

**CS-7**

COAX SWITCH

by





## LIMITED WARRANTY

R. L. DRAKE COMPANY warrants to the original purchaser that this product shall be free from defects in material (except tubes and RF output transistors) or workmanship for ninety (90) days from the date of original purchase.

During the warranty period the R. L. DRAKE COMPANY or an authorized Drake service facility will provide free of charge both parts (except tubes and RF output transistors) and labor necessary to correct defects in material or workmanship.

To obtain such warranty service, the original purchaser must:

- (1) Complete and send in the Warranty Registration Card.
- (2) Notify R. L. DRAKE COMPANY or its nearest authorized service facility, as soon as possible after discovery of a possible defect, of:
  - (a) The model number and serial number, if any;
  - (b) The identity of the seller and the approximate date of purchase;
  - (c) A detailed description of the problem, including details on the electrical connection to associated equipment and the list of such equipment.
- (3) Deliver the product to the R. L. DRAKE COMPANY or the nearest authorized service facility, or ship the same in its original container or equivalent, fully insured and shipping charges prepaid.

Correct maintenance, repair and use are important to obtain proper performance from this product. Therefore, carefully read the Instruction Manual. This warranty does not apply to any defect that R. L. DRAKE COMPANY determines is due to:

- (1) Improper maintenance or repair, including the installation of parts or accessories that do not conform to the quality and specifications of the original parts.
- (2) Misuse, abuse, neglect or improper installation.
- (3) Accidental or intentional damage.

All implied warranties, if any, terminate ninety (90) days from the date of the original purchase.

The foregoing constitutes R. L. DRAKE COMPANY'S entire obligation with respect to this product, and the original purchaser and any user or owner shall have no other remedy and no claim for incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation and exclusion may not apply to you.

This warranty gives specific legal rights and you may also have other rights which vary from state to state.

R. L. DRAKE COMPANY  
540 Richard Street • Miamisburg, Ohio 45342



# DRAKE

# CS-7

COAX SWITCH  
MODEL 1533

# INSTRUCTION MANUAL

© R. L. DRAKE COMPANY 1979

PRINTED IN U.S.A.



CS-7 COAX SWITCH  
MODEL 1533

### GENERAL

The Drake Model CS-7 Coax Switch is an extremely versatile accessory capable of remotely switching up to five (5) coax-fed antennas via one (1) main coax feed line. In addition, the internal local switch allows switching of up to five (5) radios; either transmitters, receivers, or transceivers to the main coax feed line. This minimizes the amount of coax needed for a multi-antenna installation, plus provides grounding of unused inputs both local and remote. The CS-7 is housed in an attractive enclosure styled to match the Drake 7-line equipment.

## SPECIFICATIONS

Maximum Input Power	2000 Watts PEP
Frequency Range	Up to 30 MHz, Insertion of Switch Changes VSWR no more than 1.05:1. From 30 MHz to 150 MHz, Insertion Changes VSWR no more than 1.5:1 (Both Switches).
Operating Temperature Range	-40°F. to +150°F.
Supply Voltage	120 VAC or 240 VAC Selectable.
Dimensions & Weight Console	5-1/4" high X 6-13/16" wide, 7-1/16" cabinet depth (13.3 cm H x 17.3 cm W x 17.9 cm D). Weight = 4.33 lb. (1.96 kg)
Remote Antenna Switch	7-1/8" high x 5-7/8" wide x 4-3/8" depth (18.1 cm H x 15.0 cm W x 11.1 cm D). 8-3/16" center to center mounting Weight = 5 lbs. (2.27 kg)

## INSTALLATION

Carefully remove the unit from the shipping carton, and examine it for evidence of damage. If any damage is discovered, immediately notify the transportation company that delivered the unit. Be sure to keep the shipping carton and packing material, as the transportation company will want to examine them if there is a damage claim. Keep the carton and packing material even if no shipping damage occurs. Having the

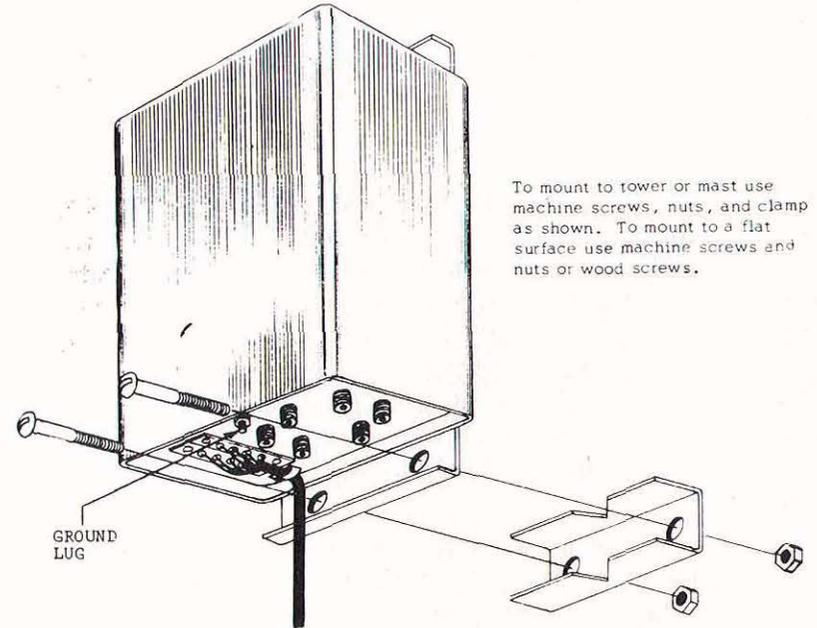


Figure 1 Antenna Switch Installation



original carton available makes packing the unit much easier should it ever be necessary to store it or return it to the factory for service.

**NOTE: FILL OUT THE ENCLOSED REGISTRATION CARD AND RETURN IT TO THE FACTORY IMMEDIATELY TO INSURE REGISTRATION AND VALIDATION OF THE WARRANTY.**

The universal mounting bracket on the ANTENNA SWITCH allows it to be easily mounted to the side of a tower or to a flat surface if desired. It's "RAIN-HAT" construction makes it capable of operating in adverse weather conditions.

After mounting as shown in figure 1, connect terminals #1 through #8 on the ANTENNA SWITCH to terminals #1 through #8 on the console using a good grade of 8 conductor cable. Be sure to use the cable clamp on the ANTENNA SWITCH to relieve the strain on the terminal strip connections.

**NOTE: AFTER 8 CONDUCTOR CABLE IS CONNECTED, IT IS RECOMMENDED THAT THE TERMINAL STRIPS ON THE ANTENNA SWITCH BE COATED WITH A SILICONE SEALER OR RTV.**

It is advisable, even if the ANTENNA SWITCH is mounted to a tower, to connect a strap from the ground lug on the ANTENNA SWITCH to a good earth ground or to the tower if this type of installation is used. This will assure good grounding of antennas. Grounding of the ANTENNA SWITCH is absolutely necessary to assure good grounding of antennas if the ANTENNA SWITCH is mounted to a structure which is not a good earth ground.

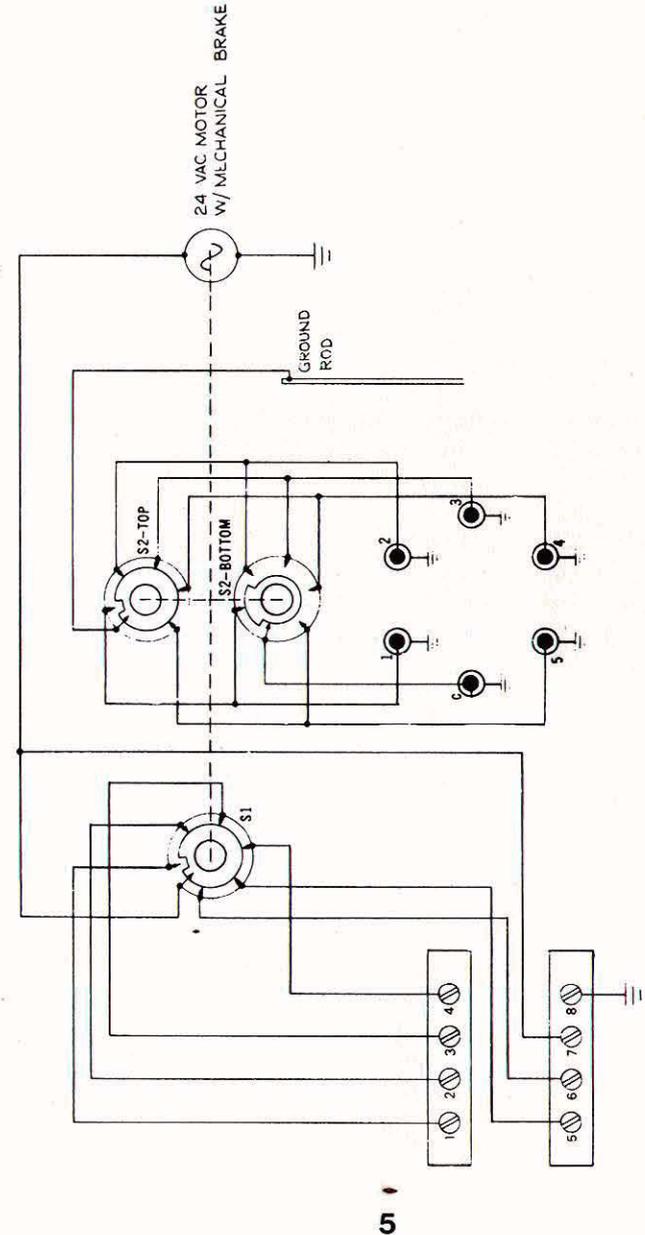


Figure 2 Antenna Switch Schematic

Connect antennas to coax receptacles on the ANTENNA SWITCH using a good grade of 50 ohm coaxial cable and PL-259 connectors. Connect the single transmission line to be used to the coax receptacle labelled "C" using a PL-259 connector. Make a record of the number of the coax receptacle used for each specific antenna. These numbers will correspond to the numbers on the console REMOTE SWITCH.

It is advisable to use the ANTENNA SWITCH even if only one antenna is used, as it provides easy grounding of the antenna when leaving the station and future antenna installations are then easily accomplished.

Connect the single transmission line from the ANTENNA SWITCH to the coax receptacle labelled "C" on rear panel of console.

Connect the receivers, transmitters or transceivers using a good grade of 50 ohm coaxial cable and PL-259 connectors to the other coax receptacles. Make a record of the number of the coax receptacles used for each specific radio. These numbers will correspond to the numbers on the console LOCAL SWITCH.

## OPERATION

Determine your particular line voltage and select the proper voltage range on the rear panel, either 120 VAC or 220 VAC/60 Hz. Be sure to change fuse ratings if the voltage range is changed.

When the ON-OFF button is depressed, the "ON" lamp should light indicating the unit is energized. The remote switch determines which antenna is terminating the transmission line. To change antennas, merely rotate the remote switch to the desired number or description. The standby indicator will light showing the motor driven switches are turning. When the "STANDBY" light goes out, the antenna selected is terminating the transmission line.

When leaving the station, return the ANTENNA SWITCH to GND. After the "STANDBY" light goes out, depress the power switch and note the "ON" lamp goes out.

**CAUTION: BE SURE TRANSMITTER IS IN THE "OFF-THE-AIR" CONDITION WHEN STANDBY LIGHT IS LIT CONTINUOUSLY, INDICATING MOTOR DRIVEN SWITCHES ARE TURNING. DURING THIS INTERVAL THE TRANSMISSION LINE IS IMPROPERLY TERMINATED.**

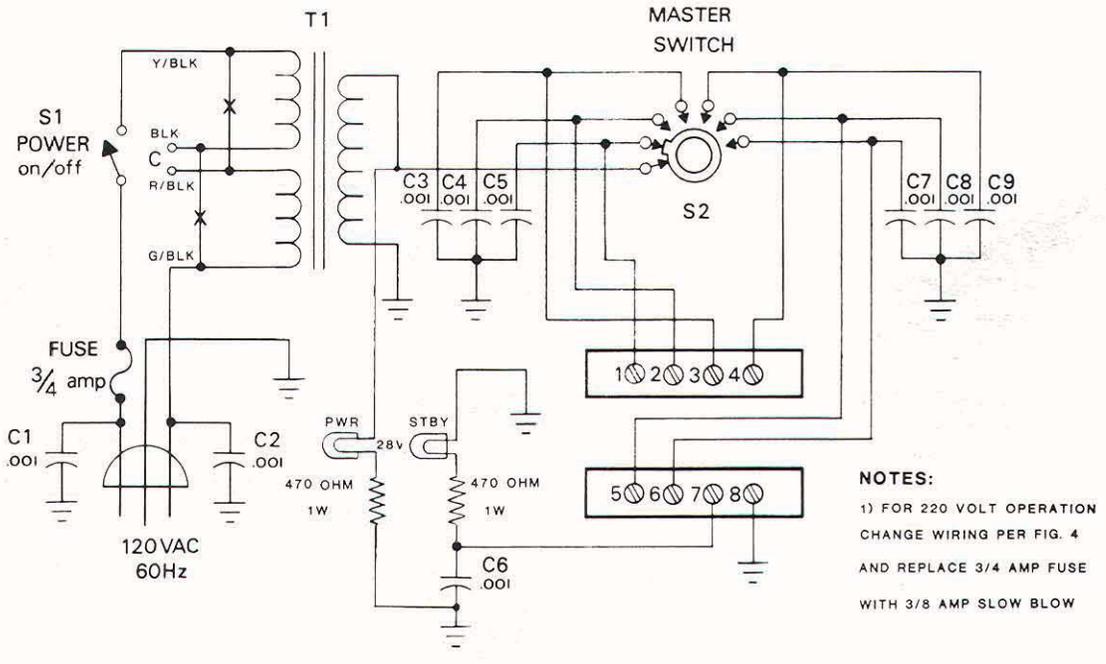
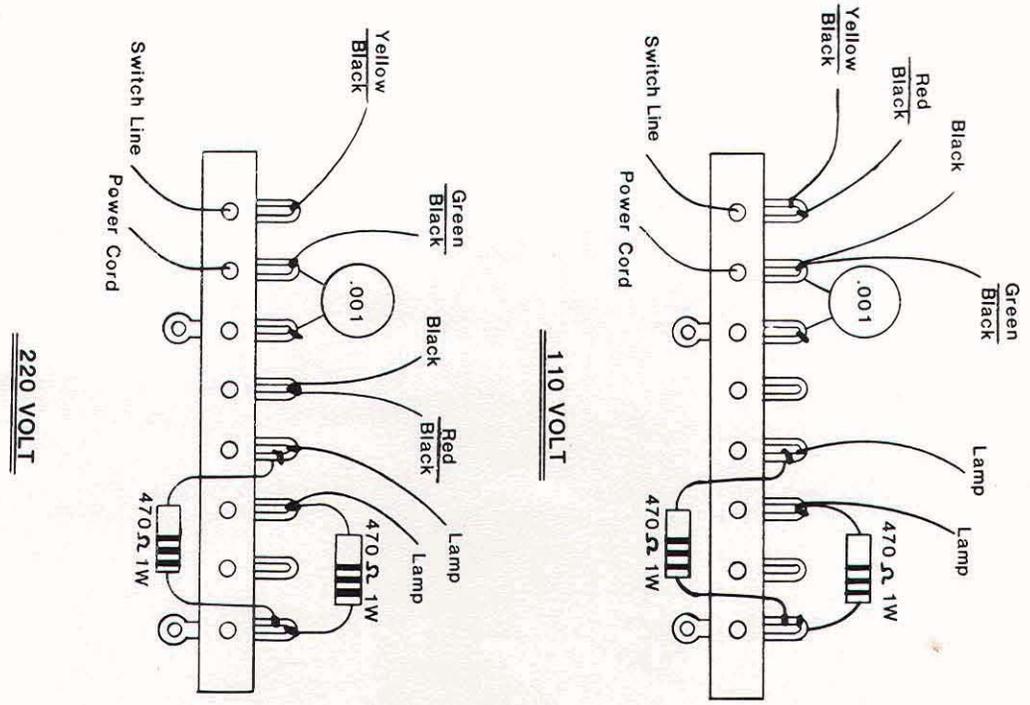


Figure 3 Control Console Schematic

Figure 4 Line Voltage Vs. Wiring



## ANTENNA SWITCH INSTALLATION

The universal mounting bracket on the ANTENNA SWITCH allows it to be easily mounted to the side of a tower or to a flat surface if desired. It's "RAIN HAT" construction makes it capable of operating in adverse weather conditions.

After mounting as shown in figure 1, connect terminals #1 through #8 on the ANTENNA SWITCH to terminals #1 through #8 on the console using a good grade of 8 conductor cable. Be sure to use the cable clamp on the ANTENNA SWITCH to relieve the strain on the terminal strip connections.

**NOTE: AFTER 8 CONDUCTOR CABLE IS CONNECTED, IT IS RECOMMENDED THAT THE TERMINAL STRIPS ON THE ANTENNA SWITCH BE COATED WITH A SILICONE SEALER OR RTV.**

It is advisable, even if the ANTENNA SWITCH is mounted to a tower, to connect a strap from the ground lug on the ANTENNA SWITCH to a good earth ground or to the tower if this type of installation is used. This will assure good grounding of antennas. Grounding of the ANTENNA SWITCH is absolutely necessary to assure good grounding

of antennas if the ANTENNA SWITCH is mounted to a structure which is not a good earth ground.

Connect antennas to coax receptacles on the ANTENNA SWITCH using a good grade of 50 ohm coaxial cable and PL-259 connectors. Connect the single transmission line to be used to the coax receptacle labelled "C" using a PL-259 connector. Make a record of the number of coax receptacle used for each specific antenna. These numbers will correspond to the numbers on the console REMOTE SWITCH.

It is advisable to use the ANTENNA SWITCH even if only one antenna is used, as it provides easy grounding of the antenna when leaving the station and future antenna installations are then easily accomplished.

Connect the single transmission line from the ANTENNA SWITCH to the coax receptacle labelled "C" on rear panel of console.

Connect the receivers, transmitters or transceivers using a good grade of 50 ohm coaxial cable and PL-259 connectors to the other coax receptacles used for each specific radio. These numbers will correspond to the numbers on the console LOCAL SWITCH.

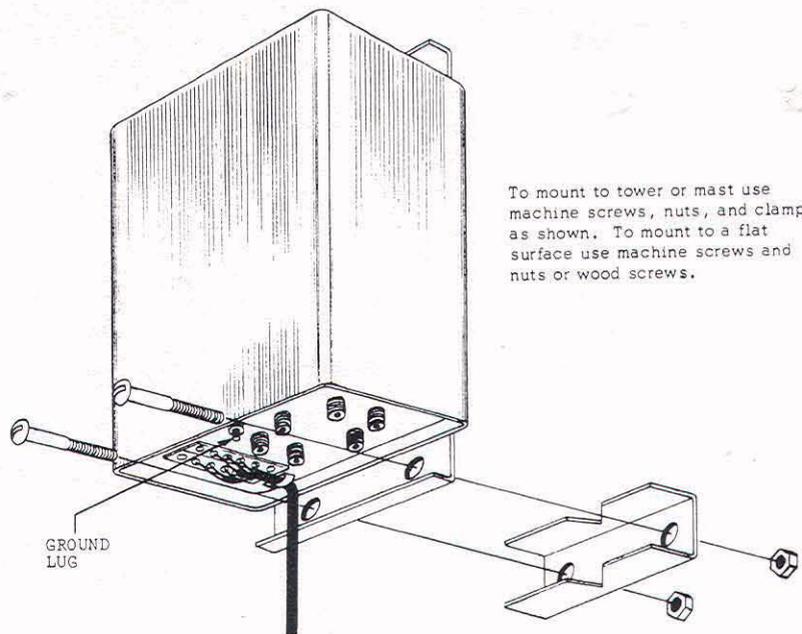


FIG. 1 ANTENNA SWITCH Installation

