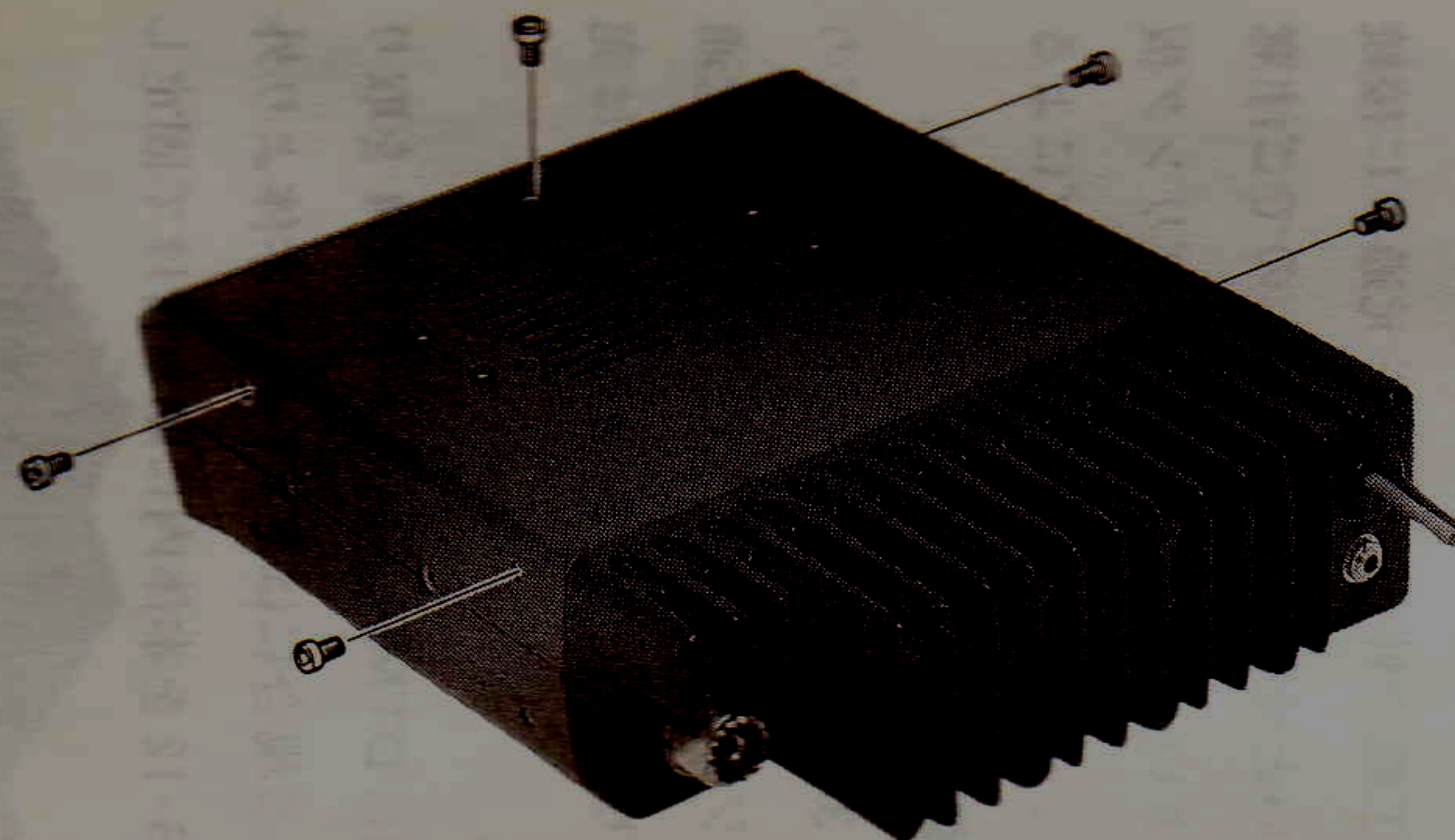
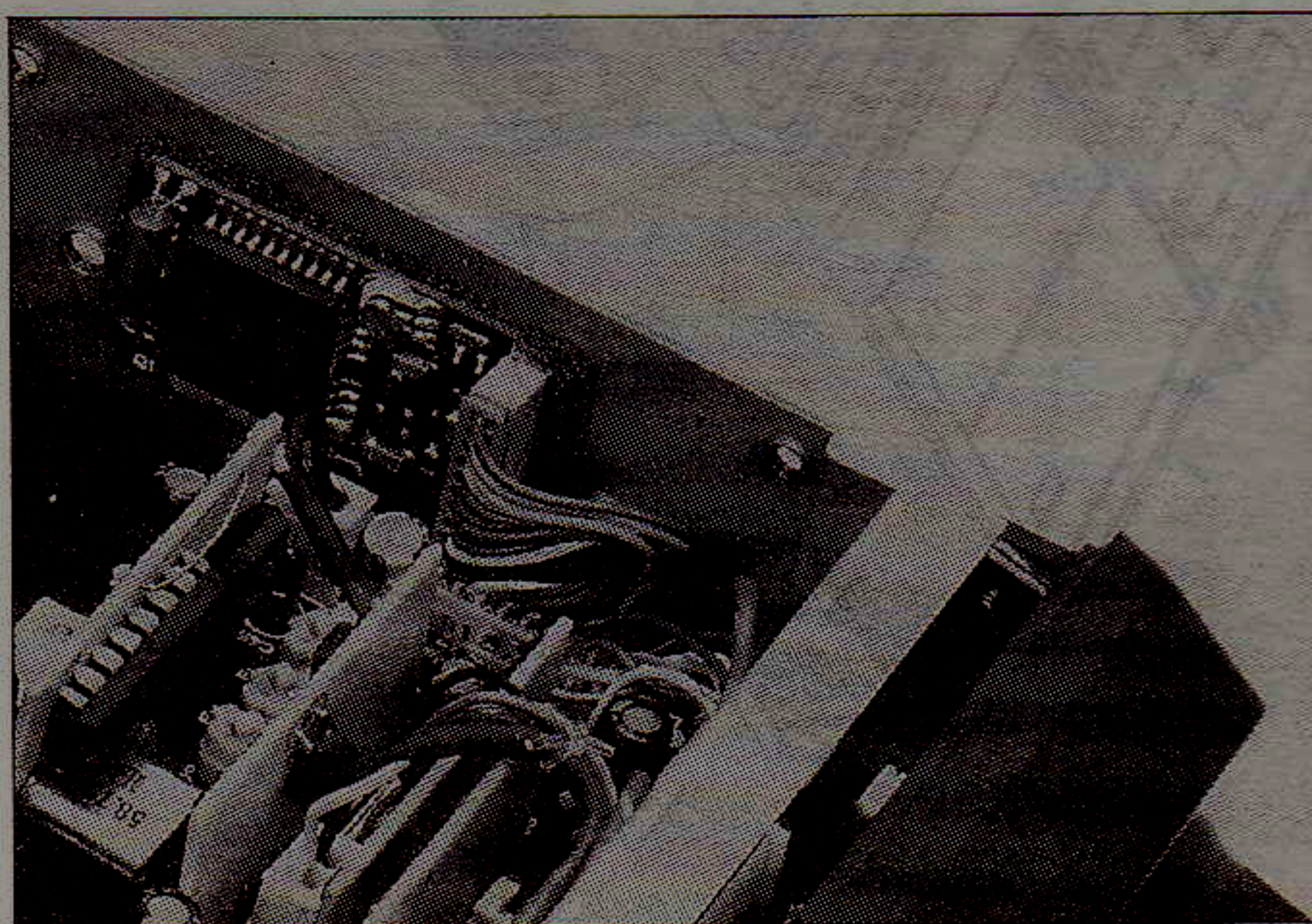


## FT-2311R

- (1) Disconnect the power cable at the rear of the transceiver, and remove the five screws affixing the bottom cover\*\*\*. Remove the cover carefully so as not to pull on the speaker wires, and lay the set upside down.
- (2) Locate the unconnected brown 10-pin connector at the front right corner on the Main Board just behind the tuning knob. Remove the 27-kilohm resistor (red, violet and orange bands) from between pins 3 and 5 of this connector. Save this resistor, as it must be reinstalled if the FTS-12 is later removed.
- (3) Align the small tab on one side of the 10-pin connector with the hole in one side of the FTS-12 connector, and mate these connectors.
- (4) Now locate the double-sided adhesive tape pre-installed on the inside of the side panel. Remove the paper covering from this tape, and press the FTS-12 against it.
- (5) Replace the bottom cover. The output tone level (VR1 on the FTS-12) is adjusted at the factory for the proper deviation, so no adjustment should be necessary.

\*\*\* If the front panel has not been reversed (ie., angles upwards), the bottom panel is the larger panel which includes the loudspeaker. Otherwise, the bottom panel is the smaller one.



## FTS-12 取扱説明書 FTS-12 INSTALLATION

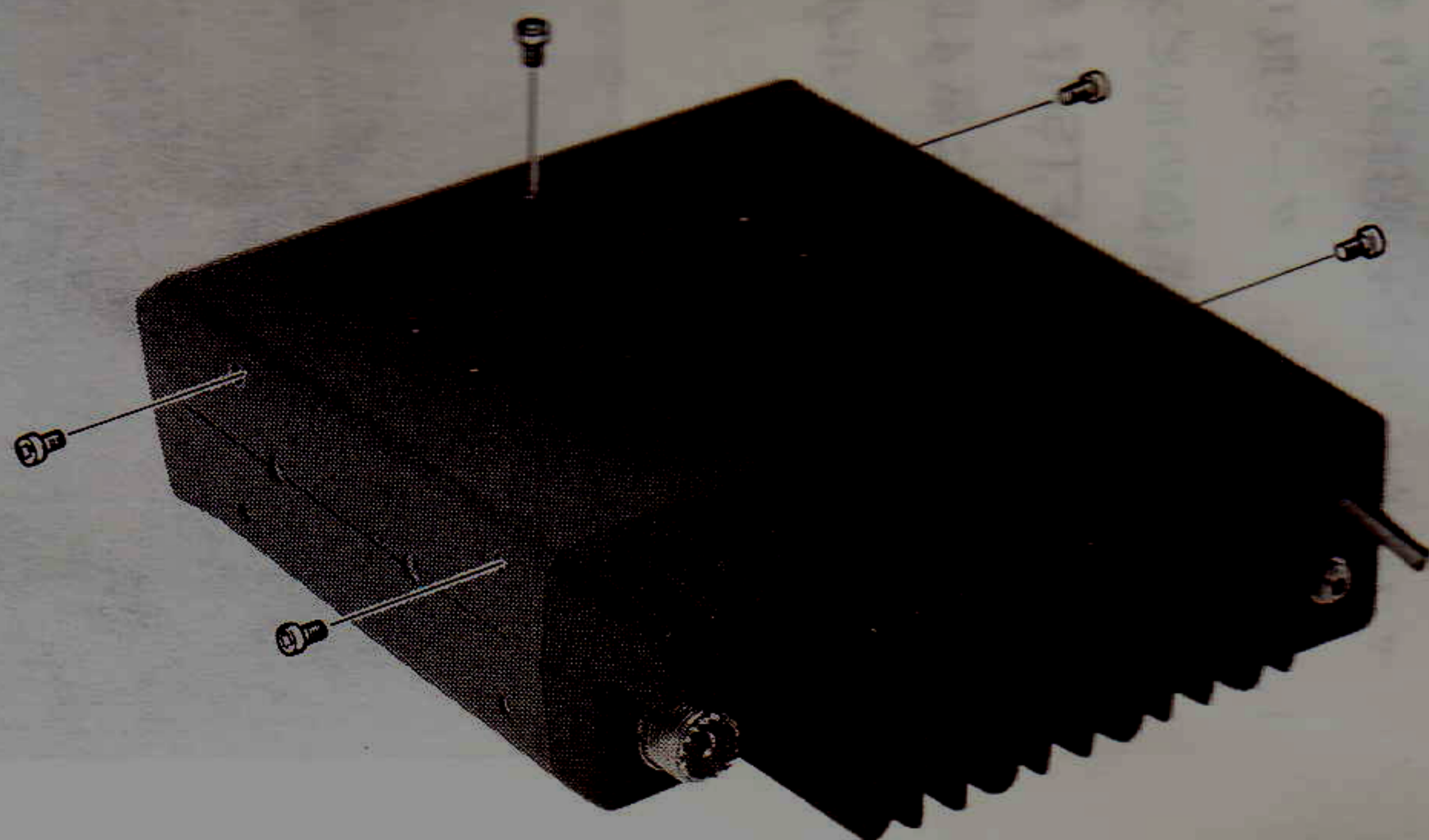
八重洲無線株式会社  
YAESU MUSEN CO., LTD.

E3004887(111I-OK)

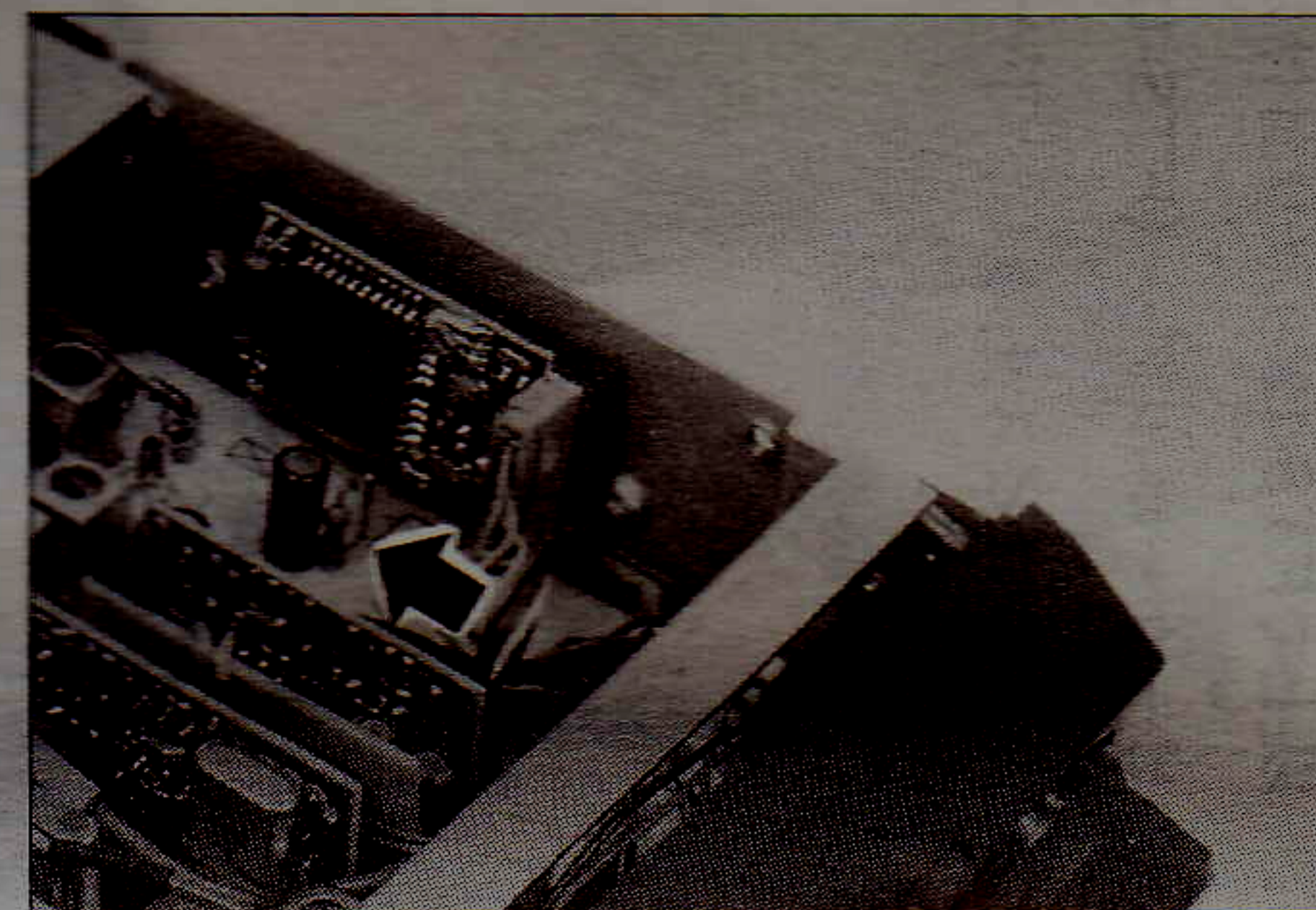


## FT-211RH/311RM/711RH

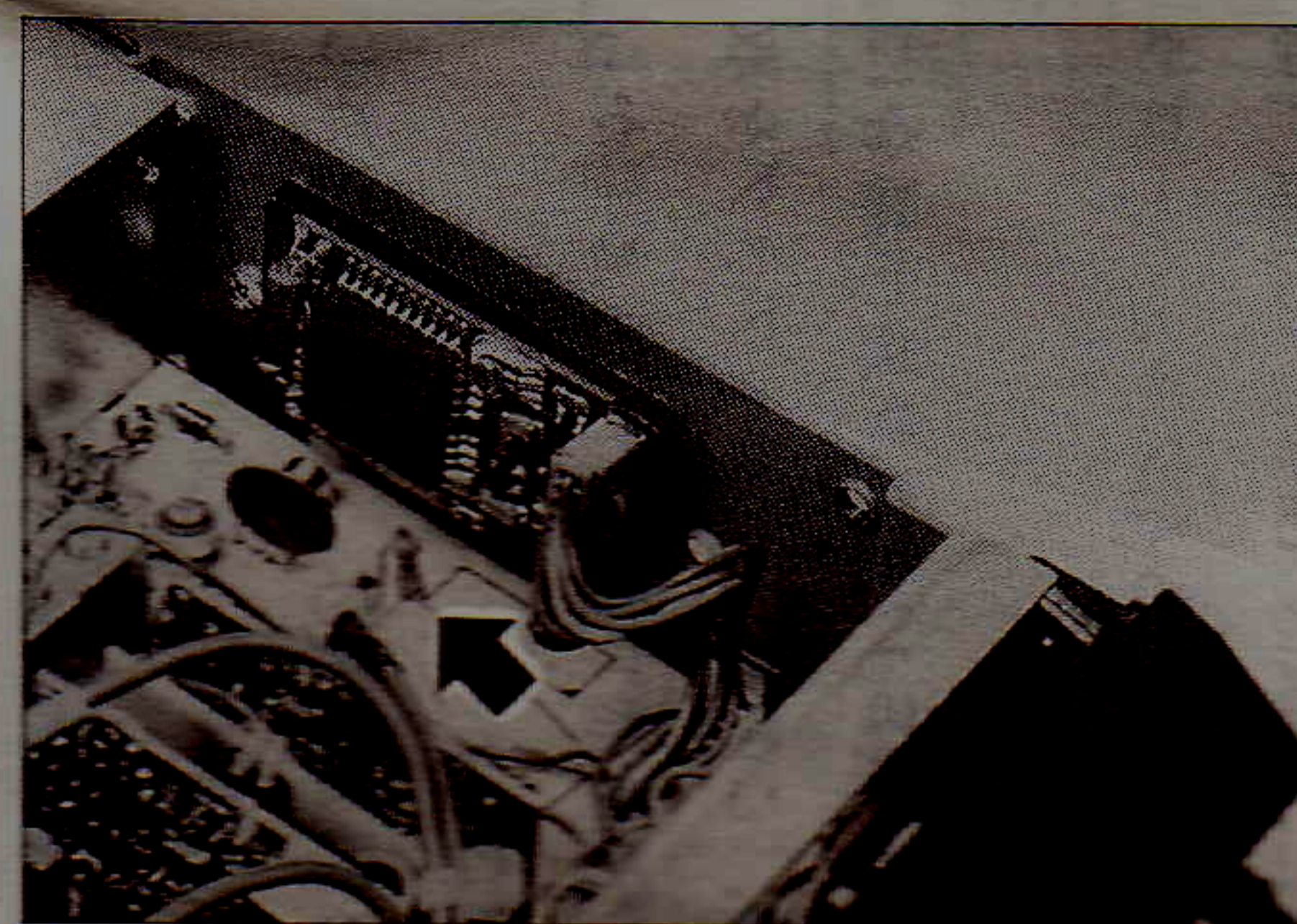
- (1) Disconnect the power cable at the rear of the transceiver, and remove the five screws affixing the bottom cover\*. Remove the cover carefully so as not to pull on the speaker wires, and lay the set upside down.
- (2) Locate the unconnected brown 10-pin connector at the front right corner on the Main Board just behind the tuning knob. Align the small tab on one side of this connector with the hole in one side of the FTS-12 connector, and mate these connectors.
- (3) Now locate the double-sided adhesive tape pre-installed on the inside of the side panel. Remove the paper covering from this tape, and press the FTS-12 against it as shown in the diagram below.
- (4) On the main circuit board near the FTS-12 mounting position, notice a 27-kilohm resistor (red, violet and orange bands). Cut the exposed lead of this resistor. If the FTS-12 is removed from the transceiver, this resistor must be reconnected.
- (5) Replace the bottom cover. The output tone level (VR1 on the FTS-12) is adjusted at the factory for the proper deviation, so no adjustment should be necessary.



- \* If the front panel has not been reversed (ie., angles upwards), the bottom panel is the larger panel which includes the loudspeaker. Otherwise, the bottom panel is the smaller one.



FT-211RH



FT-311RM/711RH



## FT-23R/33R/73R

Make sure the transceiver is off. Remove the hard or soft case, if used, and remove the battery pack. If the FTT-4 DTMF keypad is installed, follow procedure B below. If the FTT-4 is not installed, follow procedure A.

### A. If FTT-4 is NOT Installed

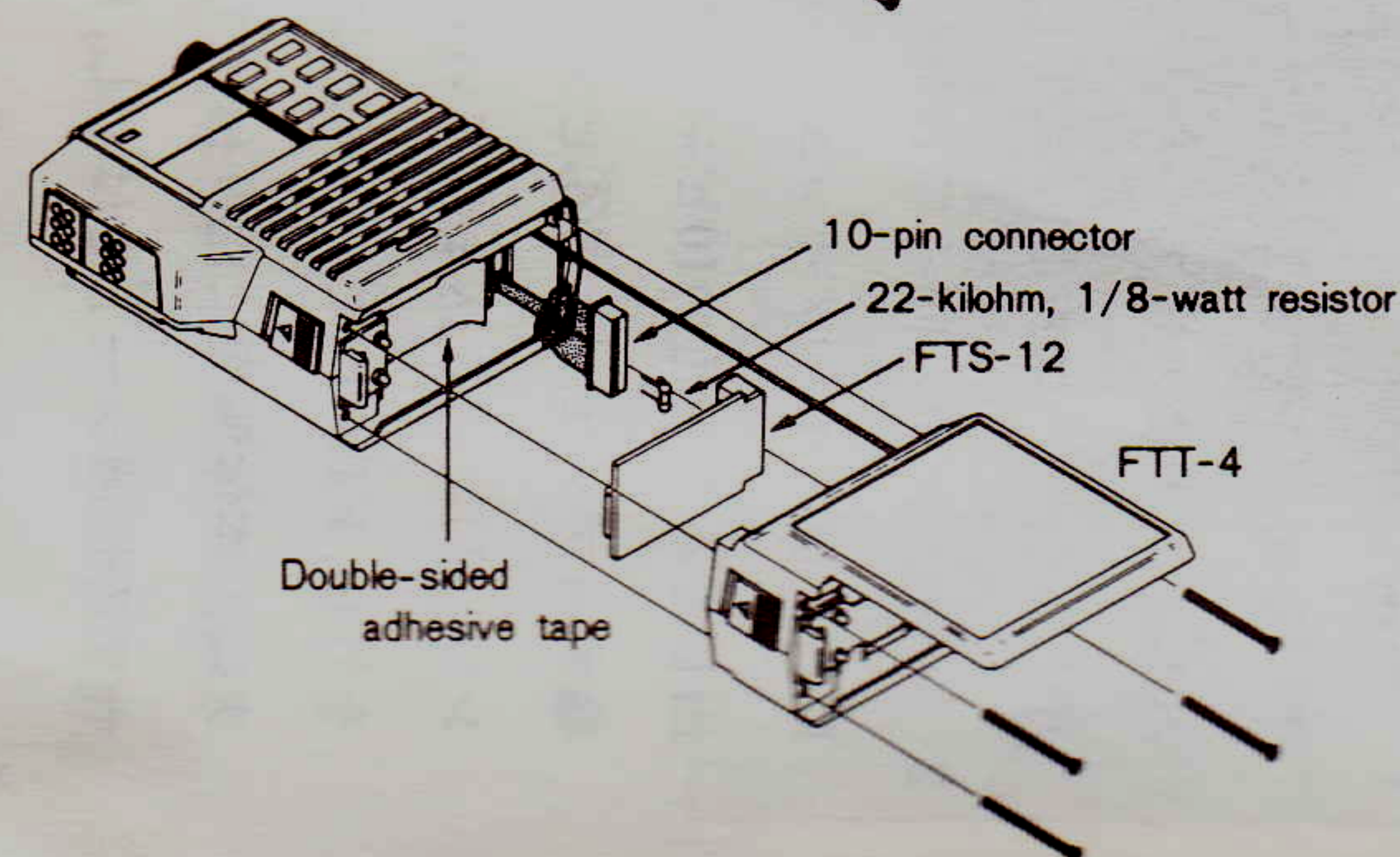
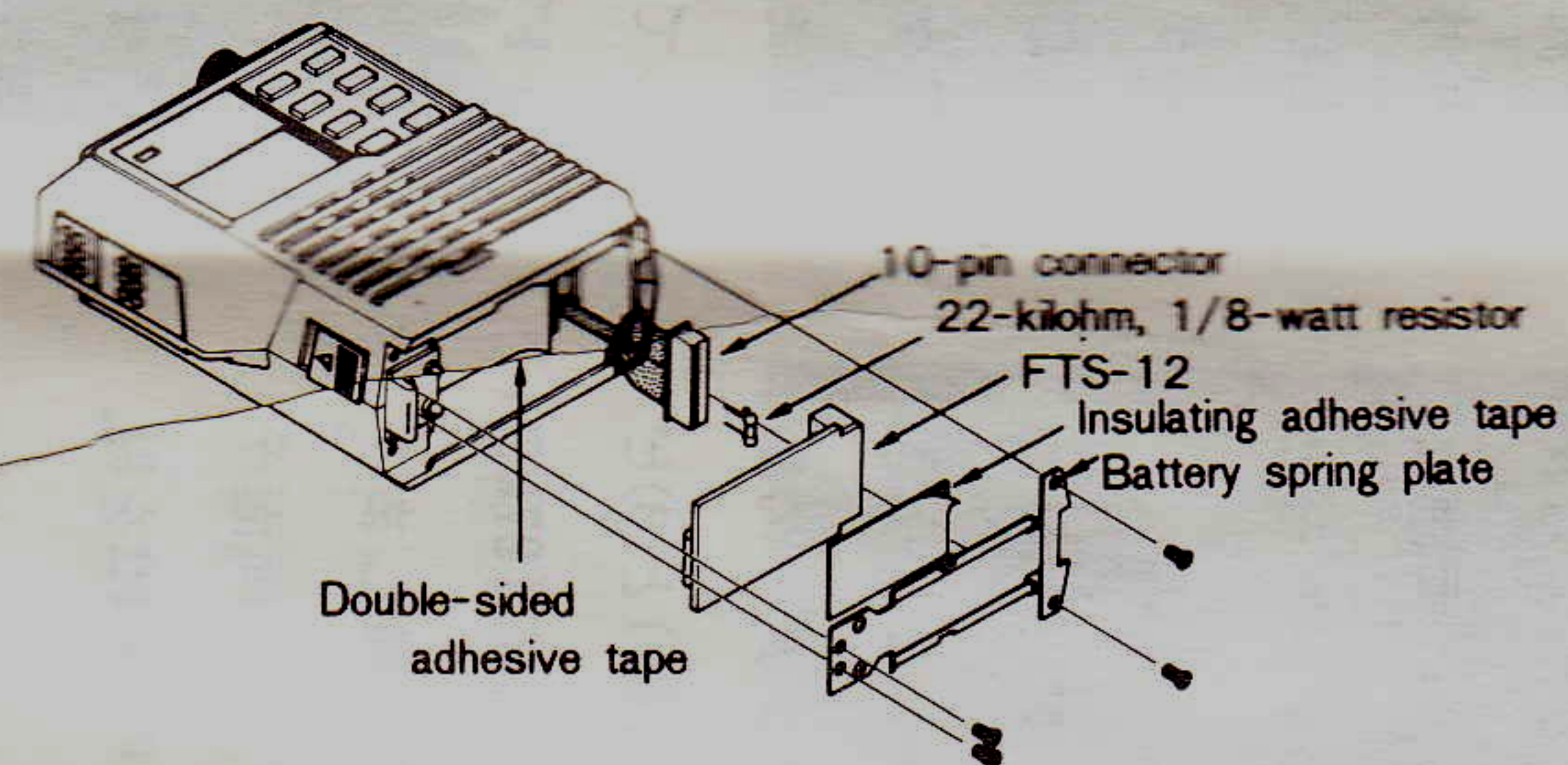
1. Remove the four screws affixing the battery spring plate on the bottom of the transceiver and carefully remove the plate.
2. Locate the 1/8-watt, 22-kilohm resistor inserted in one side of the (unused) 10-pin connector in the compartment on the bottom of the transceiver, and pull the resistor out of the connector. It is not needed when the FTS-12 is installed.

**CAUTION:** if the FTS-12 is later removed, the 22-kilohm resistor must be replaced between pins 3 (red wire) and 5 (yellow wire).

3. Connect the plug in the transceiver to the FTS-12.
4. Locate the double-sided adhesive tape that is already installed inside the compartment on the bottom of the transceiver, and remove the paper cover from the tape. Then mount the FTS-12 by pressing the flat surface of the IC (on the FTS-12) against the tape (see the accompanying drawing).
5. Apply the (supplied) insulating adhesive tape to the battery spring plate.
6. Replace the battery spring plate and its four screws, and the battery pack.

### B. If FTT-4 is Installed

1. Remove the four long screws at the corners on the bottom of the FTT-4. Using care not to stress interconnecting wires, separate the FTT-4 from the transceiver just enough to gain access to the compartment in the bottom of the transceiver.
2. Perform steps 2, 3 & 4 of Procedure A. The insulating tape supplied with the FTS-12 is not used when the FTS-12 is installed with the FTT-4.
3. Replace the FTT-4 and four screws removed in step 1, and then replace the battery pack.





## FT-212RH/712RH/912R

- (1) Disconnect the power cable at the rear of the transceiver, place the transceiver upside-down on the workbench, and remove the four screws on the bottom cover. Loosen the two screws on each side, and then remove the bottom cover (Fig. 1).
- (2) Lift the loudspeaker out of its holder, and then remove the three screws in the arms of the holder, and lift it out of the chassis (Fig. 2).
- (3) Remove the jumper plug from jack J1004 in the front left corner of the speaker compartment (Fig. 2).
- (4) Locate the unconnected brown 10-pin connector at the front of the speaker compartment. Align the small tab on one side of this connector with the hole in one side of the jack on the FTS-12, and mate these connectors (Fig. 3).
- (5) Press the FTS-12 into the clip on the speaker holder (Fig. 4). The output tone level (VR1 on the FTS-12) is adjusted at the factory for the proper deviation, so no adjustment is needed.
- (6) Replace the speaker holder and its three screws, and replace the speaker in the holder. Then replace the bottom cover and its four screws, and retighten the two screws on each side.

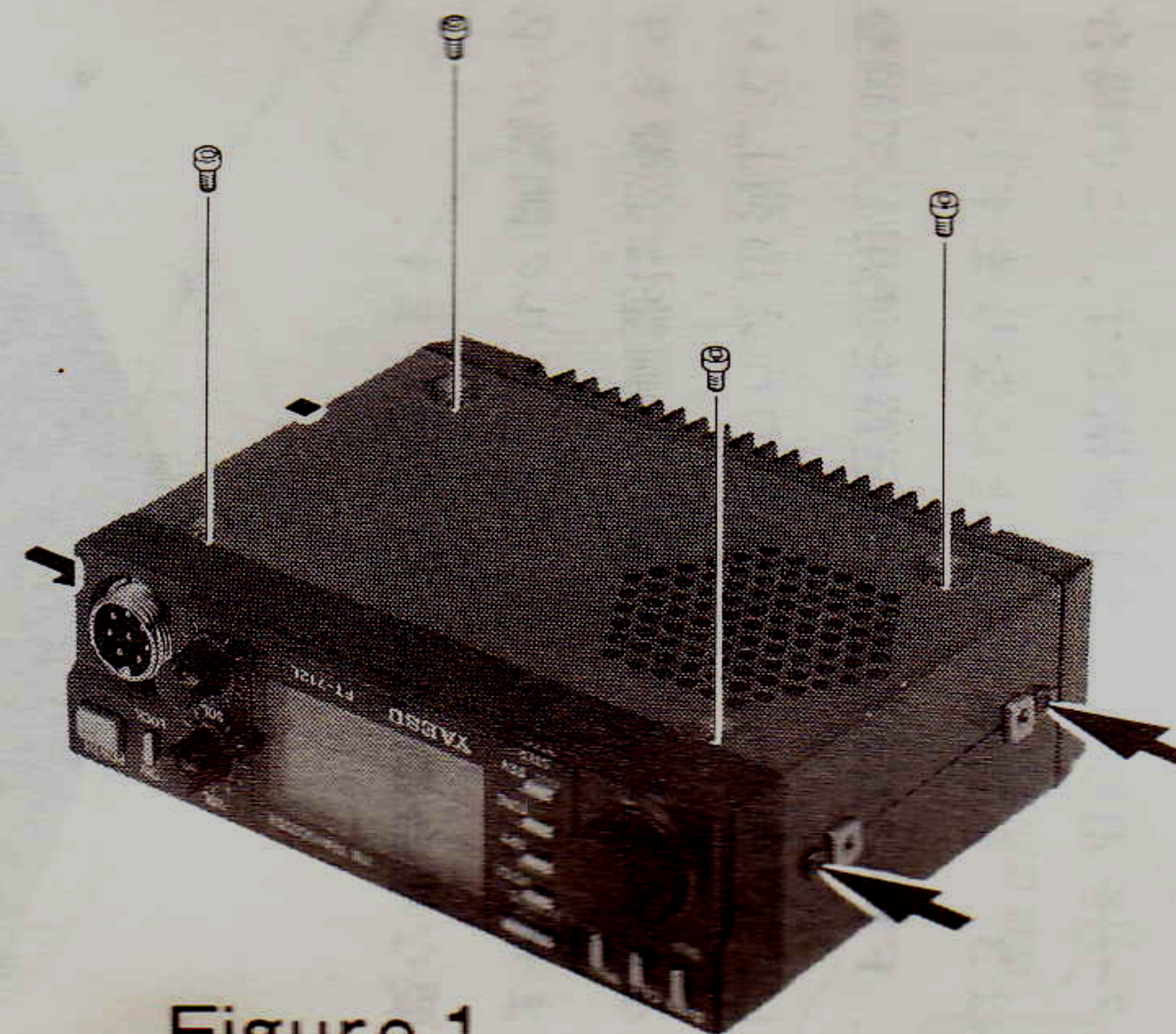


Figure 1

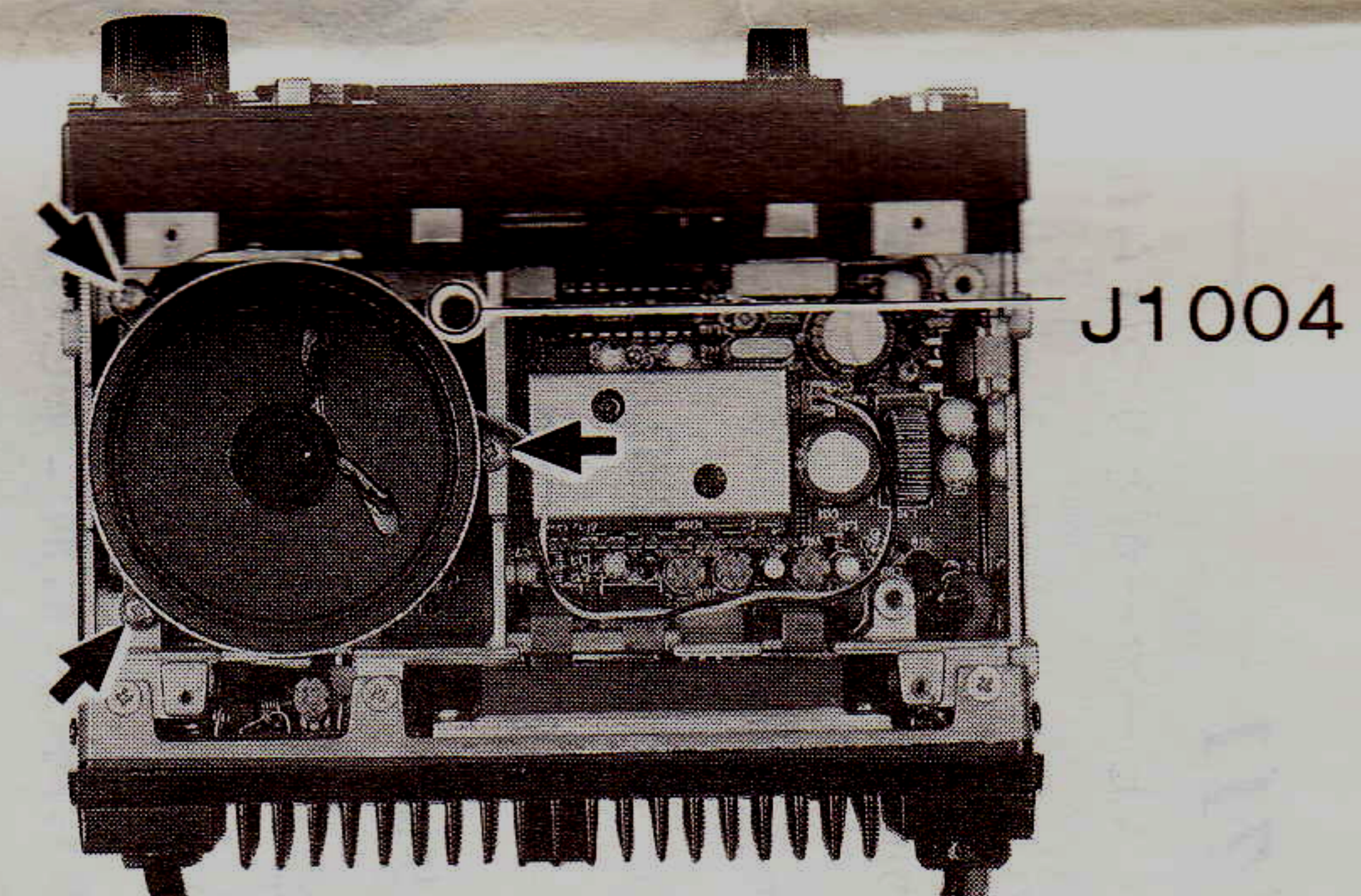


Figure 2

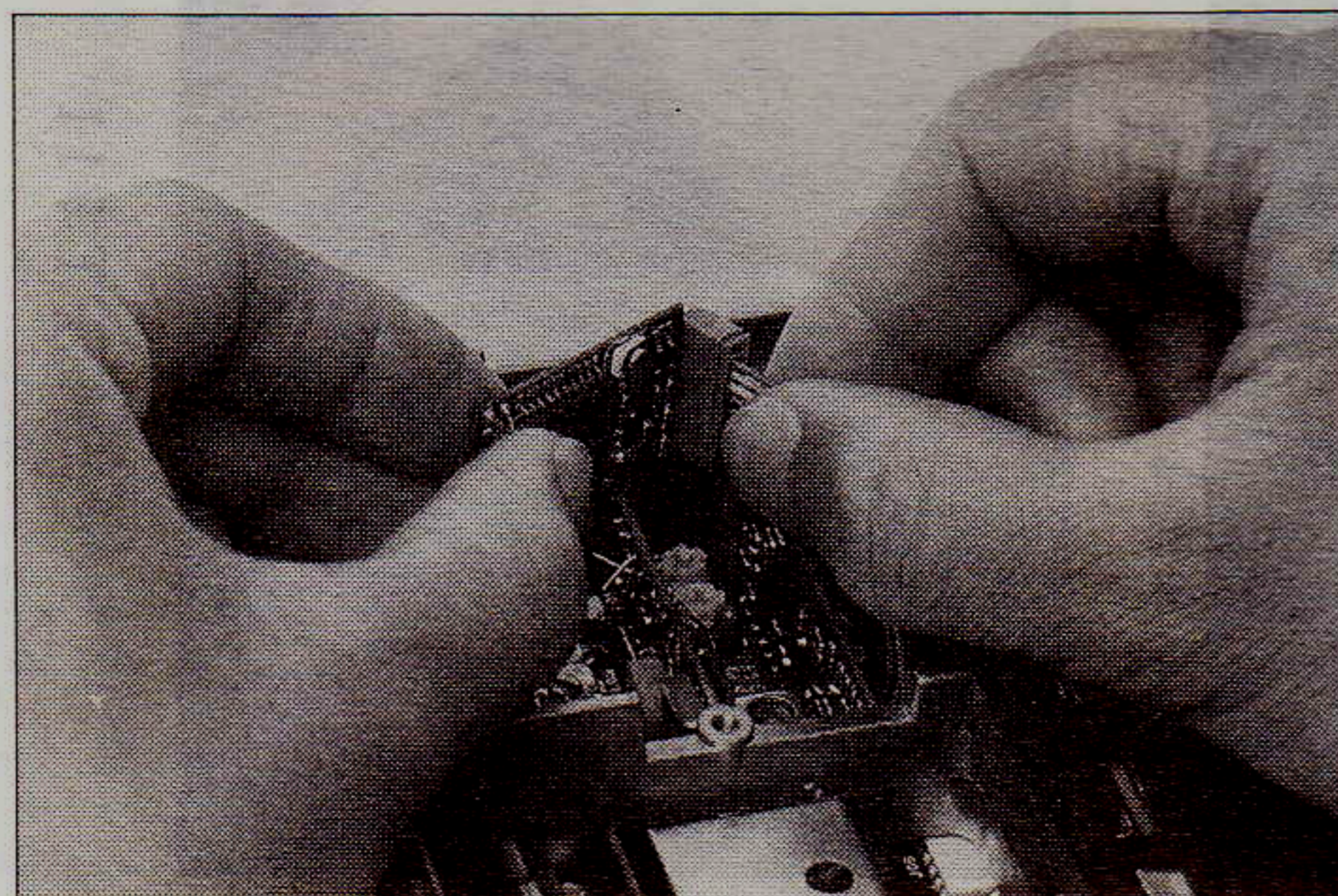


Figure 3

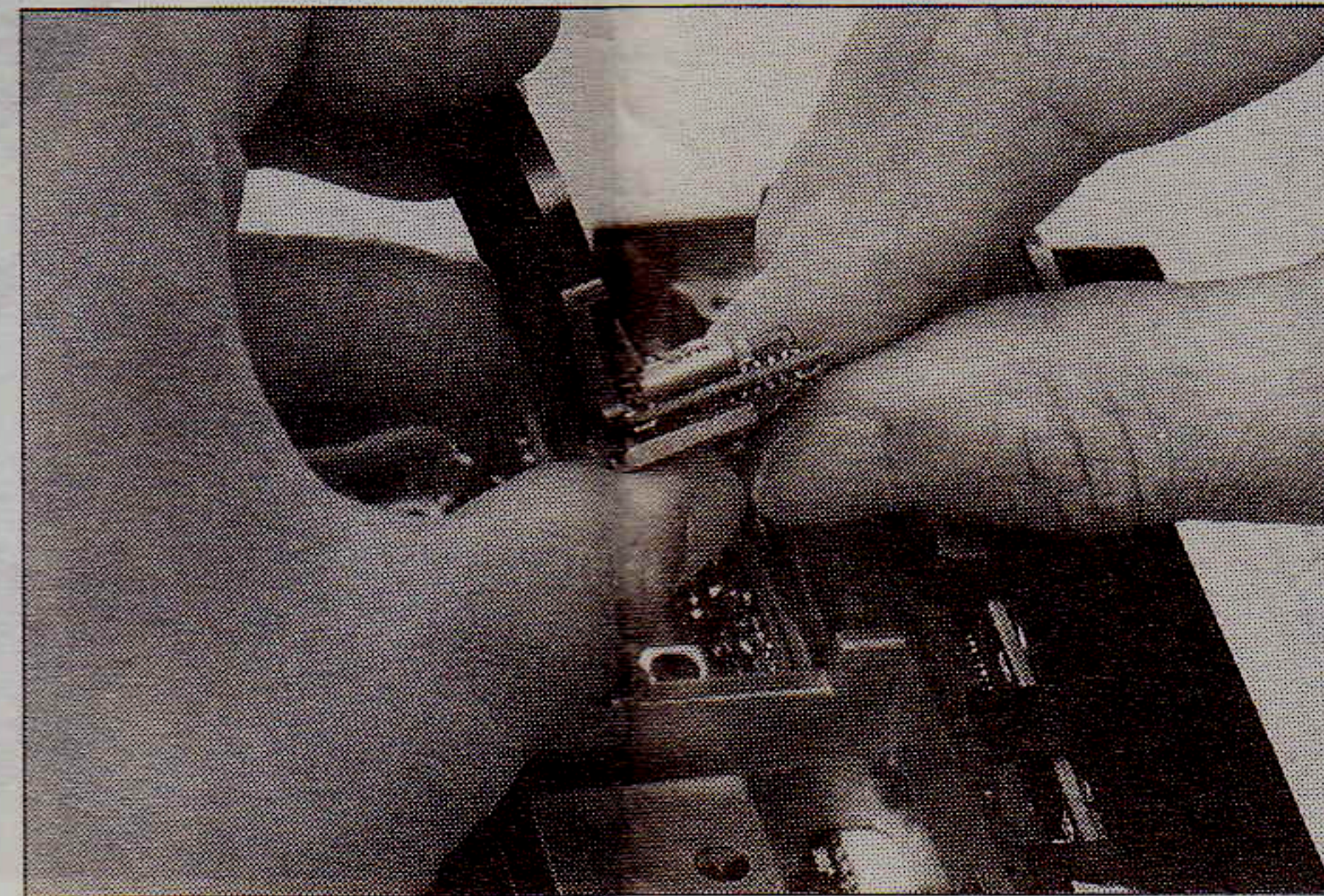
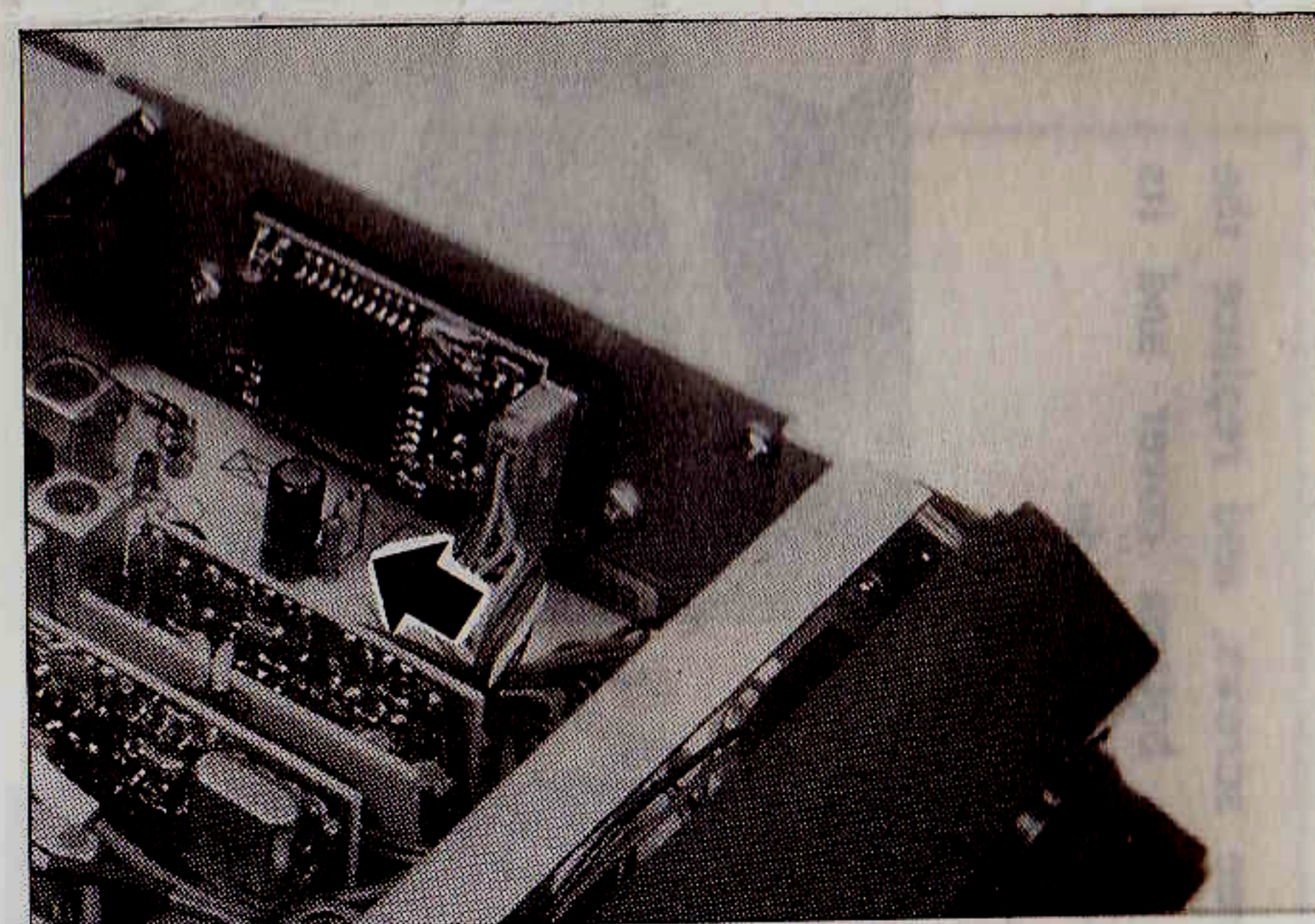


Figure 4

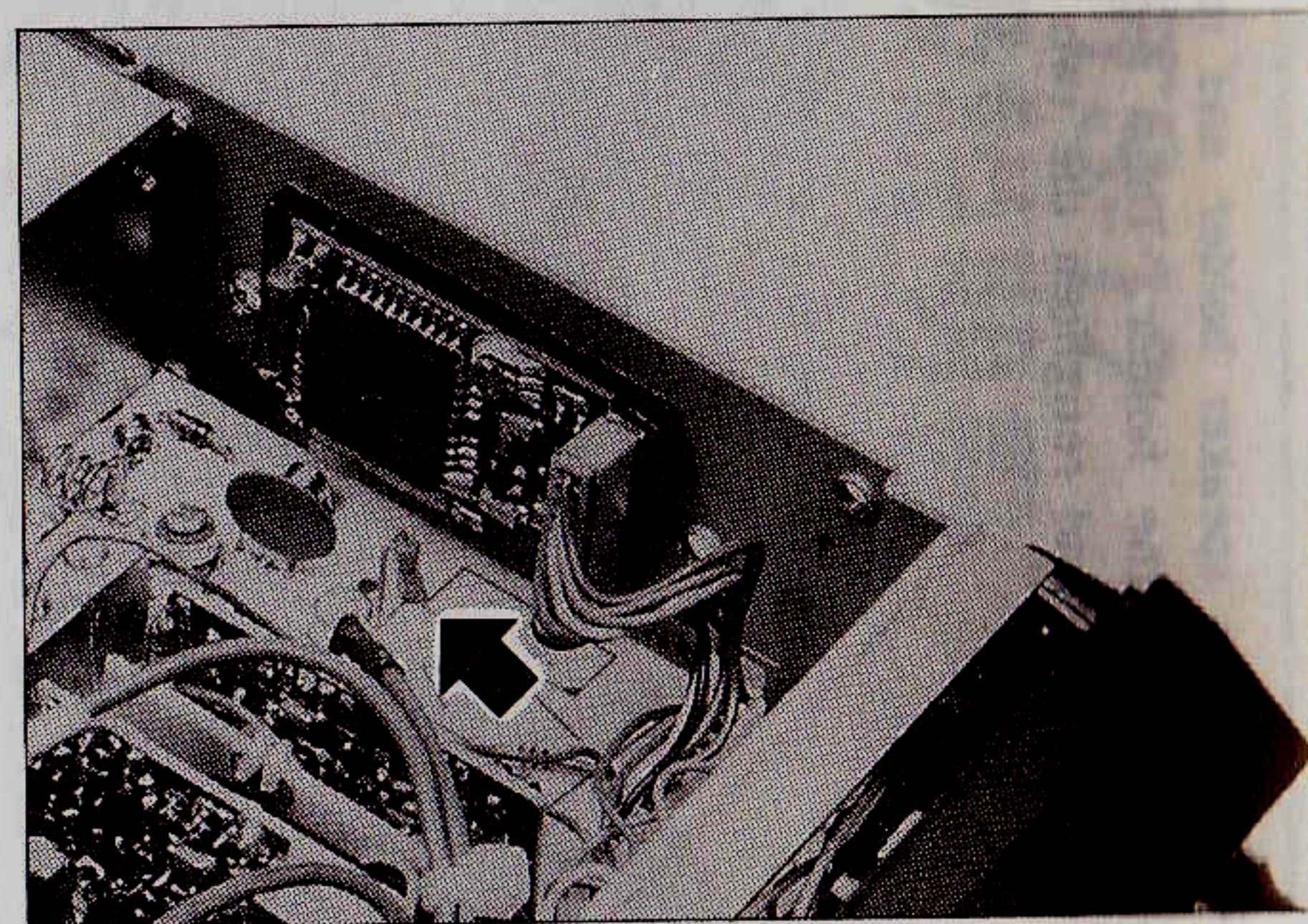


## FT-211/711

1. 本体下面（スピーカーがとりつけられている面）のビス1本、ケースの両側にある2本ずつのビス（合計で4本）をとり、下面ケースを取りはずします。
2. 写真に矢印で示す抵抗(22k $\Omega$ )のリード線をニッパーで切断してください（後日FTS-12を取りはずして使う場合は、この部分をふたたびハンダ付けしないと受信できなくなりますからご注意ください）。
3. パネル面から向って右前に茶色の10ピンコネクタがあるので、これをFTS-12に差し込みます。
4. 写真に示す位置にある両面テープの保護シートをはがし、その部分にFTS-12を貼りつけます。

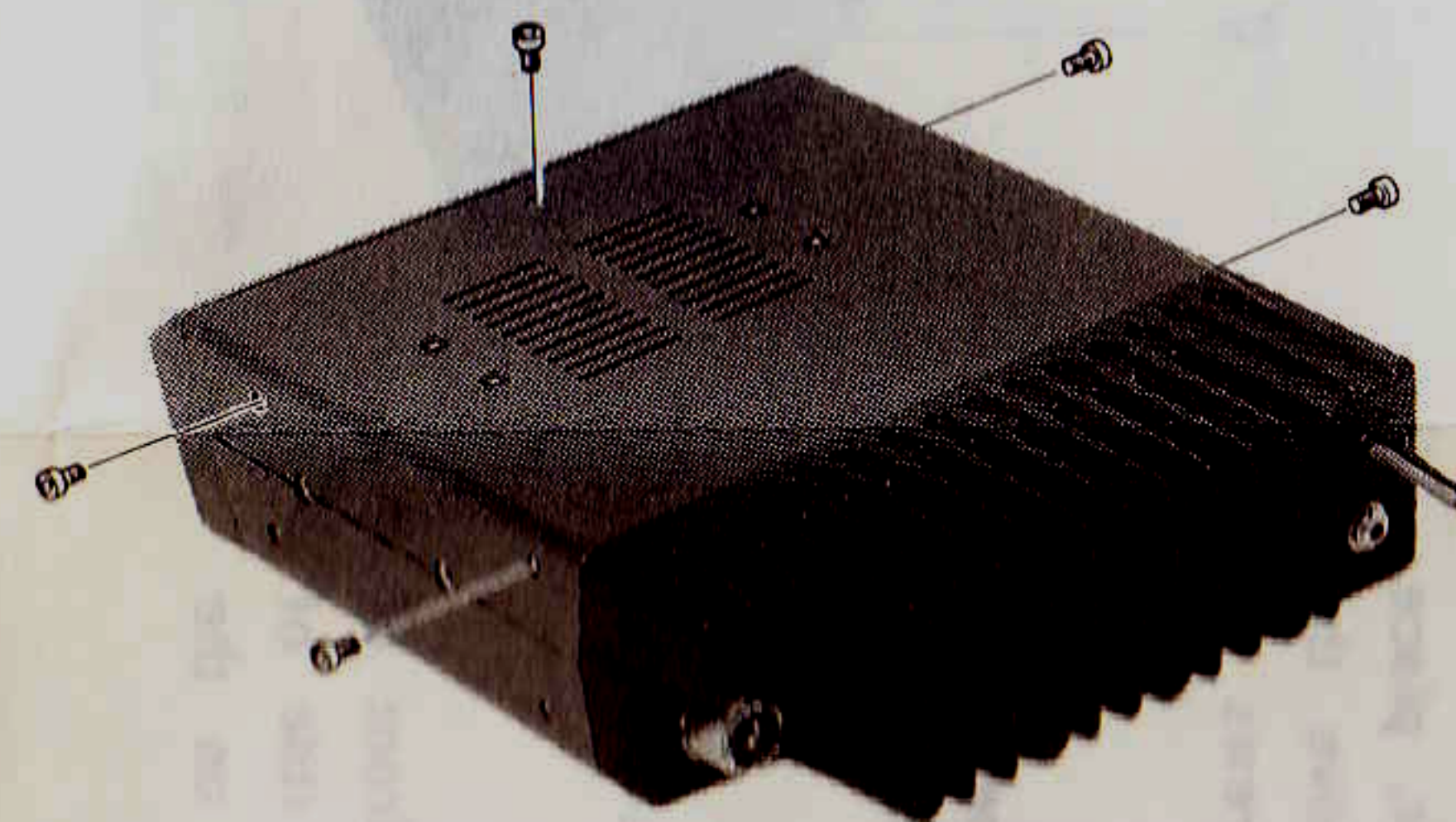


FT-211



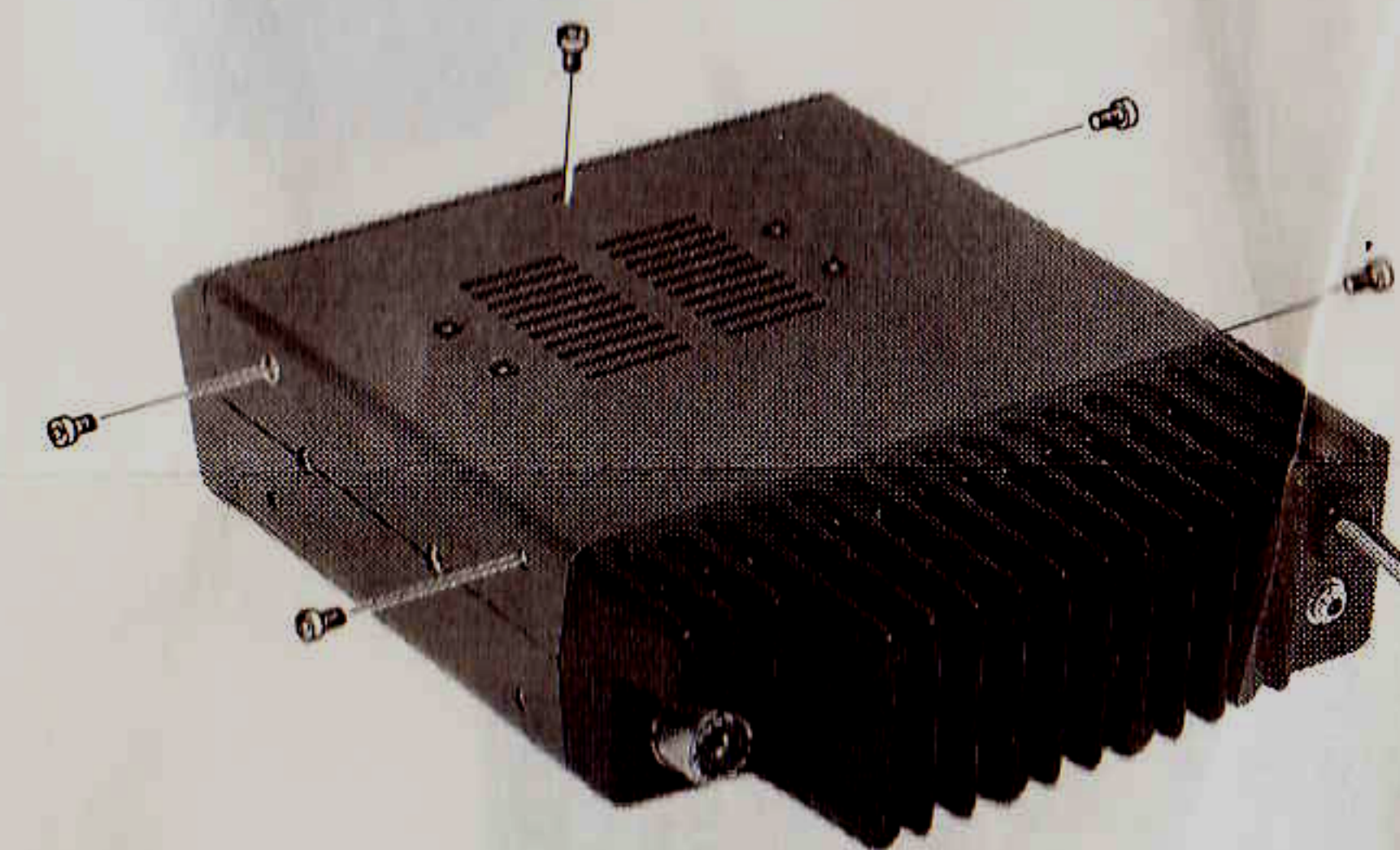
FT-711

5. 以上で組み込みは終了ですが、元通りにケースを取り付けるまえにコネクタがキチッと差し込まれていることを確認してください。（4.の段階でFTS-12をシャーシ内側に貼りつけたあと、コネクタを差し込んでも結構です。この場合は3.を省略することになります）。
6. FTS-12は各種の測定器を使用して調整し、標準セットで検査のうえ出荷しているため、取り付け後の再調整は必要ありません。万一、トーンレベルの調整が必要な場合には、VR1で行います。



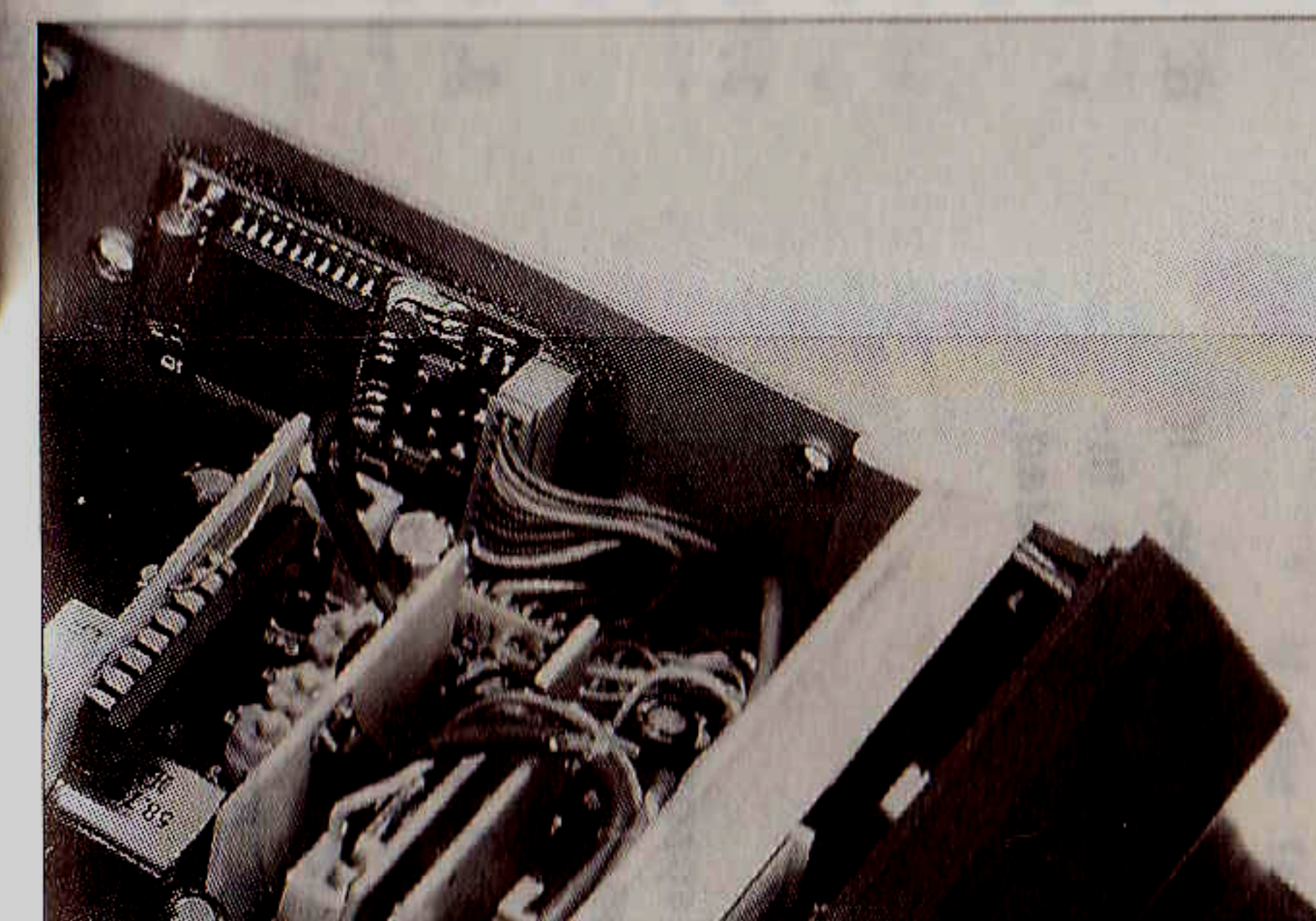
## FT-2311

1. 本体下面（スピーカーがとりつけられている面）のビス1本、ケースの両側にある2本ずつのビス（合計で4本）をとり、下面ケースを取りはずします。
2. パネル面から向って右側がFTS-12の取付位置です。メインユニットより引き出している茶色の10ピンコネクタの絶縁テープをはがして⑥ピン（青線）と⑧ピン（灰線）に差し込まれている抵抗（27k $\Omega$ ）を外し、FTS-12のジャックに接続します。次に、本体側面に貼り付けてある両面テープの保護シートをはがし、FTS-12を貼

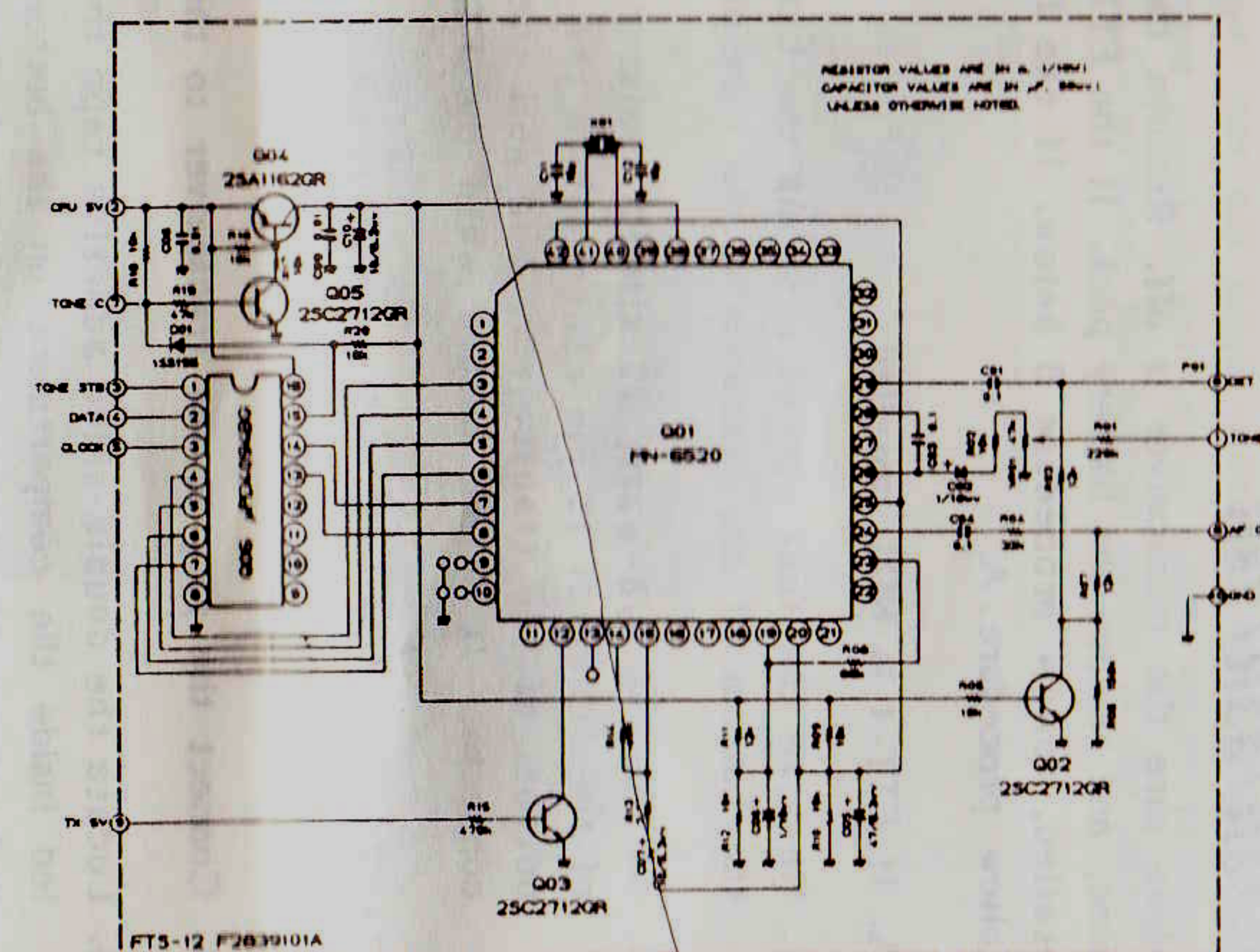


り付けて固定します。（後日FTS-12を取り外して使う場合には、この工程で外した抵抗を元通りに接続しないと受信音が出ませんのでご注意ください。）

3. 以上で組み込みは終了ですが、元通りにケースを取り付けるまえにコネクタがキチッと差し込まれていることを確認してください。
4. FTS-12は各種の測定器を使用して調整し、標準セットで検査のうえ出荷しているため、取り付け後の再調整は必要ありません。万一、トーンレベルの調整が必要な場合には、VR1で行います。



CTCSS Tone Frequency (Hz)			
67.0	100.0	141.3	203.5
71.9	103.5	146.2	210.7
74.4	107.2	151.4	218.1
77.0	110.9	156.7	225.7
79.7	114.8	162.2	233.5
82.5	118.8	167.9	241.8
85.4	123.0	173.8	250.3
88.5	127.3	179.9	-
91.5	131.8	186.2	-
94.8	136.5	192.8	-





FT-212RH/712RH

- (1) Disconnect the power cable at the rear of the transceiver, place the transceiver upside-down on the workbench, and remove the four screws on the bottom cover. Loosen the two screws on each side, and then remove the bottom cover (Fig. 1).
- (2) Lift the loudspeaker out of its holder, and then remove the three screws in the arms of the holder, and lift it out of the chassis (Fig. 2).
- (3) Remove the jumper plug from jack J1004 in the front left corner of the speaker compartment (Fig. 2).
- (4) Locate the unconnected brown 10-pin connector at the front of the speaker compartment. Align the small tab on one side of this connector with the hole in one side of the jack on the FTS-12, and mate these connectors (Fig. 3).
- (5) Press the FTS-12 into the clip on the speaker holder (Fig. 4). The output tone level (VR1 on the FTS-12) is adjusted at the factory for the proper deviation, so no adjustment is needed.
- (6) Replace the speaker holder and its three screws, and replace the speaker in the holder. Then replace the bottom cover and its four screws, and retighten the two screws on each side.

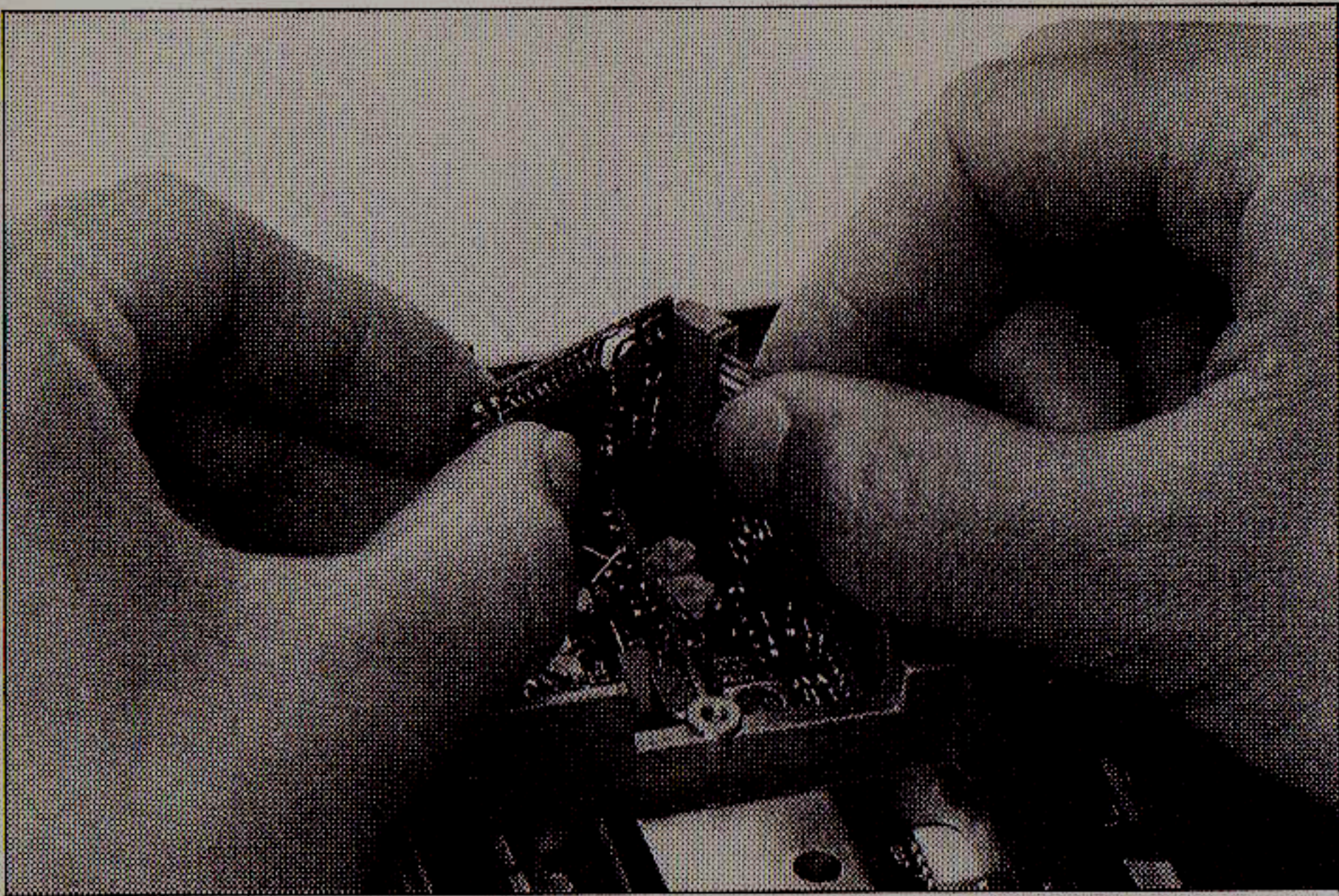


Figure 3

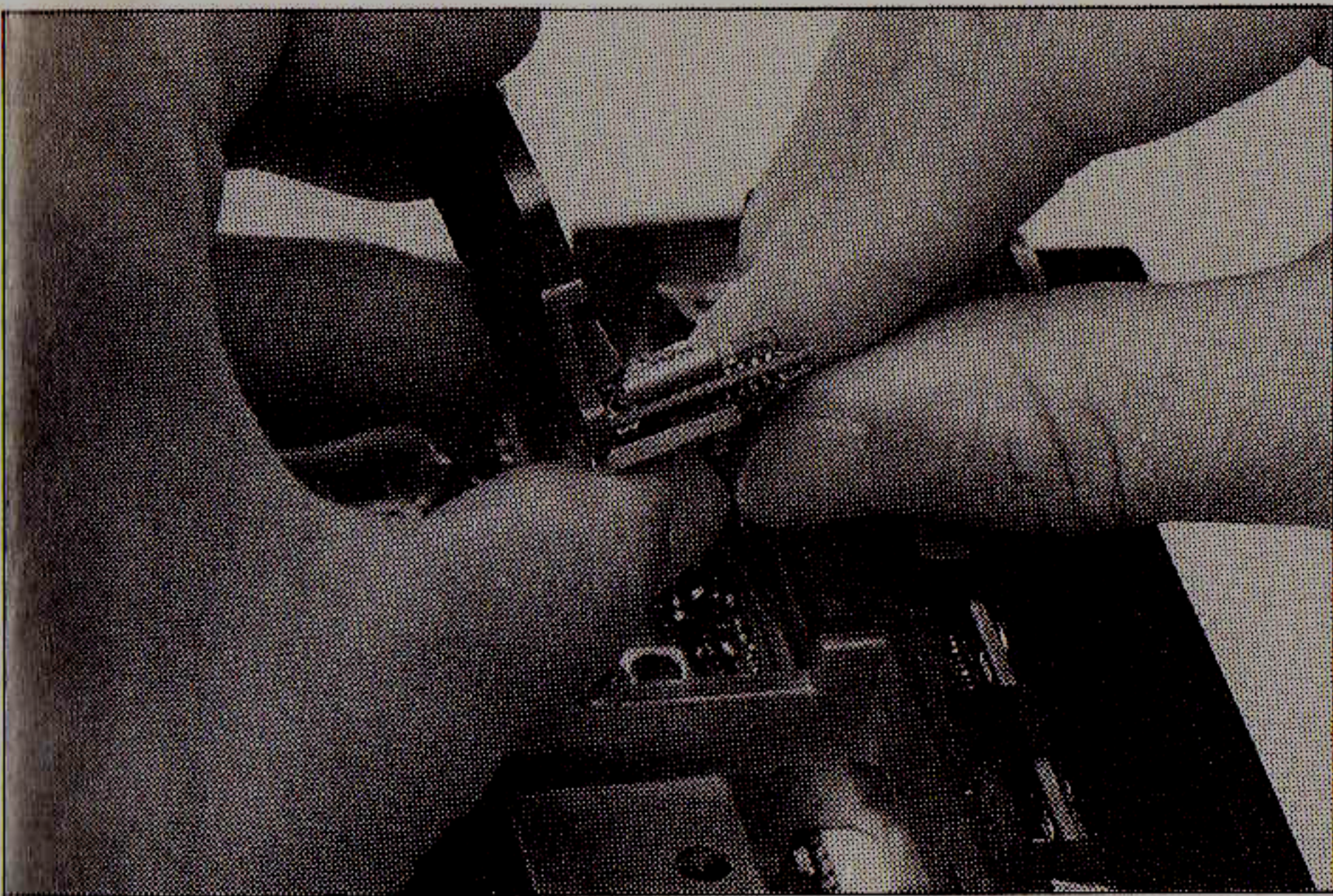


Figure 4

CTCSS Tone Frequency (Hz)			
67.0	100.0	141.3	203.5
71.9	103.5	146.2	210.7
74.4	107.2	151.4	218.1
77.0	110.9	156.7	225.7
79.7	114.8	162.2	233.6
82.5	118.8	167.9	241.8
85.4	123.0	173.8	250.3
88.5	127.3	179.9	—
91.5	131.8	186.2	—
94.8	136.5	192.8	—

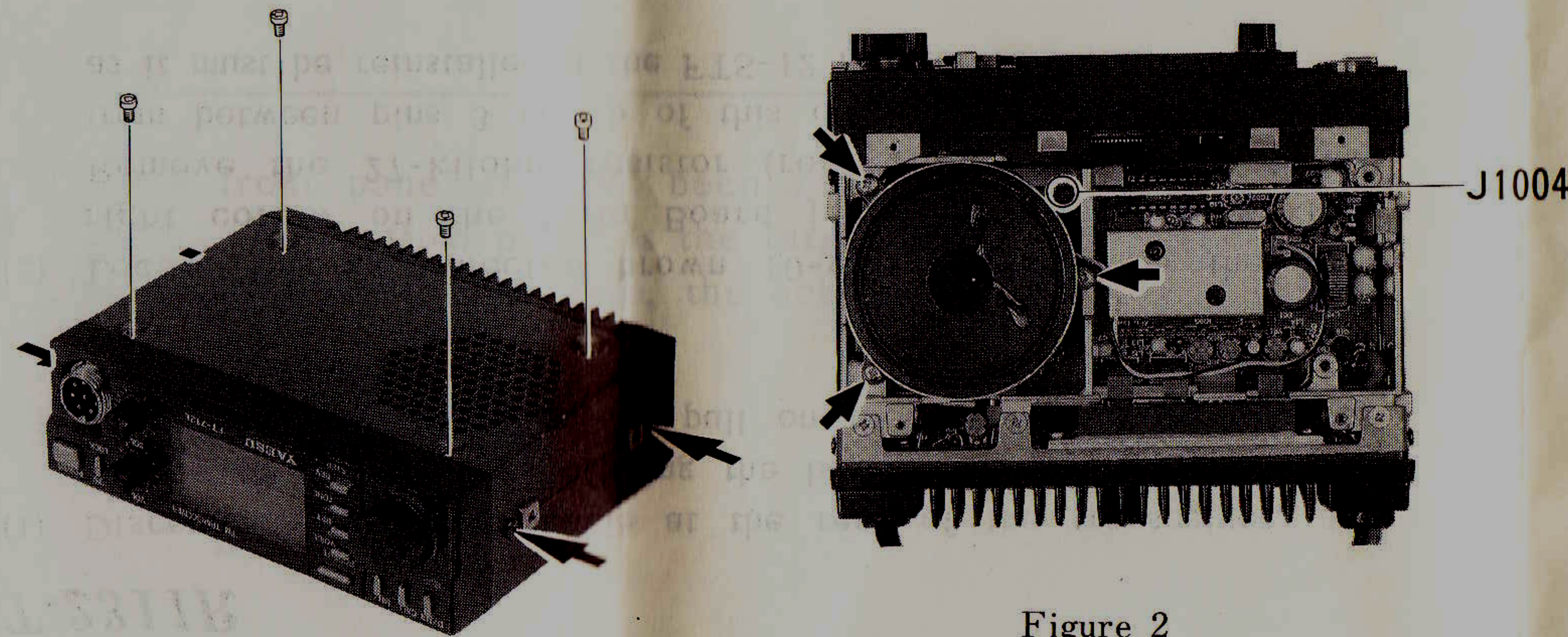
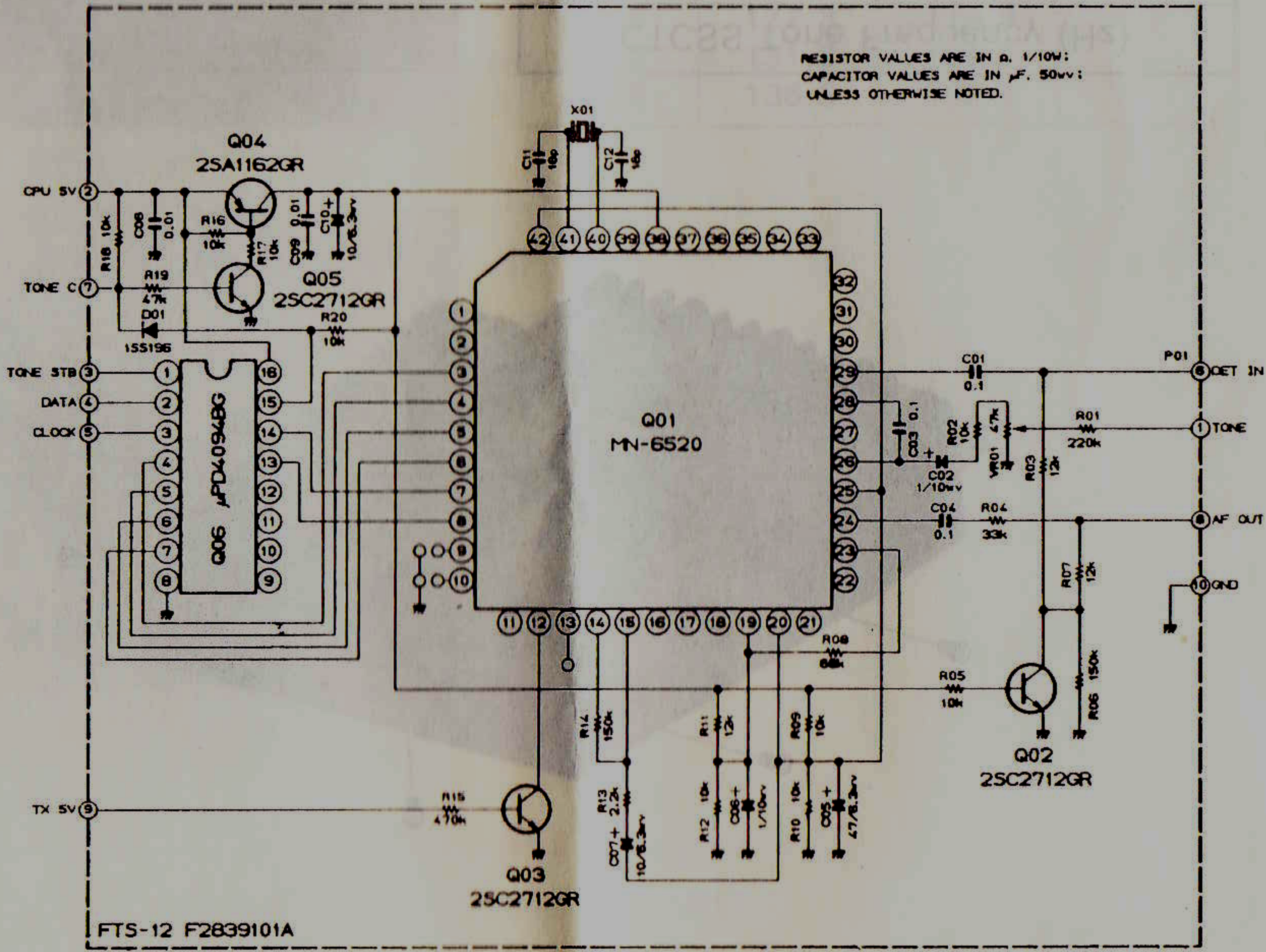


Figure 2





# FTS-12 TONE SQUELCH UNIT INSTALLATION

The FTS-12 is a subaudible CTCSS (Continuous Tone-Controlled Squelch System) which offers programmable selection of 37 tones for transmission and filter/detectors for reception. Transmitonly (encode) and transmit/receive (encode/decode) modes are selectable from keys on the transceiver.

## FT-23R/33R/73R

Make sure the transceiver is off. Remove the hard or soft case, if used, and remove the battery pack. If the FTT-4 DTMF keypad is installed, follow procedure B below. If the FTT-4 is not installed, follow procedure A.

### A. If FTT-4 is NOT Installed

1. Remove the four screws affixing the battery spring plate on the bottom of the transceiver and carefully remove the plate.
2. Locate the 1/8-watt, 22-kilohm resistor inserted in one side of the (unused) 10-pin connector in the compartment on the bottom of the transceiver, and pull the resistor out of the connector. It is not needed when the FTS-12 is installed.

**CAUTION:** if the FTS-12 is later removed, the 22-kilohm resistor must be replaced between pins 3 (red wire) and 5 (yellow wire).

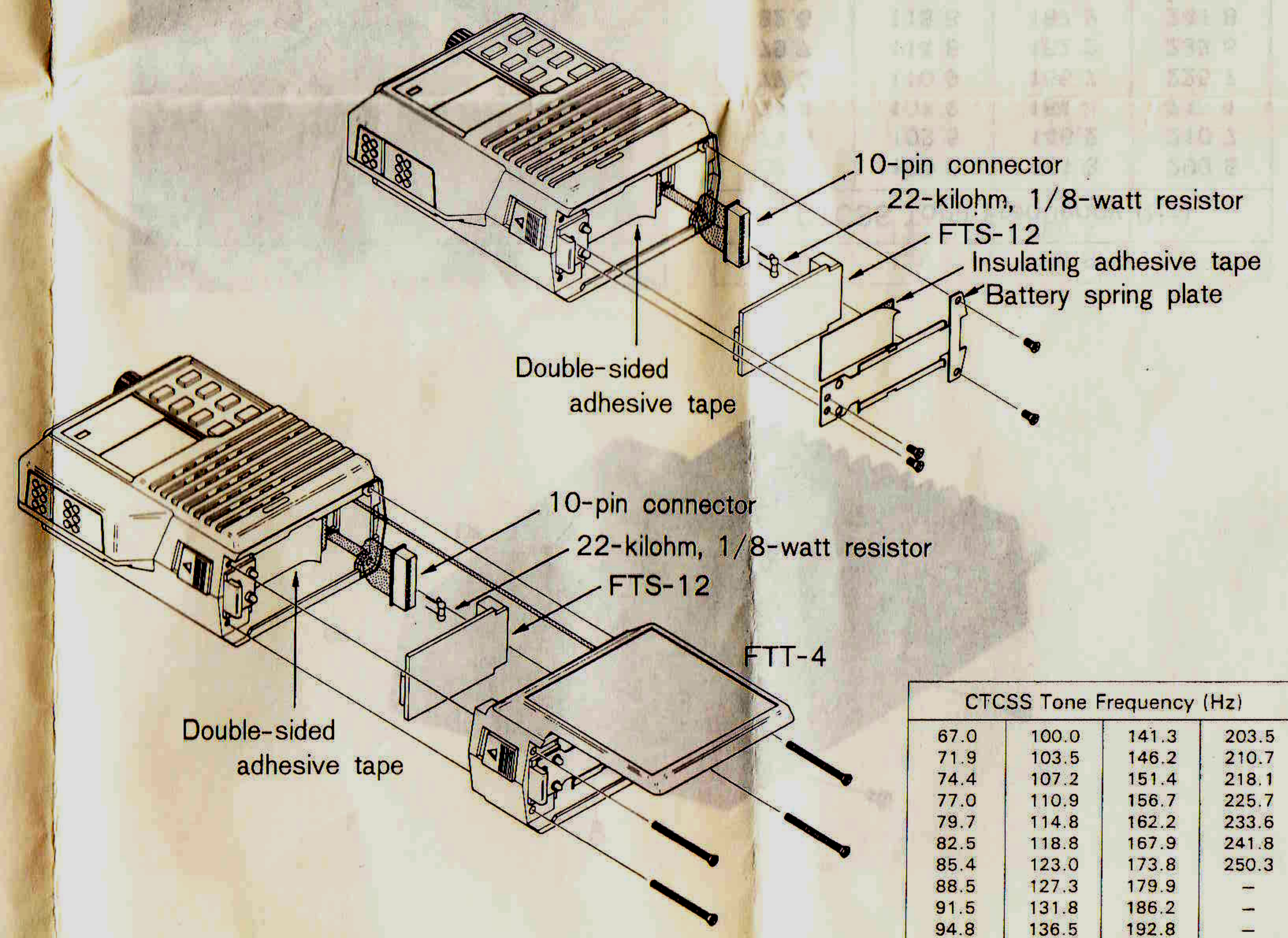
3. Connect the plug in the transceiver to the FTS-12.
4. Locate the double-sided adhesive tape that is already installed inside the compartment on the bottom of the transceiver, and remove the paper cover from the tape. Then mount the FTS-12 by pressing the flat surface of the IC (on the FTS-12) against the tape (see the accompanying drawing).
5. Apply the (supplied) insulating adhesive tape to the battery spring plate.
6. Replace the battery spring plate and its four screws, and the battery pack.



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**C.P.O. BOX 1500**  
**TOKYO, JAPAN**

### B. If FTT-4 is Installed

1. Remove the four long screws at the corners on the bottom of the FTT-4. Using care not to stress interconnecting wires, separate the FTT-4 from the transceiver just enough to gain access to the compartment in the bottom of the transceiver.
2. Perform steps 2, 3 & 4 of Procedure A. The insulating tape supplied with the FTS-12 is not used when the FTS-12 is installed with the FTT-4.
3. Replace the FTT-4 and four screws removed in step 1, and then replace the battery pack.



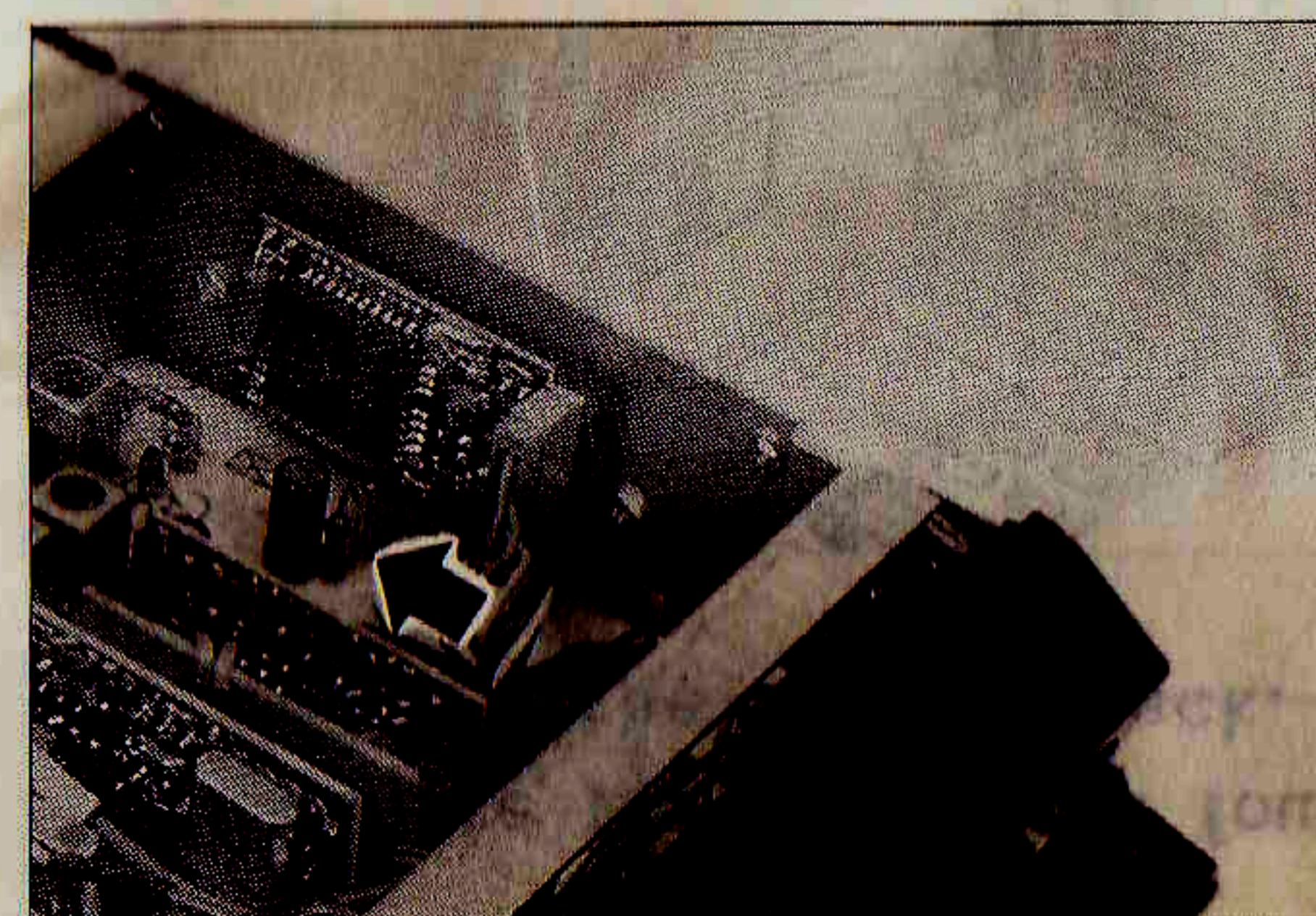
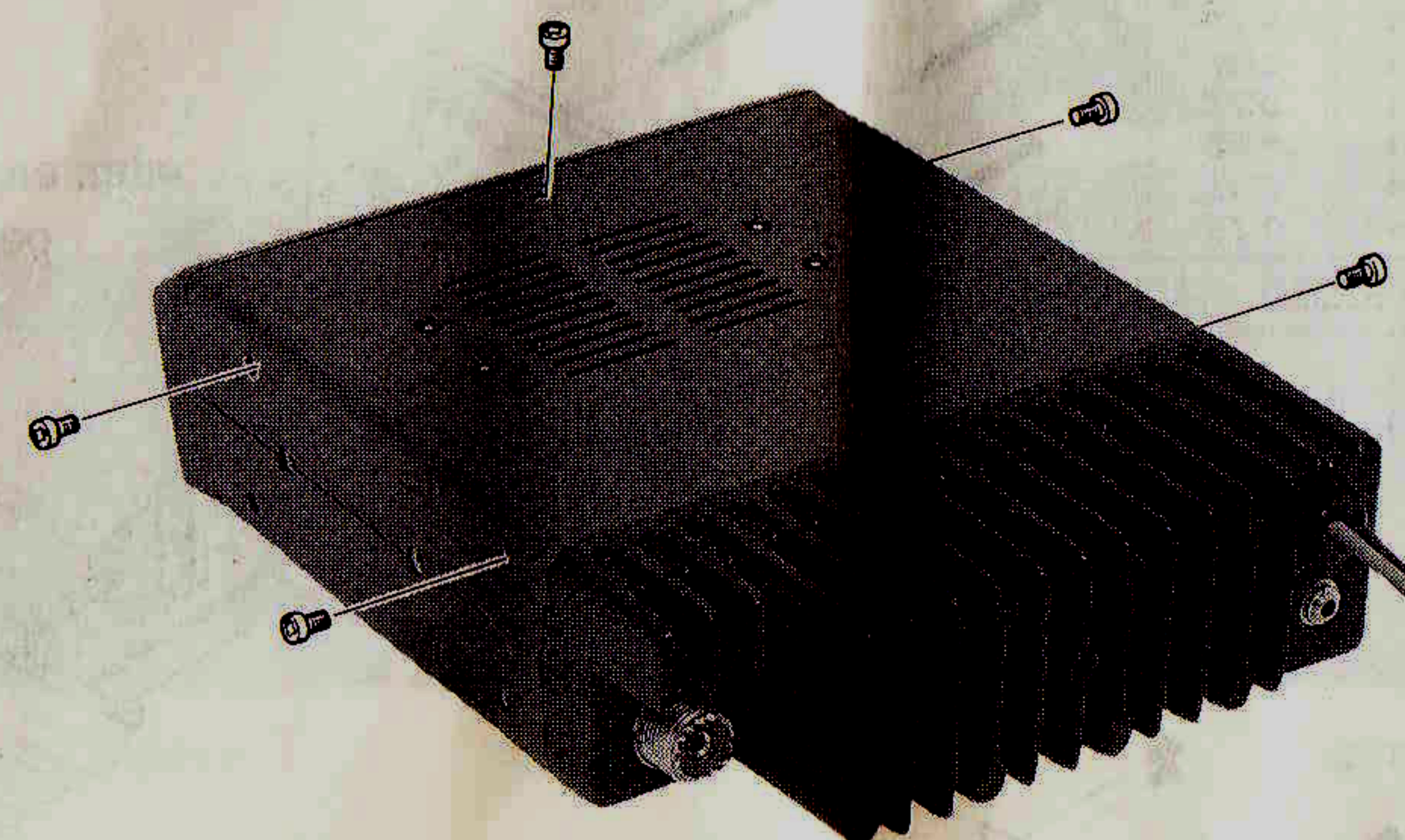
CTCSS Tone Frequency (Hz)			
67.0	100.0	141.3	203.5
71.9	103.5	146.2	210.7
74.4	107.2	151.4	218.1
77.0	110.9	156.7	225.7
79.7	114.8	162.2	233.6
82.5	118.8	167.9	241.8
85.4	123.0	173.8	250.3
88.5	127.3	179.9	—
91.5	131.8	186.2	—
94.8	136.5	192.8	—



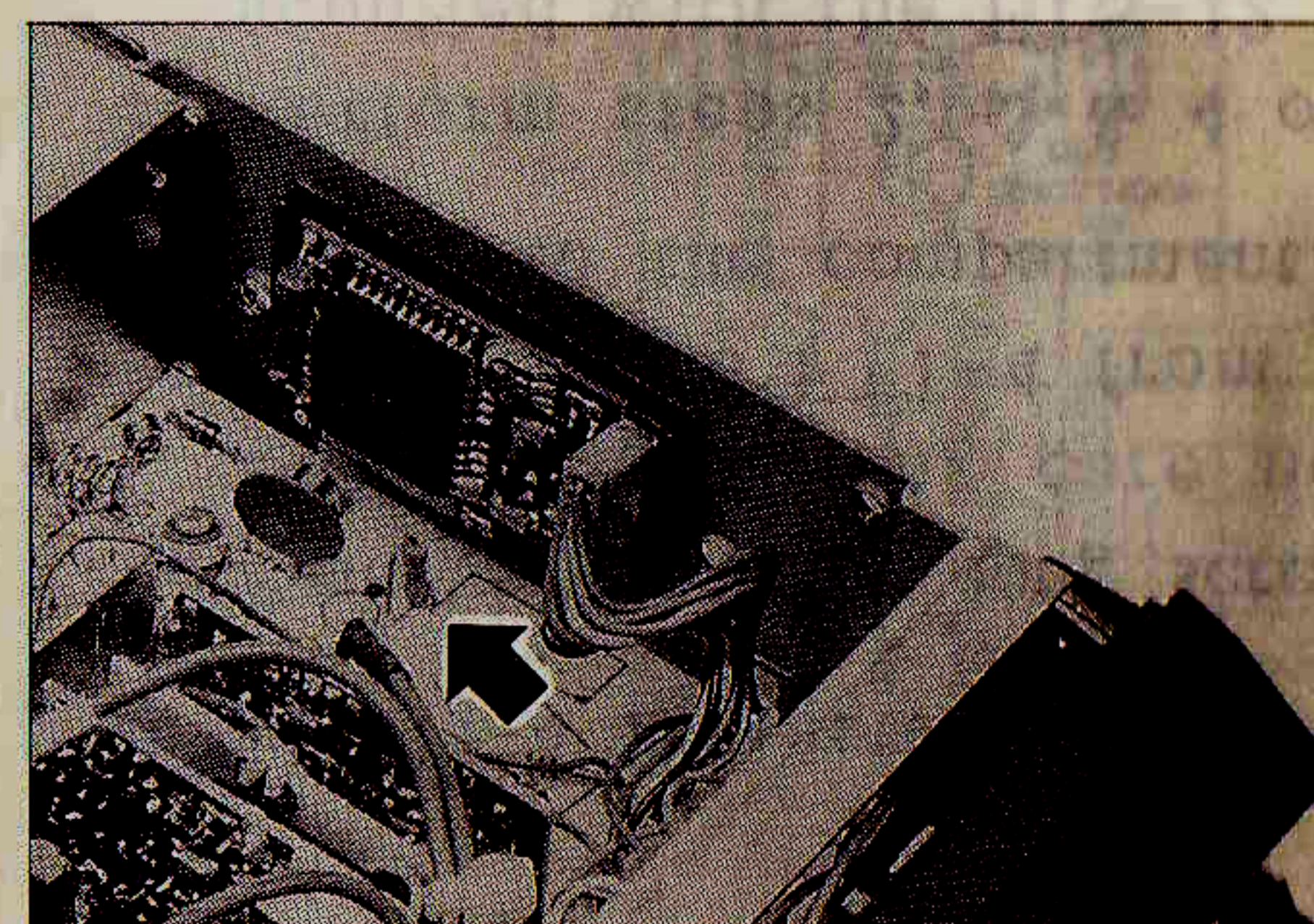
## FT-211RH/311RM/711RH

- (1) Disconnect the power cable at the rear of the transceiver, and remove the five screws affixing the bottom cover\*. Remove the cover carefully so as not to pull on the speaker wires, and lay the set upside down.
- (2) Locate the unconnected brown 10-pin connector at the front right corner on the Main Board just behind the tuning knob. Align the small tab on one side of this connector with the hole in one side of the FTS-12 connector, and mate these connectors.
- (3) Now locate the double-sided adhesive tape pre-installed on the inside of the side panel. Remove the paper covering from this tape, and press the FTS-12 against it as shown in the diagram below.
- (4) On the main circuit board near the FTS-12 mounting position, notice a 27-kilohm resistor (red, violet and orange bands). Cut the exposed lead of this resistor. If the FTS-12 is removed from the transceiver, this resistor must be reconnected.
- (5) Replace the bottom cover. The output tone level (VR1 on the FTS-12) is adjusted at the factory for the proper deviation, so no adjustment should be necessary.

\* If the front panel has not been reversed (ie., angles upwards), the bottom panel is the larger panel which includes the loudspeaker. Otherwise, the bottom panel is the smaller one.



FT-211RH



FT-311RM/711RH

CTCSS Tone Frequency (Hz)

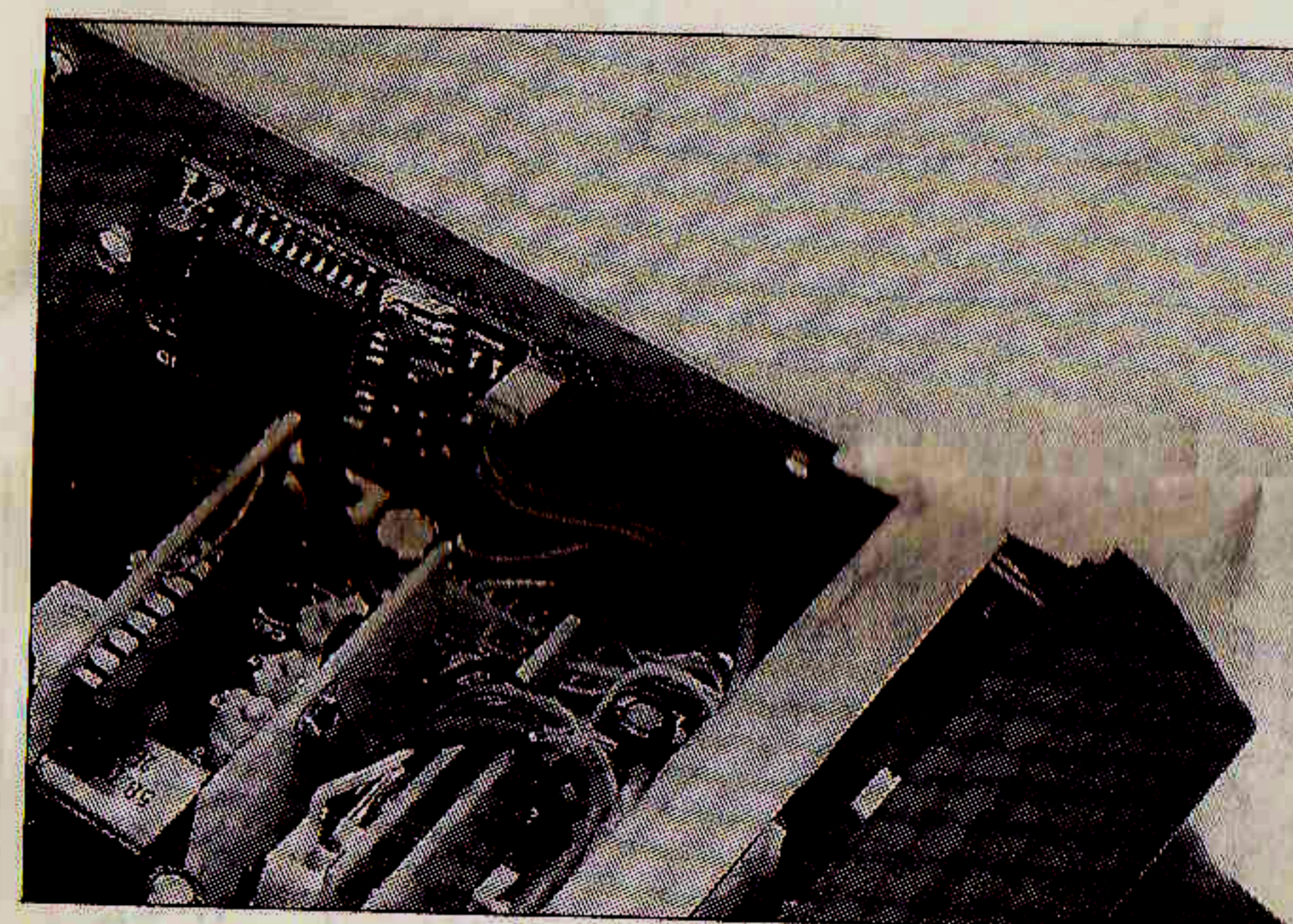
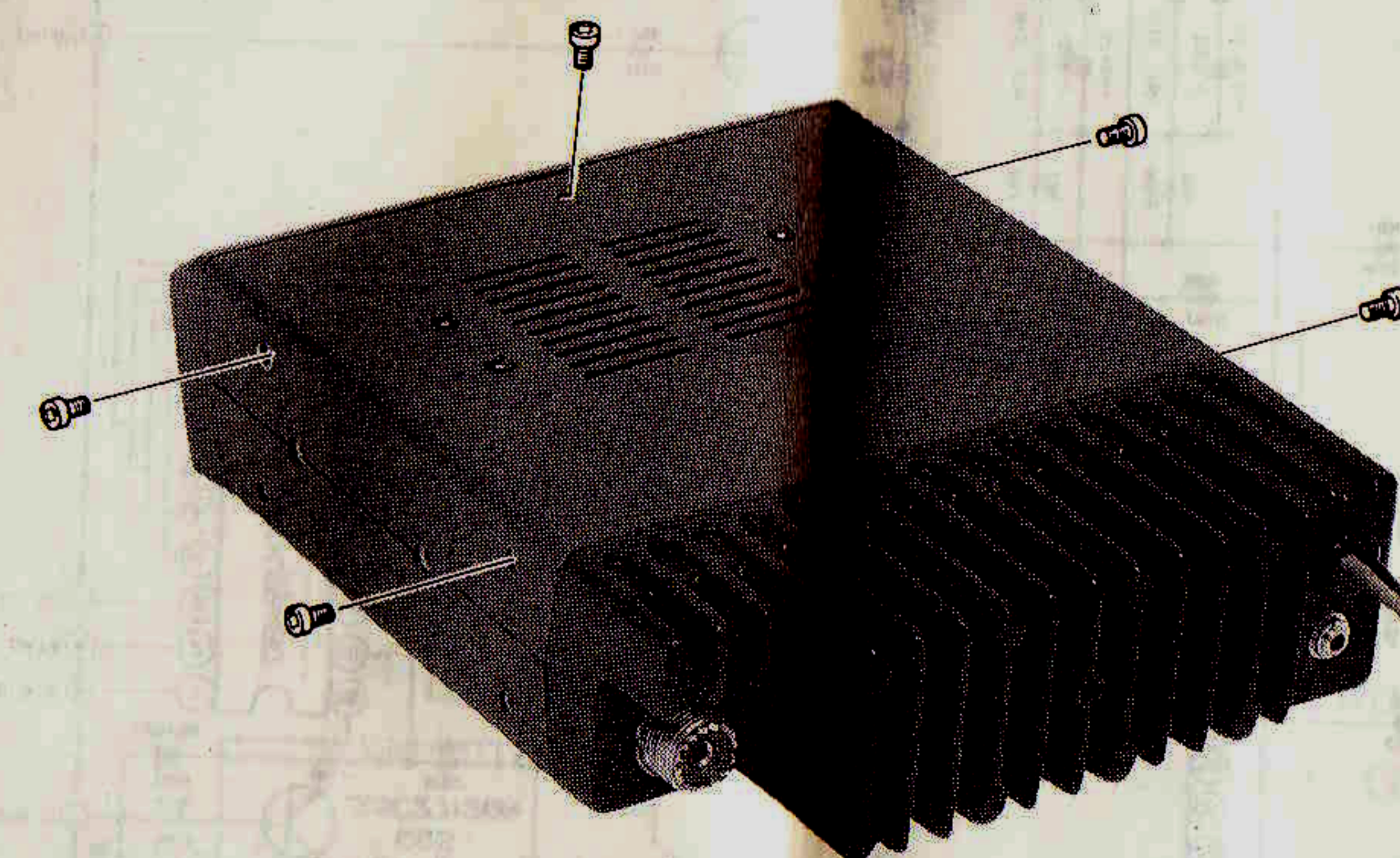
67.0	100.0	141.3	203.5
71.9	103.5	146.2	210.7
74.4	107.2	151.4	218.1
77.0	110.9	156.7	225.7
79.7	114.8	162.2	233.6
82.5	118.8	167.9	241.8
85.4	123.0	173.8	250.3
88.5	127.3	179.9	—
91.5	131.8	186.2	—
94.8	136.5	192.8	—



## FT-2311R

- (1) Disconnect the power cable at the rear of the transceiver, and remove the five screws affixing the bottom cover\*\*\*. Remove the cover carefully so as not to pull on the speaker wires, and lay the set upside down.
- (2) Locate the unconnected brown 10-pin connector at the front right corner on the Main Board just behind the tuning knob. Remove the 27-kilohm resistor (red, violet and orange bands) from between pins 3 and 5 of this connector. Save this resistor, as it must be reinstalled if the FTS-12 is later removed.
- (3) Align the small tab on one side of the 10-pin connector with the hole in one side of the FTS-12 connector, and mate these connectors.
- (4) Now locate the double-sided adhesive tape pre-installed on the inside of the side panel. Remove the paper covering from this tape, and press the FTS-12 against it.
- (5) Replace the bottom cover. The output tone level (VR1 on the FTS-12) is adjusted at the factory for the proper deviation, so no adjustment should be necessary.

\*\*\* If the front panel has not been reversed (i.e., angles upwards), the bottom panel is the larger panel which includes the loudspeaker. Otherwise, the bottom panel is the smaller one.



CTCSS Tone Frequency (Hz)

67.0	100.0	141.3	203.5
71.9	103.5	146.2	210.7
74.4	107.2	151.4	218.1
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85.4	123.0	173.8	250.3
88.5	127.3	179.9	—
91.5	131.8	186.2	—
94.8	136.5	192.8	—