

MEASURING SWR

To accurately measure the SWR of your antenna, it will be necessary to obtain the use of an accurate SWR meter. Royce markets several models of SWR meters, and a meter is a necessity for monitoring your antenna system to maintain maximum performance and range.

UNDERSTANDING SWR

In theory, your transceiver has a 50 ohm output and your antenna is 50 ohms. If a 50 ohm cable (such as RG58/U or RG8/U) is used, all the power from your transceiver will be transmitted via the coaxial cable and radiated by the antenna. Under these conditions the SWR (standing wave ratio) of your antenna system would be 1:1. In practice, the antenna must be 50 ohms and tuned to the exact channel. This condition seldom exists and standing waves are set up on the cable. This SWR robs you of power and likewise range. While 1:1 is not always possible to obtain, you should tune your antenna system so the SWR does not exceed 1.5 to 1 or at maximum 2 to 1. Here are some examples of the power losses for various SWR ratios:

SWR		Power Loss
1:1	=	0
1.3:1	=	2%
1.5:1	=	3%
1.7:1	=	6%
2:1	=	11%
3:1	=	25%
4:1	=	38%
5:1	=	48%
6:1	=	55%
10:1	=	70%

OPERATING PROCEDURES

AC OPERATION

Turn all controls to a counter-clockwise position.

TO RECEIVE:

1. Push power button to "ON" position.
2. Set "MODE" switch to AM-USB or LSB.
3. Set channel dial to desired channel.
4. Set noise blanker switch to "ON" position.
5. Set PA-CB switch to "CB" position.
6. Set Clarifier to the center position.
7. Advance volume control clockwise to desired listening level.
8. Adjust tone control to desired tone level.
9. Adjust squelch control as necessary.

TO TRANSMIT:

IT IS ILLEGAL TO OPERATE THE TRANSMITTER SECTION OF THIS TRANSCEIVER PRIOR TO RECEIVING A VALID STATION LICENSE AND CALL SIGN.

CAUTION: Never operate the transmitter without an adequate antenna system as damage to the final RF output transistor may occur.

- A. Select the desired channel.
- B. Set mode selector for AM-USB or LSB.
- C. Depress the push-to-talk switch on microphone and talk in a normal voice 3-4 inches from the microphone.

DC OPERATION

Follow all functions above after connecting your DC power cord and setting AC/DC switch in DC position.

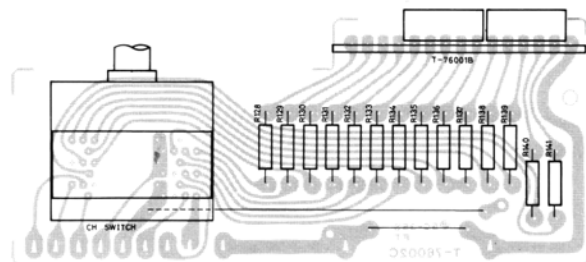
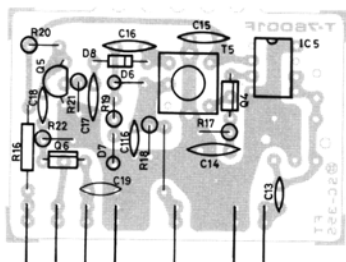
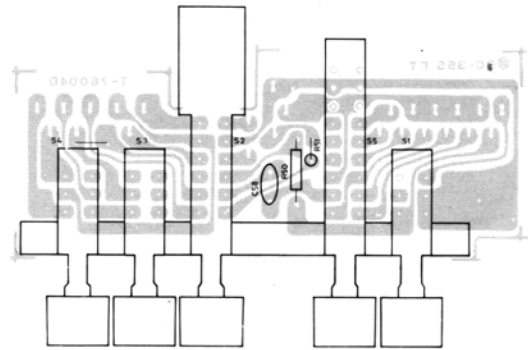
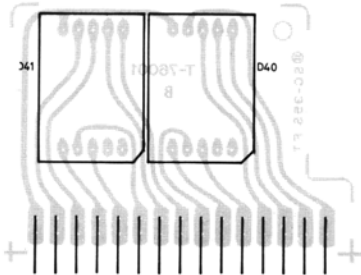
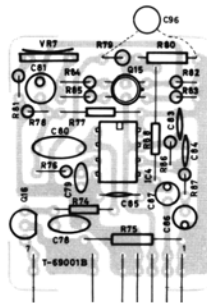
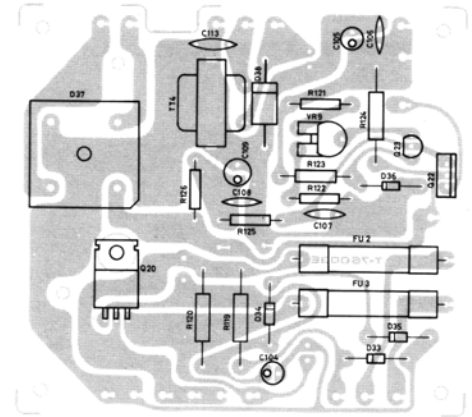
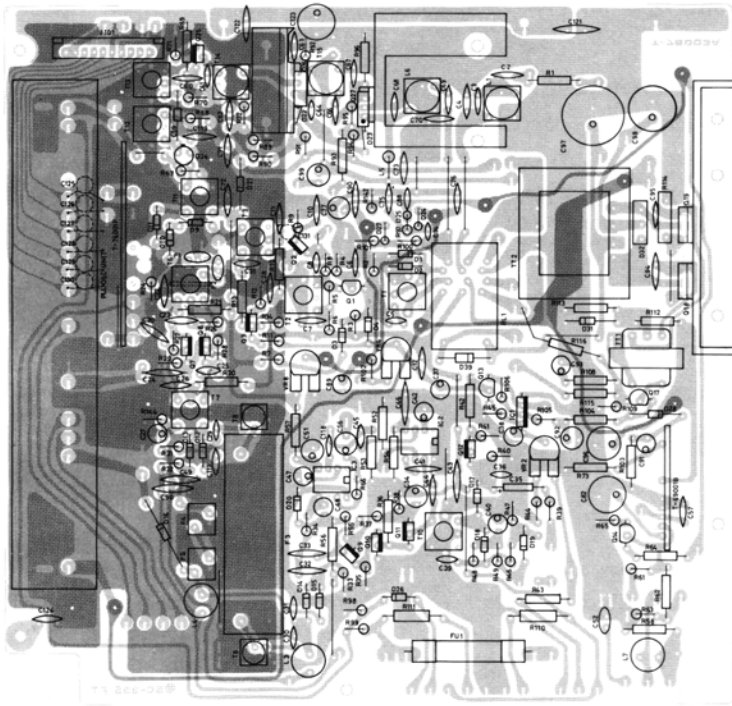
SERVICING YOUR TRANSCEIVER

The technical information, diagrams, and charts provided in this manual are supplied for the use of a qualified holder of a first or second class radiotelephone license in servicing this transceiver. It is the user's responsibility to see that this unit is operating at all times in accordance with the F. C. C. citizens radio service regulations.

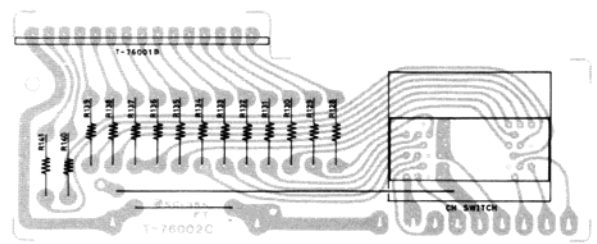
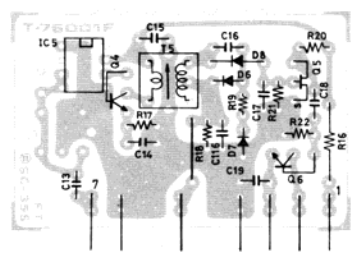
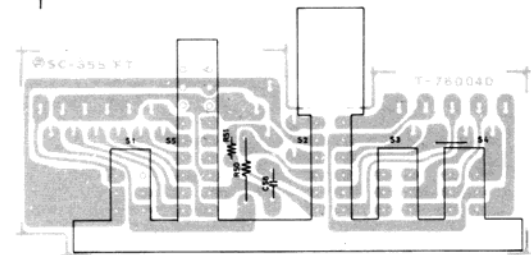
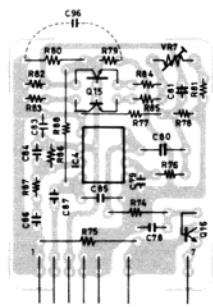
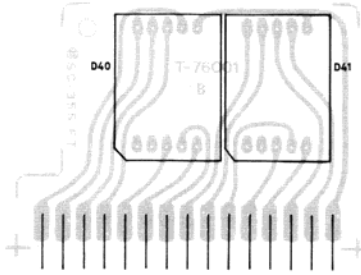
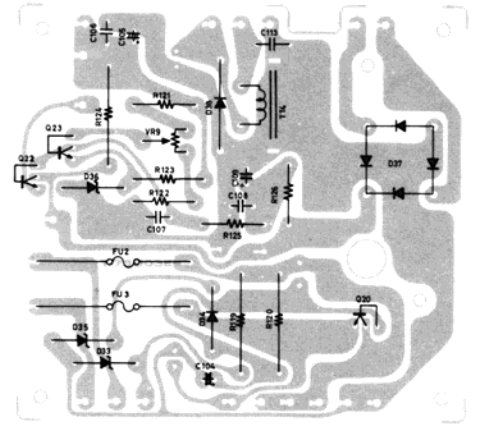
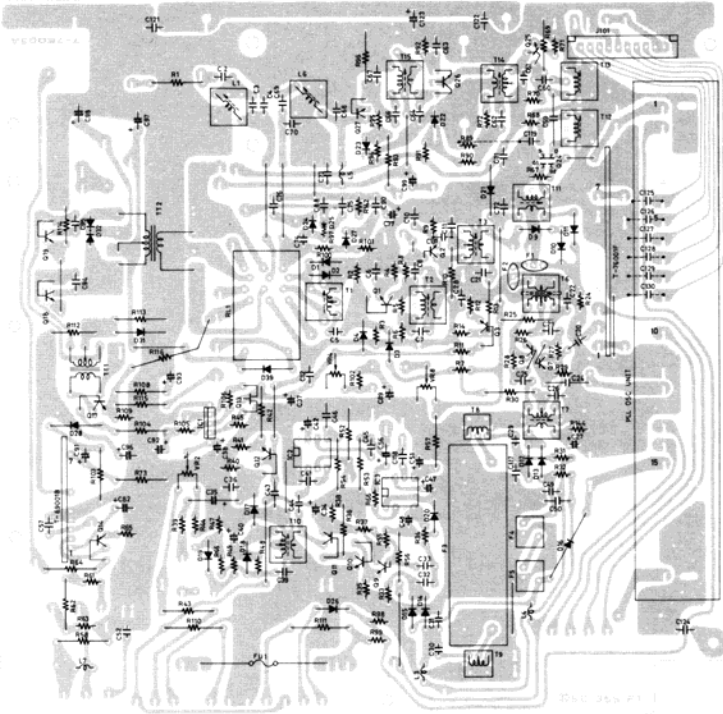
If you install your own transceiver, do not attempt to make any transmitter tuning adjustments. Adjustments are prohibited by the F. C. C. unless you hold or are in the presence and under the supervision of a first or second class radiotelephone licensed person. A Citizens Band or Amateur license is not sufficient.

PARTS LAYOUT

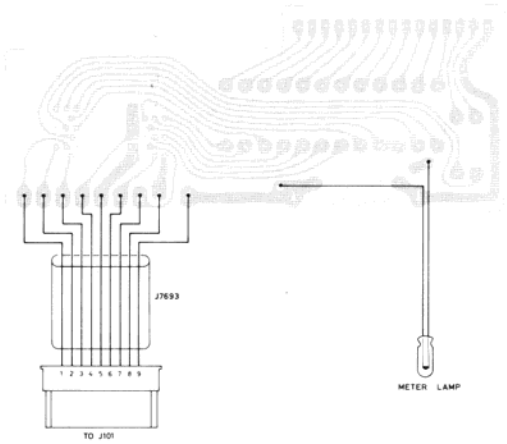
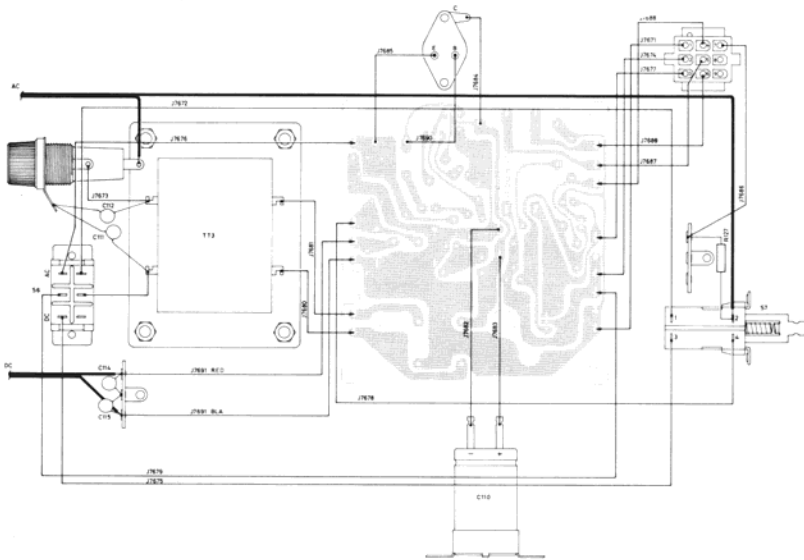
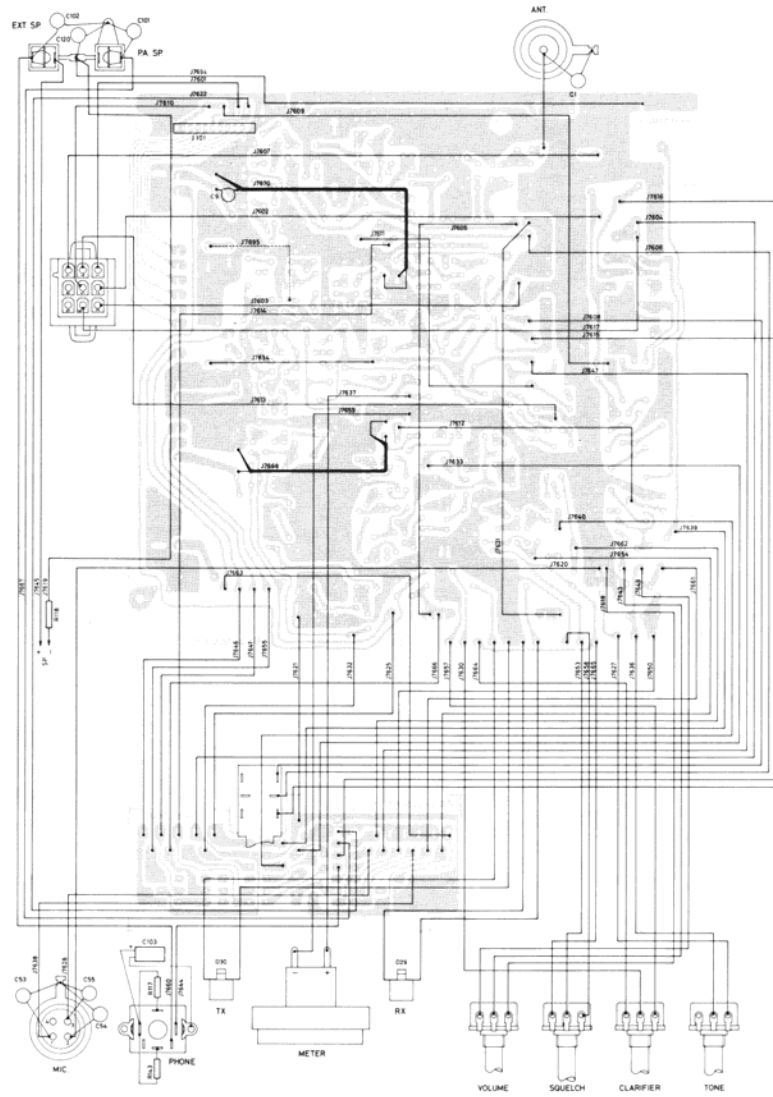
TOP VIEW



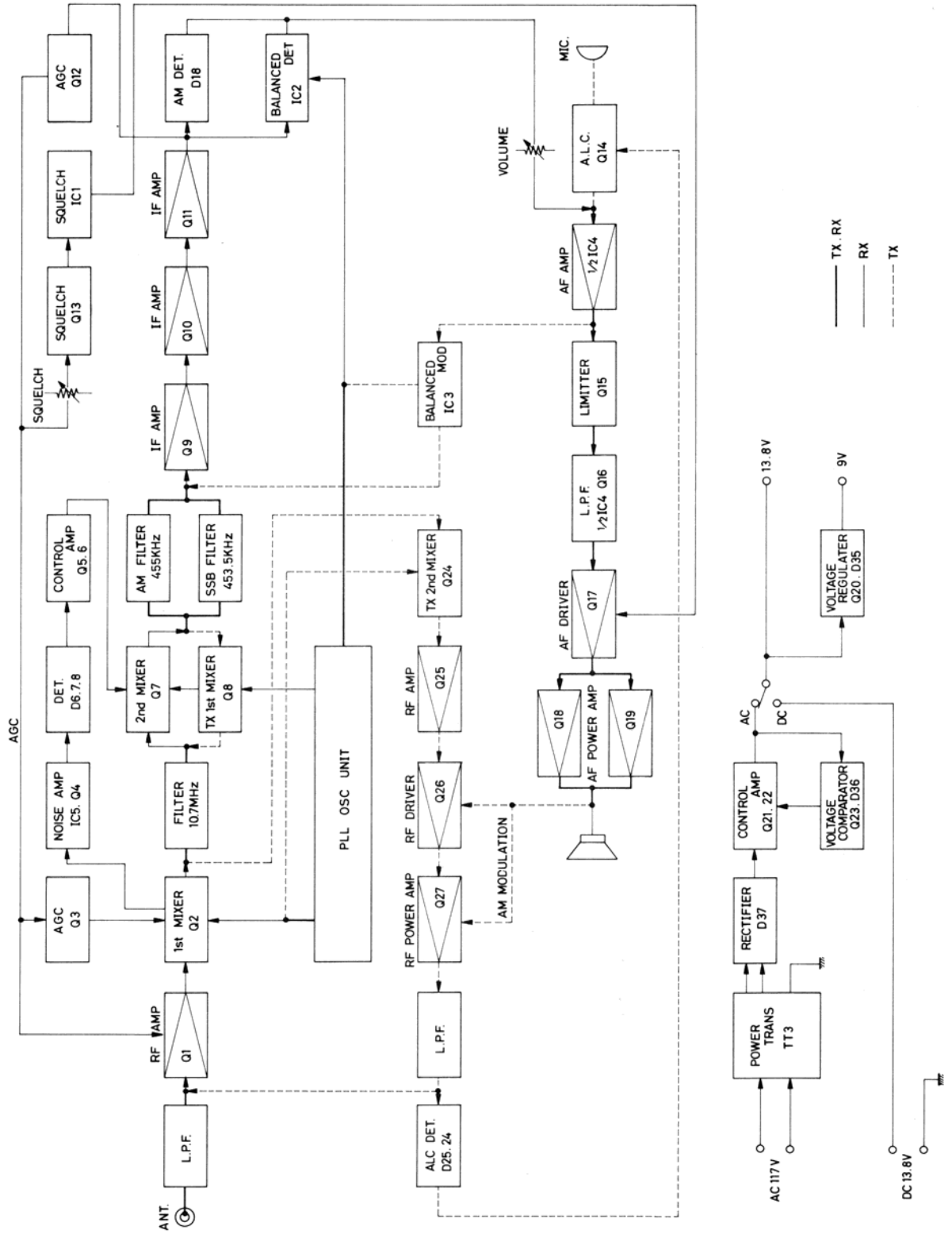
BACK VIEW



WIRING DIAGRAM



BLOCK DIAGRAM



FEDERAL COMMUNICATIONS COMMISSION REQUIREMENTS

Your new Royce 1-641 is a combination receiver-transmitter designed and built for licensed Class D operation on any of the 40 frequencies designated as citizens band channels by the Federal Communications Commission. You are required to read and understand Part 95 of the F. C. C. rules and regulations prior to operation of this unit. Part 95 is included with this manual. Additional Part 95 regulations are available for \$2.25 from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402. You are also required to complete F. C. C. Form 505 and submit it to the F. C. C. in order to receive your license to operate this unit. To operate your transceiver legally while waiting for your license to be returned from the F. C. C., you may complete F. C. C. form No. 555-B, which is a temporary permit. Form 555-B is enclosed with the literature packaged with this transceiver.

NOTE: The technical information, diagrams, and charts provided in this manual are supplied for the use of a qualified holder of a first or second class radiotelephone license in servicing this transceiver. It is the user's responsibility to see that this unit is operating at all times in accordance with the F. C. C. Citizens Radio Service regulations.

If you install or service your own transceiver, do not attempt to make any transmitter tuning adjustment. Transmitter adjustments are prohibited by the F. C. C. unless you hold a first or second class radiotelephone license or are in the presence of a person holding such a license. A Citizens Band or Amateur license is not sufficient.

ROYCE ELECTRONICS CORPORATION HEREBY CERTIFIES THAT THIS EQUIPMENT HAS BEEN DESIGNED, MANUFACTURED, AND FURNISHED IN ACCORDANCE WITH VOL. 6, PART 95 OF THE CURRENT FCC RULES AND REGULATIONS FOR CLASS D CITIZENS BAND OPERATION.

LIMITED WARRANTY

We warrant each new Royce product to the original consumer purchaser to be free from defects in material and workmanship for a period of ninety (90) days from date of purchase as shown on purchaser's receipt.

Royce will repair or replace, AT ITS OPTION AND FREE OF CHARGE, during the warranty period, any part which proves defective in material and/or workmanship under normal installation, use, and service. To obtain the name and address of a warranty service center in your area, just contact your local dealer listed in the telephone directory or return the unit to our factory, TRANSPORTATION CHARGES PREPAID, at the address below. THIS WARRANTY IS LIMITED TO DEFECTIVE PARTS REPAIR AND/OR REPLACEMENT ONLY AND DOES NOT COVER ANY ACCESSORY USED IN CONNECTION WITH THIS PRODUCT' LABOR CHARGES AND/OR DAMAGE INCURRED IN INSTALLATION, REPAIR, OR REPLACEMENT AS WELL AS INCIDENTAL AND CONSEQUENTIAL DAMAGES CONNECTED THEREWITH ARE EXCLUDED.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Any damage to this product as a result of misuse, abuse, neglect, accident, incorrect wiring (not our own), improper installation, repair or alteration outside our factory or authorized service centers, or any use violative of instructions furnished by us, WILL VOID THIS WARRANTY.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. In the event of a problem with warranty service or performance, you may be able to go to a small claims court, a state court, or a federal district court.

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PRINTED IN JAPAN