

ENGINEERING SPECIFICATIONS (TENTATIVE)

VCDTS21492-4*

21" DIGITAL MULTI-SCAN CHASSIS

- <FEATURES>
- (1) MAXIMUM SCANNING AT 90Hz FOR 1600 x 1200 RESOLUTION
 - (2) ORIGINAL SSP III LSI (Super Signal Processor)
 - (3) HIGH CONTRAST, HIGH BRIGHTNESS WITH 110 cd/m²
 - (4) NEW ON-SCREEN DISPLAY CONTROL (5 LANGUAGES)
 - (5) SELF TEST FUNCTION (NON-CONNECTION WITH COMPUTER)
 - (6) DDC1/2B BASED ON VESA STANDARD
 - (7) POWER MANAGEMENT BASED ON VESA STANDARD WITH 3W MAX.
 - (8) NEWLY DESIGNED CABINET

- [1] CRT : TYPE 21" (20.0" Viewable), 0.25mm Dot Pitch, 90Deg, Dia.29mm
PHOSPHOR RGB Medium Short Persistence (Hi-Eu Red), Crystal Pigment
GLASS, SURFACE Dark Tint (TM=45%), Advanced AGRAS Coat
(Anti-Glare, anti-Reflection & Anti-Static)
- [2] INPUT SIGNAL : VIDEO RGB Analog (75 Ohms, 0.7/1.0Vp-p)
SYNC H/V Separate (TTL), H/V Composite (TTL), Sync-on-Green
fH=30 - 115kHz, fV=50 - 180Hz
PRESET MODES 1600 x 1200 (NON-I/L) etc. / FACTORY : 1+(7) USER : 20
H.BLANKING TIME 2.4u sec. (min.)
V.BLANKING TIME 0.47m sec. (min.)
- [3] CONNECTOR : SIGNAL INPUT/BNC (x5) & 15Pin mini D-Sub (IBM PS/2 Compatible)
POWER 3-Pin Connector (CEE22)
- [4] POWER : VOLTAGE 90 - 132, 198 - 264Vac (Auto-switching)
CONSUMPTION 148W (typ.)
POWER SAVE VESA STANDARD (DPMS) Suspend/<=10W, Off/<=3W
- [5] CONTROL : FRONT POWER ON/OFF
OSD Contrast, Brightness, H/V Size, H/V Position, V.Pincushion
Pincushion Balance/Top & Bottom Corner/S-Curve1 & 2
Trapezoid, Parallelogram, Degauss, Color, Video Level, Recall
Input Select, Disp Frequency, H/V Moire, Rotation
OSD Language/Position, Zoom, H/V Convergence, V.Linearity
- [6] VIDEO : VIDEO CLOCK MAX. 230MHz
- [7] MAX. BRIGHTNESS: (9300k + 8MPCD) 110 cd/m² (typ.) at White Flat Field
- [8] MISCONVERGENCE : 0.3mm (max.) at Center Area
0.4mm (max.) at Corner Area (Factory setting display area)
- [9] DISPLAY AREA : FACTORY SETTING 392(H) x 294(V) mm (typ.)
FULL SCAN 406(H) x 305(V) mm (typ.)
- [10] OPERATING TEMPERATURE 5 - 35Deg. C
CONDITION : HUMIDITY 5 - 90% (Non-condensation)
- [11] DIMENSIONS : 498(W) x 478(H) x 495(D) mm
- [12] WEIGHT : 27.0 kg (typ.) (Net)
- [13] SAFETY/REGULATIONS : UL, CSA, TUV/GS, NORDIC, FCC-B, IC-B, CISPR-B, DHHS
HC, PTB, CE, MPR II, TCO'92/'95/'99 (optional), E2000
- [14] OTHERS : DDC1/2B, USB Hub (optional)
MAC adapter (optional)

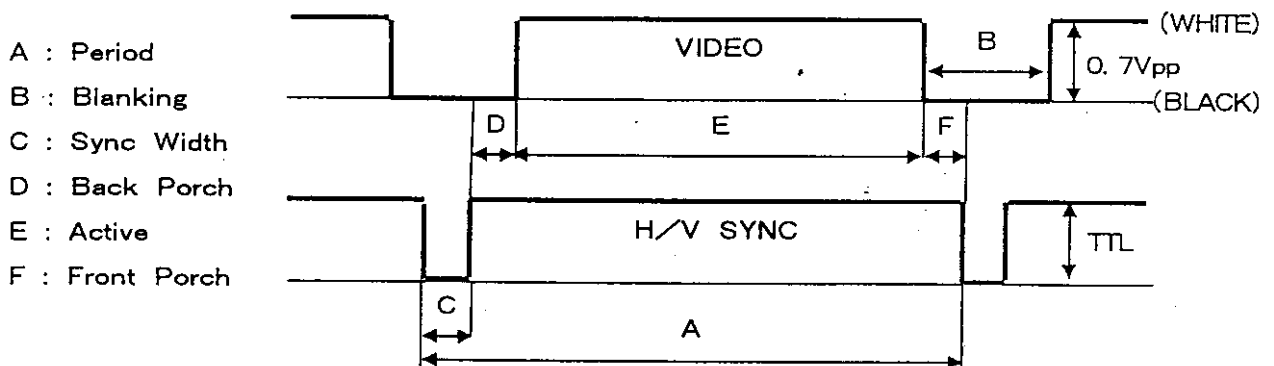
STANDARD TIMING

VCDTS21492-4*

- Following 1mode is preset in the memory as standard timing at the factory and 7modes are reserved.
- Fig - 1 shows a definition of timing and signal level
- Electrical performance is specified based on 1600×1200 mode unless otherwise mentioned.

Fig - 1 : TIMING CHART

< HORIZONTAL / VERTICAL >



1) PRESET TIMING

		MODE 1
		VESA
		1600×1200 @85Hz
DOT CLOCK		229.500MHz
H O R I Z	fH	106.250kHz
	A-Period	9.412us (2160 dots)
	B-Blanking	2.440us (560 dots)
	C-Sync width	0.837us (192 dots)
	D-Back porch	1.325us (304 dots)
	E-Active	6.972us (1600 dots)
V E R T	fV	85.000Hz
	A-Period	11.765ms (1250 lines)
	B-Blanking	0.471ms (50 lines)
	C-Sync width	0.028ms (3 lines)
	D-Back porch	0.433ms (46 lines)
	E-Active	11.294ms (1200 lines)
Sync polarity (H/V)		Positive / Positive

		MODE MAX.
		1600×1200 @92Hz
DOT CLOCK		239.35MHz
H O R I Z	fH	115.00kHz
	A-Period	8.694 us(2081 dots)
	B-Blanking	2.010 us(481 dots)
	C-Sync width	0.802 us(192 dots)
	D-Back porch	0.940 us(225 dots)
	E-Active	6.685 us(1600 dots)
V E R T	fV	92.0Hz
	A-Period	10.868 ms(1250 lines)
	B-Blanking	0.435 ms(50 lines)
	C-Sync width	0.026 ms(3 lines)
	D-Back porch	0.400 ms(46 lines)
	E-Active	10.433 ms(1200 lines)
Sync polarity (H/V)		Negative / Negative

Panasonic

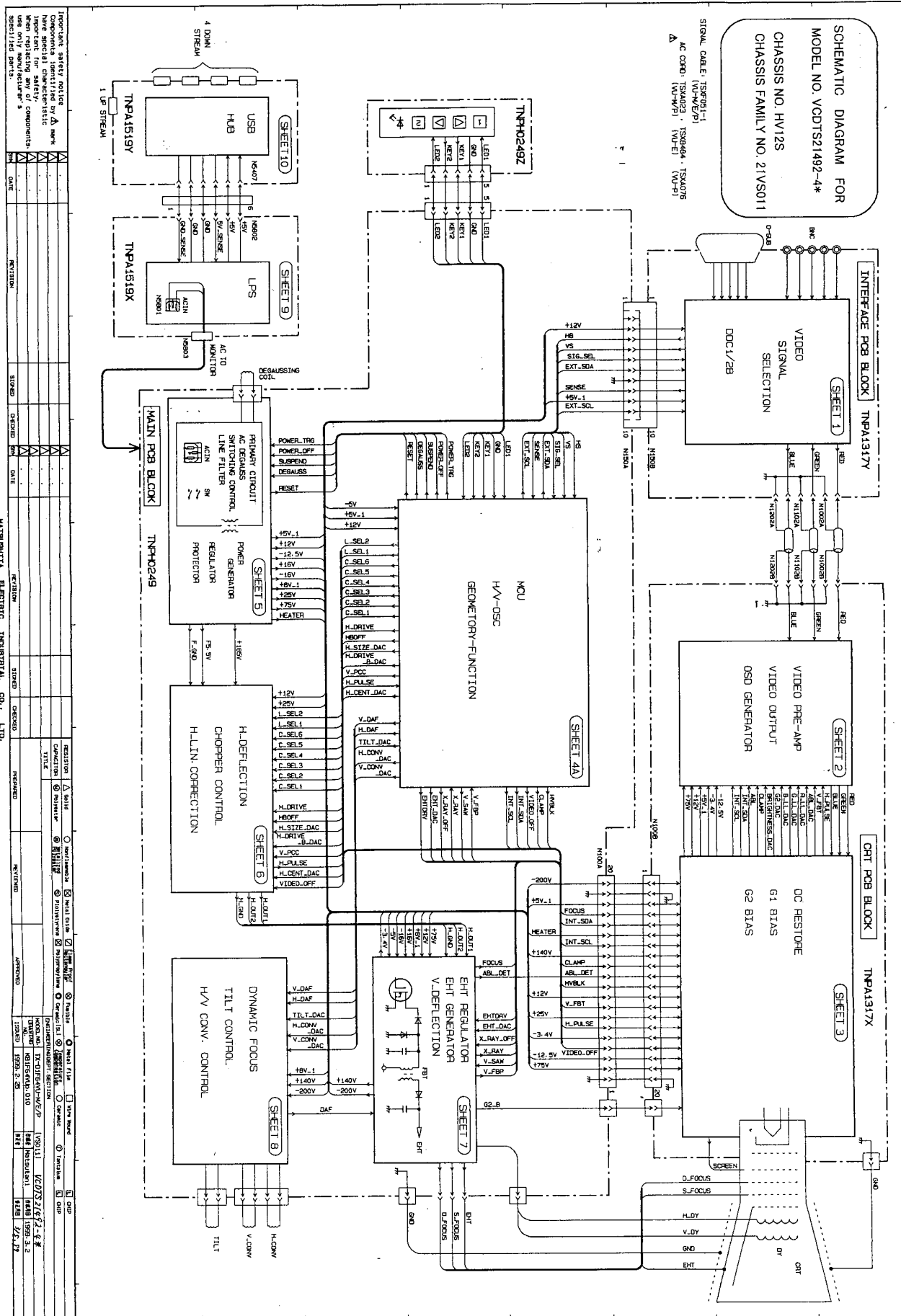
2) RESERVATION TIMING

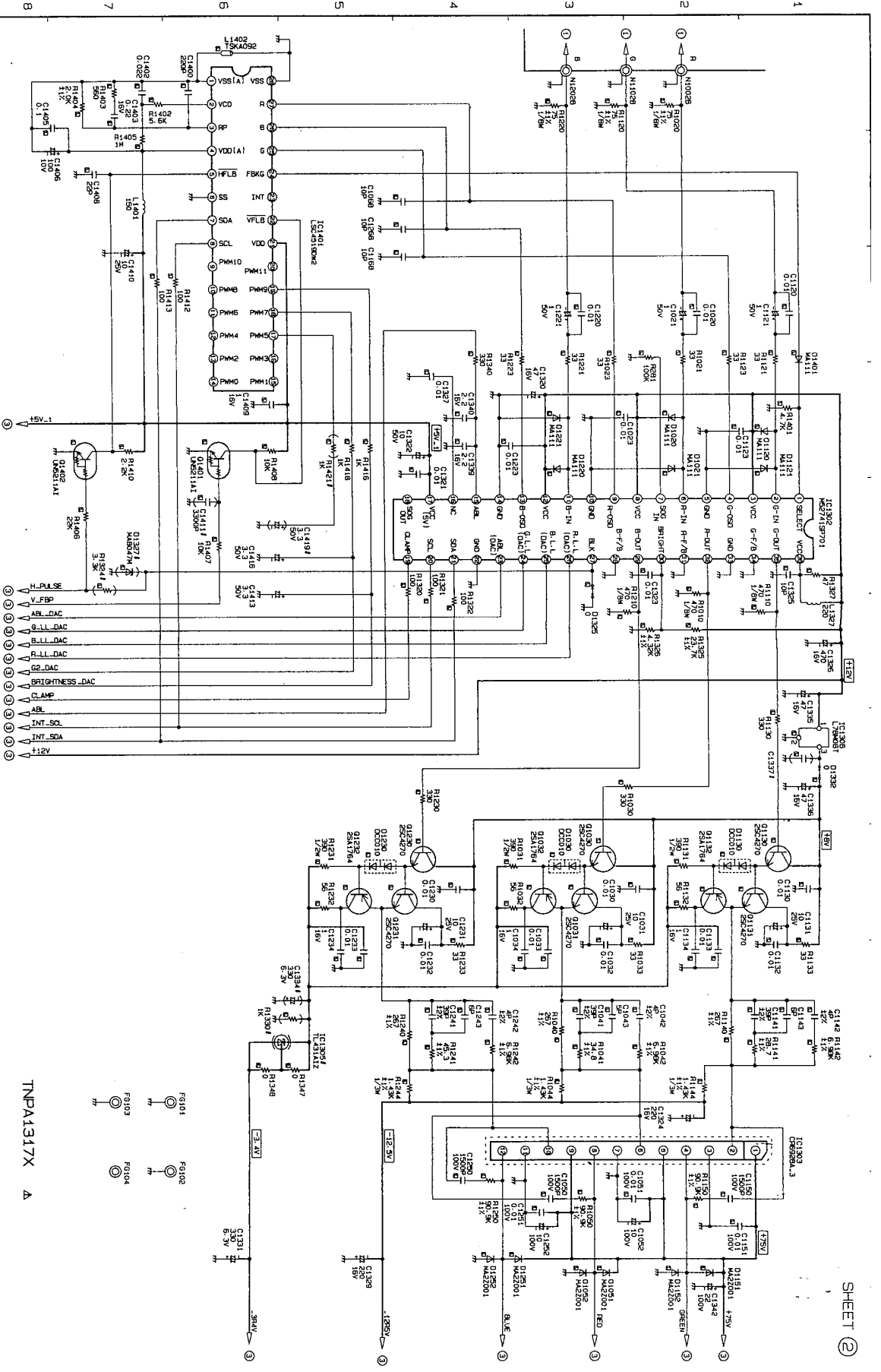
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		MODE 2	MODE 3	MODE 4	MODE 5
		VGA 640×480 @60Hz	VESA 800×600 @85Hz	VESA 1024×768 @85Hz	MAC 1152×870 @75Hz
DOT CLOCK		25.1750MHz	56.2500MHz	94.5000MHz	100.0000MHz
H O R I Z V E R T	fH	31.469kHz	53.674kHz	68.677kHz	58.681kHz
	A-Period	31.778us (800 dots)	18.631us (1048 dots)	14.561us (1376 dots)	14.560us (1456 dots)
	B-Blanking	6.356us (160 dots)	4.409us (248 dots)	3.725us (352 dots)	3.040us (304 dots)
	C-Sync width	3.813us (96 dots)	1.138us (64 dots)	1.015us (96 dots)	1.280us (128 dots)
	D-Back porch	1.907us (48 dots)	2.702us (152 dots)	2.201us (208 dots)	1.440us (144 dots)
	E-Active	25.422us (640 dots)	14.222us (800 dots)	10.836us (1024 dots)	11.520us (1152 dots)
	F-Front porch	0.636us (16 dots)	0.569us (32 dots)	0.508us (48 dots)	0.320us (32 dots)
V E R T	fV	59.940Hz	85.081Hz	84.997Hz	75.061Hz
	A-Period	16.683ms (525 lines)	11.756ms (631 lines)	11.765ms (808 lines)	13.322ms (915 lines)
	B-Blanking	1.430ms (45 lines)	0.578ms (31 lines)	0.582ms (40 lines)	0.655ms (45 lines)
	C-Sync width	0.064ms (2 lines)	0.056ms (3 lines)	0.044ms (3 lines)	0.044ms (3 lines)
	D-Back porch	1.049ms (33 lines)	0.503ms (27 lines)	0.524ms (36 lines)	0.568ms (39 lines)
	E-Active	15.253ms (480 lines)	11.179ms (600 lines)	11.183ms (768 lines)	12.567ms (870 lines)
	F-Front porch	0.318ms (10 lines)	0.019ms (1 line)	0.015ms (1 line)	0.044ms (3 lines)
Sync polarity (H/V)		Negative / Negative	Positive / Positive	Positive / Positive	Negative / Negative

		MODE 6	MODE 7	MODE 8	MODE 9
		VESA 1280×1024 @75Hz	VESA 1280×1024 @85Hz	VESA 1600×1200 @75Hz	1800×1440 @70Hz
DOT CLOCK		135.0000MHz	157.5000MHz	202.5000MHz	250.0000MHz
H O R I Z V E R T	fH	79.976kHz	91.146kHz	93.750kHz	103.520kHz
	A-Period	12.504us (1688 dots)	10.971us (1728 dots)	10.667us (2160 dots)	9.65us (2412 dots)
	B-Blanking	3.022us (408 dots)	2.844us (448 dots)	2.765us (560 dots)	2.450us (612 dots)
	C-Sync width	1.067us (144 dots)	1.016us (160 dots)	0.948us (192 dots)	0.750us (188 dots)
	D-Back porch	1.837us (248 dots)	1.422us (224 dots)	1.501us (304 dots)	0.350us (88 dots)
	E-Active	9.481us (1280 dots)	8.127us (1280 dots)	7.901us (1600 dots)	7.200us (1800 dots)
	F-Front porch	0.119us (16 dots)	0.406us (64 dots)	0.316us (64 dots)	1.350us (336 dots)
V E R T	fV	75.025Hz	85.024Hz	75.000Hz	69.380Hz
	A-Period	13.329ms (1066 lines)	11.761ms (1072 lines)	13.333ms (1250 lines)	14.398ms (1492 lines)
	B-Blanking	0.525ms (42 lines)	0.527ms (48 lines)	0.533ms (50 lines)	0.502ms (52 lines)
	C-Sync width	0.038ms (3 lines)	0.033ms (3 lines)	0.032ms (3 lines)	0.029ms (3 lines)
	D-Back porch	0.475ms (38 lines)	0.483ms (44 lines)	0.491ms (46 lines)	0.454ms (47 lines)
	E-Active	12.804ms (1024 lines)	11.235ms (1024 lines)	12.800ms (1200 lines)	13.896ms (1440 lines)
	F-Front porch	0.013ms (1 lines)	0.011ms (1 line)	0.011ms (1 line)	0.019ms (2 lines)
Sync polarity (H/V)		Positive / Positive	Positive / Positive	Positive / Positive	Positive / Positive

SIGNAL CABLE: TSX051-1
(WU-W/E/P)
AC CORP: TSXA023, TSXB404, TSXA07B
(WU-W/P) (WU-E) (WU-P)
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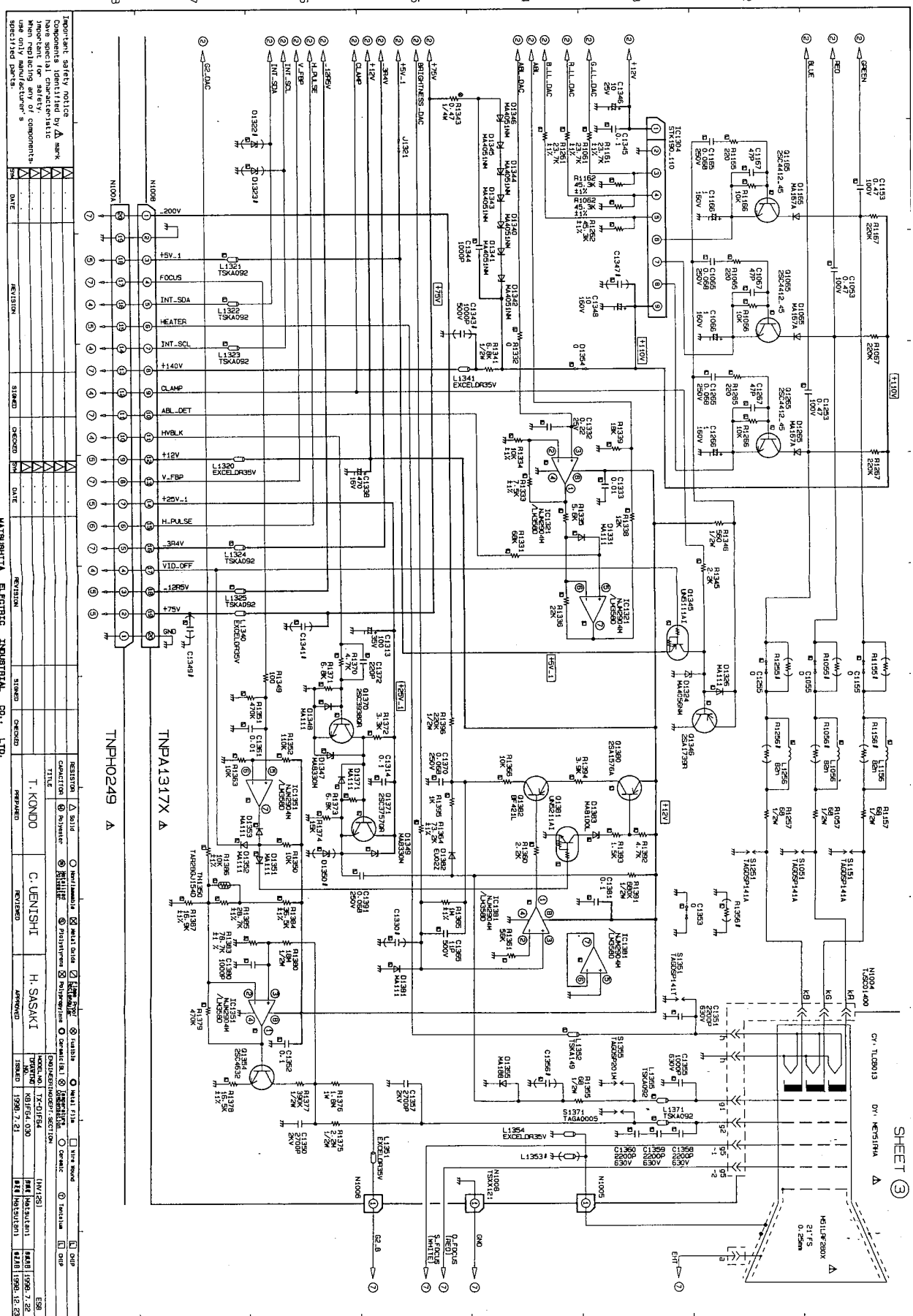


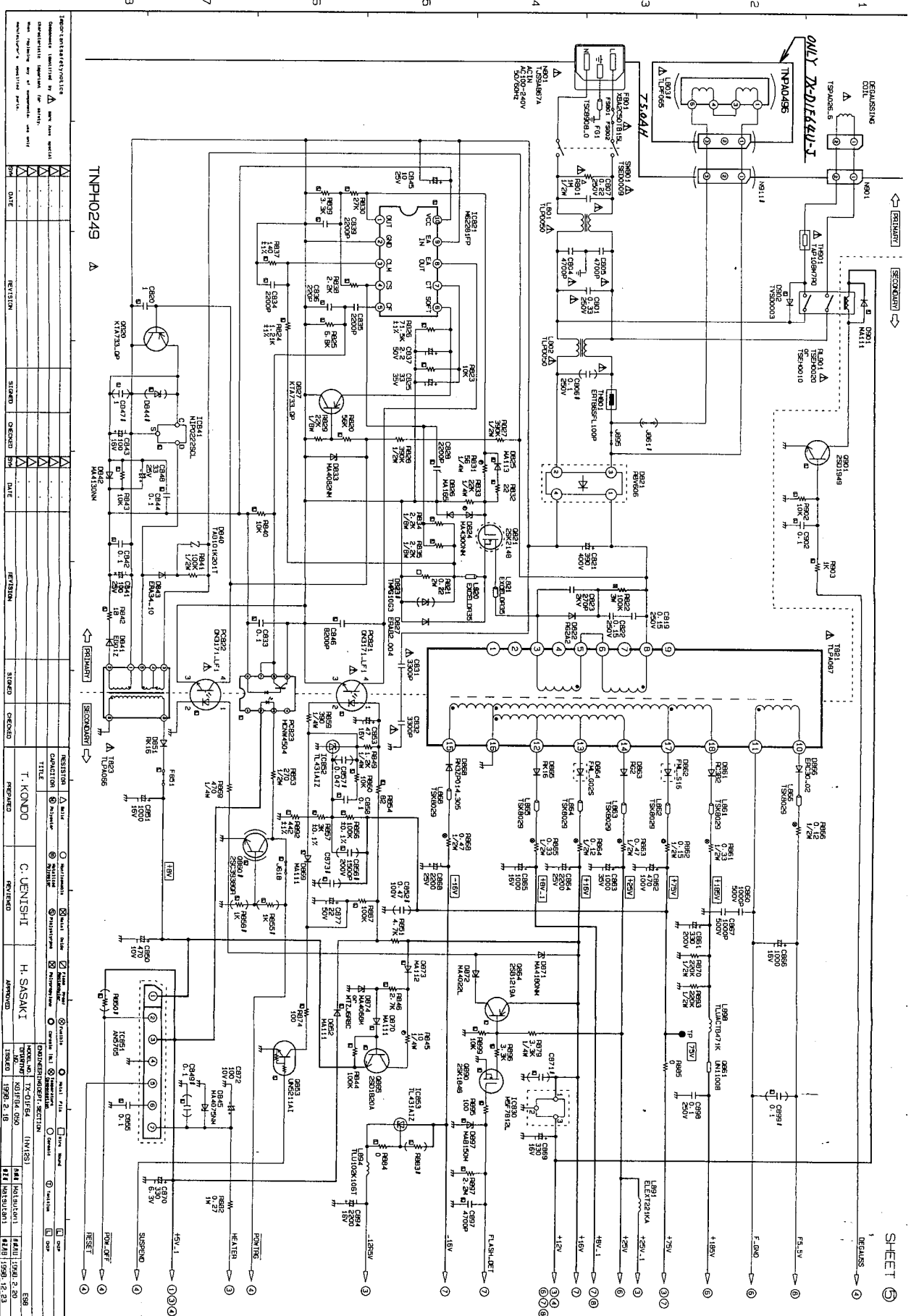


Important safety notice		Have special characteristic		When replacing any of components		Directly parts	
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DATE	REVISION	SIGNED	CHECKED	DATE	REVISION	SIGNED	CHECKED
T. KONDO		C. UENISHI		H. SASAKI			
PREPARED		REVIEWED		APPROVED			
1998.7.17							
1998.7.17							
1998.7.22							
1998.12.23							

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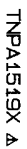
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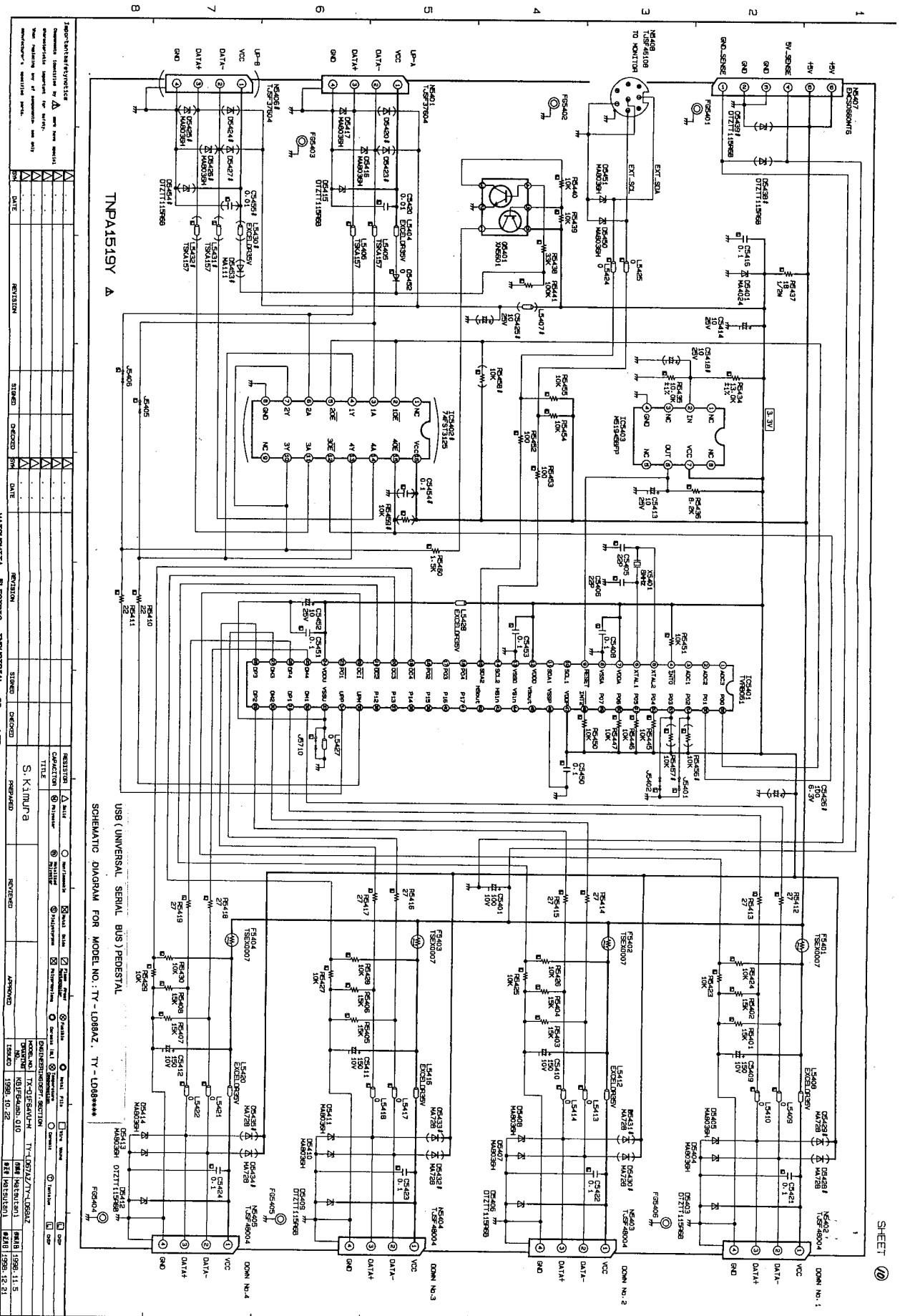
T. KONDO
 C. UENISHI
 H. SASAKI

MATSUBATA ELECTRIC INDUSTRIAL CO., LTD.
 1998.2.18
 1998.12.23

SHEET 5
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7	REVISION														
8	REVISION														

MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.
 S. KIMURA
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 CHECKED
 DATE
 1988.11.22
 1988.12.21

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