

PC AUTOBOARD



SaitekTM

DOC. NO. : WCB4-PS-026

REV : 0

DATE : 15th AUG., 1994

PC Auto Chessboard General Product Specification (WCB4)

- A. Adaptor : 9V DC, 300mA
- B. Adaptor Operating Voltage : 9V $\pm$ 2V
- C. Current Consumption : 25mA typical at 9V
30mA Maximum at 9V
- D. Power Consumption : 225mW typical at 9V
270mW Maximum at 9V

Prepared By: Abraham
Abraham

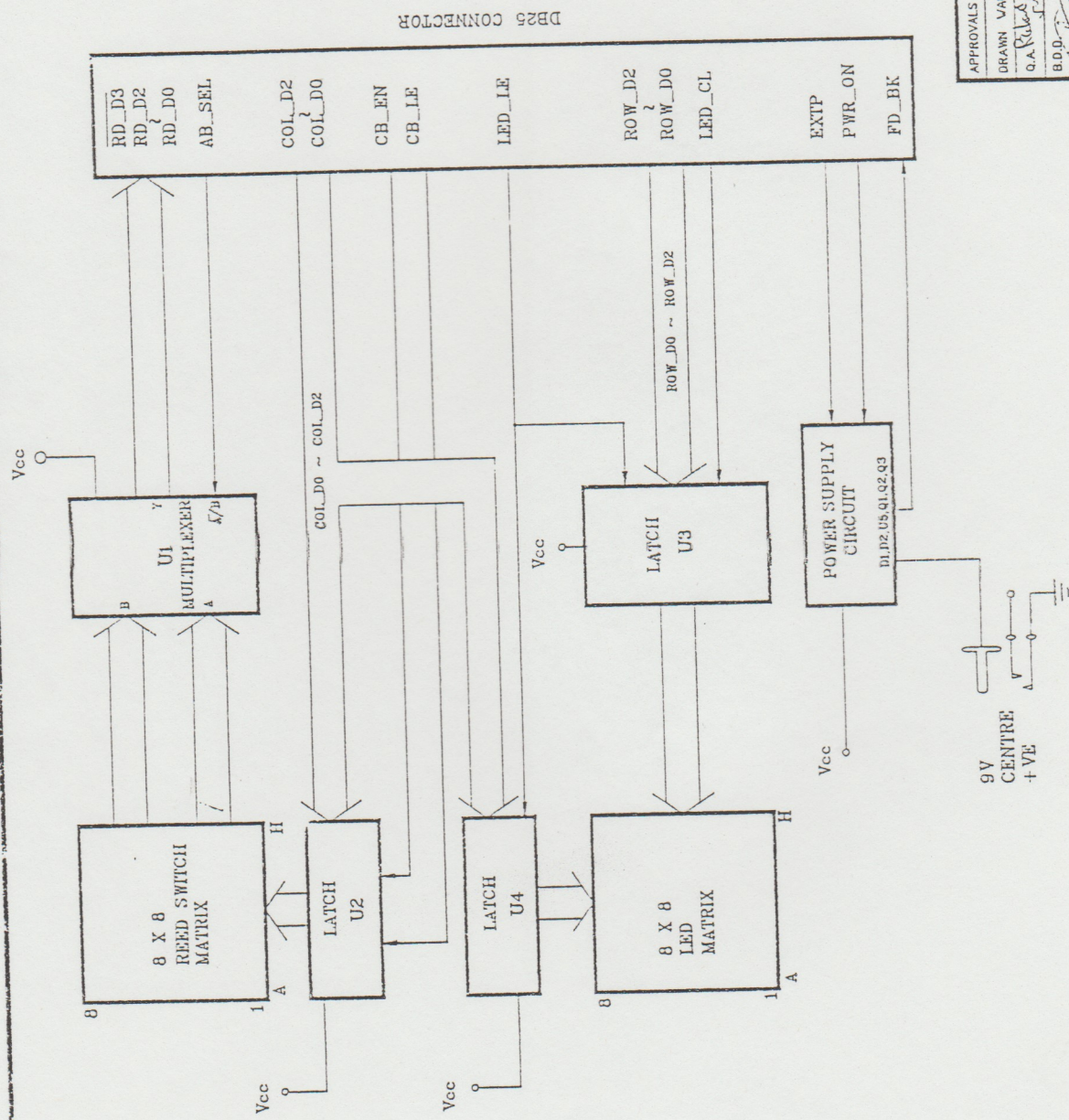
Approved By: ZC

Dist = BDM1, QAM, SEE, SEA, IEM, PE

WCB+GPS.DOC

ORIGINAL

REVISION		ECN REV.	
DATE	DESCRIPTION	NO.	NO.



APPROVALS	DATE	Saitek Ltd.	
DRAWN	7/10/94	BLOCK DIAGRAM	
CHECKED	7/10/94	TITLE: KASPAROV	
800	14/10/94	573 PC AUTO CHESSBOARD	
14/10/94	14/10/94	DWG. NO. WCH4 - PE - 004	
		REV. 0	

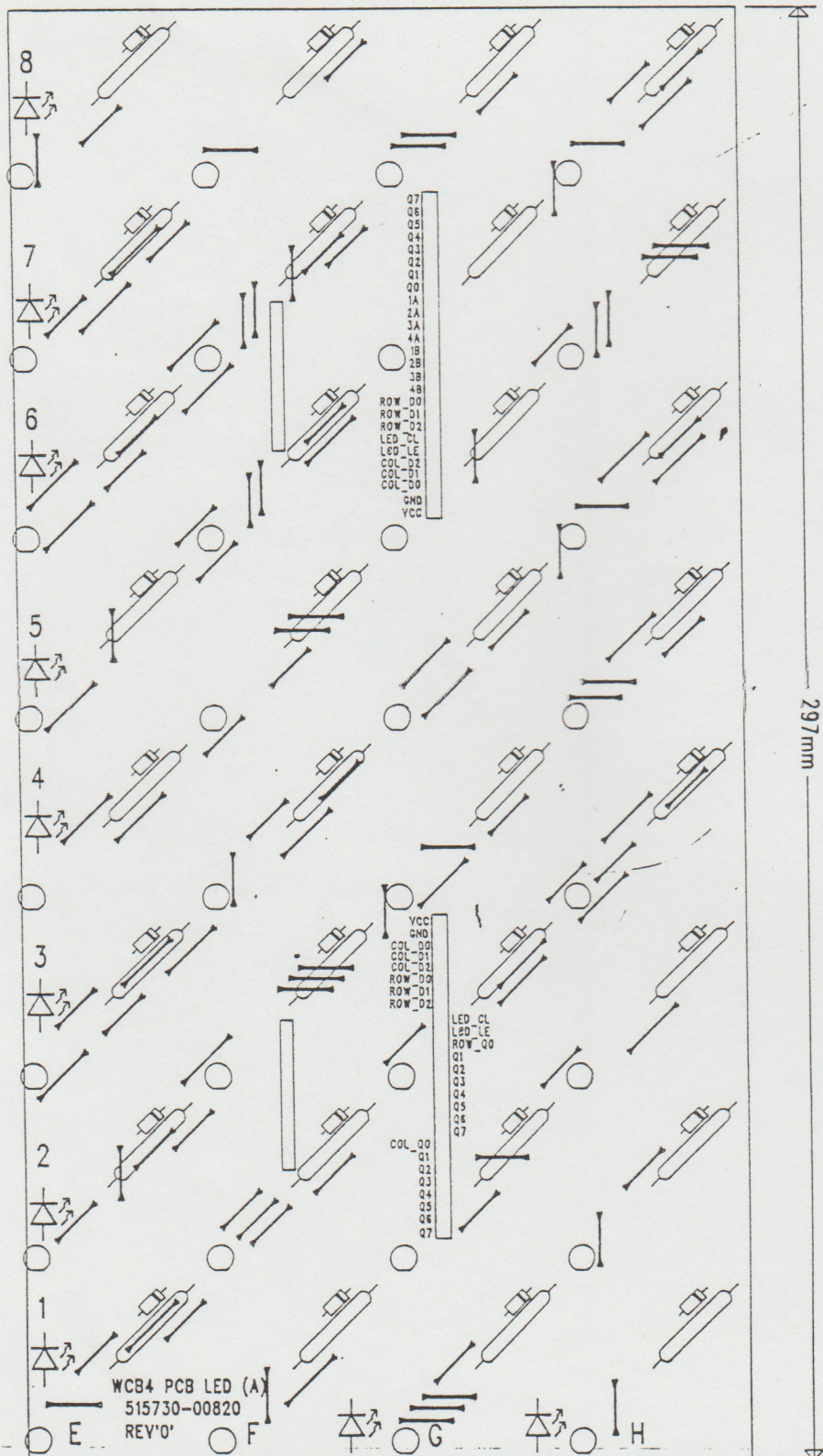
Dis: Bm1 Rm1, see item 58A, Team 5

PC Auto Chessboard Trouble Shooting Chart

11 November, 1994

SYMPTOMS		POSSIBLE CAUSES
Unit cannot be detected by software	1. 2. 3. 4.	Check if adaptor level is within specification (9V +/- 2V). Check for broken wiring in the DB-25 connector cable or in the power supply. Check if output of U5 is 4.5V to 5.5V. Check if Q1, Q2 and Q3 are functionally good.
LED missing or turn on when it should not	1. 2. 3. 4.	Check for short/open circuit on PCBs. Check for broken traces on PCBs and broken connector array between PCBs. Check if the corresponding LED is defective. Check if U3 and U4 are functionally good.
Chesspiece cannot be detected	1. 2. 3. 4.	Check for short/open circuit on PCBs. Check for broken traces on PCBs and broken connector array between PCBs. Check if the corresponding reed switch is defective. Check if U1 and U2 are functionally good.
Excessive current drain Current > 30mA	1. 2.	Check for short circuit on PCBs. Check if U5, Q1, Q2 and Q3 are functionally good.

Dist : BDM1, QAM

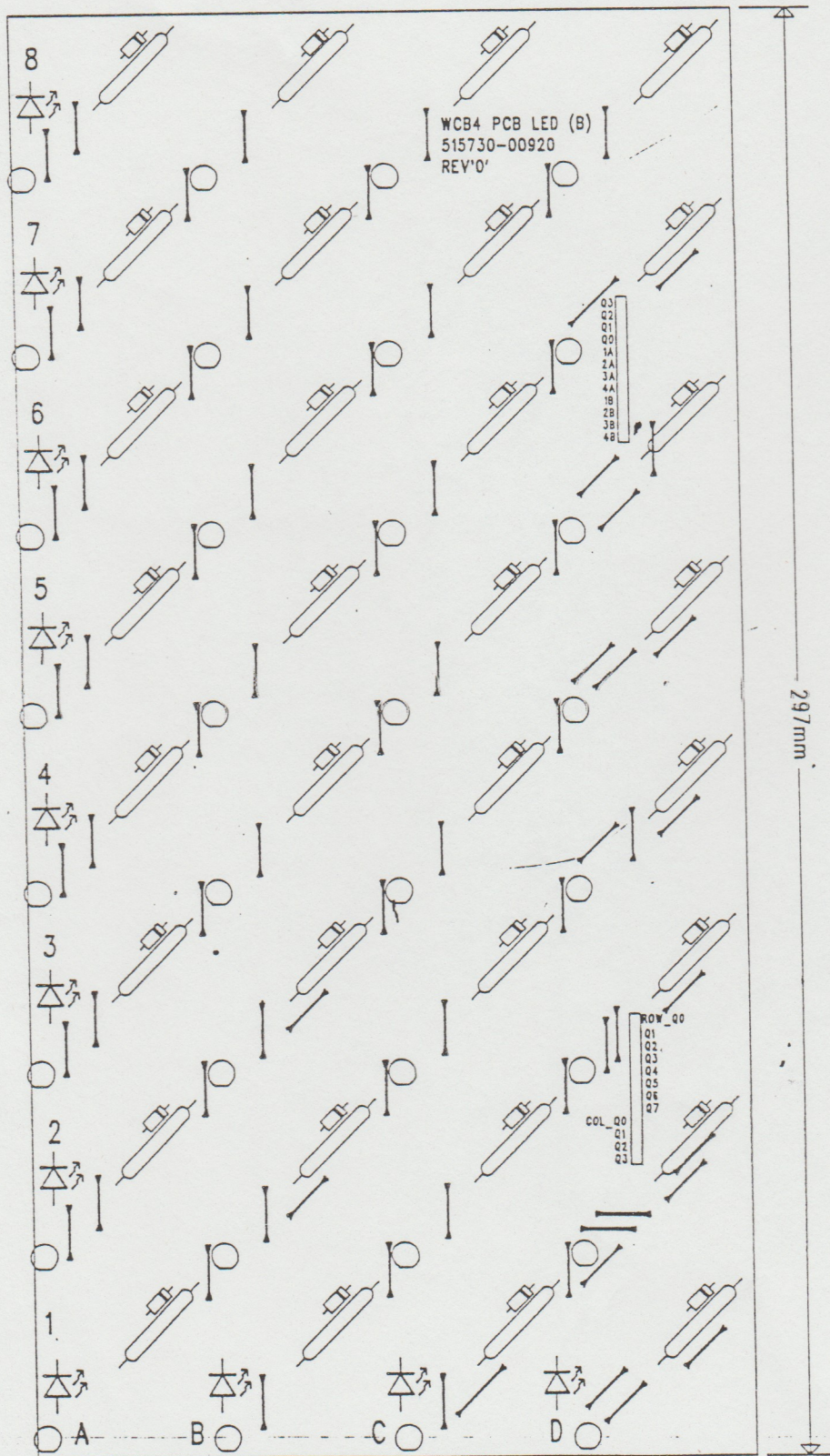


297 mm

3RD ANGLE PROJECTION		SIGNATURE		DATE	
TOLERANCES	ANGLE:	DRAWN BY:	DATE	REV. ITEM	WAS
DIM. :	SCALE: 1 = 1 UNIT: MM	CHECK BY:	11/1/94	DESCRIPTION OF CHANGE	IS
QUANTITY :	Q.A. APPD.	ENGNG. AUTH.	11/1/94	DATE	DRAWN/CHECK
SHEET OF	R.D. APPD.	11/1/94	11/1/94	PROJECT: WCB4	ED O.A. RO
				P.M. : 15.1.5.7.3.0.1 - 0.0.8.2.0	APPROVED
				MATERIAL	FINISH

SILK SCREEN - WCB4 PCB LED (A)





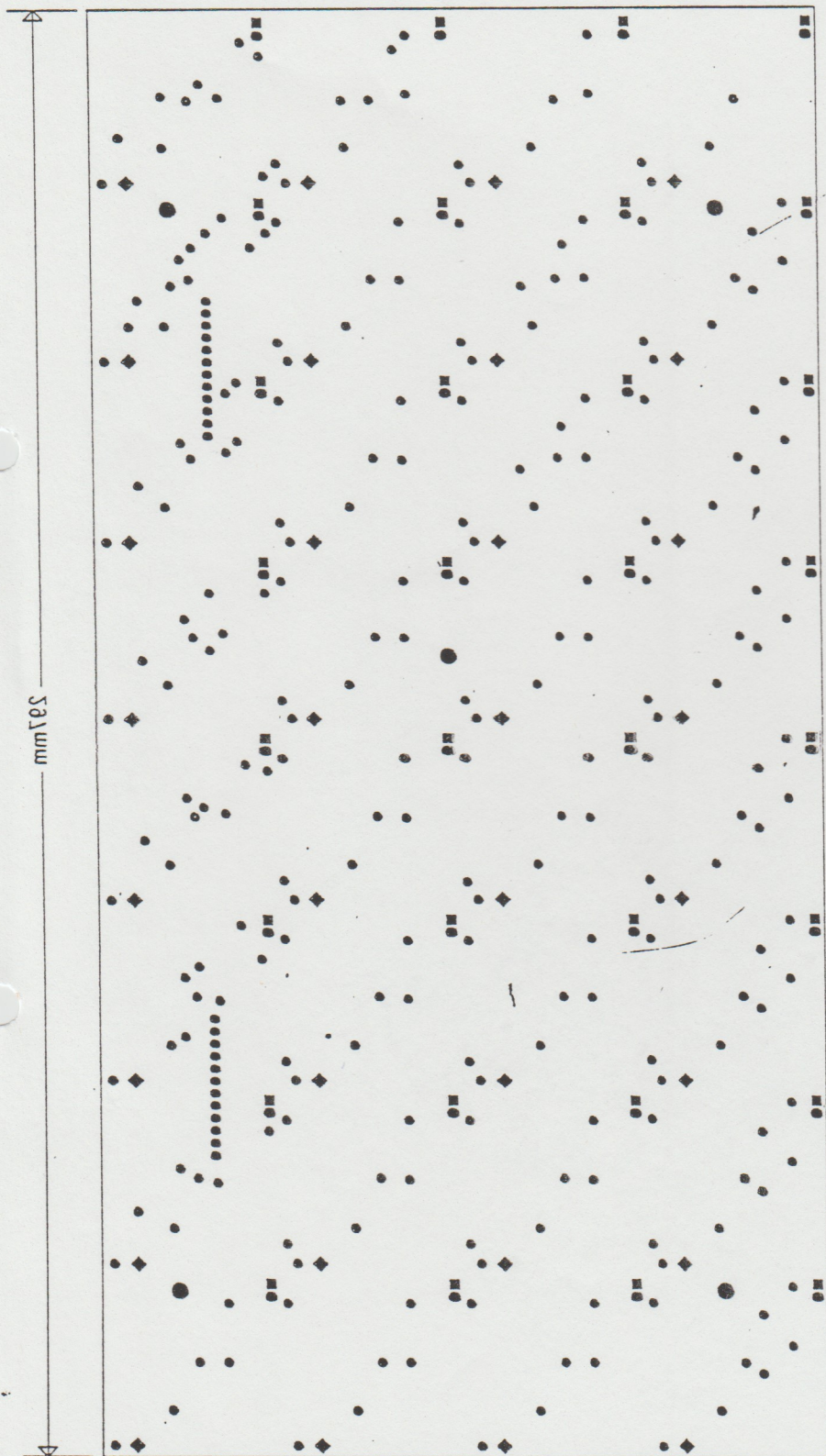
SILK SCREEN - WCB4 PCB LED (B)



3RD ANGLE PROJECTION	SIGNATURE	DATE	REV	ITEM	WAS	IS	DATE	DRAWN	CHECK	ED	RD
TOLERANCES	DRAWN BY: Walter	21-7-94									
DIM. :	CHECK BY: AZ	2/7/94									
SCALE: 1=1 UNIT: MM	ENGRG AUTH	1/8/94									
QUANTITY :	O.A. APPD.	1/8/94									
SHEET OF	R.D. APPD.	2/7/94									
TITLE: WCB4 PCB LED (B)			PROJECT: WCB4			FINISH					
DWG. NO.: WCB4-PA-00955			P/N.: 1515730-00920								
MATERIAL											



20ГДЕВ МАЗК - МСВ+ РСВ ГЕД (В)



501mm



SHEET	OF	R.D. Vbbo	DATE	FINISH
QUANTITY :		Q.V. Vbbo	DATE	
SCALE: 1 = 1	MM: MM	ENG. Vbbo	DATE	
DIM :	VINCE:	CHECK BY:	DATE	
LOT SERVICES		DRAWN BY:	DATE	
3RD VINCE	PROJECTION	SIGNATURE	DATE	
REVISION				
REV	ITEM	DESCRIPTION OF CHANGE	DATE	APPROVED
1	1	20ГДЕВ МАЗК - МСВ+ РСВ ГЕД (В)	12	
20ГДЕВ МАЗК				
20ГДЕВ МАЗК - МСВ+ РСВ ГЕД (В)				



20ГДЕБ МАЗК - МСВ4 БСВ ГЕД (А)

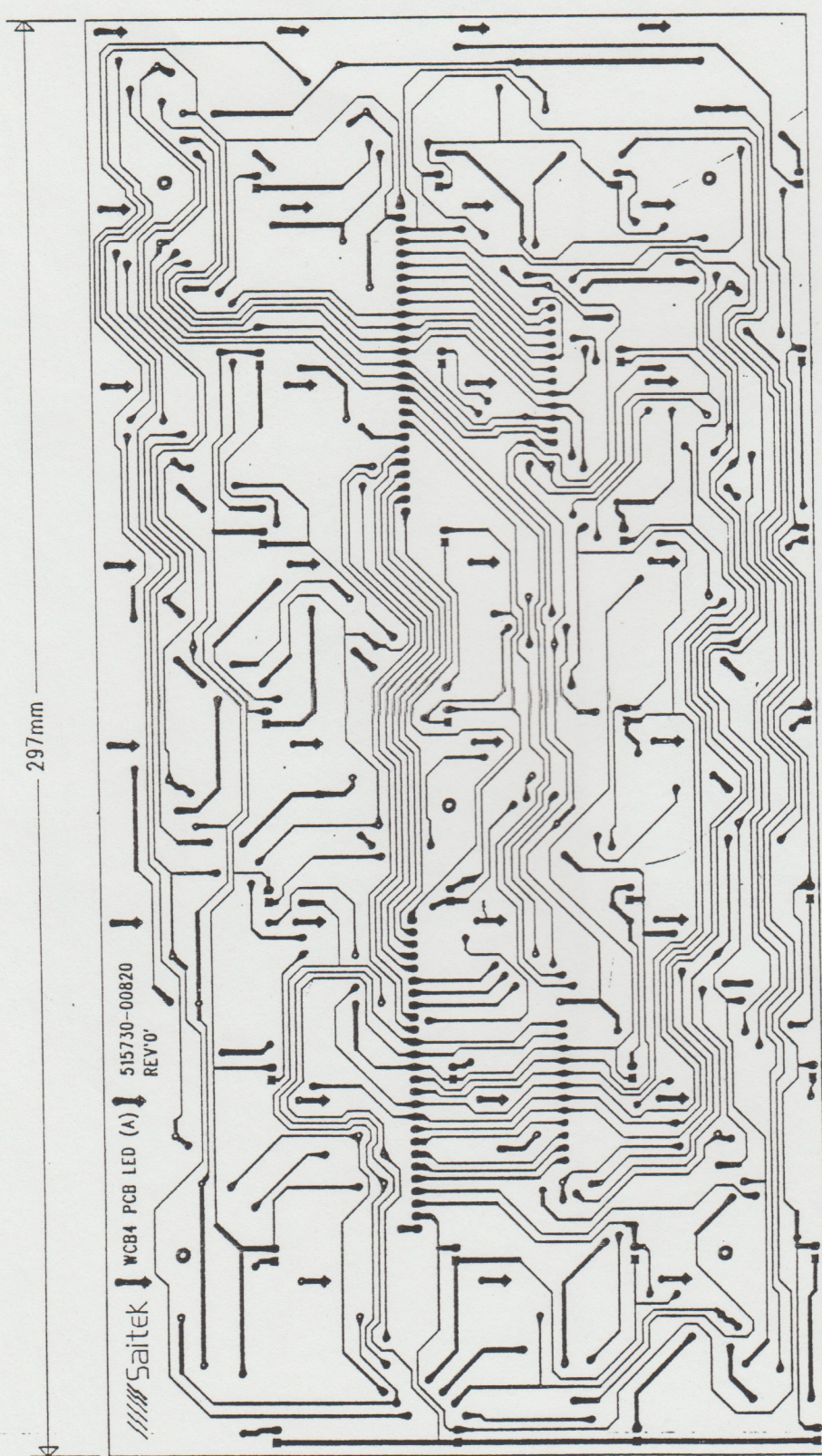


SHEET	OF	R.D. YBPD.	MATERIAL	FINISH
ONVILLI :		D.Y. YBPD.	P.V. :	
SCALE: 1=	UNIT: MM	ENGRC UNIT	DWG. NO. : MCB4-BV-0082W	PROJECT: MCB4
DIM :	ANGLE:	CHECK BY:	DATE: 21/11/18	
LOCERAINCS		DRAWN BY: MCB4	DATE: 21/11/18	
2RD	ANGLE	PROJECTION	SIGNATURE	DATE
REV	ITEM	DESCRIPTION OR CHANGE	DATE	DRAWN
		12		CHECK
				ED
				QY
				RD

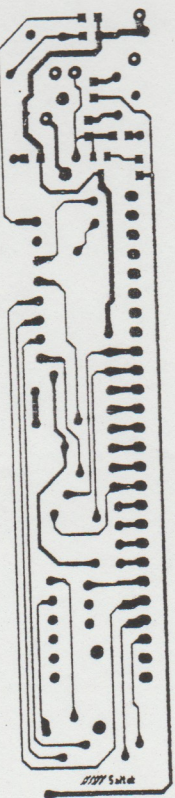
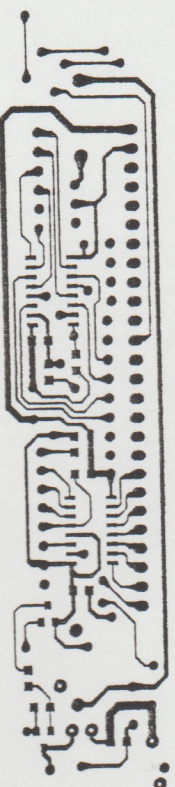
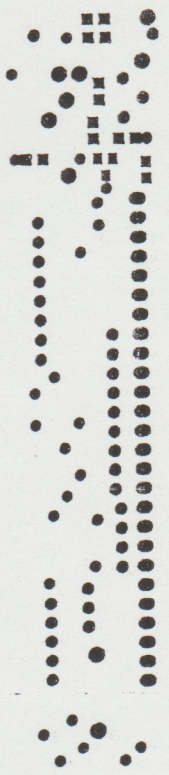
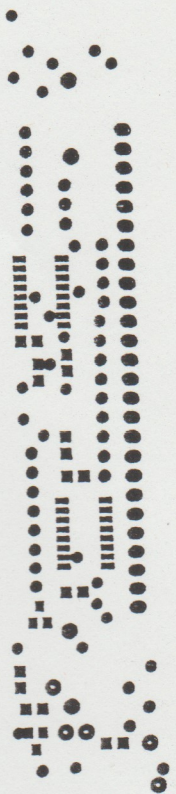
581mm



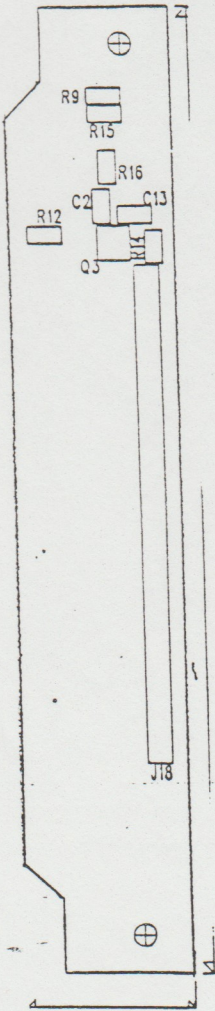
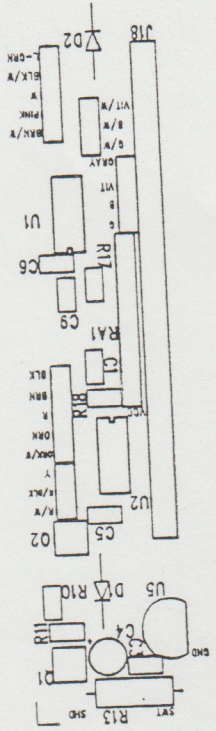
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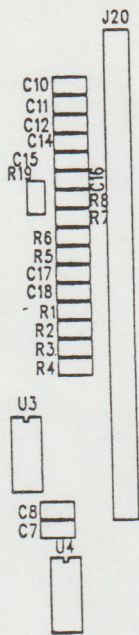


3RD ANGLE PROJECTION		SIGNATURE		DATE	REV ITEM	WAS	IS	DATE	DRAWN	CHECK	ED	QA	RD
TOLERANCES		DRAWN BY:	Walter	21-7-94		DESCRIPTION OF CHANGE							
DIM. :		CHECK BY:	ATZ	21/7/94		TITLE:		WCB4 PCB LED (A)		COPPER TRACE			
SCALE: 1=1		ENGRG AUTH				DWG. NO.:		WCB4-PA-00820		PROJECT:		WCB4	
QUANTITY :		Q.A. APPD.		18/94		P.N.:		5157301-00820		FINISH			
SHEET		R.D. APPD.		28/10/94		MATERIAL							

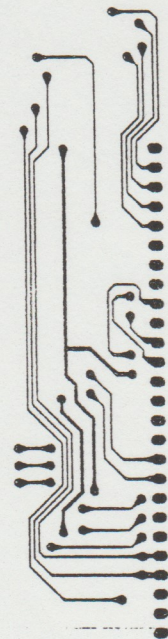
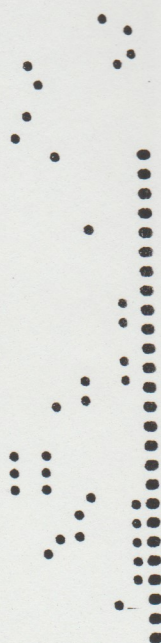
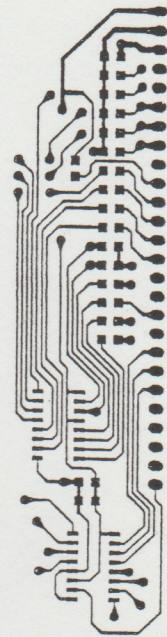
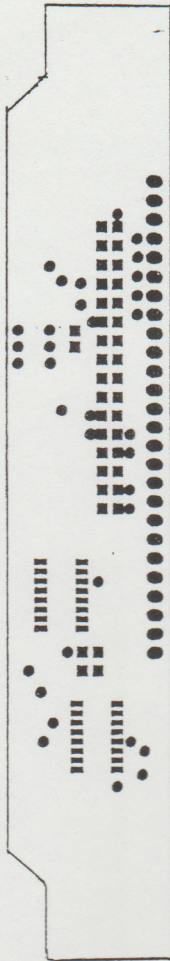


WCB4 PCB LOGIC (A)
515730-00310
REV '0'



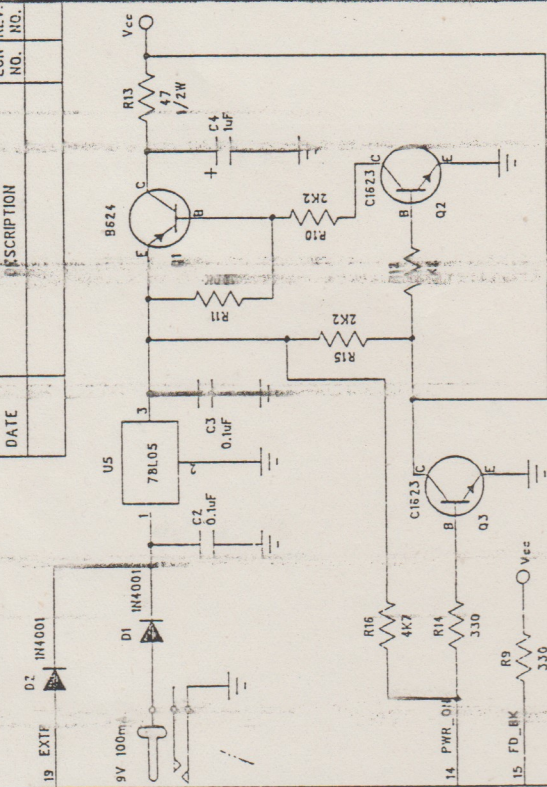


WC84 PCB LOGIC (B)
515730-00710
REV '0'

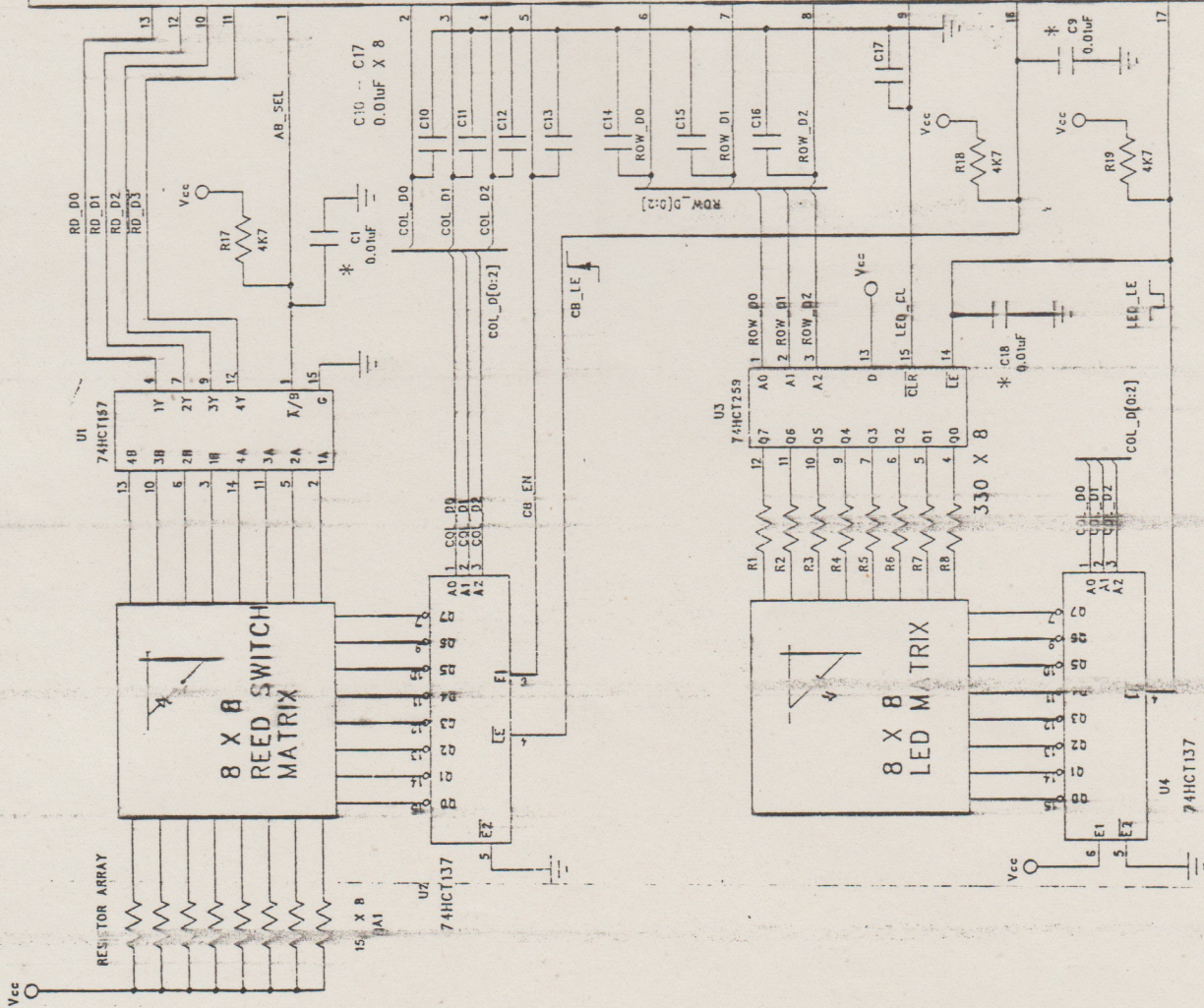


ORIGINAL

REVISION		ECN REV.	NO.
DATE			



25-PIN D-CONNECTOR



SAITEK

BILL OF MATERIALS

PROJECT : WCB4 (PC Auto Chessboard)
ART. NO. : 573
SHIP VER. : EV
REVISION : 1

REVISION HISTORY

<u>REVISION</u>	<u>DATE</u>	<u>BY</u>	<u>DESCRIPTION OF CHANGES</u>
P1	30.6.94	Howells Chan	Preliminary BOM.
1	26/8/94	Abraham Au	New Release, packing material, electronics components changed and added.
1.1	1/11/94	Abraham Au	Assembly and packing materials changed and added.

RELATED DOCUMENTS REV

Schematic dwg : WCB4-PE-005 0

Prepared By : Ala
Abraham Au

Approved by : BDM1

Distribution :

+1.00 [] MMM, FAM, IEM, SEE, QAM
+0.10 [X] MMM, FAM, IEM, SEE, QAM
+0.01 [] MMM, IEM

Date issue : 3 NOV 1994

995730-11EV - WCB4, EV, PC CHESSBOARD 2000

Rev : 1

Level	Item	Chg	Stock Code	Rev	Cons	Description	Gty Per Reference
1			985730-00000	1	S	UNIT ASSEMBLY, FOR WCB4	1.000
2			915730-00001	1	S	GUTS ASSEMBLY - LOGIC (A)	1.000
3	1		515730-00310	RN		PCB, LOGIC(A), DS, 1.6MM, FR-4	1.000
3	2		741645-00157	RC		TTL -157, QUAD 2INPUT MULTIPLEXER, HCT, SMD	1.000 U1
3	3		741655-00137	RC		TTL-137, 3TO8 LINE DECODER LATCH, HCT, SMD	1.000 U2
3	4		690004-78L05	RC		ELECT, REGULATOR, 5V, 0.1A, TO-92, 78L05	1.000 U5
3	5		670325-C1623	RC		TRANSISTOR, NPN, 2SC1623-L7, CHIP TYPE	2.000 Q2, Q3
3	6		670425-B6240	RC		TRANSISTOR, PNP, 2SB624-BV4, CHIP TYPE	1.000 Q1
3	7		654001-20000	RN		DIODE, RECTIFIER, 1N4001	2.000 D1, D2
3	8		621032-01631	RN		CAPACITOR, CHIP, C-CAP, 0.01UF, +80, -20%, 16V	1.000 C13
3	9		621042-02531	RN		CAPACITOR, CHIP, 0.1UF, +80, -20%, 25V	4.000 C2, C3, C5, C6
3	10		62105M-0101X	RN		CAPACITOR, E-CAP, 1UF, +/-20%, 10V MINI	1.000 C4
3	11		611045-24102	RN		RESISTOR, CHIP, C-FILM, 100K, 5%, 1/8W	1.000 R19
3	12		612225-24102	RN		RESISTOR, CHIP, C-FILM, 2K2, 5%, 1/8W	3.000 R10, R12, R15
3	13		613315-A1102	RN		RESISTOR, CHIP, C-FILM, 330, 5%, 1/10W	2.000 R9, R14
3	14		614705-A1102	RN		RESISTOR, FIXED C-FILM, 47, 5%, 1/2W	1.000 R13
3	15		614725-24102	RC		RESISTOR, CHIP, C-FILM, 4K7, 5%, 1/8W	3.000 R16, R17, R18
3	16		611535-32109	RC		RESISTOR, ARRAY C-FILM, 15KX8, 5%, 1/4W, 9	1.000 RA1
3	17		000030-01440	RN		CONN ARRAY N=26, L=65MM, P=2.54MM, E=5MM	1.000
2			915730-00011	1	RN	GUTS ASSEMBLY - LOGIC (B)	1.000
3	18		515730-00710	RN		PCB, LOGIC(B), DS, 1.6MM, FR-4	1.000
3	19		741665-00259	RC		TTL, -259, 3 TO 8 LINE DECODEER, HCT, SMD	1.000 U3
3	20		741655-00137	RC		TTL-137, 3TO8 LINE DECODER LATCH, HCT, SMD	1.000 U4
3	21		621042-02531	RN		CAPACITOR, CHIP, 0.1UF, +80, -20%, 25V	2.000 C7, C8
3	22		613315-A1102	RN		RESISTOR, CHIP, C-FILM, 330, 5%, 1/10W	8.000 R1-R8
3	23		000030-01440	RN		CONN ARRAY N=26, L=65MM, P=2.54MM, E=5MM	1.000
3	24		614725-24102	RC		RESISTOR, CHIP, C-FILM, 4K7, 5%, 1/8W	1.000 R19
3	25		621032-01631	RN		CAPACITOR, CHIP, C-CAP, 0.01UF, +80, -20%, 16V	7.000 C10-C12, C14-C17
2			915730-00002	1	RN	GUTS ASSEMBLY - LED (A)	1.000
3	26		515730-00820	RN		PCB, LED(A), SS, 1.6MM, PAPER PHENOLIC	1.000
3	27		660009-11002	RC		LED, RED, FLAT HEAD, D=2MM, TOSHIBA TLR206	32.000
3	28		525110-00110	RC		SWITCH, REED, FOR SW6.1, ORD225	32.000
3	29		654148-10000	RN		DIODE, SWITCHING, 1N4148	32.000
3	30		000030-01450	RN		CONN ARRAY, N=12, L=80MM, P=2.54MM, E=5MM	2.000
3	31		000051-20155	RN		JUMPER, L=12MM, LL=15MM, D=0.5MM	73.000
3	32		000051-50155	RN		JUMPER, L=15MM, LL=15MM, D=0.5MM	36.000
2			915730-00012	1	RN	GUTS ASSEMBLY - LED (B)	1.000
3	33		515730-00920	RN		PCB, LED(B), SS, 1.6MM, PAPER PHENOLIC	1.000
3	34		660009-11002	RC		LED, RED, FLAT HEAD, D=2MM, TOSHIBA TLR206	32.000
3	35		525110-00110	RC		SWITCH, REED, FOR SW6.1, ORD225	32.000
3	36		654148-10000	RN		DIODE, SWITCHING, 1N4148	32.000
3	37		000051-20155	RN		JUMPER, L=12MM, LL=15MM, D=0.5MM	76.000
3	38		000051-50155	RN		JUMPER, L=15MM, LL=15MM, D=0.5MM	2.000
2			915730-00005	1	RN	GUTS ASSEMBLY - DC JACK	1.000
3	39		000220-00014	RC		SOCKET, DC POWER JACK, TD18-023	1.000
3	40		515730-00450	RN		PCB, DC JACK, SS, 1.0MM, PAPER PHENOLIC	1.000

995730-11EV

- WCB4,EV,PC CHESSBOARD 2000

Rev : 1

Level	Item	Chg	Stock Code	Rev	Cons	Description	Qty Per Reference
3	41		000060-12043		RN	STRAND WIRE,BLACK,L=120MM,E=3.5MM,AWG28	1.000 FOR GND
3	42		000062-12043		RN	STRAND WIRE AWG28,E=3.5MM,L=120MM,RED	1.000 FOR +VE
2			965730-00000	1	RN	CASING ASSEMBLY,FOR WCB4	1.000
3	43		000073-41440		RN	SCREW,S/T,+CSK HD,M2.6X10MM,BLACK,A	8.000 FOR B.CAB
3	44		000073-11434		RN	SCREW,S/T,+BIND,M2.6X8MM,A	10.000 OPTIONAL
3	45		000073-11434		RN	SCREW,S/T,+BIND,M2.6X8MM,A	12.000 PCB MOUNTING
3	46		000073-11224		RN	SCREW,S/T,+BIND,M2.3X6MM,A	4.000 JACK & CABLE
3	47		595730-00210		RC	CABLE,20 CORE,L=1.5M,WHITE,W/D-SUB CONN	1.000
3	48		000080-00080		RN	WASHER,FIBRE,ID=3.5MM,OD=14MM,T=1MM	2.000 PCB MOUNTING
3	49		000022-00170		RN	RUBBER FOOT,3M,OD25MM,THKS 3.8MM TAPERED	4.000 FOR B.CAB
3	50		345730-01500		RC	NAME PLATE,AL,KASPAROV,WCB4	1.000
3	51		335730-01200		RC	RATING PLATE,FOR WCB4,SILVER LABEL	1.000
3	52		355730-01600		RC	INLAY,FOR JACK & CABLE SILVER LABEL WCB4	1.000
3	53		000250-00002		RC	FASTENER,FIXER,FIBRE,RED,30X6X1 DIA2.4MM	1.000 FOR FIXED CABLE
3	54		294570-03400		RC	CABLE PROTECT PLATE #1,SMALL	2.000
3	55		294570-03500		RC	CABLE PROTECT PLATE #2,LARGE	2.000
2			955730-00000	1	RC	CABINET SET,FOR WCB4	1.000
3	56		235730-00100		RC	WOOD,CHESSBOARD TOP CABINET,FOR WCB4	1.000
3	57		235730-00200		RC	WOOD,BOTTOM COVER,FOR WCB4	1.000
1			945730-10000	1	RC	PACKING ASSEMBLY,FOR WCB4	1.000
2	58		455730-01000		RN	CARTON,FOR WCB4,5PCS/CTN	.200
2	59		000125-00500		RN	POLYBAG,500X500X0.045MM	1.000 FOR CABINET
2	60		360000-00200		RN	LABEL,FOR SERIAL NO, ADHESIVE	1.000
2	61		370000-XXXXX		RC	LABEL,COMMON,CUSTOMER LABELS	1.000
2			242990-19400	1	RC	CHESSMEN SET,SW19 2-5/8",BLITZ	1.000
3			242990-19510	1	RC	CHESSMEN SUBSET,SW19,2-5/8",BLITZ,BROWN	1.000
4			244200-089K1	1	S	CHESSMEN,SW19,KING,BROWN,D13X4,BLITZ	1.000
5	62		234200-07110		RC	WOOD,KING,D.BROWN,W/O MAG,W1	1.000
	63		000161-00150		RC	MAGNET,ISO,FERRITE,D13X4	1.000
5	64		295100-08211		RC	FELT,DIA 20MM,BLK,W ADHESIVE	1.000
4			244200-089Q1	1	S	CHESSMEN,SW19,QUEEN,BROWN,D13X4,BLITZ	1.000
5	65		234200-07210		RC	WOOD,QUEEN,D.BROWN,W/O MAG,W1	1.000
5	66		000161-00150		RC	MAGNET,ISO,FERRITE,D13X4	1.000
5	67		295100-08211		RC	FELT,DIA 20MM,BLK,W ADHESIVE	1.000
4			244200-089B1	1	S	CHESSMEN,SW19,BISHOP,BROWN,D13X4,BLITZ	2.000
5	68		234200-07310		RC	WOOD,BISHOP,D.BROWN,W/O MAG,W1	1.000
5	69		000161-00150		RC	MAGNET,ISO,FERRITE,D13X4	1.000
5	70		295100-08211		RC	FELT,DIA 20MM,BLK,W ADHESIVE	1.000
4			244200-089N1	1	S	CHESSMEN,SW19,KNIGHT,BROWN,D13X4,BLITZ	2.000
5	71		234200-07410		RC	WOOD,KNIGHT,D.BROWN,W/O MAG,W1	1.000
5	72		000161-00150		RC	MAGNET,ISO,FERRITE,D13X4	1.000
5	73		295100-08211		RC	FELT,DIA 20MM,BLK,W ADHESIVE	1.000

995730-11EV - WCB4, EV, PC CHESSBOARD 2000

Rev : 1

Level	Item	Chg	Stock Code	Rev	Cons	Description	Qty Per Reference
4			244200-089R1	1	S	CHESSMEN, SW19, ROOK, BROWN, D13X4, BLITZ	2.000
5	74		234200-07510		RC	WOOD, ROOK, D. BROWN, W/O MAG, W1	1.000
5	75		000161-00150		RC	MAGNET, ISO, FERRITE, D13X4	1.000
5	76		295100-08211		RC	FELT, DIA 20MM, BLK, W ADHESIVE	1.000
4			244200-089P1	1	S	CHESSMEN, SW19, PAWN, BROWN, D13X4, BLITZ	8.000
5	77		234200-07610		RC	WOOD, PAWN, D. BROWN, W/O MAG, W1	1.000
5	78		000161-00150		RC	MAGNET, ISO, FERRITE, D13X4	1.000
5	79		294200-08511		RC	FELT, DIA 17MM, BLK, W ADHESIVE	1.000
3			242990-19610	1	RC	CHESSMEN SUBSET, SW19, 2-5/8", BLITZ, BEIGE	1.000
4			244200-090K1	1	S	CHESSMEN, SW19, KING, BEIGE, D13X4, BLITZ	1.000
5	80		234200-07100		RC	WOOD, KING, BEIGE, W/O MAG, W1	1.000
5	81		000161-00150		RC	MAGNET, ISO, FERRITE, D13X4	1.000
5	82		295100-08211		RC	FELT, DIA 20MM, BLK, W ADHESIVE	1.000
4			244200-090Q1	1	S	CHESSMEN, SW19, QUEEN, BEIGE, D13X4, BLITZ	1.000
5	83		234200-07200		RC	WOOD, QUEEN, BEIGE, W/O MAG, W1	1.000
5	84		000161-00150		RC	MAGNET, ISO, FERRITE, D13X4	1.000
5	85		295100-08211		RC	FELT, DIA 20MM, BLK, W ADHESIVE	1.000
4			244200-090B1	1	S	CHESSMEN, SW19, BISHOP, BEIGE, D13X4, BLITZ	2.000
5	86		234200-07300		RC	WOOD, BISHOP, BEIGE, W/O MAG, W1	1.000
5	87		000161-00150		RC	MAGNET, ISO, FERRITE, D13X4	1.000
5	88		295100-08211		RC	FELT, DIA 20MM, BLK, W ADHESIVE	1.000
4			244200-090N1	1	S	CHESSMEN, SW19, KNIGHT, BEIGE, D13X4, BLITZ	2.000
5	89		234200-07400		RC	WOOD, KNIGHT, BEIGE, W/O MAG, W1	1.000
5	90		000161-00150		RC	MAGNET, ISO, FERRITE, D13X4	1.000
5	91		295100-08211		RC	FELT, DIA 20MM, BLK, W ADHESIVE	1.000
4			244200-090R1	1	S	CHESSMEN, SW19, ROOK, BEIGE, D13X4, BLITZ	2.000
5	92		234200-07500		RC	WOOD, ROOK, BEIGE, W/O MAG, W1	1.000
5	93		000161-00150		RC	MAGNET, ISO, FERRITE, D13X4	1.000
5	94		295100-08211		RC	FELT, DIA 20MM, BLK, W ADHESIVE	1.000
4			244200-090P1	1	S	CHESSMEN, SW19, PAWN, BEIGE, D13X4, BLITZ	8.000
5	95		234200-07600		RC	WOOD, PAWN, BEIGE, W/O MAG, W1	1.000
5	96		000161-00150		RC	MAGNET, ISO, FERRITE, D13X4	1.000
5	97		294200-08511		RC	FELT, DIA 17MM, BLK, W ADHESIVE	1.000
3	98		242990-19400C		RC	CHESSMEN SET, SW19, ALC	1.000
2	99		425730-61100		RC	GIFTBOX, FOR WCB4, F/G/E/D/I/S	1.000
2	100		455730-02300		RN	INSERT, WCB4, CORRUGATED PAPER WITH TX'MER	1.000
2	101		455730-02400		RN	INSERT, WCB4, CORRUGATED PAPER, W/OUT TX'MER	1.000
2	102		455730-02500		RN	INSERT, WCB4, CORRUGATED PAPER, DUMMY	1.000
2	103		455730-03700		RN	INSERT FOR WCB4 #4	2.000
2	104		455730-03800		RN	INSERT FOR WCB4 #5	2.000
2	105		455730-03900		RN	PAPER INSERT #6	2.000
2	106		455730-04000		RN	PAPER INSERT #7	2.000

995730-11EV - WCB4,EV,PC CHESSBOARD 2000

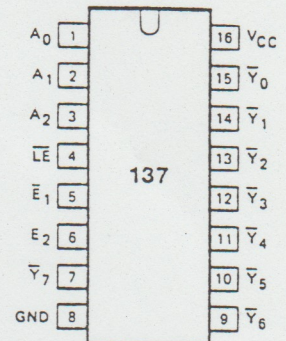
Rev : 1

Level	Item	Chg	Stock Code	Rev	Cons	Description	Qty Per Reference
1			975730-11EV	1	RN	OPTIONS ASSEMBLY, FOR WCB4	1.000
2	107		415730-61000		RC	MANUAL, FOR WCB4	1.000
2	108		540000-00210		RC	ADAPTER, VDE, 9V, 300MA, C+, BARREL, SWL	1.000
1	109		40AMC			ASSEMBLER MATERIAL CHARGE	
1	110		40ALC			ASSEMBLER LABOUR CHARGE	

End of report =====

GD54/74HC137, GD54/74HCT137

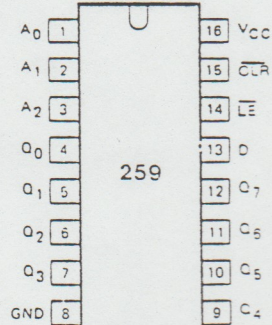
Pin Configuration



Suffix-Blank : Plastic Dual In Line Package
 Suffix-J : Ceramic Dual In Line Package
 Suffix-D : Small Outline Package

GD54/74HC259, GD54/74HCT259

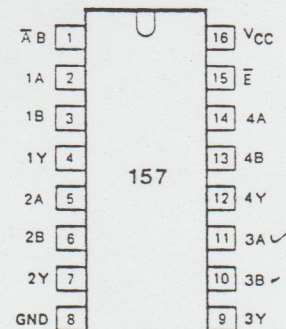
Pin Configuration



Suffix-Blank : Plastic Dual in Line Package
 Suffix-J : Ceramic Dual In Line Package
 Suffix-D : Small Outline Package

GD54/74HC157, GD54/74HCT157 QUAD 2-INPUT SELECTORS/MULTIPLEXERS WITH NONINVERTED OUTPUT

Pin Configuration



Suffix-Blank : Plastic Dual In Line Package
 Suffix-J : Ceramic Dual In Line Package
 Suffix-D : Small Outline Package

8. FUNCTIONAL TEST PROCEDURE FOR WCB4 / RCB4

Make sure the PC and the AUTO chessboard are turned OFF before any connection is done. Then plug the DB-25 connector to the printer port of the PC. Turn on the power of PC and plug the DC adapter into the Auto Chessboard power socket. After the PC self-diagnostic test, C:\> (or A:\>) is shown on the monitor. (Make sure that no chesspieces are placed on the chessboard)

<u>Purpose</u>	<u>Procedure</u>	<u>Observation</u>
1. LED test	- Type "WCB4A" on the keyboard	- "A:\>WCB4A_ "
	- Press ENTER	- The display shown on monitor, see figure 1.
	- Place a WCB4 chesspieces on one of the square	- LEDs start scanning from A1, A2 ... A7, A8, B8, B7 ... B2, B1, C1, C2 ... C7, C8, D8, D7 ... D2, D1, E1, E2 ... E7, E8, F8, F7 ... F2, F1, G1, G2 ... G7, G8, H8, H7 ... H2, H1, then in reverse order respectively. - LEDs scanning stopped. - "*" is located on the monitor where the chesspiece is placed on the chessboard.

<u>Purpose</u>	<u>Procedure</u>	<u>Observation</u>
2. Chessboard square test	- Short the reed switches of row 1 with magnets. After the chessboard LED turns on steadily, put a <u>testing chessman</u> on squares labelled with A on Table 1 (A2, B3, C4, G8, H8) - Repeat the above step for row 2, 3, 4, 5, 6, 7, 8 and put a testing chessman on square labelled with B, C, D, E, F, G, H respectively on Table 1	- The display shown on monitor same as figure one, except "*" is located on the square with chess pieces. (make sure that only 1 LED is turned on each time)
3. Test finished	- Press ESC - Remove the adapter from chessboard and the D-connector from PC. - Connect another chessboard to PC - Type "Y" on keyboard to continue testing, otherwise type "N"	- "You can disconnect power adapter and cable now." - "Try another sample (Y/N)?" - Repeat step 1 to step 3.

Remarks:

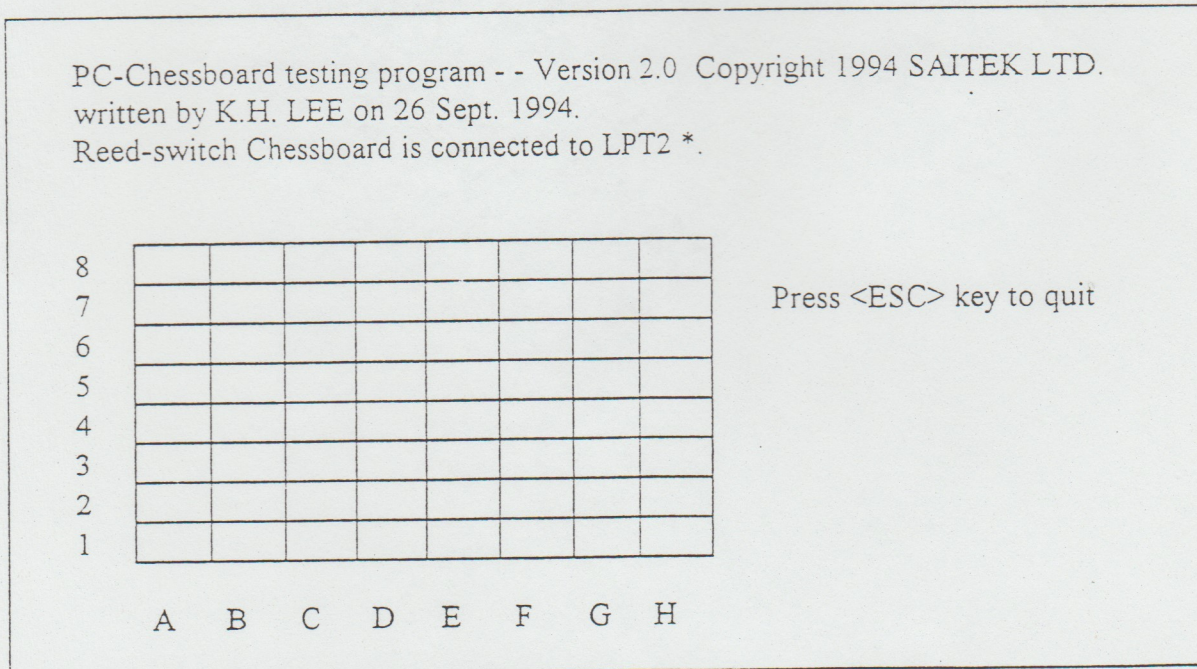
If either the D-connector or adapter doesn't connect properly, then the testing is terminated with following message shown on monitor.

"Error: Please make sure that all connections are correct."

Table 1

8	G	F	E	D	C	B	A	A
7	F	E	D	C	B	A	H	H
6	E	D	C	B	A	H	G	G
5	D	C	B	A	H	G	F	F
4	C	B	A	H	G	F	E	E
3	B	A	H	G	F	E	D	D
2	A	H	G	F	E	D	C	C
1	H	G	F	E	D	C	B	B
	A	B	C	D	E	F	G	H

Note : The testing chessman should rest on the square for at least 1 second.

Figure 1

* Note: LPT1 / LPT2 / LPT3 will be shown depending on the printer port of the PC used.