

7.8 T3000 Selcall & DTMF Options PCB

7.8.1 Introduction

The T3000 Selcall and DTMF options PCB is a plug-in module that can be configured in 3 ways:

Product Code	Option	T3020	T3030 Series II	T3035 Series II	T3040 Series II
T3000-4400	Selcall	✓	x	x	x
T3000-4401	DTMF	✓	x	x	✓
T3000-4402	Selcall & DTMF	✓	x	x	x

The PCB plugs into an options connector on the top side of the T3020, T3030, T3035 and T3040 control PCB (IPN 220-01294-0X).

Refer to the T3000 Programming Software Users' Manual (IPN 439-35000-01, or later) for additional configuration information.

7.8.2 Operation

The Selcall option allows selective individual or group calls within a fleet of radios, on channels that have Selcall programmed. Selcall parameters and features are setup and enabled during programming. Both Sigtec and International group formats are supported by the Selcall option PCB.

The DTMF option allows users to send a DTMF tone sequence, allowing access to remote devices or PSTN. DTMF mode options are setup during programming.

7.8.3 Fitting The Selcall & DTMF Options PCB

Refer to Section 3.2, "Disassembly Instructions", and Section 3.3, "Assembly Instructions".

7.8.3.1 Accessing The Control PCB

Unscrew the antenna and remove the battery pack.

Unscrew the 4 shield retaining screws exposed by removing the battery.

Grip the top of the radio firmly and gently pivot the front cover and shield apart, opening at the bottom of the radio. The top side of the control PCB is now exposed.

7.8.3.2 Replacing The Flexible Loom PCB

The flexible loom PCB, connecting the control and RF PCBs, must be replaced by the options flexible loom provided with the options PCB.

Push forward the 2 lugs at each end of the loom connector (P-FLEX) on the control PCB, and withdraw the loom from the connector.

Remove the remaining 4 shield retaining screws, and lift off the shield, guiding the loom through the slot in the shield.

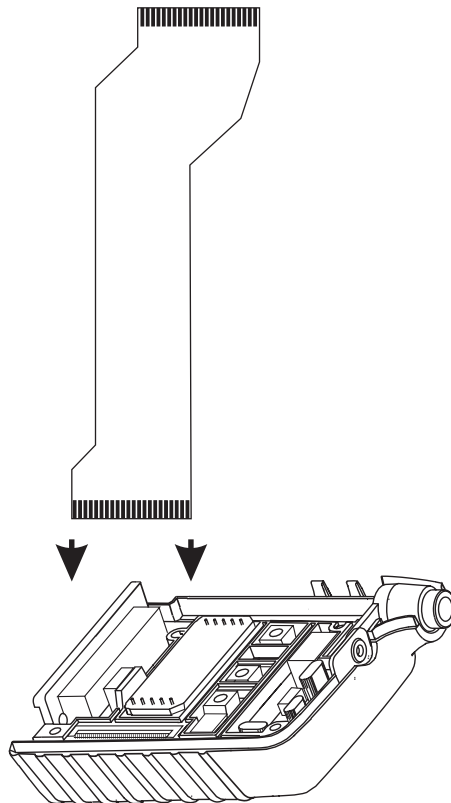
Unclip the rear cover and bottom lid from the chassis, exposing the bottom side of the RF PCB.

On the underside of the RF PCB, insert a thin spike (or an unfolded paper-clip) through the 2 holes on either end of loom connector (SK-FLEXI).

Push down to release the bar holding the loom in place, then turn over the RF PCB and pull the loom free of the loom connector.

Clip the bottom lid and rear cover back onto the chassis, insert the new loom and push down the bar to secure it in place.

The following diagram shows the correct orientation of the new loom.

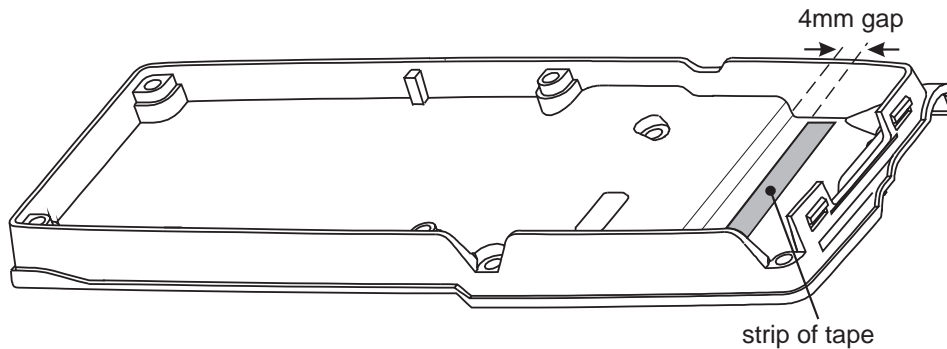


Reposition the shield on the RF PCB, guiding the new loom through the slot, and screw the shield to the RF PCB.

On the control PCB, push forward the 2 lugs on P-FLEX, slide the loom into the connector, and push the lugs back to secure the loom.

7.8.3.3 Shield Modification

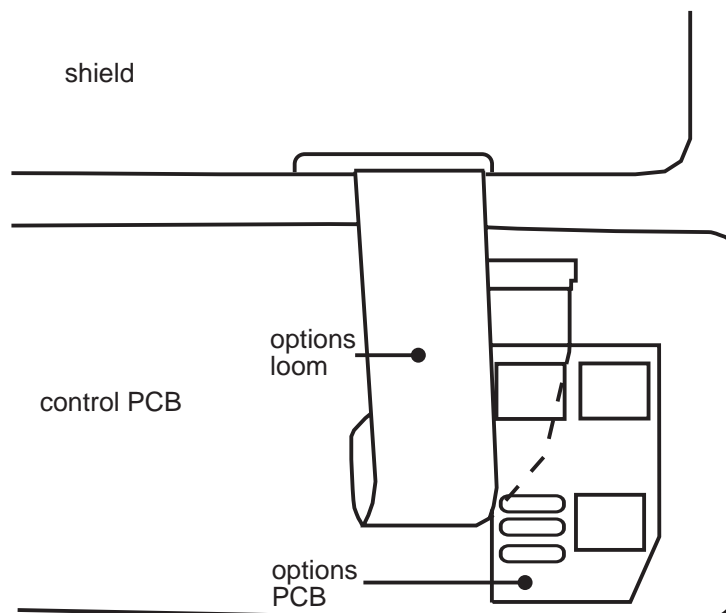
Position the 42mm length of 9x3mm foam tape on the shield, as shown.



7.8.3.4 Mounting The Options PCB

Plug the options PCB onto the OPTIONS plug on the control PCB. The loom should sit flat under the options PCB.

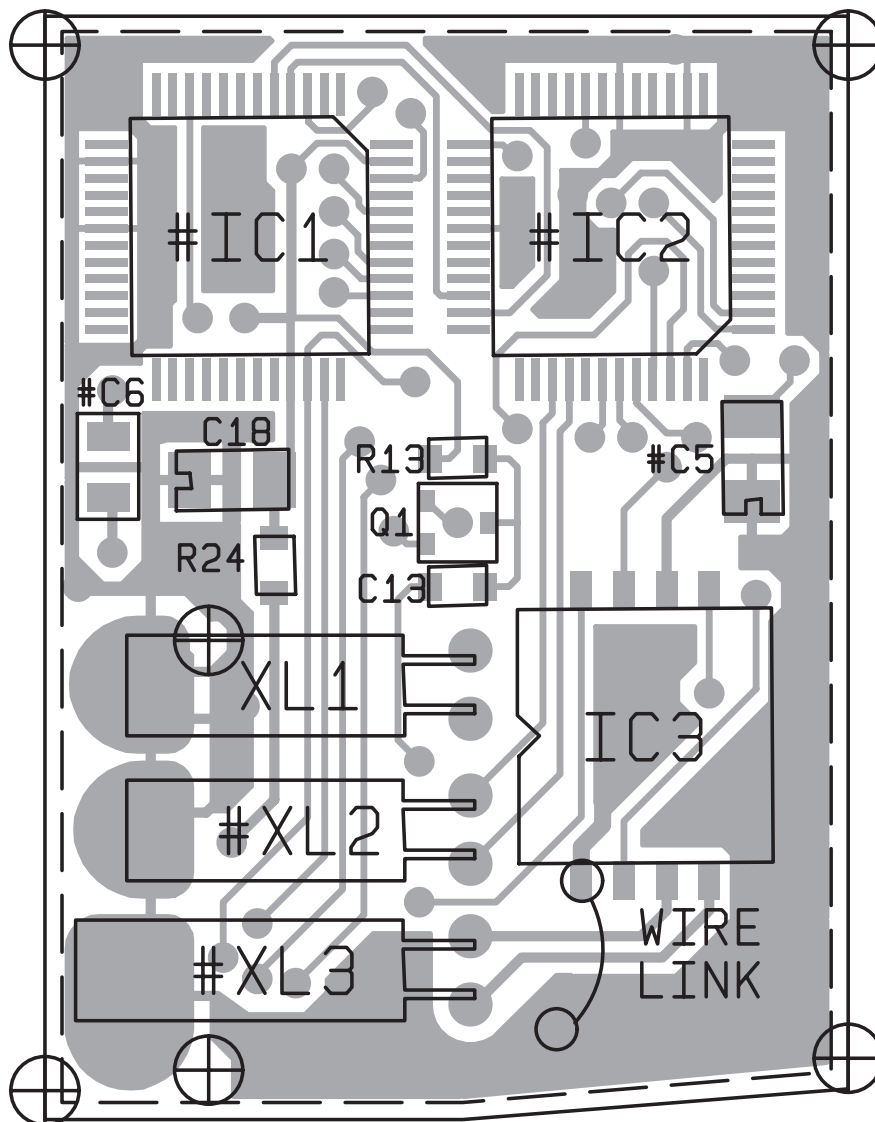
The following diagram shows the DTMF and Selcall options PCB mounted in a radio.



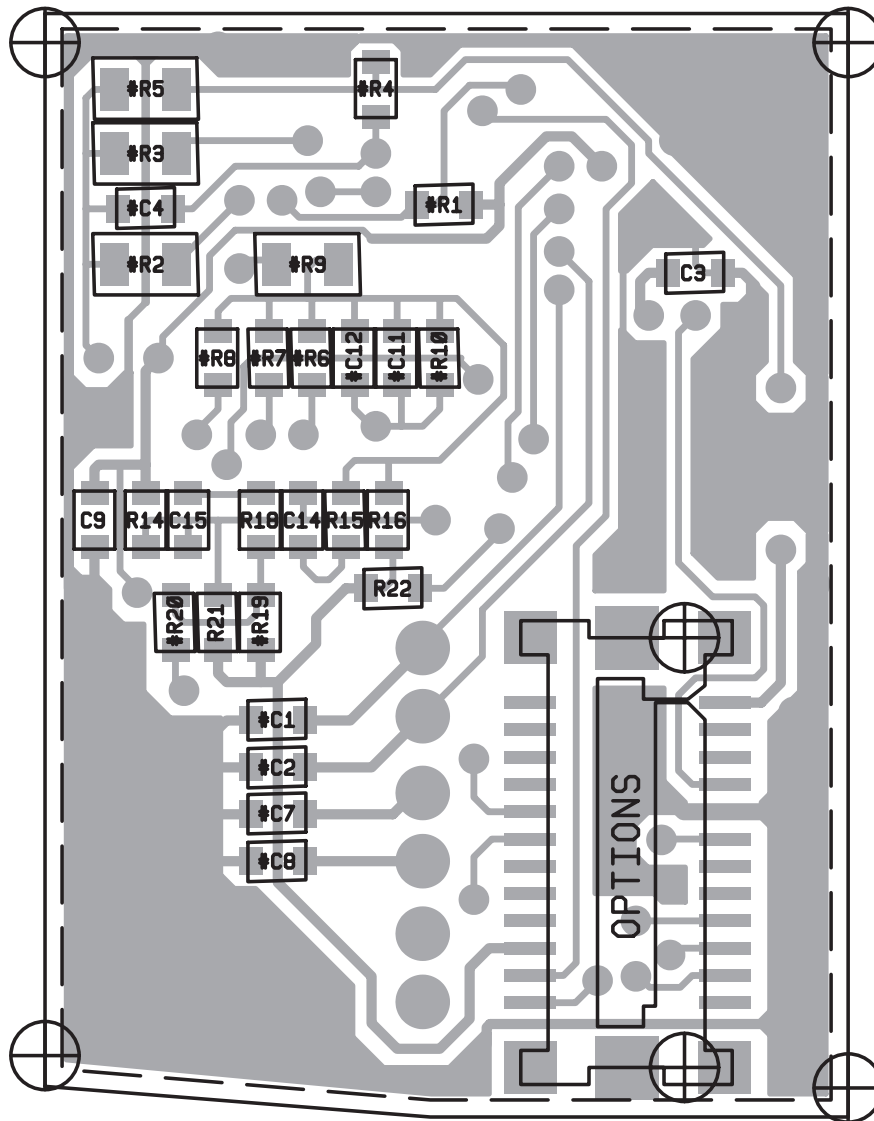
Parts List (IPN 220-01313-02)

Ref	Var	IPN	Description	Ref	Var	IPN	Description
#C1	SEL	018-12330-00	CAP 0603 CHIP 33P 50V NPO +-5%				
#C2	SEL	018-12150-00	CAP 0603 CHIP 15P 50V NPO +-5&				
C3		018-15100-00	CAP 0603 CHIP 10N 50V X7R +-10%				
#C4	SEL	018-14100-00	CAP 0603 CHIP 1N 50V X7R +-10%				
#C5	SEL	014-06470-00	CAP TANT CHIP 470N 25V +-20% 6X3				
#C6	SEL	015-24220-08	CAP CER 0805 CHIP 2N2 10% X7R 50V				
#C7	SEL	018-12330-00	CAP 0603 CHIP 33P 50V NPO +-5%				
#C8	SEL	018-12150-00	CAP 0603 CHIP 15P 50V NPO +-5&				
C9		018-15100-00	CAP 0603 CHIP 10N 50V X7R +-10%				
#C11	SEL	018-15100-00	CAP 0603 CHIP 10N 50V X7R +-10%				
#C12	SEL	018-15100-00	CAP 0603 CHIP 10N 50V X7R +-10%				
C13		018-15100-00	CAP 0603 CHIP 10N 50V X7R +-10%				
C14		018-16100-01	CAP 0603 CHIP 100N +80-20% Y5V 16V				
C15		018-16100-01	CAP 0603 CHIP 100N +80-20% Y5V 16V				
C18		014-06470-00	CAP TANT CHIP 470N 25V +-20% 6X3.				
#IC1	SEL	002-10001-02	(L) IC SMD SIGTEC SD-12 SELCALL (PAI				
#IC2	SEL	002-10001-01	(L) IC SMD SIGTEC MD-09 SELCALL (PAI				
#IC3	DTMF	002-10033-12	(S) IC SMD PCD 3312T TOME GENERAT				
OPTSKT		240-10000-02	CONN SMD 24WAY (SKT/CAP)				
Q1		000-10084-81	(S) XSTR SMD BC848BW NPN SOT-323 S				
#R1	SEL	038-15470-00	RES 0603 CHIP 47K 1/16W +-5%				
#R2	SEL	036-15330-00	RES M/F 0805 CHIP 33K 5%				
#R3	SEL	036-16330-00	RES M/F 0805 CHIP 330K 5%				
#R4	SEL	038-15470-00	RES 0603 CHIP 47K 1/16W +-5%				
#R5	SEL	036-15820-00	RES M/F 0805 CHIP 82K 5%				
#R6	SEL	038-14220-00	RES 0603 CHIP 2K2 1/16W +-5%				
#R7	SEL	038-14470-00	RES 0603 CHIP 4K7 1/16W +-5%				
#R8	SEL	038-15100-00	RES 0603 CHIP 10K 1/16W +-5%				
#R9	SEL	036-15220-00	RES M/F 0805 CHIP 22K 5%				
#R10	SEL	038-15470-00	RES 0603 CHIP 47K 1/16W +-5%				
R13		038-15150-00	RES 0603 CHIP 15K 1/16W +-5%				
R14		038-16100-00	RES 0603 CHIP 100K 1/16W +-5%				
R15		038-15470-00	RES 0603 CHIP 47K 1/16W +-5%				
R16		038-14220-00	RES 0603 CHIP 2K2 1/16W +-5%				
R18		038-13470-00	RES 0603 CHIP 470E 1/16W +-5%				
#R19	SEL	038-13470-00	RES 0603 CHIP 470E 1/16W +-5%				
#R20	DTMF	038-13470-00	RES 0603 CHIP 470E 1/16W +-5%				
R21		038-15270-00	RES 0603 CHIP 27K 1/16W +-5%				
R22		038-14330-00	RES 0603 CHIP 3K3 1/16W +-5%				
R24		038-11470-00	RES 0603 CHIP 4E7 1/16W +-5%				
#XL1	SEL	274-01064-00	(L) XTAL 5.0125MHZ MINIATURE CYL				
#XL2	SEL	274-01065-00	(L) XTAL 8.00MHZ MINIATURE CYL				
#XL3	DTMF	274-01063-00	(L) XTAL 3.579545MHZ MINIATURE CYL				
		220-01298-01	(L) PCB FLEXI T3000 OPTIONS LOOM				
		220-01313-02	PCB T3000-4400 SELCALL AND DTMF OPTION BOARD				
		369-00020-49	TAPE SA TESAMOLL 9*3 FIT TO SHIELD				
		369-00020-50	TAPE SA TESAMOLL 5*3 FIT TO UNDERSIDE OF OPTIONS PCB				
		418-34400-00	FITTING INS T3000 SELCALL &/OR DTMF				

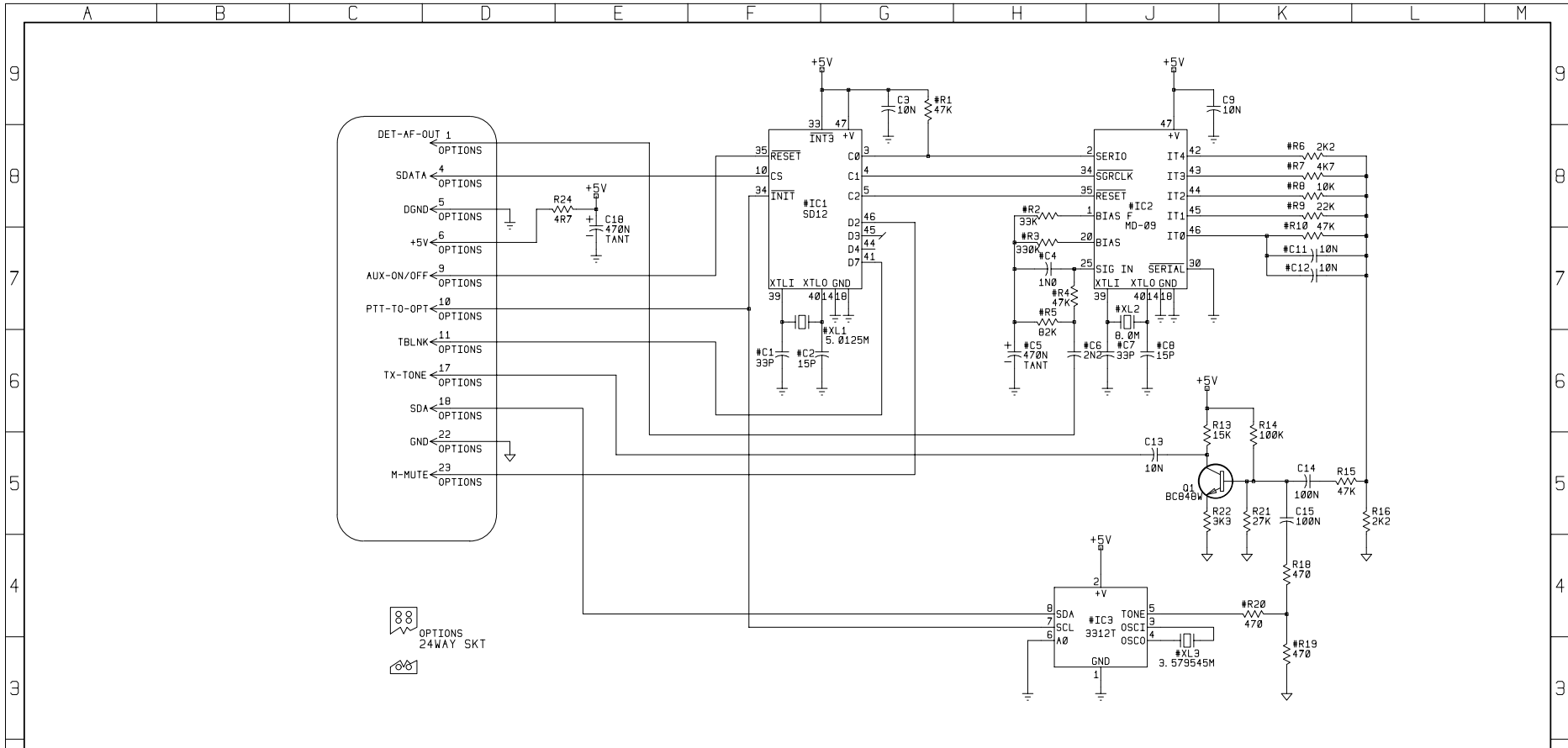
Note: SEL = Selcall option
DTMF = DTMF option



T3000 Selcall & DTMF Options PCB (IPN 220-01313-02) - Top Side



T3000 Selcall & DTMF Options PCB (IPN 220-01313-02) - Bottom Side



	#PCB	#XL1	#XL2	#XL3	#IC1	#IC2	#IC3	#R1	#R2	#R3	#R4	#R5	#R6	#R7
SELCALL	-4400	274-01064-00	274-01065-00	-	SD12	MD-09	PCD3312T	47KJ	33KS	330KS	47KJ	02KS	2K2J	4K7J
DTMF	-4401	-	-	274-01063-00	-	-	PCD3312T	-	-	-	-	-	-	-
SELCALL & DTMF	-4402	274-01064-00	274-01065-00	274-01063-00	SD12	MD-09	PCD3312T	47KJ	33KS	330KS	47KJ	02KS	2K2J	4K7J

#R8	#R9	#R10	#R19	#R20	#C1	#C2	#C4	#C5	#C6	#C7	#C8	#C11	#C12
10KJ	22KS	47KJ	470J	-	33PJ	15PJ	1N0J	470N25Z3216	2N2S	33PJ	15PJ	10NJ	10NJ
10KJ	22KS	47KJ	-	470J	33PJ	15PJ	1N0J	470N25Z3216	2N2S	33PJ	15PJ	10NJ	10NJ

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 T3000-4300 DTMF/-4400 SELCALL & DTMF
 OPTIONS BOARD

TPN:	ISSUE:	ID:
220-01313-02	B	2. SC.1
PROJECT:	DESIGNER:	FILE NAME:
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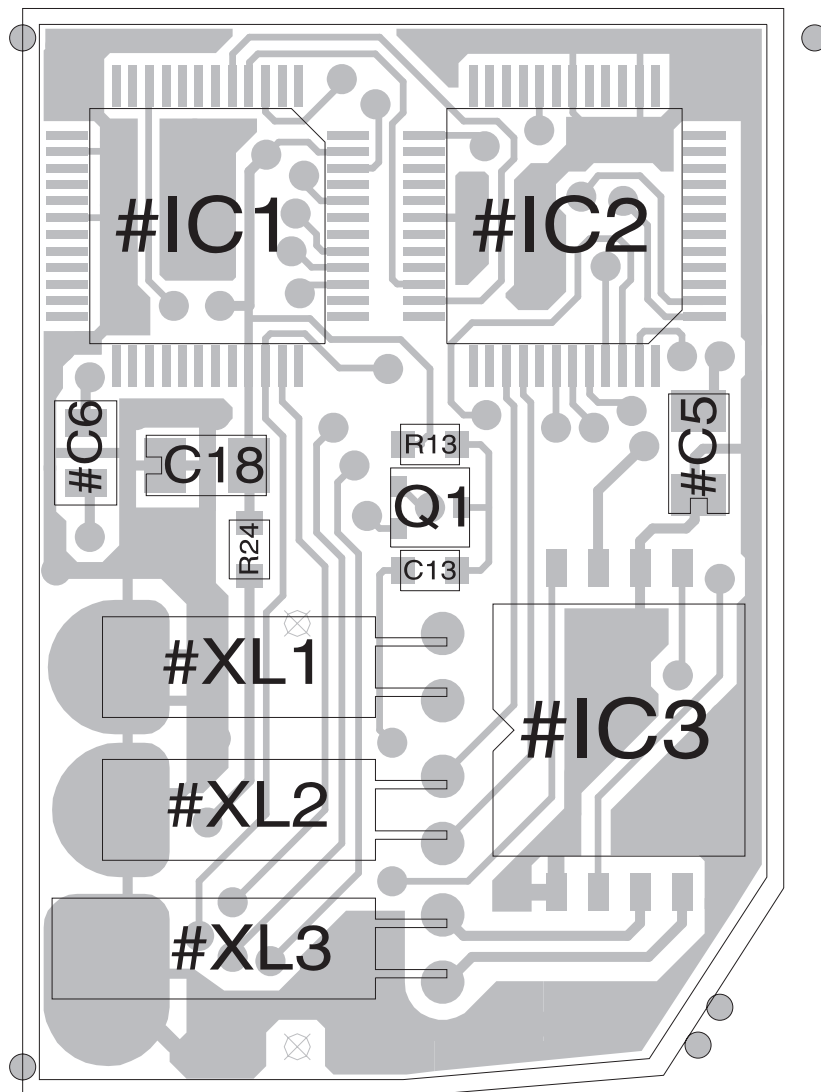
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REV/ISS	AMENDMENTS	DRAWN				

A B C D E F G H J K L M

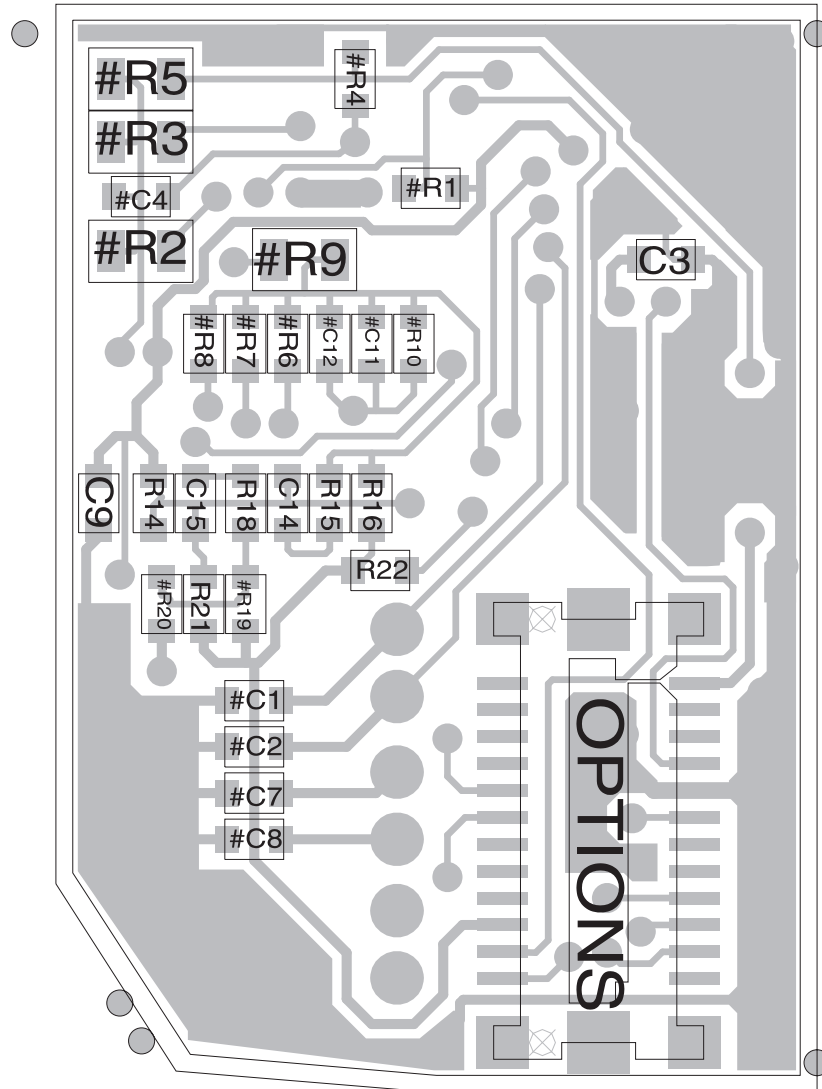
Parts List (IPN 220-01313-03)

Ref	Var	IPN	Description	Ref	Var	IPN	Description
#C1	SEL	018-12330-00	CAP 0603 CHIP 33P 50V NPO +-5%				
#C2	SEL	018-12150-00	CAP 0603 CHIP 15P 50V NPO +-5&				
C3		018-15100-00	CAP 0603 CHIP 10N 50V X7R +-10%				
#C4	SEL	018-14100-00	CAP 0603 CHIP 1N 50V X7R +-10%				
#C5	SEL	014-06470-00	CAP TANT CHIP 470N 25V +-20% 6X3				
#C6	SEL	015-24220-08	CAP CER 0805 CHIP 2N2 10% X7R 50V				
#C7	SEL	018-12330-00	CAP 0603 CHIP 33P 50V NPO +-5%				
#C8	SEL	018-12150-00	CAP 0603 CHIP 15P 50V NPO +-5&				
C9		018-15100-00	CAP 0603 CHIP 10N 50V X7R +-10%				
#C11	SEL	018-15100-00	CAP 0603 CHIP 10N 50V X7R +-10%				
#C12	SEL	018-15100-00	CAP 0603 CHIP 10N 50V X7R +-10%				
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#IC2	SEL	002-10001-01	(L) IC SMD SIGTEC MD-09 SELCALL (PAI				
#IC3	DTMF	002-10033-12	(S) IC SMD PCD 3312T TOME GENERAT				
OPTSKT		240-10000-09	CONN SMD 24WAY (SKT/CAP)				
Q1		000-10084-81	(S) XSTR SMD BC848BW NPN SOT-323 S				
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#R7	SEL	038-14470-00	RES 0603 CHIP 4K7 1/16W +-5%				
#R8	SEL	038-15100-00	RES 0603 CHIP 10K 1/16W +-5%				
#R9	SEL	036-15220-00	RES M/F 0805 CHIP 22K 5%				
#R10	SEL	038-15470-00	RES 0603 CHIP 47K 1/16W +-5%				
R13		038-15150-00	RES 0603 CHIP 15K 1/16W +-5%				
R14		038-16100-00	RES 0603 CHIP 100K 1/16W +-5%				
R15		038-15470-00	RES 0603 CHIP 47K 1/16W +-5%				
R16		038-14220-00	RES 0603 CHIP 2K2 1/16W +-5%				
R18		038-13470-00	RES 0603 CHIP 470E 1/16W +-5%				
#R19	SEL	036-16150-00	RES M/F 0805 CHIP 150K 5%				
#R20	DTMF	038-13470-00	RES 0603 CHIP 470E 1/16W +-5%				
R21		038-15270-00	RES 0603 CHIP 27K 1/16W +-5%				
R22		038-14560-00	RES 0603 CHIP 5K6 1/16W +-5%				
R24		038-11470-00	RES 0603 CHIP 4E7 1/16W +-5%				
#XL1	SEL	274-01064-00	(L) XTAL 5.0125MHZ MINIATURE CYL				
#XL2	SEL	274-01065-00	(L) XTAL 8.00MHZ MINIATURE CYL				
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		220-01298-01	(L) PCB FLEXI T3000 OPTIONS LOOM				
		220-01313-03	PCB T3000-4400 SELCALL AND DTMF OPTION BOARD				
		369-00020-49	TAPE SA TESAMOLL 9*3 FIT TO SHIELD				
		369-00020-50	TAPE SA TESAMOLL 5*3 FIT TO UNDERSIDE OF OPTIONS PCB				
		418-34400-00	FITTING INS T3000 SELCALL &/OR DTMF				

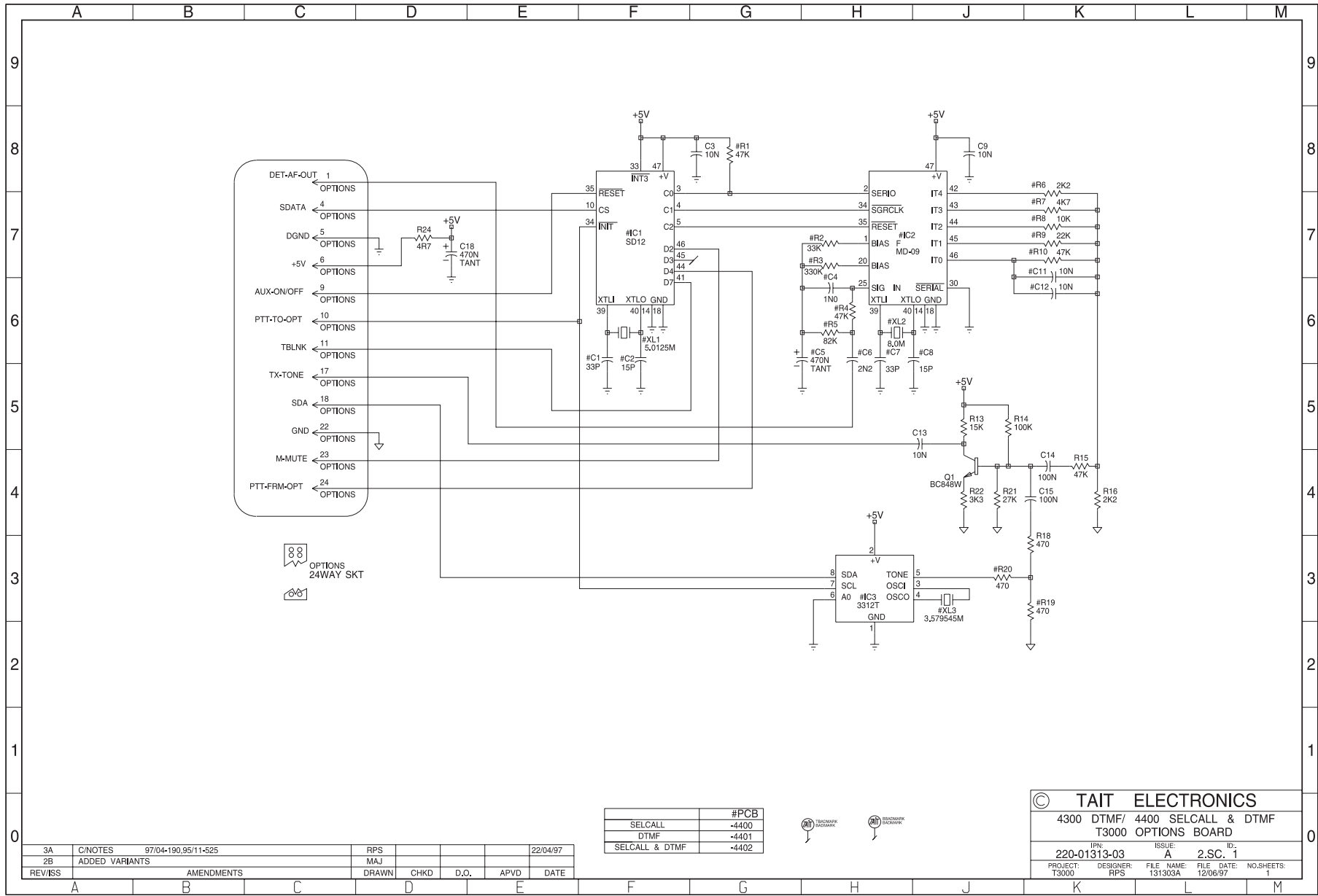
Note: SEL = Selcall option
DTMF = DTMF option



T3000 Selcall & DTMF Options PCB (IPN 220-01313-03) - Top Side



T3000 Selcall & DTMF Options PCB (IPN 220-01313-03) - Bottom Side



3A	C/NOTES	97/04-190,95/11-525	RPS			22/04/97
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REVISS	AMENDMENTS		DRAWN	CHKD	D.O.	APVD
						DATE

	#PCB
SELCALL	-4400
DTMF	-4401
SELCALL & DTMF	-4402



TAIT ELECTRONICS					
4300 DTMF/		4400 SELCALL & DTMF		ID:	
T3000		OPTIONS BOARD		2.S.C. 1	
IPN: 220-01313-03		ISSUE: A		NO. SHEETS: 1	
PROJECT: T3000	DESIGNER: RPS	FILE NAME: 131303A	FILE DATE: 12/06/97		

