



## Wiring Handbook

**Disclaimer:**

Astatic Does not assume the responsibility of any damage to either the microphone nor any radio that has been modified to the specifications within this manual. Although all have been known to work, the wirings in this manual are only recommendations by Astatic.

Updated: November 2002

---

**ALAN**

---

555	WH-2
560	SH & BL-1
	RED-3
	BK-4
	YEL-N/C

---

**ALARON (B & B IMPORT)**

---

B4500	WH-2
B4900	SH & BL-1
	RED-3
	BK-4
	YEL-NC

B-4075	WH-1
B4085	SH-4
B4800	BL-3
B4950	RED-2
B5050A	BK-5
	YEL-NC

B1025	WH-1
	SH-4
	BL-3
	RED-2
	YEL & BK-NC

B1050	WH-3
B4050	SH & BL-4
	RED-2
	BK-1
	YEL-N/C

B1150	WH-1
	SH & BL-2
	RED-3
	YEL & BK-N/C

B1100	WH-1
	SH-2
	BL-4
	RED-3
	YEL & BK-N/C

---

**ALINCO RADIO**

---

DX-70	WH-1
	RED-2
	SH-8
	BL-7
	YEL & BK-NC

---

**ALLIED KNIGHT**

---

A-2507	WH-BK
	SH & BL-SH
	RED-RED
	BK-SPKR
	YEL-NC

---

**ALLIED KNIGHT (cont')**

---

A2530	WH-1
	SH & BL-2
	RED-3
	YEL & BK-N/C

A-2533	WH-AUDIO
	YEL-NC
	SH & BL-GND
	RED-CONTROL
	BK-SPKR

A2559	WH-WH
A2561	SH & BL-SH
	RED-RED
	YEL & BK-N/C

KN-2500	WH-3
KN-2550	SH & BL-4
KN-2580	RED-1
KN-2585	BK-5
	YEL-NC

KN-2526	WH-1
KN-2565	SH & BL-2
KN-2567	RED-3
	YEL & BK-N/C

KN-2560	WH-1
	SH & BL-4
	RED-2
	YEL & BK-N/C

---

**AMERICAN ELECTRONICS**

---

BUCCANEER	**NOT COMPATABLE
SPIRIT	WH-4
FREEDOM	SH & BL-3
	RED-1
	BK-2
	YEL-N/C

---

**ATLAS**

---

210X	RING-WH
	TIP-RED
	SLEEVE-SH & BL

---

**AUDIOVOX**

---

MCB-30	WH-3
	SH & BL-4
	RED-2
	BK-1
	YEL-N/C

MCB500	WH-1
	SH-6
	BL-4
	RED-5

**NOT COMPATIBLE	BK-3
WITH SE PLUS	YEL-2

---

**AUDIOVOX (cont')**

---

MCB1000	WH-1
	SH & BL-2
	YEL-N/C
	RED-3
	BK-5 OR N/C

---

MCB2000	WH-1
	SH-6
	BL-4
	RED-5
	BK-3
	YEL-N/C

---

MCB3000	WH-1
	SH-2
	BL-3
	RED-5
	YEL & BK-N/C

---

MCB750	WH-1
	SH-4
	RED-3
	BL-5
	BK-2
	YEL-N/C

---

MCB100	WH-1
	SH & BL-2
	RED-3
	BK-5

---

**BELTEK**

---

W5335-F	WH-2
	SH-1
	BL-1
	RED-4
	BK-3
	YEL-N/C

---

**BOHSEI**

---

D1325RF	WH-1
	SH & BL-2
	RED-4
	BK-3
	YEL-N/C

---

**BOMAN**

---

CB 755	WH-2
CB 750	SH-4
	BL-1
	RED-3
	YEL & BK N/C

---

**BOMAN (cont')**

---

CB 515	WH-1
CB 525	SH & BL-2
CB 535	RED-4
CB 555	BK-3
CB 710	
CB 725	
CB 740	
CB 910	
CB 920	
CB 930	
CB 950	
CB 970	
CB 990	
CBH 990	

---

CB 9900	WH-1
	SH-5
	BL-3
	RED-2
	YEL & BK- N/C

---

CB 720B	WH-1
	SH & BL-4
	RED-2
	BK-3
	YEL-N/C

---

CB 770	WH-1
	SH-3
	BL-4
	RED-2
	YEL & BK- N/C

---

CB 9600	WH-2
	SH-1
	BL-4
	RED-3
	YEL & BK-N/C

---

CBR 9700	WH-1
CBR 9940	SH-3
	BL-5
	RED-2
	YEL & BK-N/C

---

CBR 9950	WH-1
	SH & BL-2
	RED-3
**NOT COMPATIBLE	YEL-4
WITH SE PLUS	BK-5

---

**BROWNING**

---

EAGLES-23	WH-1
MARK II SSE	SH & BL-SHELL
GOLDEN EAGLE	RED-2
GOLDEN EAGLE MARK II	YEL & BK-N/C
GOLDEN EAGLE MARK III	

\*\*USE HI-Z MIC ONLY

---

**BROWNING (cont')**

---

GOLDEN EAGLE	WH-1
MK IV	SH & BL-3
GOLDEN EAGLE	RED-2
MK IVA	YEL & BK- N/C
LTD	WH-2
SST	SH-1
BROWNIE	BL-4
SABRE	RED-3
SST-2	YEL & BK-N/C
BARON	
EAGLETTE	WH-AUDIO
	SH & BL-GRND
	RED-RELAY
	YEL & BK- N/C

\*\*HI-Z USE AMPLIFIED MIC ONLY

---

**CARDON**

---

ATLAS MARK V	WH-1
ASTRO 23	SH & BL-2
APACHE	BK-3
	RED-4
	YEL & BK- N/C
COMMAND CB 727	WH-AUDIO
UNIVERSE CB 747	SH & BL-GRND
VENTURA SSB	RED-RELAY
TYCOON CB 707	YEL & BK- N/C
GALAXY TWIN	
VANGUARD	
APPOLLO/ULTRA 15W	
PHANTOM 23C	WH-1
	SH & BL-2
	RED-4
	YEL & BK-N/C
SPITFIRE	WH-1
MARK II	SH & BL-4
	RED-2
	YEL & BK-N/C

ALGOINQIUN	WH-1
	SH & BL-2
**10K to 50K resistor	RED-4

in Audio line to stop  
squeling in receive.

YEL-N/C

---

**CHANNEL MASTER**

---

CB 6830	WH-2
CB 6835	SH & BL-4
CB 6832	RED-3
CB 6834	YEL & BK-N/C
CB 6831	BK-1

---

**CHEROKEE**

---

4 PIN	WH-2	5 PIN	WH-1
RED-3			SH-2
BK-4			BK-3
SH & BL-1		BL-4	RED-5

---

**CHRYSLER**

---

4048076	WH-1
4048077	SH-3
	BL-5
	RED-2
	YEL & BK-N/C

---

**CITIZEN**

---

BPL 524-77	WH-1
MPL 2-77	SH & BL-3
MPL 3-77	RED-2
SSB-M6-5-3 & 2	BK-5
	YEL-N/C

---

**CLARICON**

---

30400 (PIRATE)	WH-2
	SH & BL-5
	RED-4
	YEL & BK-N/C

30850	WH-4
	SH & BL-1
	RED-3
	BK-5
	YEL-N/C

30800 (ACTIVATOR)	WH-2
30600 (PRIVATEER)	SH & BL-1
	RED-4
	BK-3
	YEL-N/C

30200	WH-AUDIO
	SH & BL-GND
	RED-CONTROL
	BK-SPEAKER
	YEL-N/C

14-523	WH-AUDIO
	SH & BL-GND
	RED-RELAY
	YEL & BK-N/C

---

**CLEGG VENUS**

---

RING-WH  
TIP-RED  
SLEEVE-SH & BL

---

**COBRA**

---

20	WH-AUDIO
24	SH & BL-GND
	RED-RELAY
	YEL & BK-N/C
6	WH-AUDIO
	SH & BL- GND
	RED-CONTROL
	BK-SPEAKER
	YEL- N/C

---

**COBRA (cont')**

---

18 ULTRA	WH-2
18 LTD	SH & BL-1
19	RED-3
19 ULTRA,GTL	BK-4
21	YEL- N/C
21 PLUS, GTL, XLR, LTD	
25 GTL, PLUS, LTD	
25 LTD CLASSIC GOLD	
25 WX CLASSIC	
26	
29	
29XLR, GTL, PLUS	
29 LTD GOLD	
29 LTD WX GOLD	
29 LTD CLASSIC GOLD	
31 PLUS	
33 PLUS	
40 PLUS	
77X, 78X	
86 XLR	
87 GTL	
93 LT DWX	
CAM 89	
89 GTL, 89 XLR	
135	
135 XLR	
138 XLR	
139 XLR	
146 GTL	
148 GTL-DX	
148 GTL-B	
1000GTL	
410	
148 GTL ST	
18RV	WH-1
18 PLUS	SH & BL-4
19X, PLUS	RED-2
20 LTD	BK-5
20 PLUS	YEL-N/C
23 PLUS	
41 PLUS	
90 GTL	WH-1
140 GTL	SH-2
142 GTL	BL-4
148 GTL	RED-5
2000 GTL	BK-3
2010	YEL-N/C
23	WH-AUDIO
27	SH & BL-GND
V	RED-CONTROL
	BK-SPEAKER
	YEL- N/C

---

---

**COBRA (cont')**

---

25	WH-3
	SH-1
	BL-4
	RED-2
	YEL & BK N/C
28A	WH-2
28	SH & BL-1
32 XLR	RED-3
46 XLR	BK-4
86 XLR	YEL N/C
130	
131	
132, 132A	
135, 135 XLR	
138 XLR	
139, 139 XLR	
880	
CAM 88	WH-1
98	SH-2
	BL-4
	RED-3
	YEL & BK-N/C
138	WH-TIP
139	SH & BL-SLEEVE
	RED-RING
	YEL & BK-N/C
45 XLR	WH-2
148 GTL DX	SH & BL-1
	RED-3
	YEL & BK-N/C

---

---

**COLLINS**

---

KWM 380	RING-WH
KWM 2	TIP-RED
3253	SLEEVE-SH & BL

---

---

**COLT**

---

210	WH-1
220	SH-3
222	BL-4
510	RED-2
	BK-5
	YEL N/C
900	WH-1
	SH-4
	BL-3
	RED-2
	YEL & BK-N/C
**HI-Z USE AMPLIFIED MIC ONLY	
290	WH-1
390	SH & BL-2
480	RED-4
485	BK-3
800	YEL N/C
870	
1000	
1200	
2400	

---

**COLT (cont')**

---

350	WH-4
	SH-2
	BL-3
	RED-5
	BK-1
	YEL N/C

---

**COMEX COMMUNICATION**

---

CCB-770	WH-1
	SH & BL-6
	RED-5
	BK-4
	YEL-N/C

---

**COMMAND ELECTRONICS**

---

THE STAR	WH-2
	SH & BL-1
	RED-3
	YEL & BK-N/C

\*\*HI-Z USE AMPLIFIED MIC

---

**COMMTRON**

---

CXX	WH-1
XIII	SH & BL-3
	RED-2
	BK-5
	YEL-N/C

---

**CONNEX**

---

3300	WH-2
	SH & BL-1
	RED-3
	YEL & BK-N/C

---

**CORNELL-DUBLIER**

---

MARK X	WH-1
MARK 20	SH & BL-3
	RED-2

\*\*HI-Z USE AN AMPLIFIED MIC ONLY

MARK 12	WH-1
	SH & BL-4
	RED-2
	BK-3
	YEL-N/C

MARK 26	WH-2
	SH-4
	BL-1
	RED-3
	YEL & BK-N/C

---

**COURIER (FANNON)**

---

CITATION	WH-1
CLASSIC II	SH & BL-3
	RED-2
	YEL & BK-N/C

---

**COURIER (FANNON) (cont')**

---

COURIER 23	WH-3
COURIER 23+	SH & BL-4
FLEET COURIER	RED-2
FLEET COURIER	YEL & BK- N/C
30B	
ROYALE	

\*\*HI-Z, USE AN AMPLIFIED MIC ONLY

CHIEF 23	WH-4
	SH & BL-3
	RED-1
	BK-2
	YEL-N/C

COURIER 1M	WH-3
	SH-4
	BL-2
	RED-4
	BK-1
	YEL-N/C

BLAZER	WH-2
CARAVELLE 40D	SH & BL-4
CLASSIC III	RED-3
CLASSIC PLL 40	YEL-N/C
CRUISER	BK-1
CONQUEROR 40D	

FANFARE 185DF	
FANFARE 184DF	
FANFARE 182F	
FANFARE 125F	
FANFARE 880DF	

REDBALL

RANGLER 40D	
RENEGADE 40	
ROGUE 40	

SFT-800A	WH-AUDIO
COURIER TR-5	SH & BL- GND
TRAVELLER	RED-VOLT SOURCE
	BK-SPEAKER XFMR
	YEL-N/C

RANGER 23	WH-3
RAVELLER II	SH & BL-4
	RED-2
	BK-1
	YEL- N/C

CADET 23	WH-AUDIO
	SH & BL-GND
	RED-RELAY
	YEL & BK-N/C

FANFARE 700	WH-1
SFT 400	SH & BL-2
SFT 500	RED-3
	BK-5
	YEL-N/C

---

---

**COURIER (FANNON) (cont')**

---

CARVELLE	WH-TIP
CARVELLE II	SH & BL-SLEEVE
CENTURION	RED-RING
CENTURION 40D	YEL & BK-N/C
CONQUERER	
CONQUERER II	
FANFARE 880	
FANFARE 350F	
GLADIATOR	
SPARTAN SSB	

---

FANFARE 100	WH-YEL
REBEL 23+	SH & BL-SH
	RED-RED
	YEL-N/C
	BK-BL

---

STF600	WH-2
	SH & BL-1
	RED-3
	YEL & BK-N/C

---

GALAXY	WH-1
	SH-2

---

	BL-4
	RED-5
	BK-3
	YEL N/C

---

COMET	WH-2
SFT-700	BL & SH-1
SFT-900	RED-4
(GUARDSMAN)	BK-3
	YEL-N/C

---

FANFARE 120	WH-YEL
	SH & BL-SH
	RED-WH
	BK-BK
	YEL-N/C

---

FANFARE 100F1	WH-WH
REBEL 40A	SH & BL-SH
REBEL PLL	RED-RED
	BK-BK
	YEL-N/C

---

---

**CRAIG**

---

4101	WH-2
4102	SH & BL-3
4103	RED-5
4104	BK-4
4201	YEL N/C
L101	
L102	
L231	
L331	

---

---

**CRAIG (cont')**

---

L103	WH-2
L104	SH & BL-1
	RED-3
	BK-4
	YEL N/C

---

L131	WH-2
	SH & BL-4
	RED-5
	BK-3
	YEL N/C

---

---

**CYBERNET**

---

BETA 100	WH-1
	SH & BL-2
	BK-3
	RED-4

---

---

**DEERSLAYER**

---

240	WH-1
	BK-2
	RED-3
	SH-5
	YEL-N/C

---

---

**DELCO**

---

CBD10	WH-1
1977 SERIES	SH & BL-2
1979 SERIES	RED-4
	BK-3
	YEL-N/C

---

1978 SERIES	WH-1
90BFMC1	SH-5
90BFPC1	BL-2
90YFMC1	BK-3
	RED-4
	YEL-N/C

---

---

**DEMCO**

---

SATELITE	WH-2
TRAVELIER	SH & BL- 1
	RED-3
	YEL & BK-N/C

---

\*\*HI-Z USE AMPLIFIED MIC

---

SATELITE DELUXE	WH-4
	SH & BL-1

---

**HI-Z USE	RED-3
AMPLIFIED MIC	BK-2
ONLY	YEL-N/C

---

RAVELLE	WH-RING
	SH & BL-SLEEVE
	RED-TIP

---

\*\*HI-Z USE AMPLIFIED MIC ONLY

---

---

**DIRLAND**

---

77-099	WH-2
SS 3900	SH-1
	RED-3
	BK-4

---

**DRAKE**

---

TR-270	WH-1
	RED-2
	SH & BL-4
TR4	C & B
	LINES
	RED-TIP
	WH-RING
	SH & BL-SLEEVE

---

**EICO**

---

7723	WH-1
	SH & BL-2
	RED-4
	BK-3
	YEL-N/C

---

**EMPEROR**

---

TS-3010	WH-1
TS5010	SH & BL-2
	RED-3
<b>OR</b>	RED-1
	WH-2
	SH & BL-3

---

**EURO**

---

3900	SH & BL-1
	WH-2
	RED-3
	BK-4

---

**EXCALIBUR**

---

SSB	WH-2
	SH & BL-1
	RED-3
	YEL & BK-N/C

---

**FIELD MASTER**

---

MICRONINI3	WH-1
MICRONINI6	SH-6
MICRONINI23	YEL-2
	BL-4
**NOT COMPATIBLE	RED-5
WITH SE PLUS	BK-3
TR18A	WH-1
TR-18M	SH & BL-3
	RED-2
	YEL & BK- N/C
MF-1001	WH-5
	SH & BL-2
	RED-1
	YEL & BK- N/C

---

**FORMAC**

---

400	WH-1
700	SH & BL-2
	RED-4
	BK-3
	YEL-N/C

---

**FUKUYANA**

---

FDK	SH-1
KLM MULTI	WH-2
2000A	RED-3
	BL-4

---

**GALAXY**

---

SATURN TURBO	WH-2
DX 959	SH & BL-1
DX 73V	RED-3
2527 DX	BK-4
	YEL-N/C
2100	WH-2
2517	SH & BL-1
33 PLUS	RED-3
DX 33HML	BK-4
DX44V	YEL- N/C
DX55V	
DX66V	
DX77HML	
DX 77V	
DX 88HML	
JUPITOR	
MARS	
MIRAGE	
MIRAGE 44	
99	
PLUTO	
SATURN	
SATURN II	
SIRIUS	
SUPER GALAXY	

MELAKA

2547

949

---

**GE**

---

3-5800,3-5801A	WH-4
3-5804B,G	SH & BL-1
3-5806, 3-5806A	RED-3
3-5808A	BK-5
3-5809, 3-5809B	YEL-N/C
3-5809C	
3-5810 A, B	
3-5811B	
3-5818A	
3-5871, 3-5871A,B	



---

**GE (cont')**

---

3-5802, 3-5804D	WH-1
3-5812A	SH & BL-2
3-5813 A, B	BK-3
3-5814 A, B	RED-4
3-5817A	
3-5818 .	
3-5819A	
3-5825A	
3-5869A	
3-5873 .	
3-5875A	

---

**GENERAL**

---

SH & BL-1
WH-2
RED-3
BK-4

---

**GEMTRONICS**

---

GXT 3000	WH-1
	SH & BL-3
	RED-2
	BK-5
	YEL- N/C
GTX 23	WH-1
GTX 36	SH & BL-2
GTX 44	RED-4
GTX 55	BK-3
GTX 66	YEL-NC
GTX 77	
GTX 3323	
GTX 4040	
GR 11930	
3325	

GTX 2325	WH-1
GR-11935	SH-4
	BL-3
	RED-2
	YEL & BK-N/C

GTX 2300	WH-1
CB11923	SH-4
GTX 5000	BL-3
	RED-2
	YEL & BK-N/C

GT 230	WH-1
	SH & BL-2
	RED-3
	BK-4
	YEL-N/C

---

**GRANADA**

---

CB-7	WH-2
	SH & BL-1
	RED-4
	YEL & BK-N/C

---

**GM**

---

GM123A	WH-WH
995432	SH-SH
4120	YEL-YEL
4145	BL-RED
4175	RED-BL
4230	BK-BK
<b>**NOT COMPATIBLE WITH SE PLUS</b>	

CBD-12	WH-WH
7898540	SH-SH
	YEL-YEL
	BL-BK
<b>**NOT COMPATIBLE</b>	RED-BL

<b>WITH SE PLUS</b>	BK-DR
CB-4	WH-1
	SH & BL-2
	RED-3
	BK-5
	YEL-N/C

---

**HALLICRAFTERS**

---

261	WH-1
	SH-4
	BL-6
	RED-3
	BK-5
	YEL-N/C

---

**HAM**

---

MULTIMODE II	WH-1
JUMBO	SH & BL-2
	RED-4
	BK-3
	YEL-N/C

---

**HAMDIC**

---

2305	WH-2
	SH-1
	BL-4
	RED-3
	YEL & BK-N/C

240	WH-1
	SH-3
<b>**HI-Z USE</b>	BL-6
AMPLIFIED MIC	RED-2
ONLY, NOT	BK-4
COMPATIBLE	YEL-5
<b>W/SE PLUS</b>	

230	WH-4
	SH-3
<b>**HI-Z USE</b>	BL-2

AMPLIFIED MIC	RED-6
ONLY, NOT	BK-5
COMPATIBLE	YEL-1
<b>WITH SE PLUS</b>	

---

---

**HAMDIC (cont')**

---

235	
305	**NOT COMPATIBLE
605	
605L	
360S	

---

**HARLEY**

---

WH-1
SH-4
BL-6
RED-7

---

**HEATHKIT**

---

SB-104	WH-1
HW-101	RED-2
	SH & BL-SPRING ON
	THE CONNECTOR

---

**HITACHI**

---

CM-2375H	WH-4
CM-2400C	SH-1
CM-2400H	BL-2
CM-2425H	RED-3
CM-4800C	BK-5
CM-4800H	YEL-N/C

---

**HY GAIN**

---

603 (23 PLUS)	WH-1
	SH-4
**HI-Z USE	BL-3
AMPLIFIED MIC	RED-2
ONLY	YEL & BK-N/C

672 (HYRANGE III)	WH-1
673 (HYRANGE IV)	SH & BL-2
674 (HYRANGE V)	RED-3
	YEL & BK-N/C

670	WH-1
HYRANGE I	SH-4
	BL-3
	RED-2
	BK-5
	YEL- N/C

2701X	WH-1
	RED-2
	SH & BL-3
	BK-5

623	WH-RING
UTOPIA	SH-SLEEVE
	BL-SLEEVE
	RED-TIP

YEL & BK N/C
--------------

2679	
HY-GAIN 9	**NOT COMPATIBLE
2679A	

---

**HY GAIN (cont')**

---

708	WH-1
671B	SH & BL-3
672B	RED-2
673B	BK-5
681	YEL- N/C

682
683
2680
2681
2682

2683
2701
2702
2703
2705

3077
------

3078	
3084, 3087	**HI-Z USE
3107	AMPLIFIED
3114	MIC ONLY

---

**I-COM**

---

IC-280	WH-1
701	SH & BL-4
	RED-2
	YEL & BK-N/C

706	RED-4
2100H	SH-5
	WH-6
	BL-7

2350H	RED-4
2000H	BL-5
	WH-6
	SH-7

IC 910	WH-1
IC 718	SH-7
IC 746	BL-6
IC 735	RED-5
IC 736	YEL & BK-N/C

IC 737
IC 707
IC 756
IC 745
IC 720A
IC 751A
IC 728
IC 725

---

**JIL**

---

606CB	WH-1
	SH-2
	BL-5
	RED-3
	YEL & BK-N/C

---

---

**JANA ELECTRONICS, LTD.**

---

KJSSB-100	WH-3
DOMINATOR	BL & SH-2 RED-1 YEL & BK-N/C
KJCB-32	WH-RING
AGGRESSOR	SH & BL- SLEEVE RED-TIP
**HI-Z USE	YEL & BK- N/C
AMPLIFIED MIC ONLY	
KJCB-91	WH-2
(INTERCEPTOR)	SH & BL-1
KJCB-91	RED-3
(VINDICATOR)	BK-4
KJCB-520	YEL- N/C
(AVENGER)	
KJCB-420	
(INITATOR)	
KJCB-440	
(ACTIVATOR)	

---

**E.F. JOHNSON**

---

MESSENGER I	WH-WH
MESSENGER II	SH& BL-SH RED-BK
**HI-Z USE	YEL- N/C
AMPLIFIED MIC ONLY	BK-RED
MESSENGER 100	WH-AUDIO
MESSENGER 110	SH & BL-GND
MESSENGER 123	RED-RELAY
**HI-Z USE	BK-SPEAKER
AMPLIFIED MIC ONLY	YEL- N/C
MESSENGER 223	WH-1 SH & BL-4
**HI-Z USE	RED-3
AMPLIFIED MIC ONLY	BK-2 YEL- N/C
MESSENGER 122	WH-WH
MESSENGER 123A	SH-SH
MESSENGER 123B	YEL-YEL
MESSENGER 123SJ	BL-RED
MESSENGER 132	RED-BL
MESSENGER 125	BK-BK
MESSENGER 191	
VIKING 200	
MESSENGER 323A	
MESSENGER 4120	
MESSENGER 4135	
MESSENGER 4140	
MESSENGER 4145	
MESSENGER 4230	
**NOT COMPATIBLE W/SE PLUS	
4250	WH-2 SH-6
**HI-Z USE	BL-4
AMPLIFIED MIC ONLY	RED-3 YEL & BK-N/C

---

**E.F. JOHNSON (cont')**

---

MESSENGER 250	WH-1 SH-CASE
**HI-Z USE	YEL-4
AMPLIFIED MIC ONLY, NOT COMPATIBLE W/SE PLUS	BL-2 RED-5 BK-3
MESSENGER 350	**CONSULT ASTATIC
MESSENGER 351	WH-AUDIO
MESSENGER 111	SH & BL-GND
MESSENGER 300	RED-RELAY
MESSENGER 320	YEL & BK-N/C
MESSENGER 323	
MESSENGER 323M	
**HI-Z USE AN AMPLIFIED MIC ONLY	
MESSENGER 124	WH-1
MESSENGER 124M	SH-2 BL-4 RED-3
**HI-Z USE AN AMPLIFIED MIC ONLY	
MESSENGER 120	WH-WH
MESSENGER 121	SH & BL-RED
MESSENGER 210T	RED-BL
MESSENGER 120A	BK-BK
MESSENGER 121A	YEL-YEL
**HI-Z USE AN AMPLIFIED MIC ONLY, NOT COMPATIBLE W/SE PLUS	
121A	WH-WH SH-SH YEL-N/C BL-BRN RED-BL BK-BK
MESSENGER 40	WH-1
MESSENGER 50	SH-6
MESSENGER 80	YEL-4
MESSENGER 4170	BL-2
MESSENGER 4175	RED-5
VIKING 230	BK-3
VIKING 260	
VIKING 270	
VIKING 430	
**HI-Z USE AMPLIFIED MIC ONLY, NOT COMPATIBLE W/SE PLUS	
MESSENGER 4230	WH-4 SH-SHELL BL-1 RED-3 BK-2 YEL-5
MESSENGER 4730	WH-1 SH & BL-5
**HI-Z USE	RED-2
AMPLIFIED MIC ONLY	YEL & BK-N/C

---

**E.F. JOHNSON (cont')**

---

VIKING 352	WH-1
VIKING 352D	SH-SHELL
MESSSENGER 4740	BL-5
	RED-2
**HI-Z USE	YEL & BK-N/C

---

**AMPLIFIED MIC ONLY**

---

MESSSENGER 130	WH-1
MESSSENGER 130A	SH-5
MESSSENGER 132	BL-3
	RED-4
**HI-Z USE	YEL & BK-N/C

---

**AMPLIFIED MIC ONLY**

---

---

**K-40**

---

MODEL # 1	WH-1
MODEL # 2	SH & BL-2
MODEL # 3	RED-4
MODEL # 6	BK-3
	YEL-N/C

---

**KENWOOD**

---

TS-820	WH-1
	SH-4
**HI-Z USE	BL-2
AMPLIFIED MIC	RED-3
ONLY	YEL & BK-N/C

---

TR-2200	WH-1
	SH & BL-3
	RED-2
	YEL & BK-N/C

---

TS-840S	WH-1
	SH & BL-7
	OR SH-7
	RED-2
	BL-8
	YEL & BK-N/C

---

TS-520	WH-1
TS-599A	SH-4
TS-820S	BL-3
TS-830S	RED-2
TS-530S	YEL & BK-N/C

---

180S	
MOST 4 PIN RADIOS	WH-1
	SH-4
	BL-3
	RED-2
	YEL & BK-N/C

---

MOST 5 PIN RADIOS	WH-1
	SH-4
	BL-5
	RED-2
	YEL & BK-N/C

---

---

**KENWOOD (cont')**

---

MOST 6 PIN RADIOS	WH-1
	SH & BL-6
	RED-2
	YEL & BK
	N/C

---

MOST 8 PIN RADIOS	WH-1
TS-140S	SH-7
TS-450	BL-8
TS-440	RED-2
TS-140HF	YEL & BK-N/C

---

TS-570D	
TS-870	
TS-940	
TS-850	
TS-2000	

---

TMV7A	BL-3
	RED-4
	SH-5
	WH-6

---

**KRACO**

---

2310	WH-1
2320	SH & BL-2
2330	RED-4
2345	BK-3
2355	YEL-N/C

---

2320A,B	
KCB 4001	
KCB 4005	
KCB 4010, KCB 4020	
KCB 4030, KCB 4045	

---

KCB 2370	WH-5
	SH & BL-3
	RED-1
	YEL & BK-N/C

---

KCB 1401	WH-1
KCB 4003	SH-4
	BL-2
	RED-3
	YEL & BK-N/C

---

KCB 4070	WH-1
	SH & BL-2
	RED-3
	YEL & BK-N/C

---

KCB 1307	WH-1
	SH-6
	BL-4

---

**NOT COMPATIBLE	RED-5
W/SE PLUS	YEL-2
	BK-3

---

KCB 4088	WH-1
	SH & BL-2
	RED-3
	BK-4
	YEL - N/C

---

---

**KRACO (cont')**

---

KCB 4004	WH-2
	SH & BL-1
	RED-3
	BK-4
	YEL- N/C

---

KCB 4000	WH-YEL
KCB 4007	SH & BL-SH
	RED-RED
	BK-VIO
	YEL-N/C

---

---

**KRIS**

---

T23B	WH-AUDIO
99ER	SH & BL-GND
VEGA	RED-RELAY
	YEL & BK-N/C

---

XL 23	WH-1
XL 23A	SH & BL-2
XL 25	RED-3
XL 50, 70	YEL & BK-N/C

---

23+	WH-1
	SH-4
**HI-Z USE	BL-3
AMPLIFIED MIC	RED-2
	YEL & BK-N/C

---

VENTURA	WH-1
VALIENT	SH & BL-2
	RED-3
	BK-4
	YEL-N/C

---

VICTOR	WH-1
VICTOR II	SH & BL-2
	RED-3
**HI-Z USE	BK-4
AMPLIFIED MIC	YEL-N/C
ONLY	

---

**KRYPTON**

---

BETA I	WH-1
	SH & BL-2
	RED-4
	BK-3
	YEL-N/C

---

**LAFAYETTE**

---

COMSTAT 19	WH-1
COMSTAT 23	SH & BL-4
MARK V	RED-2
MARK VI	BK-3
HB 400	YEL- N/C

---

HB 444	
HB 444/24A	

---

\*\*HI-Z USE AMPLIFIED MIC ONLY

---

---

**LAFAYETTE (cont')**

---

HE 20B	WH-3
HE 20C	SH-2
HE 20WX	BL-4
HE 20AWX	RED-1
HA 100	YEL & BK-N/C

---

HB 111	
HB 222	

\*\*HI-Z USE AMPLIFIED MIC ONLY

---

HB 200	WH-3
	SH-4

---

**HI-Z USE	BL-2
AMPLIFIED	RED-1
MIC ONLY	YEL & BK-N/C

---

MICRO 923	WH-AUDIO
HE 20TA	SH & BL-GND
	RED-RELAY
	YEL & BK-N/C

---

HB 700	WH-AUDIO
	SH-GND
SOURCE SUPPLY	BL- +13V
TRANS SUPPLY	RED- -13V
REC SUPPLY	BK- +13V
	YEL- N/C

\*\*HI-Z USE AMPLIFIED MIC ONLY

---

COMSTAT 23	WH-1
COMSTAT 25A & B	SH-4
COMSTAT 35	BL-3
	RED-2

---

**HI-Z USE	YEL & BK- N/C
AMPLIFIED MIC ONLY	

---

HB 23	WH-1
HB23A	SH-3
HA 450	BL-2
HB 500, HB 501	RED-4
HB 502A	YEL & BK-N/C

---

HB 525 A-F

HB 555	
HB 600	
HB 625A	
HE 20T	
MICRO 12	

---

MICRO 23

TELSAT 23	TELSTAT 50
TELSAT 25	TELSTAT SSB50, A
TELSAT SSB25	
TELSAT 150	
TELSAT 924	
TELSAT 925	

---

HB 115A	WH-3
	SH & BL-4

---

**HI-Z	RED-5
AMPLIFIED MIC	BK-1
ONLY	YEL-N/C

---

---

**LAFAYETTE (cont')**

---

HB 333	WH-3
HE 90	SH & BL-4
	RED-1
**HI-Z USE	BK-5
AMPLIFIED MIC	YEL-N/C
ONLY	
MICRO 66	WH-1
	SH-2
	BL-4
	RED-3
	YEL & BK-N/C
TELSTAT SSB140	WH-1
TELSTAT SSB75	SH-4
MICRO 223	YEL-N/C
HB 1140	BL-3
HB 1050	RED-2
HB 950	BK-5
HB 940	
HB 750	
HB 650	
HB 640	
HB 740	

---

**MIDLAND**

---

151M	WH-1
202M	SH & BL-4
77-092	RED-2
77-094	BK-5
77-099	YEL- N/C
77-102	
77-104	
77-106	
77-112	
77-116	
77-118	
13-882	WH-1
	SH-4
	BL-3
	RED-2
	BK-5
	YEL- N/C
13-888 A & B	WH-1
77-888	SH-2
	BL-5
	RED-3
	BK-4
	YEL- N/C
77-838	WH-2
77-849	SH-7
	BL-6
	RED-4
	BK-12
	YEL- N/C

---

**MIDLAND (cont')**

---

13-830	WH-1
13-852	SH & BL-2
13-853	RED-4
13-857 A & B	BK-3
13-858	YEL- N/C
13-862 A & B	
13-863B	
13-866	
13-867	
13-879B	
13-882 B & C	
13-884	
13-892	
13-893	
13-976	
76-3000	
76-858	
76-860	
76-863	
77-003	
77-002	
77-004	
77-005	
77-021	
77-101 B & C	
77-145	
77-150M	
77-155	
77-157	
77-160	
77-200 M	
77-202B	
77-250G	
77-260	
77-285	
77-821	
77-824 B & C	
77-825	
77-830	
77-856	
77-857	
77-859	
77-860	
77-882	
77-963	
78-574	
78-891	
78-976	
78-999	
79-006	
79-007	
79-260	
79-265	
79-891	

---

---

**MIDLAND (cont')**

---

77-255	WH-2 SH & BL-1 RED-3 BK-4
--------	------------------------------------

---

13-955	
77-106	
77-225	
77-889	**NOT COMPATIBLE

---

77-899	
79-892	
79-290 VLI	WH-2
77-115 VLI	SH & BL-1
77-113 VLI	RED-3 BK-4

---

\*\*NOTICE VLI IS AFTER SERIAL #

77-130	WH-4 SH & BL-1 RED-2 BK-3
--------	------------------------------------

---

13-886	WH-1
76-886	SH & BL-3
77-100 (1000M)	RED-2 BK-5 YEL-N/C

---

63-240	WH-1 SH & BL-2
**HI-Z USE AMPLIFIED MIC ONLY	RED-3 BK-4 & 5 YEL-N/C

---

---

**MONTGOMERY WARD**

---

702A	WH-1
774	SH & BL-2
775A	RED-4
GEN 828A	YEL & BK-N/C
GEN 730A	
GEN 696A	WH-1
GEN 716A	SH & BL-2 RED-4 BK-3 YEL-N/C

---

GEN 680A	**NOT COMPATIBLE
----------	------------------

---

---

**MOTOROLA**

---

CF 925AX	
CR 520	
CR 521	**NOT COMPATIBLE
CT 950A	
T40001	
T4005A	
T4009A	
T4010A	
T4020A	
T4025A	

---

---

**NATIONAL**

---

NCX3	RED-TIP WH-RING SH & BL-BARREL
------	--------------------------------------

---

---

**NORTHSTAR**

---

4000	WH-2 SH & BL-1 RED-3 BK-4
------	------------------------------------

---

---

**NU VOX**

---

CB 7000	WH-1 SH-4 BL-3 RED-2 YEL & BK- N/C
---------	--

---

TC 5020	WH-1 SH-6 YEL-2
**NOT COMPATIBLE W/SE PLUS	BL-4 RED-5 BK-3

---

---

**PACE**

---

100S	WH-4
100 ASA	SH & BL-2
123A	RED-1
10-2	YEL & BK- N/C
C123A	
133	
143	

---

TA-2300/B	WH-1 SH & BL-2
**HI-Z USE AMPLIFIED MIC ONLY	BK-3 RED-4 YEL- N/C

---

113	WH-1
130	SH & BL-2
144	RED-4
145	YEL & BK- N/C
162	
166	
CB-185	
1000B & M & MC	

---

8008	
8025	
8041	
8046	
8047	
8092	
8093	
8193	
8014	**NOT COMPATIBLE

---

---

**PACE (cont')**

---

8010A	WH-4
8015A	SH-3
**HI-Z USE	BL-2
AMPLIFIED	RED-1
MIC ONLY	YEL & BK- N/C
8113	WH-4
8117	SH & BL-3
**HI-Z USE	RED-1
AMPLIFIED MIC ONLY	YEL & BK- N/C
8340	WH-1
	SH & BL-2
	RED-3
	BK-4
	YEL- N/C
8155	WH-1
	SH-2
**HI-Z USE	BL-3
AMPLIFIED MIC	RED-4
ONLY	YEL & BK- N/C
8003	WH-1
	SH & BL-2
	RED-3
	BK-4
	YEL- N/C
CBST 23	WH-1
(SIDETALK 23)	SH-2
	BL-3
	RED-4
	YEL & BK-N/C
CB 1023B	WH-TIP
	SH & BL-SLEEVE
	RED-RING
	YEL & BK-N/C
1	WH-WH
11	SH & BL-SH
11-S	RED-RED
100	BK-BK
200	YEL-N/C
223	
2300	
(EARLY)	AMPLIFIED MIC
2376	ONLY
2376 A&B	
2300 (5 PIN PLUG)	WH-5
P2376	SH & BL-4
2376A	RED-2
**HI-Z USE	BK-3
AMPLIFIED MIC ONLY	YEL-N/C
8016	WH-1
	SH & BL-2
	BK-3
	RED-4
	YEL-N/C

---

**PACE (cont')**

---

CB76	WH-4
2300	SH & BL-3
2300C	RED-1
DX2300B	BK-2
**HI-Z USE	YEL-N/C
AMPLIFIED MIC ONLY	

---

**PAL ELECTRONICS**

---

ROAD RUNNER	WH-1
COYOTE	SH-4
	BL-3
	RED-2
	YEL & BK- N/C

---

**PALOMAR**

---

DIGICOM 100	WH-1
	SH & BL-3
**HI-Z USE	RED-2
AMPLIFIED	YEL & BK- N/C
MIC ONLY	

21	WH-2
49	SH & BL-1
SSB-500	RED-3
	BK-4
	YEL- N/C

SKIPPER 71B	WH-RING
SKIPPER 73	SH & BL-SLEEVE
	RED-TIP
	YEL & BK- N/C

---

**\*\*HI-Z USE AMPLIFIED MIC ONLY**

---

4100	WH-1
	SH & BL-2
	RED-4
	BK-3
	YEL-N/C

---

**PANASONIC**

---

RJ-3200	WH-2
RJ-3600	SH & BL-4
RJ-3660	RED-3
	BK-1
	YEL- N/C

CR-B1717EU	WH-1
CR-B4737EU	SH-3
CR-B4747EU	BL-5
CQ-B5919EU	RED-2
	YEL & BK- N/C

RJ-3100	WH-1
RJ-3050	SH & BL-2
RJ-3250	RED-3
RJ-3150	BK-4
	YEL-N/C

---



---

**PEARCE SIMPSON**

---

GUARDIAN 23 & 23B	WH-1 SH & BL-SHELL
**HI-Z USE	RED-2
AMPLIFIED MIC ONLY	YEL & BK-N/C
BOBCAT 23B	WH-AUDIO
SENTRY	SH & BL-GND RED-RELAY YEL & BK-N/C
WILDCAT	**CONTACT ASTATIC
WILDCAT II	
DIRECTOR	WH-WH
DIRECTOR (REV)	SH-SH
ESCORT 11	BL-BK RED-RED
**HI-Z USE	YEL & BK-N/C
AMPLIFIED MIC ONLY	
ESCORT	WH-AUDIO SH & BL-SHELL
**HI-Z USE	RED-RELAY
AMPLIFIED MIC ONLY	YEL & BK- N/C
BOBCAT 23	WH-1
**HI-Z USE	SH & BL-3
AMPLIFIED MIC ONLY	RED-5 YEL & BK- N/C
BEARCAT 23 & 23B	WH-1
BENGAL SSB	SH & BL-2
CHEETAH SSB	RED-3
COUGAR 23	YEL & BK-N/C
SIMBA SSB	
TIGER 23	
TOMCAT SSB	
PANTHER SSB	
JAGUAR 8	WH-2 SH-1 BL-4 RED-3
BEARCAT 23C	WH-1
BOBCAT 23C & E	SH & BL-2
COUGAR 23B	RED-4
GM 23 & 23M	BK-3
LION 40	YEL - N/C
LYNX 23	
PUMA 23 & 23B & C	
SUPER LYNX Z	
SUPER TIGER40A	
TIGER 23B & C	
TIGER 40A	
TIGER MARK 40	
TIGER MARK II	

---

**PEARCE SIMPSON (cont')**

---

LEOPARD B	WH-1 SH-3 BL-5 RED-2 YEL & BK-N/C
PANTHER	WH-AUDIO SH-GND
**NOT COMPATIBLE W/SE PLUS	BL-12V SOURCE RED-TRAN. 12V SUPPLY YEL-SPKR BK-REC 12V SUPPLY
2302	WH-2
PUSSYCAT 23	SH & BL-1 RED-4 BK-3 YEL-N/C
2301	WH-AUDIO
TOMCAT 23B	SH & BL-GND
ALLEYCAT 23	RED-CONTROL BK-SPKR YEL- N/C
BOBCAT 23D	WH-2 SH & BL-4 RED-1 BK-3 YEL-N/C
GM-23B	WH-4 SH & BL-3 RED-1 BK-2 YEL-N/C

---

**J.C. PENNY**

---

981-6051	WH-2
(GOLDEN PINTO)	SH & BL-1
981-6246	RED-3
981-6241	YEL & BK-N/C
981-6225	
981-6248	
981-6060 (PINTO 23B)	
981-6075	WH-AUDIO
(PINTO SSB)	SH & BL-GND RED-RELAY YEL & BK- N/C
985-6050	WH-3
(PINTO 23)	SH & BL-1 RED-2 YEL & BK- N/C
981-6200	WH-WH
981-6201	SH & BL-SH RED-GRN BK-RED YEL-N/C

---

**J.C. PENNY (cont')**

---

981-6204	WH-1
	SH & BL-3
	RED-2
	BK-5
	YEL-N/C

---

981-6216	WH-2
981-6218	SH & BL-1
981-6214	RED-3
981-6247	BK-4
981-6203	
981-6237	
981-6221	
981-6215	
981-6238	
981-6212 (PINTO)	
981-6220	
(TRANSCIEVER SCANNER)	
981-6235 (PINTO)	
981-6240	
981-6240A	
981-6213	
981-6210 (PINTO)	WH-1
981-6230 (PINTO)	SH & BL-2
	RED-4
	BK-3
	YEL-N/C

---

**POLYCOM**

---

PC 2-6	WH-1
PC 2-12	SH & BL-2
**HI-Z USE	RED-3
AMPLIFIED MIC	BK-4
ONLY	YEL- N/C

---

**PRESIDENT**

---

\*\*SEE LISTINGS UNDER UNIDEN

---

**PRO STAR**

---

240	WH-1
	SH & BL-2
	RED-4
	BK-3

---

400	WH-1
	SH & BL-5
	RED-3
	BK-2

---

**PYRAMID**

---

CB 22	WH-1
CB 24	SH & BL-2
CB 25	RED-4
CB 26	BK-3
CB 28	YEL- N/C

---

---

**PYRAMID (cont')**

---

1300	WH-2
	SH & BL- 1
	RED-3
	BK-4
	YEL- N/C

---

**RANGER**

---

ST-1000/	WH-1
HCA818	SH & BL-2
	RED-3
	BK-5
	YEL- N/C

---

RCI 2900	WH-2
RCI 2950	SH & BL-1
RCI 2970	RED-3
RCI 2990	BK-4 OR N/C
RCI 2985	YEL- N/C
RCI 2995	
6900	
505 ADX	

---

\*\*RCI 2950 SOMETIMES BL PIN 5

---

AR 3500	WH-8
AR 3300	SH & BL-7
	RED-6
	YEL & BK- N/C

---

**RAY JEFFERSON**

---

711	WH-YEL
	SH & BL-SH
	RED-RED
	BK-VIO
	YEL- N/C

---

CB 905	WH-RING
	SH & BL-SLEEVE
	RED-TIP
	YEL & BK-N/C

---

CB-705	WH-1
CB-740	SH & BL-2
	RED-3
	BK-4
	YEL- N/C

---

701	WH-1
CB 845	SH & BL-2
	RED-4
	BK-3
	YEL- N/C

---

CB 2569	WH-3
	SH & BL-2
**HI-Z USE	RED-1
AMPLIFIED MIC	YEL & BK-N/C
ONLY	

---

---

**RAY JEFFERSON (cont')**

---

CB 707	WH-RED SH-SH BL-BK RED-YEL YEL-WH
CB 805	WH-3 SH-1 BL-4 RED-2 YEL & BK-N/C

---

**RCA**

---

14T100	WH-1
14T200	SH & BL-2 RED-4 BK-3 YEL- N/C
14T300	WH-1
14T301	SH & BL-2
14T303	RED-4
14T304	BK-3
14T260	YEL- N/C
14T270	
14T400	WH-1
14T410	SH-3
14T405	BL-5 RED-2 YEL & BK- N/C
14T305	**NOT COMPATIBLE

---

**REALISTIC / RADIO SHACK**

---

TRC 446	WH-1 SH & BL-5 BK-2 RED-3 4 & 6- N/C
TRC 9	**NOT COMPATIBLE
TRC 24	WH-1
TRC 40	SH & BL-2
TRC 23B	RED-3 YEL & BK-N/C
TRC 471	WH-1 SH & BL-2
**HI-Z USE AMPLIFIED MIC ONLY	RED-3 BK-4 YEL - N/C
TRC 5	WH-WH SH & BL-SH
**HI-Z USE AMPLIFIED MIC ONLY	RED-BK BK-RED YEL- N/C
TRC 10	WH-4 SH & BL-1
**NOT COMPATIBLE W/SE PLUS	RED-3 BK-2 YEL-5

---

**REALISTIC / RADIO SHACK (cont')**

---

TRC 24A & B	WH-4	
TRC 30 & 30A	SH & BL-1	
TRC 50A	RED-3	
TRC 55, 56, 57	BK-5	
TRC 67	YEL- N/C	
TRC 410		
TRC 411		
TRC 412		
TRC 413		
TRC 414	TRC 435	TRC 461
TRC 415	TRC 440	TRC 462
TRC 417	TRC 441	TRC 465
TRC 418		TRC 466
TRC 420	TRC 448	TRC 467
TRC 421 & 421A	TRC 449	TRC 468
TRC 422A	TRC 450	TRC 469
TRC 424	TRC 451	TRC 470
TRC 425	TRC 452	TRC 473
TRC 426	TRC 453	TRC 477
TRC 427	TRC 454	TRC 479
TRC 428	TRC 455	TRC 480
TRC 430	TRC 456	TRC 482
TRC 431	TRC 457	TRC 483
TRC 432	TRC 458	TRC 490
TRC 433	TRC 459	TRC 492
TRC 434	TRC 460	TRC 500
TRC 432	WH-4	
TRC 451	SH & BL1	
	RED-3	
**NOT COMPATIBLE W/SE PLUS	BK-5 YEL-2	
TRC 50B	WH-4 SH & BL-2 RED-3 BK-1 YEL- N/C	
TRC 29 (1ST MODEL)	WH-1 SH-2 BL-4	
**HI-Z USE AMPLIFIED MIC ONLY	RED-3 YEL & BK-N/C	
TRC 29 (2ND MODEL)	WH-3 SH & BL-2 RED-1 YEL & BK-N/C	
TRC 46-49	WH-4	
TRC 57	SH & BL-1	
TRC 448, 449	RED-3	
TRC 457, 458	YEL & BK-N/C	
TRC 480		
TRC 8D	WH-3 SH & BL-4 RED-1 BK-1	

---

**REALISTIC / RADIO SHACK (cont')**

---

TRC 18	WH-2
	SH-1
**HI-Z USE	BL-3
AMPLIFIED MIC	RED-4
ONLY	YEL & BK-N/C

---

TRC X23A	WH-2
	SH-1
**HI-Z USE	BL-4
AMPLIFIED MIC	RED-3
ONLY	YEL & BK-N/C

---

AMERICANA 23+	WH-2
	SH & BL-SHELL
**HI-Z USE	RED-1
AMPLIFIED MIC	YEL & BK- N/C
ONLY	

---

HTX 100	WH-1
	RED-2
	SH-7
	BL-8

---

HTX 10	WH-1
	BK-2
	RED-3
	SH & BL-5
	4 & 6- N/C

---

---

**REGENCY**

---

CB-27	WH-WH
CB-27-6	SH-SH
CB-27-12	BL-BK
	RED-RED
	YEL & BK-N/C

---

\*\*HI-Z USE AMPLIFIED MIC ONLY

FORMULA/23	WH-1
SPRINT/23	SH-2
	BL-3
	RED-4
	YEL & BK-N/C

---

GT 523	WH-WH
	SH-SH
	BL-BK
	RED-RED
	YEL & BK-N/C

---

IMPERIAL	WH-1
(CB-253)	SH-4
IMPERIAL II	BL-2
(CB-254)	RED-3
RANGE GAIN II	YEL & BK-N/C
ROMPER (A-3)	

---

\*\*HI-Z USE AMPLIFIED MIC ONLY

RANGE GAIN	WH-AUDIO
RANGER CB 270	SH & BL-GND
**HI-Z USE	RED-RELAY
AMPLIFIED MIC ONLY	YEL & BK-N/C

---

---

**REGENCY (cont')**

---

MODEL 500	WH-AUDIO
	SH & BL-GND
**HI-Z USE	RED-7V
AMPLIFIED MIC	BK-SPKR
ONLY	YEL- N/C

---

CR-142, 185	WH-1
CR-230	SH & BL-2
CF-240	RED-4
SPRINT 23 II	YEL & BK-N/C

---

CR-123	WH-TIP
	SH & BL-CASE
	RED-RING
	YEL & BK-N/C

---

CR-123B	WH-1
	SH & BL-2
	RED-3
	YEL & BK-N/C

---

CR 186	WH-YEL
	SH & BL-SH
	RED-RED
	BK-VIO
	YEL- N/C

---

CR-202	WH-BK
	SH & BL-SH
	RED-RED
	BK-VIO
	YEL- N/C

---

CB-501	WH-4
CB-701	SH & BL-2
	RED-3
	BK-5
	YEL- N/C

---

---

**RELM**

---

RMV-60	WH-4
	SH & BL-2
	RED-3
	1,5,6-N/C

---

---

**RF LIMITED**

---

MAGNUM-257	WH-1
DELTA FORCE	BK-2
	RED-3
	SH & BL-5

---

---

**ROBERTS**

---

RCB-10	WH-2
	SH & BL-1
	RED-4
	YEL & BK-N/C

---

RBC 15	WH-1
RBD 55	SH & BL-2
	RED-3
	BK-5
	YEL- N/C

---

---

**ROBERTS (cont')**

---

R5 CB	WH-1
RCB 470	SH-4
	BL-6
	RED-3
	BK-5
	YEL- N/C

---

**ROBYN**

---

BB123	WH-1
TR 123C	SH & BL-2
GT-7C	RED-4
**HI-Z USE	YEL & BK-N/C

AMPLIFIED MIC ONLY

---

J 123	WH-AUDIO
	SH & BL-GND
	RED-RELAY
	YEL & BK- N/C

---

605	WH-3
	SH & BL-2
	RED-1
	BK-5
	YEL-N/C

---

T 123B	WH-1
	SH-4
	BL-3
	RED-2
	YEL & BK-N/C

---

SB 510D	WH-1
SB 520D	SH & BL-2
	RED-3
	BK-4
	YEL-N/C

\*\*ADD .01 CAPACITOR IN  
SERIES W/WHITE LEAD

---

440	WH-1
	SH & BL-2
	RED-4
	BK-3
	YEL- N/C

---

T 240D	WH-1
	SH-3
**ADD .01	BL-4

CAPACITOR IN SERIES      RED-2

W/WHITE LEAD              YEL & BK-N/C

\*\*HI-Z USE AMPLIFIED MIC ONLY

---

K 123	WH-1
XL ONE	SH-2
SX 101	BL-3
GT VII	RED-4
XL TWO	YEL & BK-N/C
SX 102, 102B	
SX 401	
SX 402B	
SX 102	

---

---

**ROBYN (cont')**

---

AM 500D	WH-1
WV 110	SH & BL-2
WV-23	RED-3
SX 007	BK-4
DG 30	YEL- N/C
LB 23, 23A	

WV 23A

LB 110

DG 130D

007-140

\*\*ADD .01 CAPACITOR IN SERIES  
W/WHITE LEAD

---

SS 747B	WH-1
	SH & BL-4
	RED-2
	YEL & BK-N/C

---

CB 505D	NOT COMPATIBLE
---------	----------------

---

SB 540D	WH-1
	SH & BL-2
	RED-3
	YEL & BK-N/C

---

T 123	WH-AUDIO
**HI-Z USE	SH & BL-GND
AMPLIFIED MIC	RED-RELAY
ONLY	YEL & BK N/C

---

TR 123B	WH-1
TR 123D	SH & BL-1
**HI-Z USE	RED-3
AMPLIFIED MIC	YEL & BK-N/C
ONLY	

---

**ROMAR**

---

CB 7000	WH-1
	SH-4
	BL-3
	RED-2
	YEL & BK- N/C

---

ACT 1914	WH-1
	SH & BL-2
	RED-4
	BK-3
	YEL- N/C

---

**ROYCE**

---

1-602	WH-1
1-605	SH-4
	BL-2
	RED-3
	YEL-N/C

---

1-614	WH-5
	SH & BL-3
	RED-1
	YEL & BK- N/C

---

---

**ROYCE (cont')**

---

1-600A & B	WH-1
1-604	SH & BL-2
1-607	RED-3
1-608	BK-4
1-611	YEL- N/C
1-612	
1-619	
1-620	
1-621	
1-631	
1-639	
1-648	
651	
1-601	WH-1
1-602A	SH & BL-2
1-603	RED-3
1-605A	YEL & BK-N/C
1-606	
1-610	
1-617	
1-624	
1-625	
1-630	
1-631	
1-632	
1-635	
1-636	
1-640	
1-641	
1-642	
1-650	
1-653B	
1-655	
1-658	
1-660	
1-662	
1-673	
1-675	
1-678	
1-680	
1-682	
1-630	WH-1
	SH-2
	BL-4
	RED-5
	YEL & BK-N/C
1-609	WH-1
	SH & BL-2
	RED-4
	BK-5
	YEL-N/C

---

---

**RYSTAL**

---

CBR 1800	WH-1
CBR 1700	SH & BL-2
	RED-4
	BK-3
	YEL-N/C
CB 523	WH-1
	SH-4
	BL-2
	RED-3
	YEL & BK- N/C

---

**SANYO**

---

TA 1000	WH-2
	SH & BL-4
	RED-3
	BK-1
	YEL-N/C
TA 901A	WH-2
	SH & BL-1
	RED-4
	BK-3
	YEL-N/C

---

**SBE**

---

1CB	WH-AUDIO
	SH & BL-GND
	RED-RELAY
	YEL & BK- N/C
6CBS 8	WH-1
	SH-2
	BL-4
	RED-5
	BK-3
	YEL- N/C
6CB	WH-2
8CB (CONSOLE)	SH-1
10CB	BL-4
(CORNADODO II)	RED-3
12CB	YEL & BK-N/C
(SIDE BANDER II)	
14CB	
(SUPER CONSOLE)	
16CB	
(CONSOLE II)	
40CB (CONSOLE V)	
7CB (SIERRA)	WH-1
	SH-2
	BL-3
	RED-4
	YEL & BK-N/C
9 CB	WH-AUDIO
	SH-GND
	BL-RELAY
	RED-+12V
	YEL & BK- N/C

---

---

**SBE (cont')**

---

18CB	WH-2
(SIDE BANDER III)	SH-1
21CB (CORTEZ)	BL-3
26CB (FORMULA D)	RED-4
29CB (CATALINA III)	YEL & BK- N/C
30CB (TRINIDAD II)	
SBE-27CB/A	
(SIDE BANDER IV)	
SBE-39CB	
(SIDE BANDER V)	
SBE-40CB	
(CONSOLE V)	
SBE-41CB (ASPEN)	
SBE-42CB (CORTEZ 40)	
SBE-44CB (MALIBU 40)	
SBE-45CB (TRINIDAD III)	
SBE-50CB (CONSOLE VI)	
SBE-54CB (KEY/COM 1000)	
22CB	WH-WH
(CATALINA II)	SH-SH
23CB	BL-RED
(CAPR III)	RED-BK
**NOT COMPATIBLE	BK-BRN
W/SE PLUS	YEL-BL
34CB (BRUTE)	WH-WH
	SH-SH
**NOT COMPATIBLE	BL-BK
W/SE PLUS	RED-RED
	BK-BL
	YEL-GRN
49 CB (TAHOE)	WH-4
LCMB (LAND COM)	SH & BL-2
LCBS-4	RED-5
	BK-1
	YEL-N/C
DELMAR 225	WH-2
LCM-5	SH & BL-1
(LAND COMMAND)	BK-4
	RED-3
	YEL- N/C
LAND COMMAND	WH-1
(LCM-8	SH & BL4
	RED-5
	BK-3
	YEL-N/C
TRIN III	WH-2
	SH-1
	BL-4
	RED-3
	YEL & BK- N/C

---

---

**M.H. SCOTT**

---

DAK MARK IX	WH-1
DAK MARK X	SH-2
	BL-3
	RED-4
	YEL & BK-N/C
DAK MARK III	WH-1
DAK MARK II	SH-4
DAK MARK V	BL-3
	RED-2
	BK-5
	YEL-N/C

---

---

**SEARS**

---

370.38050700	WH-4
562.38200700	SH & BL-1
663.38070700	RED-3
663.38020800	BK-5
663.38000900	YEL-N/C
934.36770500	
934.36710500	
934.36740500	
934.36772600	
934.36771500	
934.38310700	
934.63742600	
934.38120700	
934.38080700	
934.38110700	
934.38081700	
934.38060700	
934.38062700	
934.38270700	
934.38260700	
562.38220700	WH-4
	SH & BL-1
	RED-3
	BK-2
	YEL- N/C

---

---

**SHAKESPEARE**

---

GBS-2500	WH-1
GBS-1500	SH & BL-2
GBS-240	RED-4
	BK-3
	YEL- N/C
GBS-2000	WH-1
	SH & BL-2
	RED-3
	BK-4
	YEL- N/C
740	WH-1
	SH-4
**HI-Z USE	BL-3
AMPLIFIED MIC	RED-2
ONLY	YEL & BK- N/C

---

---

**SHAKESPEARE (cont')**

---

840	WH-4
	SH & BL-1
	RED-3
	BK-5
	YEL- N/C

---

**SHARP**

---

CB-700	WH-1
CB-700A	SH-4
CB-800 & 800A	BL-3
CB-2170	RED-2
CB-2260	YEL & BK- N/C
CB-2460	
CB-5470	
CB-4370	
CBT 58	WH-AUDIO
CB 500 UB	SH & BL-GND
CB 550 UB	RED-RELAY
	YEL & BK-N/C

---

**SILTRONIX**

---

1011C	WH-RING
	SH & BL-SLEEVE
**HI-Z USE	RED-TIP
AMPLIFIED MIC ONLY	YEL & BK- N/C
APACHE	WH-1
MOHAWK	SH & BL-4
SSB 23	RED-2
	YEL & BK- N/C

---

**SOMMERKAMP**

---

TS-2000X	WH-2
	SH & BL-1
	RED-3
	BK-4
	YEL- N/C

---

**SONAR**

---

MODEL E	WH-RING
FS-23	SH & BL- SLEEVE
MODEL 6	RED-TIP
MODEL H	YEL & BK- N/C
FS-3023	
FS-2340	
**HI-Z USE AMPLIFIED MIC ONLY	
J-23	WH-WH
	SH & BL-SH
**HI-Z USE	RED-RED
AMPLIFIED MIC	BK-BK
ONLY	YEL- N/C

---

**SPARKOMATIC**

---

CB-1023	WH-1
	SH & BL-2
	RED-3
	BK-5
	YEL- N/C

---

**SPARKOMATIC (cont')**

---

CB-2023	WH-1
	SH & BL-2
	RED-3
	BK-4
	YEL- N/C

CB-1123	WH-2
CB-5100	SH & BL-1
CB-1040	RED-3
	BK-4
	YEL- N/C

CB-2123	WH-1
	SH-4
	BL-5
	RED-2
	BK-3
	YEL- N/C

---

**STANDARD COMMUNICATIONS**

---

HORIZON 29	WH-2
HORIZON 29A	SH & BL-1
	RED-3
	BK-4
	YEL- N/C

---

**SUNISONIC**

---

1012	WH-2
	SH-1
	BL-4
	RED-3
	YEL & BL- N/C

---

**SUPER JOPIX**

---

3000B	WH-2
	SH & BL-1
	RED-3
	BK-4

---

**SUPERSTAR**

---

4900B	WH-1
	SH & BL-5
	RED-3
	BK-2
120 FM	WH-2
121 FM	SH & BL-1
360 FM	RED-3
3600	YEL & BL- N/C
3900	
95	WH-1
2000	SH & BL-2
	BK-3
	RED-4
	YEL- N/C

---



---

**SURVEYOR**

---

CB-2600	WH-3 SH & BL-4 RED-2 BK-1 YEL- N/C
2100	WH-4
2300	SH & BL-2 RED-1 YEL & BK-N/C
2400	WH-1 SH & BL-2 RED-3 YEL & BK-N/C
2610	WH-2 SH & BL-1 RED-3 BK-4 YEL- N/C
2620	<b>**NOT COMPATIBLE</b>
2630	WH-1 SH & BL-2 RED-3 BK-4 YEL- N/C

---

**SWAN**

---

500	WH-RING
350	SH & BL-SLEEVE
700CX	RED-TIP

---

**TEABERRY**

---

MODEL T CONTROL	WH-2
NEW T CHARLIE ONE	SH & BL-4 RED-3 BK-1 YEL- N/C
BIG T	WH-1 SH & BL-3 RED-4 YEL & BK-N/C
FIVE X FIVE	WH-1 SH & BL-2 RED-3 YEL & BK-N/C
MIGHTY T	WH-4
STALKER III	SH & BL-1 RED-3 BK-5 YEL- N/C
TELE T	WH-4 SH & BL-1 RED-5 BK-3 YEL- N/C

---

**TEABERRY (cont')**

---

T-SCOUT	WH-YEL RED-RED BK-VIOLET YEL- N/C
RACER T	WH-2
T HAWK	SH & BL-4
T CHARLIE	RED-3 BK-1 **23 CHANNEL YEL- N/C
RACER T RADIOS REQUIRE A 47K RESISTOR UB SERIES W/WHITE LEAD TO PREVENT DAMAGE TO THE RADIO	
RANGER T	WH-4 SH & BL-1 RED-3 YEL & BK- N/C
MINI T	<b>**CONTACT ASATIC</b>
TWIN T	WH-RING SH & BL-SLEEVE RED-TIP YEL & BK- N/C
MODEL T	WH-1 SH-3 BL-4 RED-2 YEL & BK- N/C
T CHARLIE ONE	WH-2 SH & BL-3 RED-1 BK-4 YEL-N/C
STALKER ONE	WH-1
STALKER TWO	SH-3
STALKER 202	BL-2
STALKER 101	RED-4 YEL & BK-N/C
STALKER IV	WH-4 SH & BL-3 RED-1 BK-2 YEL- N/C
STALKER V	WH-1
STALKERXIII	SH & BL-2
GOLDEN 5 X 5	RED-4
TB-73	BK-3
NEW BIG T	YEL- N/C
"T" BEAR	
TITAN "T"	
T DISPATCH	
T BEAR	
T COMMAND	

---

**TEABERRY (cont')**

---

STALKER XV	WH-1
STALKER IX	SH-2
STALKER XX	BL-4
	RED-5
	BK-3
	YEL- N/C

---

STALKER VIII	WH-1
	SH & BL-3
	RED-2
	BK-5
	YEL- N/C

---

STALKER XXV	WH-2
	SH & BL-1
	RED-3
	BK-4
	YEL- N/C

---

SHIP'S RADIO	WH-1
	SH-4
	BL-3
	RED-2
	YEL & BK-N/C

---

**TEK**

---

HR-3950	WH-2
	SH & BL-1
	RED-3
	BK-4
	YEL- N/C

---

**TEMPO**

---

ONE	WH-RING
	SH & BL-SLEEVE
**HI-Z USE	RED-TIP
AMPLIFIED MIC ONLY	YEL & BK- N/C

---

**TEN-TEC**

---

OMNI V	WH-1
DELTA II	SH & BL-2
SCOUT 55	RED-3
JUPITER VI	YEL & BK- N/C

---

PARAGON	
TC-5007	WH-1
	SH & BL-3
	RED-2
	YEL & BL- N/C

---

TC-5014	WH-1
TC-5010	SH & BL-3
PW-5024	RED-2
	YEL & BL- N/C

---

TC-5040	WH-1
	SH-6
**NOT COMPATIBLE	BL-4
W/SE PLUS	RED-5
	YEL-2
	BK-3

---

---

**TEN-TEC (cont')**

---

TC-5023	WH-1
	SH & BL-2
	RED-4
	BK-3
	YEL- N/C

---

OMNI D	WH-RING
TRITRON 4	SH & BL-SLEEVE
	RED-TIP

---

PEGASUS E 550	WH-4
	SH & BL-3
	RED-2
	1-N/C

---

**TEXAS RANGER**

---

TR6 99WX	WH-2
	SH & BL-1
	RED-3
	BK-4

---

**TOKAI**

---

TC-101	WH-3
	SH & BL-2
	RED-1
	BK-5
	YEL- N/C

---

**TRAM**

---

D12	WH-2
D42	SH & BL-1
D62	RED-3
DIAMOND 40,60	BK-4
XL	YEL-N/C
XL-5	
X-23	

---

CROSAIR 464	WH-RING
TR27D/E	SH & BL-SLEEVE
XL-100	RED-TIP
	YEL-N/C

---

**\*\*HI-Z USE AMPLIFIED MIC ONLY**

---

D201, A	WH-1
TITAN	SH & BL-2
TITAN II	RED-4
TITAN IIA	BK-3
TITAN IV	YEL-N/C

---

**\*\*HI-Z USE AMPLIFIED MIC ONLY**

---

D300	WH-1
D80	SH-2
	BL-4
	RED-5
	BK-3
	YEL-N/C

---

---

**TRISTAR**

---

120AM	WH-2	WH-2	WH-1
240	SH-1	SH-1	SH-2
340	YEL-N/C	YEL-N/C	YEL-N/C
727	BL-1	BL-1	BL-2
747	RED-5	RED-4	RED-4
	BK-4	BK-3	BK-3

---

**UNIDEN**

---

ADAMS	WH-2
ANDRES J	SH & BL-1
CONVOY II	RED-3
DWIGHT D	BK-4
GRANT (858)	YEL-N/C

GRANT-DX  
HONEST ABE

JACKSON

JOHN Q

MADISON (858)

OLD HICKORY

TEDDY R

THOMAS J

VEEP

WASHINGTON (858)

ZACHARY T

AR4, AX4

AR14, AX4

AX 43

AR144, AX144

AR711,AX711

P220

P300

PC33

PC55

PC66,PC66XL

PC68XL

PC76XL

PC77

PC122,PC122XL

PC244

PRO 500D

PRO 510XL

PRO 520XL

PRO 530E

PRO 535SE

PRO538E

PRO 540E

PRO 640E

PRO 710E, 810E

PTC-104

GENERAL GRANT

---

HR 2510 WH-1

HR 2510E SH & BL-2

HR 2600 RED-3

LINCOLN YEL & BK-N/C

---

---

**UNIDEN (cont')**

---

GRANT	WH-1
GRANT XL	SH-2
MADISON(8719)	BL-4
MCKINLEY	RED-5
P 400	BK-3
WASHINGTON	YEL & BK-N/C

8719

---

GRANT XL CLASSIC	WH-1
JACKSON EXPORT	SH & BL-5
	RED-3

---

PRESIDENT GEORGE	WH-1
	SH & BL-5
	RED-3
	BK-2

---

**UNIMETRICS**

---

DOLPHONE	WH-1
	SH-2
	BL-3
	RED-2
	YEL & BK-N/C

---

SEA HORSE I	WH-M4
	SH-G

**HI-Z USE	BL-B1
AMPLIFIED MIC	RED-T2
ONLY	BK-R3
	YEL-N/C

---

MARLIN I	WH-4
MAKO I	SH-GND
PORPOISE I	BL-1
	RED-2
	BK-3
	YEL-N/C

---

STING RAY II	WH-1
	SH-4
	BL-3
	RED-2
	BK-5
	YEL-N/C

---

**UTAC**

---

MICROMIMI 23	WH-1
ST-23	SH-6
	BL-4
**NOT	RED-5
COMPATIBLE	BK-3
W/SE PLUS	YEL-2

---

TRX 30	WH-1
TR 18M	SH & BL-2
	RED-3
	YEL & BK-N/C

---

STUDIO 4000	WH-1
	SH & BL-3

**HI-Z USE	RED-2
AMPLIFIED MIC ONLY	YEL & BK-N/C

---

---

**UTAC (cont')**

---

TRX 2000	WH-3 SH & BL-2
**HI-Z USE	RED-1
AMPLIFIED MIC ONLY	YEL & BK-N/C
TRX 400	WH-1
TRX 500	SH & BL-3
**HI-Z USE	RED-2
AMPLIFIED MIC ONLY	YEL & BK-4

---

**VECTOR**

---

X	WH-1 SH & BL-2 RED-4 BK-3 YEL-N/C
---	---

---

**VIRAGE**

---

VX 3300HP	WH-2 SH & BL-1 RED-3 BK-4
-----------	------------------------------------

---

**WELL**

---

W 605	WH-1
W 705	SH-2 BL-4 RED-3 YEL & BK-N/C

---

**WINSOR**

---

W-60	WH-1 SH & BL-2 RED-4 BK-3 YEL-N/C
------	---

---

**XTAL**

---

XCB 4	WH-1
XCB 28	SH & BL-2 BK-5 RED-3 YEL-N/C
XCB 6	WH-2 SH & BL-1 RED-4 BK-3 YEL-N/C
XCB 7	WH-1
XCB 71	SH & BL-6 RED-3 BK-5 YEL-N/C
XSSB 10	WH-5 SH & BL-6 RED-1 YEL & BK-N/C

---

**XTAL (cont')**

---

XCB 11	WH-2
XCB 5	SH & BL-1 RED-4 YEL & BK-N/C
XCB 12	WH-4 SH-5 BL-1 RED-3 YEL & BK-N/C
XCB 88	**NOT COMPATIBLE
XCB 23A	WH-1 SH & BL-2 RED-3 YEL & BK-N/C

---

**YAESU**

---

FT 101ZD	WH-2
FT 101B	SH & BL-1
FT 101E	RED-3
FT 301D	YEL & BK-N/C
FT 7B	
FT 225R/RD	
FT 625RD	
FT 221R	
FT 140B	WH- RING
FT 200	SH & BL-SLEEVE RED-TIP YEL & BK-N/C
FT 720R	WH-1 SH & BL-4 RED-3 YEL & BK-N/C
FT 2400	WH-4 SH & BL-5 RED-3 YEL & BK-N/C
CPU 2500R	WH-6 SH & BL-5 RED-4 YEL & BK-N/C
FT 2 AUTO	WH-2 SH & BL-1 RED-3 BK-4 YEL- N/C
FT8100	MIC IN-WH
FT100	GND-SH & BL
FT90	SW1-RED W/27K RESISTOR IN SERIES
FT1000	BL-5
FT874	RED-6 SH-7 WH-8

---

## YAESU (cont')

---

### MOST 8-PIN MODELS

FT 102	WH-8
FT 757	SH & BL-7
FT 620B	RED-6
FT 707	YEL & BK-N/C
FT 77	
FT 840	
FT 980	
FT 726R	
FT 990	
FT 920	
FT 767	
FT 890	
FT 107	
FT 1000	
FT 650	
FT 747	

---

### YOSAN

---

JC 2204	WH-1
	SH & BL-2
	RED-4
	BK-3
	YEL-N/C

---

### ZODIAC

---

M 5026	WH-1
	SH-4
	RED-3
	BL-2
	YEL & BK-N/C
M 5203	WH-1
	SH & BL-2
	RED-3
	BK-5
	YEL-N/C

---

# WIRING COLOR CODES

**\*COLOR CODES FOR ASTATIC 6 WIRE  
MICROPHONES\***

***WIRE COLOR***

***FUNCTION***

<b>WHITE</b>	<b>AUDIO</b>
<b>SHIELD</b>	<b>GROUND</b>
<b>BLUE</b>	<b>COMMON FOR SWITCHING</b>
<b>RED</b>	<b>PUSH TO TALK (TRANSMIT CONTROL)</b>
<b>BLACK</b>	<b>RECEIVE CONTROL</b>
<b>YELLOW</b>	<b>RECEIVE GROUND (NOT NORMALLY USED)</b>