

General Information

1991

**Video: 4 Heads Rotary
Audio: Fixed Head 1CH
Covers Models:
Akai VS-F420**

Matrix

Item	See Model
Mechanical Parts View	Akai VS-422/425 89/90 Book.
Mechanical Adjustments	Akai VS-F10/F11 91/92 Book.
Replacement Pinch Wheel	Akai VS-F260
Back Tension Adjustments	Akai VS-F310
VIF Unit	Akai VS-F260
R/C's	Akai VS-F260

Head Motors and Miscellaneous

Part No.	Description
HR-405340J	Head Combo HVMZA1121A
HE-390013J	Head HVFME0020A
BV-V1123A410B	Lower Drum BLK X450EGN
BM-401296J	Motor E20EL89
BM-400682J1	Motor DFX-67B3VWB1 (Capstan Motor)
BM-387503J	Motor Part
BV-V1123A420B	Upper Drum BLK X450EGN

Recommended Safety Parts

Item	Part No.	Description
For EK/EOH		
D1-12	ED-511907	D Silicon 1N4002 100/1.0A
D16	ED-404029J	D Zener H UTZJ10B T26
FR1-4	ER-400728J	R Fuse V TO5 RF25SCVTP1/4WR12K
FR5	ER-400605J	R Fuse V TO5 ERD2FCV 1/4W 15ROG
TR1	ET-381175J	TR 2SD1856
TR2	ET-366365	TR 2SB1185 E,F
TR3-6	ET-380685J	TR 2SD1761 E,F,G
For (EOG-V)		
D1-4	ED-511907	D Silicon 1N4002 100/1.0A
D6, D8, D11	ED-386226J	D Schottky RB100AT-32T26 40/1
D17, D18	ED-511907	D Silicon 1N4002 100/1.0A
FL1	EO-395035J	Coil LF PLH11C-1811R2
FL2	EO-339907	Coil LF FKOB160MH16 1000,0U
FR1	ER-400728J	R Fuse V TO5 RF25SCVTP1/4WR12K
FR2	ER-400688J	R Fuse V TO5 RF25SCVTP1/4WR10K
FR3	ER-400605J	R Fuse V TO5 ERD2FCV1/4W15ROG
FR4	ER-400689J	R Fuse V TO5 RF25SCVTP1/4WR68K
FR5	ER-405441J	R Fuse V TO5 RF25SCVTP1/4WR27K
FR6	ER-400689J	R Fuse V TO5 RF25SCVTP1/4WR68K
TR1-5	ET-366365	TR 2SB1185 E,F
TR6	ET-389808J	TR 2SB1425 E,U
TR9	ET-366365	TR 2SB1425 E,U
TR12	ET-380685J	TR 2SD1761 E,F,G
TR13	ET-366365	TR 2SB1185 E,F
For (EOG-V)		
IC1	EI-381575J	IC BA6121
TR2	ET-380685J	TR 2SD1761 E,F,G
TR4	ET-404195J	TR 2SC4486 S,T,TO5
TR7	ET-380685J	TR 2SD1761 E,F,G
	BT-403872J	Trans Pow V1130 EK (EK)
	BT-403883J	Trans Pow V1130 EOG-V (EOG-V)
	BT-403873J	Trans Pow V1130 EO (EOH)

Service Adjustments

Replacement of the Idler Part 2 and Review Brake Port

- 1: Remove the CASSETTE LOAD BLK & LOADING ARM BLK. (Refer to REMOVAL OF THE EJECTOR BLK.) Release the stopper of the IDLER PART (2) as shown in Fig. 1, then remove it.
- 2: Take off the review brake part spring, then release the stopper of the REVIEW BRAKE PART and remove it.
- 3: Reassemble these parts in the reverse order of 1 to 3.

Replacement of the Gear Mid Part

- 1: Remove the REVIEW BRAKE PART and IDLER (2) PART with referring to the steps 1-4, above.

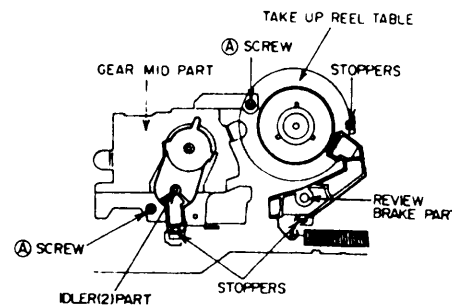


Fig. 1.

- 2: Release the stopper of the TAKE UP REEL TABLE as shown in Fig 2, then remove it.
- 3: Remove the two A screws then replace the GEAR MID PART as shown in Fig. 3.
- 4: Reassemble in the reverse order.

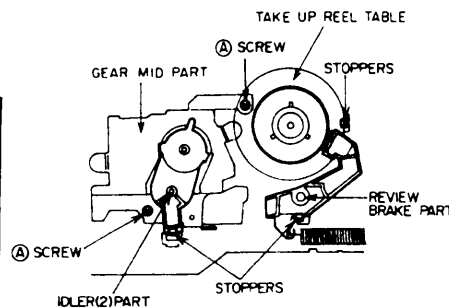
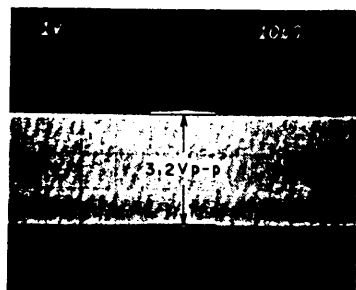
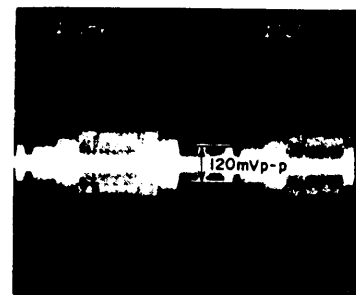


Fig. 2.

Video REC Current

- 1: "REC" PAL colour bar signal.
- 2: P2 (REC CURR), JW188 (C.SYNC) & VR1 (REC-CHROMA), VR2 (REC-Y)
- 3: Connect an oscilloscope's CH-1 to P2 (REC.CURR) and CH-2 to JW188 (C.SYNC) for triggering. Turn the VR2 (REC-Y) fully counterclockwise. *Adjust VR1 (REC-CHROMA) so that the chroma REC current becomes 120 mVp-p at the burst signal area. *Disconnect the input signal, then adjust VR2 (REC-Y) so that Y REC current becomes 3.2 Vp-p.

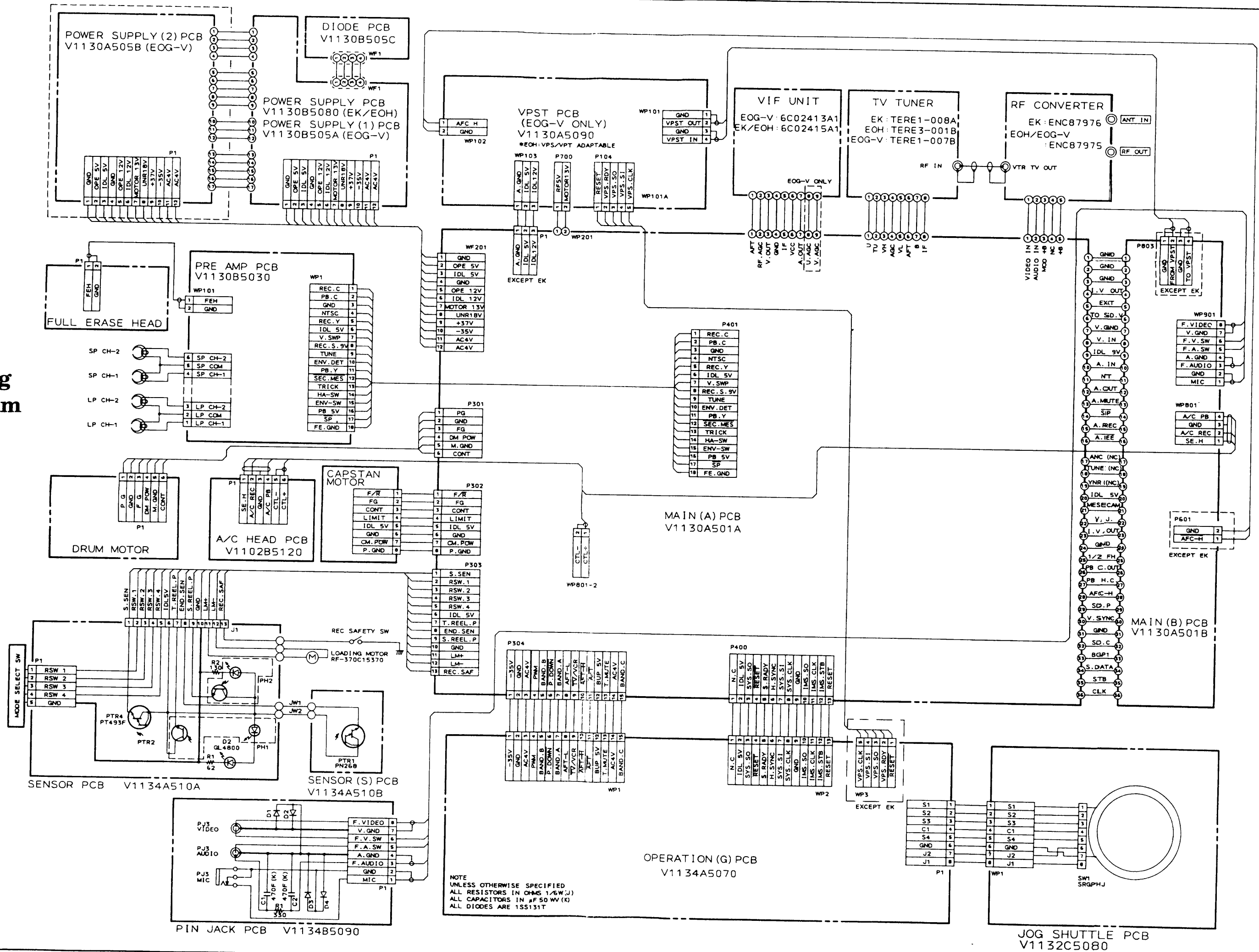


Description	Part No.
6SET20X030SCM PKR FP	ZS-374458
6SET30X080SCM PKR CP	ZG-373900
Arm Coupling	ML-387311J2
Arm Damper	ML-391745J2
Arm Lid Opener	ML-387350J1
Arm Loading BLK 425EA	BL-V1102A140A
Arm Review Part	ML-387277J3
Arm Shutter	ML-387349J2
Base Drum	MA-387474J2
Belt Capstan (3)	MB-407117J
BID26X08STL CMT	ZS-563444
BID30X03STL CMT	ZS-425981
BID30X06STL CMT	ZS-379405
BID30X08STL CMT	ZS-321298
Capstan Brake Part	BL-387458J2
Cassette Load BLK 425EA	BV-V1102A150A
Cord FFCP1.25L=120 13P (WP1)	EW-389313J
Cushion Cover	SZ-391866J1
D LED GL451 Infrared (D1)	ED-390011J
Detector SG-105LF2 (PH1) (PH2)	ET-403420J
Disk (3) Part	MT-404547
Disk Clutch (2) Part	MZ-404577J
DT BID30X06STL CMT C080	ZS-389853J
Earth Brush Part AG	VT-401282J
Gear Cam Slider (3)	MZ-404538J
Gear Eject	MZ-387335J
Gear Front Loading	MZ-387333J
Gear MID PART	MZ-404995J
Gear Toggle (S) BLK 425EA	MZ-V1102A090A
Gear Toggle (T) BLK 425EA	MZ-V1102A100A
Gear Worm (2)	MZ-401686J
Gear Worm Wheel	MZ-387332J
Guide Front (2)	SE-395554J
Guide Roller D8 PART	VT-387394J1
Head Combo HVMZA1121A	HR-405340J
Head E HVFME0020A	HE-390013J

Mechanical Parts List

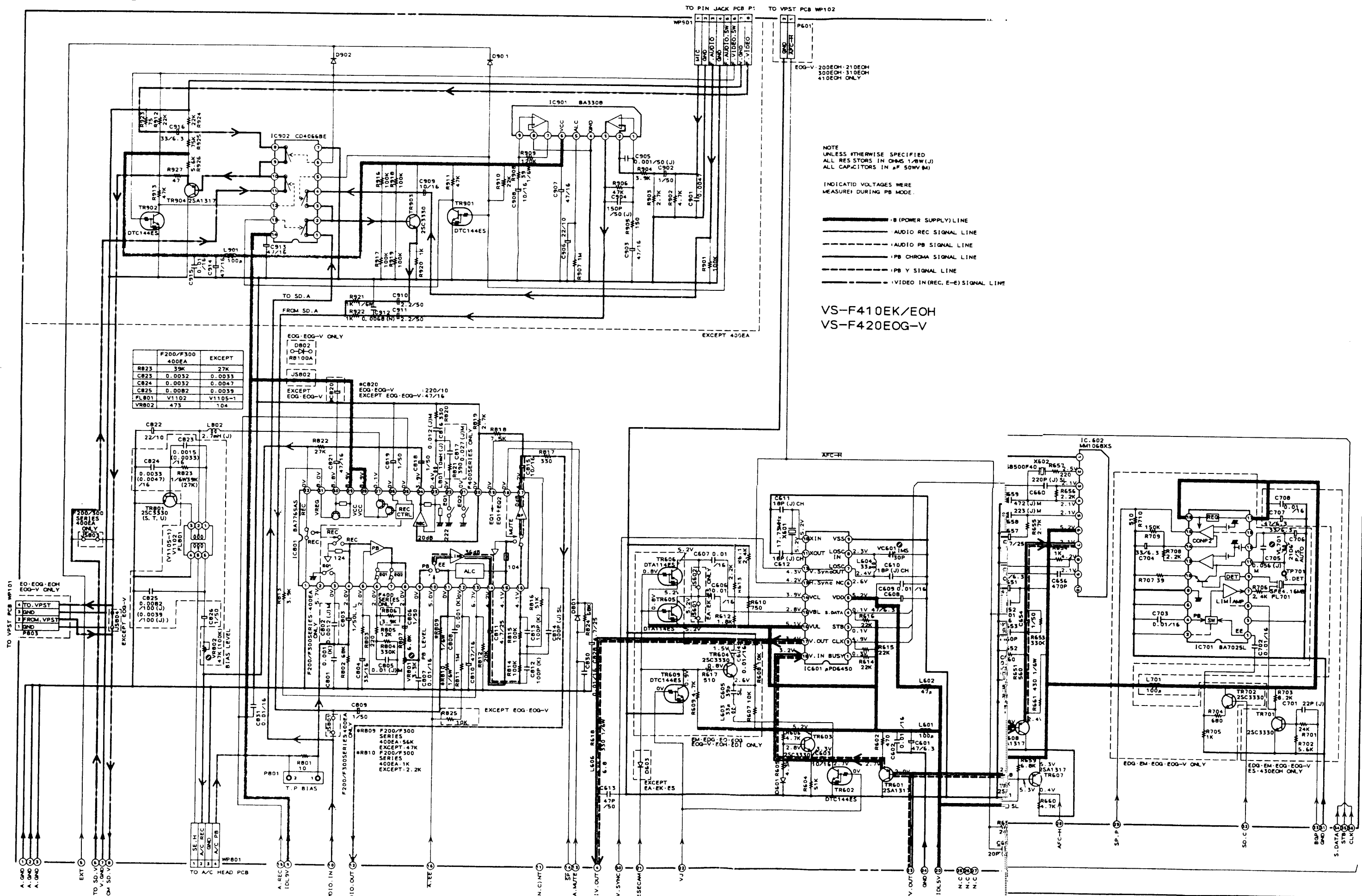
Description	Part No.	Description	Part No.
Holder D-LED	MZ-387430J	Slider Brake (3) Part	ML-404567J
Holder FE Head Part B	MZ-402760J	Slider Front Loading	ML-387428J
Holder FPC	SZ-387388J	Slider Pinch Part	ML-387431J1
Holder Lever Tension	SZ-387263JS	Slider Trigger (2)	ML-404944J
Holder Photo Sensor (2)	MZ-404542J	SLIT W17X032X025PSL	ZW-374445
Holder S Sensor	MZ-387445J	Slit W21X040X050PSL	ZW-387492J
Holder Thrust Worm (2)	MR-404544J	Socket 174074-5 SP (P1)	EJ-381837J
Idler (2) Part	MI-404552J	Socket Housing	
Leader S BLK 425EA	BV-V1102A070A	5062-30-10-13 (PS1)	EJ-387497J
Leader T BLK 425EA	BV-V1102A080A	SP Plate Earth	ZG-392294J
Lever Damper (S)	ML-387345J	SP Plate Holder	ZG-387348J1
Lever Damper (T)	ML-387346J	SP Pull Capstan Brake	ZG-387502J
Lever Lock Release	ML-387344J	SP Pull Main Brake	ZG-387320J
Lever Trigger	ML-387402J1	SP Pull Review Brake	ZG-387323J
Lower Drum BLK X450EGN	BV-V1123A410B	SP Pull Slider	ZG-387468J
Main Brake (S) Part	ML-387316J	SP Pull Tension (2)	ZG-395470J
Main Brake (T) Part	ML-387318J	SP Pull Toggle	ZG-387413J1
Mecha Deck BLK F410EK	BB-V1130A020C	SP Push A/C	ZG-387438J1
Motor DFX-67B3VWB1 (Capstan Motor)	BM-400682J1	SP Torsion Arm Damper	ZG-395567J
Motor E20EL89 (Drum Motor)	BM-401296J	SP Torsion Coupling	ZG-387403J
Motor Part (Loading Motor)	BM-387503J	SP Torsion Damper (S)	ZG-387421J
Nut Review	ZW-401776J	SP Torsion Damper (T)	ZG-388290J1
PAN20X02STL BZN PS1	ZS-404844J	SP Torsion Joint (2)	ZG-392831J
PAN26X12STL CMT	ZS-467796	SP Torsion Load (S)	ZG-387417J
PAN30XD6STL CMT	ZS-379350	SP Torsion Load (T)	ZG-387418J
PC (#) Sensor (2) KFX	EA-404543J	SP Torsion Release	ZG-387420J
Pinch Roller (2) Part	MP-404852J	SP Torsion Review	ZG-387282J
Plate Upper	MZ-387351J1	SP Trigger	ZG-387443J
PT BID26X06STL CMT	ZS-365149	ST BID30X06STL CMT	ZS-358936
PT BID26X10STL CMT	ZS-389950J	ST BID30X06STL CMT	ZS-358936
Pulley Trigger (2)	MR-391968J	ST BID30X12STL CMT	ZS-336714
PW26X060X050PSL	ZW-389923J	ST BID30X12STL CMT	ZS-336714
PW31X110X050PSL	ZW-389814J	SW Leaf MTS1011MPC1	ES-373099
Retaining Ring Grip		SW Mode Select	
380STL ACP	ZW-332843	MMS00070ZLBO (SW1)	BS-387465J
Review Brake (3) Part	ML-407119J	Tension Arm BLK F600EA	BL-V1123A050A
Roller Impedance	MR-387286J1	Tension Band Part	ML-390768J2
Upper Drum BLK X450EGN	BV-V1123A420B	Tension Brake Part	ML-395471J1
		TR Photo PN268 (TR1)	ET-361490
		TR Photo PT493F (TR4)	ET-390009J

Wiring Diagram



AKAI VS-F410

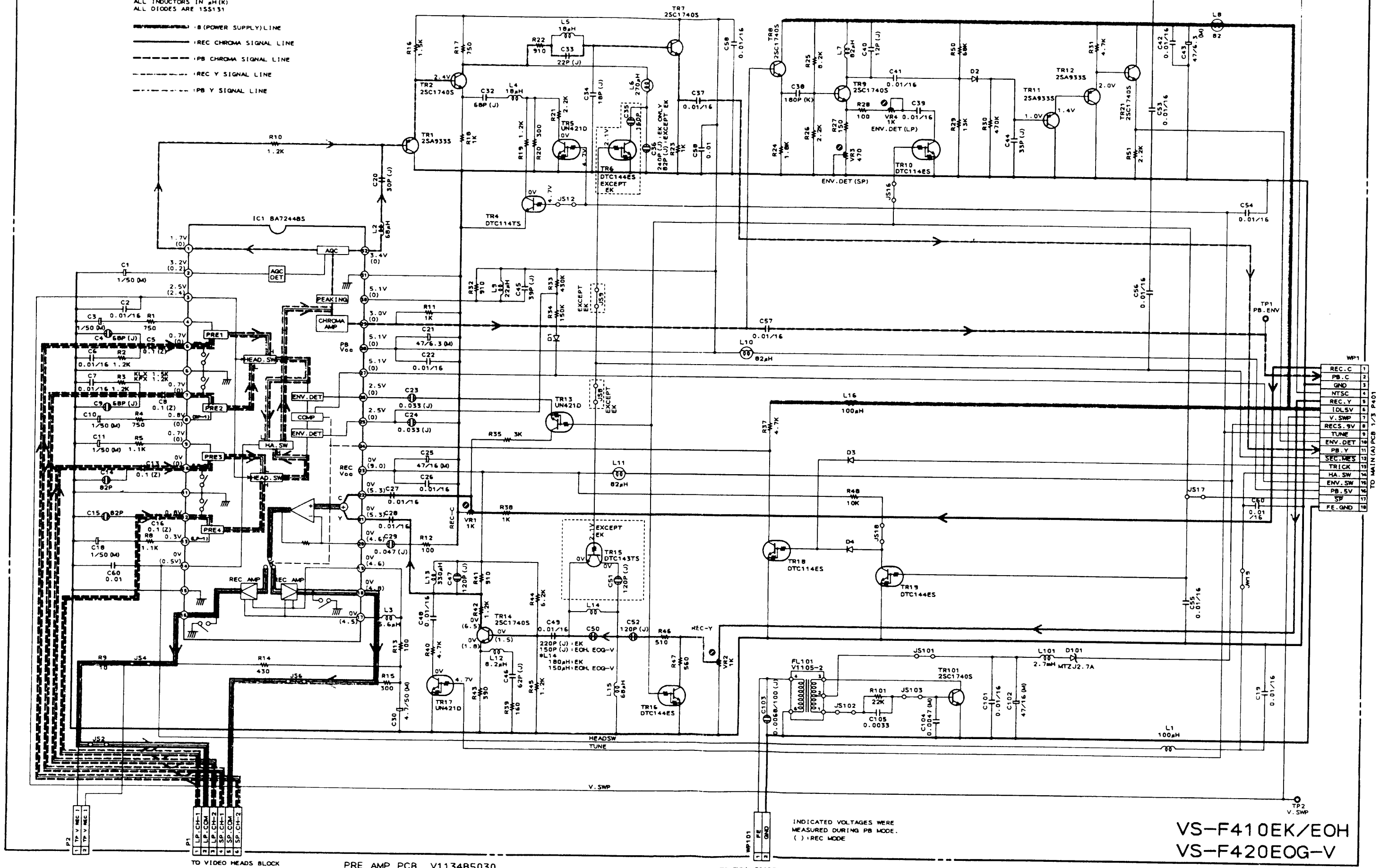
Main Diagram B



Pre Amp Diagram

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/5W(J)
ALL CAPACITORS IN μ F 50 WV(N)
ALL INDUCTORS IN μ H(K)
ALL DIODES ARE 1SS131

— (POWER SUPPLY) LINE
— (REC CHROMA SIGNAL LINE)
- - - (PB CHROMA SIGNAL LINE)
- - - (REC Y SIGNAL LINE)
- - - (PB Y SIGNAL LINE)



TO VIDEO HEADS BLOCK

PRE AMP PCB V1134B5030

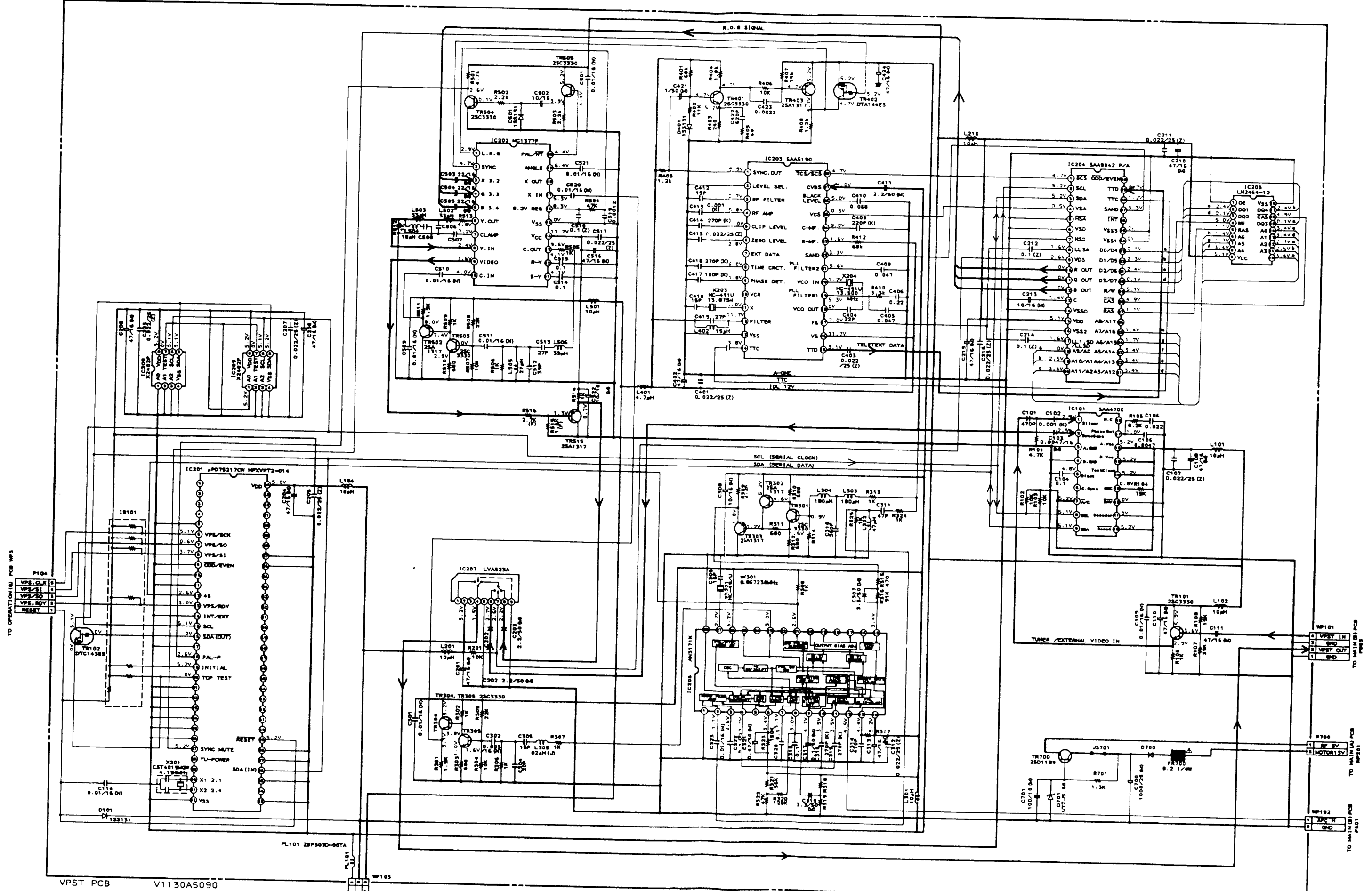
TO FULL ERASE HEAD

INDICATED VOLTAGES WERE MEASURED DURING PB MODE. () REC MODE

VS-F410EK/EOH
VS-F420EOG-V

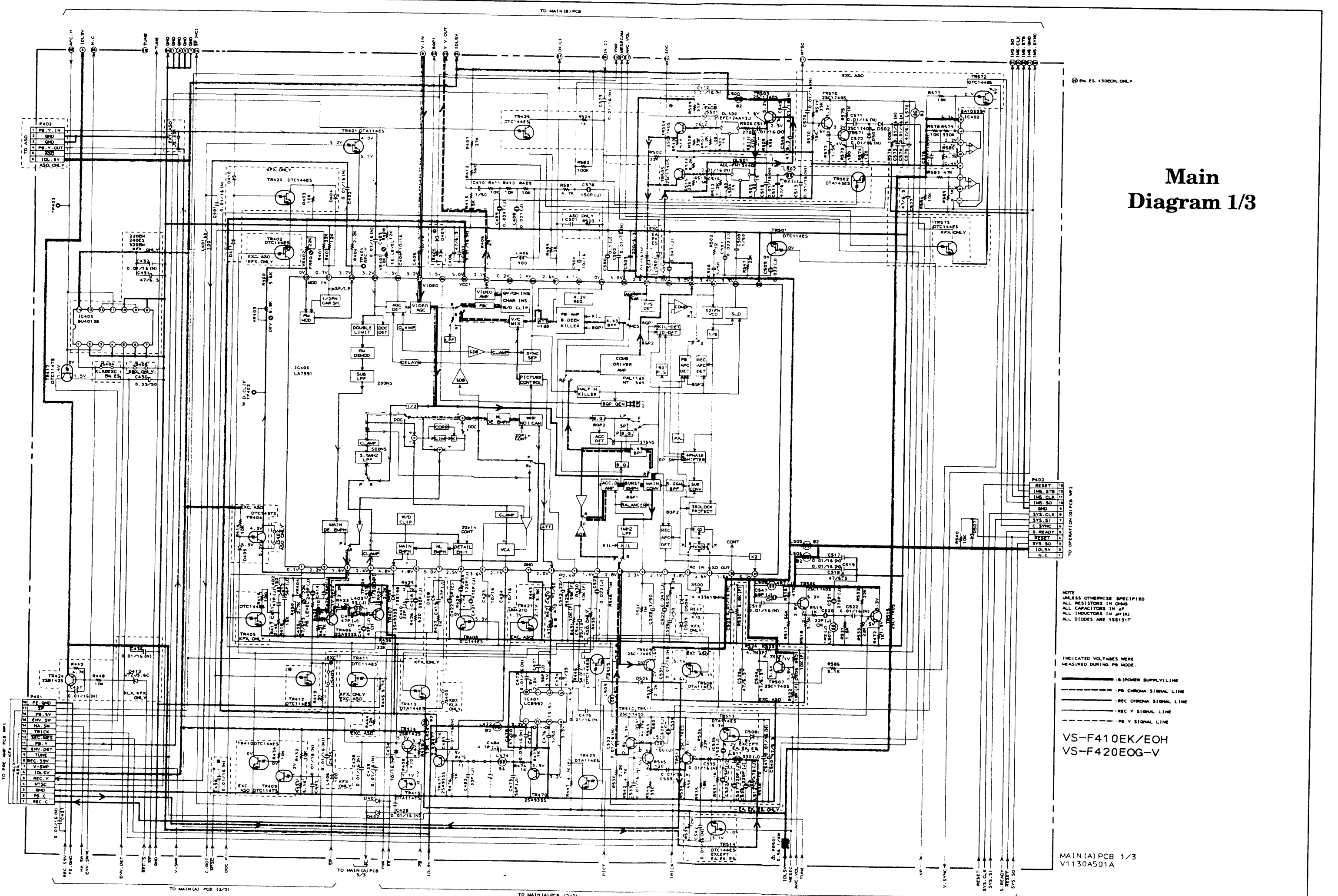
TO MAIN (A) PCB 1/3 P401

VPST Diagram



NOTE: UNLESS OTHERWISE SPECIFIED, ALL RESISTORS IN OHMS (1/4W), ALL CAPACITORS IN μF (50V), ALL INDUCTORS IN μH (0.1), ALL DIODES ARE 1S5131T

POWER SUPPLY (AL IDL) LINE
 VIDEO IN (REL E-E) SIGNAL LINE
 INDICATED VOLTAGES ARE MEASURED IN STOP MODE



Main Diagram 1/3

Ⓢ EN ES 4300CK ONLY

TO OPERATION (B) PCB WP2

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN μF
ALL INDUCTORS IN mH (H)
ALL DIODES ARE 1SS131T

INDICATED VOLTAGES WERE
MEASURED DURING PB MODE

- (B) POWER SUPPLY LINE
- (B) CHROMA SIGNAL LINE
- (B) REC CHROMA SIGNAL LINE
- (B) REC V SIGNAL LINE
- (B) V SIGNAL LINE

VS-F410EK/EOH
VS-F420EOG-V

MAIN (A) PCB 1/3
V1130A501A

TO PRE AMP PCB WP1

TO MAIN (A) PCB (2/3)

TO MAIN (A) PCB (2/3)

TO OPERATION (B) PCB WP2

TO MAIN (B) PCB

TO MAIN (A) PCB

TO MAIN (A) PCB

TO MAIN (A) PCB

TO MAIN (A) PCB

TO MAIN (A) PCB

TO MAIN (A) PCB

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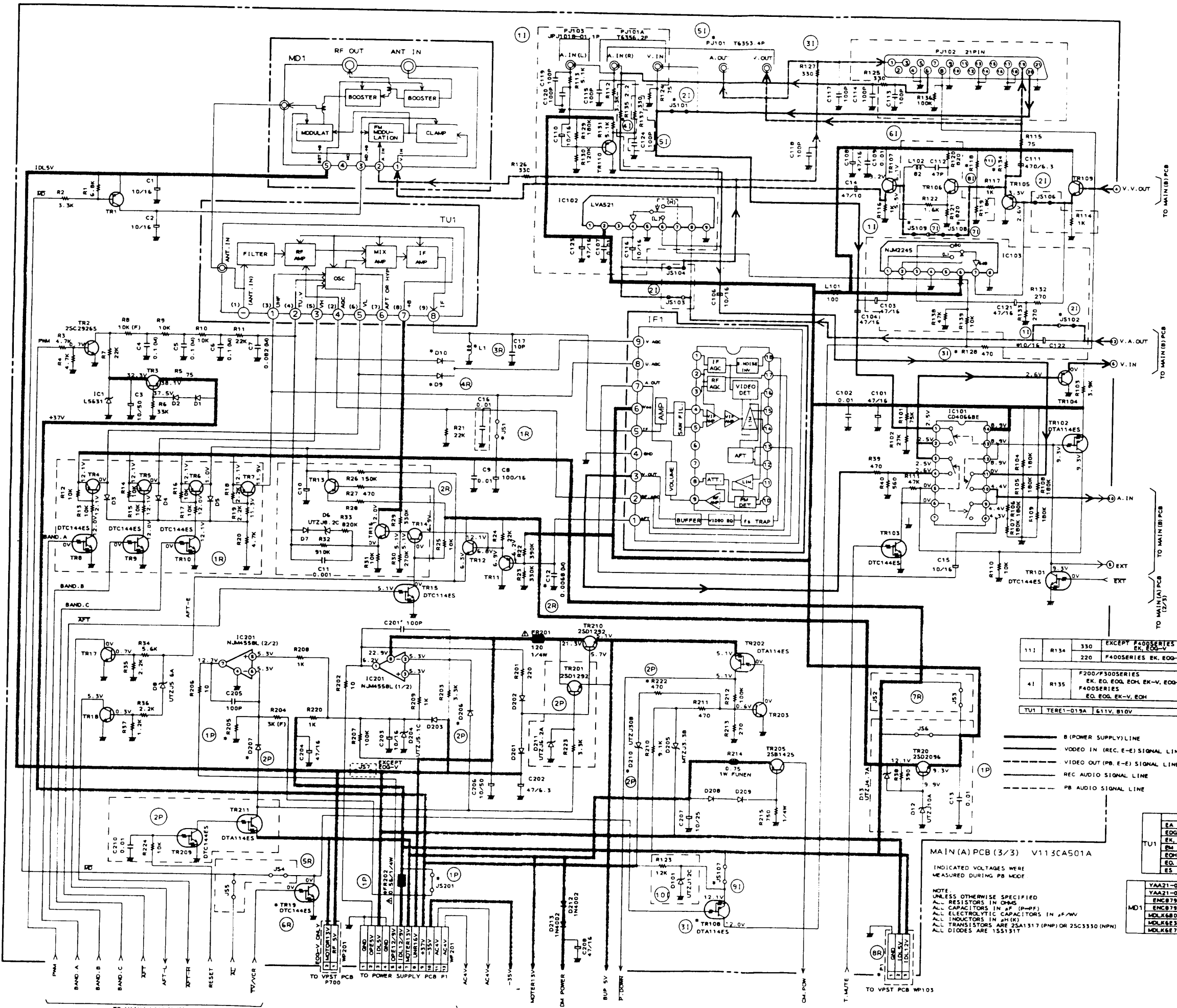
TO MAIN (A) PCB

TO MAIN (A) PCB

TO MAIN (A) PCB

TO MAIN (A) PCB

Main Diagram 3/3



TR4, TR5, TR7	25A1317	EXCEPT
TR8, TR9	DTC144ES	EK, EK-V
R12, R13, R14, R15	10K	
R18, R19	2.2K	
R20	4.7K	
D3, D4	15S131T	
TR6	25A1317	
TR10	DTC144ES	EOH ONLY
R16, R17	10K	
D5	15S131T	
JS1		EK, EK-V

TR13	25A1317	EXCEPT EOH
R26	150K	
R27	470	
C10	1/50	EK, EK-V, EOG, EOG-V, EO, EM, F200SERIES-ES
	2.2/50	EA, EOG, EDI, F400SERIES-ES
R28	91K	EO, EOG, EOG-V, EK-V
R29	560	EA, EM, ES, EK, EOG, EDI
TR14, TR16	25C3330	
R29	330K	
R30	270K	
R31	10K	EOH ONLY
R32	910K	
R33	820K	
C11	0.001	
C12	0.0068 (M)	
D7	15S131T	
D6	UTZJ8-2C	

L1	1.0 EA	
	0.82 F400SERIES-EOH	
	0.68 EK, EK-V, EM	
	0.47 EA, 611N	
	0.15 EBX-EOH, KLX-EOH, EOG, EDI, ES	
	611V, 810V	

4R	D9, D10	15S131T	EO, EOG, EOG-V
5R	JS4	EA, EM	
	JS5	EXCEPT EA, EM	
7R	JS2	EXCEPT EK-V	
	JS3	EK-V ONLY	
6R	TR19	DTC144ES	EXCEPT ES, EOG, EDI
8R	P1	PH 3P	EO, EOG, EOG-V, EK-V
1P	R205	2.4K (F)	EO, EOG, EOG, EOG-V, EK-V
	TR20	25D2096	EA, EM, ES, EK, EOG, EDI
	D12	UTZJ10A	EO, EOG, EOG, EOG-V, EK-V
	R38	390	
	C13	0.01	FR202
	JS6	JS201	EA, EM, ES, EK, EOG, EDI

R223	470	
R224	3.3K	
D206, D207	15S131T	EOG, EOG-V
D210	UTZJ308	ONLY
D211	UTZJ6-2A	
TR201	25D1282	
TR209	DTC144ES	
TR211	DTA1144ES	
C210	0.01	

TR110	C121	R138
IC102	C122	R139
IC103	C125	
C103	R112	
C105	R113	F400SERIES
C107	R129	EK, EOG-V
C110	R130	
C115	R131	
C116	R132	
C119	R133	
C120	PJ101A	PJ103

21	JS101	JS104	EXCEPT
	JS102	JS106	F400SERIES
	JS103	R114	EK, EOG-V
31	PJ102	R125	EK, EOG, EOG-V
	C113	R128	EK-V, EOG-V
	C114	R136	EOH
	TR108		
51	PJ101	R137	EA, EOG, EM
	C124		ES, EDI
61	C112	R122	611N, 611VPS
	R119	L102	810N, 810VPS
	R120	TR106	SAL
	R121		810V
71	JS108	JS109	EXCEPT 61
81	R118		2.7K 61
			1K EXCEPT 61
91	JS107		EO, EOG, EOG-V, EOG, EK-V
101	D101	R123	EK, 611, 810V

EA	F200SERIES	F300SERIES	F400SERIES
EOG, EDI	TER1-002A		
EK, EK-V	TER1-001A		
EM	TER1-008A		
EOH	VTS86C2		
EO, EOG, EOG-V	ENV-5788SP1		TER3-001B
ES	TER1-007B		
	TAAK35-292	TER21-004A	

YAA21-0453	EA	KX EA EA
YAA21-0454	EM	KX EOG EOG
ENC87975	EO, EOG, EOG-V, EOH	KX EK EK, EK-V
MOLK680138	ES	KX EM EM
MOLK62333A	EOG	KX EOH EOH, 611N
MOLK6766A	EDI	KX EOG EOG, EOG-V
		KX ES ES
		KX EDI EDI

MAIN (A) PCB (3/3) V113CA501A
 INDICATED VOLTAGES WERE MEASURED DURING PB MODE
 NOTE:
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS
 ALL CAPACITORS IN PF (P-FF)
 ALL ELECTROLYTIC CAPACITORS IN μ F/W
 ALL INDUCTORS IN μ H(K)
 ALL TRANSISTORS ARE 25A1317 (PNP) OR 25C3330 (NPN)
 ALL DIODES ARE 15S131T

VS-F410EK/EOH
 VS-F420EOG-V
 MAIN (A) (3/3)