

8.12 T2000-60 Dual Port UART Kit

The T2000-60 dual port UART Interface Module (UIM) allows computer control of a T2020 or T2040 Series II radio. With full remote control, either semi or fully automatic communication systems can be developed.

Note: The UIM requires radio software Version 2.XX, and to program the UIM parameters, the programming software must be PGM2000 Release 7, or later.

The T2020 and T2040 use Tait's proprietary radio software protocol. For detailed information regarding this protocol, refer to the UART Applications Manual, or contact your local Tait dealer.

The following topics are covered in this Section:

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8.12.1 Components Required

The T2000-60 kit contains the following components:

Quantity	Description
1	T2000-60 UART PCB assembly
1	15-way high density D-range plug
1	shroud (alternative shroud - not required for T2000 Series II radios)
3	M3x8 pan Pozi Taptite screws
2	4-40x¼ pan Pozi Taptite screws (black)

Associated Documents

T2000-60 Applications Manual IPN 408-20060-0X.

Common Abbreviations

UIM Uart Interface Module
CE Computer Equipment
AE Auxiliary Equipment

Refer to the Applications Manual for details on the interaction of CE to AE with the UIM.

8.12.2 Fitting

- 1 Refer to Figure 8.12.1.

Remove the top cover of the radio by unscrewing the four cover screws, remove the D-range blanking plate in the rear of the T2000 radio, unscrew the logic PCB and fold-out.

Position the UIM PCB as shown, and connect the Micromatch connectors P13, P14, P16, P17 and P18 to S13, S14, S16, S17 and S18 on the T2000 logic PCB.

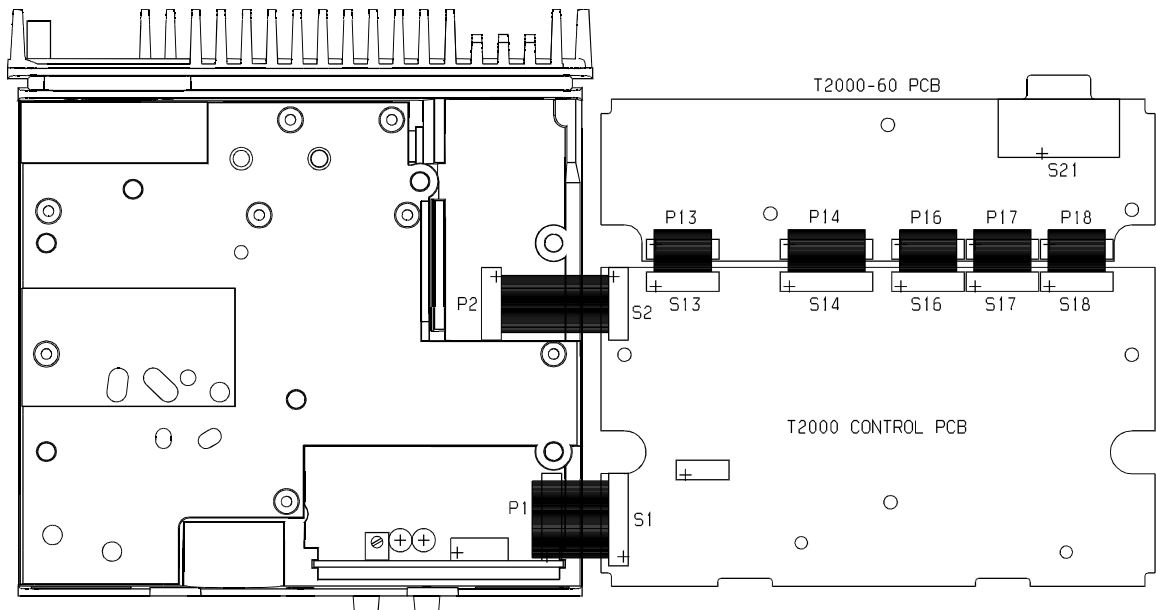


Figure 8.12.1 T2000-60 UART PCB Mounting

- 2 Set up the UIM, as described in Section 8.12.4.
- 3 Carefully fold the logic and UIM PCBs back in position, guiding the D-range connector through the hole provided in the T2000 chassis.

Secure using the three logic PCB retaining screws and the three M3x8 screws provided and refit the top cover.

Plug the D-range assembly provided in the kit into the D-range connector (S21).

Note: Holes are provided in the T2000 chassis for the D-range plug locking screws. Use the two black 4-40 Taptite screws provided in the kit to form the threads.

8.12.3 T2000-60 Link Options

Provision has been made on the T2000-60 PCB for different application requirements. The PCB links are either solder shorted or fitted with 0Ω SMD resistors.

The following table sets out the linking options on the T2000-60 UART PCB.

Note: This table refers only to T2000-60 issue 01 (i.e. PCB IPN 220-01251-01), or later. For a description of how to identify PCBs, refer to “PCB Identification”, on page 7.2

Link	Option	
	CE controlling radio with AE fitted*	CE controlling radio with no AE fitted
LINK1		
LINK3A	non-processed audio (DET-AF-OUT connected to RX-AUDIO)	
LINK3B	processed audio (de-emphasised) (RX-GTD-AF connected to RX-AUDIO2)	
LINK4A	processed audio (pre-emphasised) (TX-AUDIO connected to TX-LINE-IN)	
LINK4B	non-processed audio (TX-AUDIO connected to TX-SIG-IN)	
LINK5A		T2020 (SQULCH/HUSH to RX-GATE)
LINK5B		T2040 (SQULCH/HUSH connected to HUSH)
LINK6	no handshaking required	
LINK7	no handshaking required	
LINK8	normal operation (removal of this link disables the audio mute)	
LINK9	normal operation (this link provides a line termination resistor)	
LINK10	normal operation (removal of this link disables the audio mute)	

* The analogue signals provided by the UIM must be set up according to the requirements of the AE (bearing in mind the UIM maximum output levels).

8.12.4 T2000-60 Set-Up

Test Equipment Required

- AF signal generator
- modulation analyser
- high impedance voltmeter (e.g. VTVM)
- IBM[†] or compatible personal computer
- lead to connect radio to CE and AE, if required (refer to Figure 8.12.2 & Figure 8.12.3)
- oscilloscope
- power supply (+13.8V)
- RF signal generator
- 40dB RF attenuator

The following diagram shows a typical test set-up.

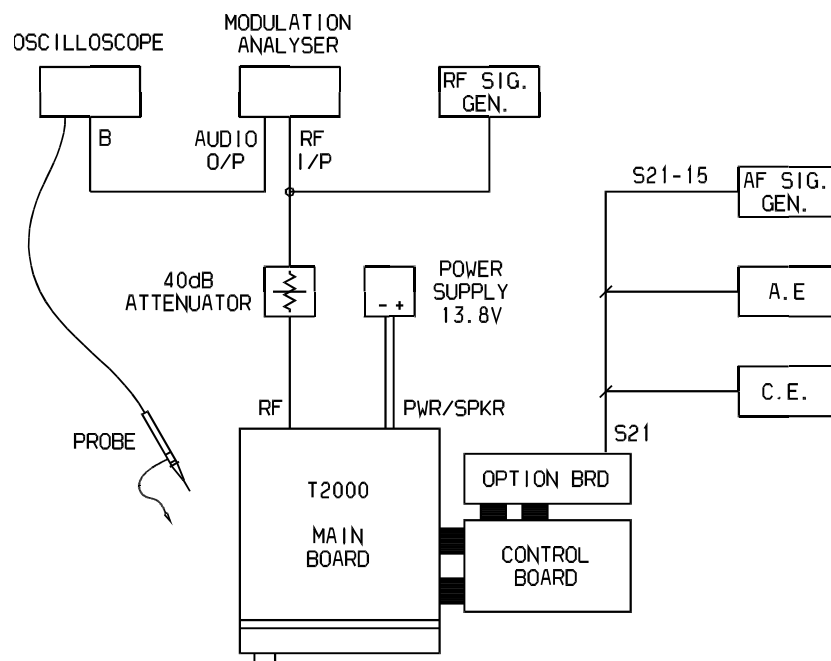


Figure 8.12.2 Test Equipment Set-Up

[†] IBM is the registered trademark of International Business Machines.

Rx Audio Level

- 1 Set up the test equipment as shown.
- 2 Ensure that pin 5 of S21 is loaded with the impedance normally presented by the AE (typically 600Ω).
- 3 Apply an RF signal at a level of -50dBm on an appropriate channel. Internal modulation at 1kHz should be enabled, with the deviation set to ± 1.5 kHz for a narrow band radio and ± 3 kHz for a wide band radio.

Note: If CTCSS or Selcall is enabled, ensure that the signalling mutes are overridden (for T2040 radios, refer to Section 5.8.5, “Test Facilities Available”).

- 4 Connect the scope probe to pin 5 of S21, and adjust RV1 to the level required by the AE.

Tx Audio Level

- 1 Set up the test equipment as shown.
- 2 Connect a 600Ω impedance AF signal generator to pin 15 of S21. If the internal impedance of the AE is not 600Ω, either load the AF signal generator to get an internal impedance equivalent to the AE or alternatively, use the AE to provide the test signal (this is possible with most packet radio modems).
- 3 Apply an audio test signal to TX-AUDIO and set the radio to transmit (for T2040 radios, refer to Section 5.8.5, “Test Facilities Available”).
- 4 Connect the scope probe to pin 15 of S21 and adjust the AF signal generator to a frequency of 1kHz at a level of 700mVp-p.

While the radio is transmitting, adjust RV2 to produce a deviation on the modulation analyser as stipulated by the AE.

If you are using the test signal from the AE instead of the AF signal generator, there will be some means of adjusting the signal level inside the AE.

8.12.5 Signal Specifications

The following table describes the electrical specification of all CCI interface signals. These signals are available at the 15 way high density D-type connector (S21) mounted on the heatsink at the rear of the radio.

All signals necessary to provide CE and modem connection may be routed via these pins. Some signals may be selected by links on the UART interface module for different characteristics (refer to the circuit diagram and Section 8.12.4).

S21 Pin No.	Signal	Description
1	CTSB	Clear to send in B Handshaking input for port B. This signal complies with the electrical requirements of the RS-232 specification.
2	DGND	Digital ground Ground reference for all digital signals.
3	TXDB	Transmit data out port B Data output from serial port B. This signal complies with the electrical requirements of the RS-232 specification.
4	+13.8V-SW	+13.8V supply out Switched supply voltage. Can supply power to the AE when the radio is switched on. Maximum current = 300mA.
5	RX-AUDIO	Receive audio out This output is link selectable between one of the following signals: 1. DET-AF-OUT (P13 pin 1) Receiver detected audio: unprocessed receiver audio. Output impedance = 600Ω Delivers 0 to 250mVrms (adjustable) into 600Ω at 1kHz (60% of full system deviation). 2. RX-GTD-AF (P13 pin 7) Receiver gated audio: de-emphasised receiver audio, gated by mute element. Delivers 0 to 250mVrms (adjustable) into 600Ω at 1kHz (60% of full system deviation).
6	RXDB	Receive data in port B Data input to serial port B. This signal complies with the electrical requirements of the RS-232 specification.
7	RXDA	Receive data in port A Data input to serial port A. This signal complies with the electrical requirements of the RS-232 specification.
8	TXDA	Transmit data out port A Data output from serial port A. This signal complies with the electrical requirements of the RS-232 specification.
9	DTRB	Data terminal ready out B Handshaking output for port B. This signal complies with the electrical requirements of the RS-232 specification.
10	OPTIONS-GND	Options ground Ground reference for all analogue signals.

S21 Pin No.	Signal	Description
11	CTSA	Clear to send in A Handshaking input for port A. This signal complies with the electrical requirements of the RS-232 specification.
12	SQULCH/HUSH	Auxiliary output: receiver audio valid Signal indicates valid audio is being output from RX-AUDIO. This output is link selectable between the following signals: 1. RX-GATE (P14 pin 4) Receiver Gate: received audio mute control line. Logic high = muted. 5V CMOS logic. 2. HUSH (P14 pin 12) External Device Mute: controls muting of an external device during radio activity. Logic high = muted. 5V CMOS logic output.
13	/PTT-FRM-OPT	Transmit request in Press To Talk: active low transmit request input. 5V CMOS logic input.
14	DTRA	Data terminal ready out A Handshaking output for port A. This signal complies with the electrical requirements of the RS-232 specification.
15	TX-AUDIO	Transmit audio in Audio input to the radio. This input is link selectable between one of the following signals: 1. TX-SIG-IN (P13 pin 8) Transmit signal: transmit audio input, post processing. Input impedance = 600Ω or high impedance. Requires 250mVrms at 1kHz to produce 0 to 80% of full system deviation (adjustable). 2. TX-LINE-IN (P13 pin 6) Transmit audio: transmit audio input, before pre-emphasis. Input impedance = 600Ω or high impedance. Requires 110mVrms at 1kHz to produce 0 to 80% of full system deviation (adjustable).

The following diagram shows the pin designations of S21, viewed from the rear of the radio.

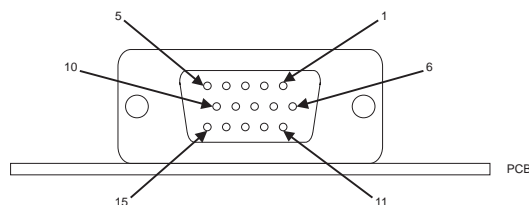


Figure 8.12.3 15 Way D-Range connector (S21)

8.12.6 PCB Information

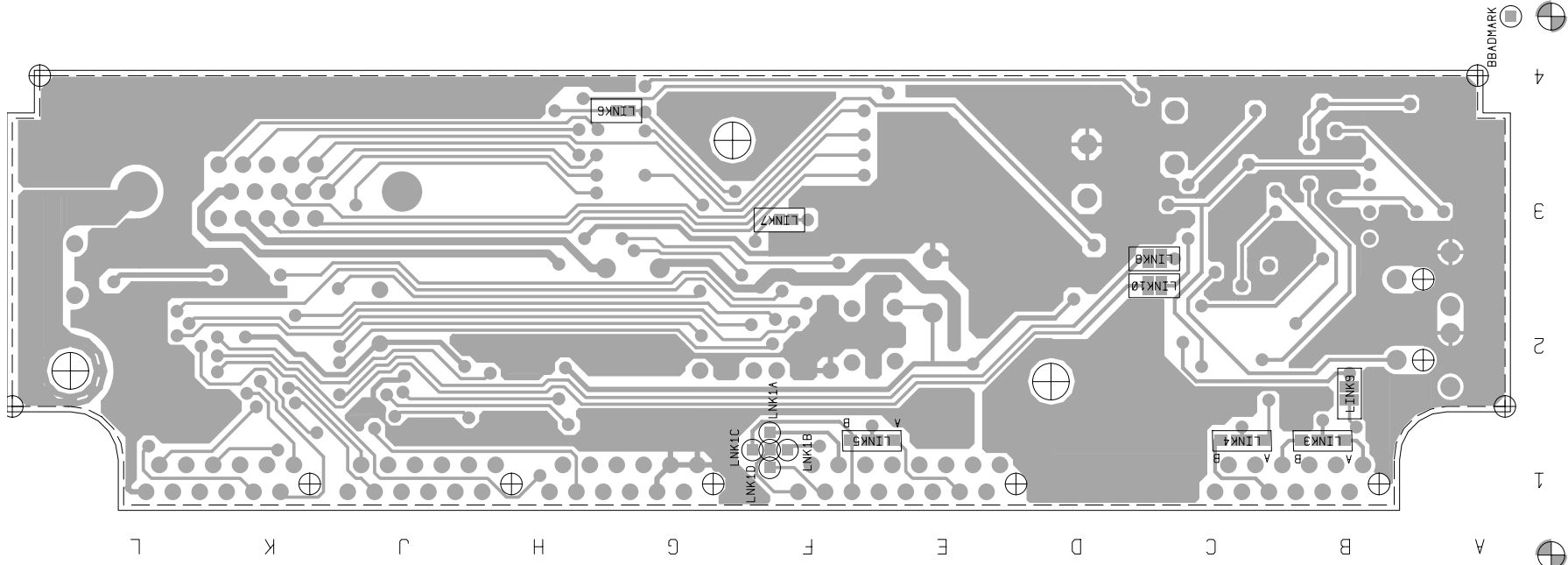
T2000-60 Parts List (IPN 220-01251-01)

Ref	IPN	Description	Ref	IPN	Description
C1	015-21220-01	CAP CER 0805 CHIP 2P2 +/-0.25P NPO 50V	RV4	042-05470-07	RES PRESET 47K CARBON 6MM FLAT DUAL ADJ
C2	015-21220-01	CAP CER 0805 CHIP 2P2 +/-0.25P NPO 50V	R10	036-15150-00	RES M/F 0805 CHIP 15K 5%
C3	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R11	036-14330-00	RES M/F 0805 CHIP 3K3 5%
C4	020-57470-10	CAP ELECT AI RDL 4U7 50V LO ESR	R12	036-13560-00	RES M/F 0805 CHIP 560E 5%
C5	020-57470-10	CAP ELECT AI RDL 4U7 50V LO ESR	R13	036-12470-00	RES M/F 0805 CHIP 47E 5%
C6	020-57470-10	CAP ELECT AI RDL 4U7 50V LO ESR	R14	036-13560-00	RES M/F 0805 CHIP 560E 5%
C7	020-57470-10	CAP ELECT AI RDL 4U7 50V LO ESR	R15	036-15150-00	RES M/F 0805 CHIP 15K 5%
C8	020-08470-45	CAP ELECTR RADL 47UF 16V 6.3X6.5MM 5MM L/	R16	036-12470-00	RES M/F 0805 CHIP 47E 5%
C10	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R17	036-14330-00	RES M/F 0805 CHIP 3K3 5%
C20	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R18	036-15100-00	RES M/F 0805 CHIP 10K 5%
C21	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R19	036-13100-00	RES M/F 0805 CHIP 100E 5%
C22	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R20	036-13100-00	RES M/F 0805 CHIP 100E 5%
C23	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R21	036-13100-00	RES M/F 0805 CHIP 100E 5%
C24	020-57100-55	CAP ELECT AI RDL 1UF 50V 4X7MM	R22	036-13100-00	RES M/F 0805 CHIP 100E 5%
C25	020-57100-55	CAP ELECT AI RDL 1UF 50V 4X7MM	R23	036-13100-00	RES M/F 0805 CHIP 100E 5%
C26	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R24	036-13100-00	RES M/F 0805 CHIP 100E 5%
C27	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R25	036-13100-00	RES M/F 0805 CHIP 100E 5%
C28	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R26	036-13100-00	RES M/F 0805 CHIP 100E 5%
C29	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R27	036-13100-00	RES M/F 0805 CHIP 100E 5%
C30	020-57100-55	CAP ELECT AI RDL 1UF 50V 4X7MM	R28	036-13100-00	RES M/F 0805 CHIP 100E 5%
C35	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R29	036-15150-00	RES M/F 0805 CHIP 15K 5%
C40	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R30	036-15560-00	RES M/F 0805 CHIP 56K 5%
C41	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R31	036-15560-00	RES M/F 0805 CHIP 56K 5%
C42	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R32	036-15100-00	RES M/F 0805 CHIP 10K 5%
C43	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R33	036-15100-00	RES M/F 0805 CHIP 10K 5%
C44	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R34	036-15100-00	RES M/F 0805 CHIP 10K 5%
C45	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R35	036-13560-00	RES M/F 0805 CHIP 560E 5%
C47	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R36	036-15100-00	RES M/F 0805 CHIP 10K 5%
C49	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R37	036-14560-00	RES M/F 0805 CHIP 5K6 5%
C50	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R38	036-13100-00	RES M/F 0805 CHIP 100E 5%
C51	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R39	036-13100-00	RES M/F 0805 CHIP 100E 5%
C52	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R40	036-15100-00	RES M/F 0805 CHIP 10K 5%
C53	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R41	036-15100-00	RES M/F 0805 CHIP 10K 5%
C54	015-24100-08	CAP CER 0805 CHIP 1N 10% X7R 50V	R43	036-14150-00	RES M/F 0805 CHIP 1K5 5%
C55	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R44	036-12560-00	RES M/F 0805 CHIP 56E 5%
C56	015-06100-08	CAP CER 1206 CHIP 100N 10% X7R 50V	R46	036-16270-00	RES M/F 0805 CHIP 270K 5%
			R47	036-16220-00	RES M/F 0805 CHIP 220K 5%
D1	001-10000-99	(S) DIODE SMD BAV99 DUAL SWTCH SNGL INL	R48	036-16220-00	RES M/F 0805 CHIP 220K 5%
			R49	036-16270-00	RES M/F 0805 CHIP 270K 5%
IC1	002-20026-81	(S) IC SCN2681T DUAL ASYNC RX/TX PLCC	R51	036-15470-00	RES M/F 0805 CHIP 47K 5%
IC2	002-10002-38	(S) IC SMD MAX238EWG RS-232 DRIVER/RX			
IC3	002-74940-78	(S) IC SMD 74HC4078D 8 INPUT NOR/OR GATE S	S21	240-00010-58	SKT 15WAY D-RANGE HI-DENSITY RGT AG PCB
IC4	002-74900-00	(S) IC SMD 74HC00 QUAD 2 I/P NAND			
IC5	002-74600-00	(S) IC 74AC00SC SMD QUAD 2INPUT NAND GTE	X1	274-01056-00	XTAL 3.6864MHZ AT-51 HOLDER C/W TEFLON IN
IC7	002-10040-66	(S) IC MC14066BD DUAD BI-LAT SW SMD SO-14			
IC8	002-10003-58	(S) IC SMD LM358 DUAL OP AMP			
IC9	002-10078-05	(S) IC SMD 78L05 5V REG			
PL1	240-00020-51	PLUG 12 WAY 2*6 FLAT CABLE TERMN	205-00010-12	CABLE FLAT RBBN 16 CORE 16/7/0.1 GREY	
PL2	240-00020-51	PLUG 12 WAY 2*6 FLAT CABLE TERMN	220-01251-01	PCB T2000 DUART OPTION BOARD	
PL3	240-00020-51	PLUG 12 WAY 2*6 FLAT CABLE TERMN	240-00010-80	PLUG 15 WAY DRANGE HI-DENS SUBMIN SLDE	
PL4	240-00020-51	PLUG 12 WAY 2*6 FLAT CABLE TERMN	240-00020-54	PLUG 16 WAY 2X8 FLAT CABLE TERMN MICROM	
P13	240-00026-26	CONN PADLE BRD 12 WAY MICRO MATCH 1-215	240-00026-24	CONN PDL BRD 16 WAY MICRO MTCH 1-215570-P14	
P16	240-00026-26	CONN PADLE BRD 12 WAY MICRO MATCH 1-215			
P17	240-00026-26	CONN PADLE BRD 12 WAY MICRO MATCH 1-215	240-06010-28	HOOD/COVER 9WAY DRANGE COMPACT NO LO	
P18	240-00026-26	CONN PADLE BRD 12 WAY MICRO MATCH 1-215	349-00020-07	(L) SCREW 4-40 X 5/16 PAN POZI TAPTITE BLAC	
			349-00020-32	SCREW TAPTITE M3X8MM PAN POZI BZ	
Q1	000-10008-48	(S) XSTR SMD BCW60/BC848B215 NPN SOT23 A			
Q2	000-10008-48	(S) XSTR SMD BCW60/BC848B215 NPN SOT23 A			
Q3	000-10029-55	(S) XSTR SMD MJD2955 PWR PNP 10A 60V 20W			
Q4	000-10008-48	(S) XSTR SMD BCW60/BC848B215 NPN SOT23 A			
Q5	000-10008-48	(S) XSTR SMD BCW60/BC848B215 NPN SOT23 A			
Q6	000-10008-48	(S) XSTR SMD BCW60/BC848B215 NPN SOT23 A			
R1	036-17100-00	RES M/F 0805 CHIP 1M 5%			
RV1	042-05470-07	RES PRESET 47K CARBON 6MM FLAT DUAL ADJ			
RV2	042-05470-07	RES PRESET 47K CARBON 6MM FLAT DUAL ADJ			
RV3	042-05470-07	RES PRESET 47K CARBON 6MM FLAT DUAL ADJ			

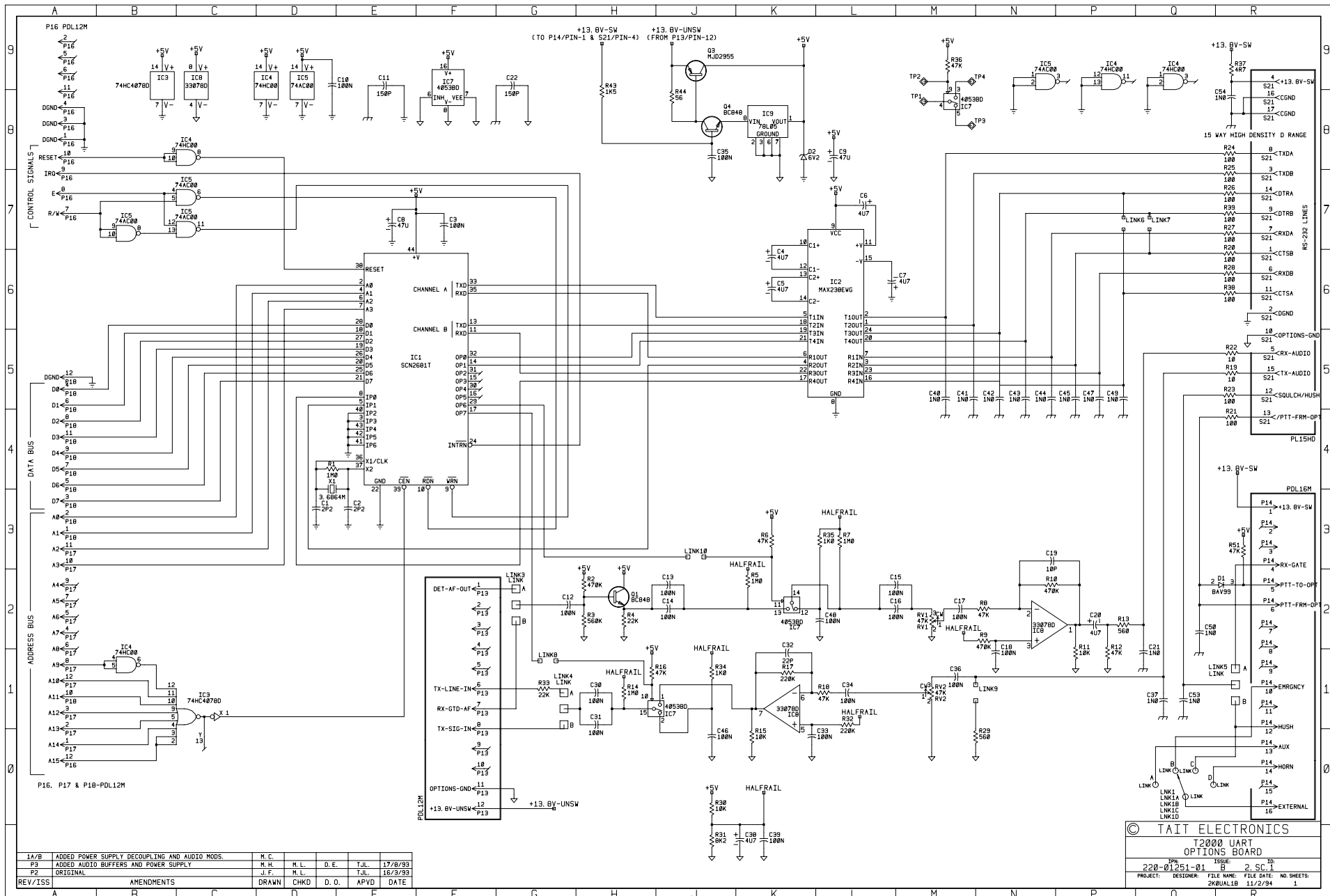
Mechanical & Miscellaneous Parts

T2000-60 Grid Reference Index (IPN 220-01251-01)

Device	PCB	Circuit	Device	PCB	Circuit	Device	PCB	Circuit
C1	1:M2	1-D3	LINK8	2:C3	1-G1	R8	1:B3	1-N2
C2	1:M3	1-E3	LINK9	2:B2	1-N1	R9	1:A3	1-N2
C3	1:L2	1-F7	LINK10	2:C3	1-J3	R10	1:B4	1-N2
C4	1:F2	1-K6				R11	1:B4	1-P1
C5	1:G2	1-K6	P13	1:B1	1-F0	R12	1:D4	1-P1
C6	1:E2	1-L7			1-F2	R13	1:D4	1-P2
C7	1:F2	1-L6			1-F2	R14	1:C2	1-H1
C8	1:J2	1-E7			1-F2	R15	1:C4	1-K0
C9	1:E3	1-L8			1-F0	R16	1:D3	1-H1
C10	1:H2	1-D9			1-F0	R17	1:C4	1-K1
C11	1:L3	1-E9			1-F1	R18	1:C3	1-L1
C12	1:B2	1-G2			1-F1	R19	1:G4	1-R5
C13	1:C2	1-J2			1-F1	R20	1:F3	1-R6
C14	1:C2	1-J2			1-F2	R21	1:F4	1-R4
C15	1:B2	1-M2			1-F0	R22	1:G4	1-R5
C16	1:B2	1-M2			1-F1	R23	1:F4	1-R5
C17	1:B3	1-M2	P14	1:E1	1-R3	R24	1:F4	1-R8
C18	1:A3	1-N1			1-R2	R25	1:F3	1-R7
C19	1:B4	1-N3			1-R3	R26	1:G4	1-R7
C20	1:C4	1-P2			1-R0	R27	1:G3	1-R7
C21	1:G4	1-Q1			1-R1	R28	1:G3	1-R6
C22	1:D2	1-G9			1-R2	R29	1:B2	1-N0
C30	1:C2	1-H1			1-R1	R30	1:D3	1-J0
C31	1:C2	1-H1			1-R3	R31	1:D3	1-J0
C32	1:C4	1-K1			1-R2	R32	1:B4	1-L1
C33	1:B4	1-K0			1-R0	R33	1:C1	1-G1
C34	1:C3	1-L1			1-R1	R34	1:B3	1-J1
C35	1:E3	1-J8			1-R0	R35	1:C3	1-L3
C36	1:B2	1-M1			1-R0	R36	1:B2	1-M9
C37	1:G4	1-Q1			1-R1	R37	1:G3	1-R9
C38	1:D3	1-K0			1-R2	R38	1:G3	1-R6
C39	1:D3	1-K0			1-R3	R39	1:G3	1-R7
C40	1:F4	1-M5	P16	1:G1	1-A8	R43	1:E2	1-H8
C41	1:F3	1-M5			1-A9	R44	1:D2	1-J8
C42	1:G4	1-N5			1-A9	R51	1:E2	1-R3
C43	1:G3	1-N5			1-A9			
C44	1:G3	1-N5			1-A0	S21	1:K3	1-R9
C45	1:F4	1-P5			1-A8			1-R4
C46	1:B3	1-J0			1-A8			1-R7
C47	1:G3	1-P5			1-A8			1-R6
C48	1:C3	1-L2			1-A7			1-R8
C49	1:G3	1-P5			1-A7			1-R8
C50	1:F4	1-Q2			1-A7			1-R6
C53	1:F4	1-Q1			1-A8			1-R6
C54	1:G3	1-R8	P17	1:H1	1-A2			1-R5
					1-A2			1-R7
D1	1:E1	1-R2			1-A2			1-R5
D2	1:H2	1-K8			1-A2			1-R7
					1-A2			1-R6
IC1	1:K2	1-E4			1-A1			1-R5
IC2	1:F3	1-K5			1-A1			1-R5
IC3	1:H2	1-B9			1-A1			1-R8
		1-C0			1-A0			1-R7
IC4	1:J2	1-D9			1-A3	TP1	1:B3	1-M8
		1-B1			1-A3	TP2	1:C3	1-M9
		1-C8			1-A1	TP3	1:B3	1-M8
		1-P9	P18	1:K1	1-A3	TP4	1:B3	1-M9
		1-Q9			1-A3			
IC5	1:H2	1-D9			1-A1	X1	1:L3	1-D4
		1-C7			1-A5			
		1-B7			1-A5			
		1-C7			1-A5			
		1-N9			1-A4			
IC7	1:B3	1-F8			1-A4			
		1-M8			1-A4			
		1-J1			1-A4			
		1-K2			1-A4			
IC8	1:B4	1-C9			1-A3			
		1-N2						
		1-K1	Q1	1:B2	1-H2			
IC9	1:D3	1-K8	Q3	1:D1	1-J9			
			Q4	1:D3	1-J8			
LNK1	2:F1	1-Q0						
LNK1A	2:F1	1-Q0	R1	1:M3	1-D4			
LNK1B	2:F1	1-Q0	RV1	1:A3	1-M2			
LNK1C	2:F1	1-Q0	RV2	1:A2	1-M1			
LNK1D	2:F1	1-Q0	R2	1:B2	1-H2			
LINK3	2:B1	1-G2	R3	1:B2	1-H2			
LINK4	2:C1	1-G1	R4	1:B1	1-H2			
LINK5	2:F1	1-R1	R5	1:C2	1-K2			
LINK6	2:G4	1-P7	R6	1:C3	1-K3			
LINK7	2:F3	1-Q7	R7	1:C2	1-L3			



T2000-60 UART PCB (IPN 220-01251-01) - Bottom Side



REV/ISS	AMENDMENTS	DRAWN	CHKD	D.O.	APVD	DATE
1A/B	ADDED POWER SUPPLY DECOUPLING AND AUDIO MODS.	N.C.				17/8/93
P3	ADDED AUDIO BUFFERS AND POWER SUPPLY	J.F.	M.L.	D.E.	T.J.L.	16/3/93
P2	ORIGINAL	J.F.	M.L.			

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 T2000 UART
 OPTIONS BOARD
 P/N: 220-01251-01 ISSUE: B 2 SC. 1
 PROJECT: DESIGNER: FILE NAME: FILE DATE: NO. SHEETS:
 2K0UAL1B 11/2/94 1

