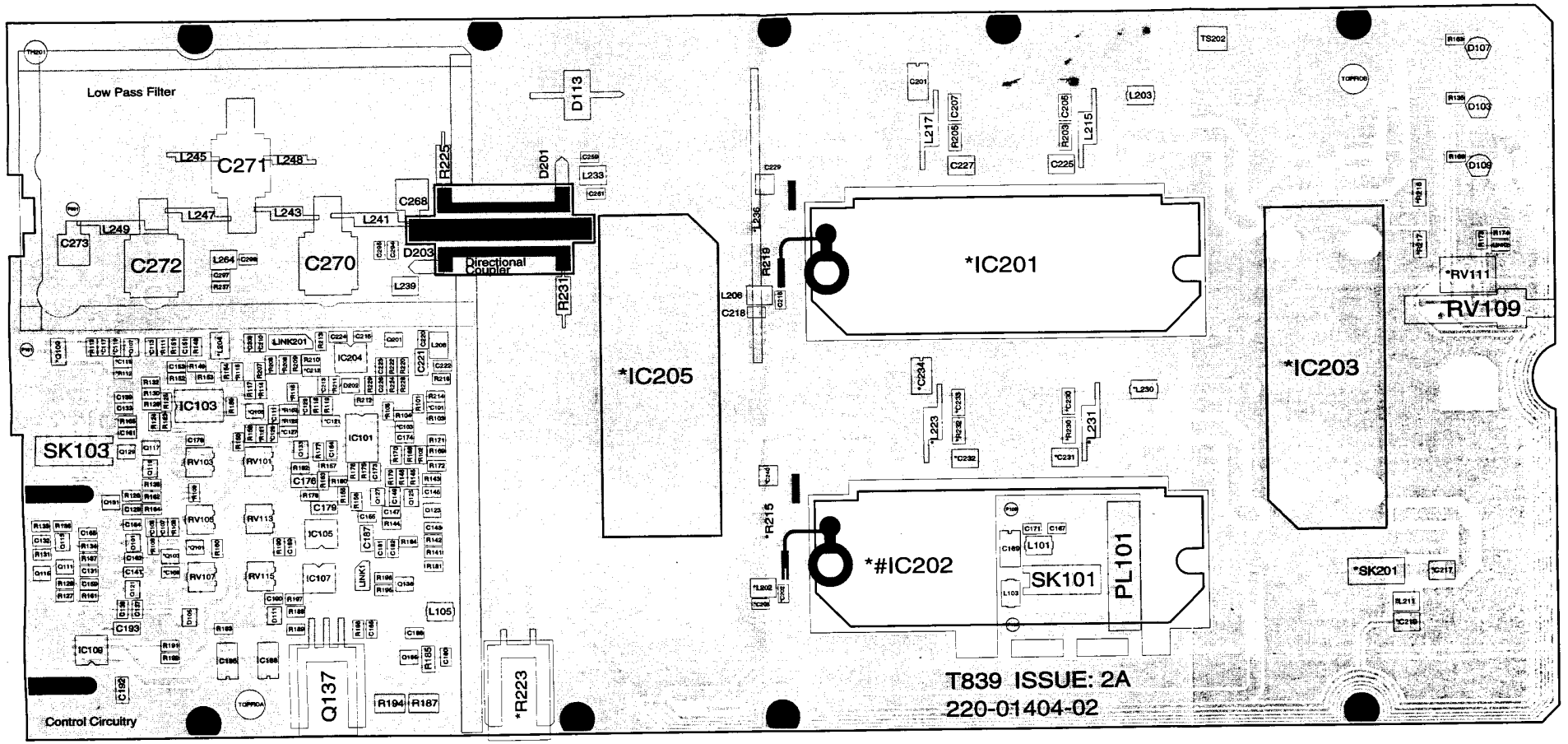
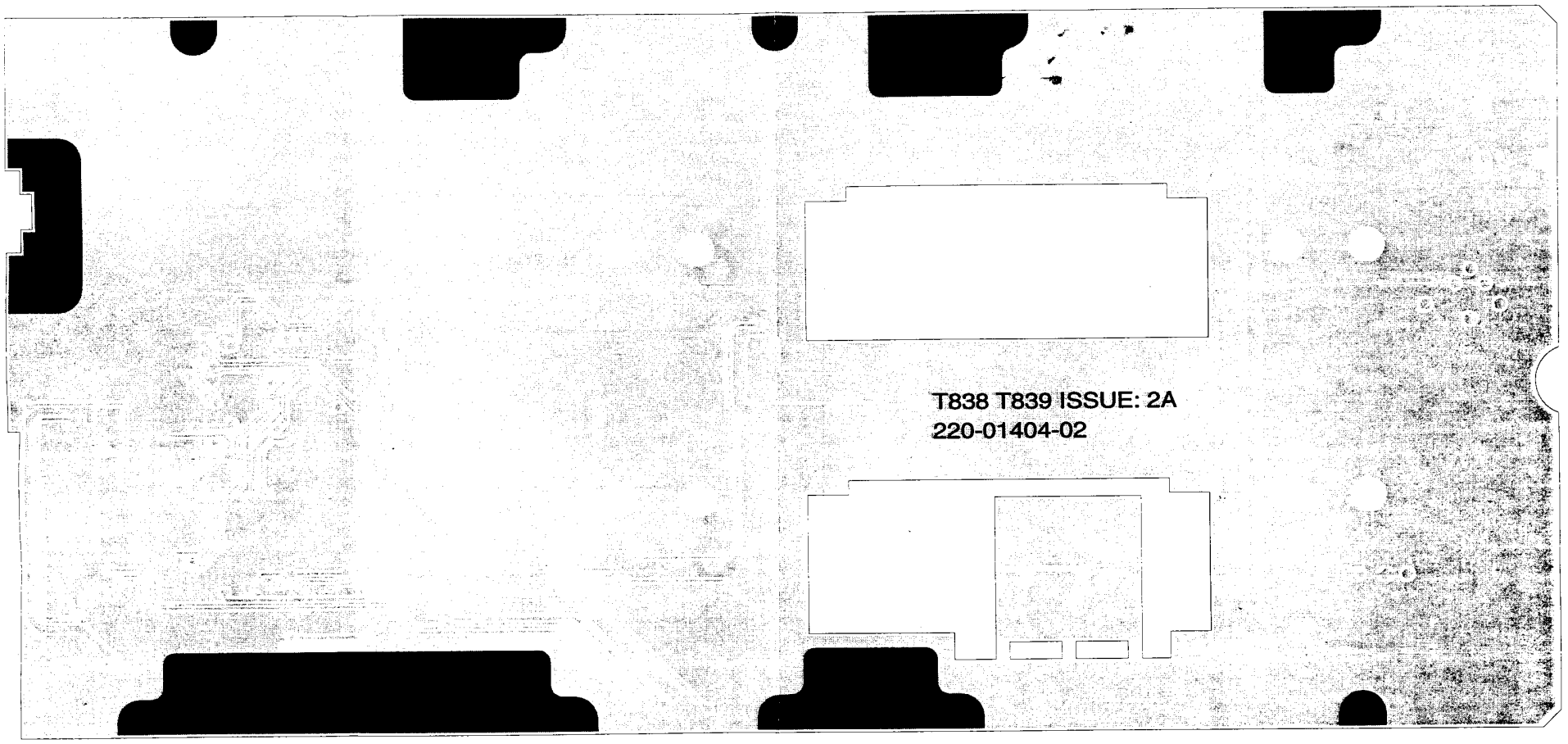

Low Pass Filter
Control Circuitry
Directional Coupler
*IC201
*IC202
*IC203
*IC205
SK101
SK103
PL101
Q137
*R223
*RV111
RV109
*SK201
T839 ISSUE: 2A
220-01404-02


T838 T839 ISSUE: 2A
220-01404-02
8
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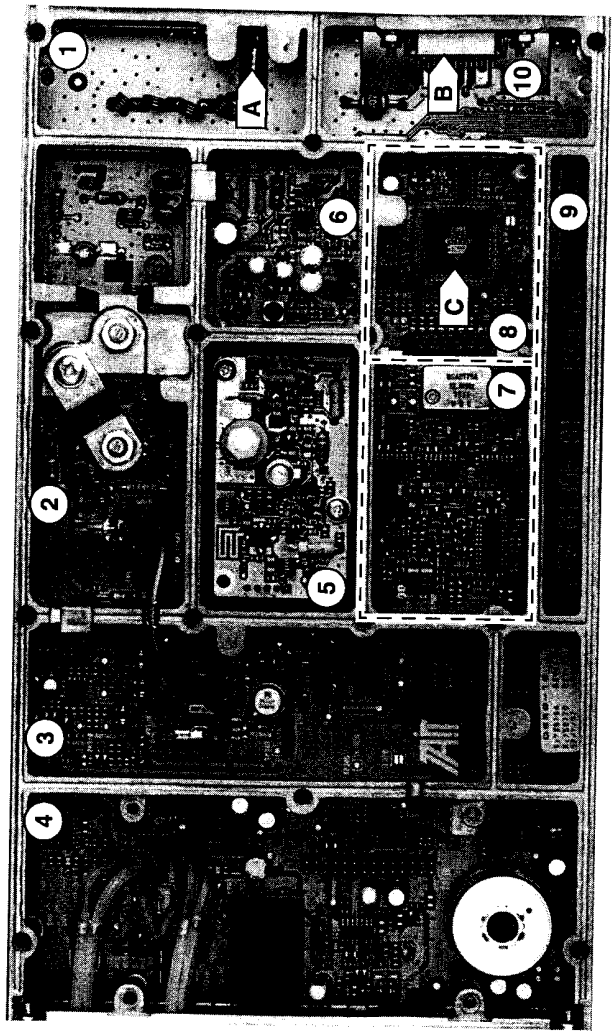
Q



Key:

1 low pass filter
2 PA
3 exciter drive amplifier
4 audio processor
5 VCO
6 regulators
7 synthesiser
8 microcontroller and CTCSS
9 duct for cabling to extra D-range (if fitted)
10 D-range

A RF output
B D-range connector ("D-range 1") incl. audio in & DC in (refer to Section 2.2 in Part F)
C microcontroller

Figure 1.1 T836 Main Circuit Block Identification

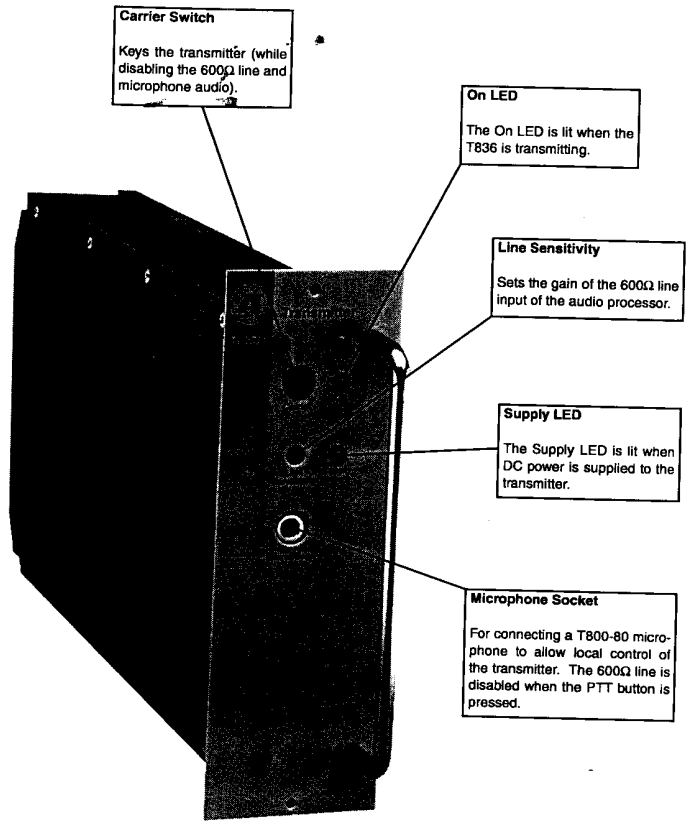
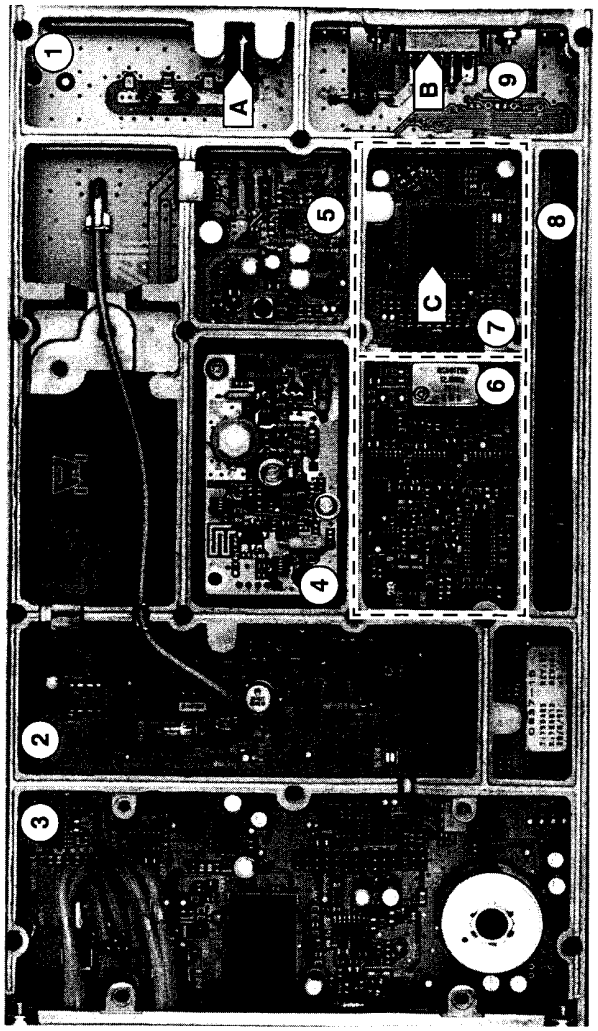


Figure 1.2 T836 Front Panel Controls

Copyright TEL



Key:

1 low pass filter
2 exciter drive amplifier
3 audio processor
4 VCO
5 regulators
6 synthesiser
7 microcontroller and CTCSS
8 duct for cabling to extra D-range (if fitted)
9 D-range
A RF output
B D-range connector ("D-range 1") incl. audio in & DC in (refer to Section 2.2 in Part F)
C microcontroller

Figure 1.3 T837 Main Circuit Block Identification

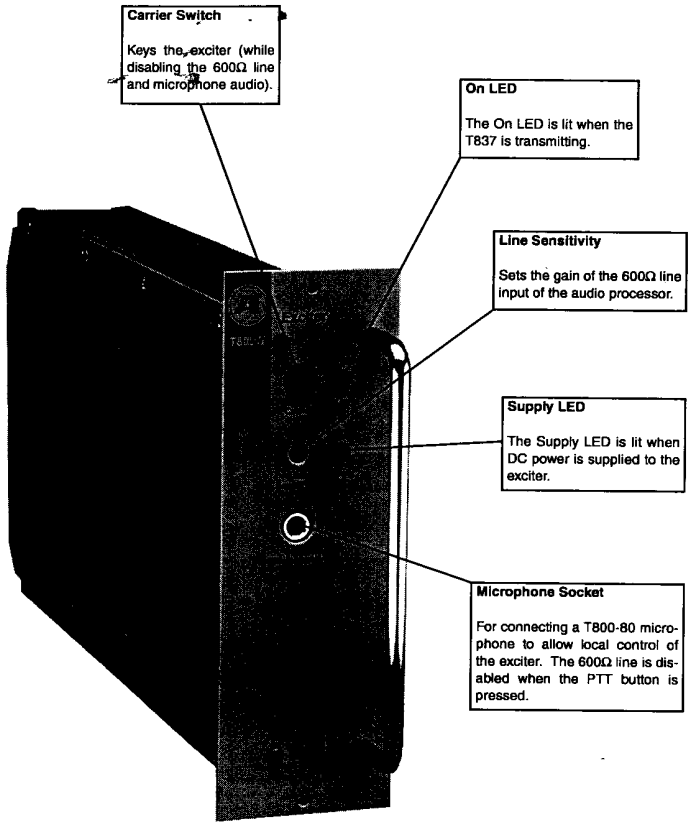
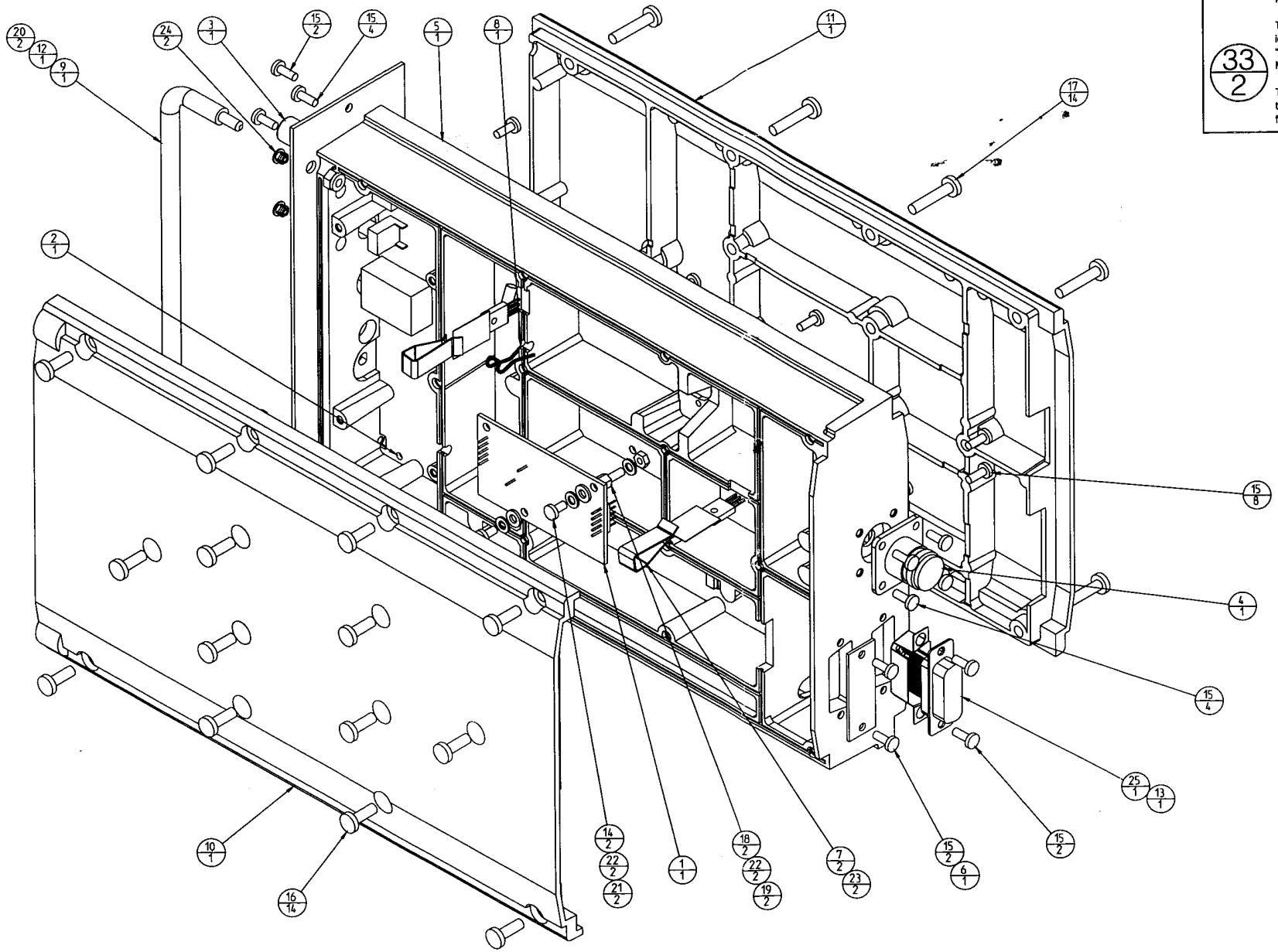


Figure 1.4 T837 Front Panel Controls

Copyright TEL



Key

33/2

The upper number is the component identification number which appears in the "Legend" column of the Mechanical & Miscellaneous Parts on the facing page.

The lower number indicates how many of this component are used in this location or function.

T837 Mechanical Assembly
220-01390-02

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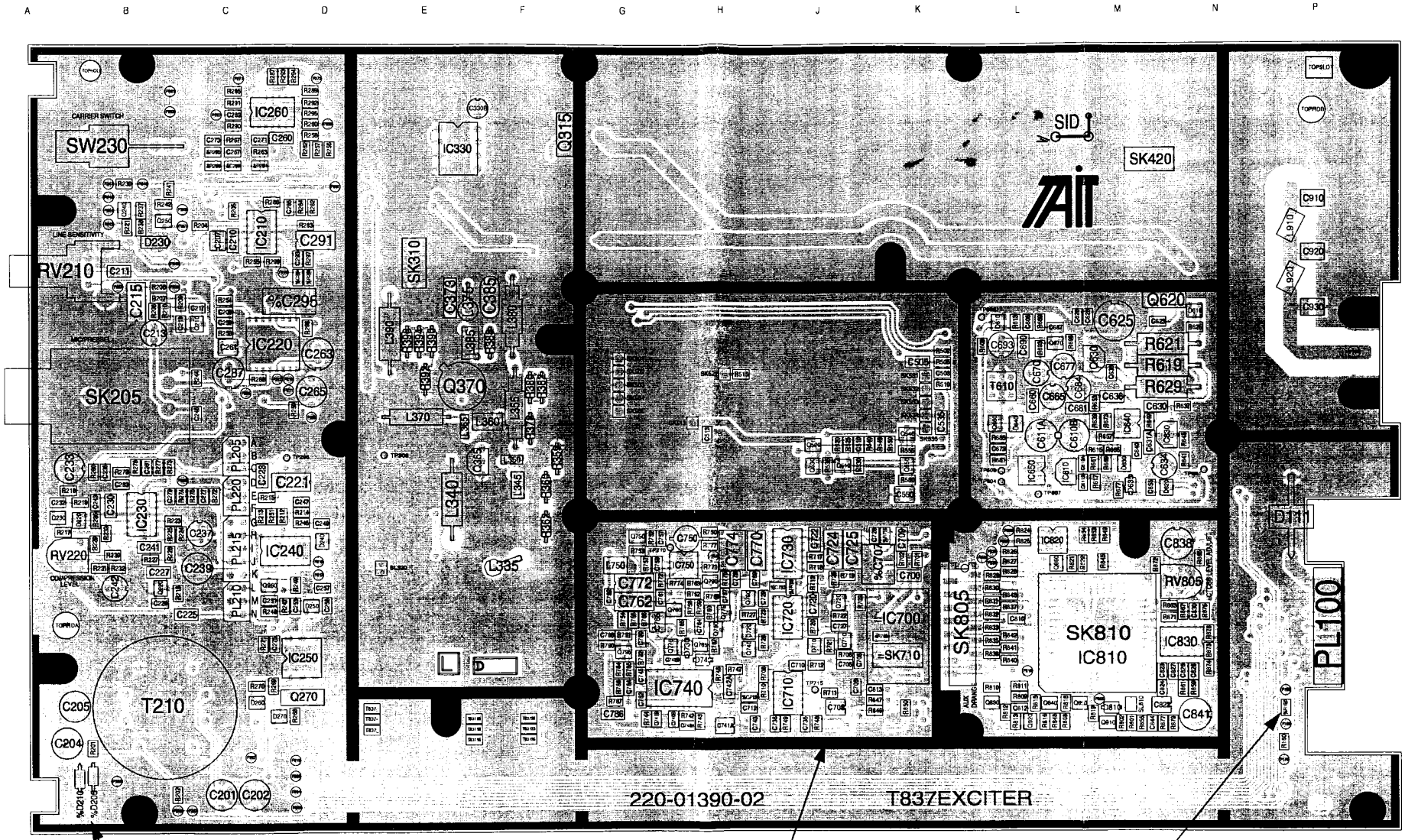

%D210 and %D205 are shown incorrectly on the PCB encoding as #D210 and #D205.

The darker shading shows the outline of the chassis.

%R150 (10Ω) is fitted only when the T837 is used in a Series I rack frame (refer to Part I for full details)

T837 PCB Layout
Top Side
220-01390-02

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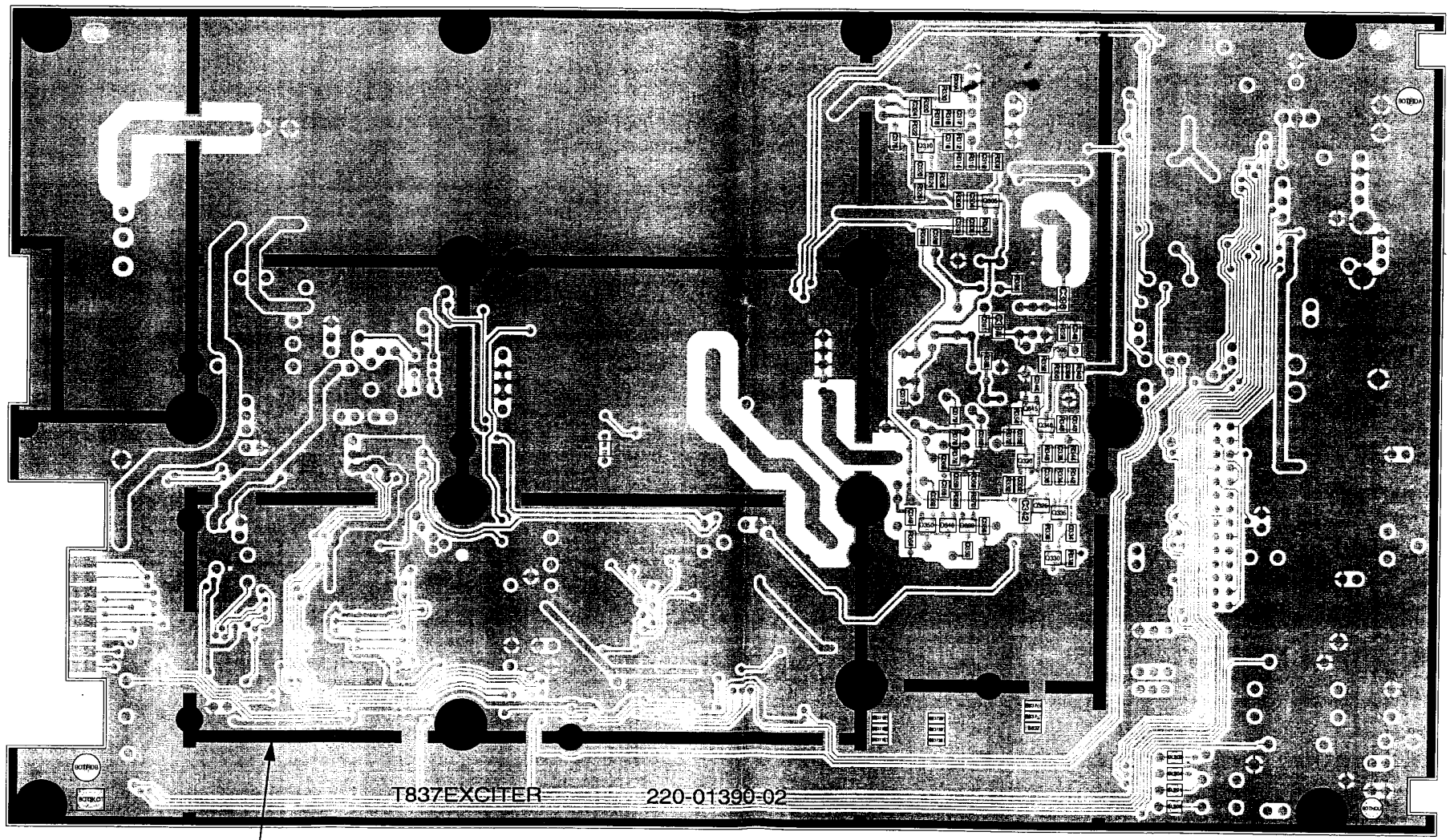
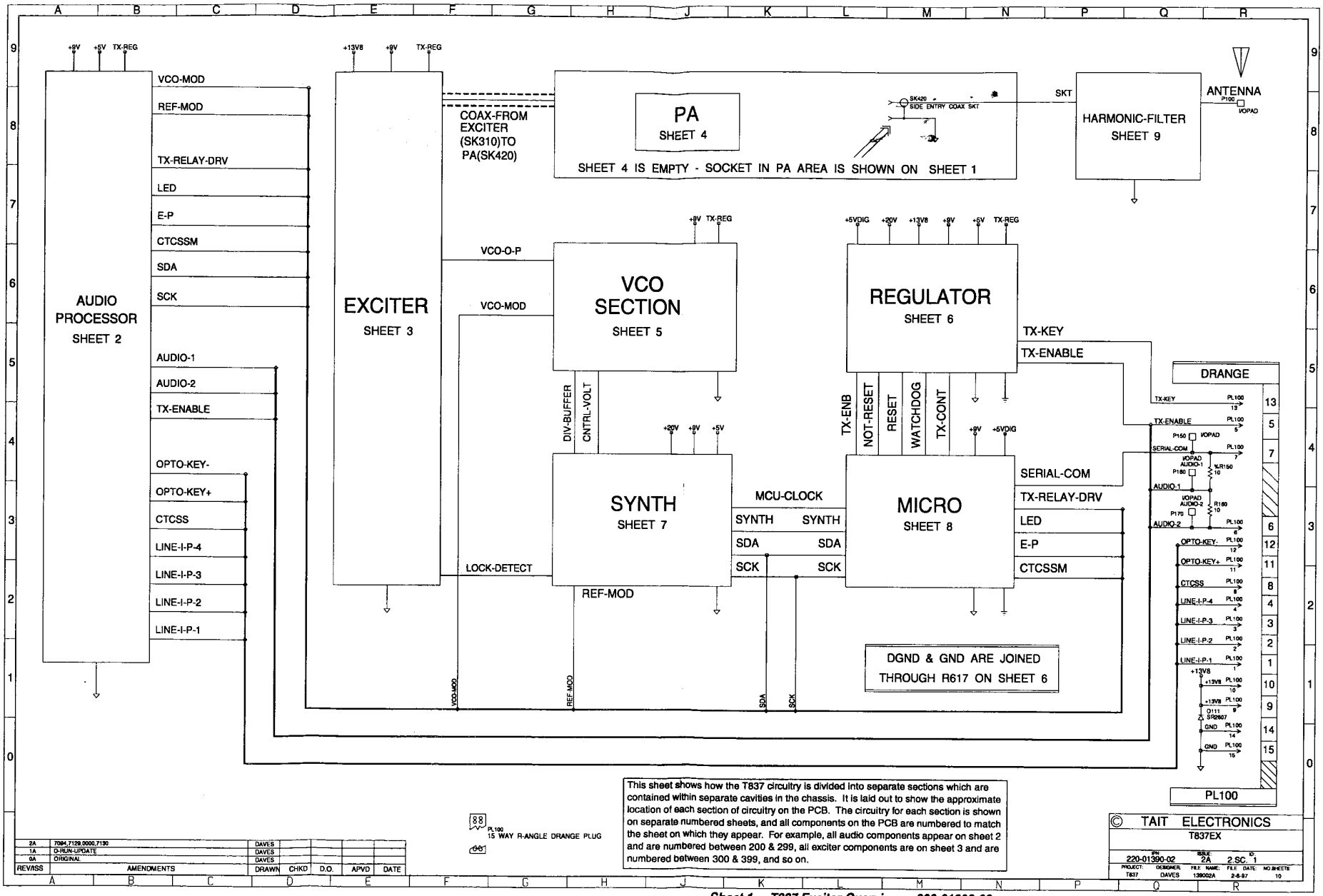


The darker shading shows the footprint of the bottom cover.

T837 PCB Layout
Bottom Side
220-01390-02



Sheet 1 T837 Exciter Overview - 220-01390-02

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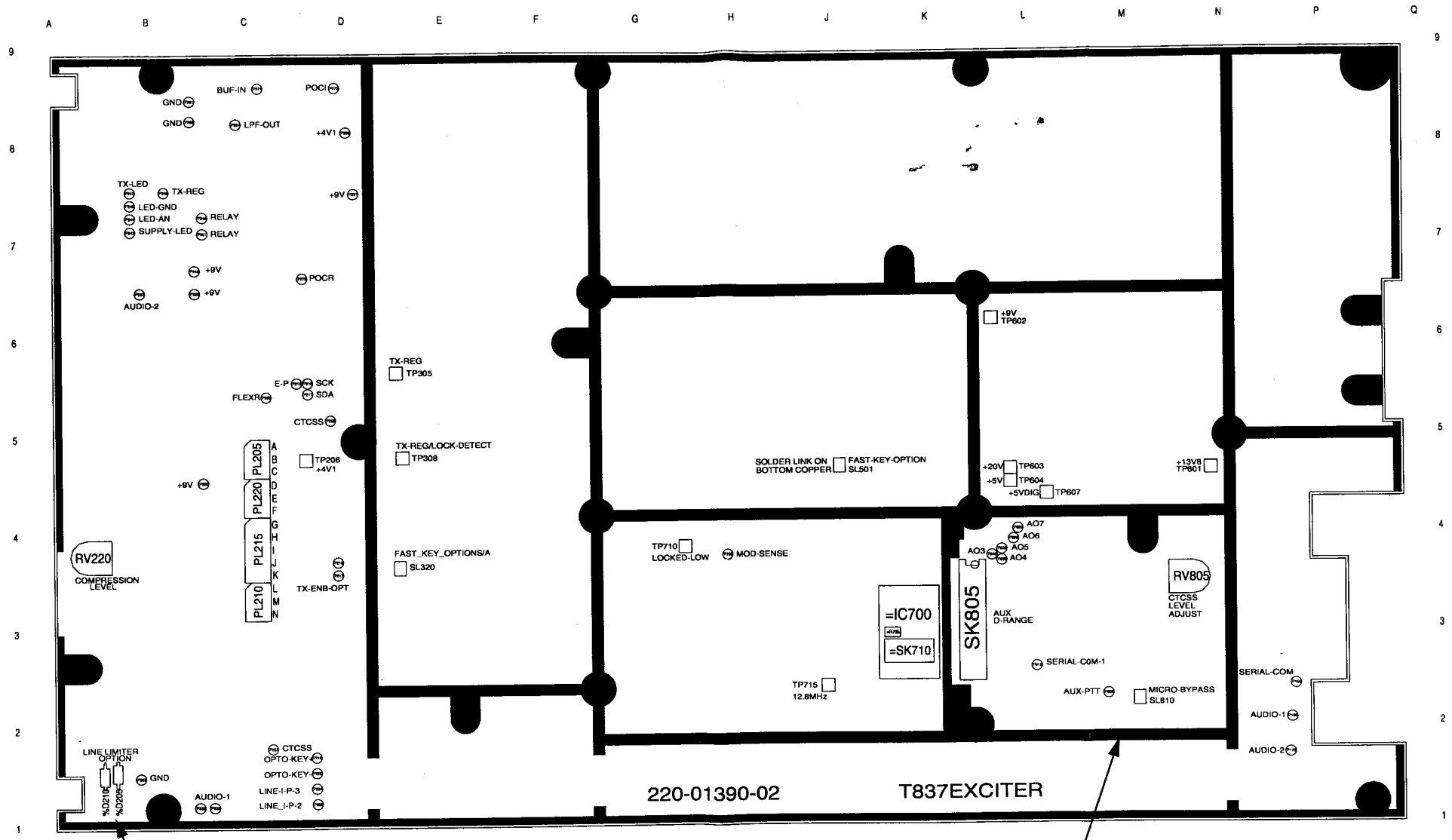

%D210 and %D205 are shown incorrectly on the PCB encoding as #D210 and #D205.

The dark shading shows the outline of the chassis.

T837 Test Points & Options Connections
Top & Bottom Side Shown
220-01390-02

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T837 Grid Reference Index (IPN 220-01390-02)

How To Use This Grid Reference Index

The first digit in the PCB layout reference is a "1" or "2", indicating the top or bottom side layout respectively, and the last two characters give the location of the component on that diagram.

The first digit in the circuit diagram reference is the sheet number, and the last two characters give the location of the component on that sheet.

Device	PCB	Circuit
C201	1:C1	2-B8
C202	1:C1	2-C8
C204	1:A2	2-E8
C205	1:A2	2-E8
C207	1:C7	2-B6
C209	1:C6	2-D6
C210	1:C7	2-H0
C211	1:B7	2-F8
C213	1:B6	2-G8
C215	1:B6	2-G8
C217	1:C6	2-H8
C219	1:C6	2-H7
C221	1:D5	2-G6
C223	1:C5	2-J6
C225	1:C3	2-K7
C227	1:B4	2-K7
C229	1:B3	2-L7
C230	1:B4	2-H0
C232	1:A4	2-M7
C233	1:A5	2-N7
C235	1:B5	2-K5
C237	1:C4	2-K5
C239	1:C4	2-L4
C241	1:B4	2-M6
C242	1:B3	2-L6
C243	1:B4	2-P6
C245	1:C5	2-A4
C247	1:D4	2-B4
C249	1:D4	2-C4
C251	1:C3	2-E4
C253	1:D3	2-E3
C255	1:D3	2-D2
C257	1:D3	2-F2
C259	1:C6	2-J2
C260	1:D8	2-G0
C261	1:C6	2-K2
C263	1:D6	2-L3
C265	1:D5	2-N4
C267	1:C8	2-P3
&C269	1:C8	2-P3
C271	1:C8	2-Q3
C273	1:C8	2-Q4
C275	1:D3	2-E1
C277	1:C4	2-G1
C279	1:B4	2-G1
C281	1:B5	2-J1
C283	1:B5	2-K0
C285	1:D7	2-L0
C287	1:C6	2-M1
C289	1:C8	2-N1
C291	1:D7	2-P1
C293	1:D7	2-Q1
%C294	1:D7	2-Q0
%C295	1:D6	2-Q0
C304	2:F7	3-A8
C308	2:F7	3-C8
C312	2:F7	3-D8
C316	2:E8	3-D9
C317	2:F8	3-E8
C318	2:F8	3-F9
C320	2:F7	3-G8
C324	2:F8	3-H9
C332	2:E4	3-B5
C334	2:E4	3-D4
C336	2:E4	3-D6
C338	2:E5	3-F5
C340	2:E5	3-F5
C342	2:E4	3-G6
C344	2:E5	3-J5
C346	2:E6	3-J6
C349	2:F4	3-C2
C350	2:F4	3-E3
C353	2:F4	3-D0
C356	2:E4	3-F1
C359	2:E5	3-F1
C362	2:F4	3-G2
C365	2:F4	3-G2
C368	2:F5	3-H2
C370	2:F5	3-K3
C373	1:E6	3-L4
C376	2:F8	3-L4
C379	2:F5	3-K3
C382	2:E5	3-L2
C385	1:F6	3-P4
C388	2:F7	3-P4
C391	2:E6	3-P2
C394	2:E6	3-P3
C396	2:E6	3-Q3
C399	2:E5	3-R4
C503	1:K6	5-L9
C505	1:K6	5-M6
C510	1:J5	5-C0
C513	1:H5	5-G2
C535	1:K5	5-M2
C550	1:K4	5-L0
C605	1:L6	6-D8
C623	1:M6	6-N8
C625	1:M6	6-Q8
C626	1:M6	6-R8
C628	1:M6	6-R8
C630	1:M5	6-K5
C634	1:N5	6-M4
C636	1:M5	6-M4
C638	1:M6	6-P5
C640	1:M5	6-R6
C655	1:M4	6-C1
C660	1:L5	6-K1
C665	1:L5	6-K1
C670	1:L6	6-L1
C673	1:L5	6-P2
C677	1:L6	6-P1
C681	1:M5	6-R3
C684	1:M5	6-R3
C687	1:L6	6-Q1
C690	1:L6	6-R1
C693	1:L6	6-R1
C700	1:K4	7-A8
C703	1:J3	7-B7
C705	1:J3	7-B7
C706	1:J2	7-B5
%C707	1:K4	7-C8
C708	1:J2	7-C9
C709	1:K4	7-D9
C710	1:J3	7-E8
C712	1:H2	7-E7
%C713	1:H2	7-E6
C720	1:J3	7-F8
C722	1:J4	7-G8
C724	1:J4	7-H6
C725	1:J4	7-J6
C726	1:K4	7-J6
C727	1:J3	7-J8
C729	1:H3	7-M8
%C733	1:J3	7-M5
C735	1:J2	7-A1
C736	1:J2	7-B1
C743	1:H2	7-B1
C745	1:G3	7-D1
C750	1:H4	7-Q7
C757	1:G4	7-F5
C759	1:G4	7-G4
C761	1:G3	7-J4
C762	1:G3	7-K4
C764	1:H3	7-J2
C765	1:G3	7-K2
C767	1:H3	7-K3
C769	1:H4	7-N4
C770	1:H4	7-N4
C772	1:G4	7-N2
C774	1:H4	7-P2
C776	1:H4	7-N1
C782	1:G2	7-N1
C784	1:G2	7-Q1
C786	1:G2	7-R1
C788	1:G3	7-P0
C790	1:G3	7-Q0
C792	1:G3	7-Q0
C810	1:L3	8-K8
C812	1:L2	8-F5
C813	1:K2	8-H5
C822	1:M2	8-B2
C823	1:M3	8-C2
C824	1:M2	8-C1
C826	1:N3	8-C0
C827	1:N3	8-D0
C828	1:N3	8-E0
C830	1:N3	8-R1
C838	1:N4	8-F0
C841	1:N2	8-K2
C844	1:M2	8-L2
C910	1:P7	9-E4
C920	1:P7	9-F4
C930	1:P6	9-G4
C330A	2:F8	3-N8
C330B	1:F8	3-N8
C610A	1:M5	6-F8
C610B	1:M5	6-G8
C611A	1:L5	6-H8
C611B	1:M5	6-J8
C631A	1:M5	6-M6
C740A	1:H2	7-B4
C740B	1:H2	7-B3
C741A	1:H2	7-C4
C741B	1:G2	7-C3
C742A	1:H2	7-D4
C742B	1:H3	7-D3
D111	1:P4	1-R1
%D205	1:B2	2-D9
%D210	1:B2	2-E9
D220	1:B4	2-P7
D220	1:B4	2-P6
D230	1:B7	2-R5
D240	1:D4	2-C4
D240	1:D4	2-B2
D250	1:D3	2-E2
D250	1:D3	2-D3
D260	1:C2	2-C2
D260	1:C2	2-C2
D270	1:D2	2-C1
D270	1:D2	2-C1
D340	2:F4	3-D2
D350	2:F4	3-E2
D360	2:F4	3-E2
D610	1:N6	6-L6
D610	1:N6	6-K6
D620	1:N4	6-B1
D620	1:N4	6-B2
D630	1:M5	6-G2
D630	1:M5	6-G3
D635	1:M4	6-G3
D640	1:L5	6-M1
D640	1:L5	6-M2
D710	1:J3	7-L8
D710	1:J3	7-L8
D720	1:H3	7-P8
D720	1:H3	7-P8
D730	1:H3	7-H1
D740	1:H3	7-K2
D810	1:M2	8-B7
IC210	1:C7	2-H0
IC210	1:C7	2-Q0
IC210	1:C7	2-K2
IC210	1:C7	2-L1
IC210	1:C7	2-C6
IC220	1:D6	2-P0
IC220	1:D6	2-M3
IC220	1:D6	2-D5
IC230	1:B4	2-G0
IC230	1:B4	2-J0
IC230	1:B4	2-L5
IC230	1:B4	2-N6
IC230	1:B4	2-G1
IC240	1:D4	2-F3
IC250	1:D3	2-E1

Device	PCB	Circuit
R560	1:K5	5-M0
R609	1:L6	6-B8
R613	1:L6	6-C8
R615	1:M5	6-F9
R617	1:M5	6-J8
R619	1:M6	6-L8
R621	1:M6	6-L8
R625	1:N6	6-L7
R629	1:M5	6-P6
R633	1:M5	6-Q8
R637	1:N5	6-K6
R641	1:N5	6-L4
R645	1:N5	6-L5
R649	1:M5	6-M5
R653	1:M5	6-Q4
R657	1:M5	6-D1
R661	1:M5	6-E3
R665	1:M5	6-E2
R669	1:M5	6-E2
R673	1:M5	6-E0
R677	1:M4	6-F4
R681	1:L5	6-L2
R685	1:L5	6-N2
R689	1:L6	6-Q3
R693	1:L6	6-Q1
R696	1:M6	6-Q1
R701	1:K4	7-A9
R702	1:K4	7-C9
R703	1:J3	7-C8
=R705	1:K3	7-A7
R706	1:J3	7-B6
R708	1:H3	7-C7
R710	1:H2	7-E7
R711	1:J2	7-B6
R712	1:J3	7-D9
R713	1:J4	7-F8
%R715	1:K4	7-H6
R717	1:J4	7-H7
R718	1:J4	7-H7
R719	1:J4	7-J6
R720	1:J3	7-K7
R721	1:J3	7-K9
R722	1:J3	7-K8
R723	1:H3	7-M7
R725	1:J4	7-N7
%R726	1:J3	7-N6
R727	1:H3	7-N9
R728	1:H3	7-N8
R742	1:H2	7-B4
R743	1:H2	7-C5
R744	1:G2	7-D4
R746	1:H3	7-E4
R747	1:H3	7-E5
R748	1:J2	7-A1
R749	1:J2	7-B1
R750	1:H4	7-Q7
R752	1:G4	7-F5
R753	1:G4	7-F3
R754	1:G3	7-F3
R756	1:G3	7-G5
R757	1:G4	7-G4
R758	1:H3	7-H4
R759	1:H3	7-J4
R760	1:H3	7-K4
R762	1:H3	7-K4
R763	1:H4	7-L4
R765	1:H3	7-H2
R766	1:G3	7-J3
R767	1:H3	7-K2
R769	1:H3	7-L3
R771	1:H4	7-M3
R772	1:G4	7-M2
R774	1:H4	7-M2
R775	1:H4	7-N2
R777	1:H4	7-R3
R784	1:G3	7-P1
R785	1:G3	7-Q1
R786	1:G2	7-Q1
R787	1:G2	7-R2
R790	1:G3	7-P0
R791	1:G3	7-Q0
R792	1:G3	7-Q0
R801	1:M2	8-D7
R802	1:M2	8-D7
R808	1:L2	8-B4
R809	1:L2	8-D5
R810	1:L2	8-D6
R811	1:L2	8-E6
R812	1:L2	8-D5
R813	1:L2	8-D4
R815	1:L2	8-F4
R816	1:L2	8-F4
R818	1:M2	8-F5
R819	1:M2	8-F5
R821	1:M4	8-B3
R822	1:M4	8-E3
R824	1:L4	8-L8
R825	1:L4	8-L8
R826	1:L4	8-L8
R827	1:L4	8-L7
R828	1:L4	8-L7
R829	1:L4	8-P9
R830	1:L3	8-P9
R831	1:L3	8-P9
R832	1:L3	8-P8
R833	1:L3	8-P8
R835	1:L3	8-P8
R836	1:L3	8-P8
R837	1:L3	8-P7
R840	1:L3	8-P7
R841	1:L3	8-P7
R842	1:L3	8-P6
R843	1:L3	8-P6
R845	1:M4	8-Q5
R846	1:K2	8-Q4
R847	1:K2	8-Q4
R848	1:L2	8-J4
R849	1:M4	8-Q3
R850	1:K2	8-Q4
R853	1:M4	8-N3
R854	1:M4	8-N3
R855	1:M2	8-B0
R859	1:N2	8-C1
R861	1:N2	8-D1
R863	1:N3	8-E1
R865	1:N4	8-E0
R867	1:N3	8-E1
R871	1:N3	8-G2
R872	1:M4	8-H1
R873	1:N3	8-G1
R874	1:N3	8-H0
R875	1:N3	8-G0
R876	1:N3	8-H0
R877	1:M2	8-K2
R879	1:N2	8-L3
RV210	1:B7	2-F9
RV220	1:A4	2-M6
RV805	1:N4	8-F1
SK205	1:B5	2-A5
SK310	1:E7	3-R3
SK420	1:M8	1-M8
SK501	1:G6	5-D6
SK502	1:G6	5-D5
SK503	1:G6	5-D4
SK504	1:G5	5-D3
SK505	1:G5	5-D2
SK513	1:H5	5-H3
SK522	1:H6	5-K5
SK531	1:K6	5-N6
SK532	1:K5	5-N5
SK533	1:K5	5-N4
SK534	1:K5	5-N3
SK535	1:K5	5-N2
=SK710	1:K3	7-A7
SK805	1:K3	8-Q9
SK805	1:K3	8-Q7
SK805	1:K3	8-Q5
SK805	1:K3	8-Q7
SK805	1:K3	8-Q8
SK805	1:K3	8-Q7
SK805	1:K3	8-Q8
SK805	1:K3	8-Q6
SK805	1:K3	8-Q8
SK805	1:K3	8-Q6
SK805	1:K3	8-Q6
SK805	1:K3	8-Q9
SK805	1:K3	8-Q6
SK805	1:K3	8-Q9
SK805	1:K3	8-Q7
SK805	1:K3	8-Q8
SK810	1:M3	8-H5
SL201	2:D1	2-B9
SL202	2:D1	2-B8
SL203	2:D2	2-B2
SL204	2:D2	2-B1
SL320	1:E4	3-E4
SL501	2:J5	5-F0
SL810	1:M2	8-C7
SW230	1:B8	2-B4
T210	1:B2	2-C8
T610	1:L5	6-N2
TP206	1:D5	2-H7
TP305	2:E6	3-L6
TP308	1:E5	3-G6
TP601	1:N5	6-K9
TP602	1:L6	6-R9
TP603	1:L5	6-J2
TP604	1:L5	6-M6
TP607	1:L4	6-J9
TP710	1:H4	7-H5
TP715	1:J2	7-C6

Device	PCB	Circuit

Device	PCB	Circuit
IC260	1:D8	2-N0
IC260	1:D8	2-F0
IC260	1:D8	2-Q2
IC260	1:D8	2-Q3
IC260	1:D8	2-N3
IC330	1:E8	3-E9
IC330	1:E8	3-M8
IC330	1:E8	3-M0
IC610	1:M5	6-G8
IC630	1:N5	6-K5
IC640	1:M5	6-F1
IC640	1:M5	6-Q6
IC640	1:M5	6-N6
IC650	1:L5	6-F4
=IC700	1:K3	7-A8
IC710	1:J2	7-E8
IC710	1:J2	7-C6
IC710	1:J2	7-G0
IC710	1:J2	7-D6
IC710	1:J2	7-D7
IC710	1:J2	7-D6
IC710	1:J2	7-C6
IC720	1:J3	7-P6
IC720	1:J3	7-J0
IC720	1:J3	7-N7
IC720	1:J3	7-M7
IC720	1:J3	7-K7
IC720	1:J3	7-F8
IC720	1:J3	7-K0
IC730	1:J4	7-H8
IC730	1:J4	7-G7
IC740	1:H2	7-D1
IC750	1:H4	7-N3
IC750	1:H4	7-H5
IC750	1:H4	7-Q7
IC820	1:L4	8-N2
IC830	1:N3	8-J0
IC830	1:N3	8-Q1
IC830	1:N3	8-J0
IC830	1:N3	8-J1
IC830	1:N3	8-C0
L335	1:F4	3-E3
L340	1:E4	3-F2
L345	1:F5	3-H2
L350	1:F5	3-H2
L355	1:F5	3-J3
L360	1:F5	3-K3
L365	1:E5	3-L3
L370	1:E5	3-M2
L375	1:E6	3-M4
L380	1:F6	3-N4
L385	1:F6	3-N3
L390	1:E6	3-R4
L750	1:G4	7-R0
L910	1:P7	9-F4
L920	1:P7	9-G4
P100	1:P6	1-R8
P150	1:P2	1-Q4
P160	1:P2	1-Q4
P170	1:P2	1-Q3
P204	1:D1	2-A8
P208	1:D1	2-A8
P210	1:D6	2-A7
P211	1:D5	2-A7
P212	1:D6	2-A6
P215	1:D4	2-A2
P217	1:D4	2-A2
P219	1:D2	2-A1
P225	1:D2	2-A0
P230	1:C5	2-B0
P231	1:D8	2-B0
P233	1:C1	2-R9
P235	1:C1	2-R9
P237	1:B7	2-R8

Device	PCB	Circuit
P239	1:C7	2-R8
P240	1:C7	2-R8
P243	1:B7	2-R7
P244	1:B7	2-R7
P245	1:B8	2-R6
P247	1:B8	2-R6
P248	1:B7	2-R6
P249	1:C7	2-R5
P251	1:C7	2-R5
P255	1:D5	2-R4
P257	1:C2	2-R4
P259	1:B8	2-R3
P261	1:B8	2-R3
P263	1:B2	2-R2
P265	1:C5	2-M0
P267	1:C8	2-N2
P269	1:D8	2-P2
P271	1:C9	2-N1
P273	1:D9	2-P0
P275	1:D7	2-Q0
P750	1:H4	7-R3
P805	1:M2	8-A7
P810	1:L3	8-A5
P820	1:L4	8-M8
P825	1:L4	8-M8
P830	1:L4	8-M8
P835	1:L4	8-M7
P840	1:L4	8-M7
PL100	1:P3	1-F0
PL205	1:C5	2-J8
PL210	1:C3	2-H4
PL215	1:C4	2-K3
PL220	1:C4	2-H2
Q210	1:C6	2-J8
Q220	1:B3	2-L7
Q230	1:A4	2-M8
Q240	1:B7	2-Q7
Q250	1:B7	2-R5
Q260	1:C4	2-F3
Q270	1:D2	2-D1
Q305	2:E7	3-B8
Q310	2:F8	3-G8
Q315	1:F8	3-J8
Q320	2:E5	3-A5
Q325	2:E4	3-C5
Q330	2:E4	3-D4
Q335	2:E4	3-E6
Q340	2:E5	3-G6
Q345	2:E5	3-H6
Q365	1:F5	3-J2
Q370	1:E5	3-N3
Q510	1:J5	5-D1
Q520	1:J5	5-H2
Q530	1:J5	5-H0
Q540	1:K5	5-L2
Q550	1:K5	5-L0
Q610	1:L6	6-E8
Q620	1:N6	6-P8
Q630	1:M6	6-P5
Q660	1:L5	6-N1
Q670	1:L6	6-Q2
Q710	1:J3	7-K8
Q720	1:J3	7-K8
Q730	1:H3	7-N8
Q740	1:H3	7-N8
Q750	1:G4	7-F3
Q760	1:H3	7-H3
Q770	1:H3	7-H1
Q775	1:H3	7-K3
Q780	1:H3	7-K3
Q785	1:H3	7-K2
Q790	1:H4	7-M3
Q795	1:G3	7-P0
Q810	1:M2	8-E7

Device	PCB	Circuit
Q820	1:L2	8-D5
Q830	1:L2	8-D5
Q840	1:L2	8-F5
Q850	1:M2	8-G5
Q860	1:L4	8-B3
%R150	1:P2	1-R4
R160	1:P2	1-R3
R201	1:B2	2-E9
R202	1:C1	2-F9
R204	1:C7	2-B6
R205	1:C7	2-D6
R206	1:B7	2-G8
R207	1:B6	2-G8
R208	1:B6	2-G8
R209	1:C6	2-H8
R210	1:B6	2-H7
R212	1:D4	2-F6
R213	1:C4	2-G6
R214	1:D4	2-G6
R215	1:C4	2-H6
R216	1:C3	2-K7
R217	1:A4	2-M8
R218	1:A4	2-N7
R219	1:B4	2-N8
R221	1:B7	2-R7
R223	1:B4	2-K6
R224	1:C4	2-K5
R225	1:B4	2-L5
R226	1:B4	2-L4
R227	1:B4	2-M4
R229	1:B4	2-M7
R230	1:B4	2-M6
R231	1:B4	2-M6
R232	1:B4	2-M5
R233	1:B4	2-M6
R235	1:B4	2-P6
R237	1:B7	2-Q7
R238	1:B7	2-R7
R239	1:B8	2-R6
R241	1:B8	2-Q6
R242	1:B7	2-Q5
R244	1:C6	2-A5
R245	1:D4	2-D4
R247	1:D3	2-E4
R248	1:C3	2-E3
R249	1:D4	2-F3
R251	1:C4	2-G4
R253	1:C6	2-J2
R254	1:C6	2-K3
R255	1:C7	2-K2
R256	1:D8	2-M3
R257	1:D8	2-N5
R258	1:D8	2-N4
R259	1:D5	2-P4
R260	1:D8	2-N4
R262	1:D8	2-N3
R263	1:C8	2-P3
&R264	1:C8	2-P3
&R265	1:C8	2-P3
&R266	1:C8	2-P3
R267	1:C8	2-R2
R268	1:D2	2-C0
R269	1:C2	2-C1
R270	1:C2	2-D1
R271	1:C3	2-E1
R272	1:C4	2-F2
R273	1:B5	2-G2
R274	1:C4	2-G1
R275	1:C4	2-H0
R277	1:B5	2-J1
R278	1:B5	2-J0
R279	1:B5	2-K0
R280	1:B5	2-K0
R282	1:D7	2-K1
R283	1:D7	2-L1

Device	PCB	Circuit
R284	1:D7	2-L0
R285	1:C8	2-M0
R286	1:C7	2-M0
R287	1:D9	2-M0
R288	1:C6	2-M2
R289	1:D9	2-M0
R290	1:C8	2-N2
R291	1:C8	2-N1
R292	1:D8	2-Q2
R293	1:D9	2-Q2
R294	1:D9	2-Q1
R295	1:D8	2-R1
R296	1:D6	2-P0
R297	1:D7	2-P1
%R298	1:D7	2-Q0
R299	1:C7	2-R0
R302	2:F7	3-A7
R304	2:E7	3-B7
R306	2:F7	3-C8
R308	2:E8	3-C9
R310	2:F8	3-C9
R312	2:F8	3-D8
R314	2:F8	3-D7
R316	2:F8	3-E8
R318	2:F8	3-E9
R320	2:F8	3-G9
R322	2:F8	3-H8
R324	2:F7	3-J8
R326	2:F7	3-J7
R328	2:F7	3-K8
R330	2:F8	3-M8
R332	2:E4	3-C5
R334	2:E4	3-D6
R336	2:E4	3-D5
R338	2:E4	3-D4
R340	2:E5	3-D5
R342	2:E4	3-F5
R344	2:E5	3-F6
R346	2:E5	3-F6
R348	2:E5	3-G5
R350	2:E5	3-H5
R352	2:E6	3-J6
R354	2:E5	3-J6
R356	2:E6	3-K6
R359	1:F5	3-B2
R360	1:F4	3-C2
R362	1:F4	3-C2
R364	2:F4	3-D2
R366	2:F4	3-D1
R368	2:F4	3-D0
R370	2:F4	3-E1
R372	2:E5	3-G1
R374	2:F5	3-J2
R376	2:F5	3-J2
R378	1:F5	3-J3
R380	1:F5	3-J4
R382	1:F5	3-J4
R384	2:E6	3-L4
R386	2:E6	3-L2
R388	1:F6	3-M4
R390	1:E6	3-Q3
R392	1:E6	3-P2
R394	1:E6	3-Q3
R396	1:E6	3-Q2
R502	1:K6	5-K9
R505	1:K6	5-L8
R510	1:K6	5-L7
R515	1:H6	5-J5
R520	1:J5	5-C1
R525	1:J5	5-D1
R530	1:J5	5-D0
R535	1:J5	5-E1
R540	1:K5	5-H2
R545	1:K5	5-J1
R550	1:K5	5-K2
R555	1:K5	5-K1