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Craig L630 Service Manual

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SERVICE MANUAL



L630

40 CHANNEL INDASH CB TRANSCEIVER WITH AM/FM/MPX RADIO AND EIGHT-TRACK PLAYER





SPECIFICATIONS

A D I O
UNER FREQUENCY RANGE AM: 540 - 1600kH
FM: 88 - 108 MH
REQUENCY RESPONSE
TEREO SEPARATION Better than 30d
ROSSTALK Better than 35d
IGNAL/NOISE RATIO Better than 40d
UDIO OUTPUT 4 W average continuou
sine-wave power per-C
B GENERAL
REQUENCY RANGE 26.965 to 27.405 MH
HANNELS 4
REQUENCY TOLERANCE $\pm 0.005\%$ from -30C to +50
REQUENCY STABILITY+0.001
ICROPHONE Detachable with Squelch, Volum
press-to-talk, PA, and Up/Dow
controls and coiled cord
OWER SOURCE 12 V system, negative groun
URRENT DRAIN RECEIVE: 1.5 A @ maximum audi
output, 0.3 A Standb
TRANSMIT: 1.5 A
TRANSMIT: 1.5 A

MODULATION CAPABILITY SPURIOUS ATTENUATION	
RECEIVER	
SENSITIVITY	Better than 0.5uV for 10 dB (S+N)/N
BANDWIDTH	<u>+</u> 3 kHz @ -6dE
	. Change in audio output less than 12dB from 10uV to 0.5V
POWER OUTPUT	4 w @ 5% THI
	Better than 60dB
P.A. POWER OUTPUT	2nd IF: 455 kHz 8 W @ 5% THI

WARNING

Replacement or substitution of IC's, crystals, transistors, regulator diodes, or any other part of a specialized nature with parts other than those recommended by Craig may cause the operator to be in violation of the Type Acceptance requirements of Part 2 of the Rules.

FCC Rules require that ALL transmitter section adjustments, other than those supplied by Craig as operating controls, be made by or under the immediate supervision of the holder of an FCC First or Second Class Radio-Telephone Operator's License.

A PRODUCT OF CRAIG CORPORATION

PARTS PRICE LIST

SUBJECT TO CHANGE WITHOUT NOTICE. USE ALL AVAILABLE NUMBERS AND COMPLETE

DESCRIPTION WHEN ORDERING, INCLUDING MODEL NUMBER

THESE PRICES HAVE BEEN REVISED AS OF 11-15-78

			ANA/ENA 8 TADE	0 A DI	NIET 0	01140010	
No	KEY No.	DESCRIPTION	RET. PRICE	No.	KEY No.	DESCRIPTION	RET. PRICE
REF.	CRAIG		MFR's SUGG	REF.	CRAIG		MFR's SUGG

AM/FM & TAPE CABINET & CHASSIS L630201 146 Ass'y, Tuner Front Chassis 5.00 S681011 Cord Clamp 101 .40 102 S630011 Lever, AM/FM .25 147 S180056 Sponge Cushion . 25 103 5630012 Lever, AM/FM Switch .30 148 L630601 Ass'y, Feed-Thru Cap(1000pF) 6.30 .25 104 5630013 Spr, AM/FM Sw Lever 149 NSP Bkt, Feed-Thru Cap Mtg Ass'y, 9P Pwr/SP Conn(unit side) W110607 1.50 105 S630014 Lever Strap .30 150 Switch, AM/FM (S4) 2626097 2.15 S681015 Seal, Adj Hole 107 153 .25 7.65 Switch, REPEAT & ST/MONO(S5) L630010 Ass'y, Nose Panel (Escutcheon) 108 S630006 2.55 155 109 S630016 Push Sw, LOC/DX & STBY (S7,9) 2.75 L630030 Slide Bar, AM/FM 1.75 Index Panel, Escutcheon 110 S630017 PCB, Weather Sw Mtg .25 L630011 .40 Spring, Slide 111 S180045 PCB, STEREO/DX Switch .30 S630047 .50 L630517 .50 112 Ass'y, TUNER PCB w/Comp & MECH. 52.15 S630049 Lens Set, Prog Indicator 112-1 L630026 Button, Tuner Pre-Set .95 S630050 Acryl Bar, Prog Ind (Light Refractor) .25 S630020 113 Plate, Pre-Set Button . 25 S630051 Poly-Slider, AM/FM Slide Bar .25 5630052 Acryl Bar Holder(large) 114 T.630341 Ass'y, AM/FM Switch Lever 1.65 .65 Acryl Bar Holder (B) (small) L630012 115 S630022 Holder, Dial Pointer .25 .50 156 \$630023 Dial Pointer L630031 Button, STBY 1.10 116 - 75 S630024 Shaft, Cartridge Door L630032 Button, Noise Blanker "NB" .60 157 1.10 117 S630055 118 S630025 Spr, Cartridge Door .25 158 Top Case 2.95 S630009 Ass'y, Dial Pointer Slider .85 159 S630056 Bottom Case 3.65 119 120 S630026 Ass'y, Cartridge Door 3.90 160 S630057 Rear Panel 2.35 L630380 Frame, Cartridge Door 1.05 161 L630520 Ass'y, AM RE/IF & FM RF/IF/MPX PCB w/Comp 75.00 Ass'y, AMP PCB w/Comp L630077 Dial Scale 162 L630521 45.00 S280046 L630381 Back Plate 1.10 163 Lamp, Dial Scale (PL1) 1.20 T.630420 Pointer Guide .35 164 L630707 Fiber Isolator .35 Adhesive Paper Dial Scale L630800 .25 166 L630607 Antenna Receptacle 3 60 Veil, Dust Barrier L630801 1.630530 Rotary Sw RADIO/CB/WB (S3) . 25 167 8.10 Ass'y, ST/MONO/REPEAT Button 121 S630005 Control, VOL/TONE/BAL Pwr & Prog Sw L630570 . 95 168 13.95 121-2 L630027 Button Plate, REPEAT "RPT" .25 S630062 Push Sw, Noise Blanker "NB" (S8) 169 2.35 L630028 Ass'y, LOC/DX Button 122 .95 170 L630708 Fiber Insulator .25 122-2 L630029 Button Plate, "DX" .25 181 L630522 PCB, Ground .35 2.70 123 S630027 Ext. Joint, Tuning Shaft 1.60 185 L630050 Upper Case, Terminal Block .45 124 1902025 Cross Joint, Tuning Shaft 186 1.630051 Lower Case, Terminal Block 2.65 125 L630518 Ass'y, Antenna PCB w/Comp 3.60 187 L630382 Cord Clamp (B) .50 \$630079 Ant Trimmer, 65pF (TR601) 1.85 189 1.630330 Rubber Bushing, Terminal Block Cord .32 \vdash W150800 Cap, Trimmer .35 .45 190 L630523 PCB, Terminal Block Bkt, Trimmer PCB Mtg 126 NSP L630802 191 Ass'v, Terminal Block Cord 5.45 Ass'y, Weather PCB w/Comp 127 S630029 24.00 193 L630608 Ass'v, CB & MIC Conn So w/Cord 25.95 128 NSP Bkt, Weather Cont Mtg L630331 Rubber Bushing, Mic Conn Cord 194 .40 129 L630571 VR 20k, Weather Adj (VR801) 2.50 195 L630609 4P Conn(D) So (J104) 2.90 Guide, Weather Adj 5P Conn(A) So (J102) 130 S630031 .25 196 L630610 3.25 NSP Chassis, Weather PCB Mtg 131 197 NSP Spacer, M2.6 Ass'y, Choke Filter PCB w/Comp 5681010 3.95 L630383 Ass'y, Transmit Lamp Holder 132 198 4.55 S180103 Choke Filter 3.05 199 L630709 Isolator, Lamp Holder .35 133 NSP Bkt, Dial Scale Lamp Mtg L630430 200 Cushion, Lamp Holder .25 134 S630034 Lamp Holder, Dial Scale .35 201 NSP Wire Clamp 135 \$630035 Ass'y, Indicator Lamp Holder 5.58 L630710 Isolator, Lamp Holder 202 .35 .25 PCB, Noise Blanker Sw Mtg 136 S680051 203 L630611 3P Conn(C) So (J101) 1.70 L630519 137 PCB, Junction 1.20 204 L630612 5P Conn(B) So (J103) 2.40 S630037 138 Chassis, Front Panel 3.20 205 L630613 3P Conn So (J401) .85 Ass'y, 4P Conn So (J501) 3148118 Washer, Volume Cont Locator 139 S630071 .25 206 1.05 Ass'y, 5P Conn So (J502) Knob, VOL/TUNING Plain Washer, M9.5x16x1 140 .25 207 S280060 1.20 3148119 Toothed Lock Washer, 3/8"x17.5x0.9 141 .25 413 3148021 .80 3148117 142 Hex Nut, 3/8"x12.5x2 .25 3148020 Knob, TONE/BAL & RADIO/CB/WB .75 144 S630038 Spr, Pinon Shaft .30 145 \$630039 Insulator, Junction PCB .25 NSP: Non-Serviceable Part

MECHANISM

1	NSP	Ass'y, Chassis		19	S680061	Ass'y, Cartridge Retainer	.85
2	S680066	Guide, Cartridge	.40	19-3	S180072	Roller, Cartridge Retainer	.25
3	S603380	Ass'y, Head Base Mtg Plate	1.60	20	S630064	Ass'y, Filter PCB w/Comp	1.70
4	S680057	Head Housing	.40	21	L630200	Ass'y, Top Chassis	5.75
5	S180088	Spacer, Head	.30	21-1	L630212	Spr Pin, Pressure Roller	.25
6	3148096	Spring(B), Head Azimuth	.25	21-3	L630260		.40
7	NSP	Lug, M3	.25	21-8	L630706	Fiber, Switch	.25
8	S180082	PCB, Prog Ind Lamp Sw	.80	22	L630516	PCB, RADIO/TAPE Switch	.95
9	S180083	Ass'y, Prog Change Cam	.95	23	S630067	Switch, RADIO/TAPE(S2)	2.30
9-2	S180084	Plate Spr, Switch	.25	24	S680062	Bearing, Flywheel Capstan	1.60
10	S180085	Top Spr, Cam	.25	25	S680063	FLYWHEEL	2.55
11	L630270	Spr, Head Push-Up	.25	26	S680064	Tape protector Insert	.25
12	3148098	Spr, Solenoid Shaft	.25	27	S680065	BELT	1.30
13	S630063	SOLENOID	5.10	28	3211117	H E A D	9.95
14	S180090		.35	29	S630068	Leaf Sw, Dimmer Light ON/OFF	.75
15	\$180091	Ratchet Claw	.35	30	L630395		.60
16	s680059	Ass'y, Tape Guide	.80	31	T180029	Fiber Insulator	.25
17	\$680068 \$680060		15.60	143	NSP	Lug, Lead Strap	
18	2000000	notor runley	.05	I		-	

REF.	CRAIG KEY No.		's SUGG . PRICE	REF.	CRAIG KEY No.		s SUGG PRICE
		MICRO					
517 518 519 520 521 522 523	L630013 L630014 L630015 L630016 L630052 L630033 L630034 L630035 L630036 L630531 L630396 NSP L630213 L630803 NSP	Ass'y, Front Case(A) Black Plate Ornament Transparent Window Plate Microphone Grille Rear Case(B), Microphone Knob, VOL & SQ Cont Knob, Transmit Sw Knob, Channel Select Knob w/Sw Knob, Channel Selector Sw, Up-Down(S1601) Bkt, Mic Hanger Bkt, Sw & Control Mtg Special Screw, Round Head Net, Dust Cover Round Sponge Cushion	11.95 1.25 .95 2.95 4.95 1.00	526 527 528 529 530 531 532 533 534 535	L630711 L630804 NSP L630620 L630384 L630332 L630805 L630621 L630572 L630573 L630641 L630670 L630532 L630533	Fiber Sheet Insulator Veil Sheet Protector Label Sticker Ass'y, Coil Cord w/16P Conn Plug Metal Clamp, Cord Strain relief Rubber Bushing, Cord Protector Cord ONLY 16P Connector Plug(P2002) VR 10k(B), VOL Cont VR 10k(D), SQUELCH Cont Microphone Transformer (T6) Microphone Element Slide Sw, CB/PA (S1602) Sw, Transmit "PTT" (S1603) Ass'y, Display & Segment Driver PCB w/Comp	30.00 .65 .95 15.95 13.95 2.40 3.95 7.250 2.50
		CB C/	ABINE	T & CH	IASSI		1 2772
546 547 548 549 550 551 552 553	L630053 NSP NSP NSP L630232 L630233 L630234 NSP L630054 NSP NSP	Rivet, M2 Upper Case, CB Unit Heat Sink(A) Case(A), PLL PCB Shield Case(B), PLL PCB Shield Stud(D), PLL PCB Mtg Stud(E), PLL PCB Mtg Stud(F), NB/PLL PCB Mtg Heat Sink Lower Case, CB Unit Main Chassis, CB Unit Bkt (A), Conn Mtg	8.90 .40 .65 .45	557 558 559 560 5644 5684 5684 569 570 571 572	L630602 L630431 L630712 L630624 NSP 4103035 L630525 L630525 L630527	Ass'y, Bkt w/Feed Thru Cap(Cl221~Cl242) Cushion, PLL PCB Insulator Sheet Identification Plate 24P Conn Plug(P2001) Bkt, Conn Mtg Coaxial Ant Socket(J1) Hex Nut & Washer, M16 Ass'y, Main CB -PCB w/Comp Ass'y, PLL PCB w/Comp Ass'y, NB PCB w/Comp Ass'y, CONTROL/RELAY PCB w/Comp	11.75 .25 1.55 1.55 8.55 1.85 .45 79.95 16.95 37.60
		MISCELL	ANEO	JS ELI	ECTRI	CAL	
NE401 RL901 VR501,50 VR801 VR2,102 VR1,101 S6 S2 S3 S4 S5 S7 S8 S9 S10	\$63006; L63053; 2626699; \$630006; \$630016; \$630016; L630718 CABINET	Neon Lamp RE L A Y (mounted on AMP PCB) Semi-Var Res, 10k 0hm VR 20k, WEATHER Adj VR 20k, WEATHER Adj VR 20k 0hm, V0LUME Cont VR 20k 0hm, V0LUME Cont Wain Power Switch Main Power Switch Min Power Switch Minual Program Select Switch Slide Sw, RADIO/CB/WB Micro Sw, AM/FM Select Push Sw, REPEAT & ST/MONO Push Sw, Noise Blanker "NB" Push Sw, Noise Blanker "NB" Push Sw, STAND-BY "STBY" PA/ST Output Sw(see RELAY RL901 **CHASSIS** Coaxial Ant. So 24P CB Conn So 16P Mic Conn So w/Cord 16P Conn Plug, MICROPHONE 24P Conn Plug, CB 24P Conn Plug BP Conn Plug BP Conn Plug BP Conn Plug BP Conn So w/Harness BP Conn So w/Harness BP Conn So w/Harness BP Conn So w/Harness	1.85 25.95 13.95 8.55 1.15 3.95 3.15 2.35 4.85 3.75 2.55	S11 S12 PL1 PL2 ~8 J101 J103 J104 J501 J502 P101 P102, l03 P104 P401 P501 P502 VR1103 VR1104 VR1602 VR1602 S1601 VR1602 S1603 MIC LED1601 RL1 RL1502 1503	L630611 L630610 L630609 L630609 L630613 S630071 S280060 L630623 S630072 S630073 S280059 L630590 L630531 L630531 L630531 L630531 L630531 L630531 L630531 L630710 L630710	Sensor Sw, ÄUTO Prog Change Lamp, Dial Scale Lamp, PROG/ST/STBY/MOD 3P Conn So w/Harness 5P Conn So w/Harness 5P Conn So w/Harness 4P Conn So w/Harness 4P Conn So w/Harness 4P Conn So w/Harness 4P Conn So w/Harness 5P Conn So w/Harness 5P Conn Plug 5P Conn Plug 4P Conn Plug 4P Conn Plug 4P Conn Plug 5P Conn Plug 4P Conn Plug 4P Conn Plug 4P Conn Plug 5P Conn Plug 4P Conn Plug 5P Conn Plug 5P Conn Plug 6P Conn Plug 6P Conn Plug 6P Conn Plug 7	.80 1.10 1.20 1.05 1.70 3.25 2.40 2.90 1.05 1.05 1.20 .80 .95 .80 .90 2.40 2.40 2.40 2.40 2.40 2.40 2.40 2.50 2.50 2.50 2.50 2.50 2.50 2.50 2.5
		CHOKES, COILS, T	RIMM	ERS 8	TRAI	NSFORMERS	
T1 T2 T4 T6 L1101 L1102, 1103 L1104 L1105, 1109, 1110 L1107 L1108 L1301 L1302, 1303	L630643 L630644 L630644 L630647 L630677 L630676 L630677 L630677 L630678 L630688	Audio Transformer Audio Transformer Microphone Transformer Antenna Coil RF Coil Filter Coil Filter Coil, luH Filter Coil RF Coil Filter Coil Filter Coil	3.20 8.65 4.55 3.95 2.30 2.25 2.35 2.25 2.25 2.50 1.80 2.00		L630681 L630693 L630723 L630722	OSC Coil Filter Coil(S010M), luH Filter Coil(S101K), 100uH Filter Coil, 2.2uH RF Coil, 26 MHz RF Coil, 14 MHz Filter, SFE10.7 MHz Filter(CFU), 455 kHz Filter(CFU), 455 kHz Trimmer Cap, 20pF Crystal, 36.38 MHz Crystal, 10.24 MHz Crystal, 10.695 MHz	1.80 3.00 1.30 1.20 1.65 2.50 2.15 3.40 10.25 5.75 2.60 14.00 14.00 14.00

- 1								1
1	REF.	CRAIG	1	MFR's SUGG	REF.	CRAIG	MFR's SUGG	1
			1		INCI .	CINATU	nin 3 30dd	
ı	No.	KEY No.	DESCRIPTION	RET. PRICE	No.	KEY No.	DESCRIPTION RET. PRICE	1

CHOKES, COILS, TRIMMERS & TRANSFORMERS

AM/FN	AM/FM & TAPE										
L1 L2 L401,403,	\$180103 \$630063	Choke Filter SOLENOID, Prog Change	2.30 5.10	T602 T603 T801	\$630078	AM IFT w/Ceramic Filter AM IFT Weather IFT	3.20 .85				
404,501	\$630074 L630671 3516096 3516097		.60 .40 .90 1.35 1.35	CF501,502 CR501 TR401,402 TR403 TR601	L630673 S680075 S630080 S630081 S630079	Ceramic Filter(SFE 10.7 MHz) CR Component Trimmer, 8pF Trimmer, 5pF AM Ant. Trimmer 65pF Trimmer Cap, 50pF	1.60 1.10 .65 .65 1.85				

SEMICONDUCTORS

			SEMICONI	DUCTO	HS .		
AM/FN	A TAPE						
01,101 02,102, 901,902, 903,904, 905,907	2SC644 2SC1815	Transistor	1.80	D401,505, 603,801 D402 D501,502, 503,504,	18853 ITT410	Diode Vari-Cap Diode	.55
Q401,801 Q402 Q403 Q501 Q601,603	2SK49 2SC1047 2SC1359 2SC828 2SC941	F.E.T. Transistor	1.50 1.60 1.60	506,507, 608,901, 901~910 0601,606 0602,604,	151588 15953	Diode Diode	1.00
Q602 Q604 Q802 Q803 Q906	2SC829 2SD355 2SC1674 2SC1675 2SC982	11 11 11 11	1.30 1.85 1.50 1.35 1.35	605 D609 D802,803 IC1,101 IC501	1S188 MZ310A 1S2139 TA7205P SN76600P	Diode Zener Diode Vari-Cap Diode I.C., AUDIO AMP I.C., IF	.50 .75 2.45 6.55 3.80
D1	1002	Diode	.70	1C502 1C503	SN76642 SN76115	I.C., IF I.C., MPX	3.80 5.70
СВ							
Q1101 Q1102 Q1103,	2SC1306 2SC1957	Transistor	3.20 3.50	D1301 D1112, 1114,	RD9.1EB	Zener Diode	1.60
1301, 1302, 1303, 1304,				1117, 1501 01113 01120,	F14A 1S1209	Rectefier Varistor	1.40
1305, 1306, 1307, 1038,				1122 D1121 D1123 D1124	RD6.2 RD5.1 VD1221 1S2473	Zener Diode "" Varistor Diode	2.50 1.60 1.20 1.05
1402, 1405 Q1104,	2SC1675	Transistor	1.30	D1302, 1401, 1402 —	[1S2473]•		1.05
1105 Q1106,	2SC1096 2SC815	Transistor Transistor	3.40 2.00	D1303 D1403, 1404,	1SV50	Vari-Cap Diode	3.60
Q1108, 1404,	230015	ransistor	2.00	1502.			
1501, 1503 01110	2SC945 2SC1775	Transistor	1.50	1503, 1504 D1601, 1602	1S1555 1S953	Diode Diode	1.05
Q1401, 1403 Q1502	2SK19 2SB564	F.E.T. Transistor	4.40	LED1601 IC1101, 1104	SLP1271 SL1611	L.E.D.	16.95
D1101, 1102,	250,04		1.15	101102, 1103	SL1641	1.c.	13.70
1115, 1119, 1124 D1108, 1109,	1 \$953	Diode	.85	101105, 1106 101107 101110 101301	SL1612 SL1623 SL1626 MC78L05CP SN74LS04	1.C. 1.C. 1.C.	13.70 17.00 17.00 7.65
1125, 1126 D1111	1 N60 RD9.1EB	Diode Zener Diode	.95 1.60	1C302 1C1303 1C1501N	SN74LS04 uPD861C M5847641P	1.C.	6.50 39.95 33.40

CAPACITORS

AM/FM & TAPE			
C1,101,515 C527,528 C608 C501,503,603,609 C3,103 C526 C607 C525,524 C14,114,522 C523,620 C408,802 C421 C404,815,816 C410,419,804 C407,814 C410,419,804 C405,418,509,812	Polyester, 1,000 pF ± 10%/50V " 0.0047 uF, ±10% 50V " 0.0068 uF, " " " 0.01 uF, ±5% " " 0.015 uF, " " Polyethylene, 470 pF, ±5% " 680 pF, " " Polyester, 0.022 uF, ±10% " Tantalum, 0.22 uF/35V " Gimmick, 1.5 pF/50V Ceramic, 2 pF/50V " 3 pF/50V " 4 pF/50V " 5 pF/50V " 8 pF/50V " 10 pF/50V " 10 pF/50V	C409,412 C403,802,803 C602 C417 C601 C10,110 C606 C13,113,605,610, 611 C513 C411 C619 C913,914 C413 C406,502,600 C402,414,415,422, 423,504,505,506, 507,508,510,514, 519,612,615	Ceramic, 15pF +5% /50V 18pF " " 22pF " " 27pF " " 47pF " " 68pF " " Ceramic, 100pF " " 330pF " " 330pF " " 330pF " " 390pF " " 560pF +10% /50V 0.001uF +80% -20% /50V 0.01 " " Ceramic, 0.022uF +80% -20% /50V

REF. NO. DESCRIPTION REF. NO. DESCRIPTION

(CONTINUED) CAPACITORS

AM/FM & TAPE			
C6,11,111,401,518 106,614,616,622 C5,79105,107,511, 520,529,530,604, 901,902,904,905, 907,908,911,912, 915,916 C617 C2,102	Ceramic, 0.luF/12V Electrolytic, luF/50V 2.2uF/25V 4.7uF/25V	C4,104,512,516, 517,521,623,613, 903,910 C621 C15,17,115 C16,116 C8,12,108,112 C906 C9,109,900	Electrolytic, 10uF/16V
СВ			
C1334 C1316,1345 C1333 C1446,1304,1320, 1401 C1312,1331,1332, 1347,1362 C1107 C1348,1366 C1148,1405 C1314,1324 C1142,1343,1354 C1156 C1328,1336,1337, 1339,1325 C1124 C1315,1317,1322, 1323,1326 C1310 C1102,1140,1307, 1308,1329,1346, 1363,1263 C1201,1305,1309 C1108 C1108,1121,1126, 1313,1344,1365, 1410,1610,1602,1605,1606 C1342 C100,1121,1126, 1313,1344,1365, 1410,1611,1601,1602, 1605,1606 C1342 C100,1121,1120, 1123,1125,1139, 1147,1180,1184, 1190,1243,1244, 1245,1246,1247, 1248,1249,1250 C1321 C1321 C1321	Ceramic, 2pF/50V	C1251,1252,1318, 1319,1306-1,1335, 1338,1340,1351, 1352,1353,1364, 1402,1403,1406, 1407,1411,1412, C1254~C1262 C1106,1306 C1103,1141,1157, 1367 C1112,1116,1128, 1145 C1408 C1144,1138-2 C1143,1409,1201 C1152 C1153 C1165 C1158,1159 C1163,1188 C1136,1173,1177, 1603,1607 C1129 C1170 C1181 C1130,1132,1134, 1179,1604 C1131,1162 C1164 C1131,1162 C1164 C1131,117,1160, 1176,1178,1302, 1303 C301 C1127,1161,1168 C1117,1161,1168 C1117,1161,1168 C1117,1161,1168 C1117,1161,1168 C1117,1161,1168 C1117,1161,1168 C1117,1161,1168 C1118,1122,1135 C1171,1172,1174 C1175 C1183,1186	Ceramic, 0.01uF/50V

RESISTORS

(CARBON, OHMS 0.25¢ OR NOTED)

			11201	310h3		(CARBON, OH	15 U.25¢ UK NUTE
AM/FM	& TAPE						
Ref. No.	Description	Ref. No.	Description	Ref. No.	Description	Ref. No.	Description
R608,624 R501,508 R401,508 R408,519,603,612,615,617,625 R10,110 R506,614 R2,102 R511,527,622,623 R507,512,602,623 R590,8404,502,505,524	15 Ohm,	R610,902 R605 R9,109, 521,609, 907,909 R403,405, 524,523, 601,606, 938,941 R406,915 R8,108, 407,526, 528,607, 620,912, 922	1k Ohm, ½W 1.5k Ohm, ¼W 2.2k Ohm, ¼W 3.3k Ohm, ¼W 3.9k ""	R6,106, 409,619, 923,924, 927 R3,103, 410,903, 914,917, 918,928, 929,930 R402,516, 525,611, 613,611, 906,908, 910,916, 919,926,	6.8k Ohm, ½W 10k Ohm, ½W 15k Ohm, ½W 2.2k Ohm, ½W	R529,530 R1,101, 616, R510,904, 905,911, 913,931, 940, R5,7,105, 107,411, 412,514, 515,901, 936,8604 R900 R518 R11	33k Ohm, ½W 47k Ohm, ½W 68k Ohm, ½W 100k Ohm, ½W 220k Ohm, ½W 470k " 680k " 3.3 Ohm, ½W
R1136 R1134,1503 R1131 R1135 R1133,1151 R1202 R1102,1103 I112,1114 I402,1403 R1309 R1127,1174 R11309	.1150 22 " .33 " .47 " 82 " .1312, .1406, .1153 100 0hm	14 W	R1159,1302,1337 R1154,1320,1322, 1339	330 Ohm, ½W 470 "" 560 Ohm, ½W 680 "" 820 "" 1k "" 1.2k "" 1.5k Ohm, ¼W	R1318,1412 R1108,1113 R1132,1331 R1110,1116 R138,1330 R1502,1509 R1307,1313 R1121,1122 R1306,1512 1601 R1118,1125	2.,1511 ,1404 3.,1404 1,1336 5.,1148, 2,1415,	k " "

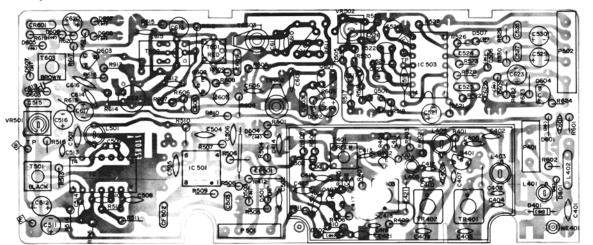
REF. No.	DESCRIPT	ION	REF. No.	DESCRIPTION	REF. No.		DESCRIPTION		
(CONTINUED)	CONTINUED) RESISTORS								
СВ									
R1131,1117,1 R1165,1163,1 R1172,1310 R1169,1504 R1126,1149,1 1303,1505	405 22k " 33k " 39k "	14 W	R1120,1314,1315, 1323,1326,1328, 1334,1401 R1339,1414 R1339	100k Ohm, ¼ W 120k " " 330k " " 470k " "	R1409,1410 R1160 R1301 R1152 R1155 R1161		1M Ohm, $\frac{1}{4}$ W 30 Ohm, $\frac{1}{2}$ W(metal) 100 Ohm, $\frac{1}{2}$ W (metal) 0.47 Ohm, 1W(metal) 47 Ohm, 1W(wire wound) 82 Ohm, 1W (solid)		
REF. No. DESCRIP	TION	REF. No. D	ESCRIPTION	REF. No. DESCRIPTION		REF. No. DE	ESCRIPTION		
MECHANISM CABINET & C			HARD	WARE			(25¢ each or noted)		
61 Scr, BH 62 Hex Nut, 63 Scr, BH 64 Rivet, I 65 Scr, FH	, M2.6 M2.6x4 FH M5x2.5x4 M2.6x4 shr, M10x2.4x4	69 S 70 71 S 72 S 73 S 74 S	app Scr, PH M3x6 cr, BH M3x5 " " M3x4 cr w/Wshr, PH M3x5 cr, PH M3x6 cr, BH M2x7 cr, PH M2x3 cr, BH M3x3	76 Scr, BH M2x 77 Scr, BH M2. 78 " "M2x 79 E Ring, M1. 80 Scr, FH M2. 81 " "M3x 82 " "M3x 83 Scr, BH M3x	6×5 3 2 6×4 6	85 E 86 He 87 P1 88 E 89 Sc	er, BH M3x6 Ring, M2.0 x Nut, M6 ain Washr, M6.1x10x1 Ring, M3.2 r, BH M3x4(Blk) cr, PH M2x8		
MICROPHO	NE CABINET								
537 Scr, PH 538 " " 539 Tapp Sc	M2x4 M2x5 r, PH M2.6x10	541 T	app Scr, PH M2.3x8 app Scr, PH M3.1x10 app Scr, PH M3.1x13	543 Hex Nut, M2 544 Spr Wshr, M 582 Tapp Scr, P	2.6		ex Nut, M2 er, Hex Head M1.7x4		
CB CABINE	T & CHASSIS			<u> </u>	,				
574 " "	PH M2.6x5 PH M2.6x5 PH M2.6x5		cr, w/W PH M3x6 cr, PH M3x4	578 Blk Scr, PH 579 Hex Nut, M2			or Wshr, M2.6 asher, M2.6		

PACKAGING

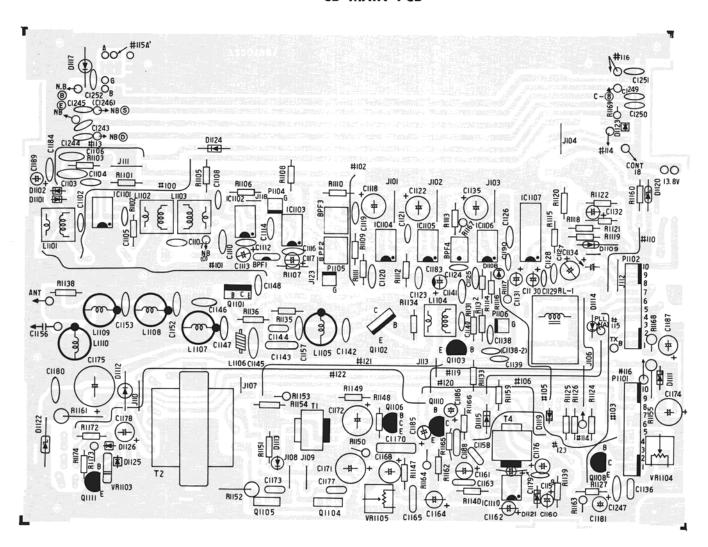
REF. No.	CRAIG KEY No.		S SUGG REF. CRAIG PRICE No. KEY No.				s SUGG PRICE	
	L630001 S630002 S630003 9744100 3128054 L630083 S680007 L630084 L630085	Main Individual Carton Styrofoam(L), AM/FM/TAPE Styrofoam(R), AM/FM/TAPE Gasket Bkt, Perforated Mtg Strap Ass'y, Trim Plate Trim Plate(Stripped) Index Label(L), PRO/VOL/TONE/BAL Index Label(R), TUNING/RADIO/CB/WB	4.50 .65 .65 2.10 .40 2.75 1.85 .45		3149004 3148021 3148020 L630507 L630231 L630002	9P Pwr & SP Conn (car side) Ass'y, Mtg Hardware Kit Knob, VOL/ON-OFF/PROG & TUNING Knob, TONE/BAL & RADIO/CB/WB Ass'y, REMOTE MICROPHONE(complete) Microphone Hanger w/Hardware Individual Carton, MICROPHONE Cardboard/Styrofoam Filler, CB	5.95 1.95 .80 .75 110.00 2.50 1.45	

AM/FM RF/IF/MPX PCB

(Top View)

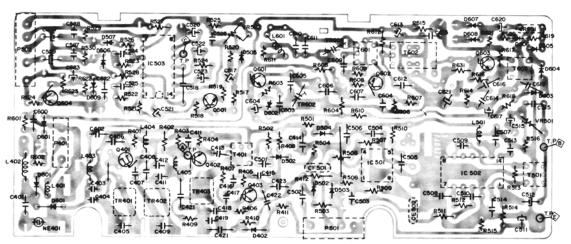


CB MAIN PCB

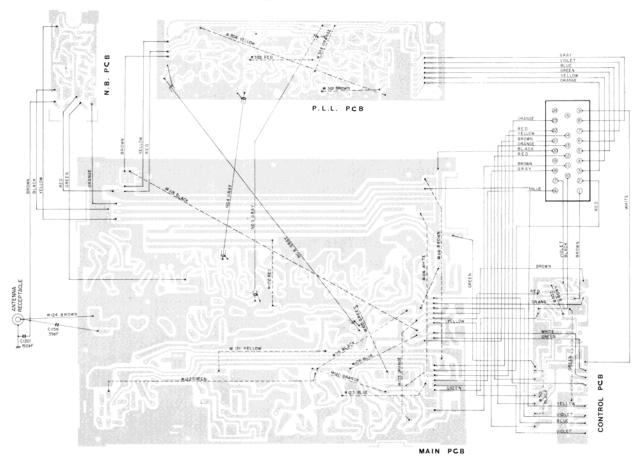


AM/FM RF/IF/MPX PCB

(Bottom View)



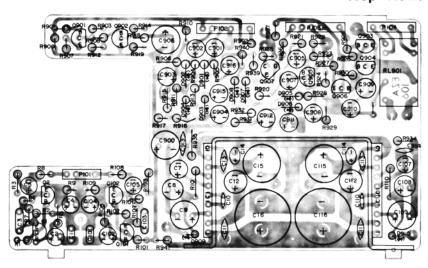
CB WIRING DIAGRAM

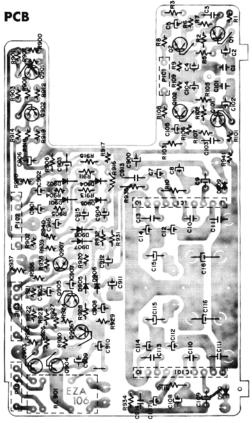




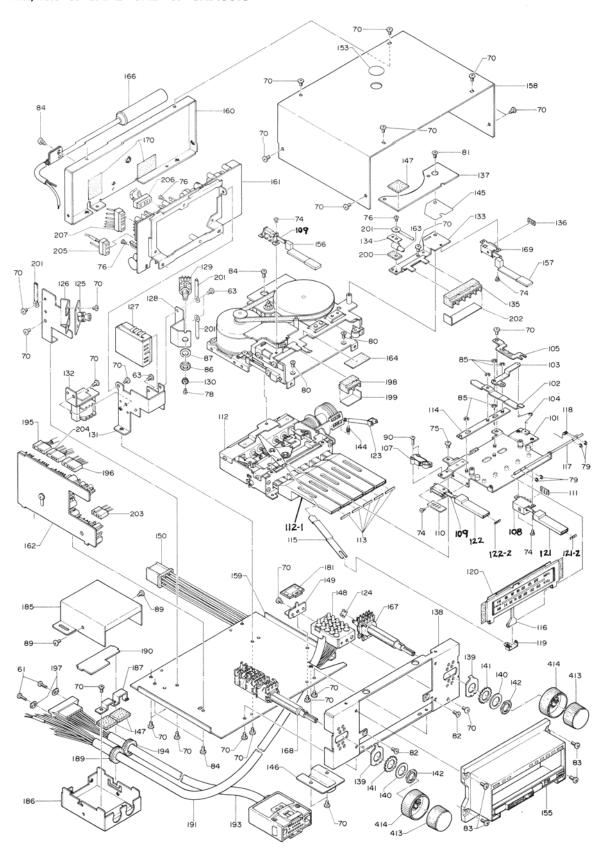
(Bottom View)

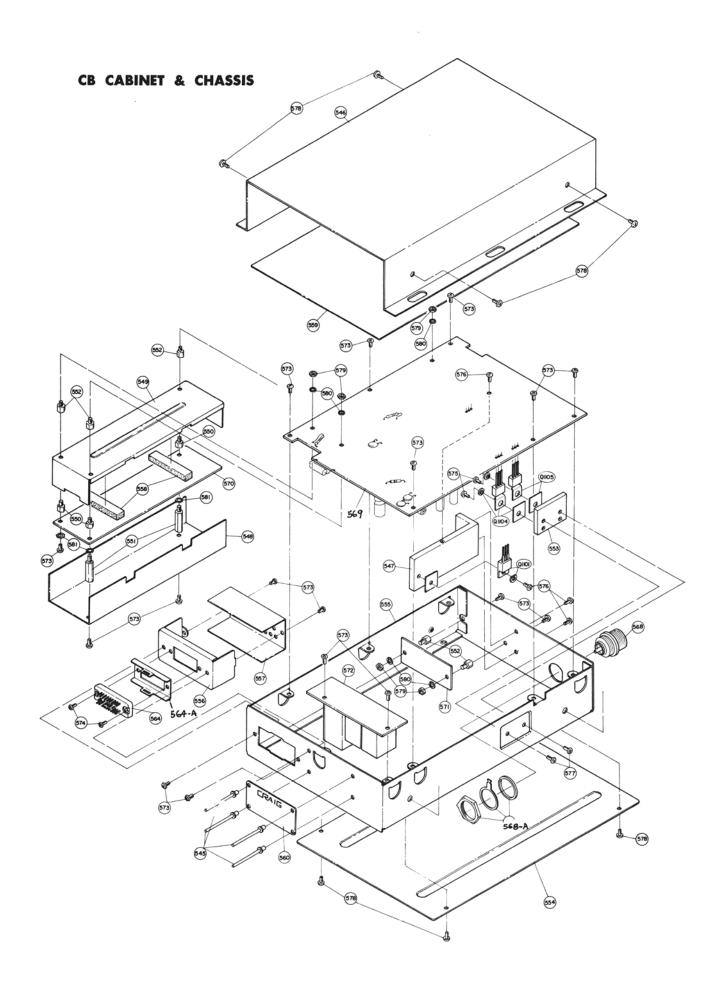


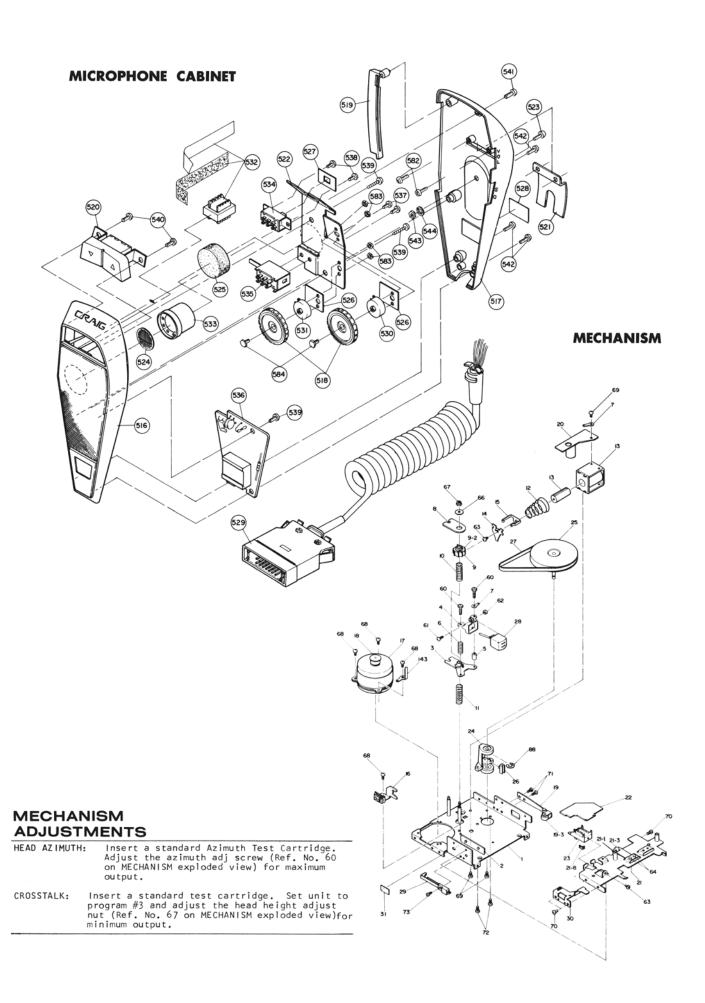




AM/FM & TAPE CAB & CHASSIS







ALIGNMENT PROCEDURES

Alignment is performed at factory with laboratory test equipment. Therefore, before alignment is attempted the unit should be thoroughly checked for circuit trouble.

- 1) Power Supply (14 V DC, 2A)
 2) V.T.V.M.
 3) AM & FM Signal Generators
 4) Sweep & Marker Generators
 5) OSCILLOSCOPE
 6) FM Stereo Modulator
 7) Digital Frequency Counter
 8) AM & FM Dummy Ant. (Fig. 1 & 2)
 9) Audio Signal Generator
 10) RF Power Meter
 11) Pulse Generator

- 10) Rr Power Meter
 11) Pulse Generator
 12) 50 Ohm Dummy Ant. Load
 13) Synchroscope
 14) CB Signal Generator
 15) Spectrum Analyzer

- * Non-metalic tools should be used

 * Keep Generator signal level as low as possible
 to avoid clipping.

 * Volume control should be set to minimum unless
 otherwise specified.

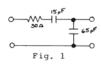
 * Set TONE Control to maximum treble.

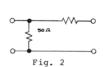
 * Standard Modulation is 400 Hz at 30% amplitude
 for AM (1kHz at 22.5 Hz deviation for FM).

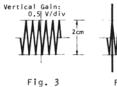
 * Connect low side of Signal Source and output
 indicator to chassis GND unless otherwise specified.

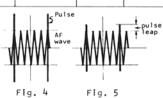
CB PLL

	ADJUSTING		CTIONS	GEN.	-	REMARKS					
STEP	CIRCUIT	INPUT	OUTPUT	FREQ'CY	ADJUST						
1	PWR Supp. Confirm output of IC1301 to be +5V + 0.5V DC										
2	vco	Set to CHANNEL 18 in RECEIVE mode, no signal	Connect "TP4" (VCO output) to CH-1 on SYNCHROSCOPE, "TP6" to CH-2 and connect FREQUENCY COUNTER to SCOPE output.		L1306	Obtain a reading of 37.870 MHz <u>+</u> 800 Hz (See VCO FREQ'CY chart)					
3	BPF		Connect SYNCHROSCOPE to		L1305 L1304	Adjust for maximum output(0.5 V p-p minimum)					
4	osc	Connect SYNCHROSCOPE & FR output to be 10.695 MHz.	QUENCY COUNTER to "TP2", Key Mic to TRANSMIT (CH-18) and confirm OSC								
5	OUTPUT	Set to CHANNEL 18 in RECEIVE mode, no signal	Connect SYNCHROSCOPE, FREQ'CY COUNTER & SPECTRUM ANALYZER to "TP1"		L1303, L1302, L1301	Adjust in ORDER 3-2-1 for max output(0.5V p-p min)					
6	FREQ'CY				TC1301	Adj for 27.175MHz					
7	SPURIOUS RESPONSE RATIO SPURIOUS Connect a SPECTRUM ANALYZER in place of SYNCHROSCOPE and confirm all channels to be 60dB minimum within band(IMHz/div.). 60dB or better can be obtained by adjusting the core of L1304 & L1305 rotating within a ¼ of a turn.										
RECEIVER											
(A) (B)											
1	SENSITIVITY	Connect a CB Signal Gen. to CB antenna connector, set unit to CH-18 and apply 30-60 dB	Connect SCOPE, VTVM to speaker output with a 4 Ohm load across.	(30-60dB) 1kHz, 30% Mod.	L1101, L1102, L1103	Adjust for Maximum output					
2	TIGHT SQUELCH	аррту 30-00 dв		apply +15 dB (280uV closed) lkHz 30% Mod.	VR1104	Adjust to obtain AF out- put of 250mW (4 0hm = 1V) at tight SQUELCH					
3	Extract core of L1403, Insert core of L1402 all the way down. Short out pins 7 & 9 of P1102 which will short out NL circuit. Adjust AF output to 1 V p-p w/Volume control while monitoring SYNCHRO SCOPE (see Fig. 3).										
4	Connect CB Signal Gen. PULSE Gen. to CB Ant. connector. De-energize PULSE Gen. & set to 1Vp-p, attenuator to OUT & FRE- QUENCY control to 100 pulses/Sec.(Fig. 4)		Connect SCOPE to speaker output with a 4 Ohm load across.	(10-12dB) 1kHz, 30% Mod.	L1402, L1403	Depress NB Sw(S8), adjust pulse leap to be less than 20mm (see Fig. 5). Remove shorting between pins 7 & 9 of Pll02 and see Fig. 6					
TR	ANSMIT	TER									
1	TX OUTPUT	Connect an Audio Signal Gen to Mic input (CH-18)	Connect an RF Power Meter with 50 Ohm dummy load, SCOPE to CB Antenna	1 kHz 30- 50% Mod.	L1104, L1105, L1107, L1108, L1109	Adjust for Max output at each coil, then, adjust for standard output. (3.5 - 4.0 Watts)					
2	TX Mod. OUTPUT	Same as above & apply 3 mV (600 Ohms)			VR1105	Not to exceed 85% Mod.					
3	MODULATION INDICATOR LAMP	Connect an Audio Signal Generator to Mic input (CHANNEL 18)	Same as above and connect DC Volt Meter across R1174	1 kHz(No Mod.)	VR1103	Adjust to obtain 11 V DC					
			W11 0-1	Pulse		1					









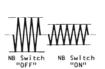


Fig. 6

AM

~!V!								
STEP	ADJUSTING CIRCUIT	INPUT	OUTPUT	GEN. FREQ'CY	DIAL SETTING	ADJ.	AJUST FOR	
1	AM IF	Connect Signal Generator thru dummy Ant. (Fig 1) to	Connect Scope, VTVM to audio output, with a 4 Ohm dummy load in place.	455kHz (30% Mod.)	Off Station	T602 T603	Max. symmetrical response.	
2	A M OSC	antenna receptacle.	load in place.	500kHz <u>+</u> 10 kHz	Low End	T601	Adjust together with radio dial rotating gently back & forth for Max. output	
3				1690kHz <u>+</u> 10kHz	High End	TR603		
4	AM RF			1400 kHz	1400kHz TR602 TR601		Maximum output	
5	Repeat adj	ustments until no further i	mprovement is noticed.					
FM	/MPX							
1	FM IF	Connect FM sweep Gen-	Connect Scope, VTVM to test		Off Station	T401	Maximum Output	
2	DETECTOR	erator to test point (A)	point B	10.7MHz		T501	Symmetrical "N" curve	
3	RF	Connect FM Signal Gen- erator thru dummy Ant. (fig. 2)to Ant receptacle	Connect VTVM, Scope to audio output with a 4 Ohm dummy load in place	108 MHz (Mod.)	Low End	TR401 TR402 TR403	Maximum output	
4	19 kHz Pilot		Connect a Frequency Counter to Test Point (Pin #10 of IC503)		Tune to a stereo station	VR502	Obtain a reading of 19.0 kHz	
5	STEREO SEPARATION	Connect FM Signal Gen w/Stereo Signal modulator thru dummy antenna to Ant receptacle.	Connect VTVM to audio output with a 4 Ohm dummy load in place.	98 MHz (Mod.)	98 MHz	VR501	Minimum R(L) output when L(R) signal is Modulated.	
NOT	E: Adjust	ment for STEREO Separation	may not be necessary after adj	usting VR50	2.			
WE	3							
Se	t Unit to w	eather reception and VR801(Weather band fine tuning) to m	iddle.				
1	WEATHER	Connect FM Signal Gen. thru dummy antenna to Ant receptacle.	Connect VTVM to audio output with a 4 Ohm Dummy load in place.	162.55 MHz		T801 L803	Maximum Output	

----- V C O F R E Q U E N C Y C H A R T ------

СН	FREQUENCY								
1	37.660	9	37.760	17	37.860	25	37.940	33	38.030
2	37.670	10	37.770	18	37.870	26	37.960	34	38.040
3	37.680	11	37.780	19	37.880	27	37.970	35	38.050
4	37.700	12	37.800	20	37.900	28	37.980	36	38.060
5	37.710	13	37.810	21	37.910	29	37.990	37	38.070
6	37.720	14	37.820	22	37.920	30	38.000	38	38.080
7	37.730	15	37.830	23	37.930	31	38.010	39	38.090
8	37.750	16	37.850	24	38.950	32	38.020	40	38.100