

SERVICE MANUAL

ADCOM®

SURROUND SOUND TUNER/PREAMP

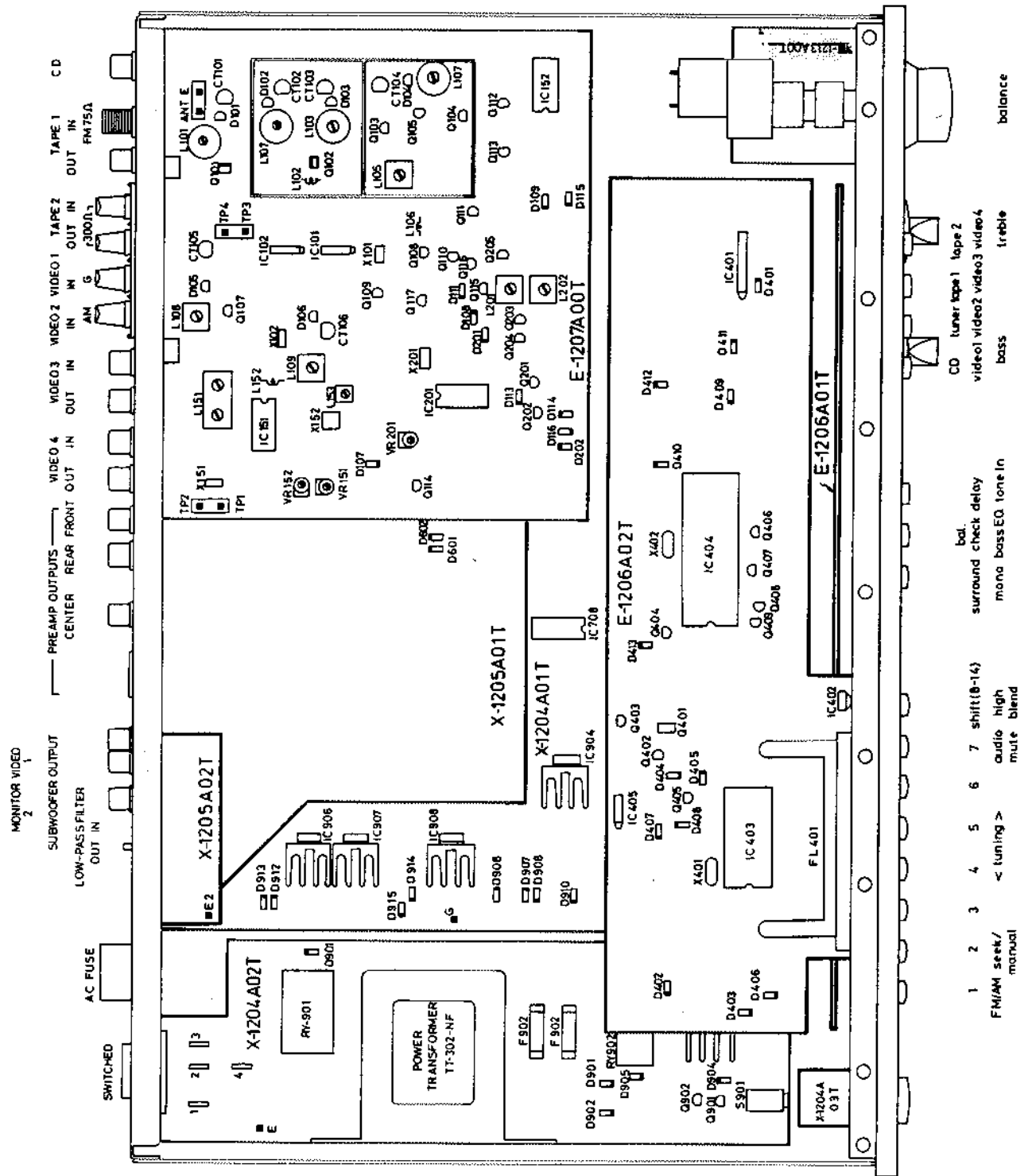
GTP-550

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ADCOM®
TECHNICAL SERVICE DEPARTMENT
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Chassis Layout



MONITOR VIDEO
1
2

PREAMP OUTPUTS
CENTER REAR FRONT OUT IN IN OUT IN
VIDEO 3 VIDEO 4 VIDEO 2 VIDEO 1 TAPE 2 TAPE 1 CD
FM75A

LOW-PASS FILTER
OUT IN

SWITCHED
AC FUSE

1 FM/AM seek/manual
2 < tuning >
3 audio high mute blend
4 shift (0-14)
5 surround check delay
6 mono bass EQ tone in
7 bal.
8 CD tuner tape 1 tape 2
9 video1 video2 video3 video4
balance
bass
treble

FM IF, RF Alignment and FM MPX Alignment

Instruments: FM Signal Generator (400Hz,100% Modulated), THD Analyzer, Oscilloscope, AC VTVM, DC Voltmeter, Tuning Meter.
 Terminated : DC Voltmeter---Between TP3 and TP4 on 016E-1207A00T P.C.B.
 Tuning Meter---Between TP1 and TP2 on 016E-1207A00T P.C.B.

Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	No use		87.5 MHz	L107	1.5V reading on DC Voltmeter
2			108 MHz	CT104	9V reading on DC Voltmeter
3	Repeat steps 1 and 2 unit no further improvement is noticed.				
4	Antenna terminal	90 MHz	90 MHz	L100,101 L102,103	Maximum reading on AC VTVM.
5				L105	Min. reading on THD Analyzer
6		105 MHz	105 MHz	CT101 CT102 CT103	Maximum reading on AC VTVM.
7	Repeat steps 4,5 and 6 unit no further improvement is noticed. (Muting OFF)				
8	Antenna terminal 1mV input	90 MHz	90 MHz	L151(A)	Adjust center on Tuning Meter
9				L151(B)	Minimum reading on THD Analyzer
10	Repeat steps 8 and 9 unit no further improvement is noticed (Muting OFF)				
11	Antenna terminal 10uV input	90 MHz	90 MHz	VR152	Muting Level (Muting ON)
12	Antenna terminal 100uV input	90 MHz	90 MHz	VR151	Signal Indicator Level 5th LED light On (Muting off)
13	Antenna terminal 1mV input	98 MHz Pilot..10% 1KHz...90% Mod.	98 MHz	VR201	Best separation No need to Adjust VCO

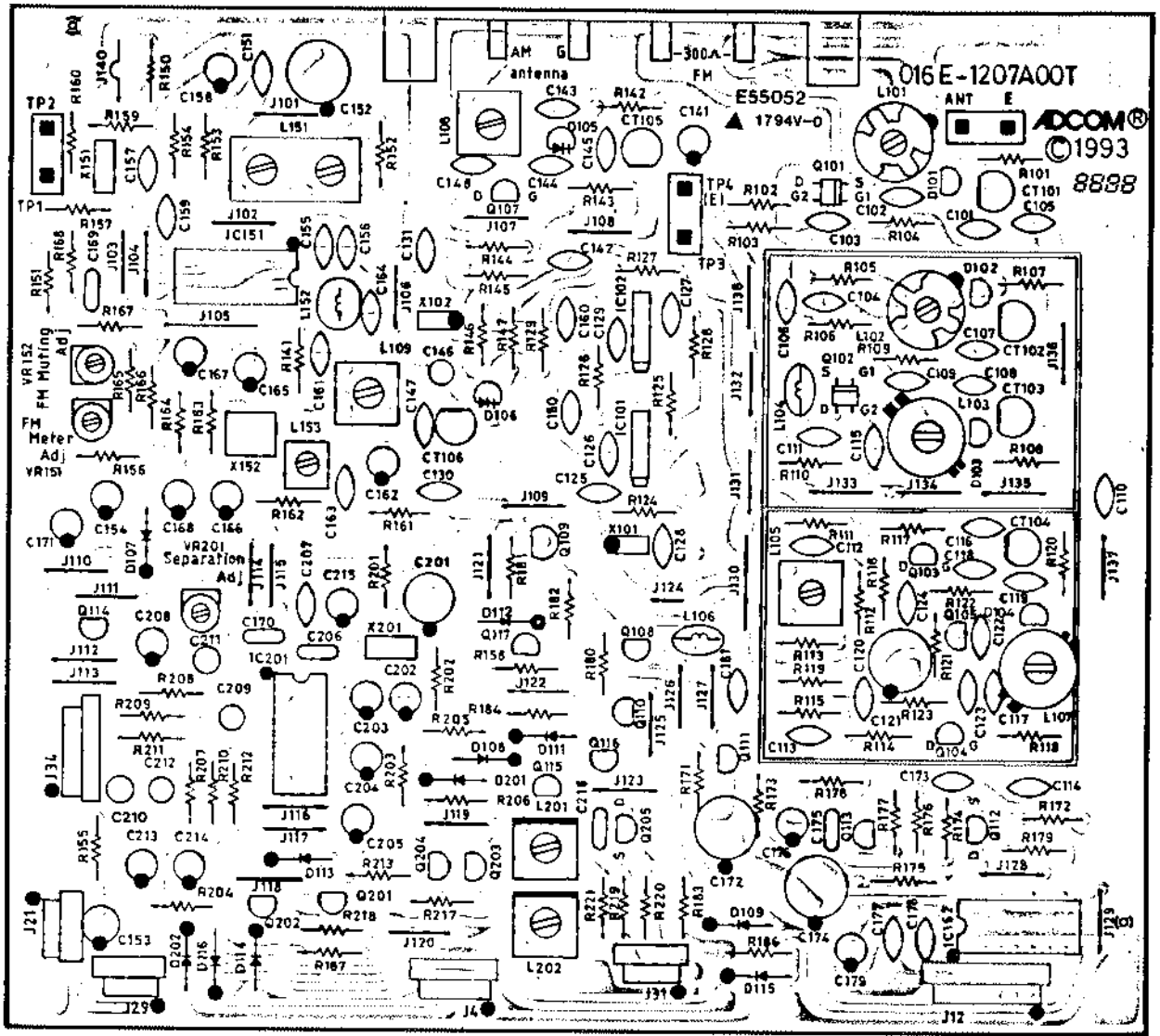
MW IF and RF Alignment

Instruments: AM Signal Generator (400Hz, 30% Modulated), AC VTVM,
Oscilloscope, DC Voltmeter.

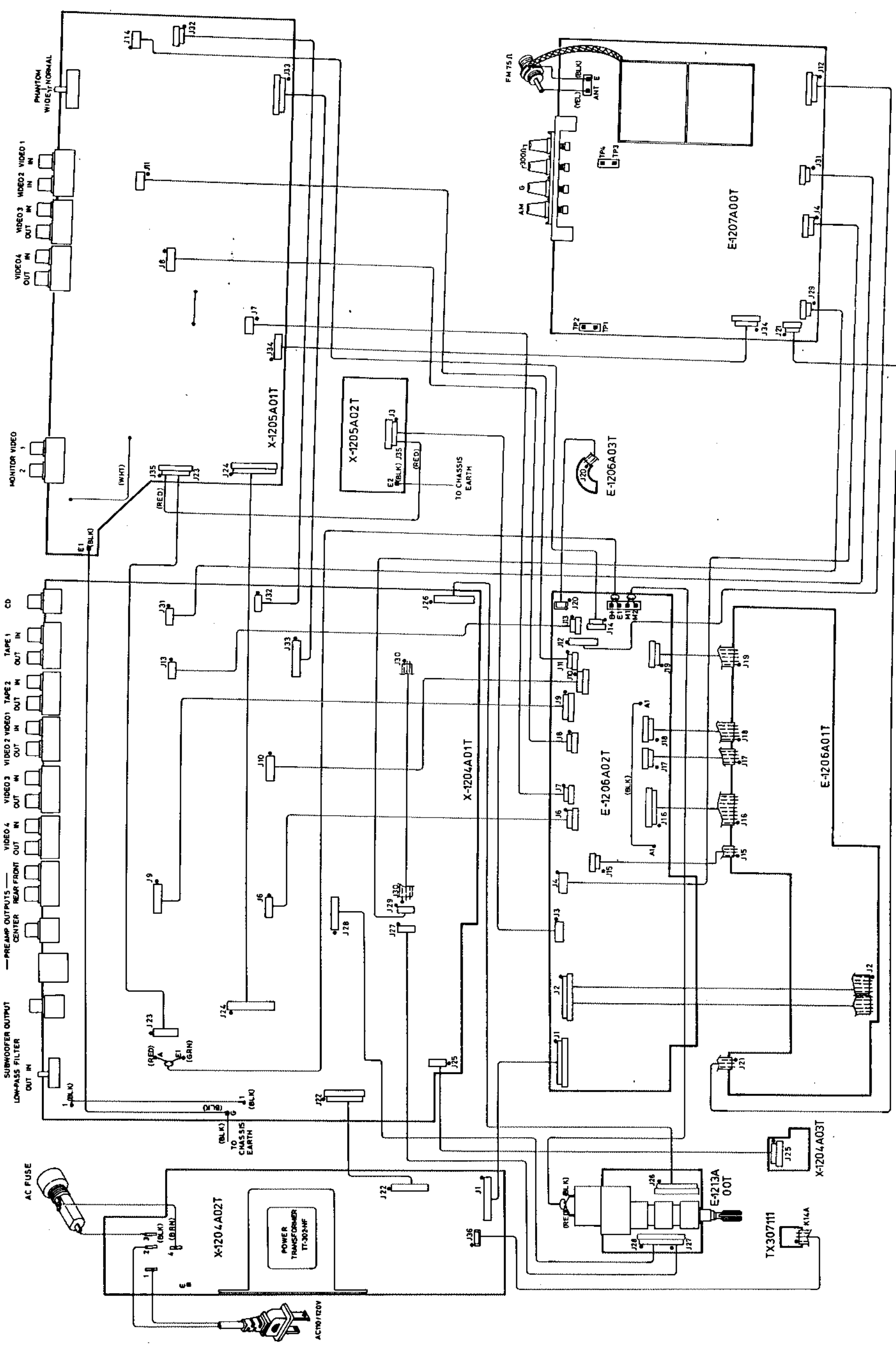
Terminated : DC Voltmeter---Between TP3 and TP4 on 016E-1207A00T P.C.B.

Step	Generator		Tuning Dial Setting	Adjust	Adjust for
	Coupling	Frequency			
1	No use		530 kHz (531 kHz) Europe	L109	About 1.2V \pm 0.1V on DC Voltmeter
2			1600 kHz (1602 kHz) Europe	CT106	About 9V \pm 0.2V on DC Voltmeter
3	Repeat steps 1 and 2 until no further improvement is noticed.				
4	Test loop radiate signal into loop antenna	450 kHz	530 kHz	L153	Maximum reading on AC VTVM.
5		600 kHz	600 kHz	L110, L108	
6		1400 kHz	1400 kHz	CT105	
7	Repeat steps 4 to 6 until no further improvement is noticed.				

E-1207A00T

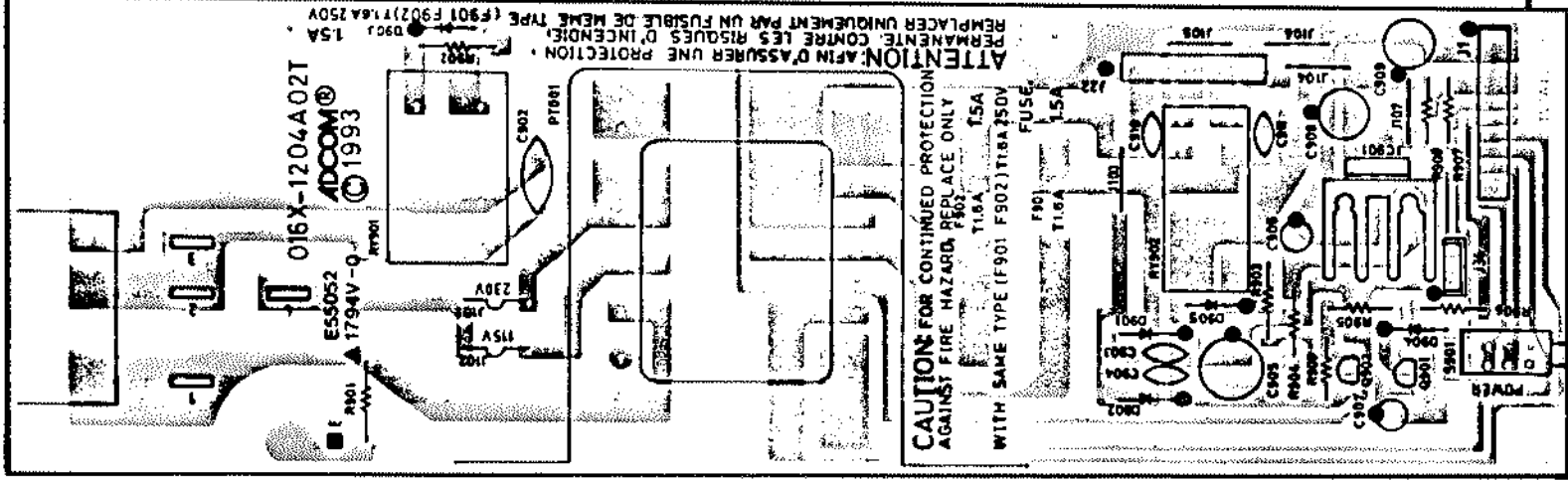


Wiring Diagram

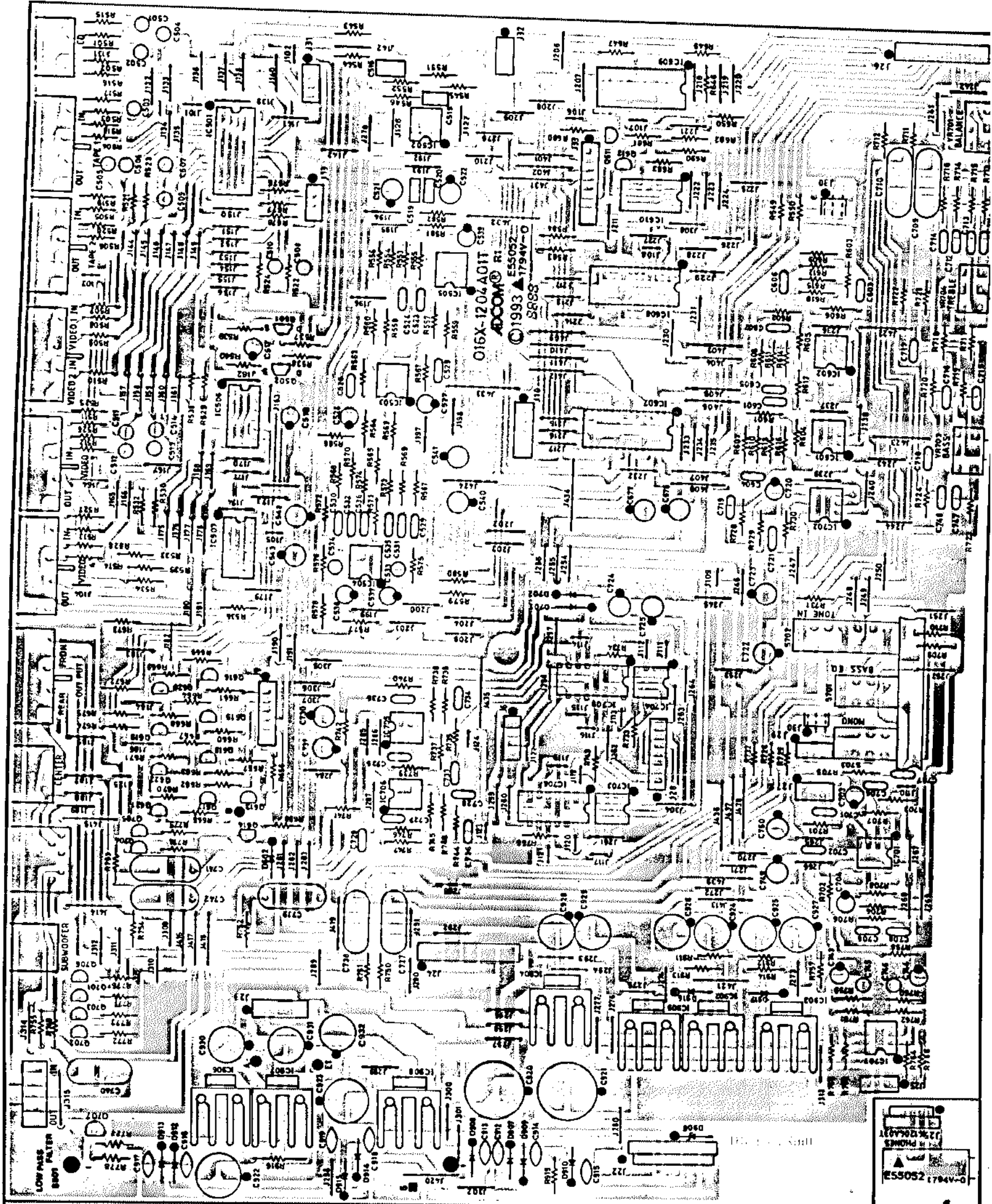


Printed Circuit Boards

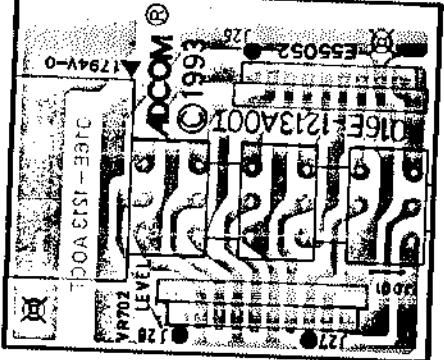
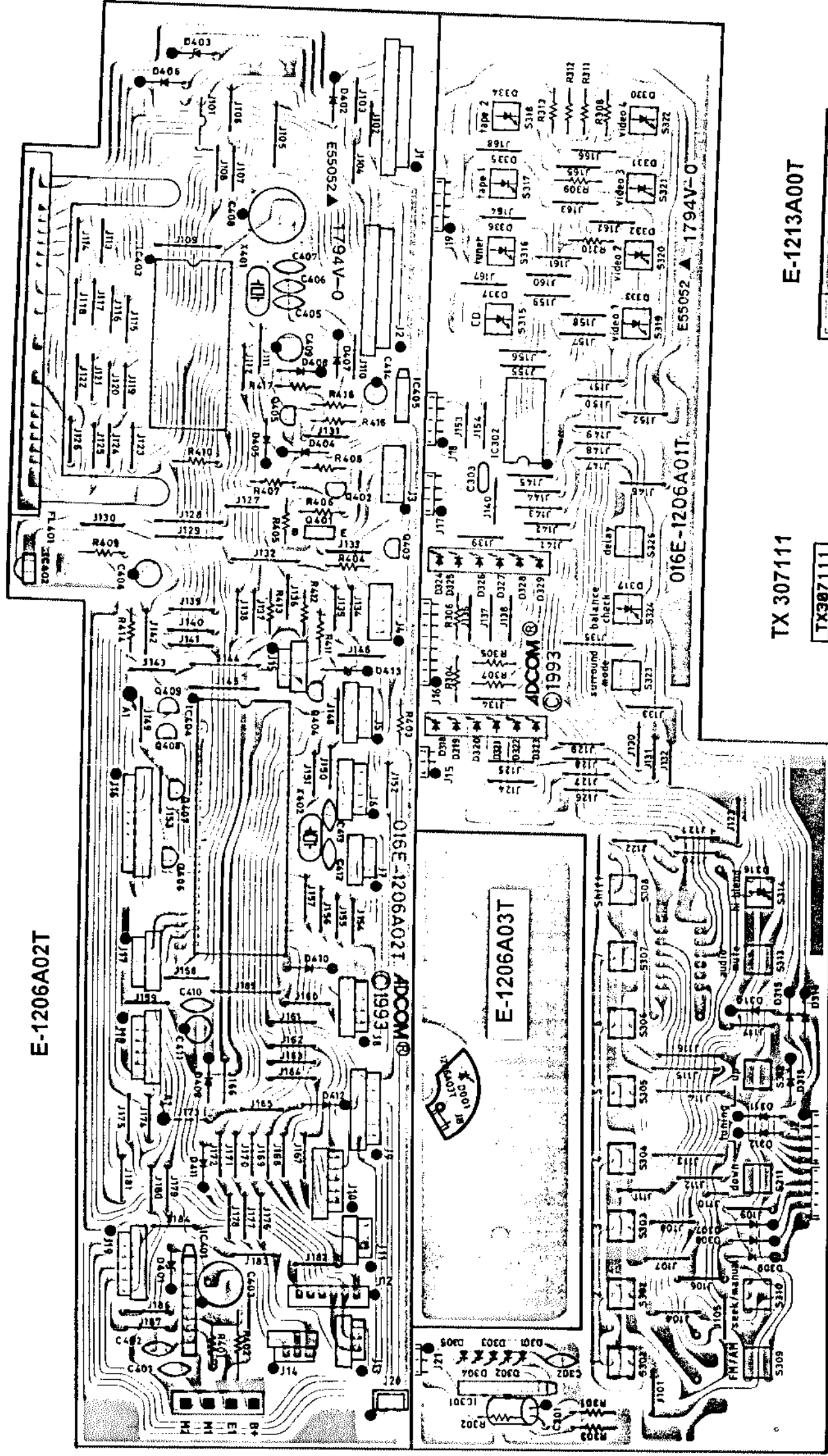
X-1204A02T



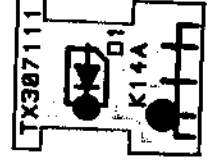
X-1204A01T



Printed Circuit Boards

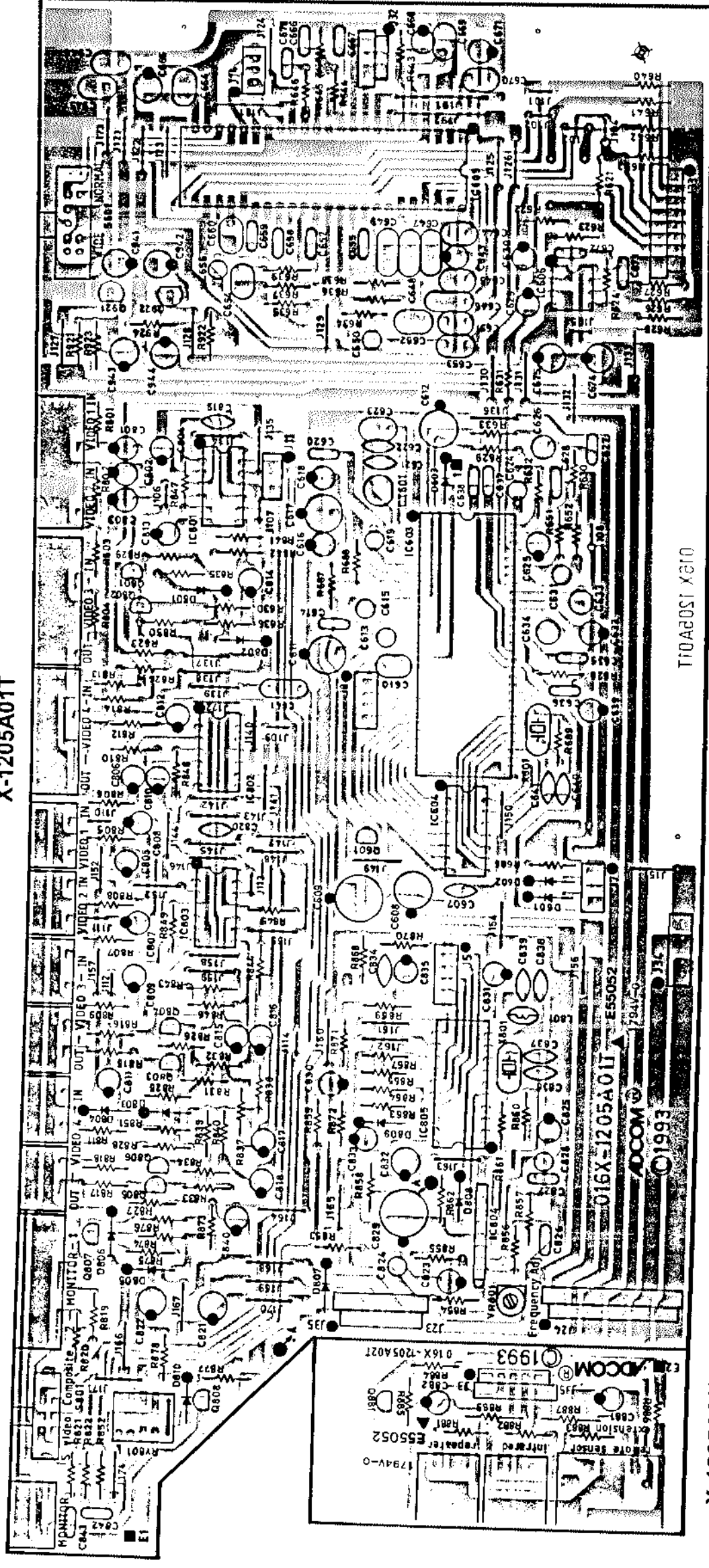


TX 307111



Printed Circuit Boards

X-1205A01T













X-1205A02T

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
X-1204A01T PCB ASSEMBLY		
R501-514	RM81001612	R, METAL MK2001KFECZ.
R515-528	RM84752616	R, METAL MK247K5FECZ.
R529-536	RM81003610	R, METAL MK2100KFECZ.
R537, 538	RM81001612	R, METAL MK2001KFECZ.
R539, 540	RM81002616	R, METAL MK2010KFECZ.
R543, 544	RM82741615	R, METAL MK22K74FECZ.
R545, 546	RM87501618	R, METAL MK207K5FECZ.
R549, 550	RM81211618	R, METAL MK21K21FECZ.
R551, 552	RM82212618	R, METAL MK222K1FECZ.
R553, 554	RM84751612	R, METAL MK24K75FECZ.
R556-562	RM84752616	R, METAL MK247K5FECZ.
R563, 564	RM81001612	R, METAL MK2001KFECZ.
R565, 566	RM82211614	R, METAL MK22K21FECZ.
R567, 568	RM81002616	R, METAL MK2010KFECZ.
R569-572	RM84752616	R, METAL MK247K5FECZ.
R573, 574	RM82212618	R, METAL MK222K1FECZ.
R575, 576	RM81002616	R, METAL MK2010KFECZ.
R577, 578	RM81003610	R, METAL MK2100KFECZ.
R579, 580	RM81000619	R, METAL MK2100RFECZ.
R581-583	RM81003610	R, METAL MK2100KFECZ.
R584	RM81000619	R, METAL MK2100RFECZ.
C501-514	CS41011422	CAP, STYROL 50V 100P F
C515, 516	CI03912220	CAP, MICA M500V390J
C517, 518	CE44707251	CAP, ELEC. 25V 4.7uF
C519, 520	CY21008428	CAP, LAYER 50MSA104J
C521, 522	CE01005258	CAP, ELEC. 25V 100uF
C523, 524	CM15609424	CAP, MYLAR 50V 563J
C525, 526	CM12210425	CAP, MYLAR 50V 222J
C527, 528	CE41007503	CAP, ELEC. 50V 1uF
C529-532	CM15609424	CAP, MYLAR 50V 563J
C533, 534	CS41011422	CAP, STYROL 50V 100PF J
C535, 536	CM14710425	CAP, MYLAR 50V 472J
C537-539	CE41007503	CAP, ELEC. 50V 1uF
C540-543	CE41005257	CAP, ELEC. 25V 100uF
IC501	IC00002983	IC, TC9163N
IC502-505	IC00002624	IC, ADCOM 7AA
IC506, 507	IC00001772	IC, LC4966
Q501, 502	TR50000176	TRANSISTOR 3SK366
S501	SH20000320	SLIDE SW 4TR-2341
R601-603	RM86812616	R, METAL MK268K1FECZ.
R604-606	RM81003610	R, METAL MK2100KFECZ.
R607-609	RM81002616	R, METAL MK2010KFECZ.
R610-612	RM85622613	R, METAL MK256K2FECZ.
R613-615	RM82212618	R, METAL MK222K1FECZ.
R616-618	RM83921613	R, METAL MK23K92FECZ.

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
R656-204	RD52202824	R, CARBON 22K 1/4W J
R657	RD51003820	R, CARBON 100K 1/4W J
R659	RD52203828	R, CARBON 220K 1/4W J
R660-663	RD54703828	R, CARBON 470K 1/4W J
R664-667	RD54702824	R, CARBON 47K 1/4W J
R676-678	RD54701820	R, CARBON 4.7K 1/4W J
R668-671	RD52202824	R, CARBON 22K 1/4W J
R672-675	RD51003820	R, CARBON 100K 1/4W J
R680	RD51003820	R, CARBON 100K 1/4W J
R681	RD54702824	R, CARBON 47K 1/4W J
R682	RD52202824	R, CARBON 22K 1/4W J
R683	RD51003820	R, CARBON 100K 1/4W J
R690	RD51003820	R, CARBON 100K 1/4W J
C601-603	CM13910420	CAP, MYLAR 50V 392J
C604-606	CM12210425	CAP, MYLAR 50V 222J
C676, 677	CE41005257	CAP, ELEC. 25V 100uF
IC601, 602	IC00002624	IC ADCOM 7AA
IC607-609	IC00002983	IC TC9163N
IC610	IC00001772	IC LC4966
Q611	TR30000327	TRANSISTOR 2SC536G/NP
Q612	TR10000126	TRANSISTOR 2SA608KF/KG
Q613	TR30000327	TRANSISTOR 2SC536G/NP
Q614	TR10000254	TRANSISTOR 2SA1345
Q615-618	TR30000327	TRANSISTOR 2SC536G/NP
Q619	TR10000126	TRANSISTOR 2SA608KF/KG
D602	DD80000021	DIODE IN4148
R701, 702	RM84752616	R, METAL MK247K5FECZ.
R703, 704	RM82212618	R, METAL MK222K1FECZ.
R705, 706	RM81002616	R, METAL MK2010KFECZ.
R707, 708	RM81821615	R, METAL MK21K82FECZ.
R709, 710	RM82212618	R, METAL MK222K1FECZ.
R711, 712	RM84753610	R, METAL MK2475KFECZ.
R713-718	RM81001612	R, METAL MK2001KFECZ.
R719-724	RM86811612	R, METAL MK26K81FECZ.
R725, 726	RM84750619	R, METAL MK2475RFECZ.
R728	RM81005617	R, METAL MK2010MFECZ.
R729	RM82211614	R, METAL MK22K21FECZ.
R730, 731	RM82212618	R, METAL MK222K1FECZ.
R732	RM84750619	R, METAL MK2475RFECZ.
R733, 734	RM84752616	R, METAL MK247K5FECZ.
R735, 736	RM81005617	R, METAL MK2010MFECZ.
R737, 738	RM82211614	R, METAL MK22K21FECZ.
R739, 740	RM82212618	R, METAL MK222K1FECZ.
R741, 742	RM84750619	R, METAL MK2475RFECZ.
R743	RM84752616	R, METAL MK247K5FECZ.

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
R744	RM81005617	R, METAL MK2010MFECZ.
R745	RM82211614	R, METAL MK22K21FECZ.
R746	RM82212618	R, METAL MK222K1FECZ.
R747, 748	RM83322614	R, METAL MK233K2FECZ.
R749	RM84750619	R, METAL MK2475RFECZ.
R750-755	RM82213611	R, METAL MK2221KFECZ.
R756	RM84752616	R, METAL MK247K5FECZ.
R757, 758	RM83321610	R, METAL ML23K32FECZ.
R759, 760	RM87501618	R, METAL MK207K5FECZ.
R761, 762	RM81002616	R, METAL MK2010KFECZ.
R763, 764	RM82742619	R, METAL MK227K4FECZ.
R765, 766	RM84999610	R, METAL MK249R9FECZ.
R771-776	RM81002616	R, METAL MK2010KFECZ.
R777, 778	RM84752616	R, METAL MK247K5FECZ.
C701, 702	CI04712329	CAP, MICA M500V470J
C703, 704	CE41005105	CAP, ELEC. 10V 100uF
C705, 706	CI02212329	CAP, MICA M500V220J
C707, 708	CM12209423	CAP, MYLAR 50V 223J
C709, 710	CP74707334	CAP, M.P. 100V 4.7uF
C711-714	CM14710425	CAP, MYLAR 50V 472J
C715-718	CM15609424	CAP, MYLAR 50V 563J
C719	CI04712329	CAP, MICA M500V470J
C720	CE41005105	CAP, ELEC. 10V 100uF
C721	CI02212329	CAP, MICA M500V220J
C722-725	CE41005257	CAP, ELEC. 25V 100uF
C726	CI04712329	CAP, MICA M500V470J
C727	CI02212329	CAP, MICA M500V220J
C728	CM14709423	CAP, MYLAR 50V 473J
C729	CM18209421	CAP, MYLAR 50V 823J
C730, 731	CE41005257	CAP, ELEC. 25V100uF
C733, 734	CI04712329	CAP, MICA M500V470J
C735, 736	CI02212329	CAP, MICA M500V220J
C737-742	CP74707334	CAP, M.P. 100V 4.7uF
C743, 744	CE42206167	CAP, ELEC. 16V 22uF
C745, 746	CS42211420	CAP, STYROL 50V 220P
C747, 748	CI04712329	CAP, MICA M500V470J
C749, 750	CE41005257	CAP, ELEC. 25V 100uF
IC701-706	IC00002624	*IC ADCOM 7AA
IC707	IC00001474	IC NJM4556D
IC708, 709	IC00003150	IC TC9213P
Q701-706	TR30000583	TRANSISTOR 2SC2878(A, B)
Q707	TR30000327	TRANSISTOR 2SC536G/NP
D701, 702	DD80000021	DIODE IN4148
VR701	RV10000124	R, VARIABLE 4TR-2246 50KMN
VR703, 704	RV10000433	R, VARIABLE 4TR-1742 20Kx2

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
S701-703	SH13000462	3 KEY PUSH SW 4TR-3010
C912-919	CC01009256	CAP,CERAMIC 250V 0.01uF 
C920, 921	CE02204354	CAP,ELEC. 35V 2200uF
C922	CE01004357	CAP,ELEC. 35V 1000uF
C923	CE04705358	CAP,ELEC. 35V 470uF
C924, 925	CE02205255	CAP,ELEC. 25V 220uF
C926, 927	CE04705255	CAP,ELEC. 25V 470uF
C928-932	CE02205255	CAP,ELEC. 25V 220uF
R911, 912	RM82211614	R,METAL MK22K21FECZ.
R913, 914	RM81820611	R,METAL MK2182RFECZ.
R915	RM82211614	R,METAL MK22K21FECZ.
R916	RM96808211	R,METAL OXIDE FILM 2W 6.8 J
D906	DD20000302	DIODE RD-22E
D907-917	DD80000010	DIODE IN4003
IC902	IC00002156	IC LM317T
IC903	IC00002168	IC LM337T
IC904	IC00001267	IC L78M15
IC905	IC00001565	IC L79M15
IC906	IC00001267	IC L78M15
IC907	IC00000974	IC NJM78M12
IC908	IC00001267	IC NJM79M12
X-1204A02T PCB ASSEMBLY		
R901	RD02204928	R,CARBON 2.2M 1/2W J 
R902	RM92200923	R,METAL OXIDE FILM 220 1/2W
R903	RM93300925	R,METAL OXIDE FILM 330 1/2W
R904	RM91000926	R,METAL OXIDE FILM 100 1/2W
R905	RD54702824	R,CARBON 47K 1/4W J
R906	RD51003820	R,CARBON 100K 1/4W J
R907	RD51501820	R,CARBON 1.5K 1/4W J
R908	RD51001823	R,CARBON 1K 1/4W J
R909	RD52202824	R,CARBON 22K 1/4W J
C902	CK00000035	SPARK KILLER DE7150 F472M 
C903, 904	CC01009256	CAP,CERAMIC 250V 0.01uF 
C905	CE04705504	CAP,ELEC. 50V 470uF
C906, 907	CE41007503	CAP,ELEC. 50V 1uF
C908	CE02205164	CAP,ELEC. 16V 220uF
C909	CE04706508	CAP,ELEC. 50V 47uF
C910, 911	CC01009256	CAP,CERAMIC 250V 0.01uF 
D901, 902	DD80000010	DIODE IN4003
D903-905	DD80000021	DIODE IN4148
IC901	IC00003008	IC NJM78M06A
RY901	LY00000204	RELAY G4W-2212P-US 

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
RY902	LY00000289	RELAY VB-24SMCU-E 
F901, 902	FU12000033	FUSE 250V 1.5A UL/CSA 
	FU23000311	FUSE 250V T1.6A EC/UK 
PT001	PT30210101	POWER TRANSFORMER TT-302-NF 


X-1204A03T PCB ASSEMBLY

JH00000147 HEAD PHONE JACK C-3921#3

X-1205A01T PCB ASSEMBLY

R621	RM81502613	R, METAL MK2015KFECZ.
R622	RM81003610	R, METAL MK2100KFECZ.
R623	RM81212611	R, METAL MK212K1FECZ.
R624	RM82212618	R, METAL MK222K1FECZ.
R625	RM81503617	R, METAL MK2150KFECZ.
R626	RM81002616	R, METAL MK2010KFECZ.
R627	RM86811612	R, METAL MK26K81FECZ.
R628	RM84752616	R, METAL MK247K5FECZ.
R629	RM83321610	R, METAL MK23K32FECZ.
R630	RM88251610	R, METAL MK28K25FECZ.
R631	RM81002616	R, METAL MK2010KFECZ.
R632	RM83922617	R, METAL MK239K2FECZ.
R633	RM88251610	R, METAL MK28K25FECZ.
R634, 635	RM81502613	R, METAL MK2015KFECZ.
R636, 637	RM84752610	R, METAL MK247K5FECZ.
R638, 639	RM87501618	R, METAL MK207K5FECZ.
R640-642	RM81003610	R, METAL MK2100KFECZ.
R643	RM81005617	R, METAL MK2010MFECZ.
R644-646	RM82212618	R, MERAL MK222K1FECZ.
R651	RM88251610	R, METAL MK28K25FECZ.
R652	RM81502613	R, METAL MK2015KFECZ.
R653	RM81003610	R, METAL MK2100KFECZ.
R686	RD51002827	R, CARBON 10K 1/4W J
R687, 688	RD52203828	R, CARBON 220K 1/4W J
R689	RD51004824	R, CARBON 1M 1/4W J
C607	CC31009465	CAP, CERAMIC 50V 0.01uF
C608	CE02205164	CAP, ELEC. 16V 220uF
C609	CE02205255	CAP, ELEC. 25V 220uF
C610	CY21008428	CAP, LAYER 50MSA104J
C611, 612	CE02205164	CAP, ELEC. 16V 220uF
C613	CS41511420	CAP, STYROL 50V 150P
C614	CM02209426	CAP, MYLAR 50V 223J
C615	CS41010429	CAP, STYROL 50V 1000P
C616	CE04707252	CAP, ELEC. 25V 4.7uF
C617	CE04705103	CAP, ELEC. 10V 470uF

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
C618	CE04707252	CAP,ELEC. 35V 4.7uF
C619	CS41010429	CAP,STYROL 50V 1000P
C620	CM02209426	CAP,MYLAR 50V 223J
C621	CC11011417	CAP,CERAMIC 50V 100P CH
C622	CC13312410	CAP,CERAMIC 50V 33P CH
C623	CY21508425	CAP,LAYER 50MSA154J
C624	CS46811428	CAP,STYROL 50V 680P
C625	CE01006251	CAP,ELEC. 25V 10uF
C626	CN01006503	CAP,NON-POLARIZED 50V 10uF
C627	CM06810426	CAP,MYLAR 50V 682J
C628	CM05610429	CAP,MYLAR 50V 562J
C629, 630	CE01006251	CAP,ELEC. 25V 10uF
C631	CS45611420	CAP,STYROL 50V 560P
C632	CE01007504	CAP,ELEC. 50V 1uF
C633, 634	CN01006503	CAP,NON-POLARIZED 50V 10uF
C635	CM03309428	CAP,MYLAR 50V 333J
C636	CM04710428	CAP,MYLAR 50V 472J
C637	CM03910422	CAP,MYLAR 50V 392J
C638	CM06809424	CAP,MYLAR 50V 683J
C639	CE02208508	CAP,ELEC. 50V 0.22uF
C640, 641	CC13312410	CAP,CERAMIC 50V 33P CH
C643	CE04707252	CAP,ELEC. 25V 4.7uF
C644, 645	CY22208425	CAP,LAYER 50MSA224J
C646-649	CY22308427	CAP,LAYER 50MSA334J
C650	CS46811428	CAP,STYROL 50V 680P
C651-654	CY21008428	CAP,LAYER 50MSA104J
C655	CM02209426	CAP,MYLAR 50V 223J
C656	CS46811428	CAP,STYROL 50V 680P
C657-659	CM02209426	CAP,MYLAR 50V 223J
C660	CY21008428	CAP,LAYER 50MSA104J
C664	CY21008428	CAP,LAYER 50MSA104J
C665	CE01005167	CAP,ELEC. 16V 100uF
C666, 667	CM01009427	CAP,MYLAR 50V 103J
C668	CE01006251	CAP,ELEC. 25V 10uF
C669, 670	CY22208425	CAP,LAYER 50MSA224J
C671	CE04707252	CAP,ELEC. 25V 4.7uF
C672	CM04709426	CAP,MYLAR 50V 473J
C673	CI04712329	CAP,MICA 500V 470P
C674, 675	CE01005258	CAP,ELEC. 25V 100uF
C678	CM01009427	CAP,MYLAR 50V 103J
Q601	TR30000121	TRANSISTOR 2SC2274E/F
CT601	CF00000299	CAP,FILM TRIMMER 500ER
X601	DD60000386	CRYSTAL OSC 8MHZ
D601-603	DD80000021	DIODE IN4148
IC603	IC00003148	IC LV1000NA

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
IC604	IC00003199	IC LH21256-10
IC605	IC00002661	IC SSM2126A-P
IC606	IC00002624	IC ADCOM 7AA
S601	SH20000393	SLIDE SW 4TR-2976
R801-804	RD57509828	R,CARBON 75 1/4W J
R813,814	RD56809828	R,CARBON 68 1/4W J
R819,820	RD56809828	R,CARBON 68 1/4W J
R823,824	RD58200825	R,CARBON 820 1/4W J
R829,830	RD53300829	R,CARBON 330 1/4W J
R835,836	RD51502824	R,CARBON 15K 1/4W J
R841,842	RD51201824	R,CARBON 1.2K 14/W J
R847	RD51002827	R,CARBON 10K 1/4W J
R850	RD52201820	R,CARBON 2.2K 1/4W J
R873	RD58201829	R,CARBON 8.2K 1/4W J
R874	RD54701820	R,CARBON 4.7K 1/4W J
R875	RD55600828	R,CARBON 560 1/4W J
R876	RD58200825	R,CARBON 820 1/4W J
C801-804	CE04706168	CAP,ELEC. 16V 47uF
C813,814	CE04706168	CAP,ELEC. 16V 47uF
C819	CC31009465	CAP,CERAMIC 50V 0.01uF
C821,822	CE01005258	CAP,ELEC. 25V 100uF
C840	CE04706168	CAP,ELEC. 16V 47uF
IC801	IC00003033	IC LA7951
Q801,802	TR30000121	TRANSISTOR 2SC2274E/F
Q807	TR30000121	TRANSISTOR 2SC2274E/F
D801,802	DD80000021	DIODE IN4148
D805,806	DD80000021	DIODE IN4148
R921,922	RD51502824	R,CARBON 15K 1/4W J
R923,924	RD52702821	R,CARBON 27K 1/4W J
C941,942	CE01005167	CAP,ELEC. 16V 100uF
C943,944	CE01005258	CAP,ELEC. 25V 100uF
Q921	TR30000080	TRANSISTOR 2SD863E/F
Q922	TR10000059	TRANSISTOR 2SB764E/F
C945,946	CY21008428	CAP,LAYER 50MSA104J
X-1205A02T PCB ASSEMBLY		
R881,882	RD51500827	R,CARBON 150 1/4W J
R883	RD51501820	R,CARBON 1.5K 1/4W J
R884,885	RD51002827	R,CARBON 10K 1/4W J
R886,887	RF91009920	R,FUSIBLE TYPE 10 1/2W J 
R889	RM94708922	R,METAL OXIDE FILM 4.7 1/2 J
C881	CE04706107	CAP,ELEC. 10V 47uF
C882	CE01005106	CAP,ELEC. 10V 100uF
Q881	TR30000327	TRANSISTOR 2SC536G/NP

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
X-1206A01T PCB ASSEMBLY		
R301	RD53301822	R,CARBON 3.3K 1/4W J
R302	RD52201820	R,CARBON 2.2K 1/4W J
R303	RD53301822	R,CARBON 3.3K 1/4W J
R304-307	RD53300829	R,CARBON 330 1/4W J
R308-313	RD58200825	R.CARBON 820 1/4W J
C301	CE03307254	CAP,ELEC. 25V 3.3uF
C302	CC31009465	CAP,CERAMIC 0.01uF 50V
C303	CM04709426	CAP,MYLAR 50V 473J
IC301	IC00000883	IC LB1423N
D301-305	DD40000095	LED LN224R
IC302	IC00001838	IC TC9174P
D307-315	DD80000021	DIODE IN4148
D317-329	DD40000939	LED LTL-4221N
S301-313	SH60000318	KEY BOARD SW 4TR-2977
S314-322	SH60000185	KEY BOARD SW WITH LED C-4177A01 RED
C323	SH60000318	KEY BOARD SW 4TR-2977
S324	SH60000185	KEY BOARD SW WITH LED C-4177A01 RED
S325	SH60000318	KEY BOARD SW 4RT-2977
X-1206A02T PCB ASSEMBLY		
R401	RD51009822	R,CARBON 10 1/4W J
R402	RM94709124	R,METAL OXIDE FILM 1W 47
R403	RD58200825	R,CARBON 820 1/4W J
R404	RD51009822	R,CARBON 10 1/4W J
R405	RD54702824	R,CARBON 47K 1/4W J
R406	RD51002827	R,CARBON 10K 1/4W J
R407	RD51002827	R,CARBON 10K 1/4W J
R408	RD51003820	R,CARBON 100K 1/4W J
R409	RD52200827	R,CARBON 220 1/4W J
R410	RD51009822	R,CARBON 10 1/4W J
R411	RD51801827	R,CARBON 1.8K 1/4W J
R412	RD54702824	R,CARBON 47K 1/4W J
R413	RD54701820	R,CARBON 4.7K 1/4W J
R414	RD51009822	R,CARBON 10 1/4W J
R415	RD52201820	R,CARBON 2.2K 1/4W J
R416	RD51003820	R,CARBON 100K 1/4W J
R417	RD52702821	R,CARBON 27K 1/4W J
C401, 402	CC31009465	CAP,CERAMIC 0.01uF 50V
C403	CE01005258	CAP,ELEC. 25V 100uF
C404	CE01005167	CAP,ELEC. 16V 100uF
C405, 406	CC01512434	CAP,CERAMIC 15P 50V
C407	CC05009457	CAP,CERAMIC 50V 0.047uF
C408	CE02204068	CAP,ELEC. 6.3V 2200uF
C409	CE01005167	CAP,ELEC. 16V 100uF
C410	CC05009457	CAP,CERAMIC 50V 0.047uF

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
C411	CE01005167	CAP,ELEC. 16V 100uF
C412, 413	CC33312438	CAP,CERAMIC 33P 50V
C414	CE01007504	CAP,ELEC. 50V 1uF
X401	DD60000040	CRYSTAL OSC HC49U7.2MHZ
IC401	IC00002260	IC LB1641
IC402	IC00003010	IC IS1U60
IC403	IC00002971	IC TC9301AN-032
IC404	IC00003185	IC uPD75104CW-295
IC405	IC00003446	IC M51953AL
D401	DD20000200	DIODE RD5.1E
D402	DD80000021	DIODE IN4148
D403	DD20000200	DIODE RD5.1E
D404-412	DD80000021	DIODE IN4148
D413	DD20000200	DIODE RD5.1E
FL401	DD40001294	FL TUBE FIP-5BLM8
X402	LF00000490	CERAMIC RESONATOR CSA4.19MHZ
Q401	TR10000047	TRANSISTOR 2SB631KE/KF
Q402	TR30000327	TRANSISTOR 2SC536G/NP
Q403	TR10000254	TRANSISTOR 2SA1345
Q404	TR30000492	TRANSISTOR 2SC3399
Q405	TR10000126	TRANSISTOR 2SA608KF/KG
Q406-409	TR10000254	TRANSISTOR 2SA1345
J111	RD51001823	R,CARBON 1K 1/4W J
J173,182	DD80000021	DIODE IN4148-86
X-1206A03T PCB ASSEMBLY		
D001	DD40001373	LED LTL-4266N
X-1207A00T PCB ASSEMBLY		
R101,102	RD54702824	R,CARBON 47K 1/4W J
R103,104	RD51003820	R,CARBON 100K 1/4W J
R105	RD54709820	R,CARBON 47 1/4W J
R106	RD51500827	R,CARBON 150 1/4W J
R107,108	RD54702824	R,CARBON 47K 1/4W J
R109,110	RD51003820	R,CARBON 100K 1/4W J
R111	RD51000820	R,CARBON 100 1/4W J
R112	RD51002827	R,CARBON 10K 1/4W J
R113	RD58200825	R,CARBON 820 1/4W J
R114	RD53300829	R,CARBON 330 1/4W J
R115	RD54709820	R,CARBON 47 1/4W J
R116	RD53300829	R,CARBON 330 1/4W J
R117,118	RD51003820	R,CARBON 100K 1/4W J
R119	RD54709820	R,CARBON 47 1/4W J
R120	RD54702824	R,CARBON 47K 1/4W J

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
R121, 122	RD51002827	R, CARBON 10K 1/4W J
R123	RD51001823	R, CARBON 1K 1/4W J
R124, 125	RD53300829	R, CARBON 330 1/4W J
R126	RD51800823	R, CARBON 180 1/4W J
R127	RD53300829	R, CARBON 330 1/4W J
R128	RD51000820	R, CARBON 100 1/4W J
R129	RD51500827	R, CARBON 150 1/4W J
R141	RD51001823	R, CARBON 1K 1/4W J
R142	RD51003820	R, CARBON 100K 1/4W J
R143	RD54703828	R, CARBON 470K 1/4W J
R144	RD52200827	R, CARBON 220 1/4W J
R145	RD56800825	R, CARBON 680 1/4W J
R146	RD52200827	R, CARBON 220 1/4W J
R147	RD51003820	R, CARBON 100K 1/4W J
R151	RD51500827	R, CARBON 150 1/4W J
R152	RD53001826	R, CARBON 3K 1/4W J
R153, 154	RD51002827	R, CARBON 10K 1/4W J
R155	RD51000820	R, CARBON 100 1/4W J
R156	RD53301822	R, CARBON 3.3K 1/4W J
R157	RD51200820	R, CARBON 120 1/4W J
R158	RD51002827	R, CARBON 10K 1/4W J
R159	RD52702821	R, CARBON 27K 1/4W J
R160	RD55600828	R, CARBON 560 1/4W J
R161	RD51500827	R, CARBON 150 1/4W J
R162	RD56802822	R, CARBON 68K 1/4W J
R163, 164	RD51002827	R, CARBON 10K 1/4W J
R165	RD52201820	R, CARBON 2.2K 1/4W J
R166	RD51002827	R, CARBON 10K 1/4W J
R167	RD53301822	R, CARBON 3.3K 1/4W J
R168	RD51001823	R, CARBON 1K 1/4W J
R171	RD55600828	R, CARBON 560 1/4W J
R172	RD54700827	R, CARBON 470 1/4W J
R173	RD54700827	R, CARBON 470 1/4W J
R174	RD58201829	R, CARBON 8.2K 1/4W J
R175	RD52201820	R, CARBON 2.2K 1/4W J
R176	RD51000820	R, CARBON 100 1/4W J
R177	RD53300829	R, CARBON 330 1/4W J
R178	RD54701820	R, CARBON 4.7K 1/4W J
R179	RD51002827	R, CARBON 10K 1/4W J
R180, 182	RD52201820	R, CARBON 2.2K 1/4W J
R181	RD51001823	R, CARBON 1K 1/4W J
R184	RD52202824	R, CARBON 22K 1/4W J
R185	RD55602825	R, CARBON 56K 1/4W J
R186	RD55603829	R, CARBON 560K 1/4W J
R187	RD51003820	R, CARBON 100K 1/4W J

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
C101	CC55013419	CAP,CERAMIC 5P 50V CH
C102	CC44712433	CAP,CERAMIC 47P 50V
C103,104	CC41010439	CAP,CERAMIC 0.001uF 50V
C105,106	CC41009462	CAP,CERAMIC 0.01uF 50V
C107,108	CC57013411	CAP,CERAMIC 7P 50V CH
C109	CC55013419	CAP,CERAMIC 5P 50V CH
C111	CC41011432	CAP,CERAMIC 50V 100P
C112-114	CC41009462	CAP,CERAMIC 0.01uF 50V
C115	CC56013415	CAP,CERAMIC 6P 50V CH
C116	CC55013419	CAP,CERAMIC 5P 50V CH
C117,118	CC57013411	CAP,CERAMIC 50V 7P CH
C119	CC56013415	CAP,CERAMIC 6P 50V CH
C120	CE02205255	CAP,ELEC. 25V 220uF
C121	CC41009462	CAP,CERAMIC 0.01uF 50V
C122	CC33312438	CAP,CERAMIC 33P 50V
C123	CC57013411	CAP,CERAMIC 7P 50V CH
C124,125	CC41009462	CAP,CERAMIC 0.01uF 50V
C126	CM11009426	CAP,MYLAR 50V 103J
C127-131	CC41009426	CAP,CERAMIC 0.01uF 50V
C141	CE41007503	CAP,ELEC. 50V 1uF
C142,143	CC41009462	CAP,CERAMIC 0.01uF 50V
C144	CC41010439	CAP,CERAMIC 0.001uF 50V
C145	CC55013419	CAP,CERAMIC 5P 50V CH
C146	CS43911424	CAP,STYROL 50V 390P
C147	CC51512417	CAP,CERAMIC 15P 50V CH
C148	CC45009456	CAP,CERAMIC 50V 473J
C151	CC45009456	CAP,CERAMIC 50V 0.047uF
C152	CE02205255	CAP,ELEC. 25V 220uF
C153	CE41005166	CAP,ELEC. 16V 100uF
C154	CE41007503	CAP,ELEC. 50V 1uF
C155-157	CC45009456	CAP,CERAMIC 50V 0.047uF
C158	CE42207500	CAP,ELEC. 50V 2.2uF
C159	CC43311431	CAP,CERAMIC 50V 330P
C160	CC41009462	CAP,CERAMIC 0.01uF 50V
C161	CC45009456	CAP,CERAMIC 50V 0.047uF
C162	CE44707251	CAP,ELEC. 25V 4.7uF
C163	CC41009462	CAP,CERAMIC 0.01uF 50V
C164	CC41009462	CAP,CERAMIC 0.01uF 50V
C165	CE44707251	CAP,ELEC. 25V 4.7uF
C166	CE43307253	CAP,ELEC. 25V 3.3uF
C167	CE41006250	CAP,ELEC. 25V 10uF
C168	CE41006250	CAP,ELEC. 25V 10uF
C169	CM11509423	CAP,MYLAR 50V 153J
C170	CM14709423	CAP,MYLAR 50V 473J
C171	CE44707251	CAP,ELEC. 25V 4.7uF

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
C172	CE02205255	CAP,ELEC. 25V 220uF
C173	CC41009462	CAP,CERAMIC 50V 0.01uF
C174	CE02205255	CAP,ELEC. 25V 220uF
C175	CM14709423	CAP,MYLAR 50V 473J
C176	CE44708504	CAP,ELEC. 50V 0.47uF
C177,178	CC41006250	CAP,CERAMIC 0.01uF 50V
C179	CE41006250	CAP,ELEC. 25V 10uF
C180,181	CC41009462	CAP,CERAMIC 0.01uF 50V
IC101,102	IC00001449	IC TA7060AP
IC151	IC00001796	IC LA1265
Q101,102	TR50000140	TRANSISTOR 3SK107F
Q103,104	TR50000103	TRANSISTOR 2SK544F
Q105	TR30000133	TRANSISTOR 2SC1674
Q107	TR50000103	TRANSISTOR 2SK544F
Q108	TR30000121	TRANSISTOR 2SC2274E
Q109	TR10000140	TRANSISTOR 2SA984KE
Q110	TR30000492	TRANSISTOR 2SC3399
Q111	TR30000327	TRANSISTOR 2SC536G/NP
Q112	TR30000127	TRANSISTOR 2SK246-Y
Q113	TR30000108	TRANSISTOR 2SC1570E/F
Q114,115	TR30000492	TRANSISTOR 2SC3399
Q116	TR10000254	TRANSISTOR 2SA1345
Q117	TR10000126	TRANSISTOR 2SA608KF/KG
D101-104	DD50000020	DIODE SVC202AF
D105,106	DD50000031	DIODE SVC321SPA-B-2
D107-116	DD80000021	DIODE IN4148
CT101-104	CF00000184	CAP,FILM TRIMMER VCT51A
CT105,106	CF00000159	CAP,FILM TRIMMER VCT51C
L101	LC23390009	FM ANT. COIL TRL-339
L102	LC23380004	FM RF COIL TRL-338
L103	LC23370000	FM RF COIL TRL-337
L104	LM00000073	MICRO INDUCTOR 2.2uH
L105	LC02"x0000	FM IF COIL RL233T
L106	LM00000024	MICRO INDUCTOR 47uH
L107	LC23360005	FM OSC COIL TRL-336
L108	LC23720009	AM ANT. COIL TRL-372
L109	LC31050009	AM OSC COIL RLV105T
L151	LC23420002	FM DET COIL TRL-342
L152	LM00000425	MICRO INDUCTOR 39MH
L153	LC23430007	AM IF COIL TRL-343
X101,102	LF00000166	CERAMIC FILTER SFE10.7MS2GY-A
X151	LF00000191	CERAMIC FILTER BFU450C4N
X152	LF00000245	CERAMIC FILTER SFP450H
RV151	RV20000480	R,SEMI-FIXED RH0615C10400
RV152	RV20000442	R,SEMI-FIXED RH0615C22300

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
R201	RD51000820	R,CARBON 100 1/4W J
R202	RD55601821	R,CARBON 5.6K 1/4W J
R203	RD53302816	R,CARBON 33K 1/4W J
R204	RD51002827	R,CARBON 10K 1/4W J
R205	RD51001823	R,CARBON 1K 1/4W J
R206	RD55602825	R,CARBON 56K 1/4W J
R207	RD53301823	R,CARBON 3.3K 1/4W J
R208	RD51003820	R,CARBON 100K 1/4W J
R209	RD51503828	R,CARBON 150K 1/4W J
R210	RD51003820	R,CARBON 100K 1/4W J
R211	RD51503828	R,CARBON 150K 1/4W J
R212	RD53301822	R,CARBON 3.3K 1/4W J
R213	RD55601821	R,CARBON 5.6K 1/4W J
R217,218	RD51002827	R,CARBON 10K 1/4W J
R219	RD54700827	R,CARBON 470 1/4W J
R220,221	RD51002827	R,CARBON 10K 1/4W J
C201	CE41005257	CAP,ELEC. 25V 100uF
C202	CE41007503	CAP,ELEC. 50V 1uF
C203	CE42208504	CAP,ELEC. 50V 0.22uF
C204	CE41007503	CAP,ELEC. 50V 1uF
C205	CE44708504	CAP,ELEC. 50V 0.47uF
C206	CM14709423	CAP,MYLAR 50V 473J
C207	CC41010439	CAP,CERAMIC 0.001uF 50V
C208	CE41007503	CAP,ELEC. 50V 1uF
C209	CS42711427	CAP,STYROL 50V 270P
C212	CS45111423	CAP,STYROL 50V 510P
C213-215	CE41006250	CAP,ELEC. 25V 10uF
IC201	IC00002636	IC LA3401
D201,202	DD80000021	DIODE IN4148
Q201	TR10000254	TRANSISTOR 2SA1345
Q202	TR30000492	TRANSISTOR 2SC3399
Q203,204	TR30000583	TRANSISTOR 2SC2878
Q205	TR50000176	TRANSISTOR 2SK366
X201	LF00000300	CERAMIC FILTER CSB456F11
VR201	RV20000480	R,SEMI-FIXED RH0615C10400
L201,202	LC21940006	FM MPX FILTER TRL-194
E-1213A00T PCB ASSEMBLY		
VR702	RV10001772	R,VARIABLE 4TR-2979 50Kax6
TX-307111 PCB ASSEMBLY		
D1	DD40001361	LED LNO2102C13

SCHEMATIC LOCATION	PART NO.	DESCRIPTION
CHASSIS MOUNTED COMPONENTS		
	AB00000742 AF80000573 AM00002104 AS01000403 LB03740005	PRINTER BUTTOM BOARD QK4-07A00T TRP-645 FRONT CHASSIS QK3-03A00T SUB CHASSIS QK3-05A00T SIDE CHASSIS QK3-08A00T AM LOOP ANT. TRL-374
	PT30210101 BC00000180 BC00000886 BC00000878 BC00000803	POWER TRANSFORMER TT-302-NF CYLINDER BUSH 4TVL-7#1 6MM CYLINDER BUSH 4TVL-8#20 6F \times 23.5H CYLINDER BUSH 4TVL-8#21 6F \times 33.5H CYLINDER BUSH 4TR-2544 15F
	FT00000035 SP10006211 SP10006764 SP10006776 SP10006910	PLASTIC FOOT 4TR-1257 20 \times 8 P.C.B SUPPORT PK4-28A00T P.C.B SUPPORT QK4-24B00T P.C.B SUPPORT QK4-25A00T SENSOR SUPPORT 4TR-3046
	SP40000863 SR00001280 AR80001550 SC00000120 CD00000530	SHIELD PLATE QK4-30A00T P.T RUBBER SPACER 4TR-2900#3 PRINTED REAR CHASSIS TRP-649 AC CORD STOPPER SR-5KN-4 AC CORD SPT-2 AWG#16 4TR-3082 (3P)
	CD00000486 CD00000498 SP30000690 FD00000100 FD00000124	AC POWER CORD 4TR-1037#2 (EC) \triangle AC POWER CORD C-2504A#2 \triangle ACO COVER QK4-26A00T FUSE HOLDER FH032/S-N2056316 \triangle MINI FUSE HOLDER S-N2250#12 \triangle
	AA80001709 AW00000691 BU00001339 BU00001340 KB20002991	FRONT PANEL QK3-01A02T TFP-714 PANEL WINDOW QK4-10A00T TFP-693 TACT BUTTON RING (POWER) QK4-12A00T TACT BUTTON RING (10F) QK4-22A00T TACT BUTTON (10F) QK4-14A01T
	KB20003004 KB20003016 KB20003028 OM10001673 OM70000363	TACT BUTTON (10F) QK4-14A02T ARROW TYPE BUTTON QK3-21A00T POWER BUTTON QK4-13A00T DIFFUSSOR MOLD QK4-23A00T TACT BUTTON CONNECTOR QK4-19A01T
	OM70000375 SN00000179 AG00000380 AU00001365 KB10001837	TACT BUTTON CONNECTOR QK4-19A02T BUTTON SPRING 4TR-1988A#2 10F REMOTE CONTROL HANDSET RC-55 TOP COVER POLY QK3-06A00T KNOB (29F) QK3-16A00T
	KB10001849 OM10001650 OM10001661 SR00000808 PL00000654	KNOB (23F) QK4-18A00T FL ORNAMENTAL PLATE QK4-09A00T TFP-693 LED DIFFUSSOR (LEVEL) QK4-17A00T RUBBER SPACER 4TR-2335 STYROL SIDE MOULDING 2TR-2222A TZ-156

SCHMATIC LOCATION	PART NO.	DESCRIPTION
	TN20003322	SHIPPING CARTON 4TR-2850#13

⚠ Because of fire, shock and/or other hazards, parts identified by, and listed with, this sign MUST be replaced with the IDENTICAL FACTORY PART listed in the SERVICE PARTS LIST.
No substitutions with other "equivalent" parts can be made.