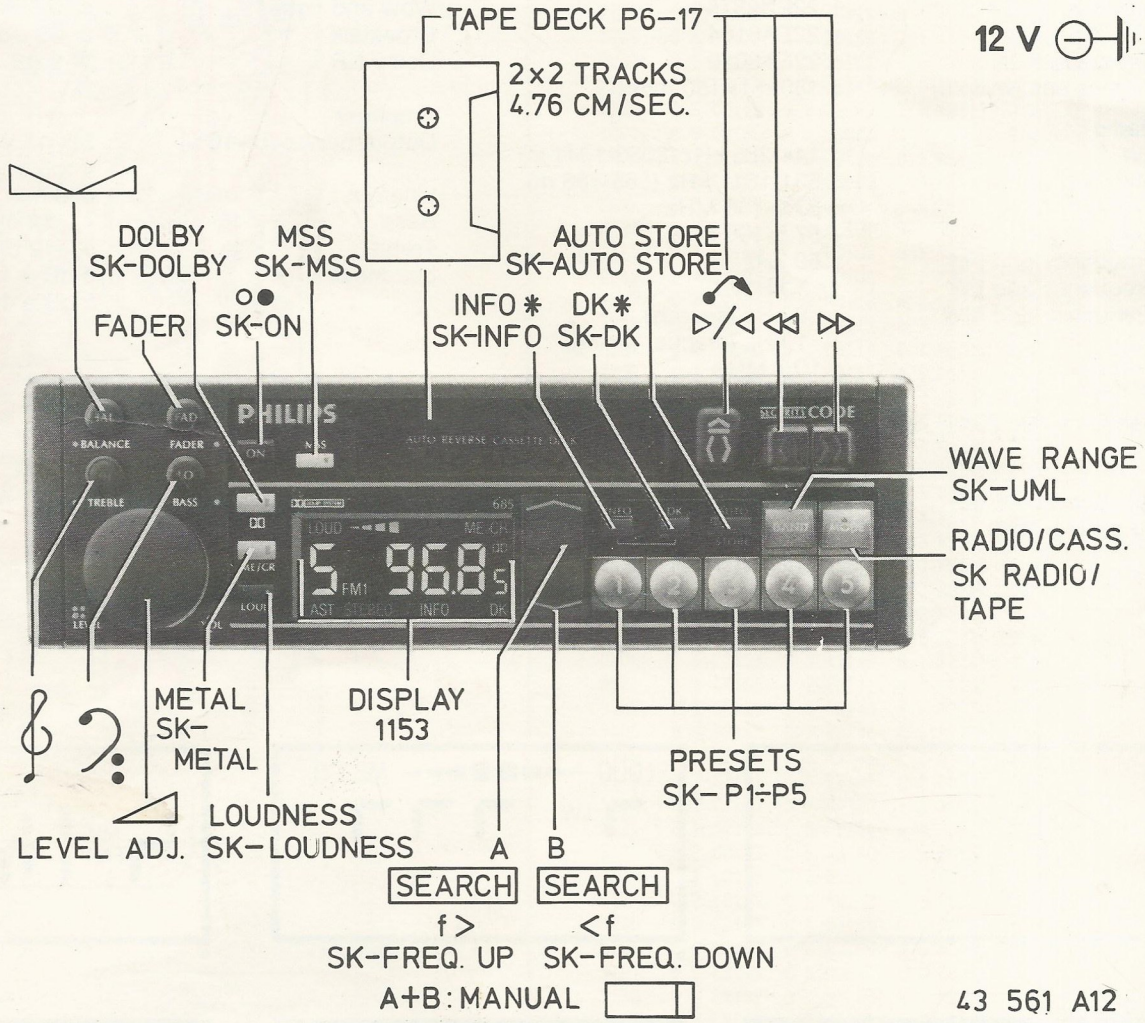
Cassette car radio 22DC681/50

22DC685/02

Service
Service
Service

For circuit description see Car radio cluster family.
For repair information of the cassette deck see Service Manual of Car cassette deck P6-17.

Service Manual



* ONLY FOR SETS WITH SK-DK

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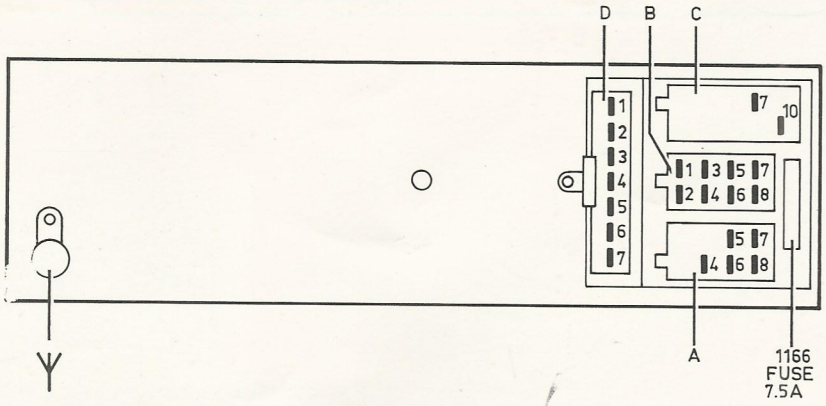

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CONNECTIONS OF BLOCK

A4 : + 14.4 V ⎓ PERMANENT
A5 : AUTOM. AERIAL
A6 : EXT. ILLUMINATION
A7 : + 14.4 V ⎓ SWITCHED
A8 : ⊥

B1 : RIGHT REAR
B2 : 7 W - 4 Ω
B3 : RIGHT FRONT
B4 : 7 W - 4 Ω
B3 : RIGHT
B2 : 20 W - 4 Ω

B5 : LEFT FRONT
B6 : 7 W - 4 Ω
B7 : LEFT REAR
B8 : 7 W - 4 Ω
B5 : LEFT
B8 : 20 W - 4 Ω

C7 : REMOTE SEARCH
C10 : ⊥ REMOTE SEARCH
D1-D7 : LINE OUT

TECHNICAL DATA

General

Power supply	: + 14.4 V ⎓
Remote control unit for automatic search	: 22EN9875
Line out cable	: 22EA6164
Retractable unit	: 22EA6020
Dimensions (w×h×d)	: 180×51×150 mm

Radio

LW	: 144-285 kHz (2083-1041 m)
MW	: 531-1611 kHz (565-186 m)
FM1	: 87.5-108 MHz
FM2	: 87.5-108 MHz
Frequency grid FM	: 50 kHz
Frequency grid LW	: 1 kHz
Frequency grid MW	: 9 kHz (search) 1 kHz (manual tuning)
IF-AM	: 10,7 MHz
IF-FM	: 10,7 MHz
Sensitivity for 26 dB S/R	: 160 μV (LW) 110 μV (MW) 3 μV (FM)
Limitation α −3 dB	: 15 μV
10 dB crosstalk	: 150 μV

Cassette player

Number of tracks	: 2 × 2
Tape speed	: 4.76 cm/sec
Wow and flutter	: ⩽ 0.35%
Crosstalk	: ⩾ 30 dB
Dolby NR	: ⩾ 9 dB

Amplifier

Output power (D=10%)	: 2 × 17 W ± 1 dB (2 × 4Ω) 4 × 5,5 W ± 1 dB (4 × 4Ω)
Line out	: 630 mV
Bass	: +/−12 dB à 100 Hz
Treble	: +/−12 dB à 10 kHz
Loudness	: 8 dB à 125 Hz 5 dB à 10 kHz

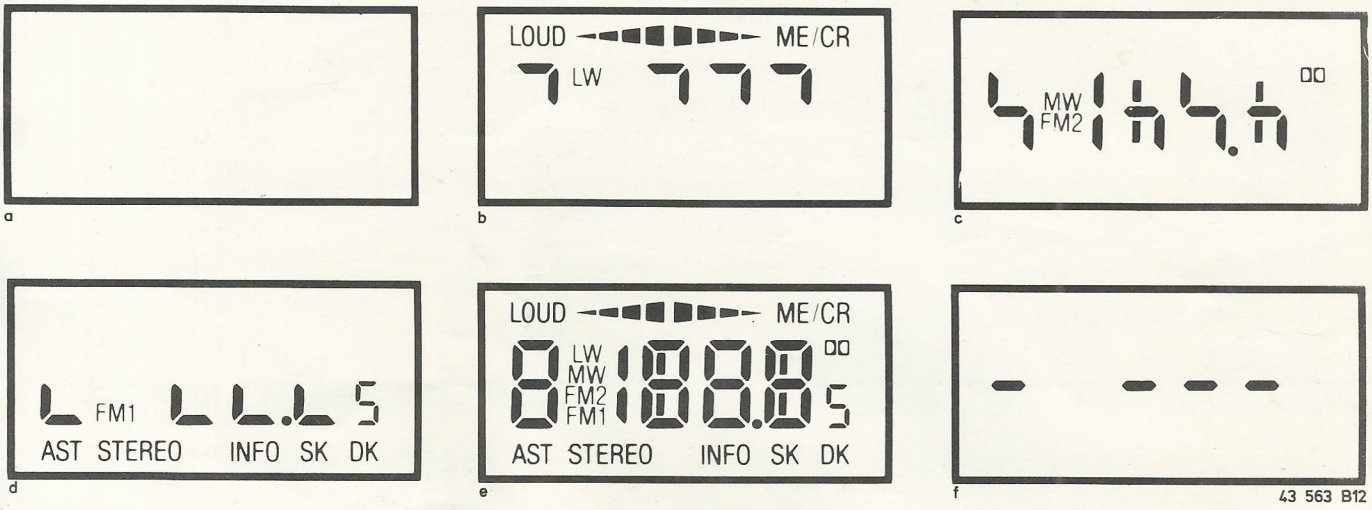

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Fig. 1

SERVICING HINTS

ESD

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair can reduce service life drastically. When repairing, make sure that you are connected to the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

SERVICE TEST PROGRAMMME

The µC test programme can be called without first entering the security code.

µC test

This test is called by switching on the set **while** keeping the keys **1 and 2** depressed.
Besides the RAM, a great number of µC instructions are tested. If no faults occur, a special pattern will be displayed. (See fig. 1f).
The test can be stopped by switching off the set.

Display test

The display test is called by switching on the set **while** keeping the keys **1 and 3** depressed.
A number of easily recognizable patterns are then displayed in succession. (See figs. 1a to 1e). If you want to make one of the patterns visible for a longer time, you only have to keep the key **1** pressed for the required time.
The test is stopped by switching off the set.

SECURITY CODE

General

To reduce the risk of theft, this car radio has a built-in electronic lock. The security code has been entered in the factory and cannot be changed by the customer. The security code consists of four figures varying between "0000" and "9999". The figures are selected by pressing the ^ and ˇ keys and are entered by pressing the key **1**. If you enter a wrong code, you will hear an error beep and the display shows "-C-". Now you have to wait for 1 minute before entering another code. **Do not switch off the set.** During the waiting period 6 segments will light up in turn in the left-handside of the display. After 1 minute the lighting-up stops and you will be given a new opportunity to enter the right code. Each time a wrong code is entered, the waiting time is doubled, so 1, 2, 4, 8 etc. with a maximum of 32 minutes.

When the radio is switched off before the end of a "waiting" period, the same period will start all over again at the moment the radio is switched on again.

Note: If the set is presented for repair with the security code switched on, and the customer has not stated the right code, the set will not be able to function.
Replacing the EEPROM by a "non-coded" EEPROM and/or replacing the microprocessor will not help in that case.

Working

Activiting the security code

Proceed as follows:
Switch the set on **while** pressing key ^.
Now you hear a two-tone beep and the protection is activated. The car radio will signal that the code has been activated by briefly showing "-C" in the display at the moment of switching on the radio.

Entry of the code

Now that the security code is active, the code should be entered again each time the supply voltage has been interrupted.

Example: Suppose the code is 4567.

Action	Display shows	Note
– Switch on	-C-	
– Press key 1	-	
– Select ^ / ˇ "4"	4	first figure
– Press key 1	4-	
– Select ^ / ˇ "5"	45	second figure
– Press key 1	45-	
– Select ^ / ˇ "6"	456	third figure
– Press key 1	456-	
– Select ^ / ˇ "7"	4567	fourth figure
– Press key 1	....	two-tone beep

The radio starts operating.

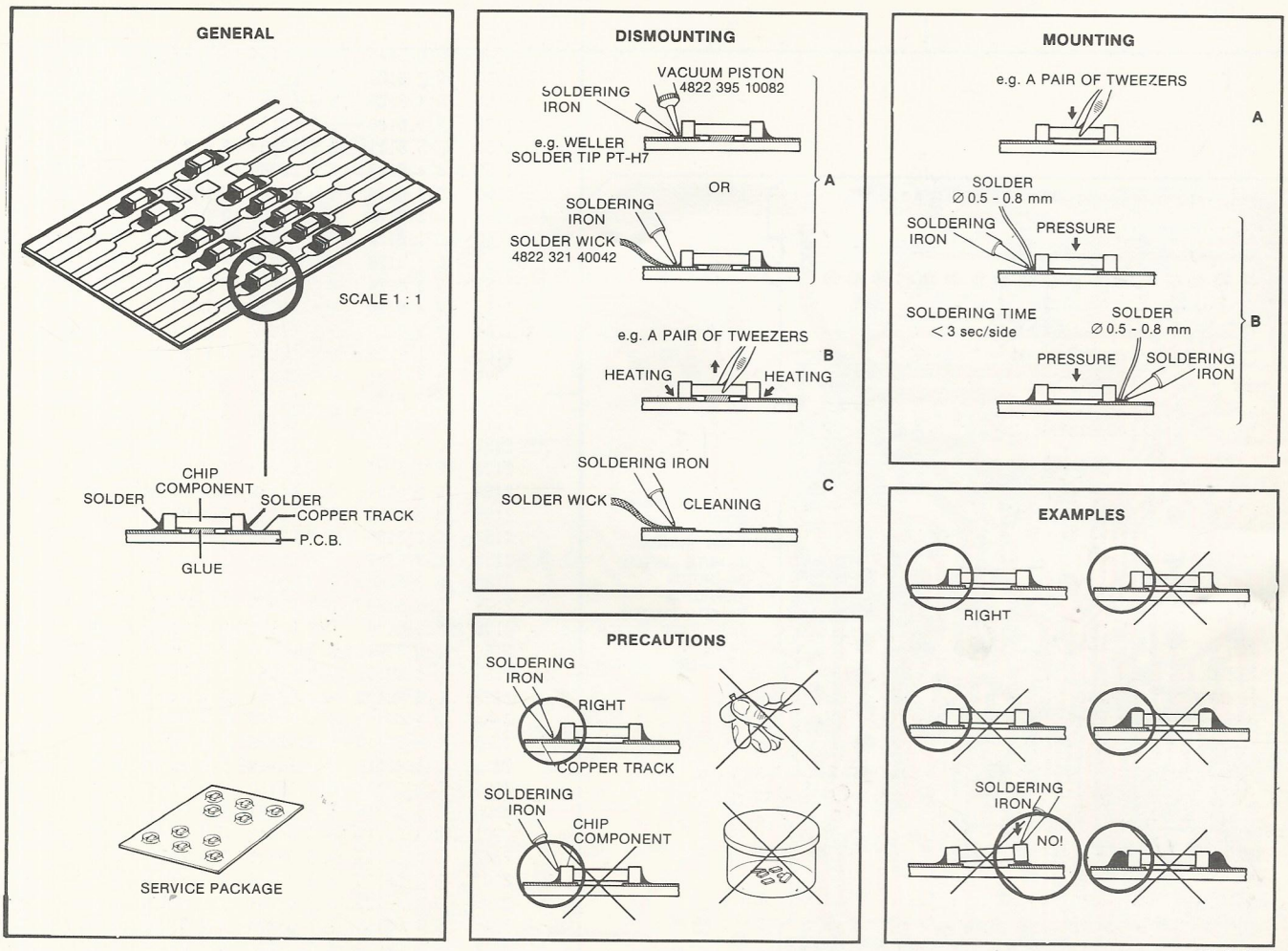
Switching off the code

Switch the set on **while** pressing key ^ . The display shows the indication "-C-". Enter the right code in the way described above. Two two-tone squeaks confirm that the security code is switched off.

DISASSEMBLY

- Measurements on the stereo decoder panel.
  To perform measurements on the stereo decoder panel it will be necessary to remove the tape deck.
- To prevent metal parts from bending the tape deck may not be removed from the set at the cassette lift.

HANDLING CHIP COMPONENTS



OPERATION

SOUND REPRODUCTION

GENERAL

Volume, balance, fader, bass and treble are adjusted electronically. Each adjustment takes place in steps with the large knob. Normally this knob has the function of volume control.
If you press one of the buttons BALANCE, FADER, TREBLE or BASS, the function of the large knob changes to that of balance, fader, treble or bass control respectively.
On the display the characters B A L, F A D, H I or L O appear. With the large knob you can adjust the level of the selected function. The level of the adjusted function is (for each wave range and cassette reproduction) automatically stored in the memory.
A short while (10 seconds) after the last adjustment the large knob automatically becomes volume control again. If you press the same button a second time within these 10 seconds, the large knob will become volume control immediately.

ADJUSTMENT

Balance

- Press the BALANCE selector.
  On the display the characters B A L appear.
- Turn the large knob and adjust the balance between left and right channels.
  Left channel: If you turn the large knob counterclockwise from the mid-position, the display will first show **-0-**, then **1--**, **2--** etc. to max. **9--**.
  Right channel: If you turn the knob clockwise you will see **--1**, **--2**, etc. to max. **--9**.

Fader

- Press the FADER selector and adjust the sound distribution between front and rear loudspeakers by turning the large knob.
  Now the display shows the characters F A D. When turning the large knob the display shows the adjustment in digits Counterclockwise from **-0-** to **9--**: front, clockwise: from **-0-** to **--9**: rear.

Treble and Bass

- Press the TREBLE or BASS selector and adjust the timbre with the large knob. The display shows H I or L O. When turning the large knob the display shows the adjustment in digits. Counterclockwise from **-0-** to **4--**: less treble (or bass), clockwise from **-0-** to **--4**: more treble (or bass).

RADIO RECEPTION

WAVE RANGE

- Select the desired wave range by pressing the button BAND one or more times.
  The display shows the selected wave range:
  LW for long wave,
  MW for medium wave,
  FM1 for FM or
  FM2 for FM.

SEARCH TUNING

- Press briefly one of the tuning buttons ^ or ˇ and you will receive a station after a short time.
- Press the same button again and you will receive the next station in the direction of the search.
- When the highest frequency (e.g. for FM: 108 MHz) is reached the tuning switches automatically to the lowest frequency (for FM: 87.5 MHz) and vice versa.
- Search tuning occurs on three sensitivity levels for all wave ranges. First the radio searches for strong stations. If no stations are found the search tuning system will switch over to a higher sensitivity level when the whole range has been scanned. Now less strong transmitters are tuned etc.
  When, after some time (more than 80 seconds), one of the tuning buttons is operated again, the automatic tuning system starts searching for strong transmitters once more.
- If the system tunes to a station that has been programmed in that wave range on one of the presets, the display will also show the relevant preset number.

MANUAL TUNING

- Press **both** tuning buttons ^ and ˇ simultaneously.
- Press briefly **one** of the tuning buttons ^ or ˇ
  The frequency changes with one step up or down.
- Keep **one** of the tuning buttons ^ or ˇ pressed.
  After 1 second fast scanning starts and will continue until you release the button. During this operation the radio is muted. When the highest frequency is reached the lowest frequency will follow and vice versa.
  The manual tuning mode will automatically switch back to the search tuning mode if:

1. the tuning buttons are out of use for longer than 50 seconds.
2. the radio is switched **off** and **on** again.
3. one of the buttons MODE, 1-5 or AUTO STORE is operated.

PROGRAMMING

a. AUTOSTORE

AUTO STORE both on the FM and the MW bands is an extended search tuning system. The radio offers the possibility to have five additional stations on FM and on MW stored automatically by only one operation.

- First select the FM or MW waveband with the button BAND.
- Press the AUTO STORE button longer than 2 secs. You will hear a two-tone beep. The display shows a flashing AST and the frequency indication disappears.
- The radio is muted and the five strongest stations are automatically programmed on the five presets.
  Every time that a frequency is stored the display shows the preset number and the frequency of the station. When all presets have been stored, the radio switches to the AUTO STORE **operation** mode initiated by a two-tone beep.
  Now you are listening to the strongest station in this area programmed on preset key 1.
  If the LW band is selected you hear an error beep.
  Now you have to press the BAND selector once more (for MW) or twice (for FM).
- Select the other wave range (FM or MW) with the BAND selector.
- Press the AUTO STORE button again until the AST indication starts flashing.
  Now five stations on the other wave range are programmed and stored.

Remarks

- If under certain circumstances it is not possible to find five stations, the remaining preset buttons (e.g. 4 and 5) are programmed with '000'. If you later select a preset with '000' the radio will mute.
- If a transmitter with traffic information is found, the INFO mode is stored automatically. (See chapter: TRAFFIC INFORMATION).

b. PRESETS (1-5)

- Select the desired wave range with the button BAND.
- Tune accurately to the desired station.
- Press the desired preset (e.g. button 1) until you hear a two-tone beep.
  The display shows: the wave range, the frequency and the preset number to which the transmitter has been programmed.
  Note: If the preset button is pressed for less than 2 seconds you recall the frequency stored previously.
- Program the other preset in the same way.
- Repeat the above-mentioned operation for the other wave ranges.

  Remark: The INFO mode may be programmed simultaneously with the frequency. See chapter: TRAFFIC INFORMATION.

c. TRAFFIC INFORMATION (INFO) on FM
22DC685 ONLY

AUTOMATIC SELECTION OF INFO TRANSMITTERS IN THE INFO MODE

One of the special features of this set is automatic search for and tuning in of a new INFO transmitter (AUTO INFO SEARCH).
When the radio is in INFO mode or DK mode (including INFO mode) and the tuned INFO transmitter has become too weak, the radio will start searching for a stronger station indicated by a beep (warning tone). This indication is important because in the DK mode the tuned transmitter is muted. In the INFO mode you will hear the new INFO station. If no INFO transmitter can be found the warning tone will be repeated every 30 seconds. You can stop these beep tones by switching off the INFO mode (press the INFO button again).

PROGRAMMING of INFO TRANSMITTERS

If the INFO mode is active during programming of an FM station, the INFO mode will also be programmed. Later when selecting this FM preset, you need not touch the INFO button again.

Remark: During manual tuning the INFO mode is switched off.

FUNCTION REMAINING CONTROLS

See photo on frontpage

. . . V	position AM
. . . V*	position AM, with signal, set tuned
. . . V MU	position AM, with signal, set muted (search/mode)
[. . . V]	position FM M = Mono, S = Stereo
[. . . V*]	position FM, with signal, set tuned
[. . . V BK]	position FM + SK + BK (info in)
[. . . V DK]	position FM + SK + BK + DK (info in)
[. . . V]	position play, normal
. . . V	position play, reverse
[. . . V MSS]	position fast wind, MSS
[. . . V ME]	position play, METAL
[. . . V DB]	position play, DOLBY

1150 FM tuner

C101 = GND
C102 = –
C103 = GND
C104 = [0.0 V]
C105 = 0.1 V
[1.7 V]
C106 = [8.4 V]
C107 = [1.3 - 5.5 V] MP-7
C108 = 0.1 V
[1.4 V]
C109 = GND
C110 = [1.7 V]
C111 = [3.0 V]
C112 = 8.4 V
[0.2 V]
C113 = [1.8 V]

1155 Thi-Fi IAC

1 = N.C.
2 = 2.5 V
3 = N.C.
4 = [0.5 V]
[1.0 - 5.0 V*]
5 = 4.2 V
6 = 7.8 V
7 = 8.2 V
8 = GND

1156 Thi-Fi SDK

1 = GND
2 = [4.5 V]
3 = [4.8 V DK]
4 = N.C.
5 = [4.8 V BK]
6 = N.C.
7 = N.C.
8 = N.C.
9 = N.C.
10 = [8.5 V]

1601 Thi-Fi Stereo Decoder

1 = [5.0 VM]
[0.7 VS]
2 = 3.5 V
3 = 3.4 V
4 = 2.5 V
5 = 2.6 V
6 = GND
7 = 0.5 V
1.8 V*
8 = 8.3 V
9 = [1.0 V]
[5.0 V*]
10 = [0.5 V]
[4.6 V*]
11 = 4.9 V
[0.0 V]
12 = 3.5 V
13 = 0.0 V
5.0 V MU
14 = 5.0 V
0.0 V MU
15 = 3.4 V
16 = 2.6 V
17 = 3.4 V
18 = 3.4 V
19 = 3.4 V
20 = 3.4 V

1602 Thi-Fi Dolby B

1 = 0.0 V
[5.0 V DB]
2 = 4.2 V
3 = 4.2 V
4 = 3.4 V
5 = GND
6 = GND
7 = 3.4 V
8 = 4.2 V
9 = GND
10 = 8.4 V

6105 TEA6100

1 = 8.3 V
[8.2 V]
2 = 0.6 V
3 = [0.5 V] MP-5
[1.0 - 5.0 V*]
4 = [0.0 V]
5 = [0.6 V] MP-6
[0.1 V*]
6 = 40 kHz
7 = GND
8 = 8.3 V
9 = SCL (4.6 V)
10 = SDA (4.6 V)
11 = 4.1 V MP-3
[4.5 V]
12 = 4.6 V
13 = 4.6 V
14 = 2.4 V
15 = 4.4 V
16 = 3.0 V
17 = 3.0 V
18 = 3.0 V
19 = 3.0 V
20 = GND

6106 TSA6057

1 = 4 MHz
2 = 4 MHz
3 = 4.7 V
4 = GND
5 = [1.8 V]
6 = 1.8 V
7 = 1.8 V
8 = 8.3 V
[≤ 0.8 V]
9 = 40 kHz
10 = SDA (4.6 V)
11 = SCL (4.6 V)
12 = GND
13 = [1.3 - 5.5 V]
14 = [2.1 V]
15 = N.C.
16 = 8.5 V

6111 TEA6200

1 = 6.6 V
2 = 4.0 V
3 = 8.2 V
4 = 8.2 V
5 = 8.2 V
6 = 8.2 V
7 = 0.7 V
8 = 4.0 V
9 = 4.0 V
10 = 4.0 V
11 = 6.7 V
12 = 1.4 V MP-4
13 = 4.7 V
14 = 8.4 V
[0.2 V]
15 = 4.7 V
16 = 4.7 V
17 = GND
18 = 1.0 V
19 = 1.3 V
20 = 3.3 V

6112 TEA6310T

1 = SDA (6,4 V)
2 = GND
3 = 3.9 V
4 = 3.9 V
5 = 3.9 V
6 = 3.9 V
7 = 3.9 V
8 = N.C.
9 = 6.6 V
10 = N.C.
11 = 7.7 V
12 = N.C.
13 = N.C.
14 = 3.9 V
15 = 3.9 V
16 = N.C.
17 = N.C.
18 = GND
19 = N.C.
20 = 3.9 V
21 = GND
22 = 3.9 V
23 = 3.9 V
24 = 3.9 V
25 = 3.9 V
26 = 3.9 V
27 = 7.8 V
28 = SCL (6.4 V)

6113/6114 TDA1516Q

1 = 2.2 V
2 = 2.2 V
3 = GND
4 = 2.2 V
5 = 6.7 V
6 = 14.3 V
7 = GND
8 = 14.3 V
9 = 6.7 V
10 = 14.3 V
11 = 14.2 V
12 = 6.7 V
13 = 2.2 V

6115/6117 BC847B

e = 3.3 V
b = 3.9 V
c = 7.8 V

6116/6118 BC847B

e = 3.3 V
b = 1.8 V
c = 7.8 V

6119/6122 L4916

1 = 14.2 V
2 = 2.5 V
3 = N.C.
4 = 8.4 V
5 = GND
6 = GND
7 = GND
8 = GND

6123 BD438

e = 14.3 V
b = 13.5 V
c = 14.2 V

6128 L4904

1 = 12.8 V
2 = 8.4 V
3 = 5.6 V
4 = GND
5 = N.C.
6 = 4.2 V
7 = 5.0 V
8 = 5.0 V

6129 BC847B

e = GND
b = 0.6 V
c = 0.0 V

6130 BC847B

e = GND
b = 0.0 V
c = 4.9 V

6133 BC847B

e = GND
b = 0.7 V
c = 0.0 V

6140 TA7705P

1 = [8.1 V]
2 = [3.3 V]
3 = [0.0 V]
4.9 V
4 = [3.3 V]
5 = [2.9 V]
6 = [2.9 V]
7 = [2.9 V]
8 = GND
9 = [2.9 V]
10 = N.C.
11 = [2.9 V]
12 = [2.9 V]
13 = [2.9 V]
14 = [3.3 V]
15 = [0.1 V]
[4.9 V ME]
16 = [3.3 V]

6150 TMP42C70N

1 = 2 MHz
2 = 2 MHz
3 = [5.0 V]
0.5 V
4 = [0.0 V]
[4.8 V MU]
5 = [0.0 V]
(4.9 V)
6 = [4.6 V]
7 = [0.0 V]
[4.8 V MSS
0.0 V]
8 = [0.0 V]
[4.8 V MU]
9 = N.C.
10 = N.C.
11 = N.C.
12 = [4.0 V]
[4.0 V
0.0 V MSS]
13 = [4.5 V]
1.5 V
14 = GND
15 = [0.1 V]
[4.9 V ME]
16 = SDA [(6.4 V)]
17 = SCL [(6.4 V)]
18 = [0.4 V]
[10 V
0.4 V]
19 = [4.6 V]
20 = N.C.
21 = N.C.
22 = N.C.
23 = N.C.
24 = N.C.
25 = N.C.
26 = N.C.
27 = N.C.
28 = [4.9 V]

6151 BC847B

e = GND
b = [0.0 V]
[0.7 V MU]
c = [5.0 V]
[0.0 V MU]

6153 BC847B

e = GND
b = [0.8 V
0.0 V MSS]
c = [14.2 V MSS
0.1 V]

6160 LA2000

1 = [1.9 V]
2 = –
3 = [1.9 V]
4 = N.C.
5 = GND
6 = [0.0 V]
[4.8 V MSS
0.0 V]
7 = N.C.
8 = N.C.
9 = [8.5 V]

6166 TMP47C 800 N

1 = [0.0 V]
[5.0 V DB]
2 = [5.0 VM]
[7.0 VS]
3 = 0.0 V
5.0 V MU
[5.0 V]
4 = 4.9 V
[0.0 V]
5 = 5.0 V
[5.0 V
0.1 V
▷/◁ A RADIO]
A:EJECT/WIND/MODE
6 = 5.0 V
0.0 V BEEP
7 = 5.0 V
8 = N.C.
9 = N.C.
10 = N.C.
11 = N.C.
12 = N.C.
13 = 5.0 V
14 = GND
15 = GND
16 = 5.0 V
17 = 3.5 V
18 = 5.0 V
19 = 5.0 V
20 = 5.0 V
21 = GND
22 = 5.0 V
23 = 5.0 V
24 = 0.0 V
[5.0 V] DX (AST)
25 = 7.6 V
[0.0 V]
(0.0 V)
26 = 5.0 V
27 = 5.0 V
28 = 5.0 V
29 = 5.0 V
30 = GND
31 = 4 MHz
32 = 4 MHz
33 = 4.9 V
34 = 4.2 V
35 = [4.8 V DK]
36 = [4.8 V BK]
37 = [0.4 V]
[10 V
0.4 V
▷ ◁]
38 = 0.5 V
[5.0 V]
39 = N.C.
40 = SDA (6.4 V)
41 = SCL (6.4 V)
42 = 5.0 V

6169 MC78L05ACP

1 = 13.4 V
2 = GND
3 = 5.0 V

6170 X2404I

1 = GND
2 = GND
3 = GND
4 = GND
5 = SDA (6.4 V)
6 = SCL (6.4 V)
7 = GND
8 = 5.0 V

6601/6602 BC858B

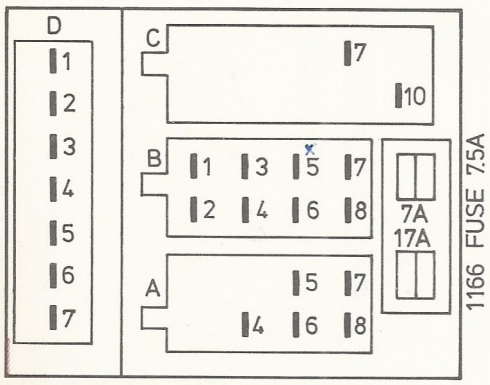
e = 1.4 V
b = 0.8 V
1.3 V*
c = 1.4 V
0.0 V*

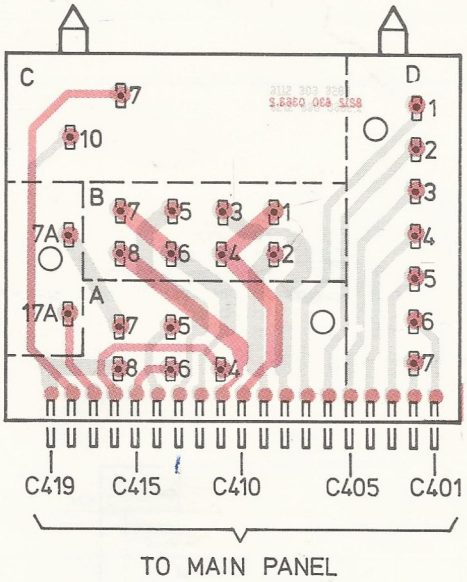
6604 BC847B

e = 0.0 V
b = [0.6 V]
[0.1 V*]
c = [1.0 V]
[5.0 V*]

6606/6607 BC847B

e = 1.9 V
b = 2.6 V
c = 5.5 V





C401 = L FRONT
C402 = L REAR
C403 = R REAR
C404 = R FRONT
C405 = GND
C406 = FADER ENABLE
} LINE OUT

C407 = REMOTE VOLTAGE
C408 = +RFR
C409 = −RRE
C410 = −RFR / + RRE
C411 = −LRE
C412 = −LFR / + LRE
C413 = +LFR
} 🔊

C414 = AUT. AERIAL
C415 = EXT. ILLUM.
C416 = +14.4V DIRECT
C417 = +14.4V SWITCHED
C418 = REMOTE SEARCH
C419 = GND

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For adjusting and checking see general procedures

Adjustment	SK					
Quadrature detector	FM	93 MHz, 10 µV △f = 75 kHz	B		5105	$V_R \leqslant$ 125 mV DC [1]
α-3 dB	FM	93 MHz, 1 mV △f = 22.5 kHz f mod = 1 kHz	B			1 0 dB (775 mV)
		93 MHz, 15 µV △f = 22.5 kHz f mod = 1 kHz	B		3113	1 -3 dB
AM-search level	MW	990 kHz, 70 µV	A		3111	6 2.0 V DC
Dolby level	Cass.	SBC419			3221	11 445 mV
					3222	10 445 mV

[1] Connect R = 15 kΩ between 11 and 15 IC6105

For checking and adjusting see general procedures

Check	SK				Setting of controls		
FM-Mute	FM	93 MHz, 1 mV	B			1 0 dB (775 mV)	
		no signal				−28 dB ≤ 1 ≤ −38 dB	
26 dB-SNR	FM	93 MHz, 6 µV △f = 22.5 kHz f mod = 1 kHz	B			1 0 dB (775 mV)	
		93 MHz, 6 µV without mod.				1 ≥ 26 dB	
	MW	990 kHz, 110 µV 1 kHz, 30% AM	A			1 0 dB (775 mV)	
		990 kHz, 110 µV without mod.				1 ≥ 26 dB	
Demodulated FM-levels	FM	93 MHz. 1 mV △f = 22.5 kHz f mod = 1 kHz	B			3 200 mV ±1 dB	
		93 MHz, 1 mV △f = 6.75 kHz f mod. = 19 kHz				3 50 mV ± 1 dB	
		93 MHz, 1 mV * △f = 3.75 kHz f mod. = 57 kHz	B			3 20 mV ± 1 dB	
Demodulated AM-level	MW	990 kHz, 1 mV 1 kHz, 30% AM	A			4 350 mV ± 1 dB	
Cross talk	FM	93 MHz, 1 mV stereo signal	B		+	L 1 R 2 0 dB (775 mV)	
		93 MHz, 1 mV stereo-R				R 2 - L 1 ≥ 21 dB	
SDS/10 dB Cross talk	FM	93 MHz, 1 mV stereo signal	B		+	L 1 R 2 0 dB (775 mV)	
		93 MHz, 140 µV stereo-R				R 2 - L 1 = 10 dB	
Search level FM	FM	93 MHz, 30 µV	B			5 2.25 V-DC	
Search level AM	MW	990 kHz, 70 µV	A			6 1.75 V-DC	
VC-FM	FM			87.5 MHz		7 ≥ 1.0 V-DC	
				108 MHz		7 ≤ 6.0 V-DC	
VC-AM	LW			144 kHz		8 ≥ 0.8 V-DC	
	MW			1611 kHz		8 ≤ 6.0 V-DC	
I.A.C.	FM	τ Vp T τ = 10 µsec T = 300 µsec Vp = 60 mV	C				9 25-50 µs
SDK-sensitivity *	FM + INFO	93 MHz, 20 µV △f = 22.5 kHz f mod. = 1 kHz +SK+BK+DK	B		min.	**INFO SK** in display + DK signal 1	

* Only sets with SK/DK

2101	22NF 20%	4822 122 33343
2102	27NF 10% DC685/02	4822 122 33278
2102	100 NF 20% DC681/50	4822 122 33345
2103	10NF 20% 50V	4822 122 33177
2110	22NF 20%	4822 122 33343
2112	100NF 20%	4822 122 33345
2114	22NF 20%	4822 122 33343
2116	8,2NF 10%	4822 122 33336
2117	47NF 20%	4822 122 33344
2119	47NF 20%	4822 122 33344
2120	100NF 20%	4822 122 33345
2121	150PF 5%	4822 122 33338
2125	150PF 5%	4822 122 33338
2126	22NF 20%	4822 122 33343
2129	22NF 20%	4822 122 33343
2130	22NF 20%	4822 122 33343
2133	220NF 20%	4822 122 33347
2134	220NF 20%	4822 122 33347
2135	22NF 20%	4822 122 33343
2140	1N 3% 63V	5322 122 31926
2141	10PF 50V	4822 122 31971
2142	33PF 5%	4822 122 33215
2143	270PF 5%	4822 122 33216
2144	270PF 5% 63V	4822 122 32142
2145	10NF 50V	4822 122 32442
2146	100NF 20%	4822 122 33345
2147	22PF 5%	4822 122 33213
2148	100NF 20%	4822 122 33345
2149	4,7NF 10%	4822 122 33339
2150	1.8NF 10%	4822 122 33219
2151	33NF 10%	4822 122 33342
2152	150PF 5%	4822 122 33338
2153	1N 3% 63V	5322 122 31926
2156	220NF 20%	4822 122 33347
2161	220NF 20%	4822 122 33347
2162	220NF 10%	4822 122 33346
2170	33NF 10%	4822 122 33342
2171	33NF 10%	4822 122 33342
2173	5.6NF 10%	4822 122 33221
2174	5.6NF 10%	4822 122 33221
2177	220NF 10%	4822 122 33346
2178	220NF 10%	4822 122 33346
2179	100NF 20%	4822 122 33345
2185	1000 UF 20% 10V	4822 124 40184
2186	1000 UF 20% 10V	4822 124 40184
2187	100NF 20%	4822 122 33345
2189	100NF 20%	4822 122 33345
2191	100NF 20%	4822 122 33345
2192	100NF 20%	4822 122 33345
2193	100NF 20%	4822 122 33345
2194	100NF 20%	4822 122 33345
2196	100NF 20%	4822 122 33345
2197	220NF 20%	4822 122 33347
2198	220NF 20%	4822 122 33347
2203	270PF 5% 0805T	4822 122 33216
2204	270PF 5% 0805T	4822 122 33216
2205	270PF 5% 0805T	4822 122 33216
2206	270PF 5% 0805T	4822 122 33216
2212	2200UF 20% 16V	4822 124 22412
2214	100NF 20%	4822 122 33345
2217	470NF 10% 50V	4822 121 51264
2219	220NF 20%	4822 122 33347
2220	4,7NF 20%	4822 122 33337
2221	4,7NF 20%	4822 122 33337
2222	4,7NF 20%	4822 122 33337
2223	4,7NF 20%	4822 122 33337
2225	560PF 10% X7R 50V	4822 122 33173
2226	560PF 10% X7R 50V	4822 122 33173
2227	560PF 10%	4822 122 33341
2228	560PF 10% X7R 50V	4822 122 33173
2229	2,7NF 20% X7R 50V	4822 122 33176
2230	2,7NF 20% X7R 50V	4822 122 33176
2240	1NF 5% NPO 50V	5322 122 32531
2241	1NF 5% NPO 50V	5322 122 32531
2243	22NF 20%	4822 122 33343
2250	22NF 20%	4822 122 33343
2252	220NF 20%	4822 122 33347
2260	100NF 20%	4822 122 33345
2262	33PF 5%	4822 122 33215
2263	33PF 5%	4822 122 33215
2264	10PF 50V	4822 122 31971
2265	10PF 50V	4822 122 31971
2270	100NF 20%	4822 122 33345
2271	220UF 20% 16V	4822 124 22505
2601	390PF 5% NP0 50V	4822 122 33172
2602	220UF 20% 10V	4822 124 22428
2606	330MU 20% 10V	4822 124 22504
2607	220NF 10% X7R 1210T	4822 122 33346
2608	220NF 10%	4822 122 33346
2611	1N 3% 63V	5322 122 31926
2612	100NF 20% X7R 1206T	4822 122 33345
2613	1,5UF 20% 63V	4822 124 40243
2614	3900PF 10% 50V	4822 122 31811
2615	100NF 20%	4822 122 33345
2616	1,5UF 20% 63V	4822 124 40243
2617	3900PF 10% 50V	4822 122 31811
2618	220UF 20% 10V	4822 124 22428
2619	100NF 20%	4822 122 33345
2620	100NF 20%	4822 122 33345

3101	22K 5%	4822 111 91523
3102	220E 5%	4822 116 90339
3108	5K6 5%	4822 111 91534
3110	10E 5%	4822 111 91519
3111	10K	4822 100 20166
3112	2K7 5%	4822 111 91525
3113	10K	4822 100 20166
3114	10E 5%	4822 111 91519
3115	3K3 5%	4822 111 91526
3116	2K2 5%	4822 111 91522
3117	39K 5%	4822 111 91528
3118	750E 5%	4822 111 91505
3119	4K7 5%	4822 111 91532
3122	1K 5%	4822 111 91516
3123	330E 5%	4822 111 91501
3130	39K 5%	4822 111 91528
3131	39K 5%	4822 111 91528
3133	4K7 5%	4822 111 91532
3135	4K7 5% DC685/02	4822 111 91532
3135	2k7 5% DC681/50	4822 111 91525
3136	22K 5%	4822 111 91523
3140	560E 5%	4822 111 91533
3141	470E 5%	4822 111 91531
3143	1K 5%	4822 111 91516
3144	1K 5%	4822 111 91516
3145	22K 5%	4822 111 91523
3146	220K 5%	4822 111 91524
3150	10E 5%	4822 111 91519
3151	620K 5%	4822 111 91503
3160	4K7 5%	4822 111 91532
3161	39K 5%	4822 111 91528
3162	3K3 5%	4822 111 91526
3163	2K2 5%	4822 111 91522
3164	15K 5%	4822 111 91498
3165	15K 5%	4822 111 91498
3166	15K 5%	4822 111 91498
3167	15K 5%	4822 111 91498
3168	22K 5%	4822 111 91523
3169	3K9 5%	4822 111 91527

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1 pF	5%	4822 122 32479
1,2 pF	5%	4822 122 33013
1,5 pF	5%	4822 122 31792
1,8 pF	5%	4822 122 32087
2,2 pF	5%	4822 122 32425
3,3 pF	5%	4822 122 32079
3,9 pF	5%	4822 122 32081
4,7 pF	5%	4822 122 32082
5,6 pF	5%	4822 122 32506
6,8 pF	5%	4822 122 32507
8,2 pF	5%	4822 122 32083
10 pF	5%	4822 122 31971
12 pF	5%	4822 122 32139
15 pF	5%	4822 122 32504
18 pF	5%	4822 122 31769
22 pF	10%	4822 122 31837
27 pF	5%	4822 122 31966
33 pF	5%	4822 122 31756
39 pF	5%	4822 122 31972
47 pF	5%	4822 122 31772
56 pF	5%	4822 122 31774
68 pF	5%	4822 122 31961
82 pF	10%	4822 122 31839
100 pF	5%	4822 122 31765
120 pF	5%	4822 122 31766
150 pF	5%	4822 122 31767
180 pF	2%	4822 122 31794
220 pF	5%	4822 122 31965
270 pF	5%	4822 122 32142
330 pF	10%	4822 122 31642
390 pF	5%	4822 122 31771
470 pF	5%	4822 122 31727
560 pF	5%	4822 122 31773
680 pF	5%	4822 122 31775
820 pF	5%	4822 122 31974
1 nF	10%	5322 122 31647
1,2 nF	5%	4822 122 31807
1,5 nF	10%	4822 122 31781
1,8 nF	10%	4822 122 32153
2,2 nF	10%	4822 122 31644
2,7 nF	10%	4822 122 31783
3,3 nF	10%	4822 122 31969
3,9 nF	10%	4822 122 32566
4,7 nF	10%	4822 122 31784
5,6 nF	10%	4822 122 31916
6,8 nF	10%	4822 122 31976
10 nF	10%	4822 122 31728
12 nF	10%	5322 122 31648
15 nF	10%	4822 122 31782
18 nF	10%	4822 122 31759
22 nF	10%	4822 122 31797
27 nF	10%	4822 122 32541
33 nF	10%	4822 122 31981
47 nF	10%	4822 122 32542
56 nF	10%	4822 122 32183
100 nF	10%	4822 122 31947
180 nF	10%	4822 122 32915
220 nF	20%	4822 122 32715

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0 E	jumper	4822 111 90163
1 E	5%	4822 111 90184
1,1 E	5%	4822 111 90377
1,2 E	5%	4822 111 90378
1,3 E	5%	4822 111 90379
1,5 E	5%	4822 111 90381
1,6 E	5%	4822 111 90382
1,8 E	5%	4822 111 90383
2 E	5%	4822 111 90384
2,2 E	5%	5322 111 90104
2,4 E	5%	4822 111 90385
2,7 E	5%	4822 111 90386
3 E	5%	4822 111 90387
3,3 E	5%	4822 111 90388
3,6 E	5%	4822 111 90389
3,9 E	5%	4822 111 90391
4,3 E	5%	4822 111 90392

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4,7 E	5%	5322 111 90376
5,1 E	5%	4822 111 90393
5,6 E	5%	4822 111 90394
6,2 E	5%	4822 111 90395
6,8 E	5%	4822 111 90254
7,5 E	5%	4822 111 90396
8,2 E	5%	4822 111 90397
9,1 E	5%	4822 111 90398
10 E	2%	5322 111 90095
11 E	2%	4822 111 90338
12 E	2%	4822 111 90341
13 E	2%	4822 111 90343
15 E	2%	4822 111 90344
16 E	2%	4822 111 90347
18 E	2%	5322 111 90139
20 E	2%	4822 111 90352
22 E	2%	4822 111 90186
24 E	2%	4822 111 90355
27 E	2%	5322 111 90105
30 E	2%	4822 111 90356
33 E	2%	4822 111 90357
36 E	2%	4822 111 90359
39 E	2%	4822 111 90361
43 E	2%	5322 116 90125
47 E	2%	4822 111 90217
51 E	2%	4822 111 90365
56 E	2%	4822 111 90239
62 E	2%	4822 111 90367
68 E	2%	4822 111 90203
75 E	2%	4822 111 90371
82 E	2%	4822 111 90124
91 E	2%	4822 111 90375
100 E	2%	5322 111 90091
110 E	2%	4822 111 90335
120 E	2%	4822 111 90339
130 E	2%	4822 111 90164
150 E	2%	5322 111 90098
160 E	2%	4822 111 90345
180 E	2%	5322 111 90242
200 E	2%	4822 111 90348
220 E	2%	4822 111 90178
240 E	2%	4822 111 90353
270 E	2%	4822 111 90154
300 E	2%	4822 111 90156
330 E	2%	5322 111 90106
360 E	1%	4822 111 90288
360 E	2%	4822 111 90358
390 E	2%	5322 111 90138
430 E	2%	4822 111 90362
470 E	2%	5322 111 90109
510 E	2%	4822 111 90245
560 E	2%	5322 111 90113
620 E	2%	4822 111 90366
680 E	2%	4822 111 90162
750 E	2%	5322 111 90306
820 E	2%	4822 111 90171
910 E	2%	4822 111 90372
1 k	2%	5322 111 90092
1,1 k	2%	4822 111 90336
1,2 k	2%	5322 111 90096
1,3 k	2%	4822 111 90244
1,5 k	2%	4822 111 90151
1,6 k	2%	5322 111 90265
1,8 k	2%	5322 111 90101
2 k	2%	4822 111 90165
2,2 k	2%	4822 111 90248
2,4 k	2%	4822 111 90289
2,7 k	2%	4822 111 90569
3 k	2%	4822 111 90198
3,3 k	2%	4822 111 90157
3,6 k	2%	5322 111 90107
3,9 k	2%	4822 111 90571
4,3 k	2%	4822 111 90167
4,7 k	2%	5322 111 90111
5,1 k	2%	5322 111 90268
5,6 k	2%	4822 111 90572
6,2 k	2%	4822 111 90545

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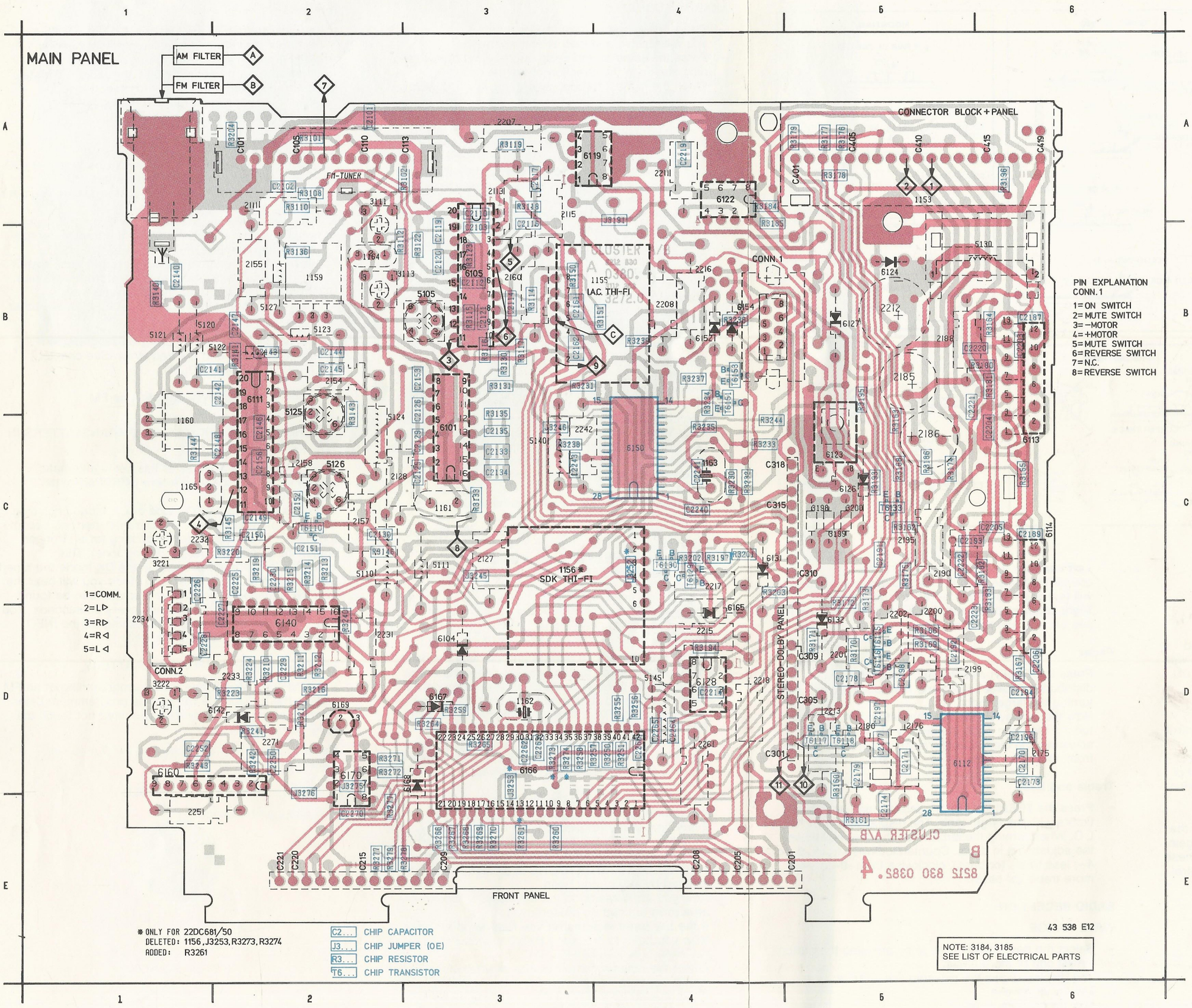
6,8 k	2%	4822 111 90544
7,5 k	2%	4822 111 90276
8,2 k	2%	5322 111 90118
9,1 k	2%	4822 111 90373
10 k	2%	4822 111 90249
11 k	2%	4822 111 90337
12 k	2%	4822 111 90253
13 k	2%	4822 111 90509
15 k	2%	4822 111 90196
16 k	2%	4822 111 90346
18 k	2%	4822 111 90238
20 k	2%	4822 111 90349
22 k	2%	4822 111 90251
24 k	2%	4822 111 90512
27 k	2%	4822 111 90542
30 k	2%	4822 111 90216
33 k	2%	5322 111 90267
36 k	2%	4822 111 90514
39 k	2%	5322 111 90108
43 k	2%	4822 111 90363
47 k	2%	4822 111 90543
51 k	2%	5322 111 90274
56 k	2%	4822 111 90573
62 k	2%	5322 111 90275
68 k	2%	4822 111 90202
75 k	2%	4822 111 90574
82 k	2%	4822 111 90575
91 k	2%	5322 111 90277
100 k	2%	4822 111 90214
110 k	2%	5322 111 90269
120 k	2%	4822 111 90568
130 k	2%	4822 111 90511
150 k	2%	5322 111 90099
160 k	2%	5322 111 90264
180 k	2%	4822 111 90565
200 k	2%	4822 111 90351
220 k	2%	4822 111 90197
240 k	2%	4822 111 90215
270 k	2%	4822 111 90302
300 k	2%	5322 111 90266
330 k	2%	4822 111 90513
360 k	2%	4822 111 90515
390 k	2%	4822 111 90182
430 k	2%	4822 111 90168
470 k	2%	4822 111 90161
510 k	2%	4822 111 90364
560 k	2%	4822 111 90169
620 k	2%	4822 111 90213
680 k	2%	4822 111 90368
750 k	2%	4822 111 90369
820 k	2%	4822 111 90205
910 k	2%	4822 111 90374
1 M	2%	4822 111 90252
1,1 M	5%	4822 111 90408
1,2 M	5%	4822 111 90409
1,3 M	5%	4822 111 90411
1,5 M	5%	4822 111 90412
1,6 M	5%	4822 111 90413
1,8 M	5%	4822 111 90414
2 M	5%	4822 111 90415
2,2 M	5%	4822 111 90185
2,4 M	5%	4822 111 90416
2,7 M	5%	4822 111 90417
3 M	5%	4822 111 90418
3,3 M	5%	4822 111 90191
3,6 M	5%	4822 111 90419
3,9 M	5%	4822 111 90421
4,3 M	5%	4822 111 90422
4,7 M	5%	4822 111 90423
5,1 M	5%	4822 111 90424
5,6 M	5%	4822 111 90425
6,2 M	5%	4822 111 90426
6,8 M	5%	4822 111 90235
7,5 M	5%	4822 111 90427
8,2 M	5%	4822 111 90237
9,1 M	5%	4822 111 90428
10M	5%	5322 111 91141



0000	C	6	5145	D	4	C2194	D	6	R3168	C	5	R3273	D 3
1150	A	2	6104	D	3	C2196	D	6	R3169	D	5	R3274	D 3
1151	D	4	6105	B	3	C2197	D	5	R3170	D	5	R3277	E 2
1152	E	3	6106	C	3	C2198	D	5	R3171	D	5	R3277	E 2
1153	A	5	6111	B	2	C2203	B	6	R3172	C	5	R3278	E 3
1155	B	4	6113	B	6	C2204	C	6	R3173	C	5	R3279	E 2
1156	C	3	6114	C	6	C2205	C	6	R3174	C	5	T6110	C 2
1159	B	2	6119	A	4	C2206	D	6	R3175	C	5	T6115	D 5
1160	C	1	6122	A	4	C2214	D	4	R3176	A	5	T6116	D 5
1161	C	3	6123	C	5	C2219	A	4	R3177	A	5	T6117	D 5
1162	D	3	6124	B	5	C2220	B	6	R3178	A	5	T6118	D 5
1163	C	4	6126	C	5	C2221	B	5	R3179	A	5	T6129	C 4
1164	B	2	6127	B	5	C2222	C	5	R3180	B	6	T6130	C 4
1165	C	1	6128	D	4	C2223	D	6	R3181	B	6	T6133	C 5
1999	B	4	6131	C	4	C2225	C	2	R3182	C	6	T6151	B 4
2113	A	3	6132	D	5	C2226	C	1	R3183	C	6	T6153	B 4
2115	A	3	6140	D	2	C2227	D	2	R3184	A	4		
2127	C	3	6142	D	2	C2228	D	1	R3185	B	4		
2128	C	2	6152	B	4	C2229	D	2	R3186	C	5		
2154	B	2	6154	B	4	C2230	C	2	R3193	C	5		
2155	B	2	6160	D	1	C2240	C	4	R3194	D	4		
2157	C	2	6165	D	4	C2241	C	4	R3195	B	5		
2158	C	2	6167	D	3	C2243	C	3	R3196	A	6		
2160	B	3	6168	D	3	C2250	D	2	R3197	C	4		
2175	D	6	6169	D	2	C2252	D	1	R3201	C	4		
2176	D	5	6170	D	2	C2260	D	4	R3202	C	4		
2180	D	5	7999	D	3	C2262	D	3	R3203	A	2		
2185	B	5	C2101	A	2	C2263	D	3	R3204	A	2		
2186	C	5	C2102	A	2	C2264	D	4	R3210	D	2		
2188	B	5	C2103	B	3	C2265	D	4	R3211	D	2		
2190	C	5	C2110	A	3	C2270	E	2	R3212	D	2		
2195	C	5	C2112	B	3	I6112	D	5	R3213	C	2		
2199	D	5	C2114	B	3	I6150	C	4	R3214	C	2		
2200	D	5	C2116	B	3	J3191	A	4	R3215	C	2		
2201	D	5	C2117	A	3	J3245	C	3	R3216	D	2		
2202	D	5	C2119	B	3	J3246	C	3	R3217	D	2		
2207	A	3	C2120	B	3	J3253	D	3	R3219	C	2		
2208	B	4	C2121	B	3	J3254	D	3	R3220	C	2		
2211	A	4	C2125	C	3	J3275	D	2	R3223	D	2		
2212	B	5	C2126	B	3	J3276	D	2	R3224	D	2		
2213	D	5	C2129	C	3	R3101	A	2	R3230	C	4		
2215	D	4	C2130	C	2	R3102	A	3	R3231	B	3		
2216	B	4	C2133	C	3	R3108	A	2	R3232	C	4		
2217	C	4	C2134	C	3	R3110	A	2	R3233	C	4		
2218	D	4	C2135	C	3	R3112	B	2	R3234	B	4		
2231	D	2	C2140	B	1	R3114	B	3	R3235	C	4		
2232	C	1	C2141	B	1	R3115	B	3	R3236	B	4		
2233	D	2	C2142	B	2	R3116	B	3	R3237	B	4		
2234	D	1	C2143	B	2	R3117	B	3	R3238	C	3		
2234	D	1	C2144	B	2	R3118	A	3	R3239	B	4		
2242	C	3	C2145	B	2	R3119	A	3	R3240	D	2		
2251	E	1	C2146	C	2	R3122	B	3	R3241	D	2		
2261	D	4	C2147	B	2	R3123	B	3	R3242	D	2		
2271	D	2	C2148	C	2	R3130	B	3	R3243	D	1		
3111	A	2	C2149	C	2	R3131	B	3	R3244	C	4		
3113	B	3	C2150	C	2	R3133	C	3	R3250	D	4		
3198	C	5	C2151	C	2	R3135	C	3	R3251	D	4		
3199	C	5	C2152	C	2	R3136	B	2	R3255	D	4		
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3221	C	1	C2156	C	2	R3141	B	2	R3257	D	4		
3222	D	1	C2161	B	3	R3143	B	2	R3258	D	3		
5105	B	3	C2162	B	3	R3144	C	1	R3259	D	3		
5110	C	2	C2170	D	6	R3145	C	2	R3260	E	3		
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5120	B	1	C2173	D	6	R3150	B	3	R3263	C	4		
5121	B	1	C2174	E	5	R3151	B	4	R3264	D	3		
5122	B	2	C2177	D	5	R3160	D	5	R3265	D	3		
5123	B	2	C2178	D	5	R3161	E	5	R3266	E	3		
5124	C	2	C2179	D	5	R3162	C	5	R3267	E	3		
5125	B	2	C2187	B	6	R3163	C	5	R3268	E	3		
5126	C	2	C2189	C	6	R3164	B	6	R3269	E	3		
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5130	B	6	C2192	D	5	R3166	D	5	R3271	D	2		
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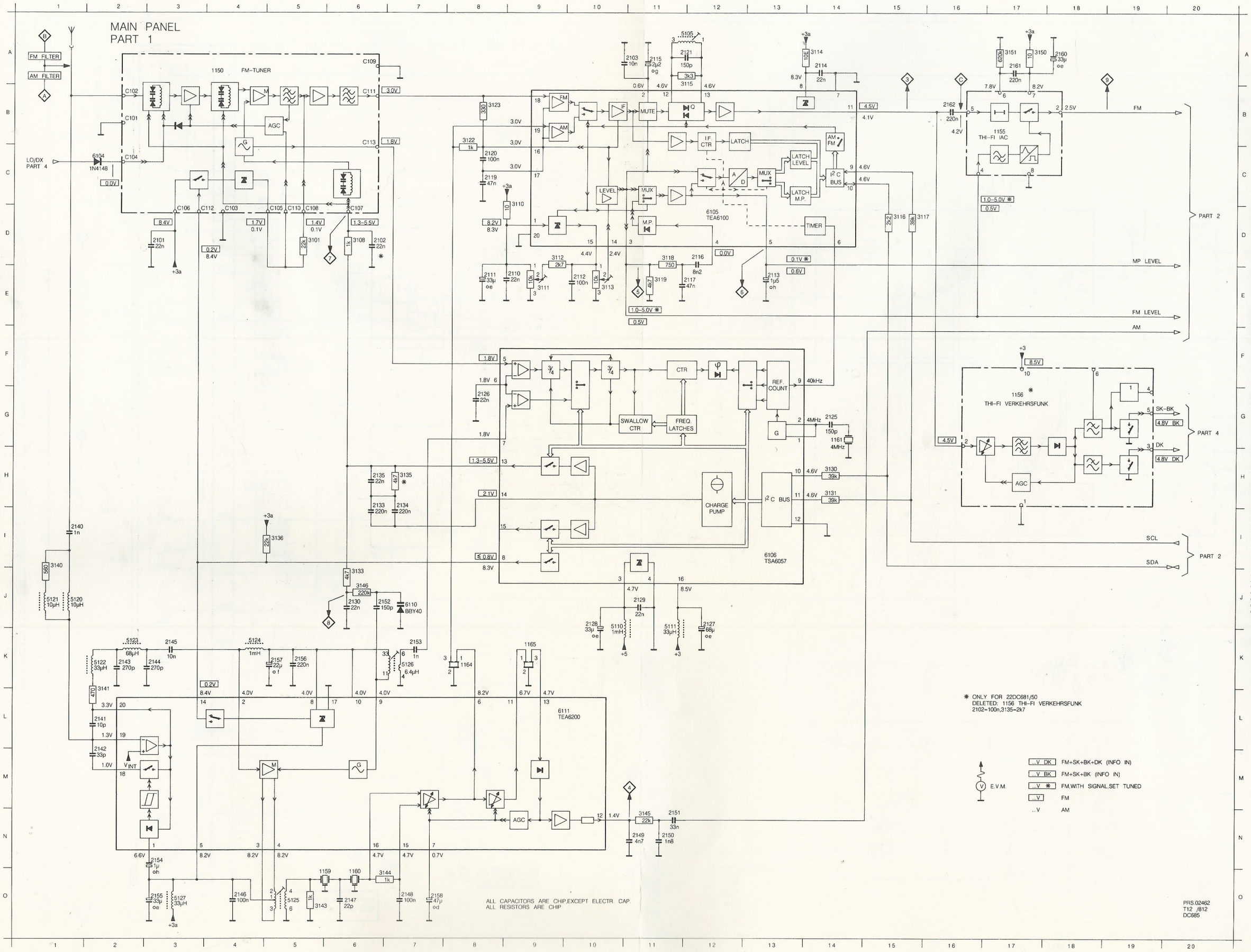

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1156	G17
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1161	G14
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1165	K 9
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2102	D 6
2103	A11
2110	E 9
2111	E 8
2112	E10
2113	E13
2114	A14
2115	A11
2116	D12
2117	E12
2119	C 8
2120	C 8
2121	A11
2125	G14
2126	G 8
2127	J12
2128	J10
2129	J11
2130	J 6
2133	H 6
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2135	H 6
2140	I 1
2141	L 2
2142	M 2
2143	K 2
2144	K 3
2145	K 3
2146	O 4
2147	O 6
2148	O 7
2149	N11
2150	N11
2151	N11
2152	J 7
2153	K 7
2154	N 3
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2158	O 7
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2162	B16
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3113	E10
3114	A14
3115	A12
3116	D15
3117	D16
3118	D11
3119	E11
3122	B 8
3123	B 8
3130	H14
3131	H14
3133	J 6
3135	H 7
3136	I 5
3140	I 1
3141	L 2
3143	O 6
3144	O 7
3145	N11
3146	J 6
3150	A17
3151	A17
5105	A12
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5121	J 1
5122	K 2
5123	K 2
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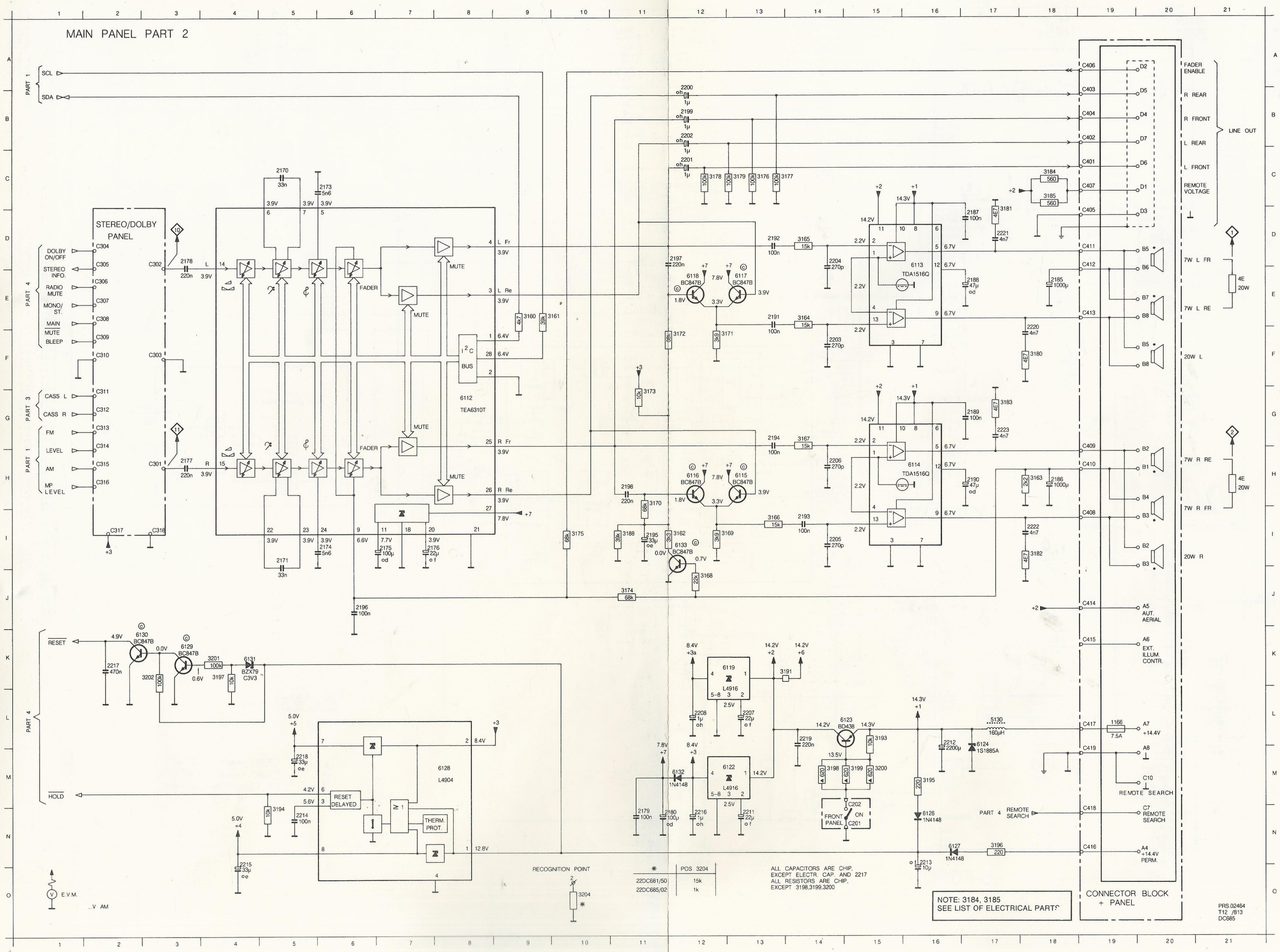

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22DC685/02	1k

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2171	I 5
2173	C 6
2174	I 6
2175	I 7
2176	I 8
2177	H 3
2178	D 3
2179	N11
2180	N12
2185	E18
2186	H18
2187	D17
2188	E17
2189	G17
2190	H17
2191	E13
2192	D13
2193	I 14
2194	G13
2195	I 11
2196	J 6
2197	D12
2198	H11
2199	B12
2200	A12
2201	C12
2202	B12
2203	F14
2204	D14
2205	I 14
2206	H14
2207	L13
2208	L12
2211	N13
2212	L16
2213	N16
2214	N 5
2215	N 4
2216	N12
2217	K 2
2218	M 5
2219	L14
2220	E16
2221	D17
2222	I 18
2223	G17
3160	E 9
3161	E10
3162	I 12
3163	H18
3164	E14
3165	D14
3166	I 13
3167	G14
3168	J 12
3169	I 13
3170	H11
3171	F13
3172	F12
3173	G11
3174	J 11
3175	I 10
3176	C13
3177	C14
3178	C12
3179	C13
3180	F18
3181	D17
3182	I 18
3183	G17
3184	C18
3185	C18
3188	I 11
3191	K14
3193	L15
3194	N 5
3195	M16
3196	N17
3197	K 4
3198	M14
3199	M15
3200	M15
3201	K 4
3202	K 3
3204	O10
5130	L17
6112	G 8
6113	D16
6114	H16
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6122	M13
6123	L15
6124	L17
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6130	K 3
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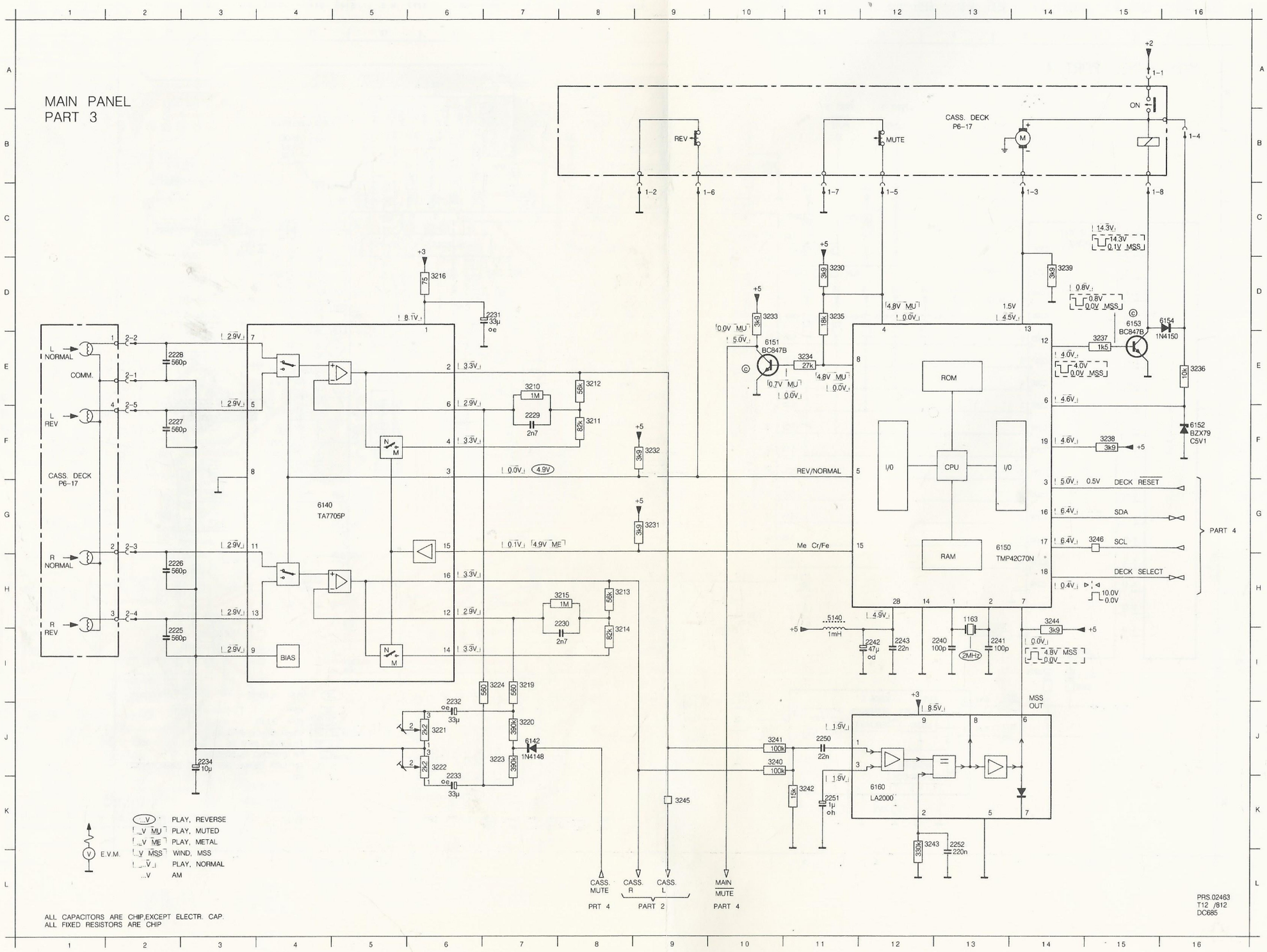
6133	I 12

CS 15 242



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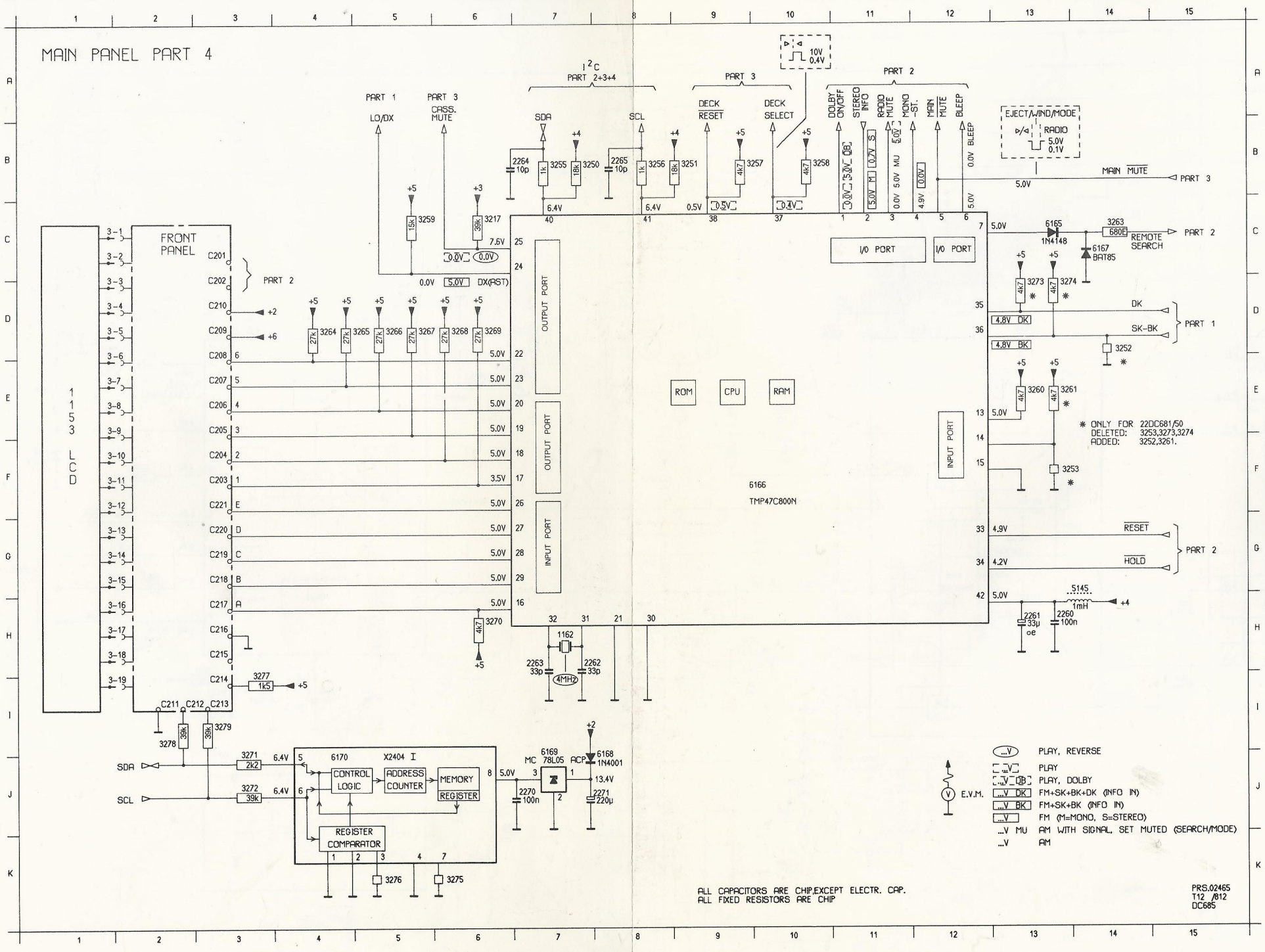
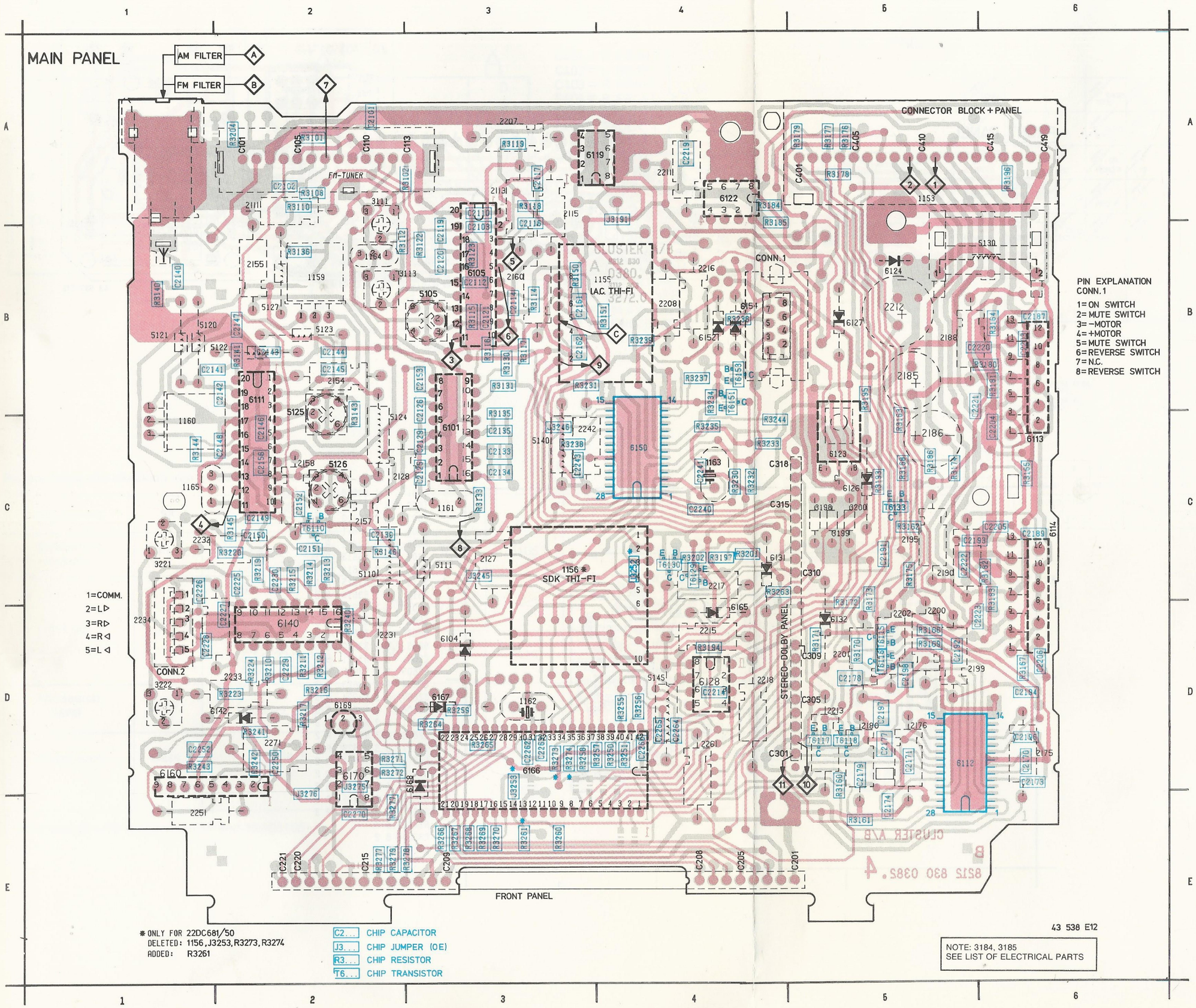
2227	F 2
2228	E 2
2229	F 7
2230	H 8
2231	D 7
2232	I 6
2233	K 6
2234	J 3
2240	I 13
2241	I 13
2242	I 12
2243	I 12
2250	J 11
2251	K 11
2252	K 13
3210	E 7
3211	F 8
3212	E 8
3213	H 8
3214	I 8
3215	H 8
3216	D 6
3219	I 7
3220	J 7
3221	J 6
3222	J 6
3223	J 7
3224	I 7
3230	D 11
3231	G 9
3232	F 9
3233	D 10
3234	E 11
3235	D 11
3236	E 16
3237	E 15
3238	F 14
3239	D 14
3240	J 10
3241	J 10
3242	K 11
3243	K 13
3244	H 14
3245	K 9
3246	G 14
5140	H 11
6140	G 4
6142	J 7
6150	G 13
6151	E 10
6152	F 16
6153	D 15
6154	D 16
6160	K 12

1162	H 7	2262	H 8	2265	B 8	3217	C 6	3252	D14	3256	B 8	3259	C 5	3263	C14	3266	D 5	3269	D 6	3272	J 3	3275	K 6	3278	I 2	6165	C13	6168	J 8
2260	H13	2263	H 7	2270	J 7	3250	B 8	3253	F13	3257	B10	3260	E13	3264	D 4	3267	D 5	3270	H 6	3273	D13	3276	K 5	3279	I 3	6166	F10	6169	I 7
2261	H13	2264	B 7	2271	J 8	3251	B 9	3255	B 7	3258	B10	3261	E14	3265	D 5	3268	D 6	3271	I 3	3274	D14	3277	H 3	5145	G14	6167	C14	6170	J 4





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1150	A	2	6104	D	3	C2196	D	6	R3169	D	5	R3274	D 3
1151	D	4	6105	B	3	C2197	D	5	R3170	D	5	R3277	E 2
1152	E	3	6106	C	3	C2198	D	5	R3171	D	5	R3277	E 2
1153	A	5	6111	B	2	C2203	B	6	R3172	C	5	R3278	E 3
1155	B	4	6113	B	6	C2204	C	6	R3173	C	5	R3279	E 2
1156	C	3	6114	C	6	C2205	C	6	R3174	C	5	T6110	C 2
1159	B	2	6119	A	4	C2206	D	6	R3175	C	5	T6115	D 5
1160	C	1	6122	A	4	C2214	D	4	R3176	A	5	T6116	D 5
1161	C	3	6123	C	5	C2219	A	4	R3177	A	5	T6117	D 5
1162	D	3	6124	B	5	C2220	B	6	R3178	A	5	T6118	D 5
1163	C	4	6126	C	5	C2221	B	5	R3179	A	5	T6129	C 4
1164	B	2	6127	B	5	C2222	C	5	R3180	B	6	T6130	C 4
1165	C	1	6128	D	4	C2223	D	6	R3181	B	6	T6133	C 5
1999	B	4	6131	C	4	C2225	C	2	R3182	C	6	T6151	B 4
2113	A	3	6132	D	5	C2226	C	1	R3183	C	6	T6153	B 4
2115	A	3	6140	D	2	C2227	D	2	R3184	A	4		
2127	C	3	6142	D	2	C2228	D	1	R3185	B	4		
2128	C	2	6152	B	4	C2229	D	2	R3186	C	5		
2154	B	2	6154	B	4	C2230	C	2	R3193	C	5		
2155	B	2	6160	D	1	C2240	C	4	R3194	D	4		
2157	C	2	6165	D	4	C2241	C	4	R3195	B	5		
2158	C	2	6167	D	3	C2243	C	3	R3196	A	6		
2160	B	3	6168	D	3	C2250	D	2	R3197	C	4		
2175	D	6	6169	D	2	C2252	D	1	R3201	C	4		
2176	D	5	6170	D	2	C2260	D	4	R3202	C	4		
2180	D	5	7999	D	3	C2262	D	3	R3203	A	2		
2185	B	5	C2101	A	2	C2263	D	3	R3204	A	2		
2186	C	5	C2102	A	2	C2264	D	4	R3210	D	2		
2188	B	5	C2103	B	3	C2265	D	4	R3211	D	2		
2190	C	5	C2110	A	3	C2270	E	2	R3212	D	2		
2195	C	5	C2112	B	3	I6112	D	5	R3213	C	2		
2199	D	5	C2114	B	3	I6150	C	4	R3214	C	2		
2200	D	5	C2116	B	3	J3191	A	4	R3215	C	2		
2201	D	5	C2117	A	3	J3245	C	3	R3216	D	2		
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2207	A	3	C2120	B	3	J3253	D	3	R3219	C	2		
2208	B	4	C2121	B	3	J3254	D	3	R3220	C	2		
2211	A	4	C2125	C	3	J3275	D	2	R3223	D	2		
2212	B	5	C2126	B	3	J3276	D	2	R3224	D	2		
2213	D	5	C2129	C	3	R3101	A	2	R3230	C	4		
2215	D	4	C2130	C	2	R3102	A	3	R3231	B	3		
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2218	D	4	C2135	C	3	R3112	B	2	R3234	B	4		
2231	D	2	C2140	B	1	R3114	B	3	R3235	C	4		
2232	C	1	C2141	B	1	R3115	B	3	R3236	B	4		
2233	D	2	C2142	B	2	R3116	B	3	R3237	B	4		
2234	D	1	C2143	B	2	R3117	B	3	R3238	C	3		
2234	D	1	C2144	B	2	R3118	A	3	R3239	B	4		
2242	C	3	C2145	B	2	R3119	A	3	R3240	D	2		
2251	E	1	C2146	C	2	R3122	B	3	R3241	D	2		
2261	D	4	C2147	B	2	R3123	B	3	R3242	D	2		
2271	D	2	C2148	C	2	R3130	B	3	R3243	D	1		
3111	A	2	C2149	C	2	R3131	B	3	R3244	C	4		
3113	B	3	C2150	C	2	R3133	C	3	R3250	D	4		
3198	C	5	C2151	C	2	R3135	C	3	R3251	D	4		
3199	C	5	C2152	C	2	R3136	B	2	R3255	D	4		
3200	C	5	C2153	B	3	R3140	B	1	R3256	D	4		
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5105	B	3	C2162	B	3	R3144	C	1	R3259	D	3		
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5123	B	2	C2178	D	5	R3161	E	5	R3266	E	3		
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5127	B	2	C2191	C	5	R3165	C	6	R3270	E	3		
5130	B	6	C2192	D	5	R3166	D	5	R3271	D	2		
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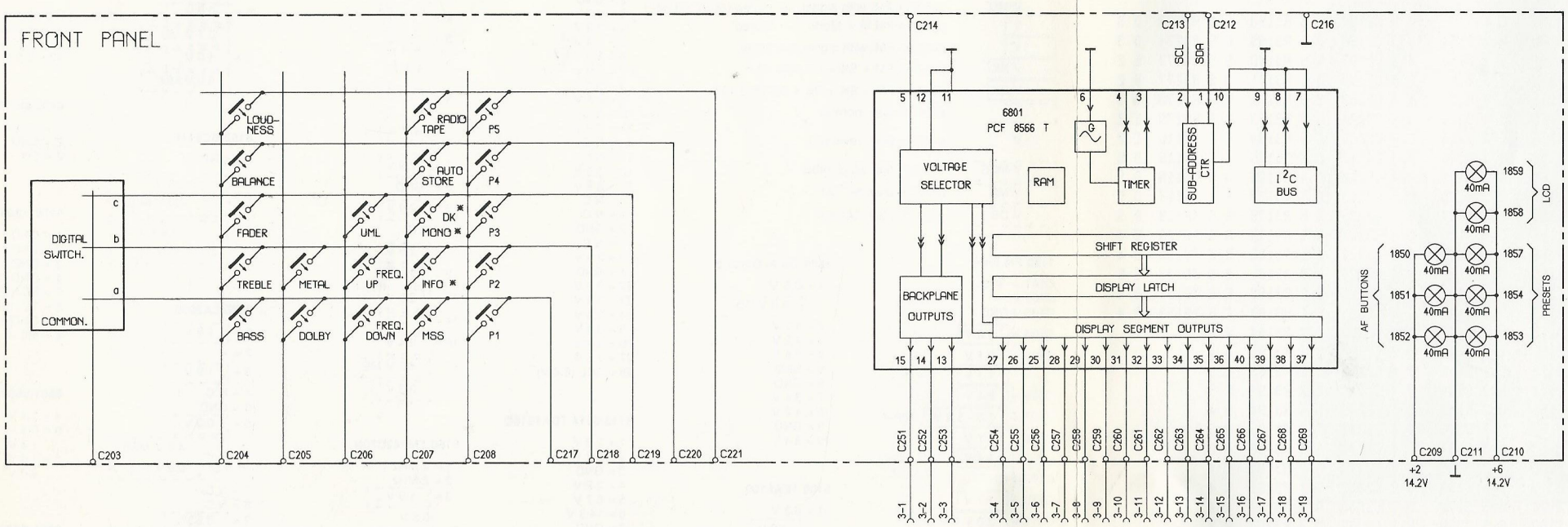

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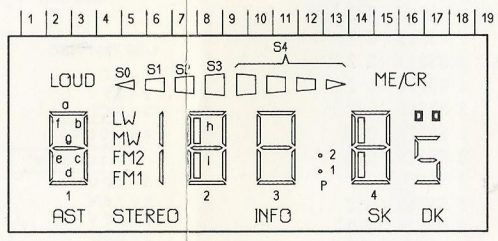
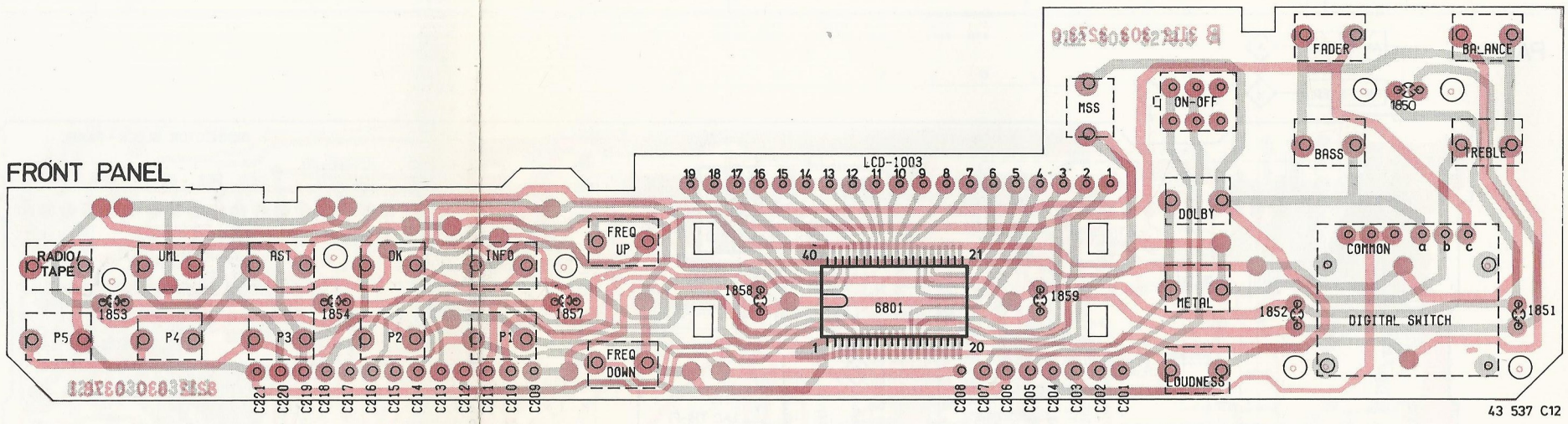
ONLY FOR 22DC681/00
ADDED: MONO

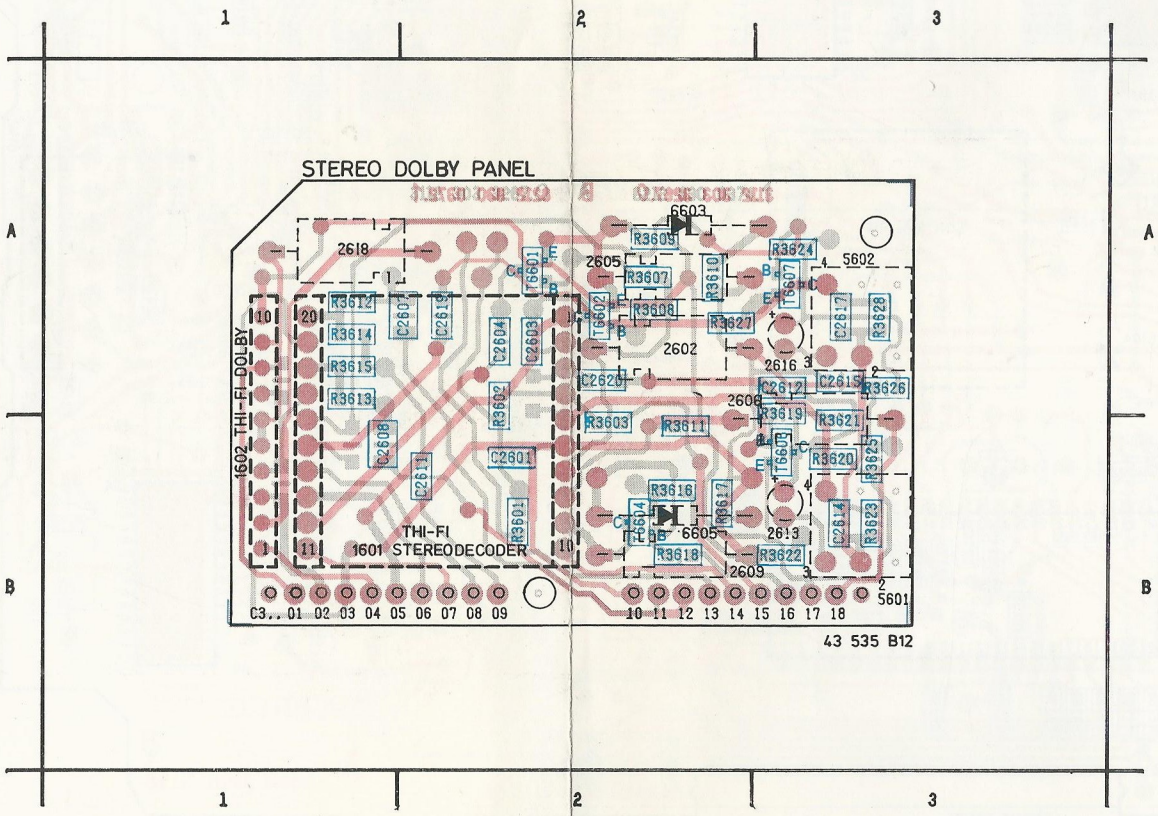


L C D PINNING

DISPLAY PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
COMMON A			COM A	L0	A1	B1	S0+S1	LW	S2+S3	F2	A2	B2	S4	A3	B3	F4	A4	B4	ME
COMMON B		COM B		F1	G1	C1	FM2+P2	MW	¦	H2+I2	G2	C2	F3	G3	C3	H4+I4	G4	C4	▫▫
COMMON C	COM C			E1	D1	AS	FM+P1	(FM) 1	ST	E2	D2	IN	E3	D3	SK	E4	D4	DK	5

PRS.02467
T12 812
DC685





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2605	A 2	R3611	B 2		
2606	A 2	R3612	A 1		
2609	B 2	R3613	A 1		
2613	B 2	R3614	A 1		
2616	A 2	R3615	A 1		
2618	A 1	R3616	B 2		
5601	B 3	R3617	B 2		
5602	A 3	R3618	B 2		
6603	A 2	R3619	A 3		
6605	B 2	R3620	B 3		
C2601	B 2	R3621	B 3		
C2603	A 2	R3622	B 3		
C2604	A 2	R3623	B 3		
C2607	A 2	R3624	A 3		
C2608	B 1	R3625	B 3		
C2611	B 2	R3626	A 3		
C2612	A 3	R3627	A 2		
C2614	B 3	R3628	A 3		
C2615	A 3	T6601	A 2		
C2617	A 3	T6602	A 2		
C2619	A 2	T6604	B 2		
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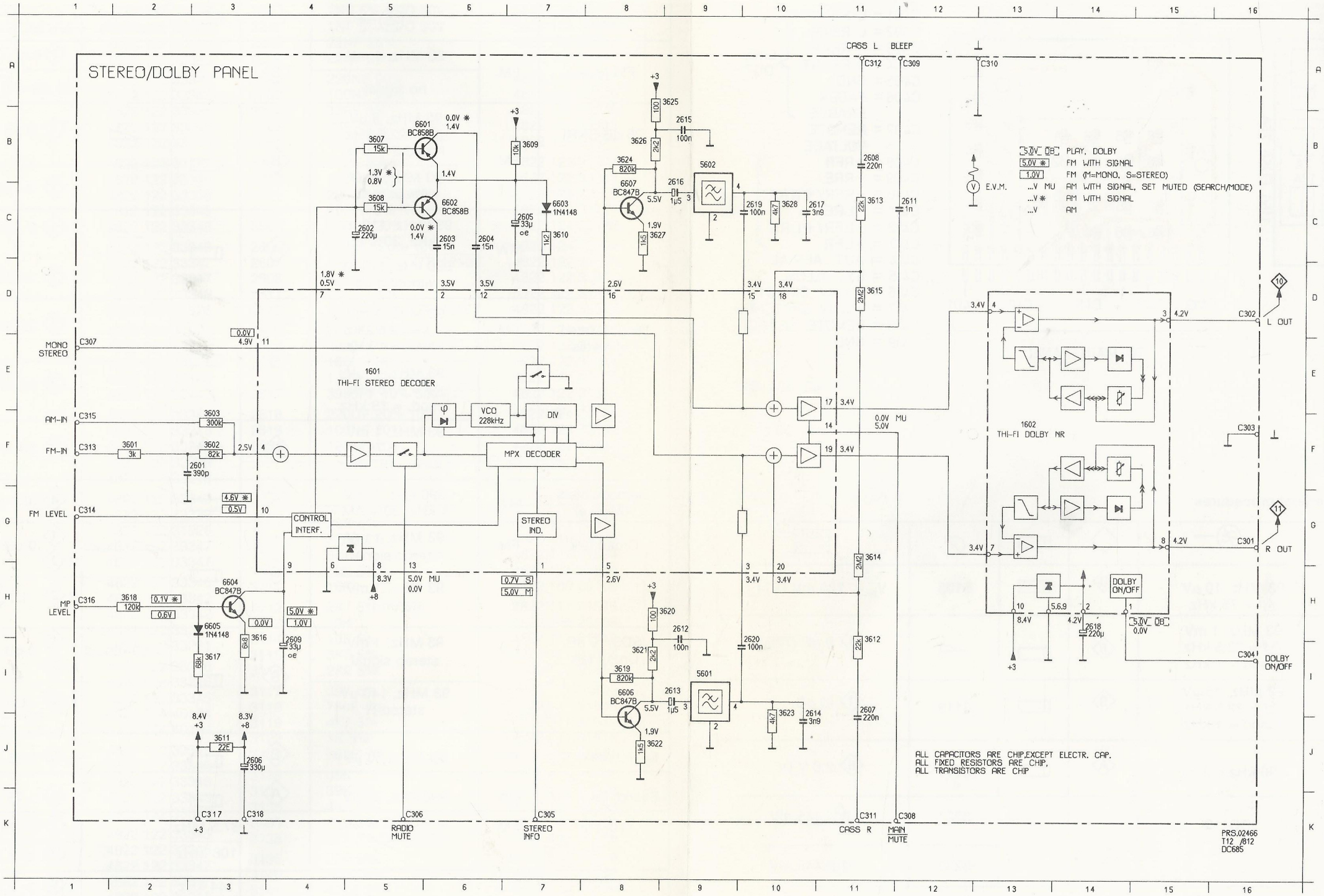
R3602	A 2				
R3603	B 2				
R3607	A 2				



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2617	C10
2618	H14
2619	C10
2620	H10
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3603	F 3
3607	B 5
3608	C 5
3609	B 7
3610	C 7
3611	J 3
3612	H11
3613	C11
3614	G11
3615	D11
3616	H 3
3617	I 3
3618	H 2
3619	I 8
3620	H 9
3621	I 8
3622	J 8
3623	I 10
3624	B 8
3625	A 9
3626	B 8
3627	C 8
3628	C10
5601	I 9
5602	B 9
6601	B 5
6602	B 5
6603	C 7
6604	H 3
6605	H 3
6606	I 8
6607	B 8

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406	4822 460 10902	22DC685/02
406	4822 454 12113	22DC681/50
407	4822 443 62269	
408	4822 413 31521	
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412	4822 410 26409	
414	4822 410 26411	
416	4822 462 71496	
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419	4822 410 26129	
422	4822 276 12404	
424	4822 443 30463	
425	4822 321 10551	
426	4822 492 63822	
428	4822 290 60719	

429	4822 210 10305	
430	4822 267 30883	
431	4822 410 26408	
432	4822 410 26415	
433	4822 410 26407	
434	4822 256 91295	
436	4822 410 26412	22DC685/02
437	4822 410 26413	
438	4822 256 91296	
439	4822 410 26406	
441	4822 276 11517	
442	4822 276 12405	
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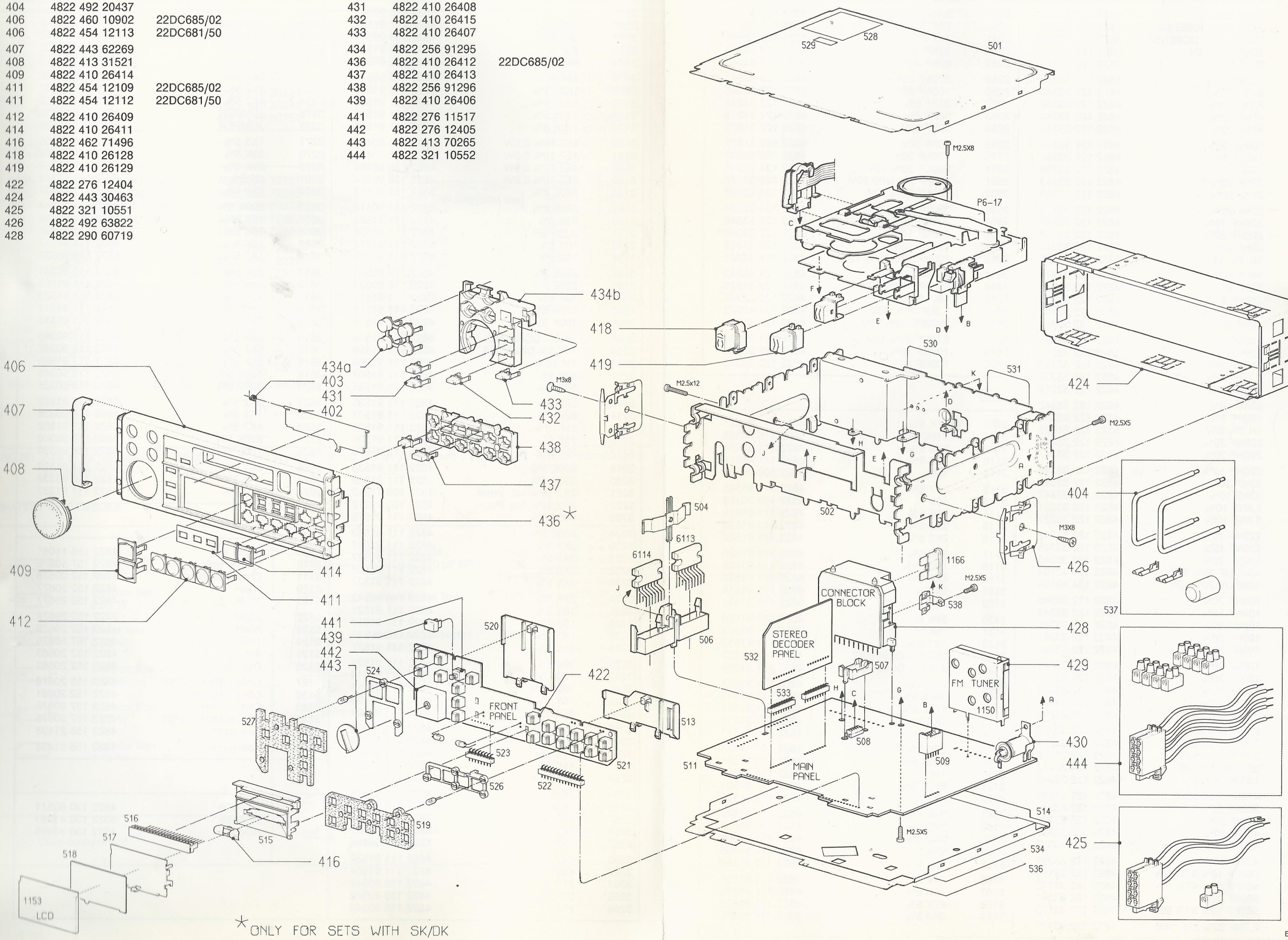

*ONLY FOR SETS WITH SK/DK