

Service
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Service Manual

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SI

Wichtig für die Werkstatt!

Nummer: 20341

Datum: 21.04.88 De/Li

Bereich: HIF1 AC 21

Service Information

Betrifft: High Tech-Verstärker TE FA 800
Änderungen

Verleiher: intern und extern

1.
In Geräten mit Seriennummer ab 030001 sind die Ferritkerne über den Anschlussdrähten der Widerstände R 403, R 404, R 407 und R 408 entfallen; stattdessen sind in die Phonoeingänge 2 Drosselspulen eingefügt worden (s. Fig. 1) :

L 401	320 µH	4022 156 11019
		eingefügt zwischen J 403 (L) und
		Verbindungspunkt R 401/R403
L 402	320 µH	4022 156 11019
		eingefügt zwischen J 403 (R) und
		Verbindungspunkt R402/R404

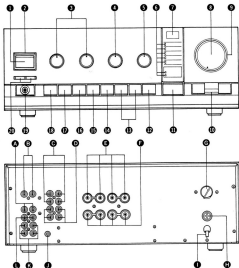
2.
Zur Verkürzung der Einschalt-Versögerung ist in Geräten mit Seriennummer ab 40001 der Widerstand R8 15 (200 k) geändert worden in 120 k.

3.
Zur Erhöhung der Betriebssicherheit werden in Geräten mit Seriennummer ab 12001 die Widerstände R 802 und R 803 durch gleiche Werte einer anderen Bauart ersetzt.

R 802, R 803	10 Ω, 0.25 W	4022 116 60314
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4.
Zur Erhöhung der Lampchen-Lebensdauer sind in Geräten mit Seriennummer ab 140001 folgende Änderungen eingeführt worden:

- R 807 (100 Ω) entfallen
- Connector J 805 entfallen
- Connector J 809 auf Print P 801 hinzugefügt; die Lampenzuleitung W2 01 ist bei J 809 angeschlossen (s. Fig. 2.3).



CONNECTIONS AND CONTROLS

1	Mains switch	S901	A	CD input	JV01
2	Mains switch illumination	VZ51	B	Phono input	J403
3	Tone control	RE55, RE66	C	Tape 1 monitor input/output	J801
4	Rec. output selector switch	S902, S903	D	Tape 2 monitor input/output	J802
5	Function switch	S901, S901	E	LS output A	J201, J202
6	Function indicator	GY51-GY53	F	LS output B	
7	CD direct indicator	VY51	G	Voltage selector (D/F version only)	J051
8	Volume control	RQ55	H	Fuse holder	J051
9	Volume control illumination	VZ51, VZ52	I	Mains cord	W001
10	Balance control	RQ51	J	Ground terminal	J053
11	CD direct switch	S903	K	Aux 1/TV, Aux 2/TV input	Jv00
12	Phono MM/BC switch		L	Tuner input	
13	Tape copy switch	S902			
14	Tape monitor 2 switch				
15	Tape monitor 1 switch				
16	Mute switch	S901			
17	Tone defeat switch				
18	Loudness switch				
19	Headphone socket	JW51			
20	LS switch	ST01			

SPECIFICATION	Nominal value	Typical value
General		
Mains voltage	: 220V ~ Service selection for 220V - 240V	: 220V ~ Service selection for 110V - 120V - 220V - 240V
Mains frequency	: 50 - 60 Hz	: 50 - 60 Hz
Power consumption	: 350W at rated power	: 450W at rated power
Dimensions (WxHxD)	: 420 x 148 x 334 mm	: 415 x 148 x 334 mm
Weight	: 14 kg	: 14 kg
Amplifier		
Output power	: 100W in 6Ω (FTC) D < 0.03% 130W in 8Ω (IEC)	: 100W in 6Ω (FTC) D < 0.03% 130W in 8Ω (IEC)
Power bandwidth (6Ω) -3 dB of rated power	: 15 Hz - 25 kHz D < 0.03%	: 10 Hz - 20 kHz D < 0.03%
Distortion		
T.H.D.	: < 0.008% at 1 kHz < 0.3% at 40 Hz - 10 kHz < 0.03% at 60/7000 Hz 4:1 (IEC)	: < 0.008% at 1 kHz < 0.03% at 40 Hz - 10 kHz < 0.03% at 60/7000 Hz 4:1 (IEC)
Intermodulation		
Frequency characteristic		
Phono input	tone defect	: from 20 Hz - 20 kHz ±0.5 dB (IEC)
Other inputs		: from 20 Hz - 20 kHz ±0.5 dB
Bass control		: at 100 Hz ±10 dB to -10 dB ±2 dB
Treble control		: at 10 kHz ±10 dB to -10 dB ±2 dB
Loudness		: at 100 Hz +6 dB ±1.5 dB at 10 kHz +4 dB ±1.5 dB Tap position
Phono overload		
MM	: 100 mV at 1 kHz	: 150 mV at 1 kHz
MC	: 10 mV at 1 kHz	: 10 mV at 1 kHz
Signal/noise ratio weighted (A-curve)		
Phono input	: for 1W output ≥ 80 dB (IEC)	: for 1W output ≥ 80 dB (IEC)
Other inputs	: for 1W output ≥ 88 dB (IEC)	: for 1W output ≥ 88 dB (IEC)
Channel separation	: at 1000 Hz ≥ 70 dB at 250 Hz - 10 kHz ≥ 58 dB	: at 1000 Hz ≥ 70 dB at 250 Hz - 10 kHz ≥ 68 dB
Input sensitivity		
Phono MC	: 0.25 mV at 100Ω	: 0.25 mV at 100Ω
Phono MM	: 2.5 mV at 47 kΩ	: 2.5 mV at 47 kΩ
Linear inputs	: 150 mV at 20 kΩ	: 150 mV at 20 kΩ
Outputs (Phono MM 7.75 mV 1 kHz input)		
Tape	: 465 mV ± 90 mV at 220Ω	: 465 mV at 220Ω
Damping factor (8Ω)	: 120 at 20 Hz : 100 at 10 kHz	: 120 at 20 Hz : 100 at 10 kHz

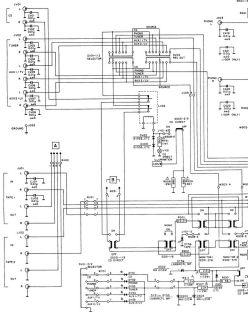
Caution ⚡ 220 V/240 V

Removal of upper cabinet exposes the protruding current-carrying parts of mains switch and mains transformer, therefore extreme care should be taken when the apparatus is connected to the mains.

Unracking instructions

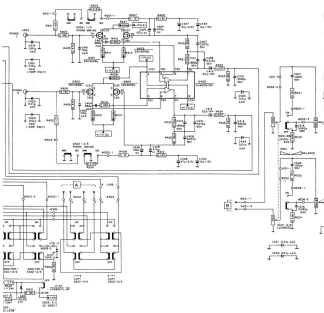
See for the unracking instructions exploded view on page 19 - 24.

A	TYPE										REV.
	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	TYPE 7	TYPE 8	TYPE 9	TYPE 10	
1	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	TYPE 7	TYPE 8	TYPE 9	TYPE 10	1
2	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	TYPE 7	TYPE 8	TYPE 9	TYPE 10	2
3	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	TYPE 7	TYPE 8	TYPE 9	TYPE 10	3
4	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	TYPE 7	TYPE 8	TYPE 9	TYPE 10	4
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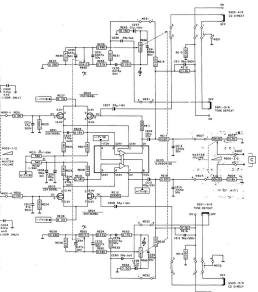


SCHEMATIC DIAGRAM

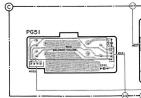
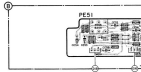
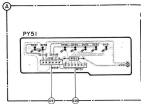
WIRING DIAGRAM		WIRING DIAGRAM		WIRING DIAGRAM		WIRING DIAGRAM		WIRING DIAGRAM		WIRING DIAGRAM	
WIRING DIAGRAM	WIRING DIAGRAM	WIRING DIAGRAM	WIRING DIAGRAM	WIRING DIAGRAM	WIRING DIAGRAM	WIRING DIAGRAM	WIRING DIAGRAM	WIRING DIAGRAM	WIRING DIAGRAM	WIRING DIAGRAM	WIRING DIAGRAM
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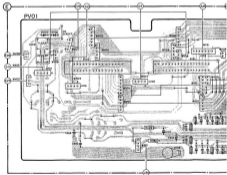
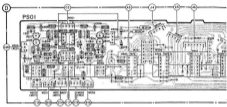
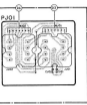


0	0001 0002 0003 0004 0005 0006 0007 0008 0009 0010 0011	0012 0013 0014 0015 0016 0017 0018 0019 0020 0021
0	0022 0023 0024 0025 0026 0027 0028 0029 0030 0031	0032 0033 0034 0035 0036 0037 0038 0039 0040 0041
0	0042 0043 0044 0045 0046 0047 0048 0049 0050 0051	0052 0053 0054 0055 0056 0057 0058 0059 0060 0061
0	0062 0063 0064 0065 0066 0067 0068 0069 0070 0071	0072 0073 0074 0075 0076 0077 0078 0079 0080 0081
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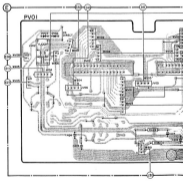
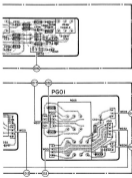
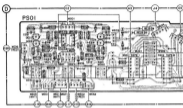
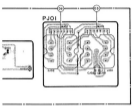
WIRING DIAGRAM

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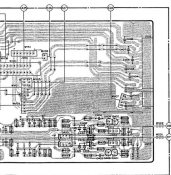
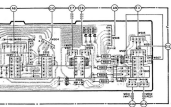


WIRING DIAGRAM

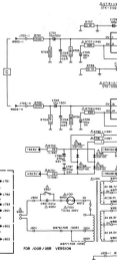
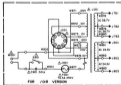
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1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200
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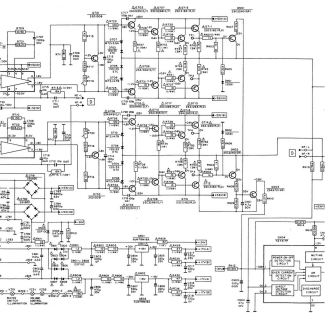


R	R701 R702		R703 R704		R705 R706	
	R701	R702	R703	R704	R705	R706
C			C701 - C702		C703 - C704	
Q101-Q2	Q101		Q102		Q103 - Q104	
V-12	V101		V102		V103 - V104	

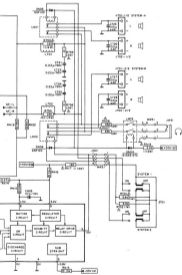


SCHEMATIC DIAGRAM

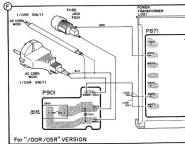
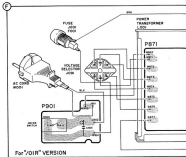
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1031-1032	1033-1034	1035-1036	1037-1038	1039-1040	1041-1042	1043-1044	1045-1046	1047-1048	1049-1050	1051-1052	1053-1054	1055-1056	1057-1058	1059-1060	1061-1062	1063
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WAVE	WAVE	WAVE	WAVE	WAVE	WAVE	WAVE	WAVE
WAVE	WAVE	WAVE	WAVE	WAVE	WAVE	WAVE	WAVE
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WAVE	WAVE	WAVE	WAVE	WAVE	WAVE	WAVE	WAVE

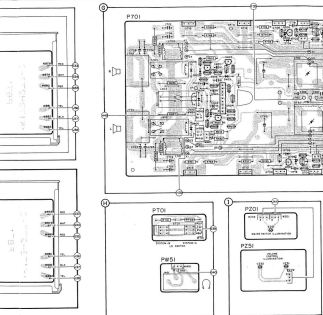


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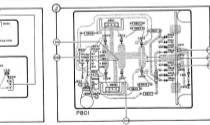
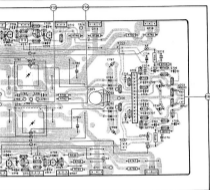


-14-
WIRING DIAGRAM

1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000
1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000
1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000	1000-1000


















0100-0104	0105-0108	0109-0112	0113-0116	0117-0120	0121-0124	0125-0128	0129-0132	0133-0136	0137-0140	0141-0144	0145-0148	0149-0152	0153-0156	0157-0160	0161-0164	0165-0168	0169-0172	0173-0176	0177-0180	0181-0184	0185-0188	0189-0192	0193-0196	0197-0200	0201-0204	0205-0208	0209-0212	0213-0216	0217-0220	0221-0224	0225-0228	0229-0232	0233-0236	0237-0240	0241-0244	0245-0248	0249-0252	0253-0256	0257-0260	0261-0264	0265-0268	0269-0272	0273-0276	0277-0280	0281-0284	0285-0288	0289-0292	0293-0296	0297-0300	0301-0304	0305-0308	0309-0312	0313-0316	0317-0320	0321-0324	0325-0328	0329-0332	0333-0336	0337-0340	0341-0344	0345-0348	0349-0352	0353-0356	0357-0360	0361-0364	0365-0368	0369-0372	0373-0376	0377-0380	0381-0384	0385-0388	0389-0392	0393-0396	0397-0400	0401-0404	0405-0408	0409-0412	0413-0416	0417-0420	0421-0424	0425-0428	0429-0432	0433-0436	0437-0440	0441-0444	0445-0448	0449-0452	0453-0456	0457-0460	0461-0464	0465-0468	0469-0472	0473-0476	0477-0480	0481-0484	0485-0488	0489-0492	0493-0496	0497-0500	0501-0504	0505-0508	0509-0512	0513-0516	0517-0520	0521-0524	0525-0528	0529-0532	0533-0536	0537-0540	0541-0544	0545-0548	0549-0552	0553-0556	0557-0560	0561-0564	0565-0568	0569-0572	0573-0576	0577-0580	0581-0584	0585-0588	0589-0592	0593-0596	0597-0600	0601-0604	0605-0608	0609-0612	0613-0616	0617-0620	0621-0624	0625-0628	0629-0632	0633-0636	0637-0640	0641-0644	0645-0648	0649-0652	0653-0656	0657-0660	0661-0664	0665-0668	0669-0672	0673-0676	0677-0680	0681-0684	0685-0688	0689-0692	0693-0696	0697-0700	0701-0704	0705-0708	0709-0712	0713-0716	0717-0720	0721-0724	0725-0728	0729-0732	0733-0736	0737-0740	0741-0744	0745-0748	0749-0752	0753-0756	0757-0760	0761-0764	0765-0768	0769-0772	0773-0776	0777-0780	0781-0784	0785-0788	0789-0792	0793-0796	0797-0800	0801-0804	0805-0808	0809-0812	0813-0816	0817-0820	0821-0824	0825-0828	0829-0832	0833-0836	0837-0840	0841-0844	0845-0848	0849-0852	0853-0856	0857-0860	0861-0864	0865-0868	0869-0872	0873-0876	0877-0880	0881-0884	0885-0888	0889-0892	0893-0896	0897-0900	0901-0904	0905-0908	0909-0912	0913-0916	0917-0920	0921-0924	0925-0928	0929-0932	0933-0936	0937-0940	0941-0944	0945-0948	0949-0952	0953-0956	0957-0960	0961-0964	0965-0968	0969-0972	0973-0976	0977-0980	0981-0984	0985-0988	0989-0992	0993-0996	0997-1000
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Idling Current

SEL. SWITCH	SIGNAL	TO	VOLUME	ADJUST	OSCILLOSCOPE	D.C. METER INDICATOR
			Min.	Leh. RT19		Leh. TP1(+), TP2(-) DC14mA (20mA) 1
				Reh. RT20		Reh. TP3(+), TP4(-) DC14mA (20mA) 1

- 1 Adjust RT19 (channel L) or RT20 (channel R) so that the voltmeter reads 14 mV about 1 minute after the power has been turned on. (Note that the idling current is about 40 mA after the unit has warmed up.)

 Carbon film 0.125 W or 0.2 W	30°C	5%	 Ceramic plate Tuning $\le 120 \mu\text{F}$ MP.G	2%	$V_b = 2.5 \text{ V}$ $V_c = 3.75 \text{ V}$ $V_d = 5.0 \text{ V}$ $V_e = 7.5 \text{ V}$ $V_f = 10 \text{ V}$ $V_g = 15 \text{ V}$ $V_h = 20 \text{ V}$ $V_i = 30 \text{ V}$ $V_j = 40 \text{ V}$ $V_k = 50 \text{ V}$ $V_l = 100 \text{ V}$ $V_m = 125 \text{ V}$ $V_n = 150 \text{ V}$ $V_o = 160 \text{ V}$ $V_p = 200 \text{ V}$ $V_q = 250 \text{ V}$ $V_r = 300 \text{ V}$ $V_s = 350 \text{ V}$ $V_t = 400 \text{ V}$ $V_u = 500 \text{ V}$ $V_v = 625 \text{ V}$ $V_w = 1000 \text{ V}$
 Carbon film 0.25 W or 0.33 W	30°C	5%	 Polyester flat foil	10%	
 Metal film 0.25 W or 0.33 W	30°C	5%	 Metalized polyester film	10%	
 Carbon film 0.5 W	30°C	5%	 Polyester flat foil small size (Mylar)	10%	
 Carbon film 0.67 W	70°C	5%	 Polystyrene film/foil	1%	
 Carbon film 1 W or 1.15 W	70°C	5%	 Tubular ceramic		
 Chip component	 Miniature single		 Subminiature tanatum	± 20%	

NOTE:

Some withstand voltages of the condensers are shown in both numerical value and symbol on the circuit diagram. If withstand voltage shown in numerical value is different from that in symbol for a condenser, both are applicable.

Substrat-Layer



087100



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087102
087103



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087105
087106



087107
087108
087109



087110



087111
087112



087113



087114
087115



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087117



087118



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087123



087124



087125



087126

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0010	4822 426 51142
0020	4822 410 25479
0030	4822 410 24685
0040	4822 412 20987
0060	4822 410 25479
0060	4822 412 20987
0070	4822 412 20985
0080	4822 410 25479
0090	4822 412 20985
0100	4822 404 80345
0110	4822 404 80345
0120	4822 400 60913
0130	4822 410 50157
0140	4822 410 50156
0150	4822 404 40185
0160	4822 404 80341
0180	4822 404 80344
0200	4822 520 51848
0210	4822 458 80375
0220	4822 255 40150
0010,0100	} 4822 426 51143
0110,0120	
0130,0150	
0200	
0250	4822 380 20251
0260	4822 380 20252
0280	4822 454 40127
0310	4822 458 40580
0180	4822 505 10895
0480	4822 452 71455
9070	4822 520 51314
000L	4822 502 12181

Only the mentioned parts are normal service parts

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

NL

Veiligheidsvoorschriften vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggevoerd en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

F

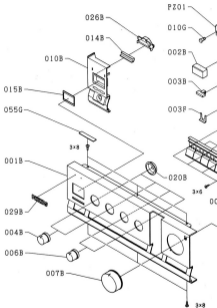
Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

D

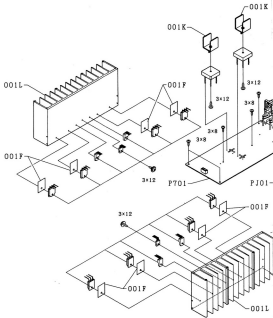
Bei jeder Reparatur sind die geforderten Ersatzteilenummern zu beachten. Die Originalzustand des Geräts darf nicht verändert werden, für Reparaturen sind Original-Ersatzteile zu verwenden.

I

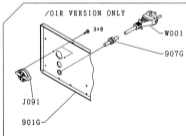
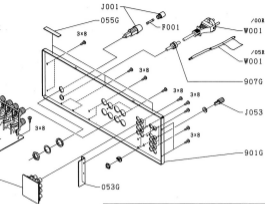
Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

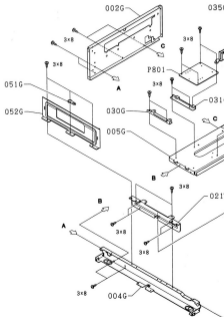


EXPLOD

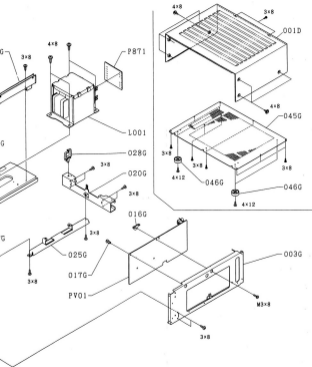


ED VIEW





EXPLODED VIEW



DP01,DA02	155F1	4822 130 3268A
DP03,DA05	DP013C	4822 130 3269B
DP06	152A73	4822 130 3181B
DP07	152A72	4822 130 3265C
DP08-0804	MA18228H	4822 130 3207A
DP09,DP03	151525	4822 130 3181B
DP10-DP17	LN58PFCPL	4822 130 3276H
DP18-DP19	852533	4822 130 3203B
DP27,DP19	2amer 3.8 V 1/4 W	4822 130 807332
DP28,DP18	2amer 4.7 V 1/4 W	4822 130 3215B
DP29,DP18	8AV920	4822 130 3266A
DP31-0209	DP518C	4822 130 3269B

DP31,DP34	25C389	4822 130 4262D
DP35	PLM25A12D	4822 209 8158E
DP40,DA02	25C389	4822 130 4262H
DP42	25A570	4822 130 4264B
DP44	TA7517P	4822 209 8333C
QA01-QA04	25C389RA	4822 130 4262B
QA05	PLM25A12D	4822 209 8158E
QT1-QT3	25C1308	4822 130 8020D
QT8,QT14	25C2209	4822 130 4262D
QT6,QT16	25A949	4822 130 4264I
QT7,QT18	25C2096	4822 130 8020E
QT9,QT10	25A1308	4822 130 8020A
QT11,QT12	25C2182	4822 130 4262B
QT13,QT14	25A1266	4822 130 4261D
QT15,QT16	25C2182	4822 130 4262B
QT17,QT18	25A1266	4822 130 4261E
QT19	27C3892 M9C3	4822 209 7088B
CB01	SL6075A18A	4822 209 8081E
CB02	SL6075A18A	4822 209 8082D

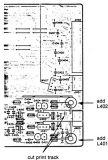
CB01,CB02	Micro cap.	47 pF	180 V	4822 130 9008B
CB05,CB08	Elect. cap.	180 pF	18 V	4822 134 9203B
CB07,CB08	Elect. cap.	33 pF	18 V	4822 134 9209B
CB09,CP18	Elect. cap.	180 pF	35 V	4822 134 9003C
CP11,CP12	Meta. cap.	56 pF	500 V	4822 133 9007D
CP13,CP14	Pol. cap.	3300 pF	50 V	4822 131 4278E
CP15,CP22	Pol. cap.	0.247 pF	50 V	4822 131 4278E
CP26,CP24	Elect. cap.	0.47 pF	50 V	4822 134 9007I
CP25,CP26	Pol. cap.	0.016 pF	50 V	4822 131 4278E
CP27,CP28	Elect. cap.	5.1 pF	50 V	4822 134 9203A
CP31,CP32	File. cap.	1800 pF	50 V	4822 131 4266I
CP32,CP33	File. cap.	1800 pF	50 V	4822 134 9209B
CP37	Elect. cap.	47 pF	50 V	4822 134 9007I
CP40,CP45	Elect. cap.	47 pF	10 V	4822 134 9003F
CP47,CP48	File. cap.	0.047 pF	50 V	4822 131 4276A
CP49,CP10	File. cap.	0.012 pF	50 V	4822 131 4276D
CP11,CP12	Pol. cap.	1800 pF	50 V	4822 131 4275B
CP13,CP14	Elect. cap.	33 pF	18 V	4822 134 9004A
CP15,CP16	Pol. cap.	3900 pF	50 V	4822 131 4276D
CP17,CP18	Elect. cap.	339 pF	25 V	4822 134 2100D
CP19,CP20	Elect. cap.	47 pF	6.3 V	4822 134 2100E
CP21,CP22	Elect. cap.	18 pF	18 V	4822 134 2100F
CP23,CP24	File. cap.	1500 pF	50 V	4822 131 4275A
CP25,CP26	Elect. cap.	100 pF	18 V	4822 134 9003B
CP27,CP28	File. cap.	0.22 pF	50 V	4822 131 4275B
CP29,CP30	Elect. cap.	100 pF	50 V	4822 134 2117I
CP31,CP32	Car. cap.	0.01 pF	500 V	4822 132 3264D
CP33,CP34	Elect. cap.	8900 pF	50 V	4822 134 2217G
CP35,CP36	Elect. cap.	130 pF	50 V	4822 134 2217I
CP36,CP37	Elect. cap.	330 pF	35 V	4822 134 9005D
CP38,CP39	Elect. cap.	220 pF	35 V	4822 134 9004B
CP40	Elect. cap.	470 pF	35 V	4822 134 2204D
CP41	Car. cap.	0.01 pF	480 V	4822 132 4268B

FE21,FE22	Var. res.	500 Ω	1/4 W	4822 111 9103B
FE23,FE25	Fixed res.	47 Ω	1/4 W	4822 111 9073I
FE26,FE30	Poten. band/ trimp.	10 kΩ		4822 100 2857A
FE35	Poten. var.	50 kΩ		4822 100 2857E
FE37	Poten. var.	180 kΩ		4822 100 1868B
FE38,FE39	Res.	1 kΩ	1/4 W	4822 111 4127G
FE11	File. res.	22 Ω	1/4 W	4822 110 8013E
FE17	File. res.	180 Ω	1/4 W	4822 111 9073D
FE27,FE28	Res.	330 Ω	1/4 W	4822 110 8020E
FE18,FE29	Res.	2.2 Ω	1/4 W	4822 110 5379I
FE27	Res.	880 Ω	1/2 W	5322 116 5408B
FE28,FE29	Res.	2.2 kΩ	1/4 W	4822 110 5379I
FE11	Res.	3.3 kΩ	1/4 W	4822 110 5113F
FE15	Res.	200 Ω	1/4 W	4822 110 8009A
FE11,FE14	Res.	4.84 kΩ	1/4 W	4822 110 5269I
FE27,FE28	File. res.	47 kΩ	1/4 W	4822 111 9073I
FE29,FE30	File. res.	820 Ω	1/4 W	4822 110 8004D
FE13,FE14	File. res.	18 kΩ	1/4 W	4822 111 9126B
FE16,FE20	Trimmer	2.2 kΩ		4822 180 2903B
FE23-FE25	File. res.	100 Ω	1/4 W	4822 111 9126B
FE27,FE28	Var. res.	1.2 kΩ	1/4 W	4822 111 9126B
FE29,FE30	Var. res.	180 Ω	1/4 W	4822 110 5304E
FE12,FE14	File. res.	150 Ω	1/4 W	4822 111 4127I
FE15,FE16	File. res.	0.18 Ω	1/4 W	4822 110 8013D
FE17,FE18	Var. res.	22 Ω	1/4 W	4822 111 9126B
FE19,FE14	Var. res.	220 Ω	1/4 W	4822 111 2860D
FE20,FE26	Var. res.	10 Ω	1/4 W	4822 111 9072E
FE27,FE28	File. res.	1 Ω	1/4 W	4822 110 5303B
FE29,FE30	File. res.	1.2 Ω	1/4 W	5322 116 5283B
FE11	Res.	10 Ω	1/4 W	4822 110 8018A
FE12,FE14	Res.	10 Ω	1/4 W	4822 111 4127I
FE27	File. res.	180 Ω	1/4 W	4822 110 8020F
FE28	Res.	33 Ω	1/4 W	4822 110 5029A

Miscellaneous		
FE8	File. res.	4822 203 2602F
FA01-FA08	Female con.	4822 206 1006B
JA1	Socket	4822 206 2051C
JA2	Socket	4822 206 4058I
JA3	Connector	4822 206 3028D
JA4	Connector	4822 206 3028E
JA5	Jack headphone	4822 207 2061I
JA6	File. holder	4822 206 3003D
JA7	Socket	4822 206 1003B
JA8	Connector	4822 206 3028E
JA9	Connector loading	4822 206 3028I
JA10	Connector loading	4822 206 3077B
LA01,LA02	Protection relay	4822 206 3027E
LA03	Filter 24 V	4822 280 2070B
LA04	CO-direct relay	4822 280 3070E
LA05	Power transformer	4822 146 2121B
LA11,LA12	Choke coil	4822 127 5175B
SA01	Switch touch/reset	4822 276 4940Z
SA02	Switch monitoring/stop	4822 276 4940I
SA03	Switch CO-direct	4822 276 2944D
SA04	Switch speaker	4822 276 2944D
SA05,SA06	Switch stop	4822 277 2862D
SA07	Switch input set	4822 276 2825A
SA08	Switch rec. mode set	4822 276 8022D
SA09	Switch power	4822 276 1155I
VA11,VA21	Lamp 8 V 50 mA	4822 134 4079I
VA21,VA22		

5.
 Korrektur der Liste mechanischer
 Teile (Serv.Manual S. 18):

Pos. 031B (4022 400 40588) muß
 richtig heißen 4022 400 10002.



out print track

Fig. 1



Fig. 2

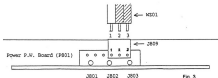


Fig. 3