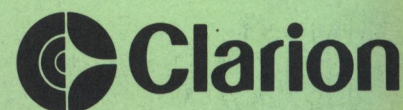


Kawasaki Audio Systems Troubleshooting Manual

Part No. 99924-1088-01



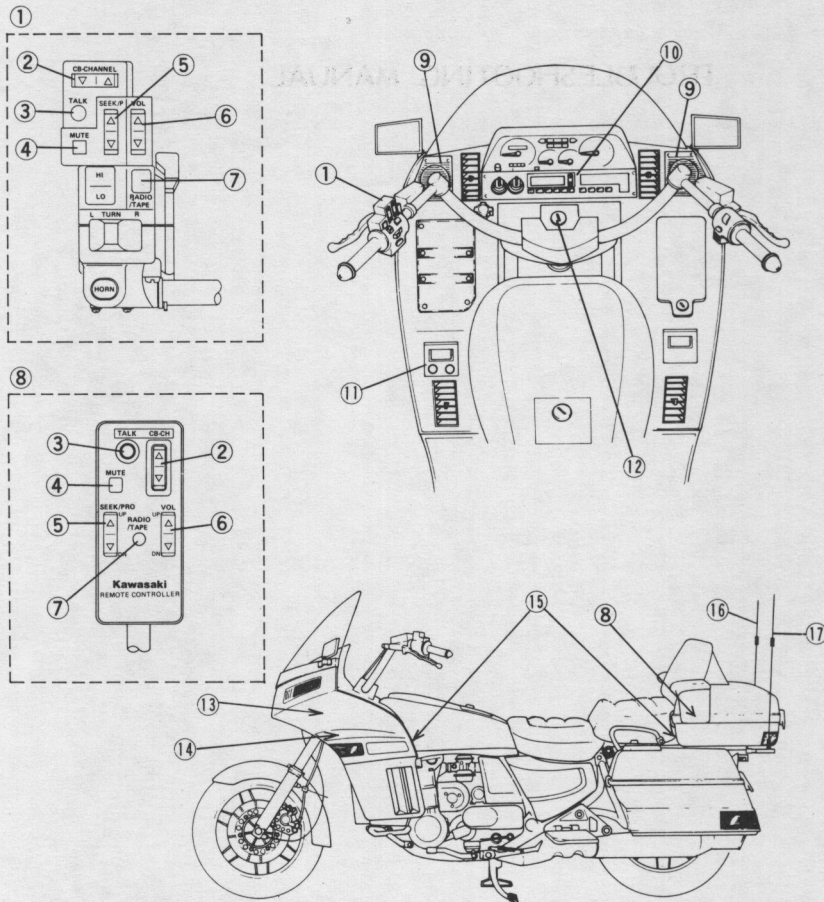
KAWASAKI AUDIO SYSTEMS

TROUBLESHOOTING MANUAL

FOREWORD

Please read the Kawasaki Voyager Audio Systems Operator's Manual so that you completely understand the operation of all components.

LOCATION OF PARTS



- | | |
|---|--|
| 1. Left Handlebar Switches | 10. AM/FM Stereo Radio and Cassette Player |
| 2. CB Channel Select Switch (Optional) | 11. CB Control Unit (Optional) |
| 3. CB Talk Switch (Optional) | 12. Ignition Switch |
| 4. Muting Switch | 13. Power Amplifier |
| 5. Auto Seek Switch/Program Change Switch | 14. CB Module (Optional) |
| 6. Volume Control Switch | 15. DIN Plugs (Optional) |
| 7. Radio/Tape Button | 16. AM/FM Antenna |
| 8. Passenger Switches | 17. CB Antenna (Optional) |
| 9. Speaker | |

The Kawasaki Voyager Audio System consists of many components. Follow the troubleshooting flow charts carefully so that only the faulty component is replaced. Sometimes a customer may be confused with a "problem" in AM or FM reception when actually the radio is functioning properly. Be sure to review the Radio Characteristics section with the customer so that AM and FM reception performance and causes of interference are fully understood.

Safety Awareness

Whenever you see the symbols shown below, heed their instructions! Always follow safe operating and maintenance practices.



WARNING

- o This warning symbol identifies special instructions or procedures which, if not correctly followed, could result in personal injury or loss of life.



CAUTION

- o This caution symbol identifies special instructions or procedures which, if not strictly observed, could result in equipment damage or destruction.

NOTE:

- o Indicates points of particular interest for more efficient and convenient operation.

Table of Contents

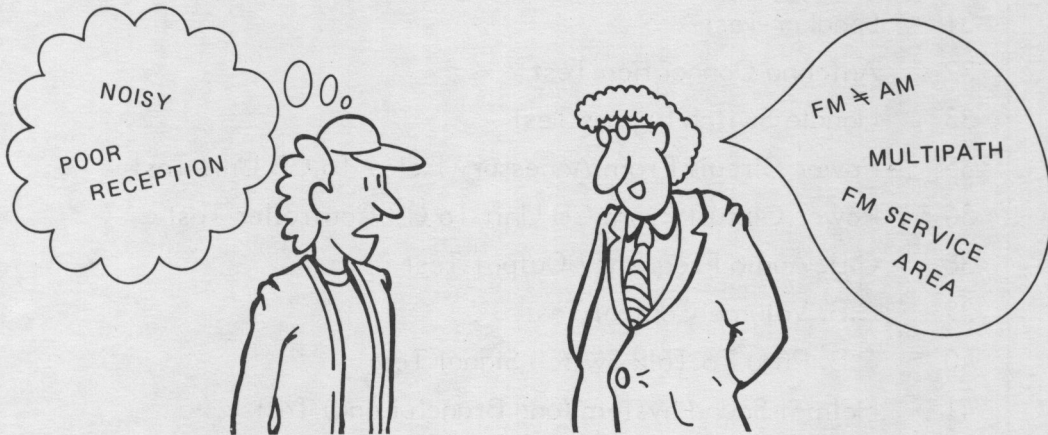
	Page
TROUBLESHOOTING TESTS	5
RADIO CHARACTERISTICS	6
Motorcycle Radio vs. Home Stereo	
AM Signals	7
Service Area	
Station Mixing	
Interference	
FM Signals	8
Service Area	
Station Flutter	
Fading	
Station Jumping	9
Multipath	
Interference	
SASC Feature	10
SUPER SASC Feature	
TROUBLESHOOTING	
Before you Begin	11
Quick Fuse Failure Analysis	12
SYSTEM DIAGRAMS	
Wiring Diagram (Include All Optional Units)	13
Wiring Diagram (Standard)	14
Audio Electrical System Color Code	15
FLOW CHARTS	
No Sound From Aut Unit	16
Poor Radio Reception	18
Cassette Difficulty	19
Handle Switch Difficulty - Auto Seek/Muting	20
Handle Switch Difficulty - Radio-tape Selection/Volume	21
C.B. Difficulty	22
C.B. Reception Difficulty	24
C.B. Transmission Difficulty	25

TROUBLESHOOTING TESTS

TEST	PAGE	TITLE
1	27	Power Circuit From Accessory Relay To Main Unit Test
2 A	28	Controll Signal From Main Unit To Power Amplifier Test
2 B	29	Audio Signal From Main Unit To Power Amplifier Test
3	30	Power Circuit From Accessory Relay To Power Amplifier Test
4	31	Speaker Test
5	32	Antenna Connection Test
6	33	Handle Switch Bypass Test
7	35	Power Circuit From Accessory Relay To CB Unit Test
8	36	Power Circuit From CB Unit To CB Controller Test
9	38	C.B. Audio Frequency Output Test
10	39	C.B. Volume Control Test
11	40	C.B. Pusu To Talk Switch Signal Test
12	41	Helmet Sound System (and Branch Lead) Test
13	43	C.B. Antenna Adjustment
14	44	Automatic Volume Control Test
15	45	Squelch Signal Test
16	46	Press To Talk Signal Test

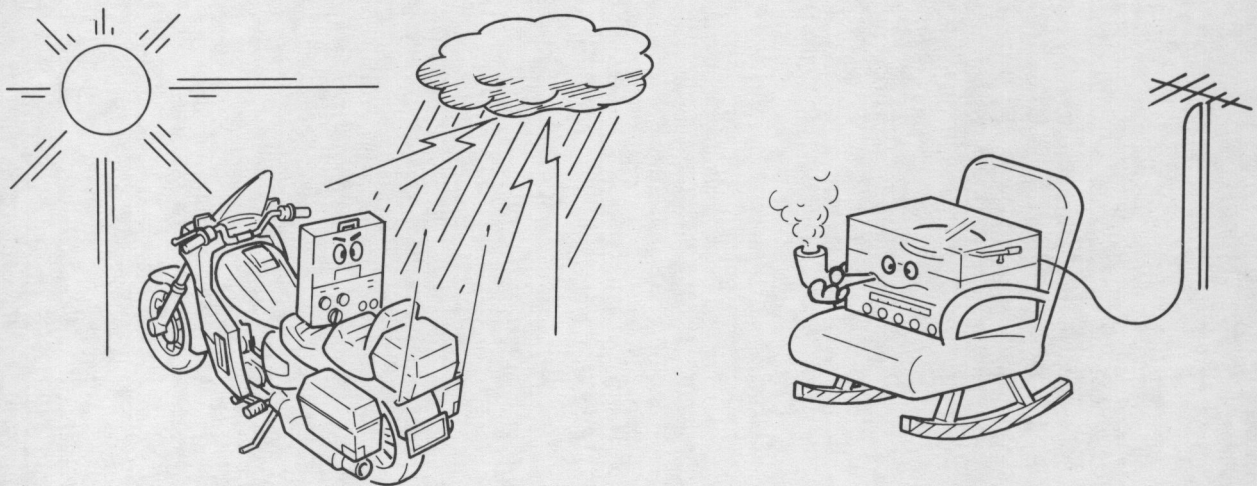
RADIO CHARACTERISTICS

Motorcycle radio receivers are more sophisticated than other receivers, so it will be beneficial to assist the consumer in understanding wave propagation. Radios can be divided into AM (Amplitude Modulation) and FM (Frequency Modulation). Radio signals and reception are affected by certain factors, including atmospheric conditions, strength of radio station signals, physical location of motorcycle electrical accessories on motorcycle, etc. Understanding these limitations, will help you minimize these conditions.

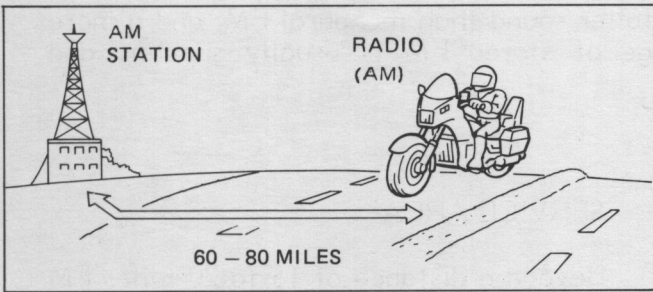


MOTORCYCLE RADIO vs. HOMESTEREO

The radio in a moving vehicle has more difficulty with reception, especially with FM, than a home receiver with a fixed antenna, often located high on the roof. Not only is the motorcycle's antenna relatively short and a compromise in design between the best for AM and FM, but the incoming signal is subject to changes in direction, strength and interference conditions as the vehicle moves. Three kinds of problems are most often encountered in moving vehicles. They are strong signal interference, skip noise (due to weak signal) and multipath noise.

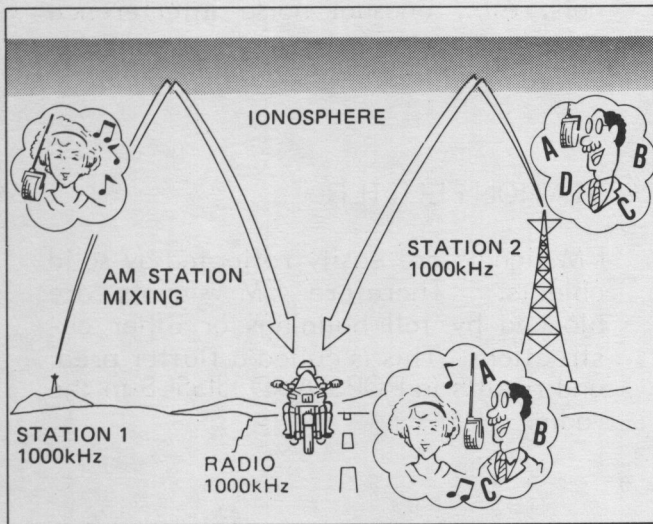


AM SIGNALS



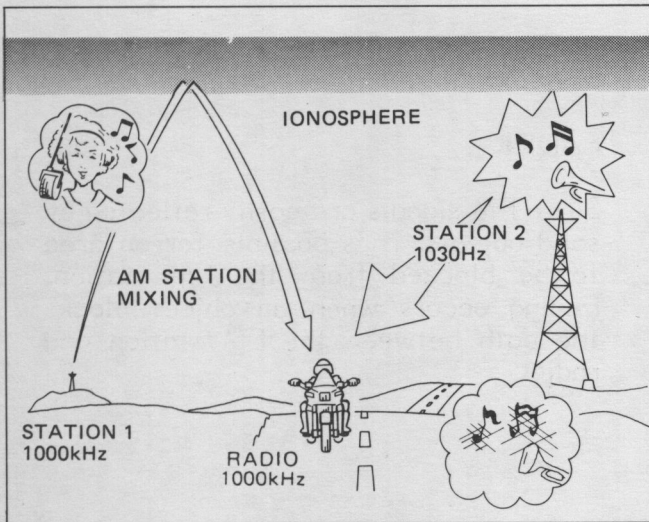
SERVICE AREA

Beyond a distance of 60 to 80 miles from an AM station, the station signal weakens. This causes station mixing and interference on the radio.



STATION MIXING

AM waves bend around objects such as buildings or mountains, and bounce off the ionosphere. Because of this, two stations might be picked up on the same frequency at night. This is called Station Mixing.

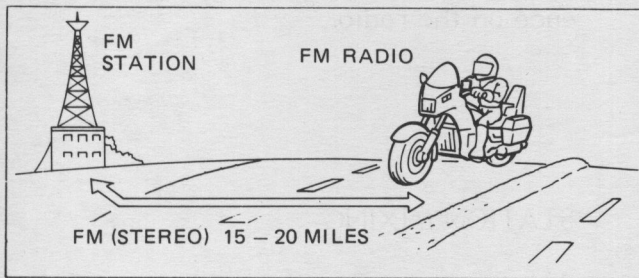


INTERFERENCE

When an adjacent station has a very strong signal, annoying noises may occur while receiving a weaker station. In the worst cases, the adjacent station may interfere. **THIS IS NOT RECEIVER TROUBLE.** This is caused by particular wave conditions.

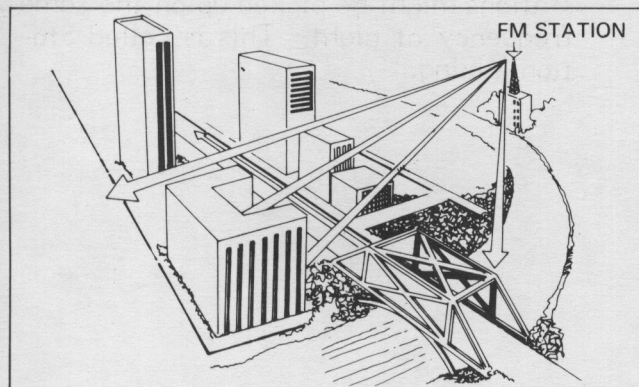
FM SIGNALS

Since stereo FM is a two channel system it has a fuller sound than monaural FM, and a more complex signal. This means the reception range of stereo FM is usually shorter, and reception problems are more apt to occur.



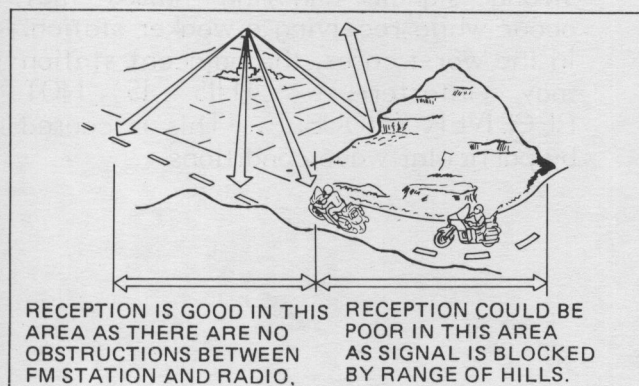
SERVICE AREA

Beyond a distance of 15 to 20 miles FM stations may fade out completely or fade in and out. When driving in weak signal areas, such as hills, valleys, tunnels, etc., unusual noise interference may occur.



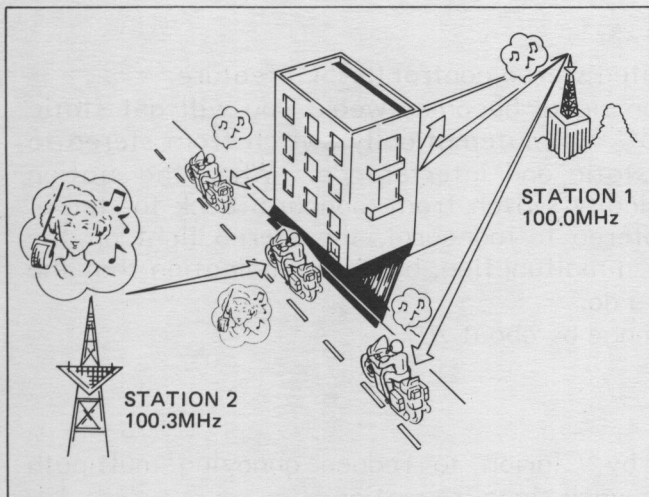
STATION FLUTTER

FM signals are easily reflected by solid objects. Therefore FM signals are blocked by tall buildings or other obstructions. This is called a flutter area, and results in POPS AND HISSES in the radio.



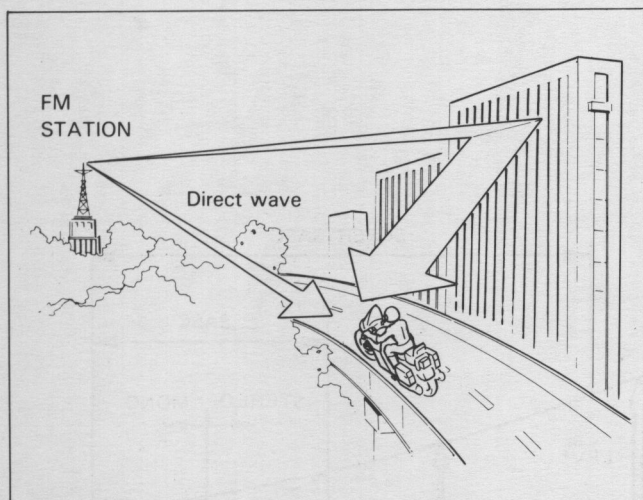
FADING

Since FM signals are easily reflected by solid objects, it is possible for an area to be blocked from the FM station. Fading occurs when an object blocks the path between the FM station and radio.



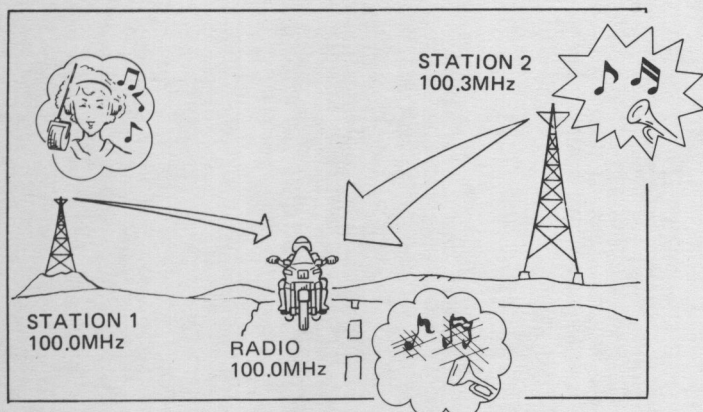
STATION JUMPING (STATION SWAPPING)

FM has a special characteristic called station jumping. This occurs when the frequency of two stations are near each other and a tall building temporarily blocks the desired signals. The Automatic Frequency Control in the radio tunes to the adjacent station until the desired signal returns.



MULTIPATH

Because of the reflecting characteristics of FM signals, like light, direct and reflected signals may reach the motorcycle antenna at the same time, which is called "The multipath effect". Sometimes the direct and reflected signals cancel each other out, causing dead spots. As the motorcycle moves through these spots, the listener will hear a fluctuation of sound. These are the same characteristics as so called "Ghost" images on a TV screen when reflection of TV waves occur.



INTERFERENCE

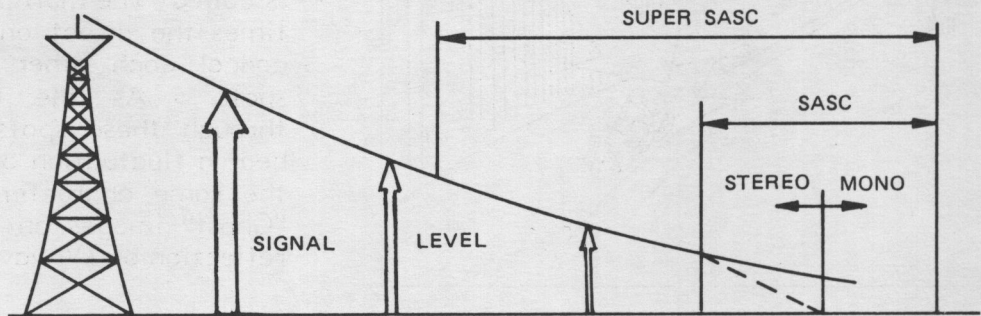
When an adjacent station has a very strong signal, annoying noises may occur while receiving a weaker station. In the worst cases, the adjacent station may interfere.

SASC FEATURE

The Kawasaki motorcycle radio has a signal actuated stereo control (SASC) feature. When listening to a stereo station and the station signal becomes weak, you will get static and interference. If this should happen, the SASC will automatically switch from stereo to monaural, thereby eliminating or reducing the static and interference. When the station signal becomes stronger, the SASC will automatically switch from monaural back to stereo. When the SASC switches back and forth from stereo to monaural, the stereo light on the radio will go on and off accordingly. This is not a malfunction, but is an indication that the SASC is functioning properly, as it was designed to do. The SASC circuit extends the listenable service range by about 20%.

SUPER SASC FEATURE

SUPER SASC is the latest circuit developed by Clarion to reduce annoying multipath distortion in addition to the SASC which improves weak signal reception. SUPER SASC continuously monitors "multipath distortion" and eliminates unacceptable noise automatically by reducing high frequency response.



TROUBLESHOOTING

BEFORE YOU BEGIN

- Did you read the Radio Characteristics section? You and your customer must understand normal reception characteristics and limitations. Remember, that radio signals and reception can be affected by atmospheric conditions, strength of radio station signals, physical location of the motorcycle, electrical accessories on the motorcycle, etc.
- Check that the battery is fully charged.
- Always use the recommended resistor spark plugs to decrease static.
- If AM and FM reception is poor, check the radio antenna for short to ground.
- If C.B. reception or transmission is poor, check the C.B. antenna for short to ground.
- Thoroughly check internal wiring of connectors before replacing major components.
- Check all connectors. They must be tight, clean and dry.

NOTE:

All suggested numbers of measurement should be read with tolerance of 15%.
For example, Voltage 12 Volts ($12V \pm 15\% = 10.2V - 13.8V$)

NOTE:

When applying the tests shown in the back of this manual, disconnect and reconnect only the wire connectors specified.
Leave other component wiring in place.

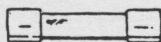
QUICK FUSE FAILURE ANALYSIS

The Voyager audio system components use a total of six fuses. The symptoms associated with fuse failure are described in the table below. The two illustrations on the following page show fuse location. The same fuse reference numbers are used in the table and both illustrations for easy identification.

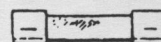
No.	Fuse	System Conditions when Failed	
1	1-amp with main unit	Memory All others	Disappear OK
2	3-amp with main unit	Radio Cassette Display	NO NO NO
3	10-amp at main fuse case for acc. relay and accessory leads	Speakers All others	NO OK
4	1-amp with CB unit	CB memory All others	Disappear OK
5	3-amp with CB unit	CB (all) All others	NO OK
6	3-amp at main fuse case for audio memory power and trunk light	CB and main memory	Disappear

When fuses are found like those in drawing (4), replacing them may solve the problem. Fuses blown as shown in drawing (1), (2), or (3) usually indicate a large current drain caused by a short.

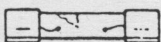
1) Black spot in the tube.



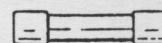
2) White spot in the tube.



3) Cracks in the tube and the tips of the fuse melted.



4) The tube loosened or the fuse inside broken by being pulled.

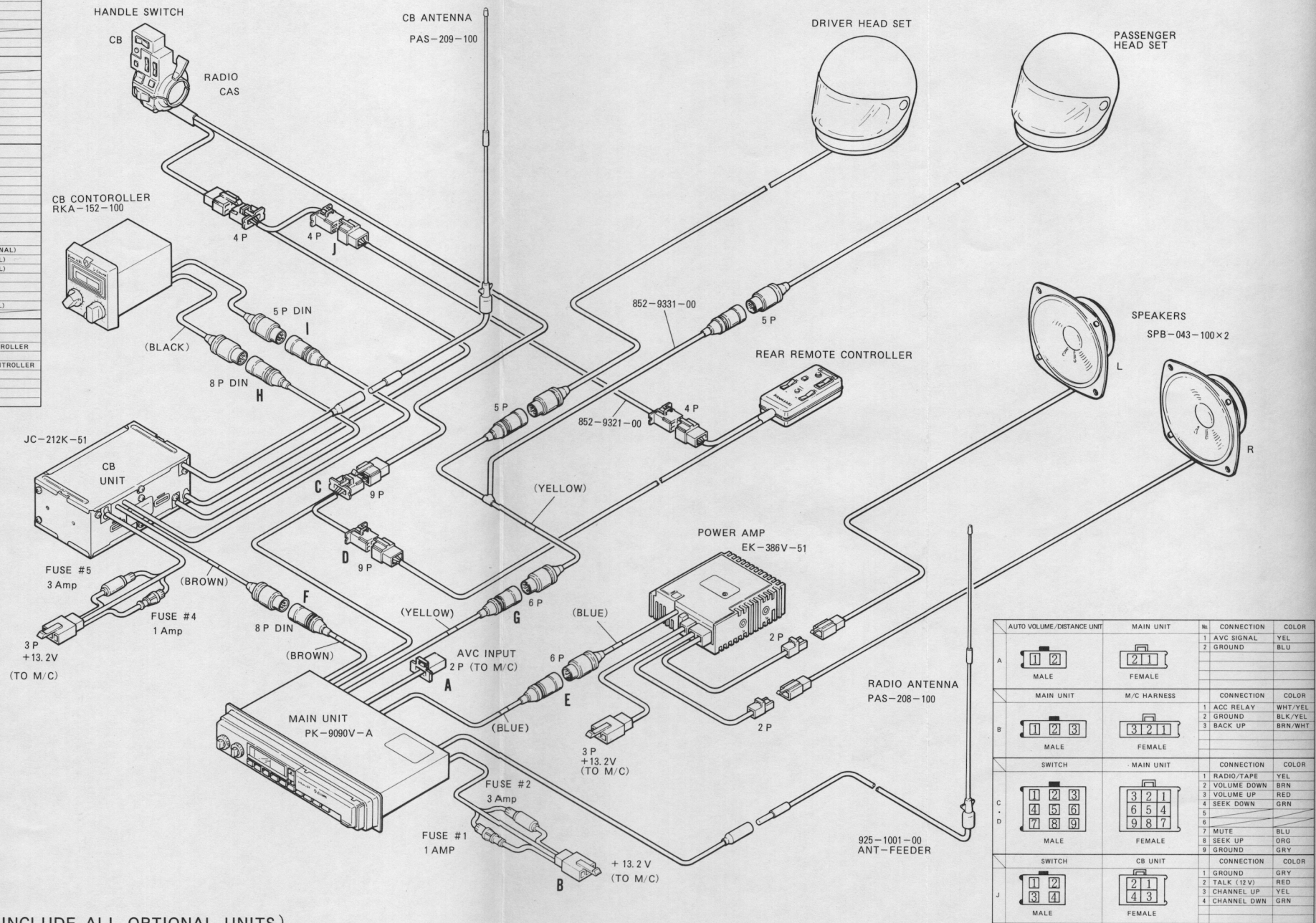


Before replacing a blown fuse, always check the amperage in the affected circuit. If the amperage is equal to or greater than the fuse rating, check the wiring and related components for a short circuit.



When replacing a fuse, be sure the new fuse matches the specified fuse rating for that circuit. Installation of a fuse with a higher rating may cause damage to wiring and components.

	POWER AMP	MAIN UNIT	No.	CONNECTION
E	 MALE	 FEMALE	1	OUTPUT (-)
			2	OUTPUT L (+)
			3	OUTPUT R (+)
			4	12V SUPPLY
			5	GROUND
			6	GROUND
F	 MALE	 FEMALE	1	CONNECTION
			2	CB SOUND OUTPUT
			3	MICROPHONE SIGNAL
			4	SQUELCH SIGNAL
			5	PRESS TO TALK SIGNAL
			6	GROUND
			7	CONTROL SIGNAL 9 VOLT
			8	GROUND
G	 MALE	 FEMALE	1	SPEAKER LH (+)
			2	SPEAKER RH (+)
			3	SPEAKER GROUND
			4	MICROPHONE GROUND
			5	MICROPHONE REAR (+)
			6	MICROPHONE FRONT (+)
H	 MALE	 FEMALE	1	DATA (MICROPROCESSOR SIGNAL)
			2	TX (MICROPROCESSOR SIGNAL)
			3	PA (MICROPROCESSOR SIGNAL)
			4	EARTH
			5	MEMORY 12 VOLT
			6	POWER SUPPLY 12 VOLT
			7	TC (MICROPROCESSOR SIGNAL)
			8	GROUND
I	 MALE	 FEMALE	1	GROUND
			2	POWER 12 VOLT FOR C.B. CONTROLLER
			3	VOLUME CONTROL
			4	POWER 12 VOLT FROM C.B. CONTROLLER
			5	SQUELCH SIGNAL

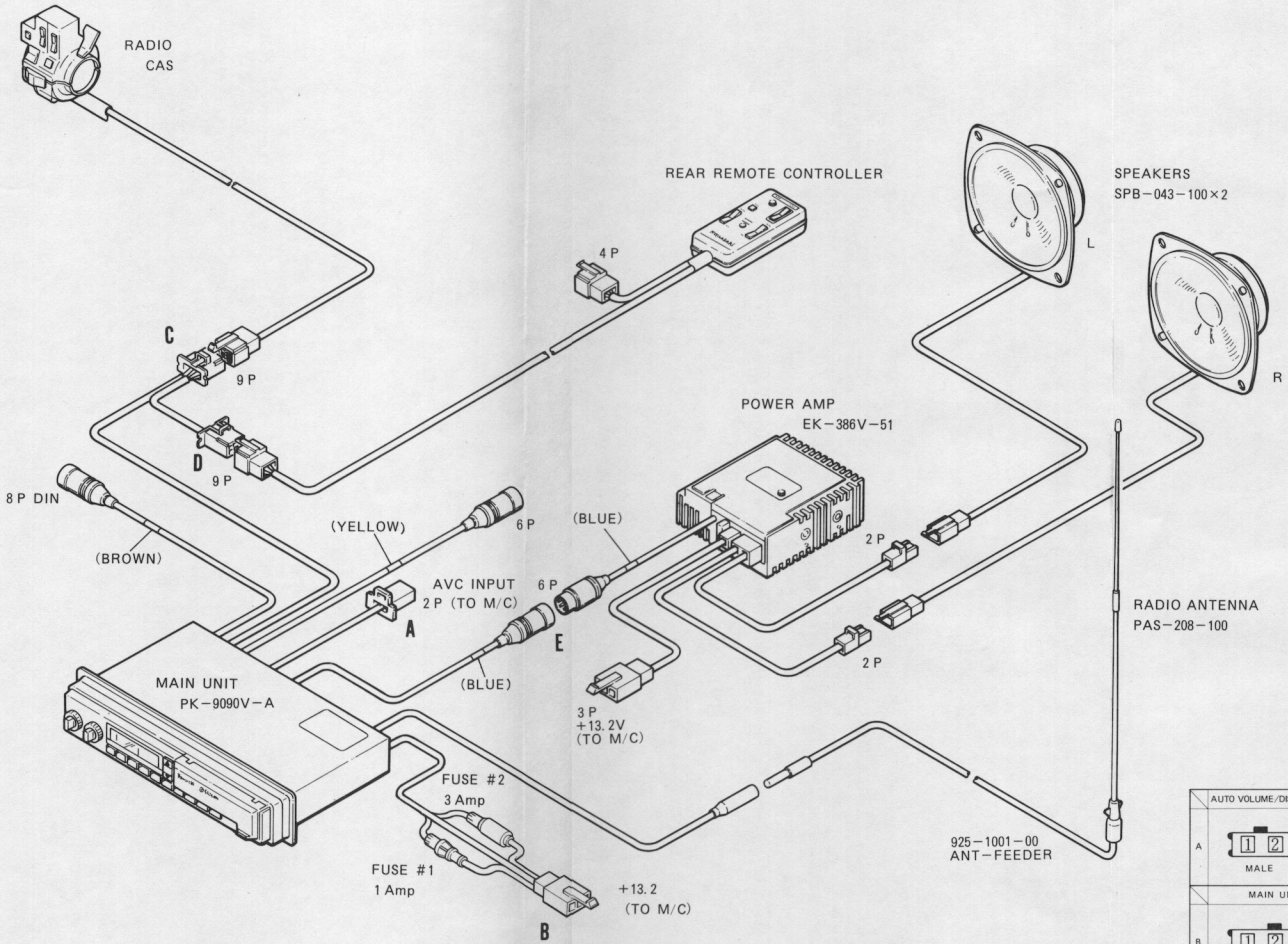


	AUTO VOLUME/DISTANCE UNIT	MAIN UNIT	No.	CONNECTION	COLOR
A	 MALE	 FEMALE	1	AVC SIGNAL	VEL
			2	GROUND	BLU
B	 MALE	 FEMALE	1	AVC RELAY	WHT/YEL
			2	GROUND	BLK/YEL
			3	BACK UP	BRN/WHT
C, D	 MALE	 FEMALE	1	RADIO/TAPE	YEL
			2	VOLUME DOWN	BRN
			3	VOLUME UP	RED
			4	SEEK DOWN	GRN
			5	GROUND	BLU
			6	SEEK UP	ORG
			7	MUTE	BLU
			8	SEEK UP	ORG
			9	GROUND	GRY
J	 MALE	 FEMALE	1	GROUND	GRY
			2	TALK (12V)	RED
			3	CHANNEL UP	YEL
			4	CHANNEL DWN	GRN

WIRING DIAGRAM (INCLUDE ALL OPTIONAL UNITS)

POWER AMP	MAIN UNIT	No.	CONNECTION
1	1	1	OUTPUT (-)
2	2	2	OUTPUT L (+)
3	3	3	12V SUPPLY
4	4	4	OUTPUT R (+)
5	5	5	
6	6	6	

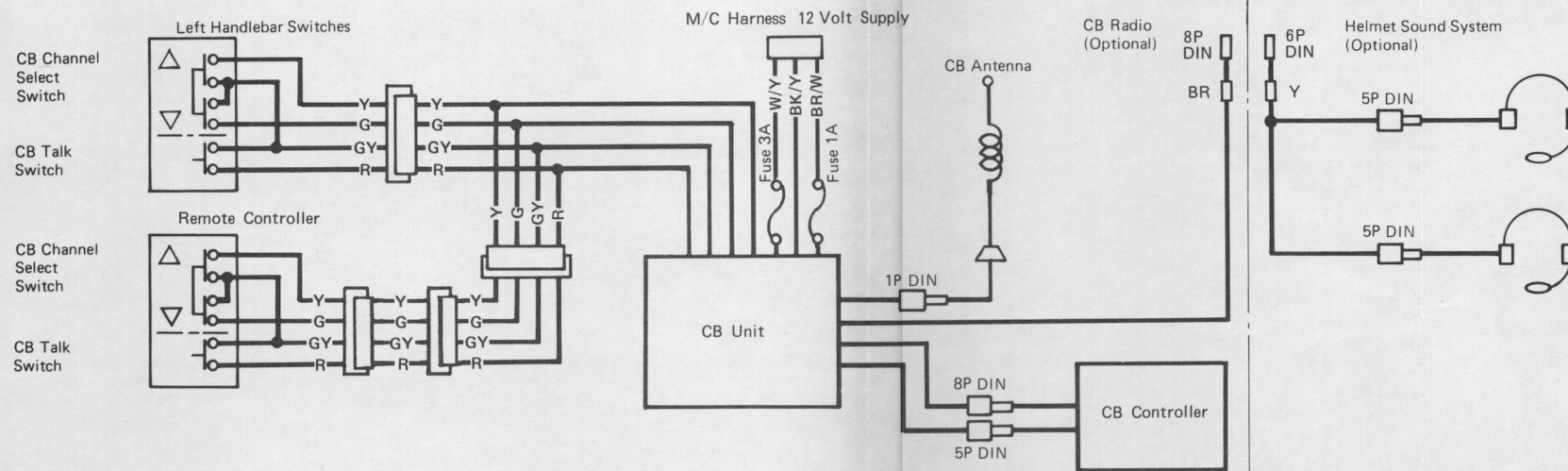
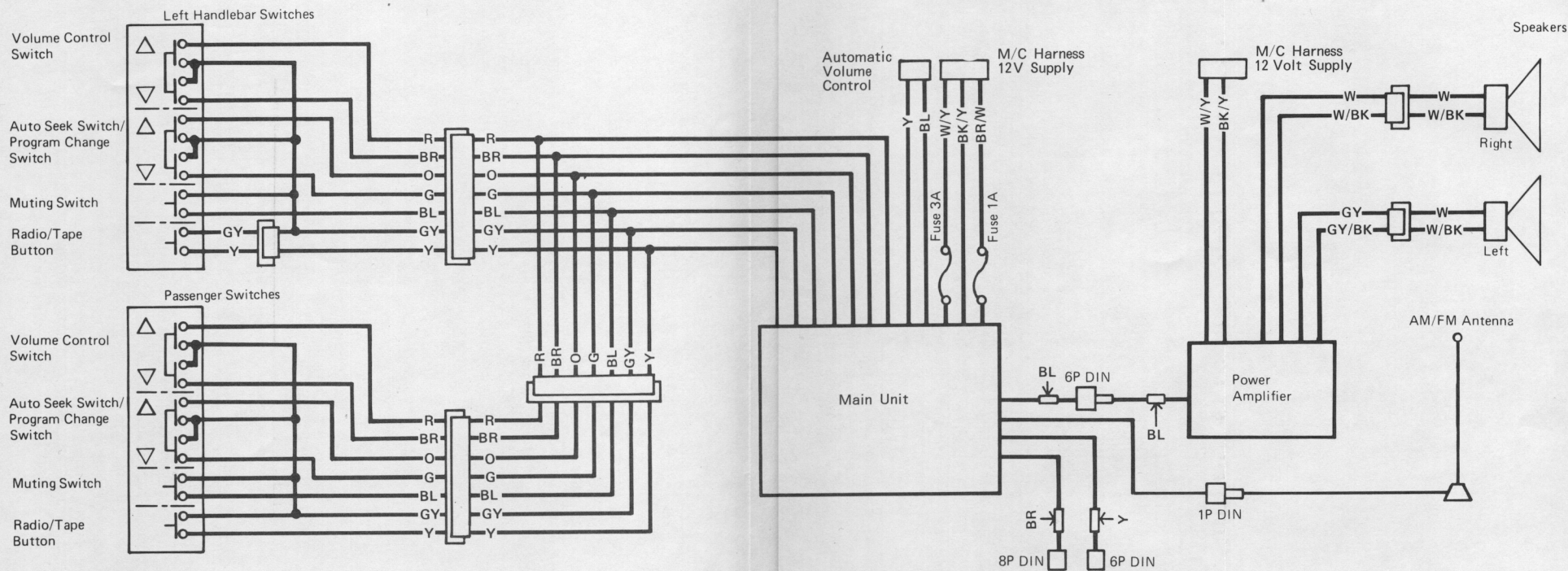
HANDLE SWITCH



AUTO VOLUME/DISTANCE UNIT	MAIN UNIT	No.	CONNECTION	COLOR
A		1	AVC SIGNAL	YEL
		2	GROUND	BLU
MAIN UNIT	M/C HARNESS	CONNECTION		COLOR
B		1	ACC RELAY	WHT/YEL
		2	GROUND	BLK/YEL
		3	BACK UP	BRN/WHT
SWITCH	MAIN UNIT	CONNECTION		COLOR
C + D		1	RADIO/TAPE	YEL
		2	VOLUME DOWN	BRN
		3	VOLUME UP	RED
		4	SEEK DOWN	GRN
		5		
		6		
		7	MUTE	BLU
		8	SEEK UP	ORG
		9	GROUND	GRY

WIRING DIAGRAM (STANDARD)

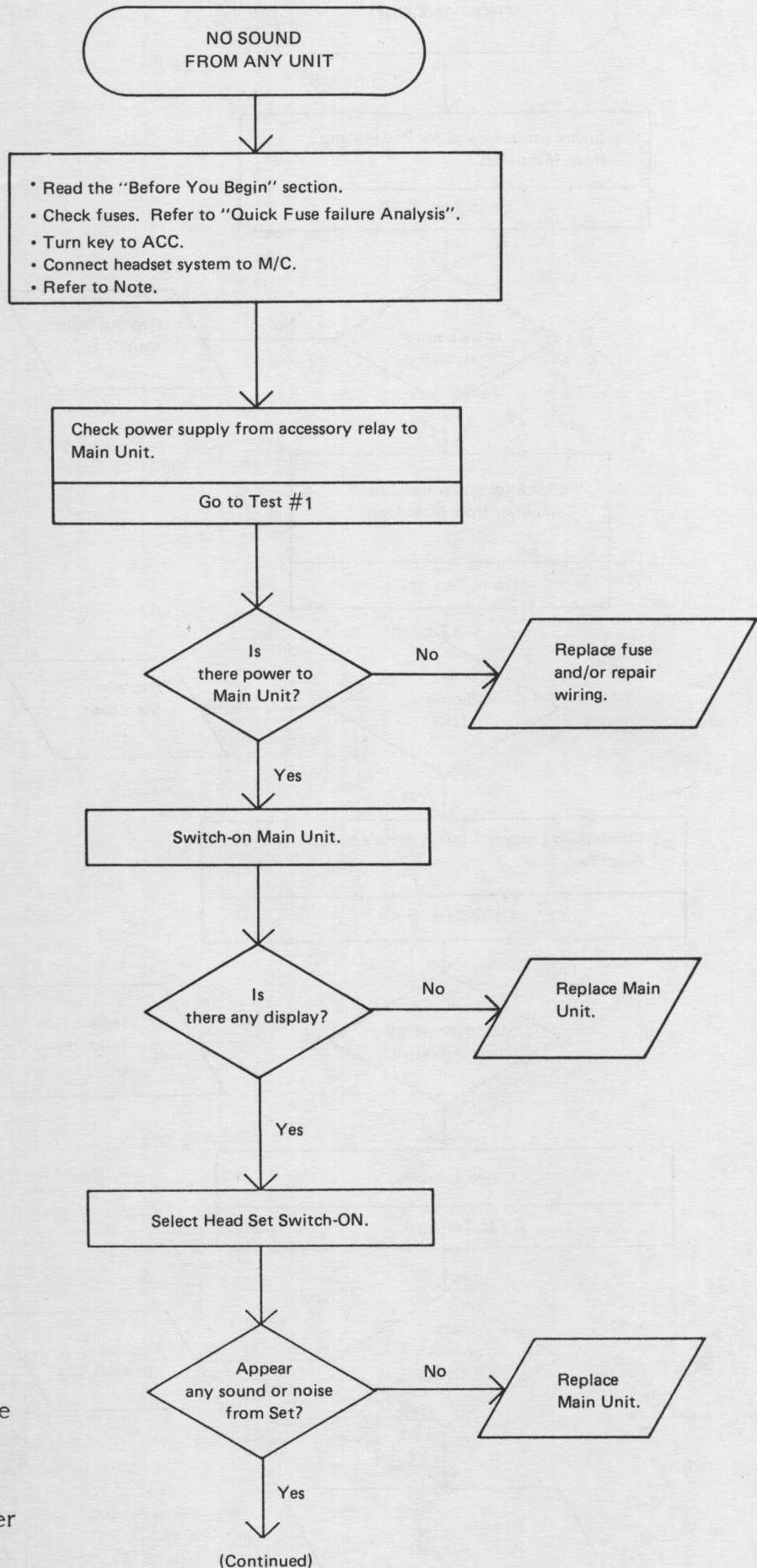
ZG 1200-A 1 Audio System Wiring Diagram



Color Codes :

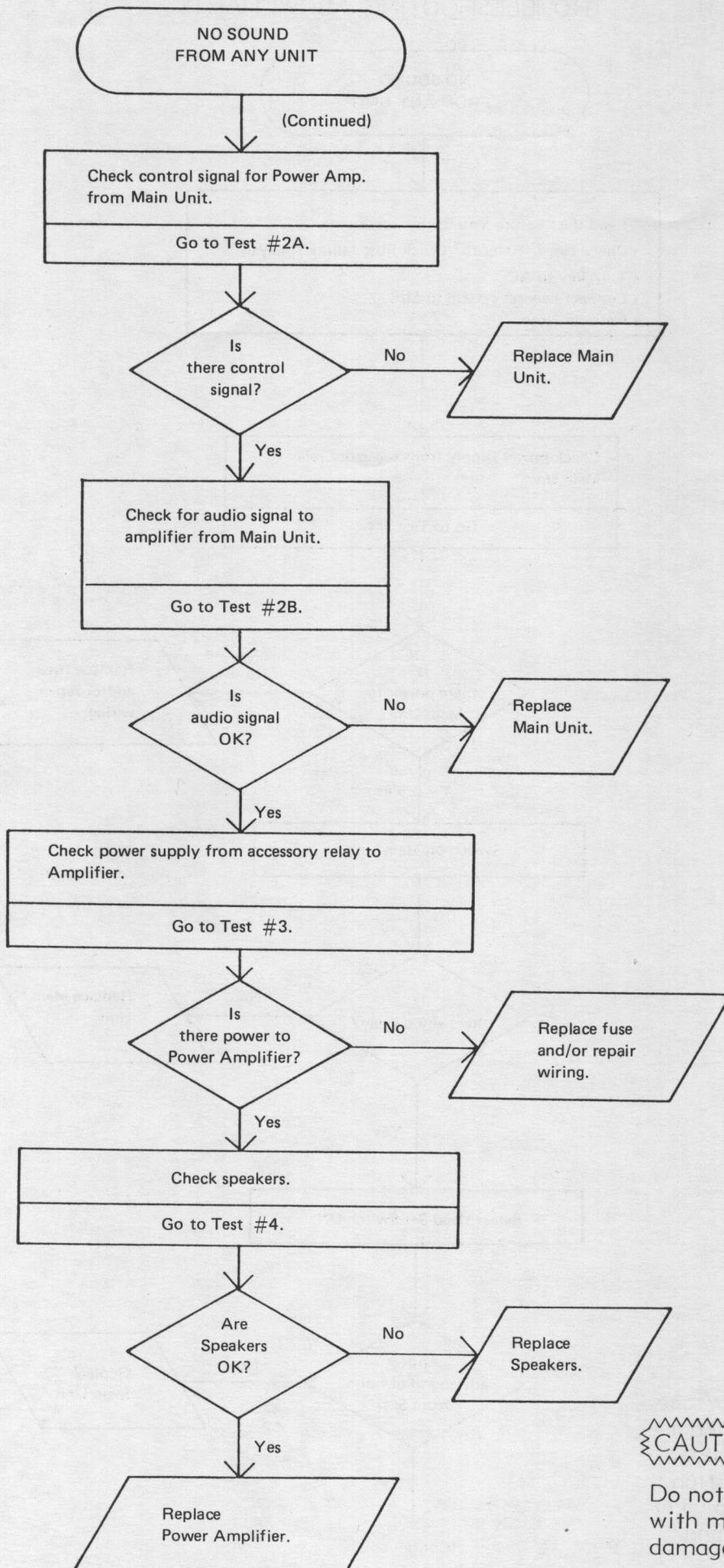
BK	Black
BL	Blue
BR	Brown
CH	Chocolate
DG	Dark green
G	Green
GY	Gray
LB	Light blue
LG	Light green
O	Orange
P	Pink
PU	Purple
R	Red
W	White
Y	Yellow

TROUBLESHOOTING FLOWCHARTS



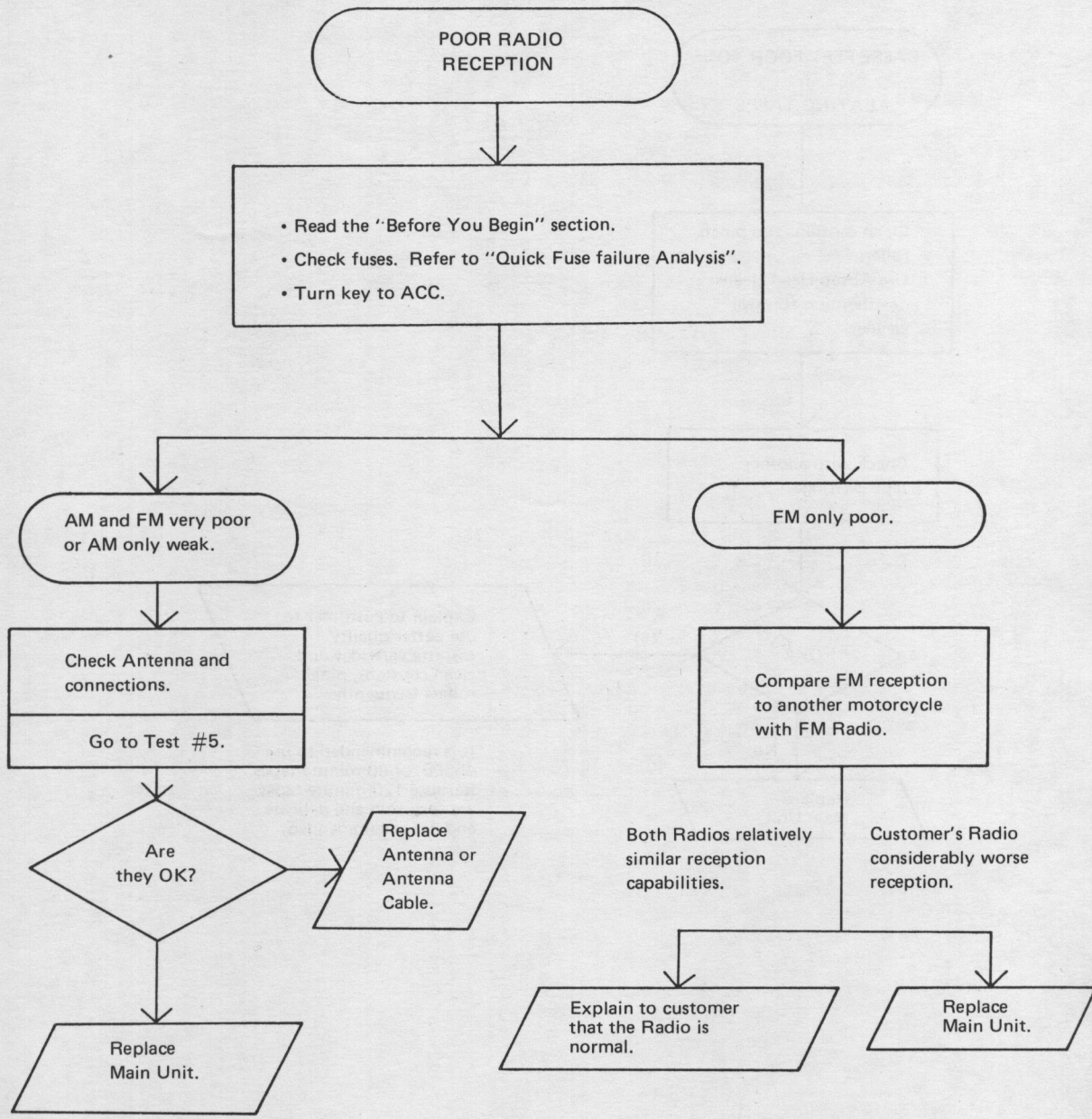
NOTE:

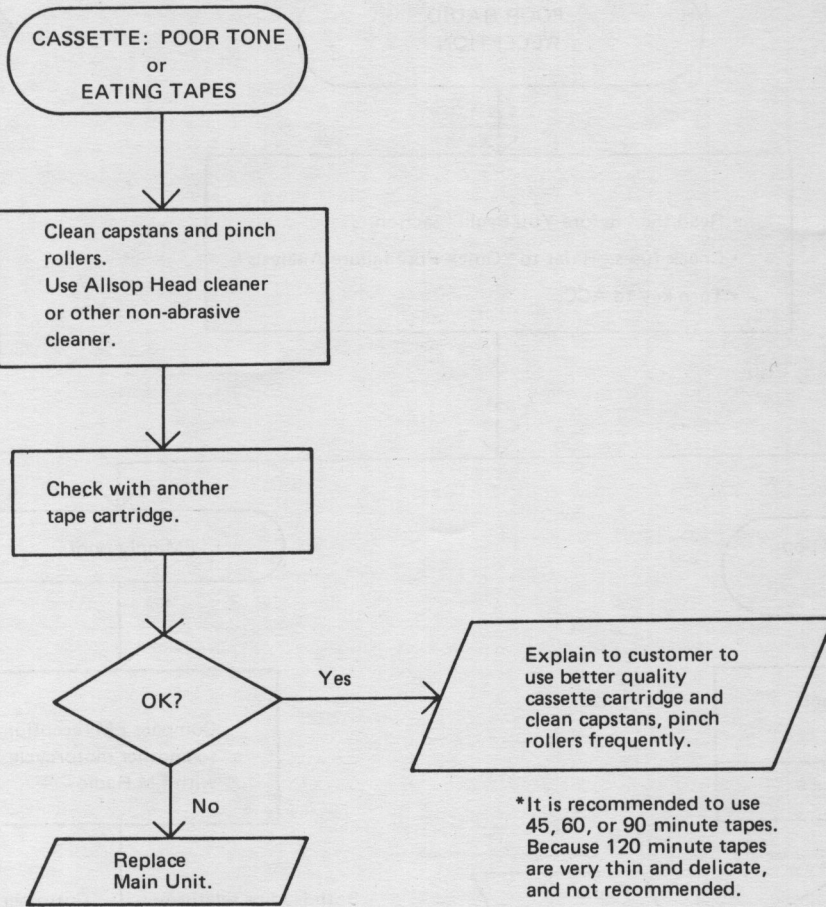
Make sure the radio/tape button on left handlebar switch is in radio mode, and that headset button on main unit is in speaker mode before beginning.



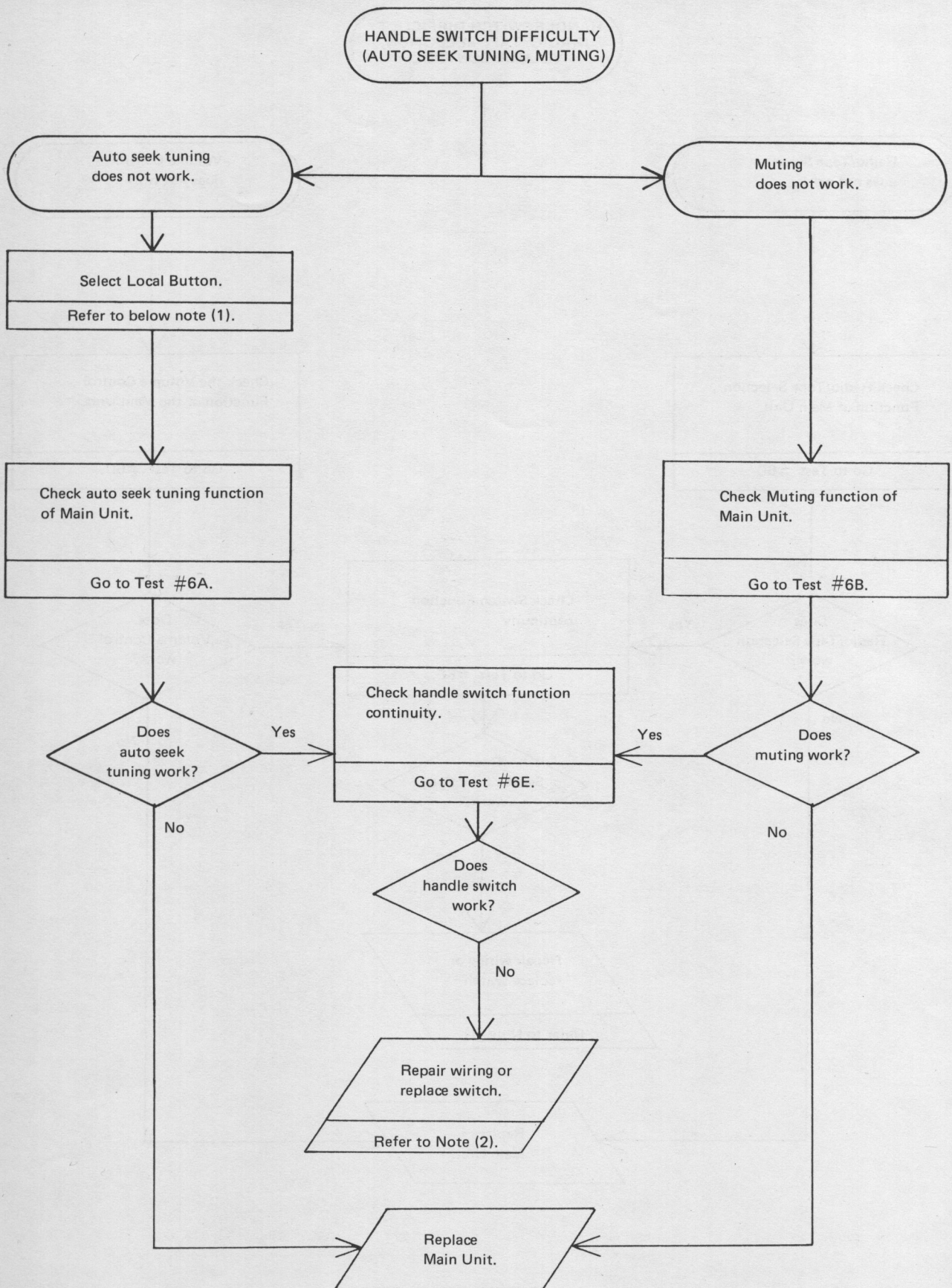
CAUTION

Do not disconnect speakers with main unit on, it can damage main unit output.





*It is recommended to use 45, 60, or 90 minute tapes. Because 120 minute tapes are very thin and delicate, and not recommended.

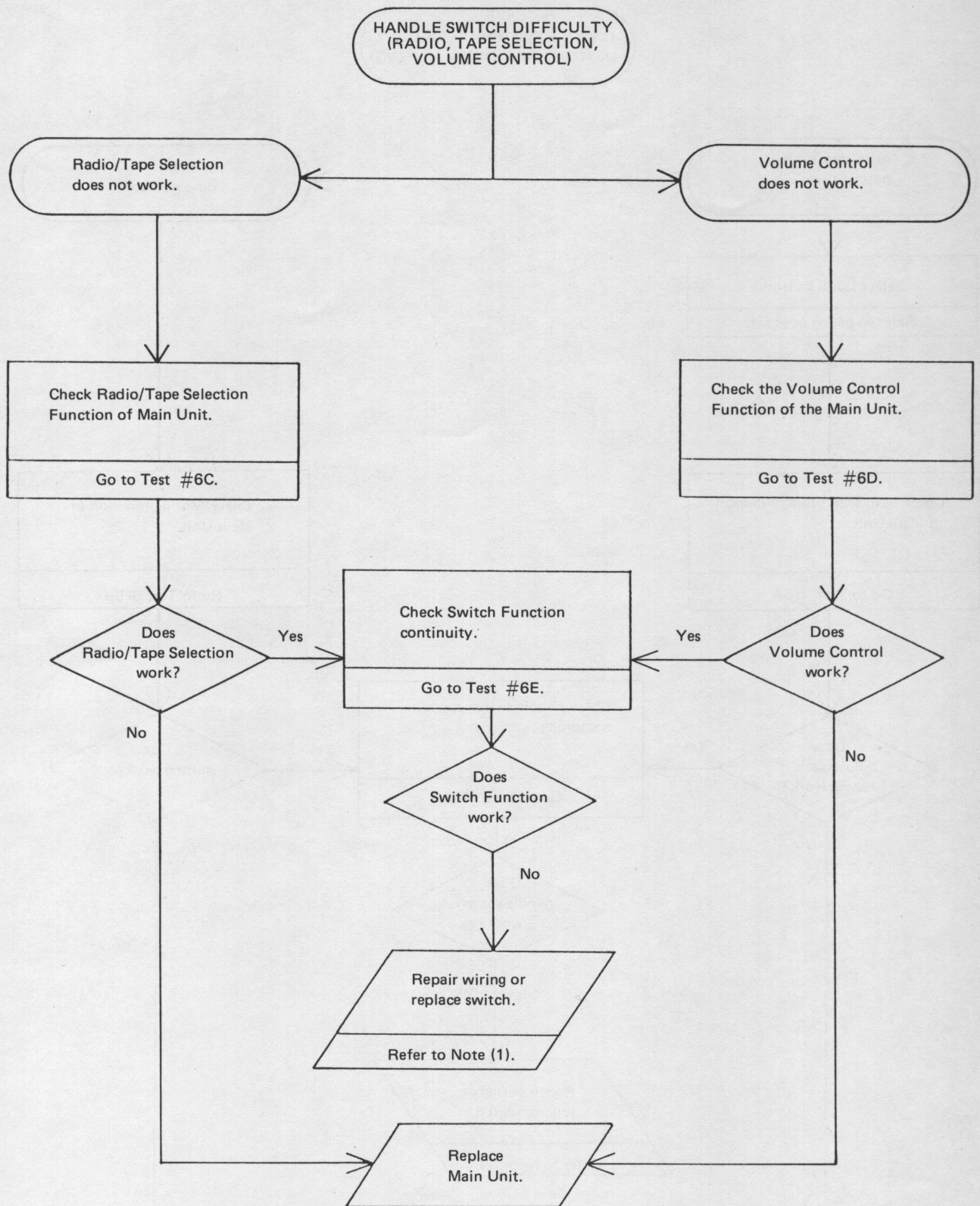


NOTE (1):

Local Button works only when using the auto seek switch. If the station's signal is too strong, push the local button to reduce the signal strength a little. If the station's signal is weak, push the local button again to return to normal operation.

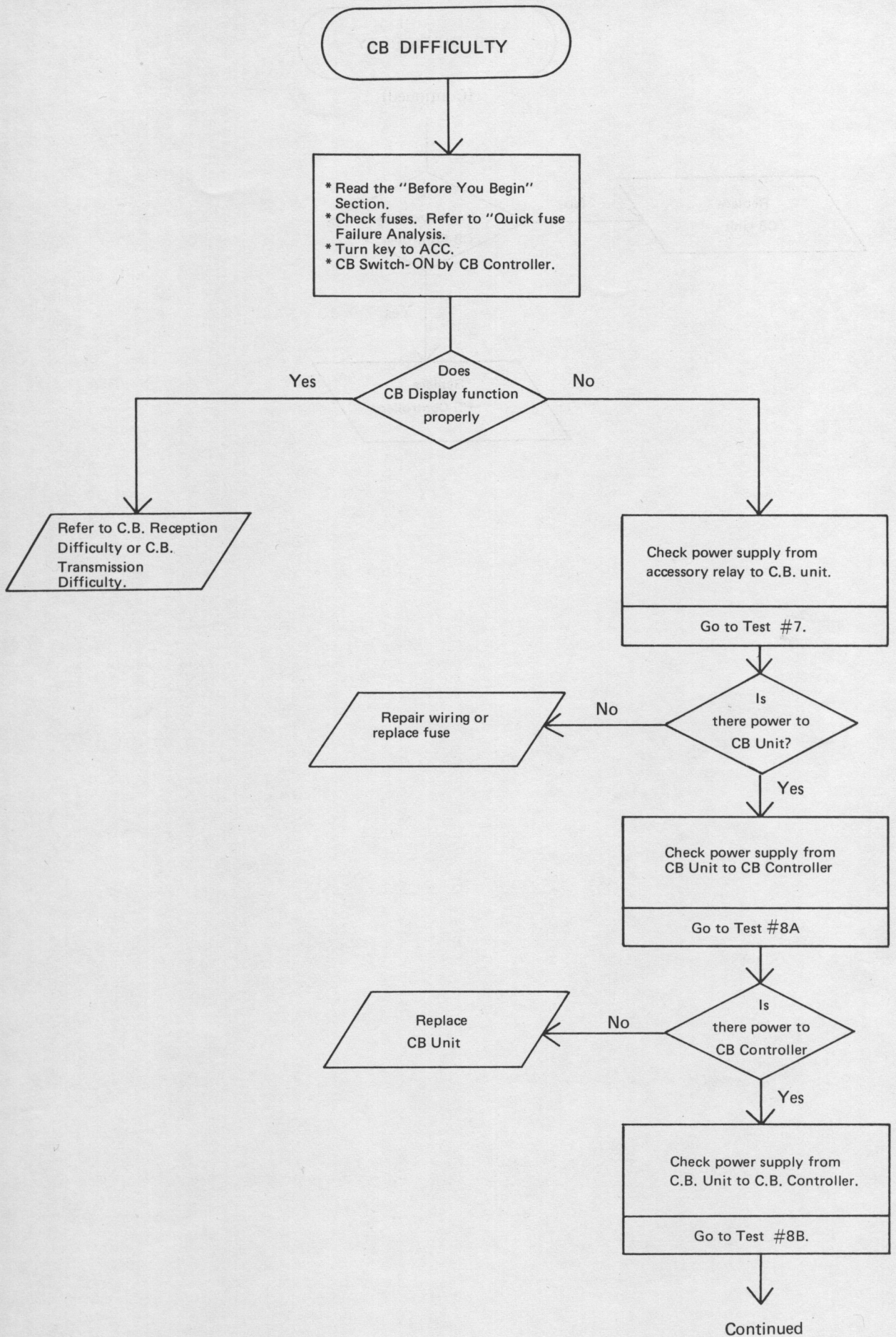
NOTE (2):

The checking of remote controller connector is same procedure as the checking of Handle Switch Connector.



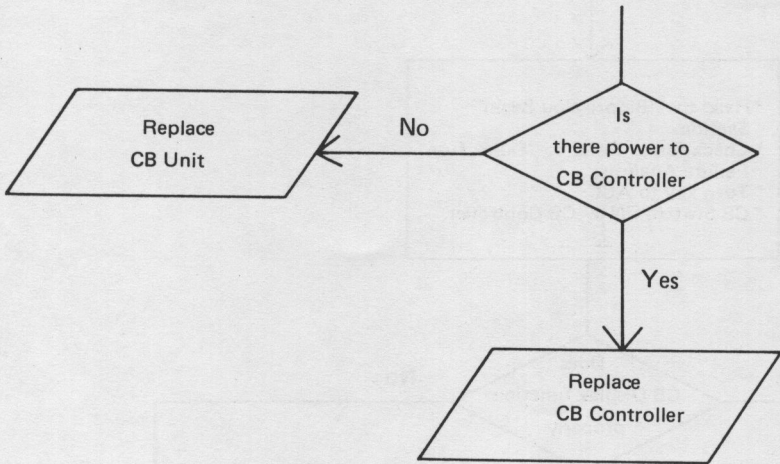
NOTE #1:

The checking of remote controller connector is same procedure as the checking of Handle Switch Connector.



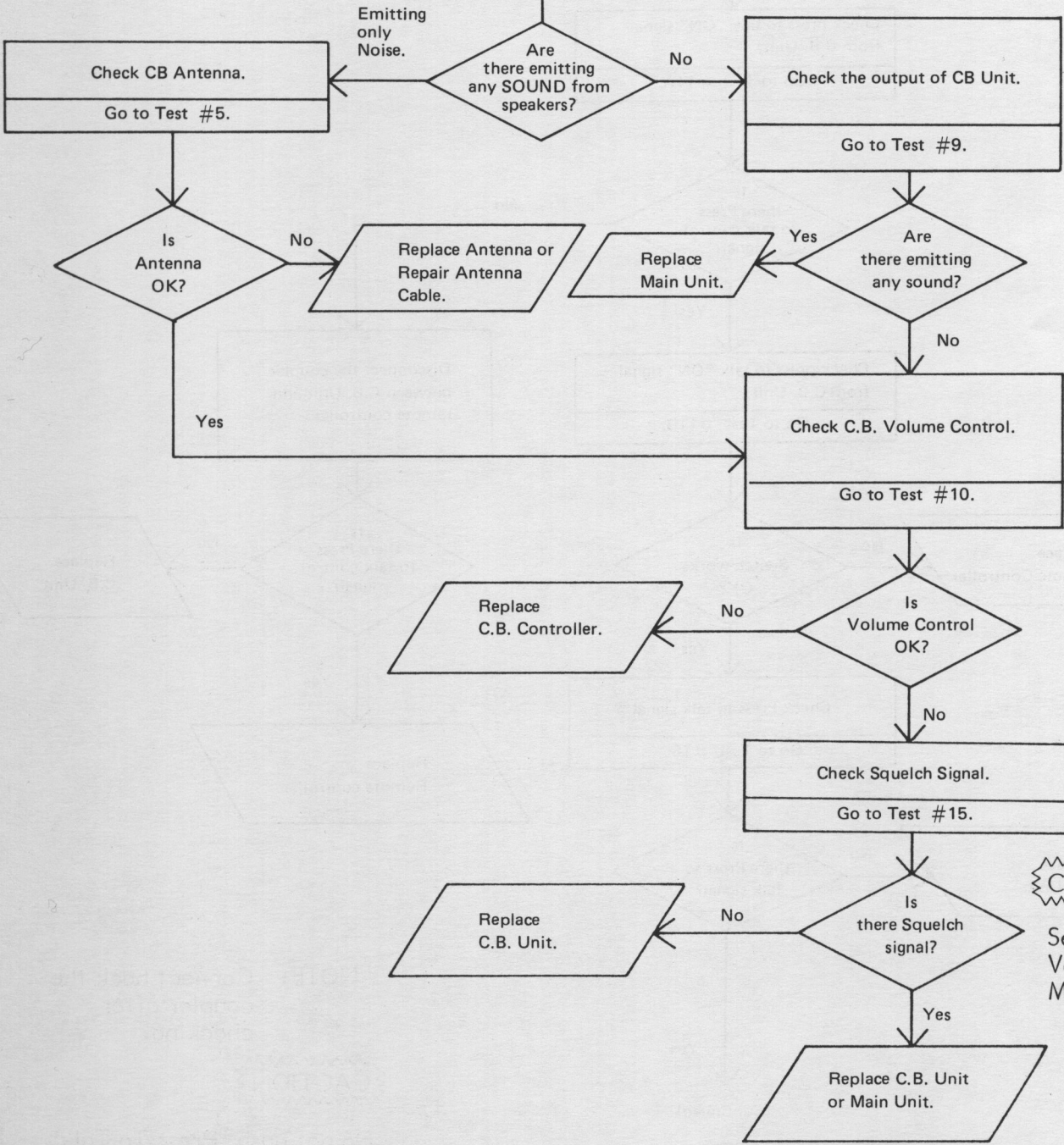
CB DIFFICULTY

(Continued)



C.B. Reception Difficulty

- Read the "Before You Begin" Section.
- Check fuses. Refer to "Quick fuse Failure Analysis."
- Turn key to ACC.
- CB Switch-ON by CB Controller.
- Set Squelch in Low Position.
- Set Volume AT 1/2 Maximum.



CAUTION
Set Squelch Volume at Maximum

C.B. TRANSMISSION
DIFFICULTY

• Read the "Before You Begin" section.
• Check fuses. Refer to "Quick fuse Failure Analysis."
• Turn Key to ACC.
• C.B. Switch-ON by C.B. Controller.

Check press to talk "ON" signal from C.B. Unit.
Go to Test #11A.

Is there Press to talk control signal?

No

Yes

Check press to talk "ON" signal from C.B. Unit.
Go to Test #11B.

Disconnect the coupler between C.B. Unit and remote controller.

Is there Press to talk control signal?

No

Yes

Replace Remote Controller.

Replace C.B. Unit.

Is Switch-works OK?

No

Yes

Check Press to talk signal.
Go to Test #16.

Replace Remote controller.

Replace C.B. Unjt.

Is there Press to talk signal?

No

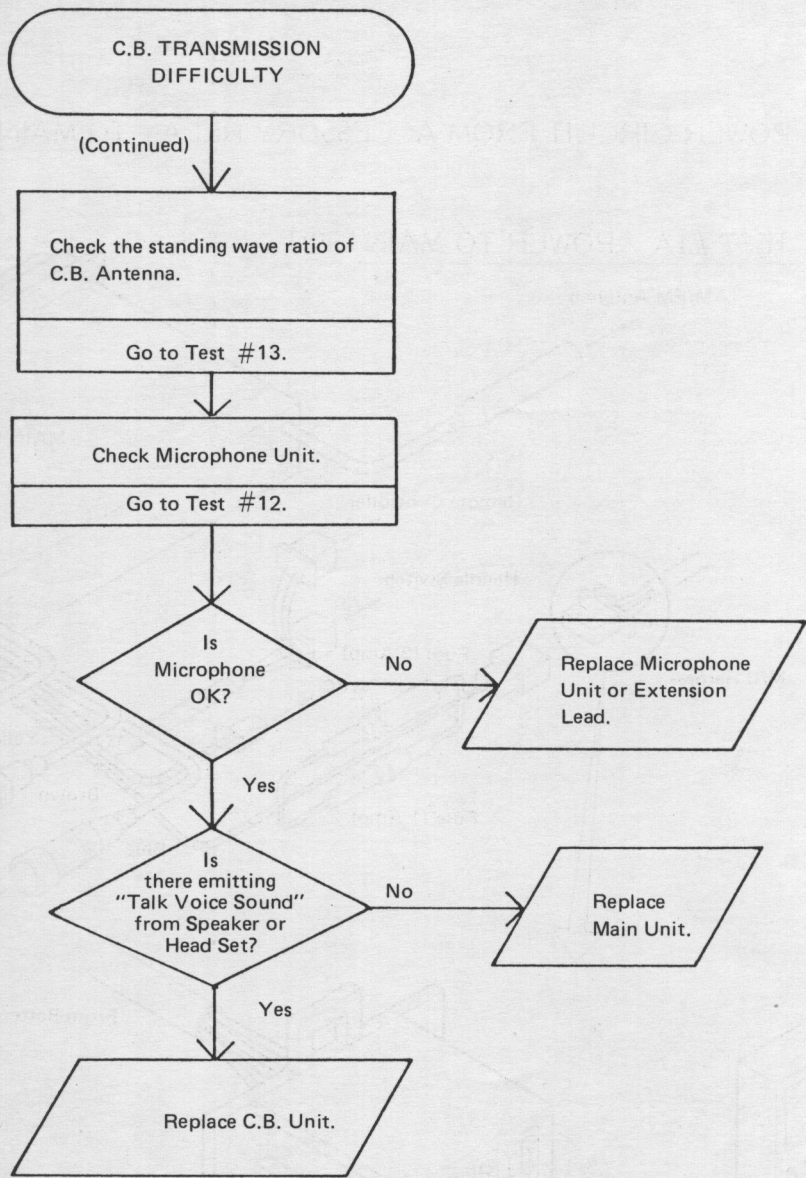
Yes

(Continued)

NOTE: Connect back the coupler after checking.

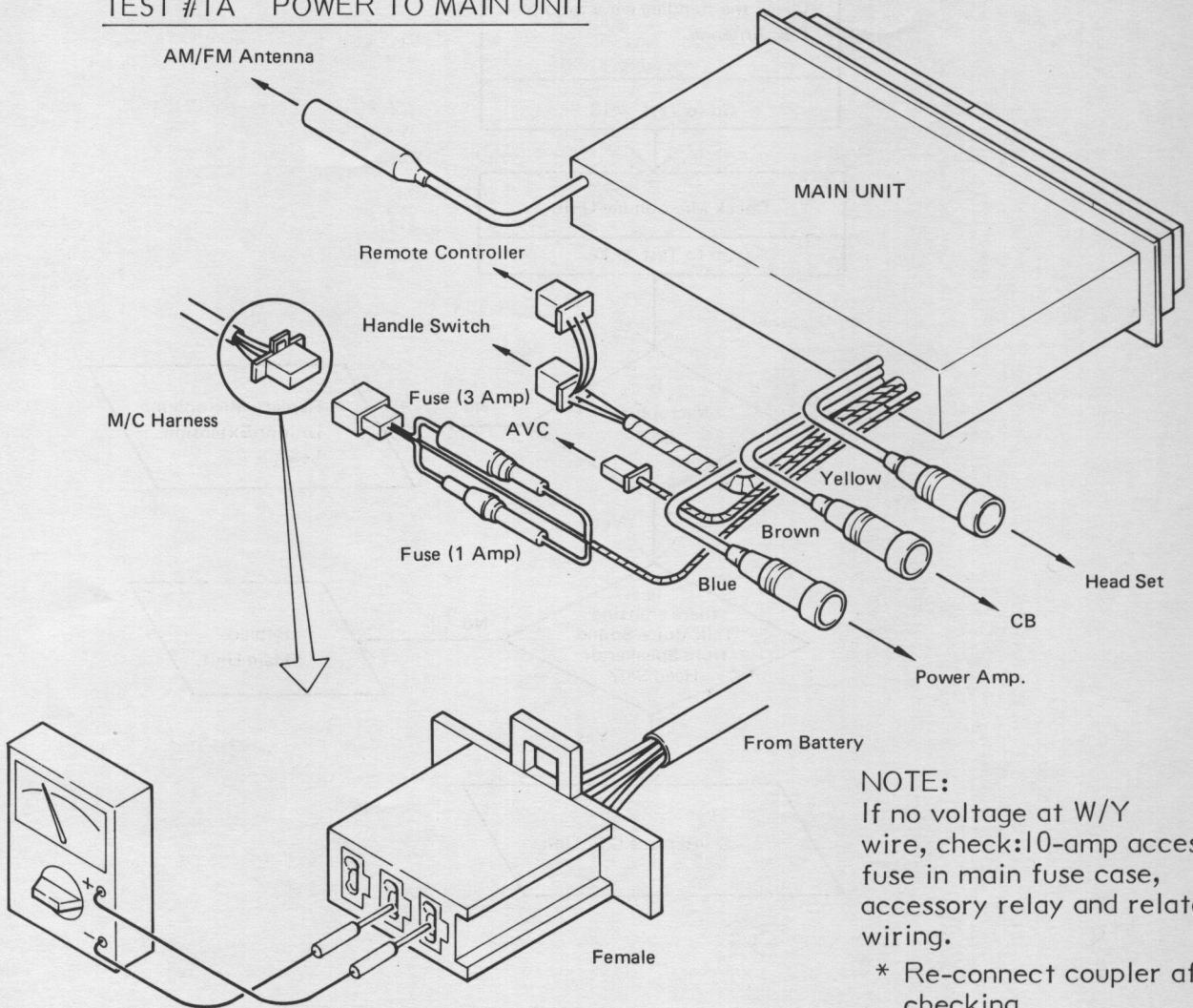
CAUTION

Do not push "Press To Talk" button with C.B. antenna disconnected.



TEST #I POWER CIRCUIT FROM ACCESSORY RELAY TO MAIN UNIT

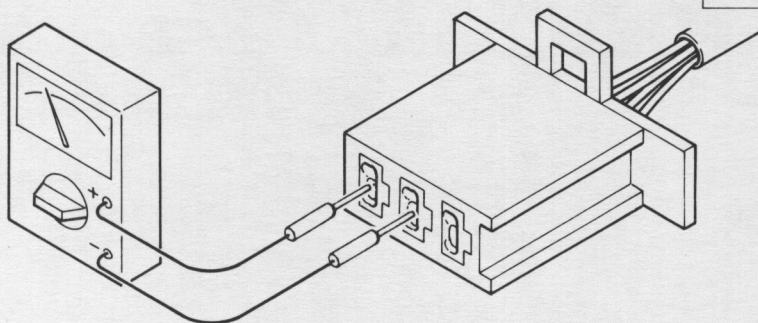
TEST #IA POWER TO MAIN UNIT



Meter should show 12 volts

TEST #IB BACK UP POWER TEST

MAIN UNIT	M/C HARNESS	No.	CONNECTION	COLOR
1	3	1	ACC. RELAY	W/Y
2	2	2	GROUND	BK/Y
3	1	3	AUDIO FUSE	BR/W



Meter should show 12 volts

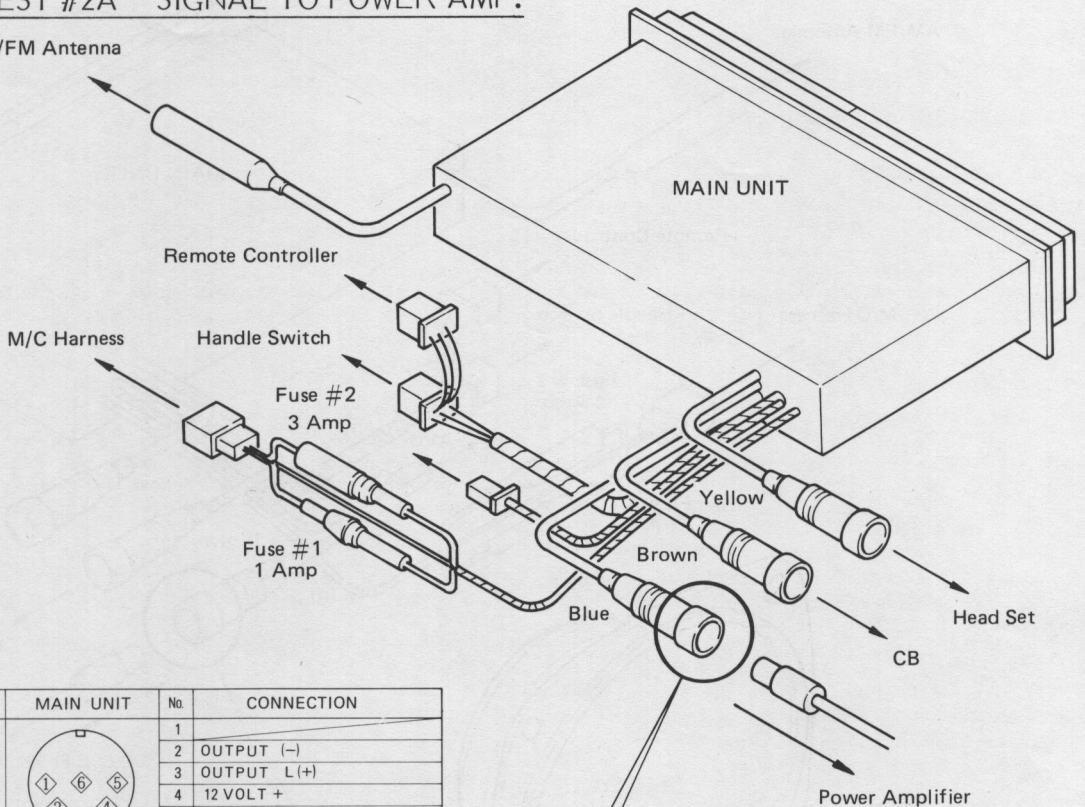
NOTE:
Test memory power with ignition key off.

NOTE:
If no voltage at BR/W wire, (Memory) backup power, check 3-amp fuse (Audio) at main fuse case and related wiring. Ex: trunk light circuit.

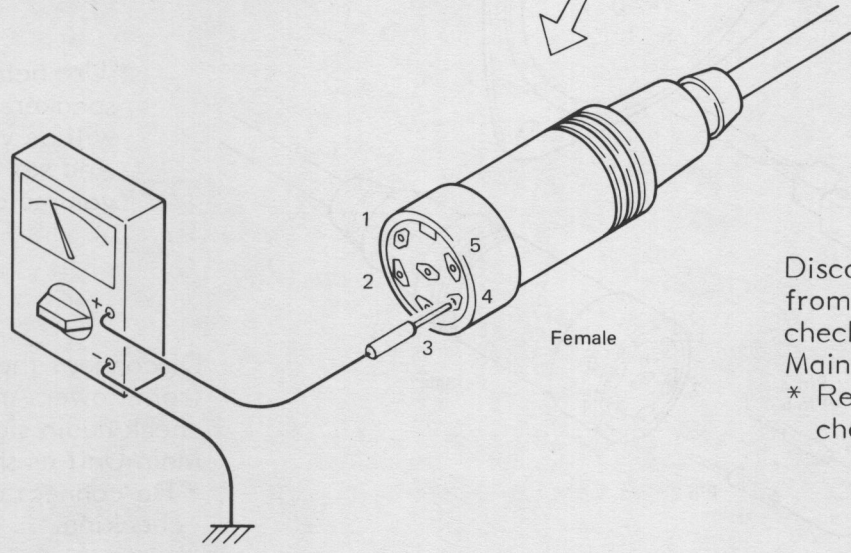
TEST #2 CONTROL SIGNAL FROM MAIN UNIT TO POWER AMPLIFIER

TEST #2A SIGNAL TO POWER AMP.

AM/FM Antenna



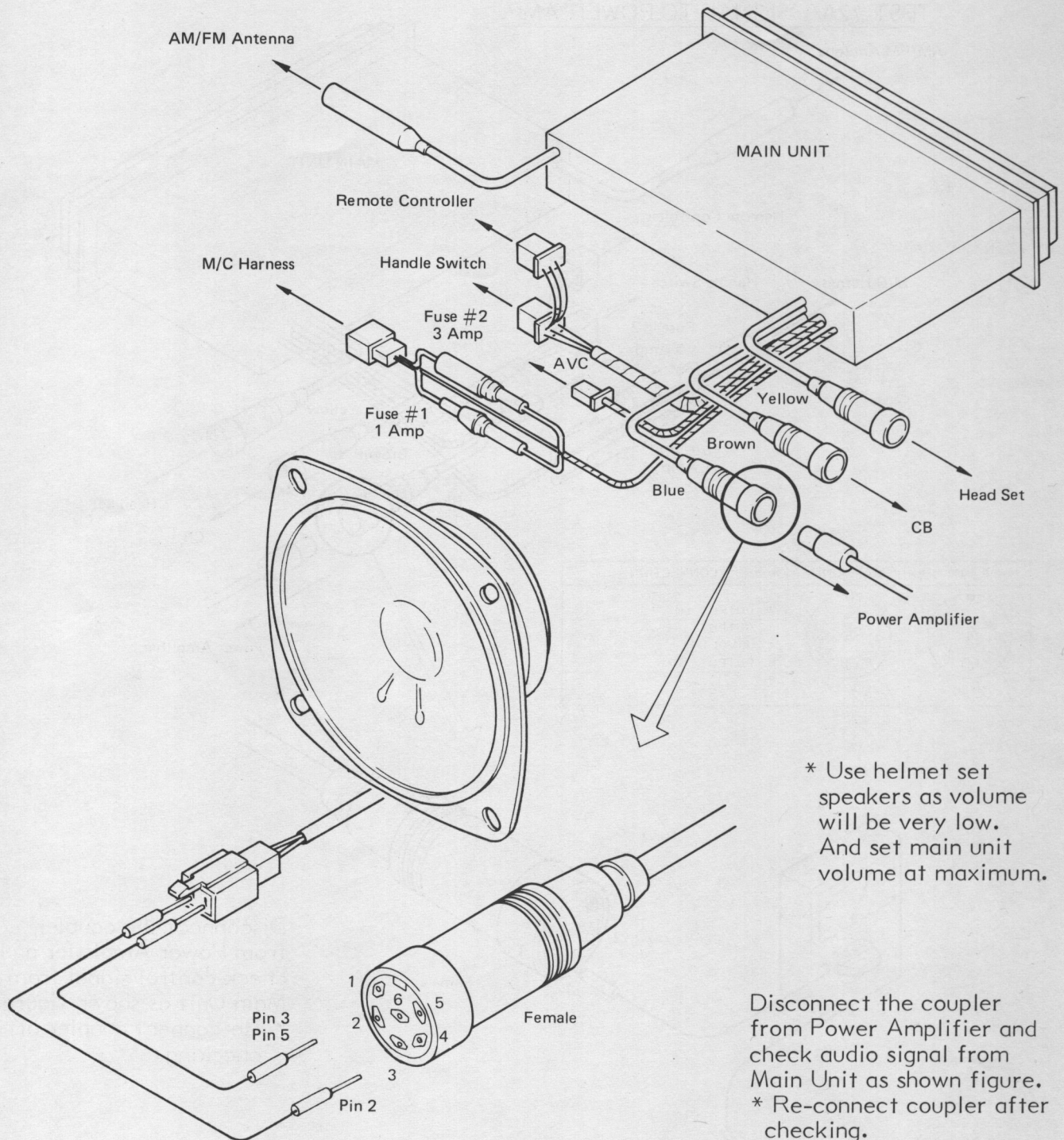
POWER AMPLIFIER	MAIN UNIT	No.	CONNECTION
1	1	1	
2	2	2	OUTPUT (-)
3	3	3	OUTPUT L(+)
4	4	4	12 VOLT +
5	5	5	OUTPUT R(+)
6	6	6	



Meter should show 12 volts

Disconnect the coupler from Power Amplifier and check control signal from Main Unit as shown figure.
* Re-connect coupler after checking

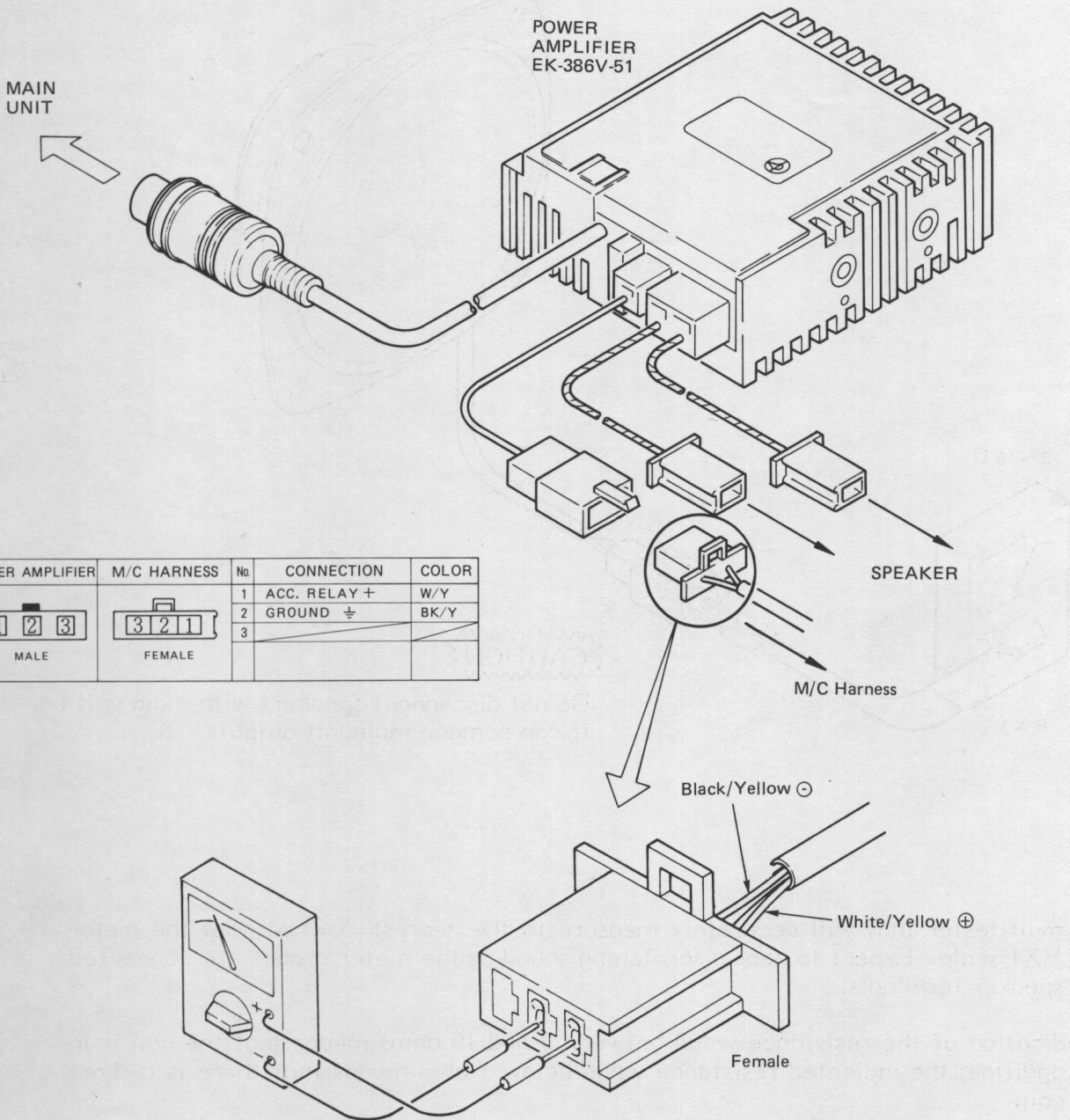
TEST #2B AUDIO SIGNAL FROM MAIN UNIT TO POWER AMPLIFIER
(UNAMPLIFIED)



POWER AMPLIFIER	MAIN UNIT	No.	CONNECTION
1	1	1	
2	2	2	OUTPUT (-)
3	3	3	OUTPUT L(+)
4	4	4	12 VOLT +
5	5	5	OUTPUT R(+)
6	6	6	

TEST #3 POWER CIRCUIT FROM ACCESSORY RELAY TO POWER AMPLIFIER

TEST #3A POWER TO POWER AMPLIFIER

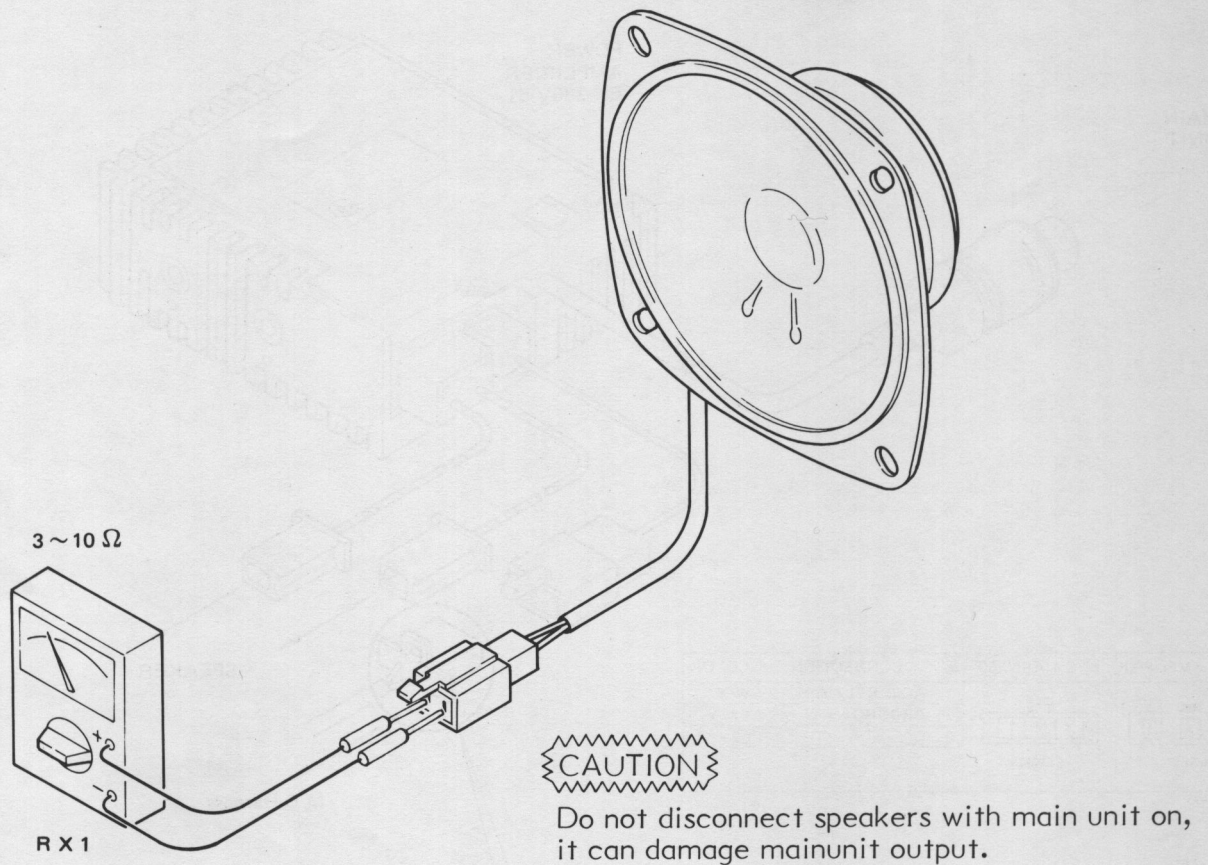


Meter should show 12 volts

NOTE:
If no voltage at W/Y wire,
check: 10-amp accessory fuse
in main fuse case, accessory
relay and related wiring.

NOTE:
Only two wires go to
amplifier. The BR/W
wire should show 12
volts but is not in amp
circuit.
* Re-connect coupler after
checking.

TEST #4 SPEAKER TEST

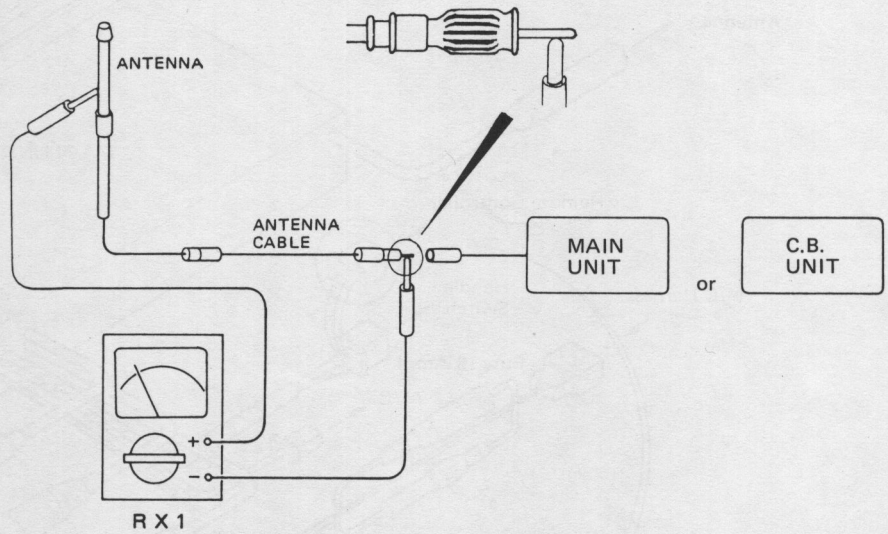


Use a multitester that will accurately measure to the nearest .5 OHM. Set the meter on the RX1 scale. Expect to hear a scratching sound as the meter probes are connected to the speaker terminals.

The indication of the resistance value between 3 and 10 ohms means that the coil is in good condition; the indicated resistance value below 1 ohm means that there is a short in the coil.

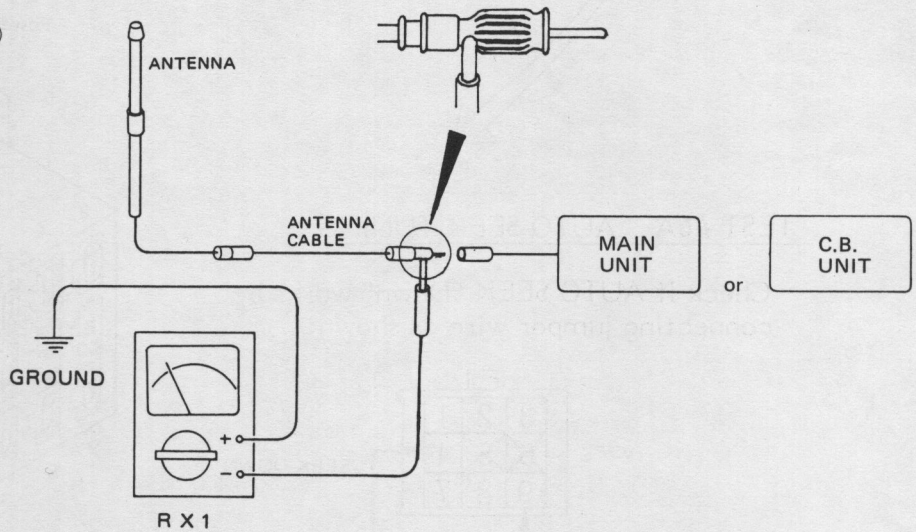
TEST #5 ANTENNA CONNECTION TEST

TEST #5 - (A)



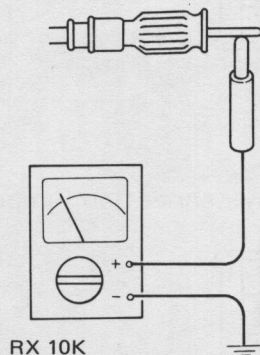
The meter should indicate almost ZERO Ω .

TEST #5 - (B)



The meter should indicate almost ZERO Ω .

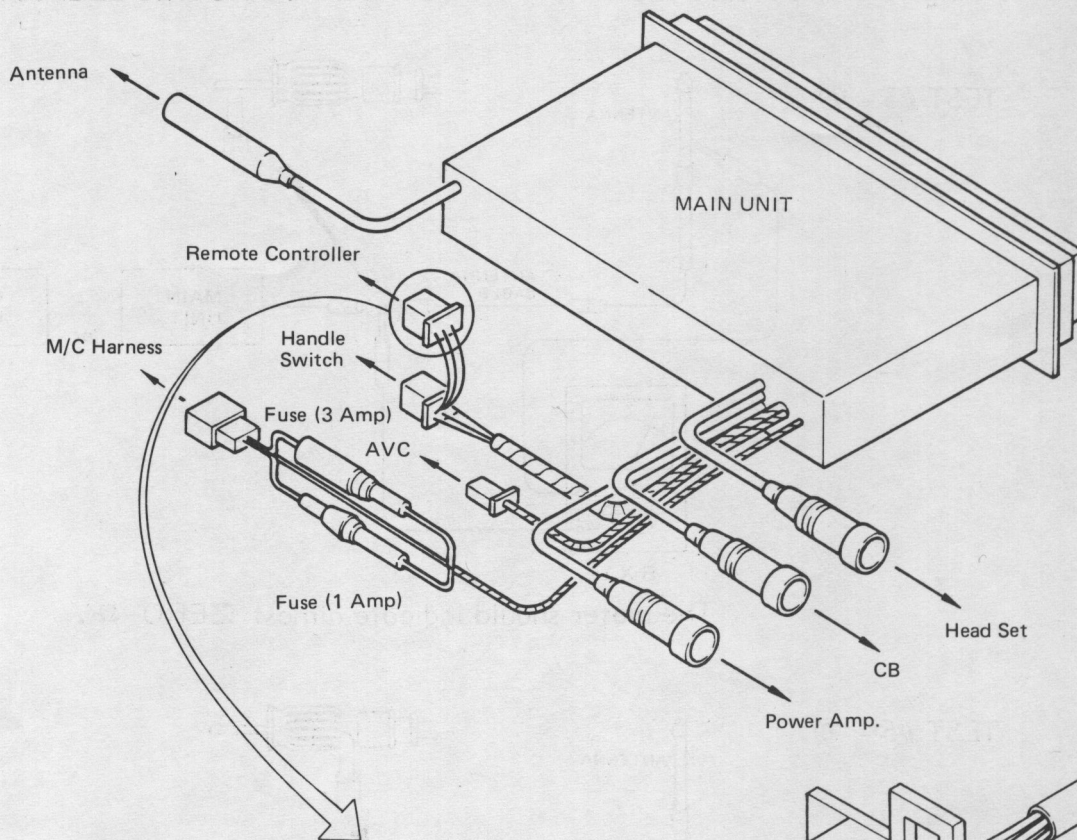
TEST #5 - (C)



Do not push "Press to Talk" button with CB antenna disconnected.

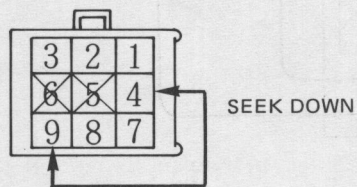
The meter should indicate infinite.

TEST #6 HANDLE SWITCH BYPASS TEST

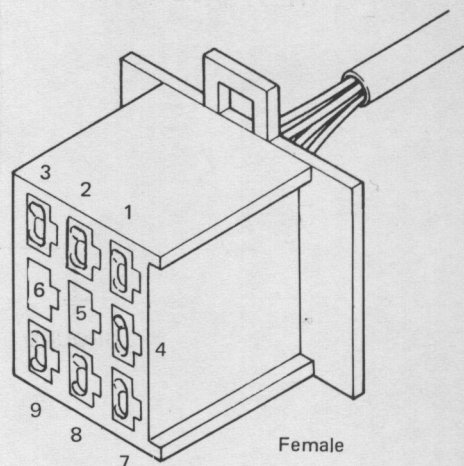
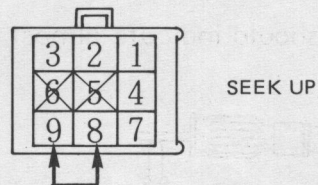


TEST #6A AUTO SEEK TUNING

Check if AUTO SEEK "Down" works by connecting jumper wire as shown:



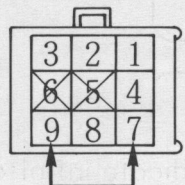
Check if auto seek "up" works by connecting jumper wire as shown:



SWITCH	MAIN UNIT	No.	CONNECTION	COLOR
		1	RADIO/TAPE	YELLOW
		2	VOLUME/DOWN	BROWN
		3	VOLUME/UP	RED
		4	SEEK/DOWN	GREEN
		5		
		6		
		7	MUTE	BLUE
		8	SEEK/UP	ORANGE
		9	GROUND \perp	GREY

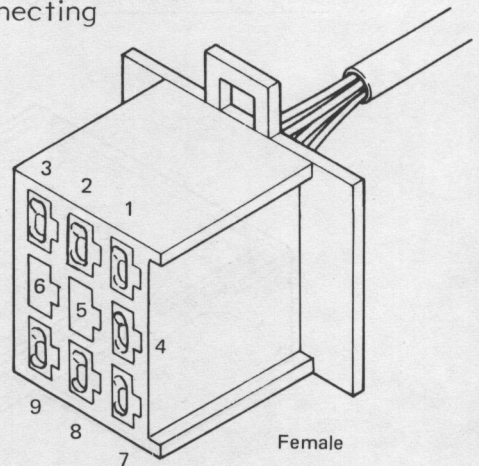
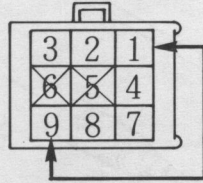
TEST #6B MUTING

Check if Muting works by connecting jumper wire as shown:



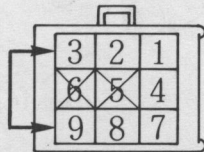
TEST #6C RADIO/TAPE SELECTION

Check if Radio/Tape Selection works by connecting Jumper wire as shown:



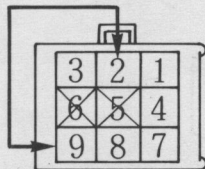
TEST #6D VOLUME CONTROL

Check if Volume Control up works by connecting jumper wire as shown:



Volume increase (Up)

Check if volume controll down works by connecting a jumper wire as shown:



Volume decrease (Down)

TEST #6E HANDLE SWITCH FUNCTION CONTINUITY TEST:

Check each handlebar switch function circuit by connecting an ohm meter between the terminals indicated:

	SWITCH	MAIN UNIT	No.	CONNECTION	COLOR
AUTO. SEEK UP	9 → 8		1	RADIO/TAPE	YELLOW
AUTO. SEEK DOWN	9 → 4		2	VOLUME/DOWN	BROWN
MUTING	9 → 7		3	VOLUME/UP	RED
RADIO/TAPE :	9 → 1		4	SEEK/DOWN	GREEN
VOLUME CONTROL UP :	9 → 3		5		
VOLUME CONTROL DOWN :	9 → 2		6		
			7	MUTE	BLUE
			8	SEEK/UP	ORANGE
			9	GROUND \perp	GREY

Pushing the button in = closed circuit 0Ω

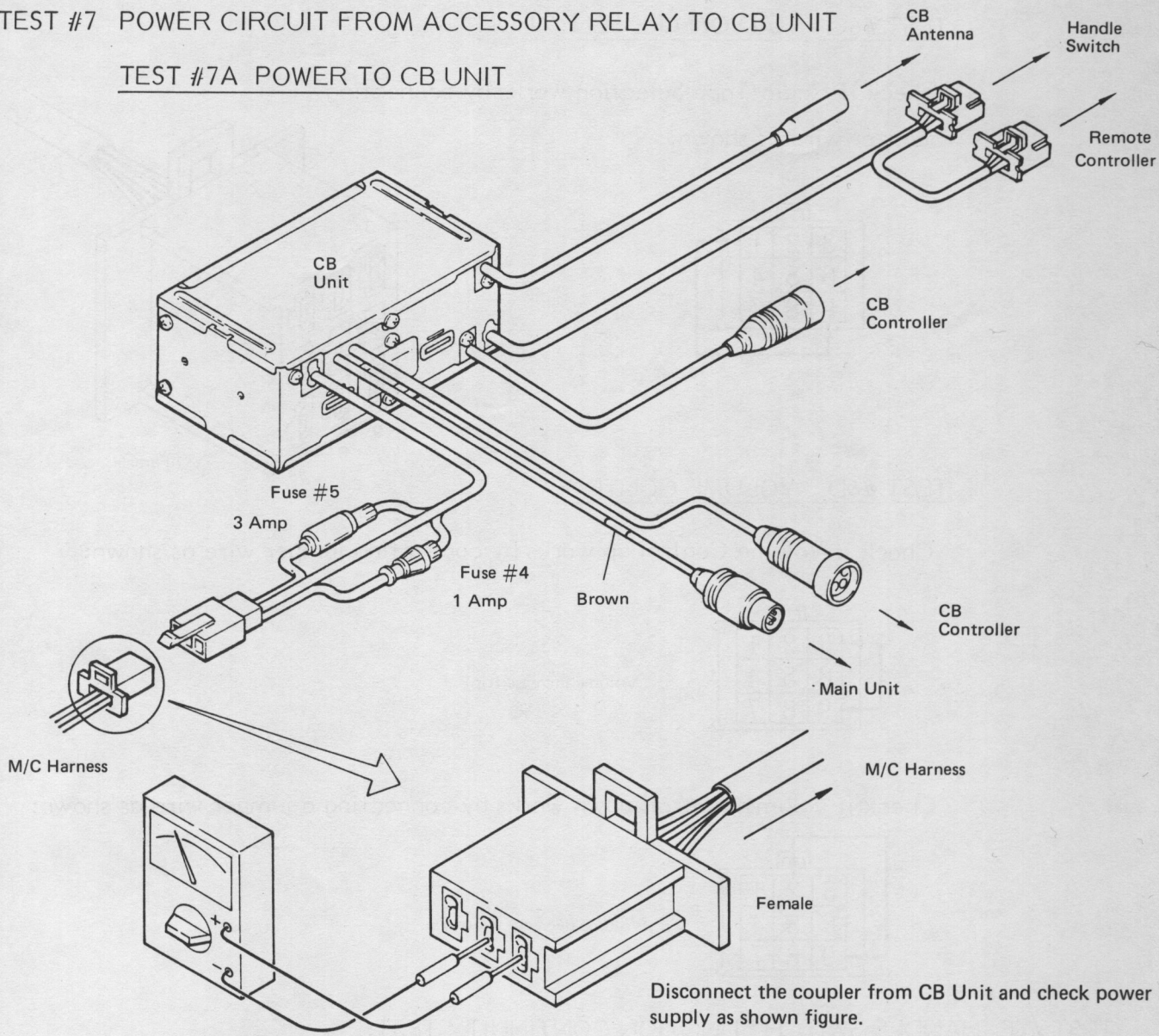
Releasing the button = open circuit $\infty \Omega$

NOTE:

If values are not shown check the wiring of the switch and terminal connector.

TEST #7 POWER CIRCUIT FROM ACCESSORY RELAY TO CB UNIT

TEST #7A POWER TO CB UNIT



Meter should show 12 volts.

Disconnect the coupler from CB Unit and check power supply as shown figure.

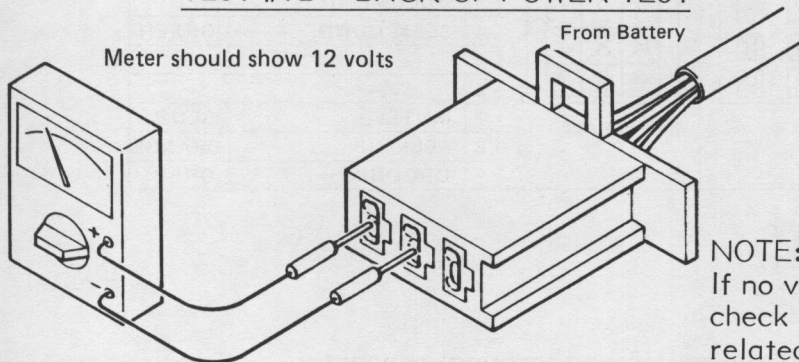
* Re-connect coupler after checking.

C.B. UNIT	M/C HARNESS	No.	CONNECTION	COLOR
1	3	1	ACC. RELAY +	W/Y
2	2	2	GROUND	BK/Y
3	1	3	AUDIO FUSE +	BR/W

NOTE:

If no voltage at W/Y wire, check: 10-AMP accessory fuse in main fuse case, accessory relay and related wiring.

TEST #7B BACK UP POWER TEST



Meter should show 12 volts

NOTE:

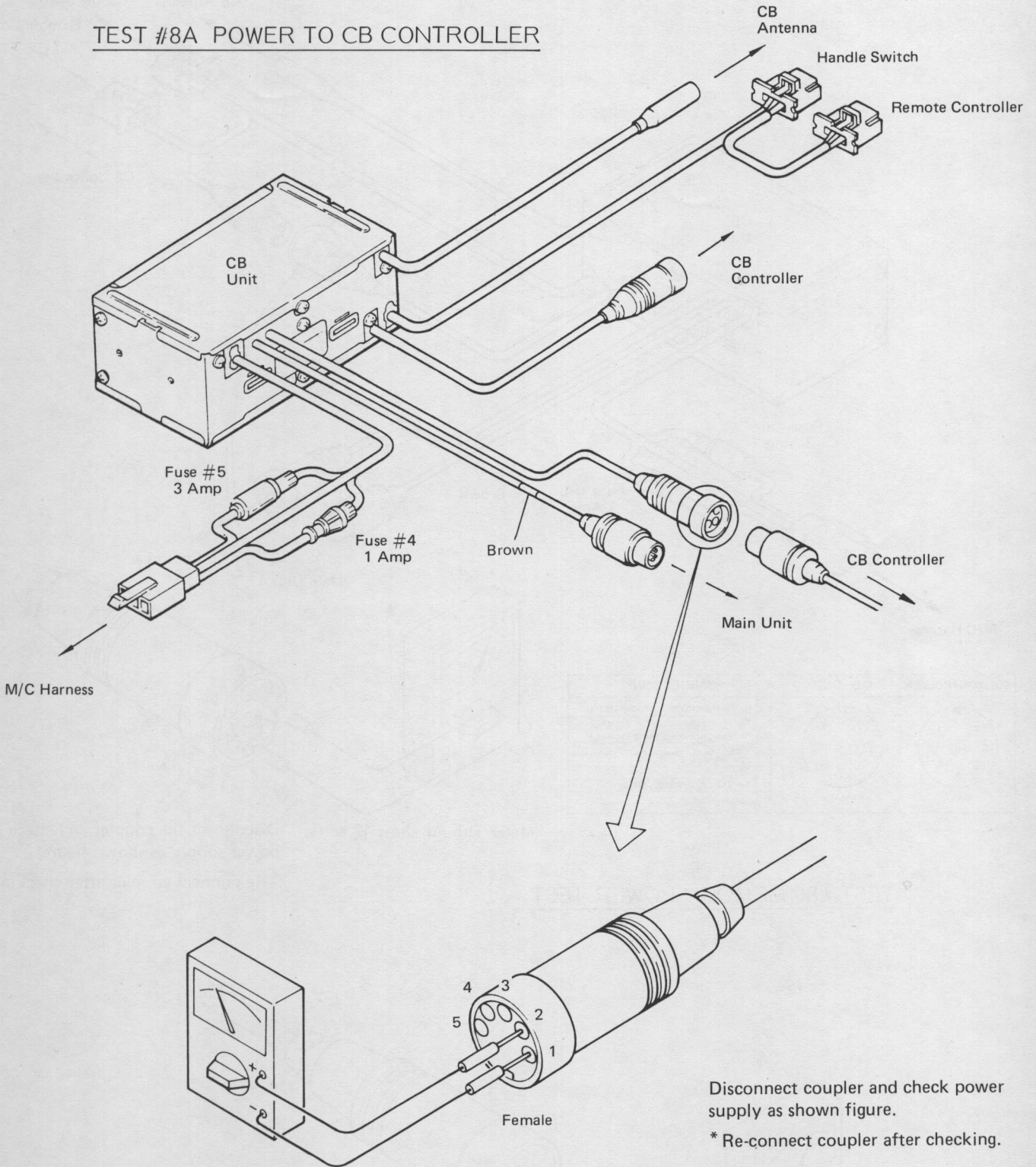
Test memory power with ignition key off.

NOTE:

If no voltage at BR/W wire, (Memory) backup power, check 3-AMP fuse (audio) at main fuse case and related wiring. ex) Trunk light circuit

TEST #8 POWER CIRCUIT FROM CB UNIT TO CB CONTROLLER

TEST #8A POWER TO CB CONTROLLER



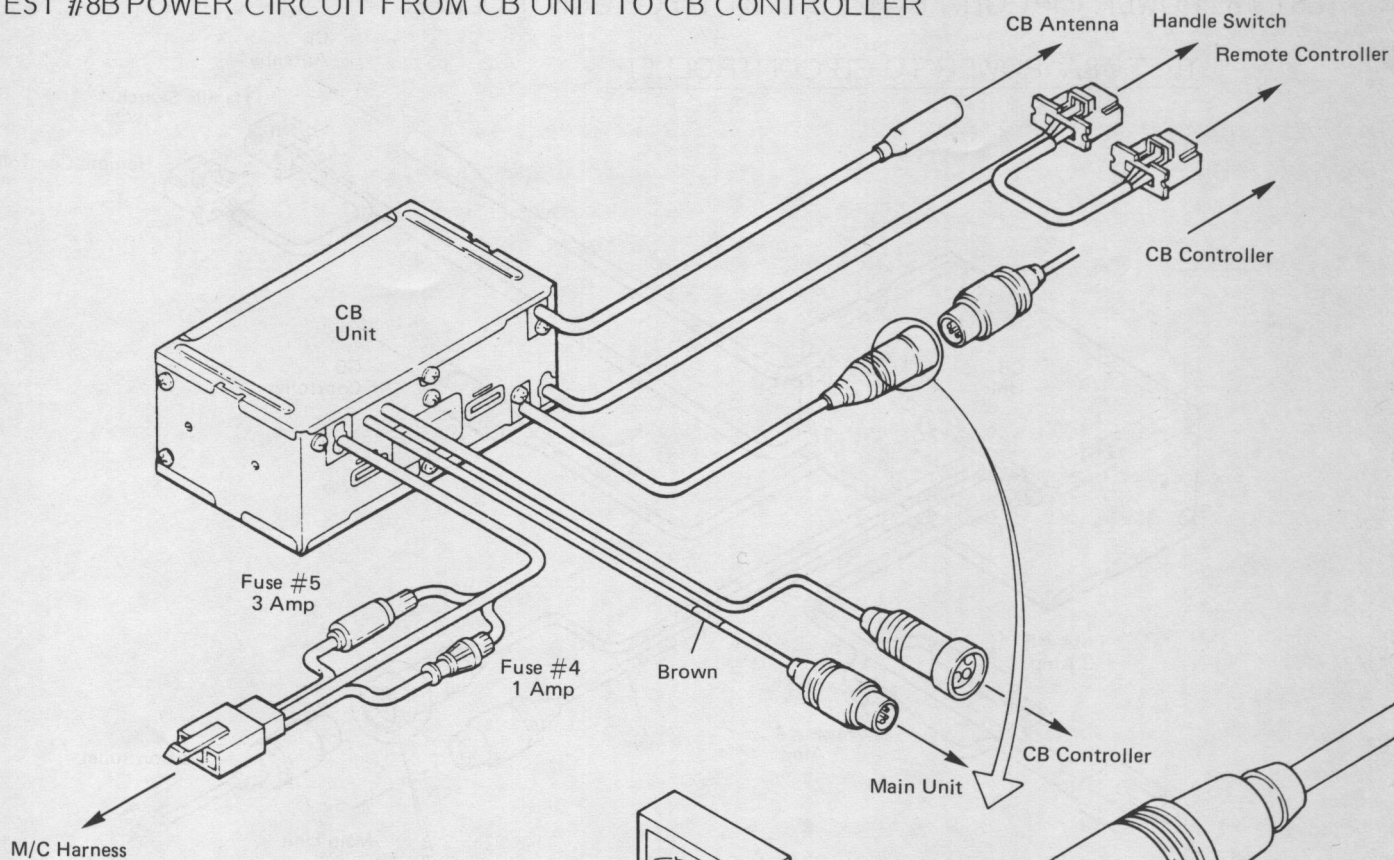
Meter should show 12 volts.

Disconnect coupler and check power supply as shown figure.

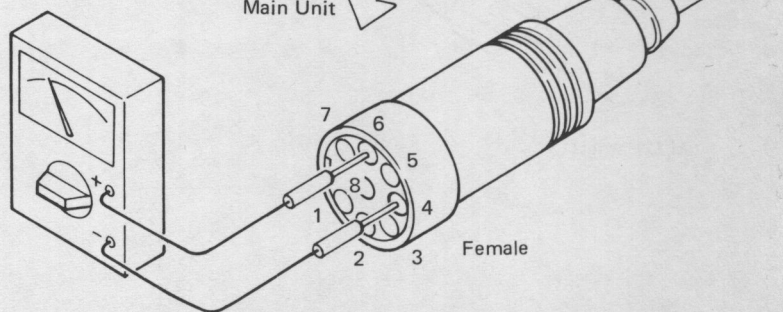
* Re-connect coupler after checking.

C.B. CONTROLLER	C.B. UNIT	No.	CONNECTION
1	1	1	GROUND
2	2	2	12 VOLT(+) For C.B. Controller
3	3	3	VOLUME CONTROL
4	4	4	12 VOLT(+) From C.B. Controller
5	5	5	SQUELCH VOLUME

TEST #8B POWER CIRCUIT FROM CB UNIT TO CB CONTROLLER



C.B. CONTROLLER	C.B. UNIT	No.	CONNECTION
7	1	1	DATA (MICROPROCESSOR SIGNAL)
6	8	2	TX (MICROPROCESSOR SIGNAL)
8	2	3	PA (MICROPROCESSOR SIGNAL)
5	4	4	GROUND
4	3	5	12V MEMORY
3	5	6	12V SUPPLY
2	6	7	TA (MICROPROCESSOR SIGNAL)
1	7	8	

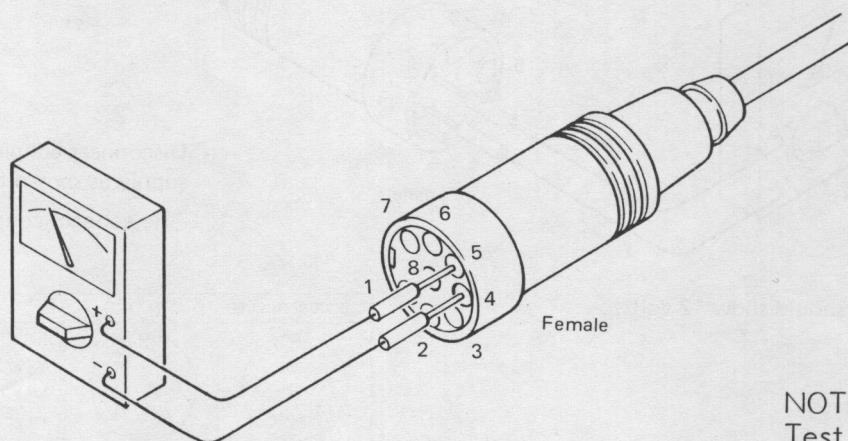


Meter should show 12 volts.

Disconnect the coupler and check power supply as shown figure.

* Re-connect coupler after checking.

TEST #8C MEMORY POWER TEST

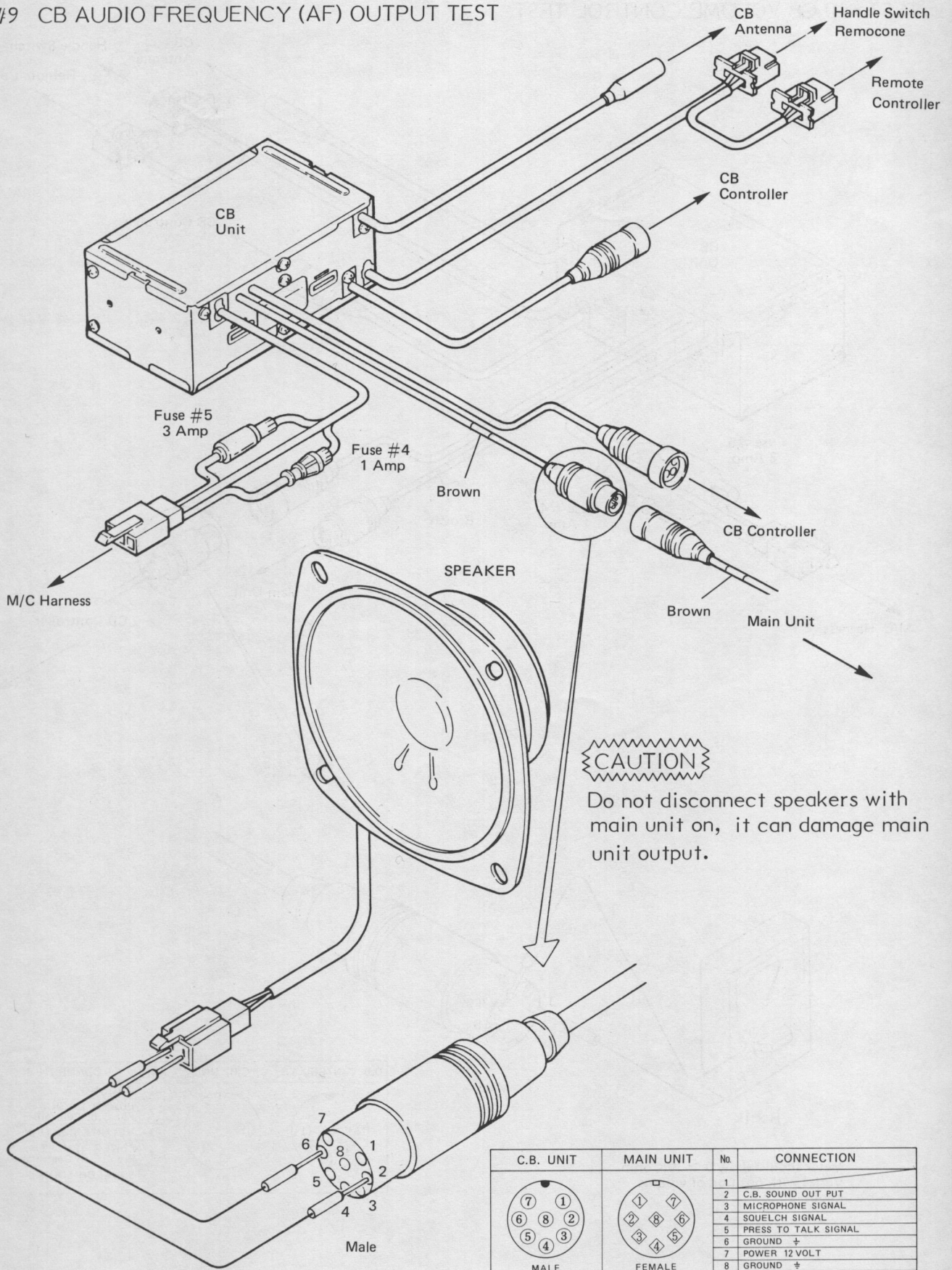


Meter should show 12 volts.

NOTE:

Test memory power with ignition key off.

TEST #9 CB AUDIO FREQUENCY (AF) OUTPUT TEST

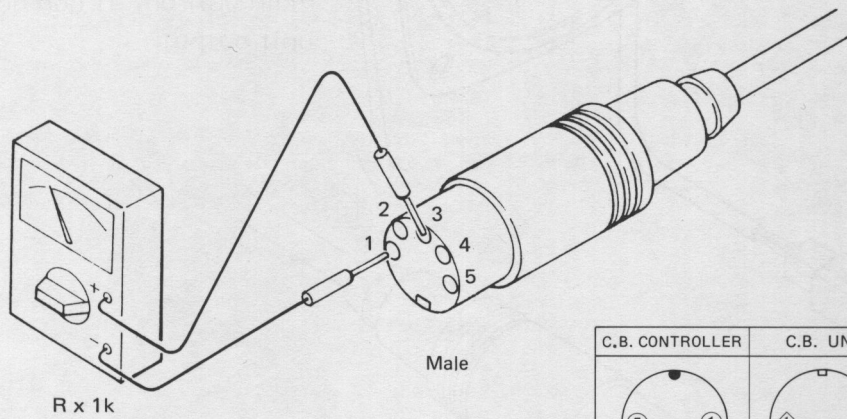
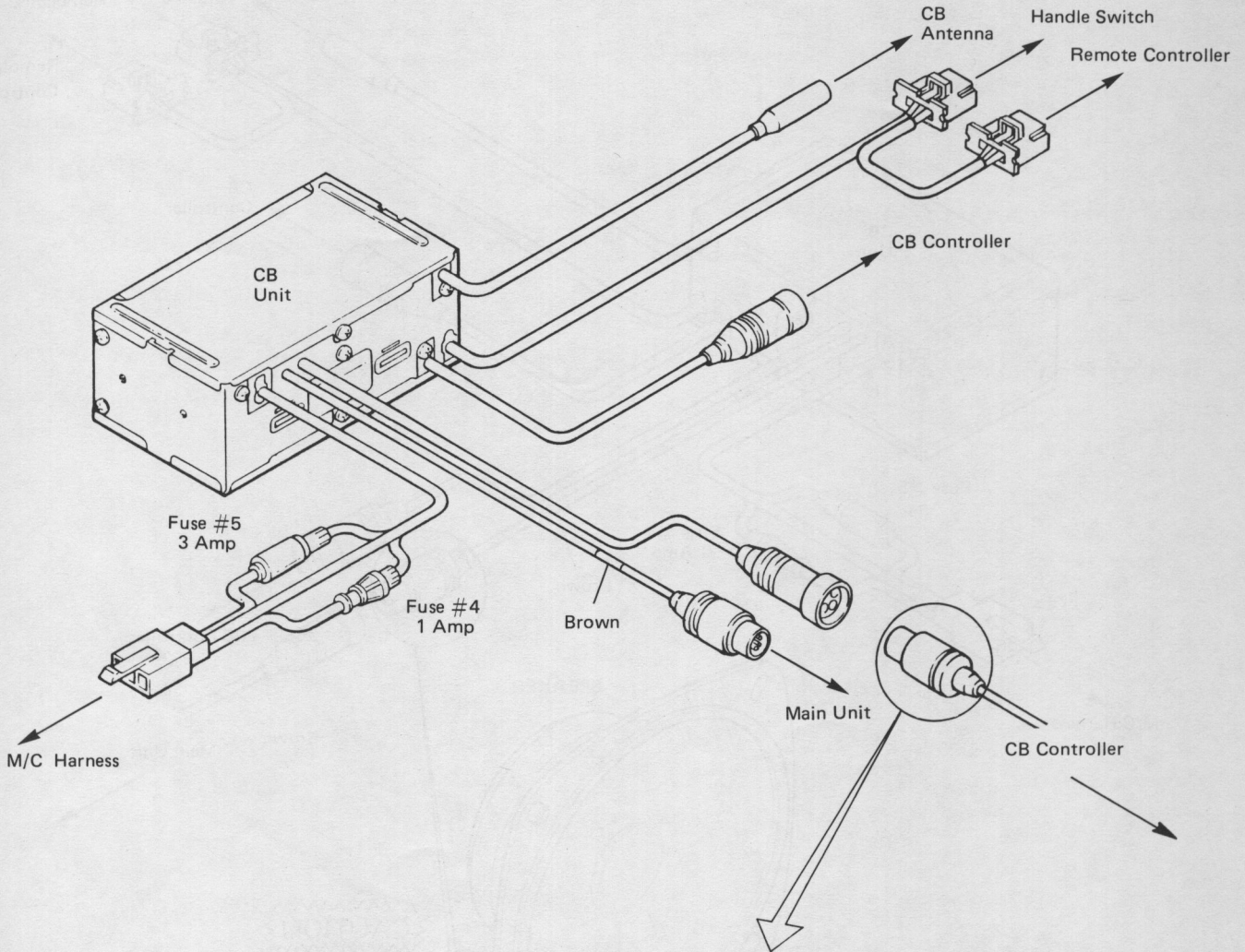


CAUTION

Do not disconnect speakers with main unit on, it can damage main unit output.

C.B. UNIT	MAIN UNIT	No.	CONNECTION
1	1	1	C.B. SOUND OUT PUT
2	2	2	MICROPHONE SIGNAL
3	3	3	SQUELCH SIGNAL
4	4	4	PRESS TO TALK SIGNAL
5	5	5	GROUND +
6	6	6	GROUND -
7	7	7	POWER 12 VOLT
8	8	8	GROUND ±

TEST #10 CB VOLUME CONTROL TEST

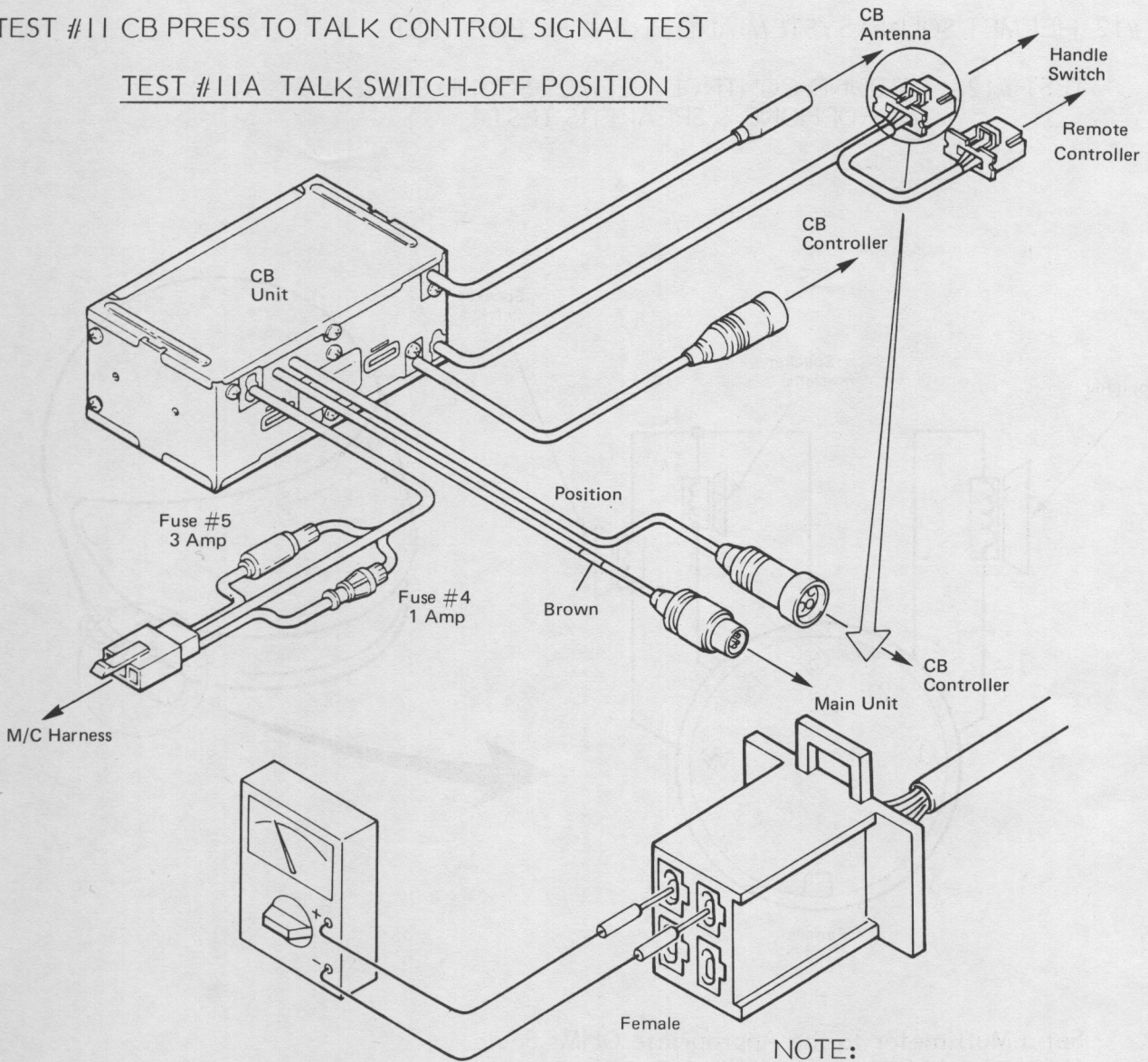


Meter should show 0 ~ 39K ohm.
Varies with position of volume knob.

C.B. CONTROLLER	C.B. UNIT	No.	CONNECTION
5	1	1	GROUND \perp
4	2	2	POWER 12 VOLT For C.B. Controller
3	3	3	VOLUME CONTROL
2	4	4	POWER 12 VOLT From C.B. Controller
1	5	5	SQUELCH SIGNAL

TEST #11 CB PRESS TO TALK CONTROL SIGNAL TEST

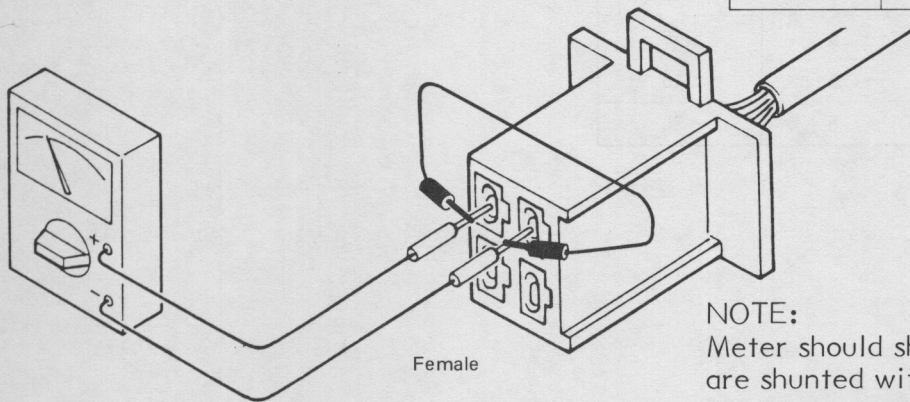
TEST #11A TALK SWITCH-OFF POSITION



NOTE:
Meter should show 12 volt.

TEST #11B TALK SWITCH-ON POSITION

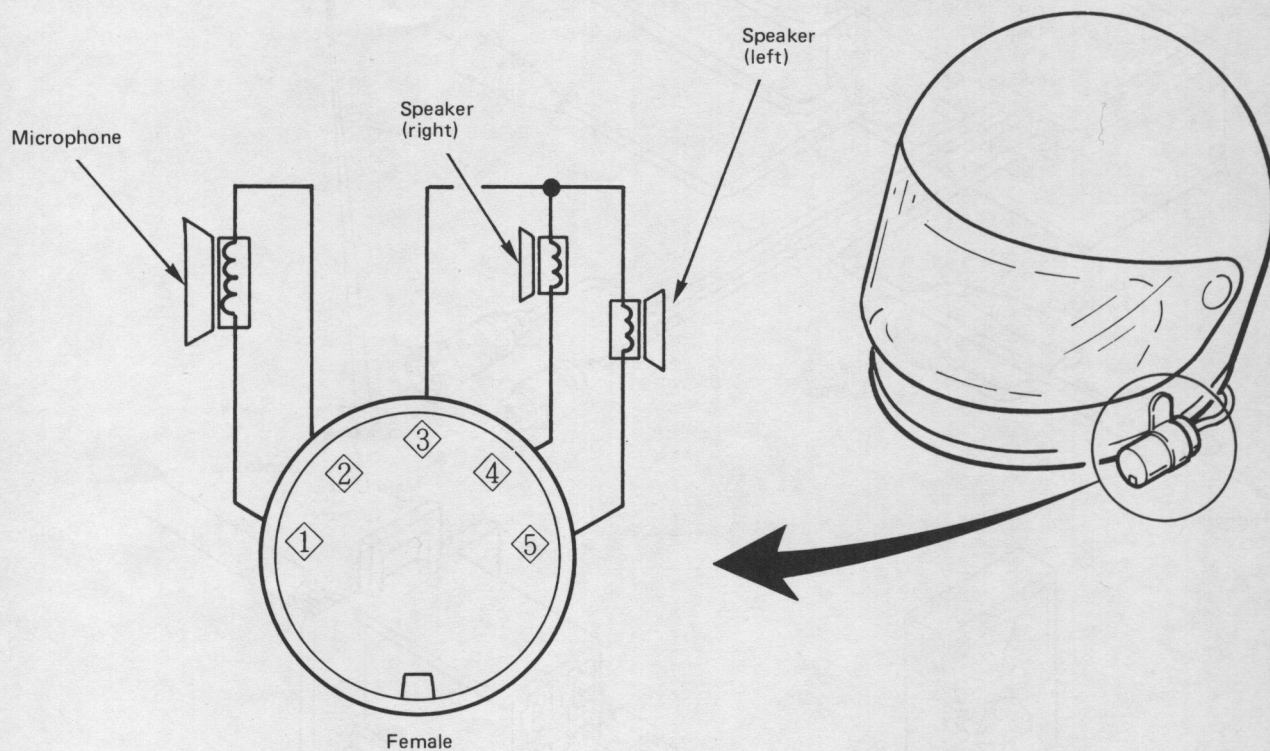
SWITCH	C.B. UNIT	No.	CONNECTION	COLOR
1 2	2 1	1	COMMON \perp	GREY
3 4	4 3	2	TALK/ 12 VOLT	RED
		3	CHANNEL/UP	YELLOW
		4	CHANNEL/DOWN	GREEN



NOTE:
Meter should show 0 volts when meter leads are shunted with jumper as shown.

TEST #12 HELMET SOUND SYSTEM AND BRANCH LEAD TEST

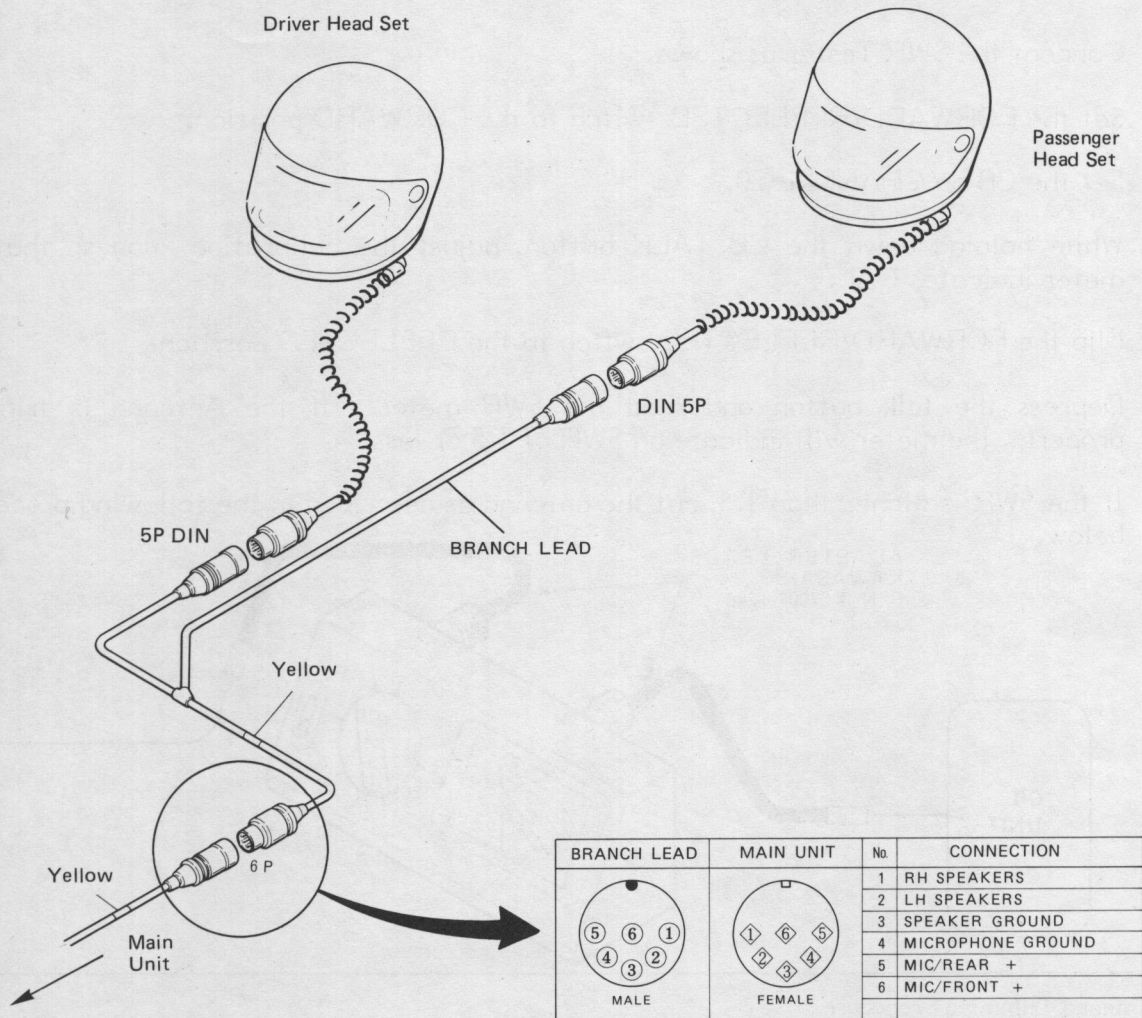
TEST #12A GROUND CONTROL-HELMET SOUND SYSTEM
MICROPHONE & SPEAKERS TEST



- Set a Multimeter to the Appropriate OHMs Scale
- Meter should indicate as follows:

PIN	Ω
1 → 2	200
3 → 4	15
3 → 5	15
4 → 5	30

TEST #12B BRANCH LEAD MELMET SET TEST

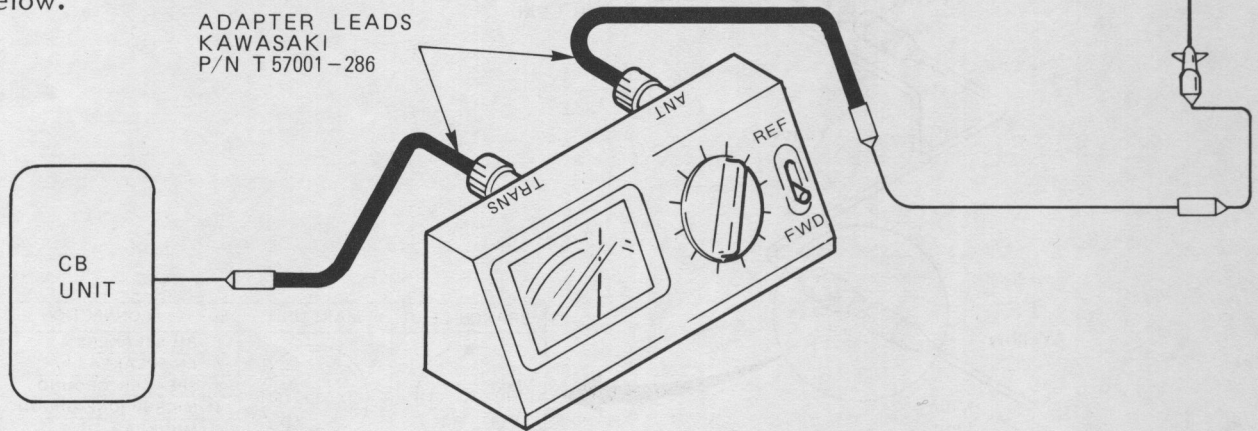


	1 → 2	1 → 3	2 → 3	4 → 6	4 → 5	5 → 6
BOTH SETS	19 Ω	9.5 Ω	9.5 Ω	200 Ω	200 Ω	400 Ω
FRONT SET ONLY	32 Ω	19 Ω	19 Ω	200 Ω	∞ Ω	∞ Ω
REAR SET ONLY	32 Ω	19 Ω	19 Ω	∞ Ω	200 Ω	∞ Ω

TEST #13 ANTENNA TRIMMING PROCEDURE STANDING WAVE RATIO (ANTENNA LENGTH)

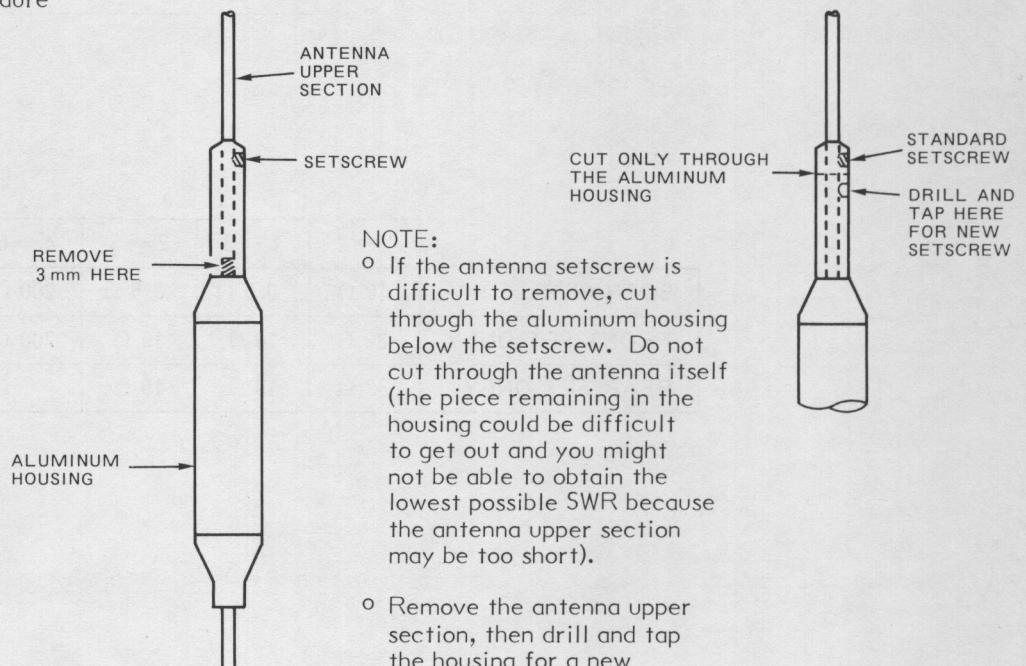
Test Connections

- Connect the SWR Tester as shown.
- Set the FORWARD/REFLECTED switch to the FORWARD position.
- Set the CB on CHANNEL 20.
- While holding down the CB TALK button, adjust the calibration knob so that the meter indicates CAL.
- Flip the FORWARD/REFLECTED switch to the REFLECTED position.
- Depress the talk button and read the SWR meter. If the Antenna is trimmed properly, the meter will indicate an SWR of 1.5 or less.
- If the SWR is higher than 1.5, cut the antenna as described in the following procedure below.



Antenna Trimming Procedure (Antenna Length)

- Loosen the setscrew (see below) and remove the antenna upper section from the aluminum housing.
- Cut 3 mm from the bottom of the antenna upper section.
- Reinstall the antenna upper section in the housing and repeat Antenna Trimming Procedure.
- Continue cutting 3 mm at a time from the antenna upper section and repeating procedure until the SWR begins to increase.
- Raise the antenna upper section in the aluminum housing until the SWR drops again to the lowest meter reading, then tighten the setscrew.

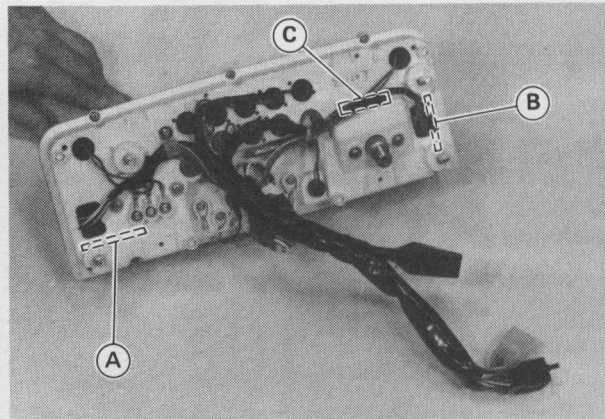


TEST #14 AUTOMATIC VOLUME CONTROL TEST

TEST #14A AUTOMATIC VOLUME/CANCEL CONTROL

(AV/AG) Signal Unit Inspection

- Prepare an auxiliary wire.
- Disconnect the AV/AC signal unit BK/W lead from the distance sensor.
- Turn on the ignition switch and audio power switch.
- Measure the voltage between the Y lead (+) and the BL lead (-). The voltage should be 8 V.
- ★ If the voltage is not as specified, check the AV control circuit. If the AV control circuit is good, the signal unit is defective. Replace the meter assembly.
- Ground the signal unit BK/W lead with an auxiliary wire and measure the voltage again. The voltage should be 2 V.
- ★ If the voltage is not as specified, the signal unit is defective. Replace the meter assembly.
- Turn on (L or R) the turn signal switch.
- Measure the voltage between the LG/BK lead (+) and the BK/Y lead (-). The voltage should be 6 V when the signal unit BK/W lead is grounded, and 0 V when the BK/W lead is opened.
- ★ If it does not as specified, check the AC control circuit. If the AC control circuit is good, the signal unit is defective. Replace the meter assembly.
- ★ If the above tests prove that the AV/AC signal unit is good, check the distance sensor, audio system, and/or turn signal circuit.



- A. Indicator Light Self-check Unit
- B. AV/AC Signal Unit
- C. Distance Sensor

Distance Sensor Inspection

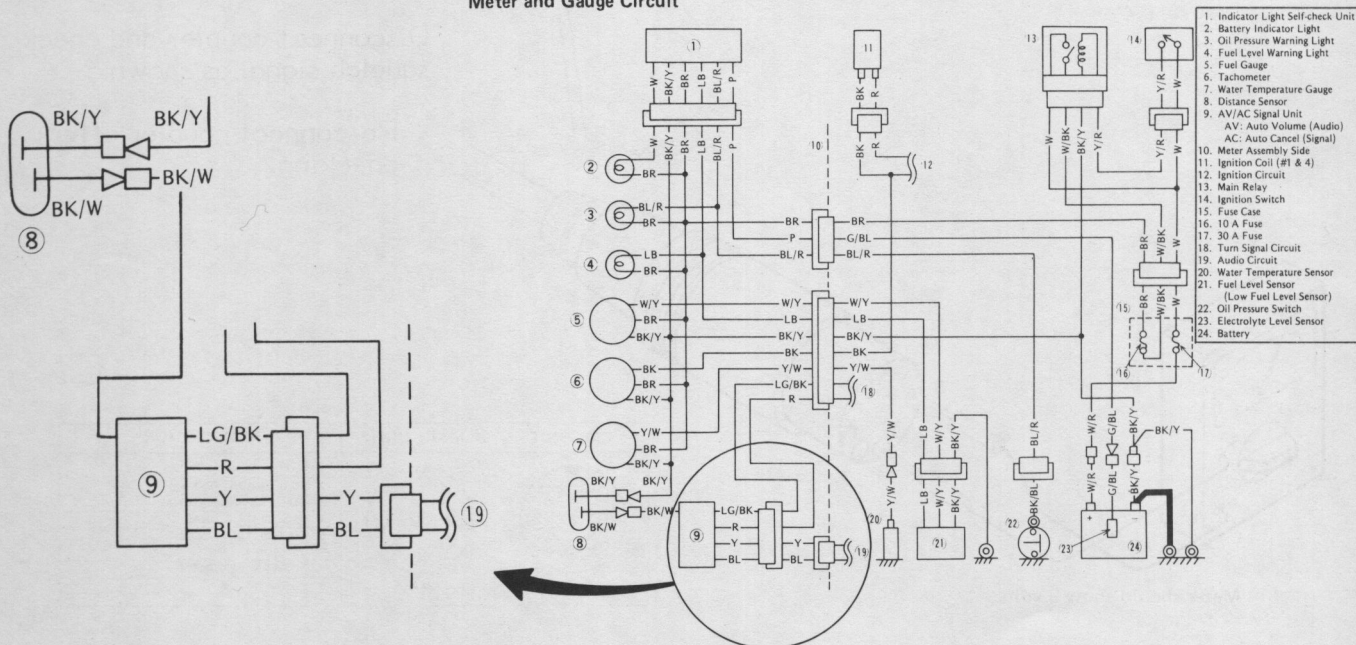
- Disconnect the distance sensor leads.
- Measure the resistance between the sensor leads while turning the front wheel slowly. The meter should show continuity and then open periodically as the wheel revolutions.
- ★ If it does not, replace the distance sensor.

TEST #14B AUTOMATIC VOLUME

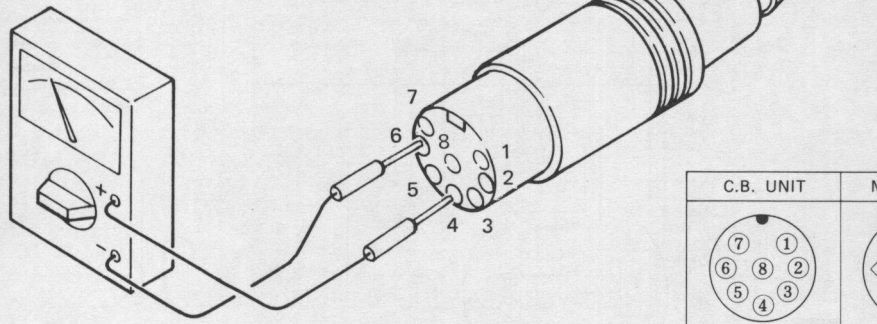
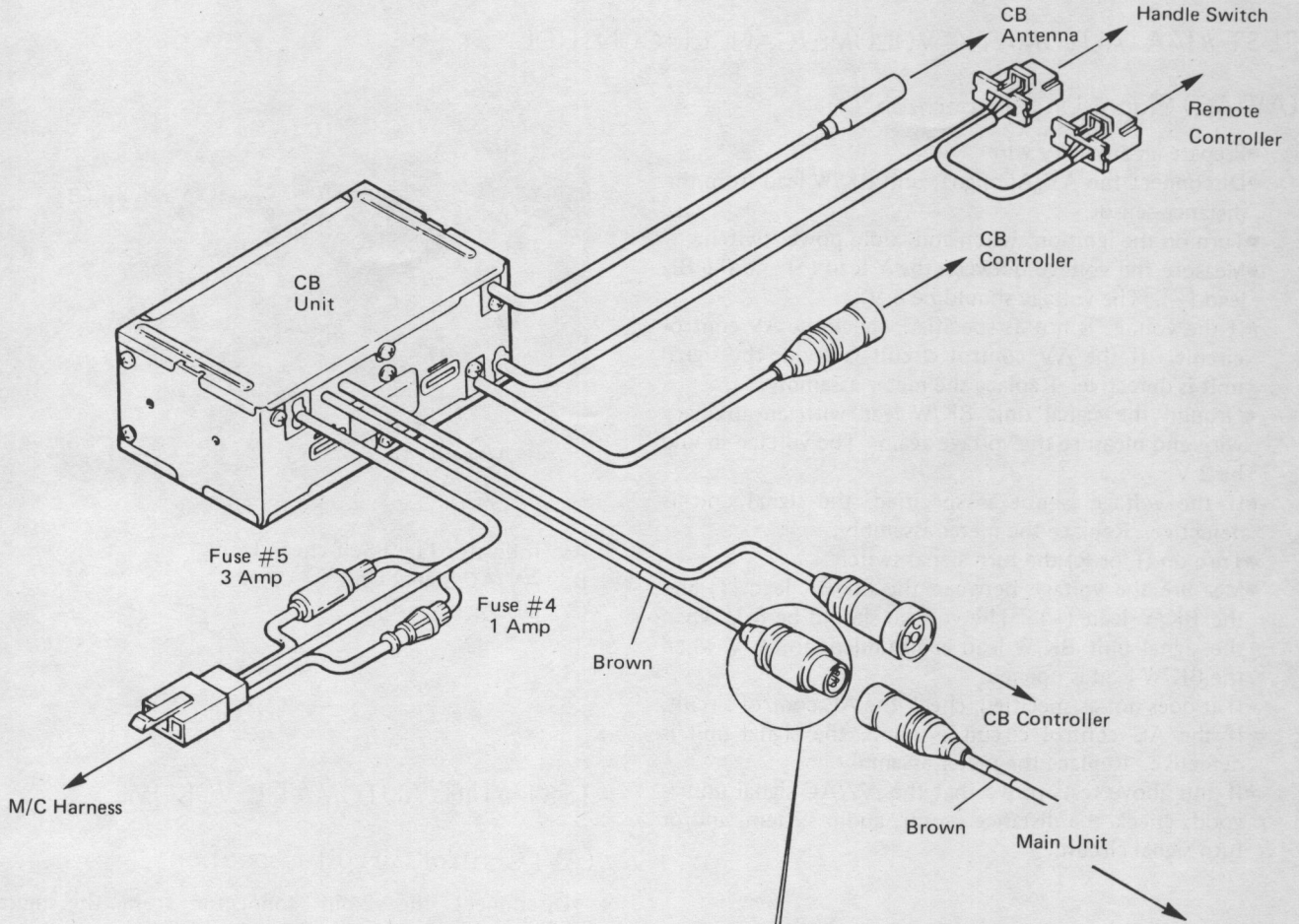
(AV) Control Circuit Inspection

- Disconnect the 2-pin connector from the meter assembly.
- Turn on the ignition switch and audio power switch.
- Measure the voltage between the Y lead (+) and the BL lead (-) in the female 2-pin connector. The voltage should be 8 V.
- ★ If the voltage is not as specified, the trouble is in the audio system.

Meter and Gauge Circuit



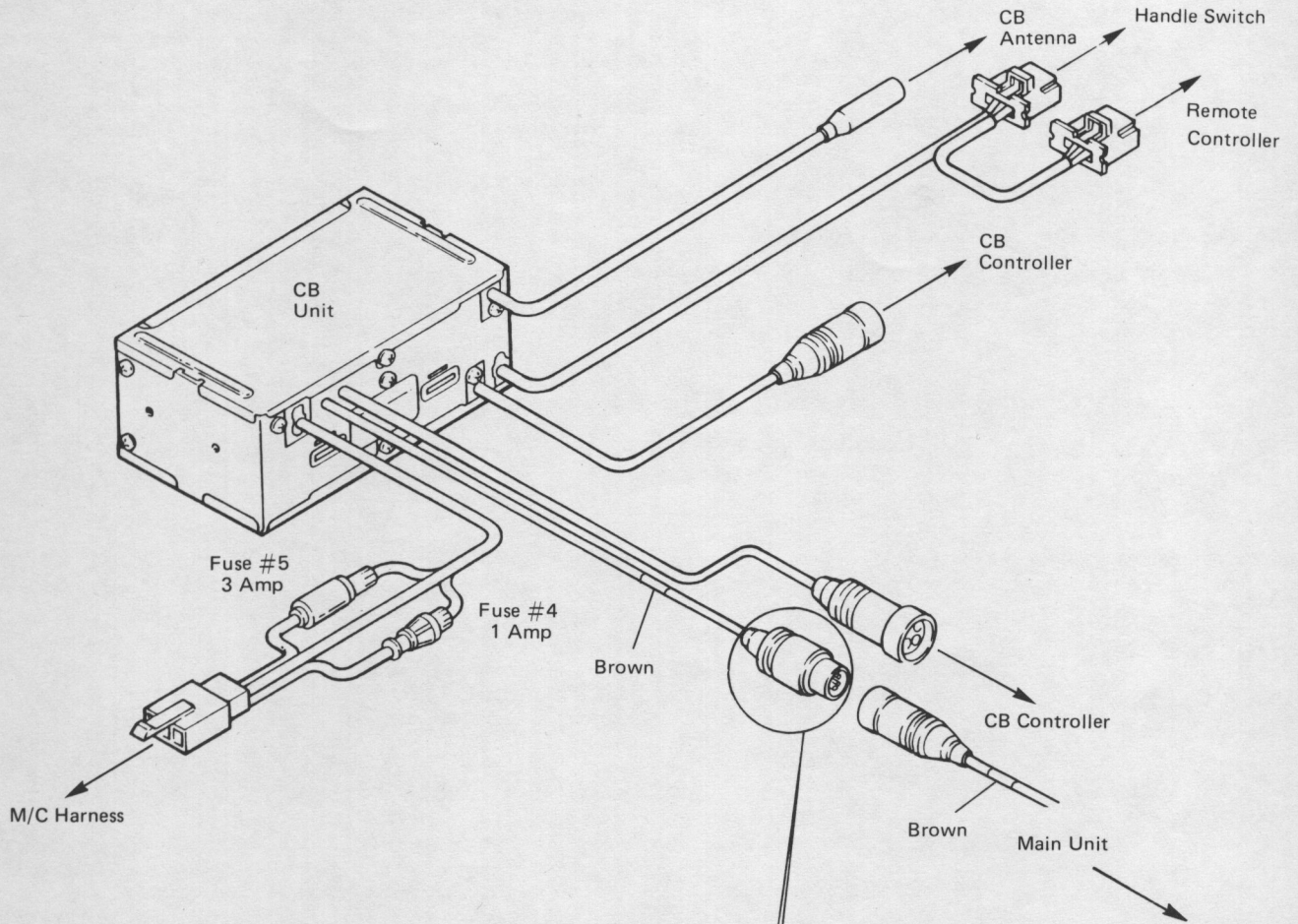
TEST #15 SQUELCH SIGNAL TEST



Meter should show 9 volts.

C.B. UNIT	MAIN UNIT	No.	CONNECTION
 MALE	 FEMALE	1	
		2	C.B. SOUND OUT PUT
		3	MICROPHONE SIGNAL
		4	SQUELCH SIGNAL
		5	PRESS TO TALK SIGNAL
		6	GROUND +
		7	POWER 12 VOLT
		8	GROUND +

TEST #16 PRESS TO TALK SIGNAL TEST

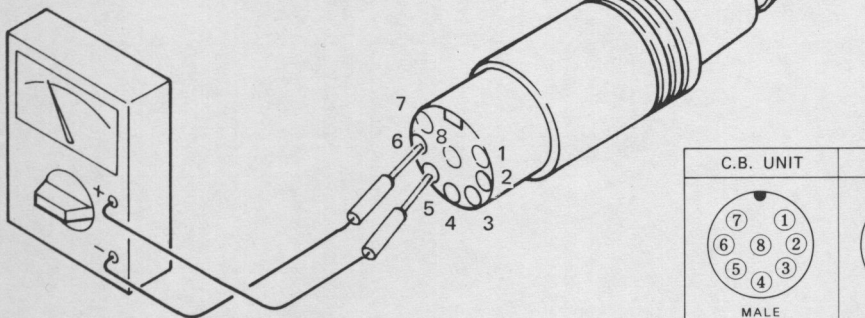


CAUTION

Squelch volume should be set at maximum.

Disconnect coupler and check squelch signal as shown.

- Re-connect coupler after checking.



Meter should show 9 volts.

C.B. UNIT	MAIN UNIT	No.	CONNECTION
<p>MALE</p>	<p>FEMALE</p>	1	
		2	C.B. SOUND OUT PUT
		3	MICROPHONE SIGNAL
		4	SQUELCH SIGNAL
		5	PRESS TO TALK SIGNAL
		6	GROUND ±
		7	POWER 12 VOLT
		8	GROUND ±

