

# ACE COMMANDER

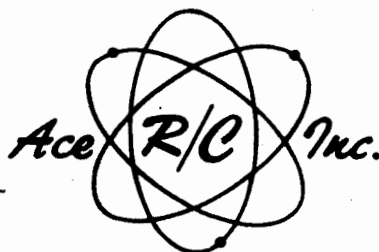
# \*DE

## Pulse Proportional

## Superhet Relayless Receiver

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The Commander DE is a Superheterodyne Receiver of the frequency marked above. It is selective and rejects interference. It is Double Ended \*(DE), which means it is designed for use with a dual coil actuator of the Adams type for proportional operation with pulse transmitter. It is designed to work effectively on 2.4 volts with batteries of the nickel cadmium type only.



HIGGINSVILLE, MO. 64037

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## INTRODUCTION

Congratulations! You have one of the finest superhet receivers manufactured today. This design is a proprietary design and is manufactured by Ace R/C under license from the designers.

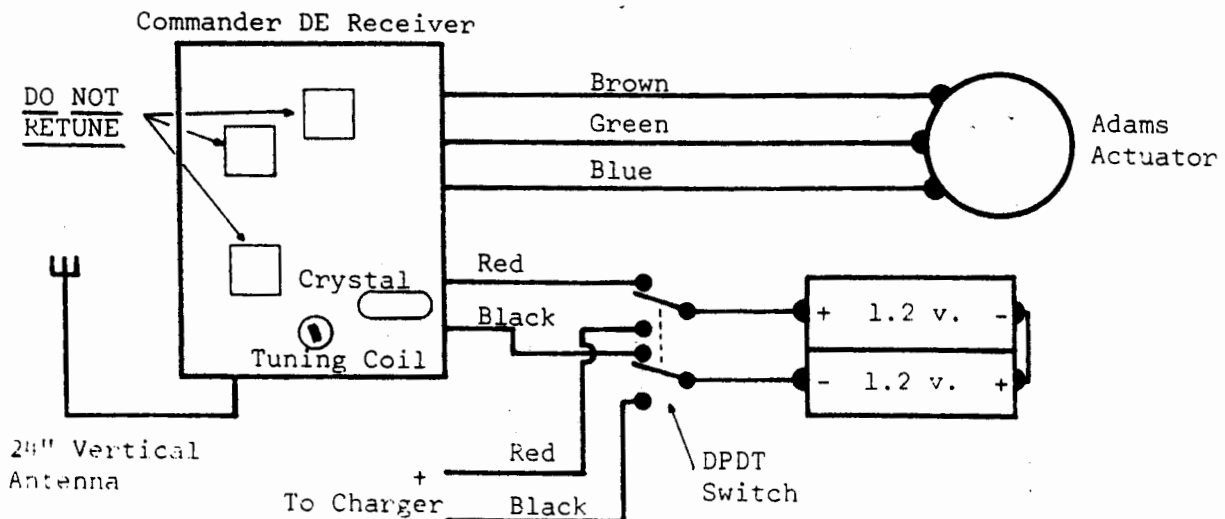
It is designed for operation with only 2.4 volts, has exceptional range, has a double ended switching output, and is meant primarily for use with dual coil magnetic actuators of the Adams type. This is for pulse proportional applications. Your transmitter should be of the pulser type, or adapted by pulser kit. When using magnetic actuators it is desirable to have a ratio of at least 90/100 (preferably a bit more) and this means that your GG transmitter MUST be adjusted, since these are usually set for a ratio of only 65/35 and will not give you the desired rudder action or amount of control to the left or right you want. NOTE: The Commander Pulse transmitter has been especially designed for this receiver and it does provide the necessary width ratio.

As a superhet it is selective and will reject interference from other R/C units and also from two way CB voice communications. The frequency is determined by the crystal. To help you remember the frequency, the crystal case has been color coded. The color code should match the color code on the crystal in the transmitter. This is the same color code that is to be used for your frequency flag if you fly at a field where there are other R/Cers. This helps identify your frequency to prevent problems. The code is: Brown--26.995 MHz, Red--27.045 MHz, Orange--27.095 MHz Yellow--27.145 MHz, Green--27.195 MHz.

Use ONLY nickel cadmium batteries. To attempt to use pen cells of the dry or even of the alkali types is asking for trouble. Hook up by following the simple drawing with color code below. If you wish, you may use a connector to make it easy to remove the receiver from your installation for use in another unit. Connector, on-off switch, and charging jack are not supplied. A DPDT slide switch is recommended so that a burn-out proof charging setup may be made as shown in the drawing.

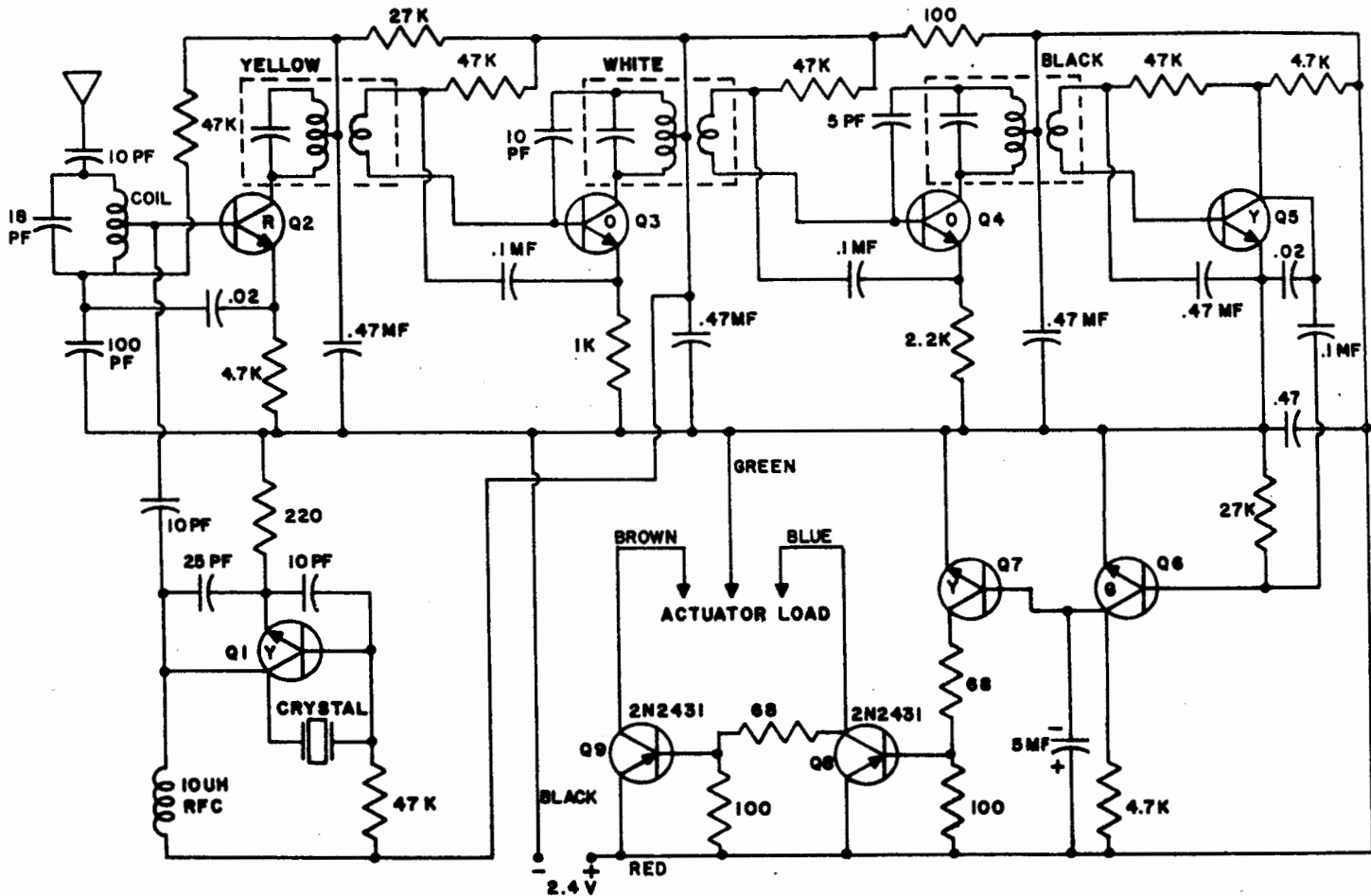
Isolate the antenna wire from the battery and actuator leads in the installation as far as physically possible. A vertical antenna is recommended.

The antenna coil may need some touching up after you have installed your unit in a particular installation (This may vary from one installation to the next). Use an insulated tuning wand for this. DO NOT use a metal screw driver. Not only will the metal affect tuning, but it may also damage the coil slug. You may also use a dowel which has been sharpened like a screwdriver.



After you have installed your receiver, leave the transmitter antenna collapsed and move away from the transmitter, observing the pulsing action. If pulsing quits, stop moving and tune the core in the antenna coil just a slight bit in one direction or the other until pulsing begins again. If you fail to get pulsing after you have turned a half turn on the slug in either direction, move back in closer to the transmitter again. Touch up this tuning until you have range of approximately 100 feet.

UNDER NO CIRCUMSTANCES MAKE ANY ATTEMPT TO TUNE IF CANS. This voids warranty.



## Guarantee

The Pulse Commander DE Pulse Proportional Superhet Relayless Receiver is guaranteed against defects in workmanship and material for 90 days from the date of purchase. In case of trouble, return the unit to Ace Radio Control, Inc., Higginsville, Mo. 64037. Enclose \$3.00 to cover the cost of return postage, insurance and handling. If the unit is judged to be defective we will immediately repair or replace it and return it to you at no additional charge. If our inspection indicates that it has been tampered with or physically damaged, we will send you a repair estimate. This unit has been carefully checked out at the factory and any attempt to modify the circuit will make the guarantee void and may result in expensive repairs.

## EXTRA MUSCLE

It is quite simple to get more power out of the Adams actuator than is provided by the 2.4 volts. While 2.4 will be found to be adequate for almost any installation, when you go with the Stomper in planes of .15 to .19 size you may want that extra "oomph" that over-excitation will provide, to prevent the possibility of any rudder blow back and to overcome any inertia in the pushrod installation.

To over-excite the actuator means adding just one more nickle cadmium battery to your pack as shown in the schematic. This throws 3.6 volts on the actuator for about 25 to 40% more power, and still provides only 2.4 volts for the receiver which is all that it should get.

When you do go to over-excitation you also increase the drain and this will cut flying time. Determine by actual trial what your safe flying time will be for your battery and actuator set up.

All three batteries MUST be of the same rating; that is, if you are using two 500 SCL types, the extra battery to be added should also be of the exact same type.

Charging should be done to the whole pack, with charger set for three batteries. A special switching hookup to utilize a DPDT switch for this application is shown in the schematic below.

