



**becker**  
autoradio

Gerätetechnik

B/01.E-1e

**Testing Autoradios and  
Correcting Minor Troubles**

Sheet 1

Valid for:  
Autoradios installed  
and not installed

The following information will serve as a guide in checking a radio and locating minor troubles.

Check the radio for operation before and after installation. Minor troubles can and should be corrected by the car dealers Servicemen in order to give prompt service to the customer and avoid removing the radio from the car.

**A) Checking the radio:**

(If the radio is not installed in a car it should be done on a bench with a non-metallic top, equipped with a standard antenna and a fully charged battery or battery eliminator. A voltmeter across battery terminals and an ammeter in the "hot" lead to the radio will aid in diagnosing troubles.)

Sequence:	Normal:	Cause, if not operating normal:
1) Turn radio on, * Depress key.	Pilot light must be on. Vibrator buzz must be heard. Tuner must operate.	Blown fuse. Open "A" connection. Dead vibrator. Low battery.
2) Turn volume control to maximum and tone control to treble.	Stations or noise must be heard	Open or shorted loud speaker or speaker lead. Dead tube.
3) Tune in stations by manual tuning. Check all wave bands. * Check signal seeking tuning on all positions of sensitivity control.	Reception must be corresponding to local conditions.  Number of stations where tuner stops must be dependent on sensitivity control.	Antenna open or shorted. Weak tube. Low battery.  Jammed sensitivity control. (Correct faulty installation)
4) Check tone on all positions of tone control.	Sound reproduction must be clean and dependent on position of tone control.	Jammed tone control. (Correct faulty installation)
5) Set up push buttons on desired stations and check operation. **	They must tune in stations correctly.	Incorrect set up. Faulty installation.
6) If radio is installed in a car, start engine running. Check for interference by tuning in several stations on all wave bands.	Reception of signals must be free of noise. (On side band of FM signal little noise is allowed.)	Weak signal. Generator whine. Regulator noise. Spark noise.

\* Signal seeking radios only.

\*\* Push button radios only.



B) Troubleshooting Hints for Minor Troubles:

Complaint:	Check:	Cause, if not operating normal:
1) Dead.	See A1 - A2	See A1 - A2
2) Weak.	See A3 Extend the antenna completely. Switch radio on AM. Volume control on full. Scratch slightly antenna with metal part. Noise must be heard from the speaker. Check the resistance between antenna and car body. (Minimum 100 000 Ohm) Substitute test antenna.	See A3 Antenna not extended,  Antenna or antenna lead open or shorted.
3) Intermittent.	Wiggle antenna lead. Hit antenna with handle of insulated screw driver. It may not produce noise in speaker. Wiggle "A" lead. Hit radio with your hand. It may not produce noise in speaker.	Loose or broken connections in antenna or antenna lead. Intermittent shorts.  Loose connections in "A" lead or fuse holder. Loose vibrator. Intermittent tube or vibrator.
4) Noisy.	See B3 Disconnect antenna. Check all wave bands. You may hear noise level, especially on FM band, but no interference. If noisy only when antenna connected, but no fault in antenna: Local conditions. Drive to noise free location and check again. If noisy only when engine is running check interference suppression of car.	See B3 Noisy tube. Noisy vibrator.  Electrical interference. Weak stations only.  Defective spark plug resistors distributor resistors, generator condenser or regulator condenser. Loosen connections or bad contact of suppression material.
5) Poor tone.	Check battery voltage. Check tone control. Replace tubes.	See A4 Low battery. Defective tube. Improper tuning (See A5)
6) Intermittent on FM band.	Check FM reception when car is stopped. Reception must be normal. Check FM reception during drive. Sudden change of field strength cause intermittent reception.	Antenna not extended. (Best FM receiving, when antenna length about 41 inches.) Local conditions. The signal reaching an auto radio may vary more than 1000 to 1 in the short distance of a few yards. On FM band this sudden change is more typical than on AM bands.