

7 PCB Information

This Section provides parts lists, circuit diagrams and component location information on the individual PCBs within the T2000 Series II radio.

The following PCBs are covered within this Section:

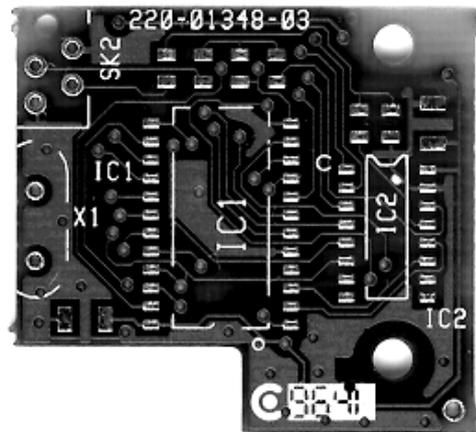
Section	Title	Page	Frequency (MHz)
7.1	T2000-100 RF PCB IPN 220-01331-02	7.1.1	220 to 270
7.2	T2000-200 RF PCB IPN 220-01202-10	7.2.1	66 to 88
7.3	T2000-300 RF PCB IPN 220-01314-01	7.3.1	136 to 174
7.4	T2000-400 RF PCB IPN 220-01204-11	7.4.1	175 to 225
7.5	T2000-500/-600 RF PCB IPN 220-01205-14	7.5.1	400 to 530
7.6	T2000-700/-900 RF PCB IPN 220-01289-01 IPN 220-01389-03	7.6.1 7.6.11	330 to 400
7.7	T2000-800 RF PCB IPN 220-01305-03	7.7.1	800 to 870
7.8	T2000 IF PCB IPN 220-01384-00	7.8.1	
7.9	T2000 TCXO/Tx Audio PCB IPN 220-01389-00 IPN 220-01389-02	7.9.1 7.9.7	
7.10	T2010 & T2015 HC05 Logic PCB IPN 220-01377-01 IPN 220-01377-02 IPN 220-01377-03	7.10.1 7.10.11 7.10.23	
7.11	T2020, T203X, T2040, T2050 & T2060 HC11 Logic PCB IPN 220-01344-02 IPN 220-01344-04	7.11.1 7.11.13	
7.12	T2010/T2030 Control Head PCB IPN 220-01319-01	7.12.1	
7.13	T2015/T2060 Control Head PCB IPN 220-01320-01	7.13.1	
7.14	T2020/40 /50 Control Head PCB IPN 220-01321-04	7.14.1	
7.15	T2035 Control Head PCB IPN 220-01322-03	7.15.1	
7.16	T2000 EMC Filter PCB IPN 220-01383-01	7.16.1	
7.17	T2000 Data Interface Decoupling PCB IPN 220-01388-01	7.17.1	

PCB Identification

All PCBs are identified by a unique 10 digit 'internal part number' (IPN), e.g. 220-01330-02, which is screen printed onto the PCB (usually the top side).

The last 2 digits of this number define the issue status, which starts at 00 and increments through 01, 02, 03, etc. as the PCB is updated. Some issue PCBs never reach full production status, and are therefore not included in this manual. A letter following the 10 digit IPN has no relevance in identifying the PCB for service purposes.

In the following diagram of the T2000-66 UART PCB, the IPN is 220-01348-03, (i.e. issue 03 of the PCB).



It is important that you identify which issue PCB you are working on so that you can refer to the appropriate PCB information.

Parts Lists

The 10 digit numbers (000-00000-00) in the parts lists are 'internal part numbers' (IPNs). Your spare parts orders can be handled more efficiently if you quote the IPN and provide a brief description of the part.

The components listed in the parts lists are divided into two main types: those with a circuit reference (e.g. C201, D106, R121, etc.) and those without (mechanical and miscellaneous).

Those with a circuit reference are grouped in alphabetical order and then in numerical order within each group. Each component entry comprises three or four columns, as shown below.

Ref	VAR	IPN	Description
C401		014-07470-00	CAP TANT CHIP 4U7 3.5 X 2.8MM 267 SERI
C402		015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V
C403		015-25100-08	CAP CER 0805 CHIP 10N 10% X7R 50V
&C404	3XXX	015-21180-01	CAP CER 0805 CHIP 1P8 +/-0.25 NPO 50V
&C404	4XXX	015-211220-01	CAP CER 0805 CHIP 2P2 +/-0.25P NPO 50V
C405		015-21120-01	CAP CER 0805 CHIP 1P2 +/-0.25 NPO 50V
C406		015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V
&C407	3XXX	015-22680-01	CAP CER 0805 CHIP 68P 5% NPO 50V
&C407	4XXX	015-22390-01	CAP CER 0805 CHIP 39P 5% NPO 50V

circuit reference - lists component in numerical order
 variant column - indicates that the component is only fitted to this particular model, type or option
 description - gives a brief description of the component
 Internal Part Number - order the component by this number

The mechanical and miscellaneous section lists the variant and common parts in IPN order.

Variant Parts

A variant component is one that has the same circuit reference but different value or specification in different product types, models or options. Variant components are indicated by a character prefix, such as '&', '#', or '='.

Locating Components

Grid Reference Indexes

To assist in locating components and labelled pads on the PCB layouts and circuit diagrams, a component grid reference index has been provided. This index lists the components and pads in alphabetical order, along with the appropriate alphanumeric grid references, as shown below.

The diagram shows a table with three columns: Device, PCB, and Circuit. The table lists components in alphabetical order. Callouts point to various parts of the table and explain the meaning of the grid references.

Device	PCB	Circuit
A-2	1:E1	PA-B6
B-2	1:A2	PA-E6
B-3	1:A3	PA-F6
B-4	1:A3	PA-G6
B-5	1:B6	PA-J6
C-1	1:E2	PA-A6
C-2	4:B3	PA-H4
C101	1:E1	PA-B6

Callouts and their corresponding parts in the table:

- components listed in numerical order: points to the 'Device' column.
- PCB layout reference: points to the 'PCB' column.
- circuit diagram reference: points to the 'Circuit' column.
- component location on the sheet: points to the '1' in '1:E1'.
- sheet name or number e.g. PA = Power Amplifier: points to 'PA' in 'PA-B6'.
- component location on the layer: points to 'E1' in '1:E1'.
- layer number: 1 = top side layer, 2 = bottom layer (2 layer PCB): points to the '1' in '1:E1'.

Using Circuit Diagrams

Reading a circuit diagram is similar to reading a road map, in that both have an alphanumeric border. The circuit diagrams in this manual use letters to represent the horizontal axis, and numbers for the vertical axis. These circuit diagram 'grid references' are useful in following a circuit that is spread over two or more sheets.

When a line representing part of the circuitry is discontinued, a reference will be given at the end of the line to indicate where the rest of the circuitry is located. The first digit refers to the sheet number (printed on the bottom right hand corner of the circuit diagram) and the last two characters refer to the location on that sheet of the continuation of the circuit (e.g. 1-D4).

If more than one line is represented (indicated by a double thickness line), a dot with a reference label will follow the route each individual line represents.