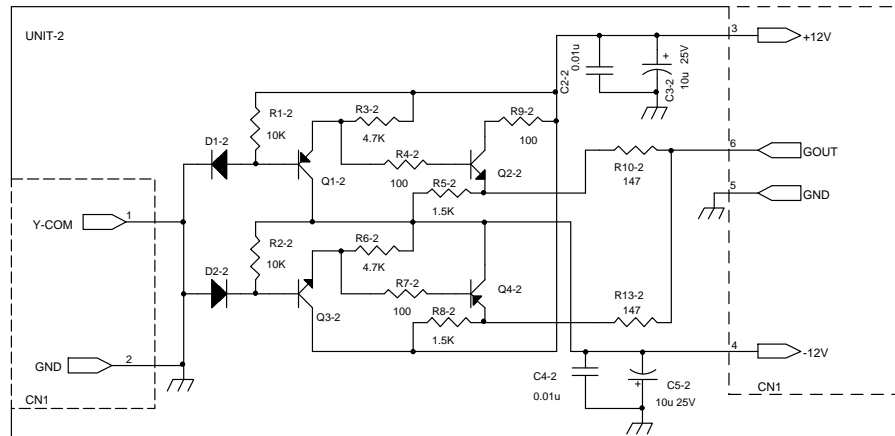
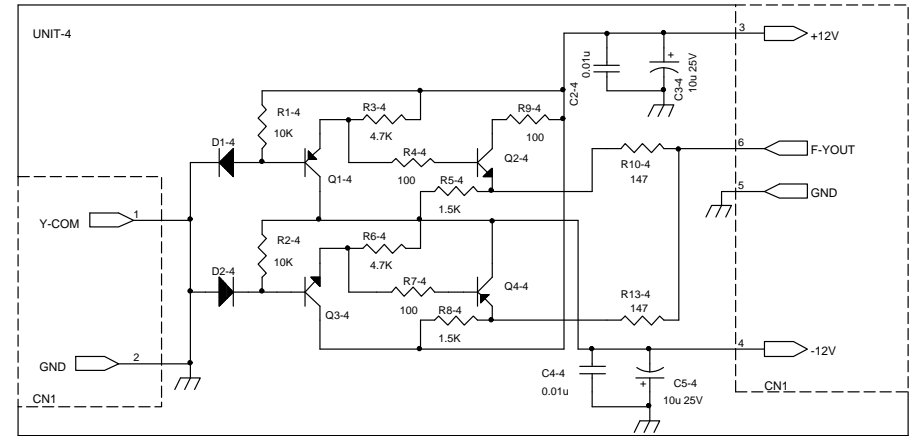
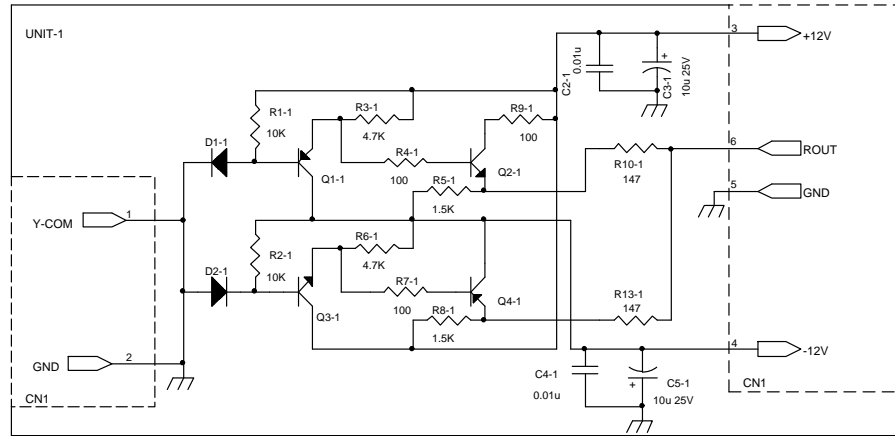


# SCHEMATIC DIAGRAM



# SCHEMATIC DIAGRAM

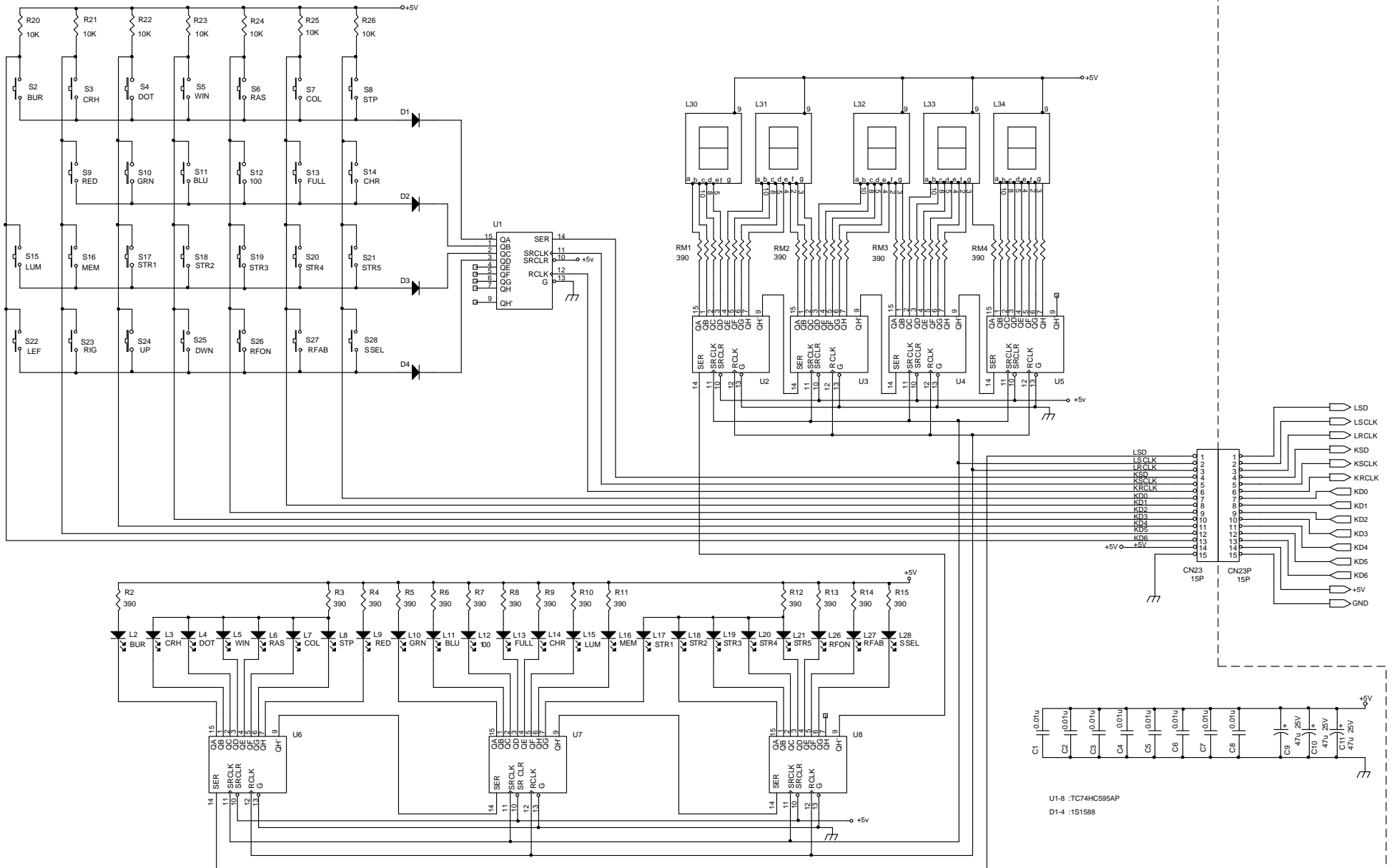
PATTERN GENERATOR UNIT (W02-2404-08)





# SCHEMATIC DIAGRAM

PANEL UNIT (W02-2402-08)



7

6

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3

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1

AE

AF

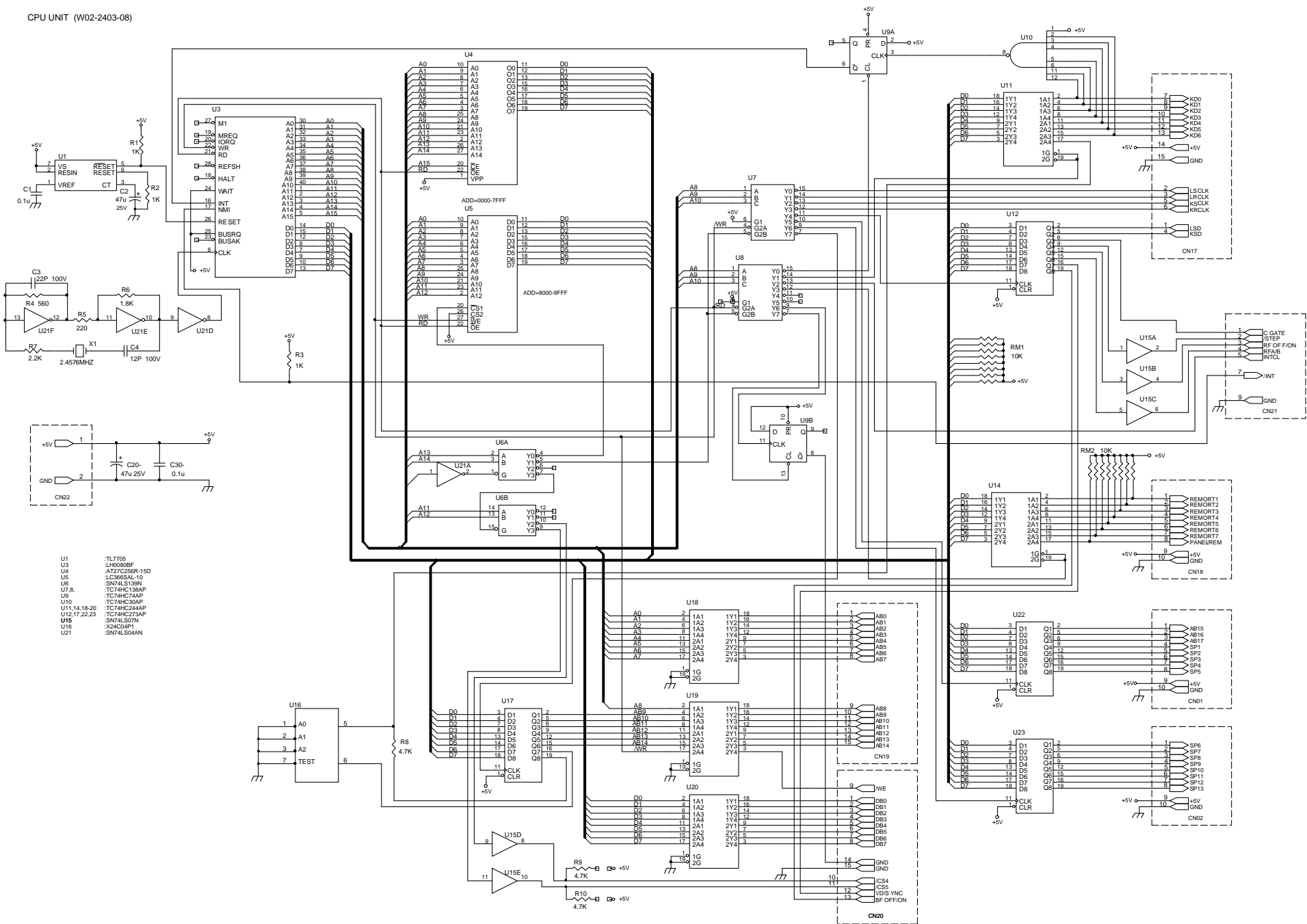
AG

AH

AI

# SCHEMATIC DIAGRAM

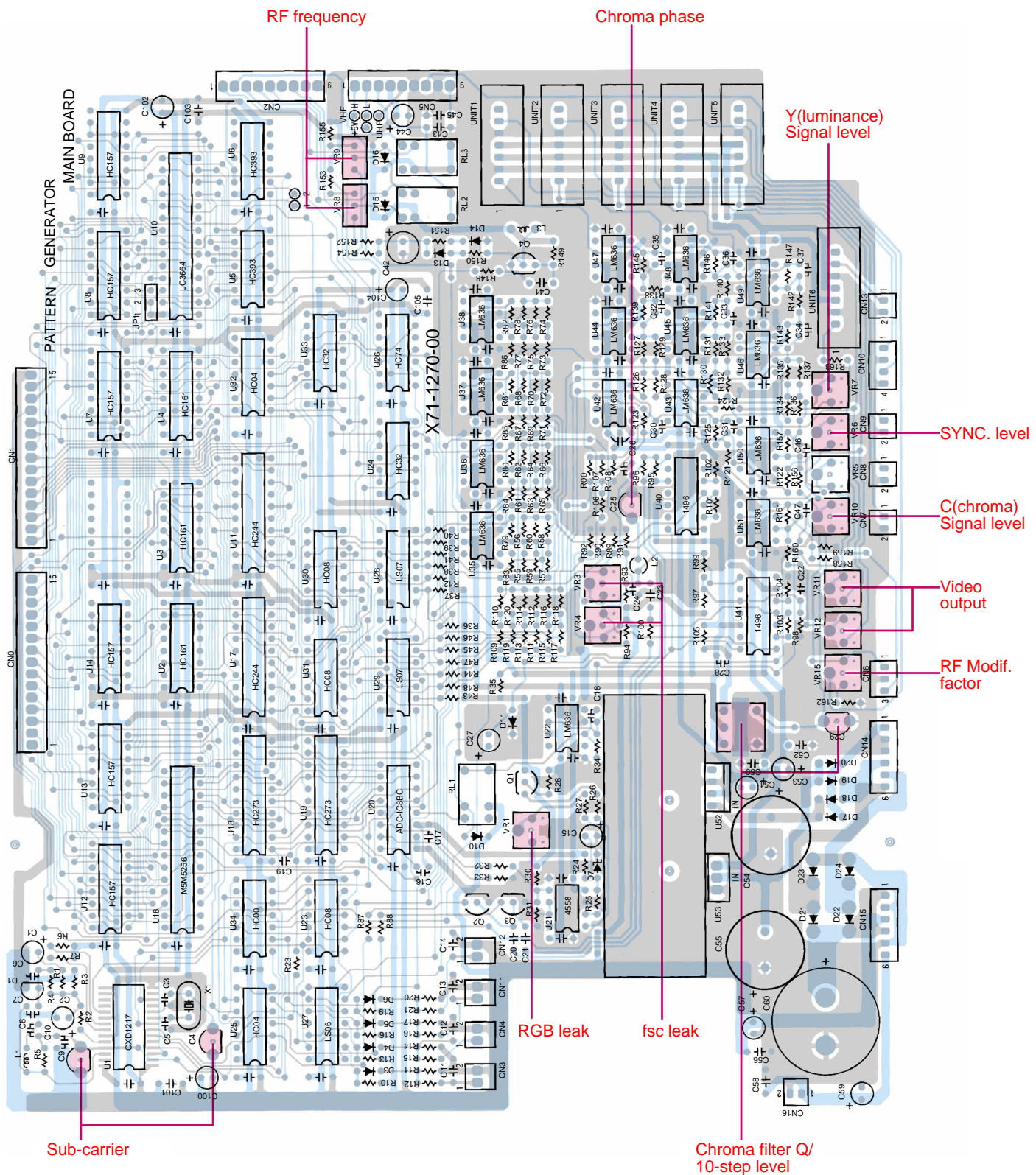
CPU UNIT (W02-2403-08)



# PC BOARD (Component side view)

## MAIN UNIT A,B (W02-2399-08 / W02-2405-08)

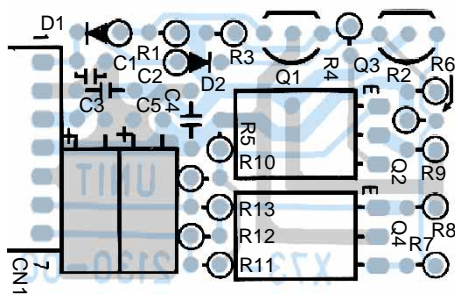
1  
2  
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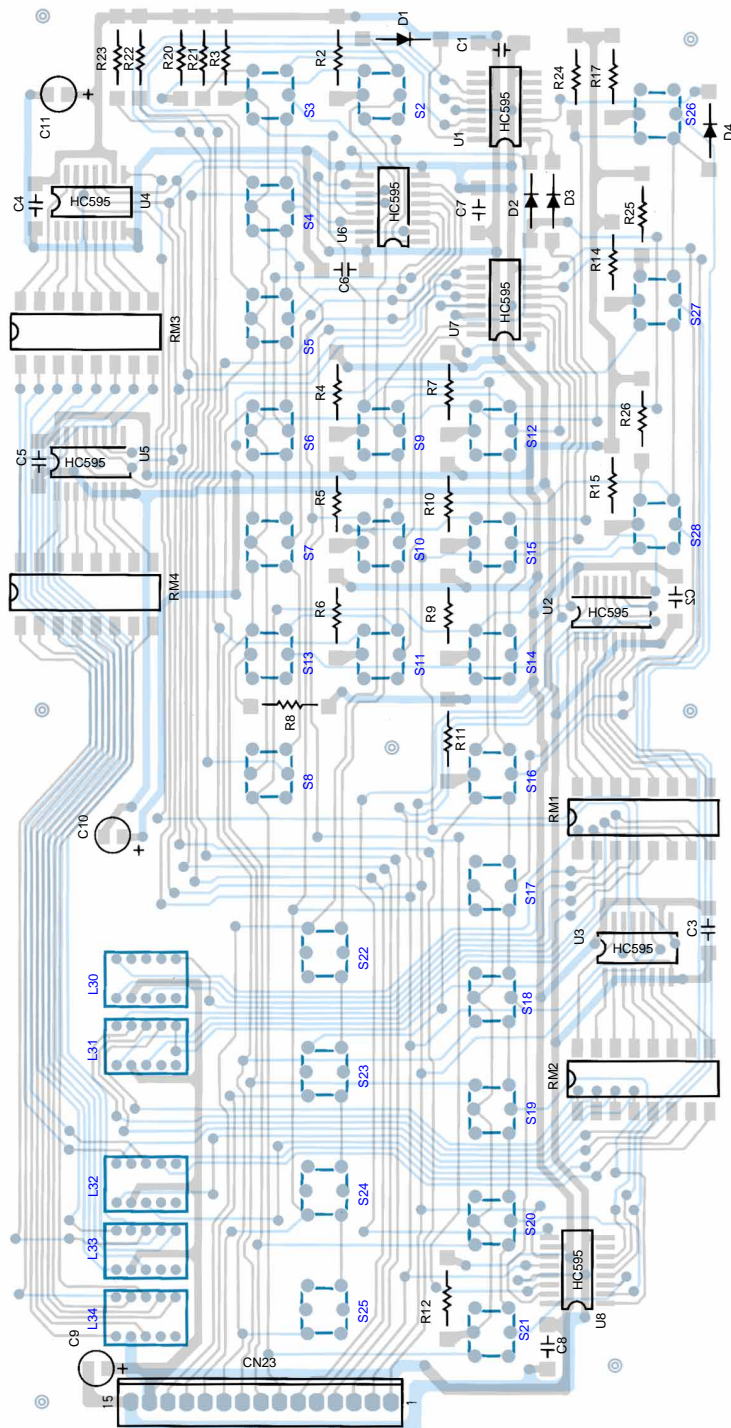
Refer to the schematic diagram for the values of resistors and capacitors.

# PC BOARD (Component side view)

## PATTERN GENERATOR UNIT (W02-2404-08)



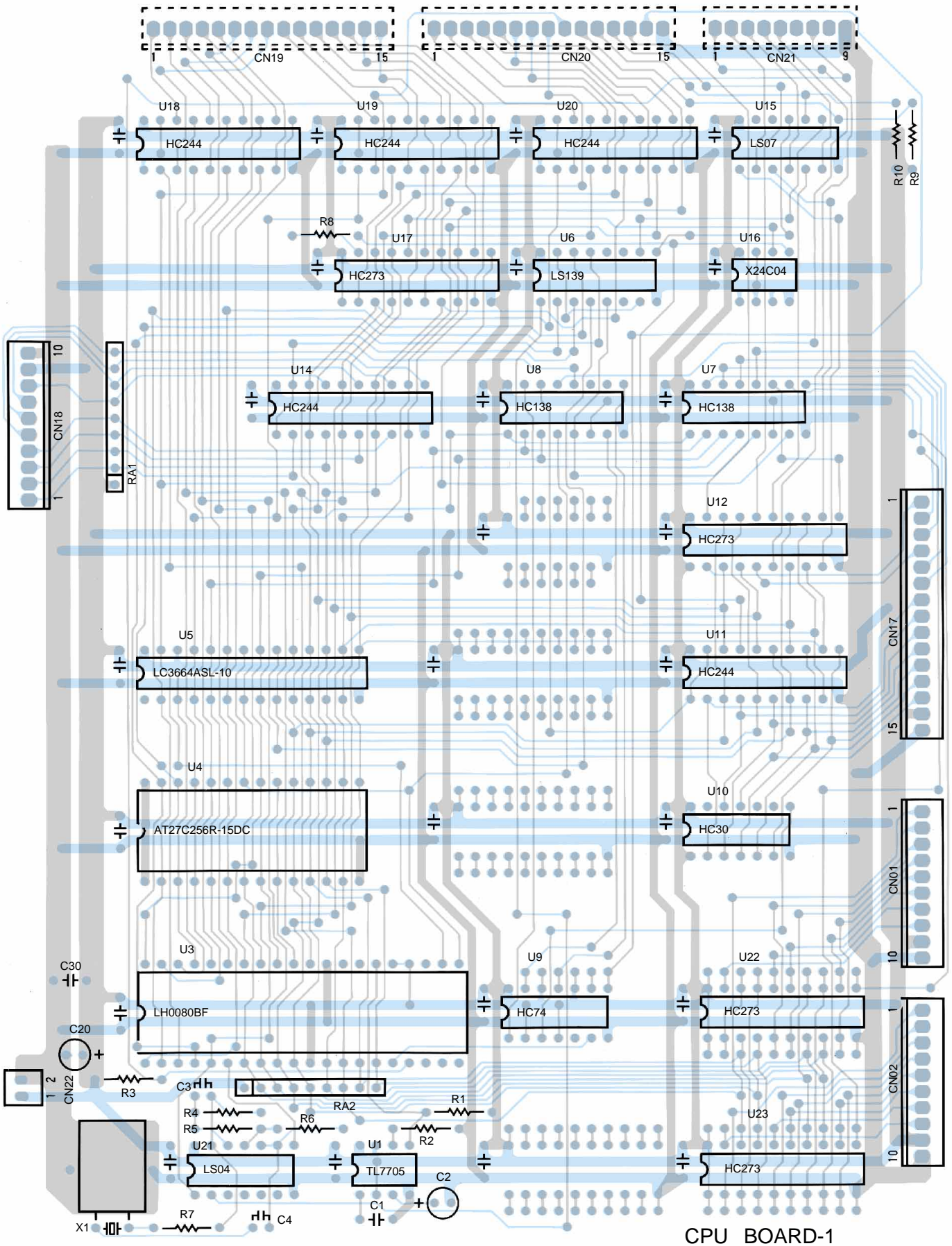
## PANEL UNIT (W02-2402-08)



Refer to the schematic diagram for the values of resistors and capacitors.

# PC BOARD (Component side view)

## CPU UNIT (W02-2403-08)



Refer to the schematic diagram for the values of resistors and capacitors.

# CG-951/CG-952

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**KENWOOD TMI CORPORATION**

1-16-2, Hakusan, Midori-ku, Yokohama City 226, Japan

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