

Service
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Service Manual

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SI

Wichtig für die Werkstatt!

Nummer: 20341

Datum: 21.04.88 De/L1

Bereich: H1F1 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	4822 156 11019
		eingefügt zwischen J 403 (L) und
		Verbindungspunkt R 401/R403
L 402	320 µH	4822 156 11019
		eingefügt zwischen J 403 (R) und
		Verbindungspunkt R402/R404

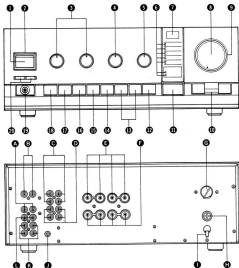
2.
Zur Verkürzung der Einschalt-Versögerung ist in Geräten mit Seriennummer ab 40001 der Widerstand R8 15 (200 k) geändert worden in 120 k.

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	4822 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	Main switch	S201	A	CD input	JV01
2	Main switch illumination	V201	B	Phono input	J403
3	Tone control	RE65, RE66	C	Tape 1 monitor input/output	J801
4	Rec. output selector switch	S602, S603	D	Tape 2 monitor input/output	J802
5	Function switch	S001, S001	E	LS output A	J201, J202
6	Function indicator	GY51-GY53	F	LS output B	
7	CD direct indicator	YY51	G	Voltage selector (D/F version only)	J001
8	Volume control	RQ66	H	Fuse holder	J001
9	Volume control illumination	V251, V252	I	Main cord	W001
10	Balance control	RG61	J	Ground terminal	J003
11	CD direct switch	S202	K	Aux 1/TV, Aux 2/1V input	Jv00
12	Phono MM/MC switch		L	Tuner input	
13	Tape copy switch	S202			
14	Tape monitor 2 switch				
15	Tape monitor 1 switch				
16	Mute switch	S201			
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 (8Ω) -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	: < 0.008% at 1 kHz < 0.03% at 40 Hz - 10 kHz < 0.03% at 60/7000 Hz 4:1
Intermodulation		
Frequency characteristic		
Phono input	tone defect	: from 20 Hz - 20 kHz ±0.5 dB (IEC)
Other inputs		: from 20 Hz - 40 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 : 90 at 10 kHz	: 120 at 20 Hz : 100 at 10 kHz

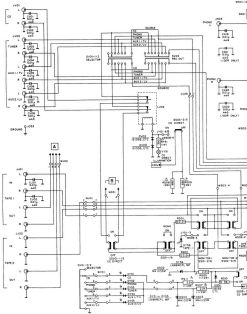
Caution ⚡ 220 V/240 V

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.

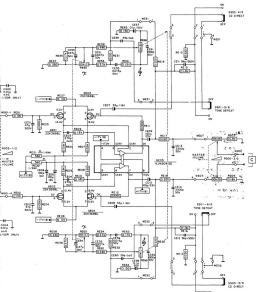
Unracking instructions

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

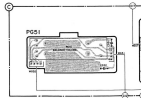
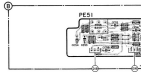
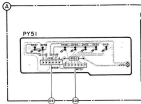
N	WEL										WEL
	WEL	WEL	WEL	WEL	WEL	WEL	WEL	WEL	WEL	WEL	
1	1000 - 1000										1000 1000
2	1000 1000										1000 1000
3 - 5 - 6											1000
7 - 8											1000



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	
1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300	
1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400	

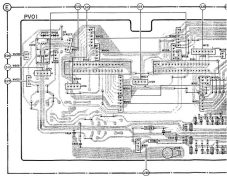
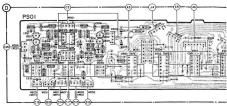
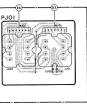


0		0001 0002 0003 0004 0005 0006 0007 0008 0009 0010 0011
0	0001	0002
0	0001 0002 0003 0004 0005 0006 0007 0008 0009 0010 0011	0001 0002
0-0-0	0001 0002	0003 0004 0005 0006 0007 0008 0009 0010 0011
0-0-0		



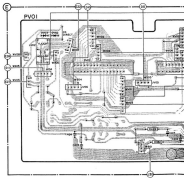
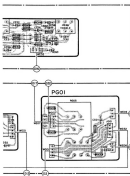
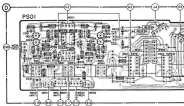
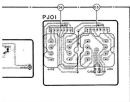
WIRING DIAGRAM

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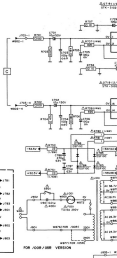
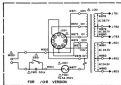


WIRING DIAGRAM

14 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410 1411 1412	1413 1414 1415 1416 1417 1418 1419 1420 1421 1422 1423 1424 1425 1426 1427 1428 1429 1430 1431 1432 1433 1434 1435 1436 1437 1438 1439 1440 1441 1442 1443 1444 1445 1446 1447 1448 1449 1450 1451 1452 1453 1454 1455 1456 1457 1458 1459 1460 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470 1471 1472 1473 1474 1475 1476 1477 1478 1479 1480 1481 1482 1483 1484 1485 1486 1487 1488 1489 1490 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500
15 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513 1514 1515 1516 1517 1518 1519 1520 1521 1522 1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533 1534 1535 1536 1537 1538 1539 1540 1541 1542 1543 1544 1545 1546 1547 1548 1549 1550 1551 1552 1553 1554 1555 1556 1557 1558 1559 1560 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580 1581 1582 1583 1584 1585 1586 1587 1588 1589 1590 1591 1592 1593 1594 1595 1596 1597 1598 1599 1600	16 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623 1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648 1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661 1662 1663 1664 1665 1666 1667 1668 1669 1670 1671 1672 1673 1674 1675 1676 1677 1678 1679 1680 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690 1691 1692 1693 1694 1695 1696 1697 1698 1699 1700
17 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739 1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751 1752 1753 1754 1755 1756 1757 1758 1759 1760 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800	18 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900
19 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000	20 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100

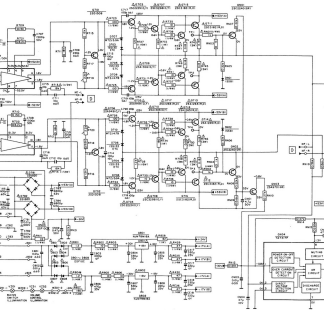


R	R701 R702		R703 R704		R705 R706	
	R701	R702	R703	R704	R705	R706
C	1000		1000		1000	
W-10-1	1000	1000	1000	1000	1000	1000
W-10-2	1000	1000	1000	1000	1000	1000

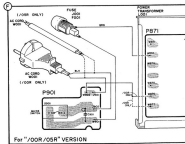
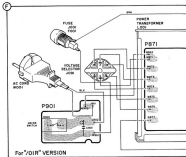


SCHEMATIC DIAGRAM

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

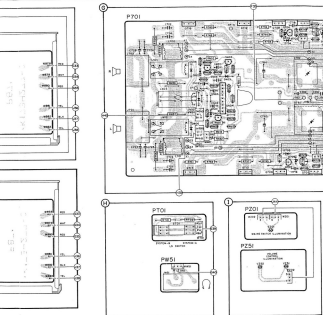


1	
2	100
3-5-7	
6-8	100

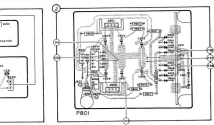
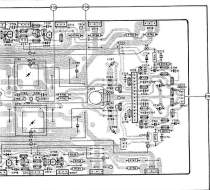


-14-
WIRING DIAGRAM

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


















0700-0704	0705-0709	0710-0714	0715-0719	0720-0724	0725-0729	0730-0734	0735-0739	0740-0744	0745-0749	0750-0754	0755-0759	0760-0764	0765-0769	0770-0774	0775-0779	0780-0784	0785-0789	0790-0794	0795-0799
0700-0704	0705-0709	0710-0714	0715-0719	0720-0724	0725-0729	0730-0734	0735-0739	0740-0744	0745-0749	0750-0754	0755-0759	0760-0764	0765-0769	0770-0774	0775-0779	0780-0784	0785-0789	0790-0794	0795-0799
0700-0704	0705-0709	0710-0714	0715-0719	0720-0724	0725-0729	0730-0734	0735-0739	0740-0744	0745-0749	0750-0754	0755-0759	0760-0764	0765-0769	0770-0774	0775-0779	0780-0784	0785-0789	0790-0794	0795-0799
0700-0704	0705-0709	0710-0714	0715-0719	0720-0724	0725-0729	0730-0734	0735-0739	0740-0744	0745-0749	0750-0754	0755-0759	0760-0764	0765-0769	0770-0774	0775-0779	0780-0784	0785-0789	0790-0794	0795-0799
0700-0704	0705-0709	0710-0714	0715-0719	0720-0724	0725-0729	0730-0734	0735-0739	0740-0744	0745-0749	0750-0754	0755-0759	0760-0764	0765-0769	0770-0774	0775-0779	0780-0784	0785-0789	0790-0794	0795-0799



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 $\leq 120 \mu\text{F}$ 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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087103



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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 60345
0110	4822 404 60345
0120	4822 400 60913
0130	4822 410 50157
0140	4822 410 50156
0150	4822 454 40185
0160	4822 404 60341
0180	4822 404 60344
0200	4822 520 51848
0210	4822 458 60375
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 40157
0310	4822 458 40580
0180	4822 520 51316
0460	4822 452 71455
9070	4822 520 51316
000L	4822 602 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

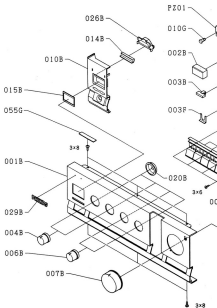
Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

D

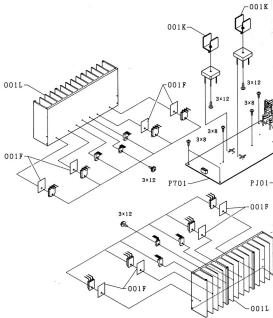
Bei jeder Reparatur sind die geforderten Ersatzteilenummern zu beachten. Die Originalzustand des Geräts darf nicht verändert werden. Für Reparaturen sind Original-Ersatzteile zu verwenden.

I

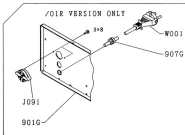
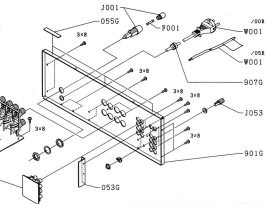
Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

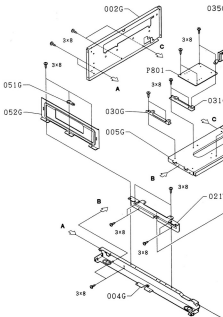


EXPLOD

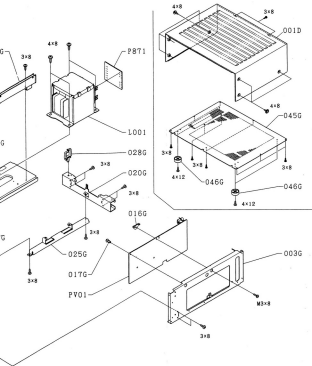


ED VIEW





EXPLODED VIEW



DP01,DA02	15581	4822 130 32684
DP03,DA05	DP013C	4822 130 32608
DP06	152473	4822 130 31818
DP07	152473	4822 130 32605
DP08-D004	MA18200H	4822 130 32074
DP09,DP03	151525	4822 130 31818
DP10-D157	LN58P0PL	4822 130 32761
DP13-D190	852533	4822 130 32008
DP17,DP16	2amer 3.9 V 1/4 W	4822 130 80132
DP19,DP18	2amer 4.7 V 1/4 W	4822 130 32158
DP20-D190	84V900	4822 130 32664
DP21-D006	DP151C	4822 130 32608

DP21,DP24	28C080	4822 130 42620
DP25	PLM2014100	4822 209 81585
DP26,DA02	28C040	4822 130 42571
DP30	28A070	4822 130 42649
DP34	TA7517P	4822 209 83332
Q401-Q404	28A3800A	4822 130 42626
Q405	PLM2014100	4822 209 81585
Q710	28C1508	4822 130 40205
Q713,Q714	28C0209	4822 130 40205
Q715,Q716	28A049	4822 130 42641
Q717,Q718	28C0096	4822 130 40026
Q719,Q710	28A1308	4822 130 40026
Q711,Q712	28C2182	4822 130 40006
Q713,Q714	28A1266	4822 130 40812
Q715,Q716	28C2182	4822 130 40006
Q717,Q718	28A1266	4822 130 40812
Q719	27C0002 M0C3	4822 209 70889
Q801	SL6075A18A	4822 209 80815
Q802	SL6075A18A	4822 209 80829

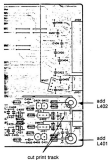
C001,C002	Micro cap.	47 pF	180 V	4822 130 30086
C003,C008	Elect. cap.	180 pF	180 V	4822 130 30038
C007,C008	Elect. cap.	33 pF	180 V	4822 130 32089
C009,CP10	Elect. cap.	180 pF	35 V	4822 130 30033
CP11,CP12	Micro cap.	56 pF	50 V	4822 130 30079
CP13,CP14	Pol. cap.	0.047 pF	50 V	4822 131 42782
CP15,CP16	Pol. cap.	0.047 pF	50 V	4822 131 42784
CP17,CP18	Pol. cap.	0.015 pF	50 V	4822 134 40007
CP19,CP20	Elect. cap.	0.015 pF	50 V	4822 131 42787
CP21,CP22	Elect. cap.	5.1 pF	50 V	4822 134 32034
CP23,CP24	Film cap.	1800 pF	50 V	4822 131 42661
CP25	Elect. cap.	47 pF	50 V	4822 134 30086
CP26,CP27	Elect. cap.	0.47 pF	50 V	4822 134 30037
CP28,CP29	Film cap.	0.047 pF	50 V	4822 131 42784
CP30,CP31	Film cap.	0.012 pF	50 V	4822 131 42720
CP32,CP33	Pol. cap.	1800 pF	50 V	4822 131 42726
CP34,CP35	Elect. cap.	33 pF	50 V	4822 134 30048
CP36,CP37	Pol. cap.	0.001 pF	50 V	4822 131 42763
CP38,CP39	Elect. cap.	330 pF	50 V	4822 134 32103
CP40,CP41	Elect. cap.	47 pF	50 V	4822 134 21801
CP42,CP43	Elect. cap.	15 pF	18 V	4822 134 21804
CP44,CP45	Elect. cap.	15 pF	50 V	4822 134 30037
CP46,CP47	Elect. cap.	150 pF	50 V	4822 131 42784
CP48,CP49	Elect. cap.	100 pF	18 V	4822 134 30038
CP50,CP51	Elect. cap.	0.22 pF	50 V	4822 131 42788
CP52,CP53	Elect. cap.	100 pF	50 V	4822 134 32171
CP54,CP55	Car. cap.	0.01 pF	500 V	4822 132 32643
CP56,CP57	Elect. cap.	8000 pF	50 V	4822 134 32173
CP58,CP59	Elect. cap.	100 pF	50 V	4822 134 32171
CP60,CP61	Elect. cap.	330 pF	35 V	4822 134 30050
CP62,CP63	Elect. cap.	220 pF	35 V	4822 134 30049
CP64	Elect. cap.	470 pF	35 V	4822 134 32042
CP65	Car. cap.	0.01 pF	480 V	4822 132 42688

PE21,PE22	Var. res.	500 Ω	1/4 W	4822 111 91088
PE23,PE25	Fixed res.	47 Ω	1/4 W	4822 111 90731
PE26,PE30	Poten. band/ trimp.	10 kΩ		4822 100 28074
PE35	Poten. vol.	50 kΩ		4822 100 28075
PE37	Poten. det.	180 kΩ		4822 100 18088
PE38,PE39	Res.	1 kΩ	1/4 W	4822 111 41272
PE41	Res.	22 Ω	1/4 W	4822 110 80135
PE42	Res.	180 Ω	1/4 W	4822 111 90733
PE43,PE45	Res.	330 Ω	1/4 W	4822 110 80282
PE45,PE49	Res.	2.2 Ω	1/4 W	4822 110 53751
PE50,PE52	Res.	680 Ω	1/2 W	5222 110 54080
PE51	Res.	2.2 kΩ	1/4 W	4822 110 53751
PT01,PT02	Res.	3.3 kΩ	1 W	4822 110 51137
PT03	Res.	200 Ω	1 W	4822 110 80086
RA11-RA14	Res.	4.84 kΩ	1/4 W	4822 110 52691
RA17,RA18	Res.	47 kΩ	1/4 W	4822 111 90731
RA20,RA23	Fixed res.	820 Ω	1/4 W	4822 110 50049
RT01,RT02	Fixed res.	18 kΩ	1/4 W	4822 111 91298
RT10,RT12	Trimmer	2.2 kΩ		4822 100 28038
RT20-RT25	Fixed res.	100 Ω	1/4 W	4822 111 91295
RT27,RT28	Var. res.	1.2 kΩ	1/4 W	4822 111 91297
RT29,RT30	Var. res.	10 Ω	1/4 W	4822 111 91291
RT33,RT34	Fixed res.	180 Ω	1 W	4822 110 50042
RT35,RT36	Fixed res.	3.3 Ω	1 W	4822 110 50048
RT37,RT42	Fixed res.	150 Ω	1 W	4822 111 41271
RT43-RT50	Fixed res.	0.18 Ω	1 W	4822 110 80152
RT1,RT12	Var. res.	22 Ω	1/4 W	4822 111 91288
RT13,RT14	Var. res.	220 Ω	1/4 W	4822 111 91293
RT15,RT16	Var. res.	10 Ω	1/2 W	4822 111 90726
RT17,RT18	Fixed res.	1 Ω	1/4 W	4822 110 50038
RT19,RT26	Fixed res.	1.2 Ω	1/4 W	5222 110 52383
RT21	Res.	10 Ω	1/4 W	4822 110 80188
RT22,RT23	Res.	10 Ω	1/4 W	4822 111 41271
RT24	Fixed res.	180 Ω	1/4 W	4822 110 50217
RT25	Res.	33 Ω	1/4 W	4822 110 50294

Miscellaneous		
F101	Fuse T5,15A	4822 203 30027
F401-F408	Ferrite core	4822 206 10066
J01	Socket	4822 200 20512
J02	Socket	4822 200 40581
J03	Connector	4822 200 30285
J04	Connector	4822 200 30286
JW01	Jack headphone	4822 207 30817
J05	Fuse holder	4822 200 30033
J06	Socket	4822 200 10028
J07	Connector	4822 200 30282
J08	Connector loading	4822 200 30281
J09	Connector loading	4822 200 30279
LA01,LA02	Protection relay	4822 200 30276
L102	Fuse 24 V	4822 200 30196
L103	CO-direct relay	4822 200 30195
L001	Power transformer	4822 140 21219
L101,L102	Choke coil	4822 127 51758
S001	Switch touch/memo	4822 270 49402
S002	Switch monitoring/stop	4822 270 49401
S003	Switch CO-direct	4822 270 20443
S004	Switch speaker	4822 270 20442
S005,SV01	Switch sile	4822 277 20402
S006	Switch input set	4822 273 20258
S007	Switch rec. mode set	4822 273 80252
S008	Switch power	4822 270 11051
Y101,Y201	Lamp 8 V 50 mA	4822 130 40751
Y201,Y202		

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

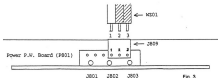


Fig. 3