

Group 43 Electronic Communication System

GENERAL: This group contains information on the radios, speakers, and TV equipment.

SPECIFICS: As applicable

...Antennas

...Electrical Wiring and Connections

...Radio

...Speaker

...Tape Deck

...Television



FMC Corporation  
Motor Coach Division  
333 Brokaw Road Box 664 Santa Clara California 95052



# IMPORTANT INFORMATION ABOUT SERVICE

**IMPORTANT: YOU MUST PRESENT YOUR COPY OF THE WARRANTY REGISTRATION CARD OR A COPY OF YOUR "BILL OF SALE," TO THE WARRANTY STATION TO PROVE DATE OF PURCHASE.**

If your Stereo 8 unit requires adjustment or repair, take or send it to the nearest Authorized Stereo 8 Warranty Station listed below.

1. Attach tag showing your name and address.
2. Repack unit in original carton, if possible. In any case cushion with crushed newspaper on all sides.
3. To the outside of the carton attach an envelope enclosing your copy of the Registration card or a copy of your Bill of Sale and give a brief description of the difficulty.
4. Your unit should be insured against possible shipping damage and be shipped prepaid.

**NOTE: CHANGES MAY OCCUR IN THIS LISTING. IN THE EVENT A LISTED WARRANTY CENTER IS NO LONGER AUTHORIZED PLEASE USE THE NEXT CLOSEST REPAIR CENTER, OR CONTACT:**

**LEAR JET STEREO  
140 CORUM ROAD  
EXCELSIOR SPRINGS, MO 64024**

## KANSAS

**Lawrence** RICKWOOD RADIO SERVICE, 717 2nd Avenue N. 35201  
**Cullman** CULLMAN RADIO & TV SERV., 103 5th St. West, 35055  
**Wichita** BRITAIN RADIO & TV, 211 S. 5th St., 35901  
**Mobile** AUTO SOUND OF MOBILE, INC., 3500 Cottage Hill Rd., 36609

## ALASKA

**Anchorage** VISTA RADIO & TV, 861 E. Loop Rd., 99501

## ARIZONA

**Phoenix** NELSON BROS., 4630 N. 16th St., 85011  
**Scottsdale** STEREO WEST, 7441 E. McDowell Rd., 85257

## ARKANSAS

**Bearsville** RANDY'S TV STEREO, 275 S. 3rd, 72501  
**Edwards** RADIO SERVICE CO., 320 W. Main, 71730  
**Fayetteville** B & W TELEVISION SERV., 48 E. Township Rd., 72701  
LAVALLARD RADIO TV & HI FI LAB, 109 W. Lafayette St. 72701  
**Fayetteville** ARKTRONIX CO., 1100 N. 14, 72901  
**Joplin** WOMACK TV SERV., 430 Southwest Dr., 72401  
**Little Rock** BILL FISHER INC., 2905 Cantrell, 72202  
**Pine Bluff** JOHN ATKINSON, 1605 W. 19th, 71601

## CALIFORNIA

**Burbank** BUZZ & BOBS TV, 255 W. Olive Ave., 91502  
**Costa Mesa** MESATRONICS, 2052 Newport Blvd., 92627  
**El Cajon** TAPE WORLD CO., 566 North Second St., 92021  
**El Monte** A & W SPEEDOMETER & RADIO SERV., 11015 Lower Azusa Rd., 91731  
**Fresno** A & A ELECTRONICS, 1141 N. Van Ness, 93703  
FRESNO AUTO STEREO, 2227 E. Belmont, 93701  
SERVICE FRESNO, 1360 N. Blackstone, 93703  
**Lodi** KRAEMER'S, 226 West Pine St., 95240  
**No. Hollywood** NORTH HOLLYWOOD RADIO SERV., 5535 Tujunga Ave., 91601  
**Oceanside** NORTH COUNTY ELECTRONICS, INC., 1009 N. Hill St., 92054  
**Sacramento** WIMPY JONES AUTO RADIO SERV., 1521 "E" St., 95814  
**San Bernardino** STEREO MOBILE, 214 W. Highland, 92405  
**San Diego** PHOTO ELECTRONICS, 1243 University Ave., 92103  
**San Francisco** CAR RADIO WHOLESALE, 2859 22nd St., 94110  
**San Jose** RANDAZZOS AUTO RADIO, 349 S. Market, 95113  
**Santa Ana** AUTO STEREO SOUND CENTER, 1913 W. 17th, 92706  
**Santa Barbara** DARRYL WIDMAN'S TELEVISION CITY, 16 So. Milpas St., 93103  
**So. El Monte** ALL JAPANESE PARTS & SERV., INC., 9655 E. Garvey Ave., 91733  
**Van Nuys** VAN NUYS RADIO, 5963 Van Nuys Blvd., 91401

## COLORADO

**Colorado Springs** FISHER'S ELECT. SERVICE, 317 N. Swope Ave., 80909  
**Grand Junction** SOUND SPECIALISTS, 835 A N 26, 81501

**CONNECTICUT**

**Bridgeport** RALPH'S RADIO SERVICE, INC., 277 Lenox Ave., 06605  
**Danielson** S & S ELECTRONICS, Brooklyn Shopping Center, Rt., #6, 06239  
**East Hartford** HOLMES ELECTRONICS, 1142 Tolland St., 06108  
**West Hartford** ELECTRONICS UNLIMITED, 611 New Park Avenue, 06110  
**New London** C & L TV - APPLIANCES, 405 Williams St., 06320

**DELAWARE**

**Rehoboth** SUSSEX RADIO & TV, Box 398, 19971

**DISTRICT OF COLUMBIA**

**Washington, D.C.** STRAUSS PHOTO-TECHNICAL SERV., 1240 Mt. Olivet Rd., NE, 20002

**FLORIDA**

**Daytona Beach** THOMAS RADIO SERVICE, 545 N. Beach Street, 32014  
**Ft. Lauderdale** EDDY'S DAY & NIGHT TV, 1110 N.E. 4th Avenue, 33304  
**Lakeland** FLORIDA ELECTRONICS OF LAKE LAND, 437 S. Florida Ave., 33801  
**Miami** S E H ELECTRONIC SERV., 10812 NW 6th Court, 33168  
**Riviera Beach** AUDIO TAPE CENTER, 1344 Ave. E., 33404  
**Tampa** SAF'S INC., 1719 W. Kennedy Blvd., 33606  
 HI FI HOSPITAL, 3614 Henderson Blvd., 33609  
 TAMPA STEREO CENTER, INC., 1536 S. Dale Mabry Hwy., 33609  
**West Palm Beach** TECHNI-SERVICES INC., 1813 W. Dixie, 33401  
**Clearwater** B & B STEREO CENTER, 1817 Gulf to Bay Blvd., 33515

**GEORGIA**

**Atlanta** HENCO ELECTRONICS, 2111 Faulkner Rd. NE, 30324  
**Marietta** WALKER ELECTRONICS, 120 LaBelle Lane SW, 30060  
**Savannah** LIBERTY RADIO & TV CO., 39 Montgomery Street, 31401

**HAWAII**

**Honolulu** ELECTRONIC MEASUREMENT CORP., 2979 Ualena St., 96819  
**Wahiawa** WAHIAWA ELECTRONICS, 569 California Ave., 96786

**IDAHO**

**Idaho Falls** MERLINS TV SERVICE, 190 Lomax, 83401

**ILLINOIS**

**Chicago** ELECTRONIC ENGINEERS, INC., 1639 W. Evergreen Ave., 60622  
 GUY'S RADIO & TV, 3650 W. Grand Avenue, 60651  
**Elgin** HILL ELECTRONICS, 1351 Manor Ct., 60120  
**Harvey** B & H RADIO SALES & SERV., 60 E. 154th St., 60426  
**Hoffman Estates** SPECTRUM SERVICE CO., 2100 N. Stonington Ave., 60172  
**Naperville** MID CENTRAL ELECTRONICS INC., 520 Ogden Avenue, 60540  
**Aurora** BRENKO ELECTRONICS INC., 918 Glen Flora, 60085

**INDIANA**

**Evansville** YELDIG AUTO RADIO SERVICE, 216 NW 8th Street, 47708  
**Indianapolis** AMERICAN AUTO RADIO, 827 N. Illinois St., 46204

**IOWA**

**Des Moines** JACK WALLACE AUTO RADIO, 1120 Locust, 50309

**KANSAS**

**Wichita** AUDIO SERVICE COMPANY, 4923 Armstrong, 67204

**KENTUCKY**

**Louisville** D.B.M. ELECTRONICS, 5303 Woodhill Lane, 40219

**LOUISIANA**

**Bossier City** CONSOLIDATED TV, 3814 E. Texas, 71010  
**Lafayette** TAPE VILLA, 1001 Bertrand Drive, 70501  
**Metairie** WEST'S STEREO SALES AND SERVICE, 2013 Metairie Rd., 70005

**MAINE**

**Brewer** AUTO RADIO SERVICE, 381 S. Main Street, 04412  
**Lewiston** RADIO CITY SALES & SERVICE, 41 Main Street, 04240

**MARYLAND**

**Baltimore** CATON RADIO & AUTO SERVICE, 19 Ingleside Avenue, 21228  
**Rockville** SOLID STATE ELECTRONICS, 86 Halpine Court, 20852

**MASSACHUSETTS**

**Framingham** ELECTRONICS WORLD, 203 Worcester Road, 01701  
**Ware** WARE RADIO SERVICE, INC., 70 Main Street, 01082

**MICHIGAN**

**Detroit** VANDERZIEL ELECTRONICS, 14601 Plymouth Rd., 48227  
**Farmington Hills** FACTORY OFFICIAL DIST. CO., 30724 Grand River, 48024  
**Ferndale** AL SCOTT SALES & SERVICE, 1035 Hilton Road, 48220  
**Grand Rapids** CHASE TRANSISTOR SERVICE, 521 Leonard St., 49504  
 CHARLES P. AUSBERGER, 247 National Ave. N.W., 49504  
**Muskegon** COM-TRONICS INC., 880 Terrace, 49440  
**Lansing** KENT'S TV SERVICE, 2724 Turner St., 48906  
**Pontiac** ELECTRONIC VILLAGE, 1706 S. Telegraph, 48053

**MINNESOTA**

**Minneapolis** TWIN CITY ELECTRONICS SERVICE, INC., 160 W. 79th St., 55

**Jackson** MAY & JACKSON, 838 W. Capitol, 39205  
MURRY'S AUTOTRONICS, 3064 Hwy. 80 East, Bldg. 29, 39206  
NORMANDY SERVICE CO., 2705 Lena St., 39213  
**Juridian** POINT RADIO & TV, 2109 24th Ave., 39301

**Fayetteville** WARNER'S TV SERVICE, 1036 Southern Ave., 28306  
**Greensboro** TRYON REPAIR SERVICE, 948 E. Bessemer Ave., 27405  
**Greenville** CAROLINA SALES CORP., 101 W. 14th Street, 27834

## MISSOURI

**Jackson** JACKSON ELECTRONICS, 909A E. Adams, 63755  
**Jefferson City** GORDON SOUND SYSTEM, 113 W. High St., 65101  
**Kansas City** ELECTRONIC PROFESSIONALS, INC., 1342 Winchester, 64124  
MIDTOWN AUTOTRONICS, 1020 E. 54th, 64110  
WORNALL TV & RADIO SERVICE, INC., 7811 Wornall Rd., 64114  
**Springfield** CARROLL ELECTRONICS, INC., 1144 E. Trafficway, 65802  
**St. Louis** LEWIS RADIO COMPANY, 9201 Manchester, 63144

## MONTANA

**Billings** PETERSON'S AUDIO SERVICE, 211 11th Street West, 59101

## NEBRASKA

**Omaha** B-K AUTO RADIO SERVICE INC., 613 South 24th St., 68105  
**South Sioux City** ANDERSON'S DRIVE-IN RADIO, 220 Dakota Ave., 68776

## NEVADA

**Vegas** HOSKINS ELECTRONICS, 1155 Las Vegas Blvd. S., 89104

## NEW HAMPSHIRE

**Plaistow** ASHMONT ELECTRONICS, P.O. Box 267, Rt. 125, 03865

## NEW JERSEY

**Green Village** AUDIOTEK, 661 Shunpike Road, 07935  
**Saddle Brook** SADDLE BROOK STEREO, INC., 203 Market St., 07662  
**Union** BLINDER'S JERSEY RADIO, 2135 Morris Ave., 07083

## NEW MEXICO

**Albuquerque** THE AUDIO CLINIC, INC., 1616 Eubank NE, 87112  
HOWARD'S AUTO RADIO & TV, 800 K Juan Tabo, N.E., 87123  
**Clovis** SALMAN'S RADIO & TV SERVICE, 1425 Main, 88101

## NEW YORK

**Bronx** LARAN ELECTRONICS, INC., 3768 Boston Road, 10469  
**Croftdale** H.P. KOPP SALES & SERV., 1650 William St., 14206  
**Wellsville** WILSON RADIO, 3218 E. Main St., 13760  
**Yonkers** TOWNE TELEVISION CENTER, 15 Clark Street, 14075  
**Yonkers Park** PAT'S T.V. SERVICE INC., 1036B Park Blvd., 11762  
**New York City** ADVISORY TV & RADIO, 175-7th Avenue, 10011  
**Yonkers** JAN'S ELECTRONICS, 522 Old Country Rd., 11803  
**Hempstead** AUDIO TRONICS, INC., 96 Hempstead Turnpike, 11552  
**Peekskill** AUDIO SERVICE II, 237 Millington Rd., 10566

## NORTH DAKOTA

**Minot** REUB'S CAMERA, INC., 123 S. Main St., 58701

## OHIO

**Cleveland Hts.** RADIOMOBILE, INC., 1925 Lee Rd., 44118  
**East Cleveland** WHITLOW ELECTRONIC CORP., 2150 Noble Road, 44112  
**Parma** ELECTRA-SOUND CO., 6068 State Road, 44134  
**Toledo** DOUGLAS AUTO RADIO, 2542 Tremainsville Rd., 43613

## OKLAHOMA

**Ardmore** CLEETON'S RADIO & TV, 40 Broadlawn, 73401  
**Enid** RUHL'S STEREO & TV SERVICE, 1410 S. Jefferson, 73701  
**Oklahoma City** CAROLA RADIO & TV, 1216 Linwood Blvd., 73106  
TAPE-O-RAMA REPAIR CENTER, 2723 N. Classen, 73106  
**Tulsa** CAMPBELL'S AUTO RADIO, 2827 E. 11th St., 74104

## OREGON

**Beaverton** TRANSISTOR SERVICE CO., 9380 S.W. Beaverton-Hillsdale Hwy, 97005  
**Corvallis** CORVALLIS CARTRIDGE & STEREO, 1813 S.E. Third, 97330  
CORVALLIS AUDIO VIDEO SYSTEM, 262 N.W. Polk St., 97330  
**North Bend** WILLIS BROS. RADIO & TV, 1955 Union, 97459  
**Pendleton** ROUND UP ELECTRONICS, 2927 Riverside, 97801  
**Portland** GATEWAY ELECTRONICS LAB, 10903 S.E. Powell Blvd., 97266  
T.V. CLINIC, 6360 S.E. Foster Rd., 97206

## PENNSYLVANIA

**Allentown** HART ELECTRONICS, 613-15 N. 7th St., 18102  
**Camp Hill** R.T. GRIM CO., 19th and Market Streets, 17011  
**Carnegie** ANDREW BAKER RADIO, 1620 Railroad St., 15106  
**Hanover** ROSCOE A. HORNER, 1000 Carlisle St., 17331  
**Hatboro** H & R AUTO RADIO SERVICE, 11 E. Montgomery Ave., 19040  
**Hazleton** PENSOCK ELECTRONICS, 138 N. Wyoming St., 18201  
**Scranton** GREENE RADIO INC., 405 Gibson St., 18509  
**Southampton** MURRAY AUTO RADIO INC., 68 2nd St. Pike, 18966  
**Parkerford** ELLIOTT'S CAR RADIO REPAIR, Linfield Rd., 19475  
**Upper Darby** GOTTLIEB ELECTRONICS, INC., 7301 W. Chester Pike, 19082

## SOUTH CAROLINA

**Georgetown** STEREO SHAK, 2417 Highmarket St., 29440

**TENNESSEE**

**Knoxville** THOMPSON'S AUTO CAR CENTER, 2321 Chapman Hwy., 37920  
 WARREN'S AUDIO-VIDEO SERVICE, 2000 W. Cumberland Ave.,  
 37916

**Morristown** ELECTRONIC'S, Enka-Y Lowland Road, 37814

**TEXAS**

**Abilene** HOWARD RADIO, 4235 N. First St., 79603  
 SOUND IDEA, INC., 514 So. Cooper, 76014

**Austin** AC ELECTRONICS, INC., 3116 Manor Road, 78705

**Dallas** FACTORY SERVICE CENTER, 5444 E. Mockingbird, 75206  
 BUTLER ELECTRONICS, 6609 Hillcrest, 75205

**Del Rio** PIERCE ELECTRONICS, 829 S. Main, 78840

**Denton** CONSUMER ELECTRONICS SERVICES, INC., 111 N. Elm St., 76201

**El Paso** TV RAY TELEVISION, 5555 E. Alameda, 79905

**Eules** SONIC SOUNDS, 602 W. Eules Blvd., 76039

**Fort Worth** TEL-STAR TV SERVICE, 820 Hemphill, 76104

**Garland** JENKINS SERVICE CENTER, 317 Kirby, Suite 201, 75042

**Houston** AUSTIN RADIO SERVICE, 2406 Austin, 77004  
 H & H RADIO SERVICE, 9030 N. Shepherd, #201, 77037

**Longview** PTS ELECTRONICS, INC., 332 W. Tyler, 75601

**Lubbock** ADVANCED ELECTRONICS, 1310 19th St., 79401

**Midland** SMITTY'S RADIO & TV, 3408 Thomason, 79701

**Pasadena** RIV-CO ELECTRONIC SERVICE, 1027 S. Shaver, 77502  
 CUSTOM AUDIO CENTER, 2212 South Shaver, 77502

**Richardson** THE ELECTRONIC SHOP, 117 Custer Square, 75080

**San Angelo** SAM PRICE PIONEER ELECTRONICS, 1102 N. Chadbourne St.,  
 76901

**San Antonio** SOUND COM ELECTRONICS, 1030 Basse Road, 78212

**Snyder** M & M ELECTRONICS, 1910 27th, 79549

**Taylor** KELLDORF TV & RADIO, 1906 Grace Ave., 76574

**Uvalde** FEELY'S TELEVISION CENTER, 114 E. Nopal, 78801

**Wichita Falls** STEREO SERVICE CENTER, 1700-D 9th Street, 76301

**CANADA**

**Toronto, Ontario** CARRADY-HAIAT LTD., 111 Bridgeland Ave., Toronto 19, Ontario  
 Part No. 397-1171-010

**UTAH**

**Moab** ROYCE'S ELECTRONIC SYSTEM, 50 No. Main, 84532

**Ogden** PECK'S SERVICE, 4936 South 525 West, 84403

**Orem** COLORTRONICS TV, 268 S. State, 84057

**Salt Lake City** POLL'S SOUND & MUSIC, 3068 Highland Drive, 84106  
 SOUND TRACK REPAIR, 854 South State Street, 84111

**VIRGINIA**

**Arlington** HURLEY'S AUTO RADIO, 925 N. Glebe Rd., 22203

**Honaker** EDWARDS TV REPAIR, Box 417, 24260

**Norfolk** CASPER-BARKLEY ELECTRONICS, INC. 3019 Ballentine Blvd.,  
 23509

**Richmond** MOLLENS, INC., 2003 Westmoreland, 23230

**WASHINGTON**

**Kennewick** SMITTY'S TV, 114 W. Kennewick Avenue, 99336

**Seattle** COM-TRONICS, 172 Mercer Street, 98109

**WISCONSIN**

**Appleton** CENTRAL ELECTRONIC SERVICE, 1105 E. Wisconsin Avenue, 5491

**Milwaukee** AUTO STEREO, 6301 W. Bluemound Rd., 53213  
 CARFETERIA, 6918 N. Teutonia Avenue, 53209  
 SIGHT 'N SOUND, 2056 Taylor Ave., 53403

**Racine** FAIRCHILD RADIO & TV SERVICE, 7707 W. National Avenue, 5321

**West Allis**

**WYOMING**

**Cheyenne** THE CLARK CO., 3671 Dover Road, 82001

**LEAR JET STEREO**  
**140 CORUM ROAD**  
**EXCELSIOR SPRINGS, MO 64024**

# REPAIR PARTS LIST

43 Electronic  
GROUP Communications System  
MODEL 2900R

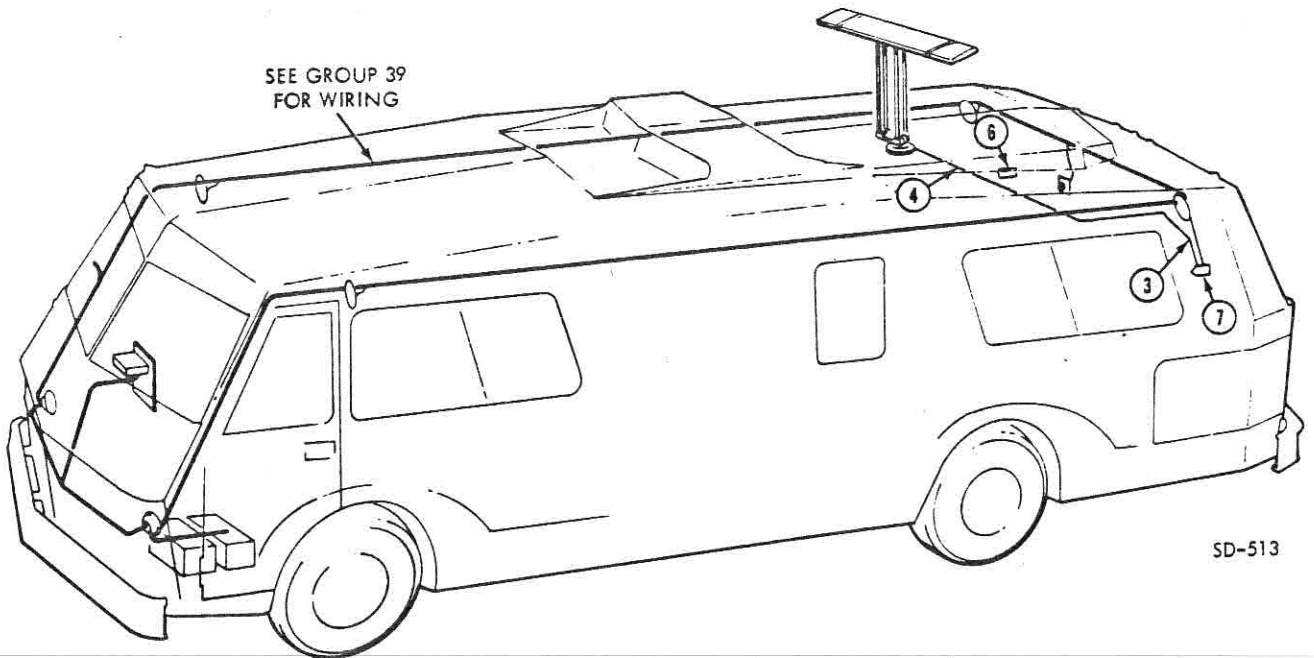
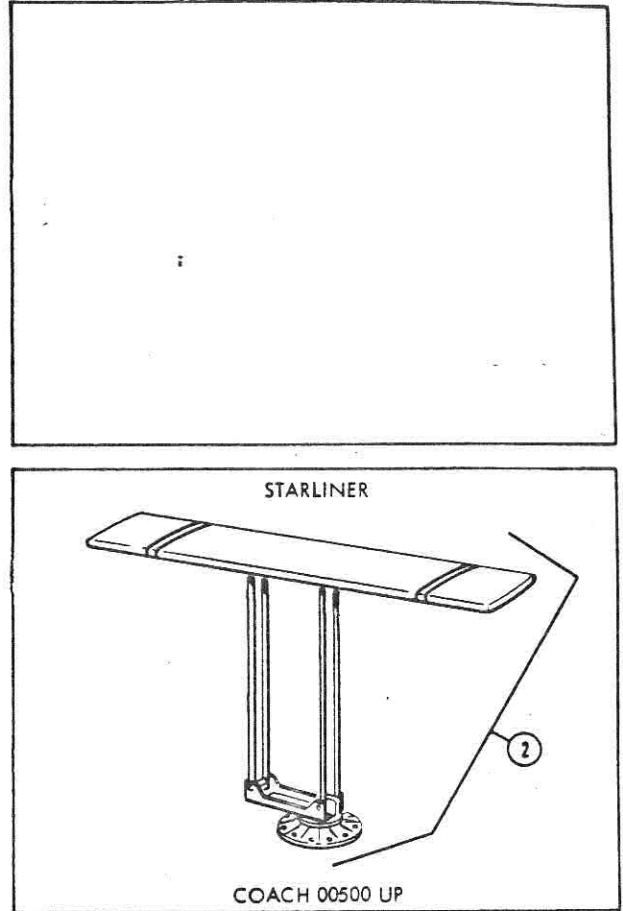
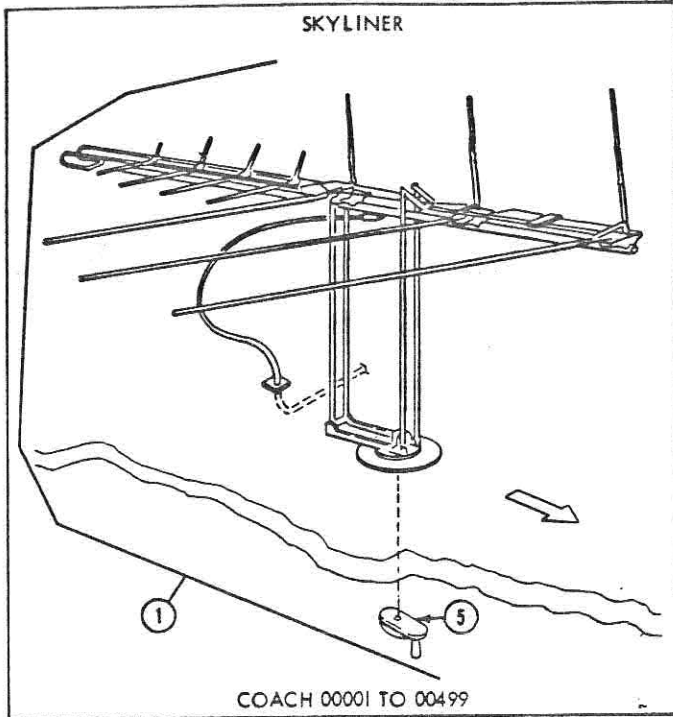


Figure 43-2. TV Antenna and Connections

# REPAIR PARTS LIST

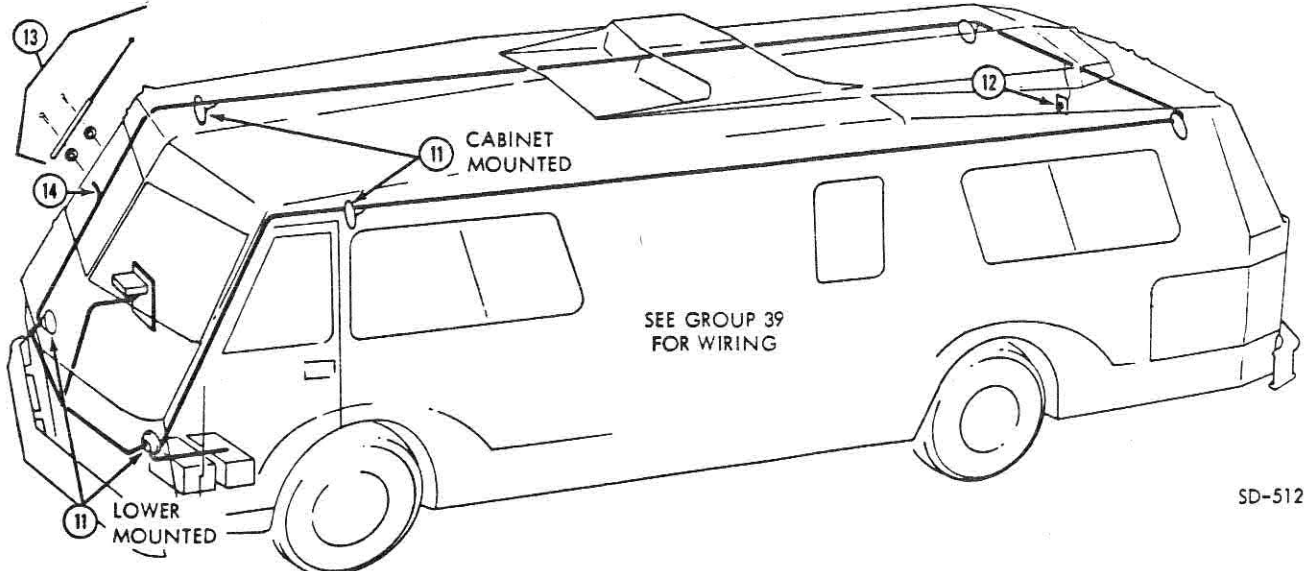
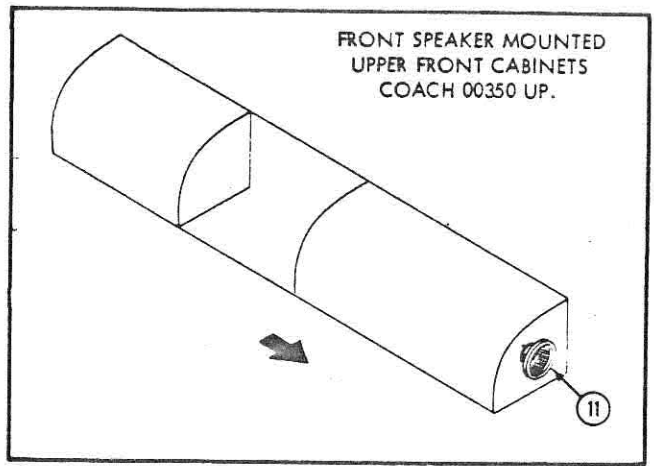
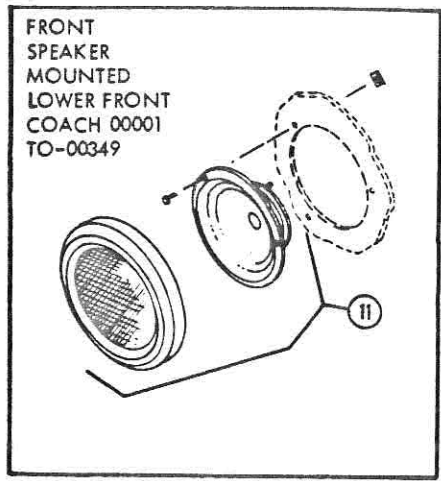
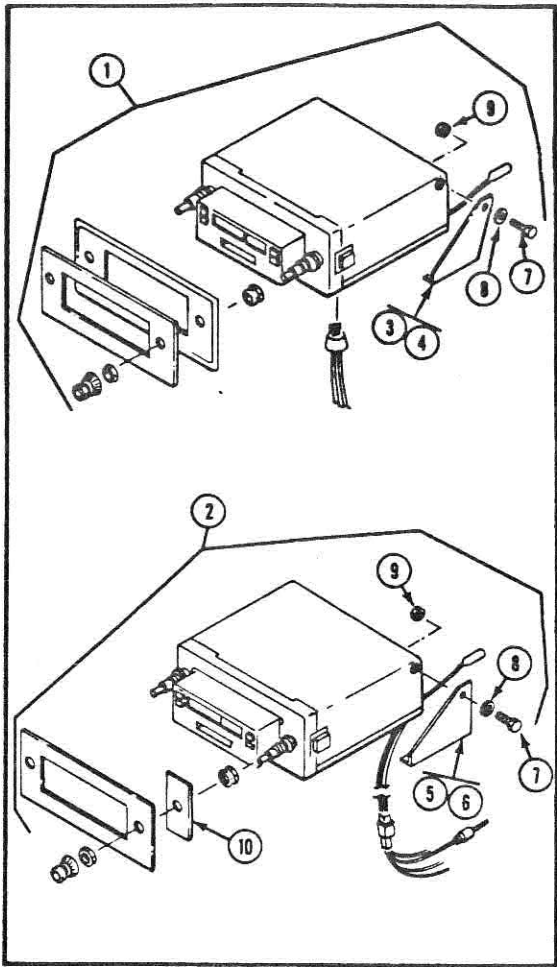
GROUP 43  
MODEL 2900R

FIG NO.	ITEM NO.	RVD PART NUMBER	ITEM DESCRIPTION	QTY PER UNIT
43-2	1	5100369	TV ANTENNA ASSY (BM SKYLINER MODEL) (coach 00001 to 00499)	1
		M25034	RIVET, Antenna to roof	16
	2	5101994-01	TV ANTENNA ASSY (BM STARLINER II, STR-1PB) (coach 00500 and up)	1
		M25077	RIVET, Antenna to roof	12
	3	M20030	GROMMET, TV cable to frame	1
	4	5100369-R001	CABLE, TV shielded (BM-10319)	15 ft
	5	5100369-R002	HANDLE ASSY, TV antenna crank (BM-10739)	1
43-2	6	5100499	RECEPTACLE, Bedroom 12 volt, right side (PRA 5000) (coach 00001 to 00250)	1
		M25044	RIVET, Receptacle attaching (coach 00001 to 00250)	4
	7	5101777	RECEPTACLE, Bedroom 12 volt and TV, left side (BM-12TV-JWG 300 OHM) (coach 00251 and up)	1
		M25029	RIVET, Receptacle attaching (coach 00251 and up)	4



# REPAIR PARTS LIST

43 Electronic  
 GROUP Communications System  
 MODEL 2900R



SD-512

Figure 43-1. Radio and Speakers

# REPAIR PARTS LIST

GROUP 43  
MODEL 2900R

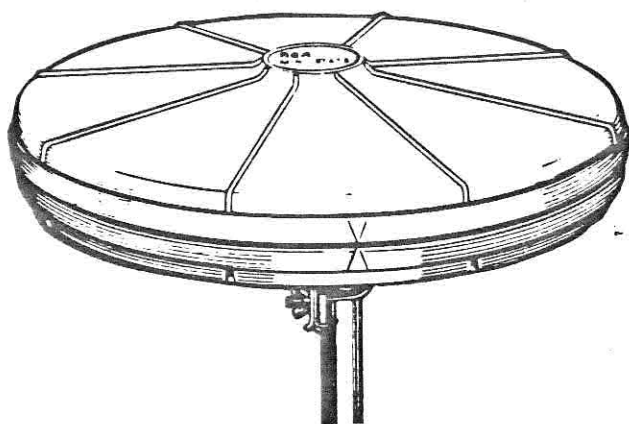
FIG NO.	ITEM NO.	RVD PART NUMBER	ITEM DESCRIPTION	QTY PER UNIT	
43-1	1	5101180	RADIO, AM/FM with 8-track tape player (AW-C975) (coach 00001 thru 00133)	1	
	2	5101708	RADIO, AM/FM with 8-track tape player (LF Model A-25) (coach 00134 and up)	1	
	3	5101211-01	BRACKET, Left hand radio (coach 00001 thru 00133)	1	
	4	5101211-02	BRACKET, Right hand radio (coach 00134 and up)	1	
	5	5101709-01	BRACKET, Left hand radio (coach 00134 and up)	1	
	43-1	6	5101709-02	BRACKET, Right hand radio (coach 00134 and up)	1
		7	M14262	BOLT, Radio bracket to support panel, pan HD, 8-32 by 5/8" long	2
		8	M17081	WASHER, Radio bracket to support panel bolt, flat #8	2
		9	M17078	NUT, Radio bracket to support panel bolt, self-locking, 8-32	2
		10	5101872	PLATE, Radio mounting (coach 00134 and up)	2
		11	5100515-R002	SPEAKER, AM/FM (sup 5100515-R001)	4
		12	5101803	CONTROL, Rear speaker volume (coach 00150 and up)	1
		13	5101454	ANTENNA, AM/FM, side mount (AW PM-140)	1
		14	5101455	EXTENSION, Quick-mount antenna lead-in (AW L-48)	1

WARNING: INSTALLATION OF THIS PRODUCT NEAR POWER LINES IS DANGEROUS. FOR YOUR SAFETY, FOLLOW THE INSTALLATION DIRECTIONS.

Before you do anything else, read the booklet on safety precautions, "How To Install Your Own Antenna" <sup>4/3</sup> which is packed in the carton with this antenna.

# RCA

## AC-DC Mini-State Antenna System



VHF-UHF  
Model 5MS550

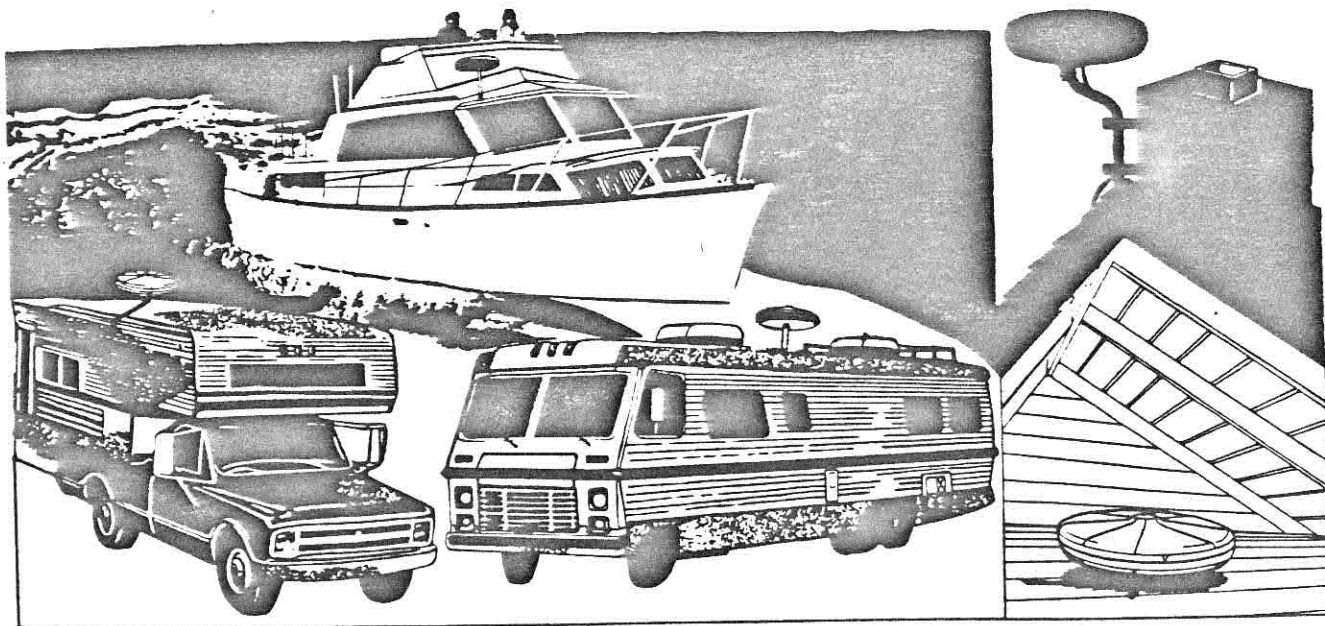


Figure 1. Typical Antenna Locations.

Recreational Vehicle Services Inc.  
RR2 Box M 140 Monterey Highway  
Morgan Hill, CA 95037

# Items Supplied

The following items are included in the 5MS550:

QUANTITY	DESCRIPTION	QUANTITY	DESCRIPTION
1	Radome Unit with VHF and UHF antennas, amplifier and rotator	3	Hairpin Mounting Legs for indoor use of antenna
1	Rotator Control Unit with 8' cable	1	30' Combination Coaxial/3-Wire Rotator Cable
1	120 VAC/12 VDC (Negative Ground) Power Supply Unit with VHF/UHF Band Separator attached		
1	DC Power Cord		
1	Bracket and 2 screws for mounting Power Supply		
1	All stainless steel Mast Mounting Bracket and hardware, (4 screws, 4 lockwashers, 1 U-bolt, 2 nuts)		

### OPTIONAL ACCESSORIES

Combination Coaxial/3-Wire Rotator Cable, 60'	5MS404
80'	5MS403
Offset Mast for use with wall, chimney or window mounting brackets	5MS501
Fold-Down RV Antenna Mount	5MS502
Tri Mount Kit (tripod for roof mounting)	10Y514
Two-Set Coupler	10G217

## Description

The RCA AC-DC Mini-State 5MS550 is a completely new type of TV antenna system designed for use on recreational vehicles, boats and residential dwellings. Under average conditions, the reception range of the antenna is 35 miles from the TV transmitter antenna. The system contains a miniaturized unidirectional antenna, special solid state amplifier and an electrical rotating mechanism, all housed inside a weatherproof "radome". The remote power supply is designed to operate from either a 120 VAC or 12 VDC (negative ground) power

source. The package also includes a VHF/UHF band separator, rotator control unit with illuminated direction indicators, and stainless steel hardware.

A 30-foot length of low loss coaxial cable with a screw-type F-connector at each end, and a 3-wire rotator cable to interconnect the antenna and power supply are supplied to complete the installation. Both of these cables are contained in a prefabricated, single jacket cable assembly included with this unit.

## Installation

### ANTENNA UNIT

**CAUTION:** During the installation of the 5MS550 Mini-State Antenna make sure the antenna and mast cannot accidentally come into contact with any power line. CONTACT WITH POWER LINES COULD RESULT IN SERIOUS INJURY OR DEATH.

For protection against electrical static charge build-up during thunder storms, it is recommended that the antenna mast be properly grounded using at least #10 AWG copper or #8 AWG aluminum wire.

vehicle or boat are substantially enclosed or surrounded by metal surfaces, an exterior mounting location must be selected for the antenna. For recreational vehicles with metal roofs, the antenna should be mounted at least two feet above the roof surface. For boats, best reception will normally be obtained if the antenna is mounted above the boat's highest deck or cabin structure. However, it is possible that other mounting locations may also provide satisfactory reception. It is recommended that several mounting locations be tried to find the one that provides optimum performance before a permanent installation is made.

Mounting instructions using standard hardware are given in the following paragraphs. Instructions for installing special mounting hardware (available as optional equipment) are provided with each special hardware package.

### Recreational Vehicles and Boats

For best performance on vehicles and boats, the 5MS550 antenna should be mounted as high as practical and as far away from metal objects as possible. If the interior areas of the

### Residential Dwellings

Due to its small size, the AC-DC Mini-State Antenna will mount in a variety of places. While a rooftop installation is preferred for residential dwellings, the antenna will usually

perform well on an outside wall, window frame, or in high indoor locations such as attics, overhead crawl spaces, or on the shelf of an upstairs clothes closet. In difficult reception areas, it may be worthwhile to experiment with different locations to find the one that provides the best TV picture.

### Mounting Position

For proper operation, the antenna must always be mounted with the radome in a horizontal plane. In exposed outdoor locations, it should be mounted with its top side up. When used indoors, it may be mounted in an inverted position with no sacrifice in performance; however, the direction of rotation indicators on the control unit will be reversed.

### Coaxial Cable/Rotator Wire Connections (Figure 2)

Loosen the two screws and remove the terminal board cover from the underside of the radome housing. This will expose a threaded coaxial receptacle and 3 special screw type Terminals. Screw the coaxial connector on one end of the lead-in cable firmly onto the threaded receptacle.

**CAUTION:** Be sure the center conductor of the connector is in the hole of the receptacle before tightening.

Fasten the yellow rotator control wire to Terminal 1, the black wire to Terminal 2, and the red wire to Terminal 3. Insert the wire into the clamping terminals as shown. Replace the terminal cover so that the coaxial cable comes out the elongated slot in the bottom of the cover and the rotator control cable comes out through the notch in the side. Tighten the terminal cover screws. This will clamp the rotator cable.

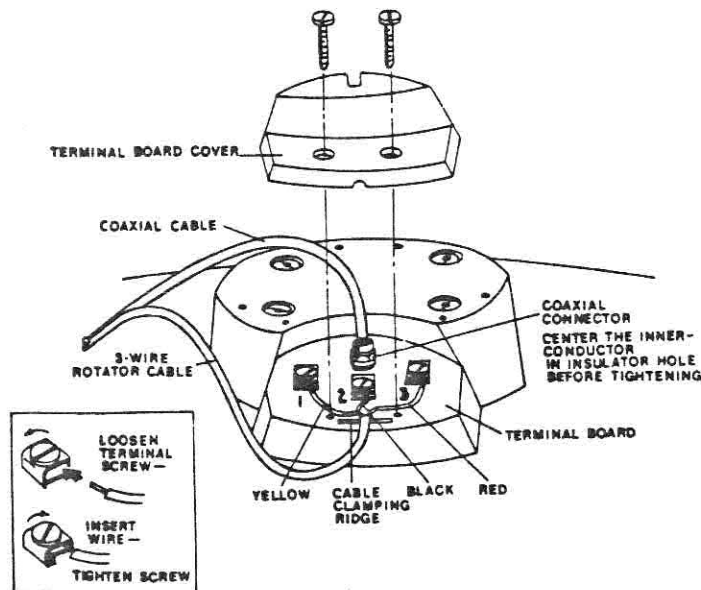


Figure 2. Connections to Antenna Terminal Board.

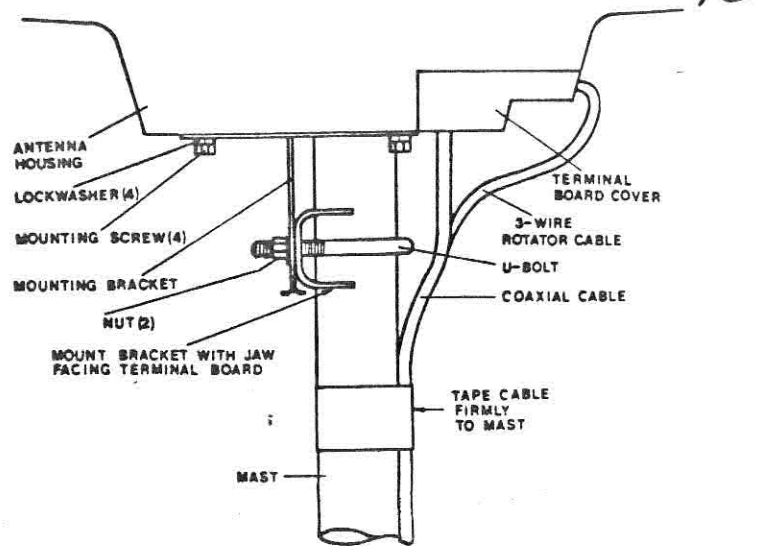


Figure 3. Mast Mounting of Antenna.

### Floor or Shelf Mounting

Insert the 3 hairpin type legs into the pairs of matching holes on the underside of the antenna housing so that they angle outward to form a tripod support.

### Mast Mounting (Figure 3)

A stainless steel mounting bracket is provided for mounting the antenna to a standard TV mast. Attach this bracket to the bottom of the antenna housing using the 4 screws and lockwashers provided. These screws thread into 4 slotted metal inserts. Orient the bracket as shown, so that the pipe jaws of the bracket face toward the terminal cover.

**NOTE:** Do not attempt to unscrew the metal inserts because these hold the internal mechanism in place.

Clamp the bracket and antenna assembly to the mast using the U-bolt and 2 nuts provided.

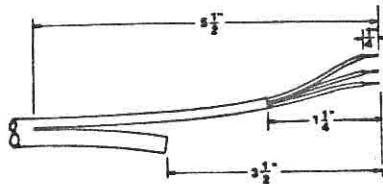
### Antenna Orientation

Because of the built-in rotator, the antenna orientation is not critical; however, a double arrowhead is molded into the outer rim of the radome that indicates the center of rotation of the system. In a residential or fixed location, pointing the double arrowhead toward the TV transmitter antenna will reduce the amount of rotation required for best reception.

For non-fixed locations such as recreational vehicles or boats, the antenna may be installed with the double arrowheads facing in any direction. Optimum TV reception may be obtained by orienting the antenna with the built-in rotator.

## Connector Assembly Instructions

**Step 1:** Separate coaxial and rotator cables for a length of  $5\frac{1}{2}$ ". Strip back outer insulation from 3 rotator leads  $1\frac{1}{4}$ " from ends. Strip inner insulation from ends exposing  $\frac{1}{4}$ " bare wire.



**Step 2:** Cut coaxial cable  $3\frac{1}{2}$ " shorter than rotator cable.



**Step 3:** Remove  $\frac{1}{2}$  inch of outer insulation.

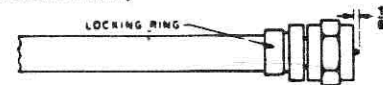
**Step 4:** Comb braid out straight. Bend back and cut short as shown.

**Step 5:** Cut off exposed aluminum foil.

**Step 6:** Remove  $\frac{5}{16}$  inch of inner insulation. Take care not to nick center conductor.



**Step 7:** Insert prepared end of cable into connector until center conductor protrudes approximately  $\frac{1}{8}$  inch as shown. (Caution: Do not allow the inner insulation to protrude into the connector's threaded section.)



**Step 8:** Using a crimping tool or a pair of pliers as shown, crimp the connector locking ring.

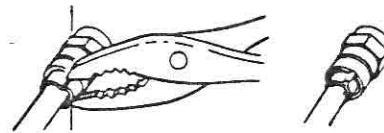


Figure 4. Installation of Connector to Shortened Cable.

### Cable Installation

Tape the combination coaxial and rotator cable to the mast as shown in Fig. 3. Run the cable to the TV set location securing it every 3 to 4 feet using suitable cable clamps or U-shaped staples.

**CAUTION:** Clamps or staples should not press tightly against or cut through the coaxial cable. Excessive distortion of the coaxial cable may weaken the TV signal.

The cable requires a  $\frac{1}{2}$ " diameter hole for entry through the wall or floor. To make it easier to insert the cable through the hole, fold the separated rotator cable back against the coaxial cable so that the coaxial connector goes through the hole first.

**NOTE:** If the coaxial and rotator cable assembly is too long, it may be shortened and a new connector (RCA 10GFO59) assembled to the coaxial cable as shown in Fig. 4.

### POWER SUPPLY UNIT

The power supply unit may be operated from either a 120 VAC or a 12 VDC (negative ground) power source. These two voltages may be applied separately or simultaneously.

**CAUTION:** The 12 VDC circuitry of the 5MS550 Mini-State Antenna is designed to operate only with common negative ground systems. Use with positive ground systems will result in costly damage to the unit.

The power supply unit also serves as a junction box for cable connections. It can be mounted to the back of the TV set or to a surface behind the set.

### Coaxial Cable/Rotator Wire Connections (Figure 5)

Attach the coaxial connector to the threaded receptacle on the power supply unit using care to center the inner conductor of the coaxial connector in the hole of the receptacle before tightening the nut. Slip the rotator cable through the strain relief clamp, and connect the yellow wire to Terminal 1, black wire to Terminal 2 and red wire to Terminal 3.

Insert the 5-pin cable plug from the hand control unit into the mating 5-pin receptacle on the power supply unit. Connect

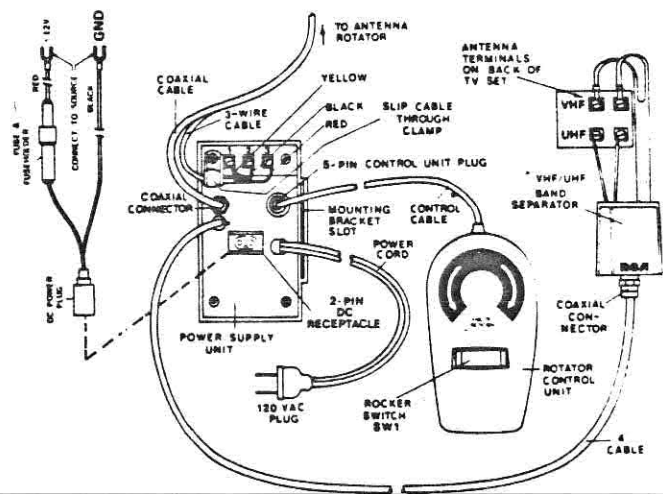


Figure 5. Antenna System Interconnections.



the band separator leads to the UHF and VHF antenna terminals of the TV set. These leads are identified on the band separator case. If the TV set has a VHF coaxial antenna receptacle, and there are no UHF stations in the area, the coaxial cable's F-connector may be unscrewed from the band separator and re-attached directly to the TV receiver's coaxial receptacle. This may help to reduce ghosts and interference in extremely difficult reception areas.

### 12 VDC Operation

The DC power cord supplied with the system contains an in-line protective fuse.

**CAUTION:** For continuous protection against fire hazard, replace fuse with only the same type 0.8 ampere/250 volt rating.

Insert the 2-pin plug of the DC power cord into the mating 2-pin DC receptacle on the power supply unit. Attach the red wire to the positive terminal and the black wire to the negative terminal of the DC source used. The power cord is supplied with spade lugs. These may be easily removed if your installation requires another type of connector.

Attach the power supply mounting bracket as shown in Figure 6 and slip the power supply onto its bracket.

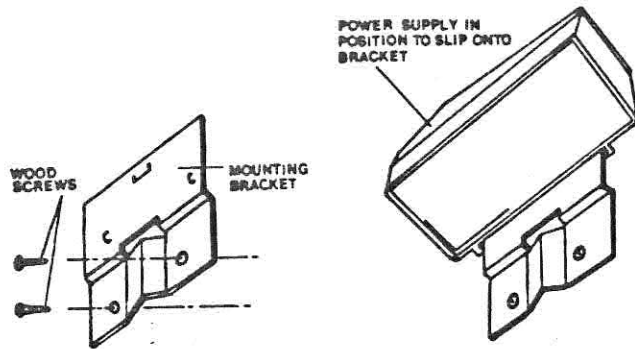


Figure 6. Power Supply Mounting.

### 120 VAC Operation

Insert the power cord into any convenient 120 volt AC outlet. The power cord may be left plugged in at all times because the power used is very small, about the same as that of an electric clock. The DC source, if any, may also be left plugged in, since the unit will operate from either one or both sources.

## Operation

With the TV set on and a station tuned in, rotate the antenna by pressing the rocker switch located on the control unit. Pressing the right side of the switch will turn the antenna in a clockwise direction. Pressing the left side will turn it counterclockwise. Although the actual antenna movement cannot be seen, the indicator arrow on the control unit will

light, showing the direction of antenna rotation.

When the antenna has made one full turn (360 degrees), the End of Rotation light will come on.

Observe the picture while rotating the antenna first in one direction and then the other, until the best picture quality is obtained.

## Circuit Description

The Mini-State 5MS550 system consists of an antenna, amplifier, rotator drive unit, rotator control unit, power supply and VHF/UHF band separator.

The VHF section of the antenna is a circularly shaped, slot tuned, broadband, unidirectional traveling wave antenna. The UHF section is a broadband multi-element array. The VHF signal is amplified and combined with the UHF signal by means of an adder circuit. The combined VHF-UHF signal travels down a coaxial cable to the power supply and through C6 to the band separator, where they are separated and transformed to 300 ohms for connection to the TV set.

The power supply provides all the operating voltages for the system. Eleven volts DC for amplifier power is supplied through the RF coaxial cable. The ground return circuit for the amplifier is via the coaxial cable shield. The power supply also provides DC voltage at socket pins 4 and 5 to energize the rotator motor and lamp circuits.

A small DC motor turns the antenna. Direction of rotation is determined by switch SW1. An end-stop switch opens the motor circuit when the antenna has rotated to its end position. Diodes D1 and D2 allow the motor to reverse and rotate off the end-stop.

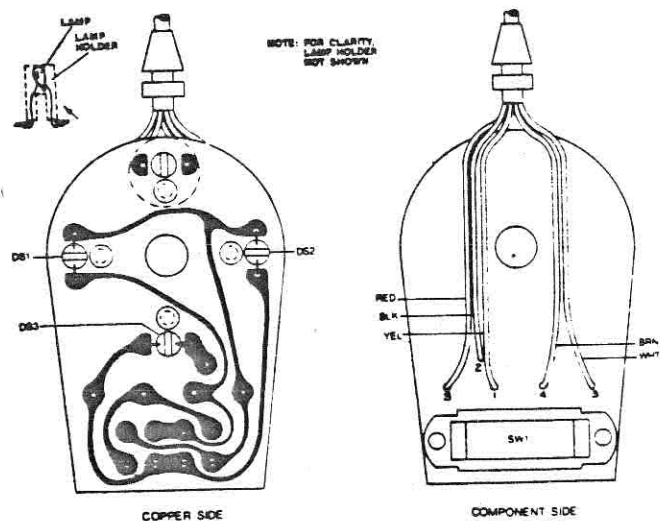


Figure 7. Control Unit Components.

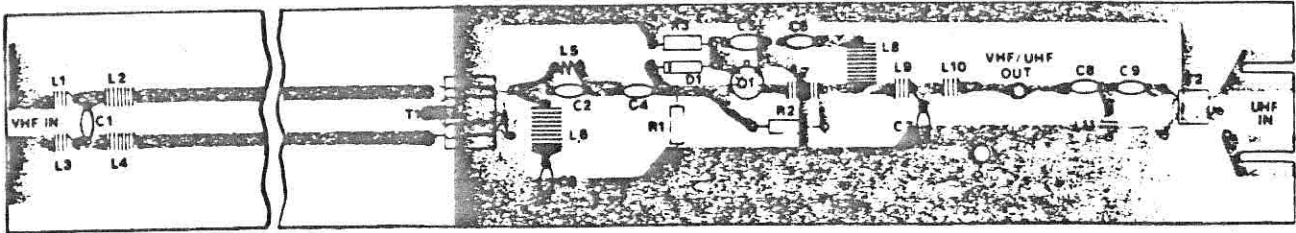


Figure 8. Amplifier Components.

## Troubleshooting

### Symptom

Antenna will not rotate; direction indicator lamps do not light; (120 VAC operation only)

Antenna will not rotate; direction indicator lamps do not light; (12 VDC operation only)

Antenna rotates slowly; direction indicator lamps light dimly; (120 VAC operation only)

Antenna will not rotate; direction indicator lamps light properly

Antenna at end stop; will not rotate

Antenna rotating in wrong direction; CW direction indicator arrow lights when control switch is pressed on left side and CCW direction indicator arrow lights when control switch is pressed on right side

Weak picture; no noticeable difference in picture when antenna is rotated, or when the 120 VAC and 12 VDC power cords are disconnected

### Probable Cause

- AC power cord disconnected
- Power Transformer T1 defective
- Power supply diodes D1, D2, D3, D4 (Two or More) defective
- Control wire No. 4 or 5 open
- Switch SW1 defective

- DC power cord disconnected
- Fuse in DC power cord open
- Power supply diode D6 defective
- Switch SW1 defective

- Power supply diode(s) D1, D2, D3, or D4 defective

- 3-wire rotator cable open or incorrectly connected
- Defective motor
- Defective end stop switch

- End stop switch defective
- End stop diodes D1 or D2 defective

- Control cable connections 1 and 3 reversed

- Defective amplifier transistor Q1
  - Open connection between antenna and amplifier
  - Open or shorted coaxial lead-in cable
  - Shorted or open amplifier coaxial wrap-around cable inside antenna housing.
  - Defective power supply
- NOTE: With amplifier and power supply

### Symptom

Loss of color or snowy picture; (Channel 6 only)

### Probable Cause

properly connected, voltage between L1 in power supply and ground should be approximately 11 volts DC during non-rotating operation. During rotation, this voltage may decrease slightly. During 12 VDC battery operation, if the battery is simultaneously being charged, this voltage may increase by several volts. A voltage of 16 volts or higher indicates a defective transistor or an open connection between power supply and amplifier. Very low or zero voltage may indicate a shorted C1, C2, C3, C4, or C5 capacitor, shorted coaxial cable, or short on amplifier board.

- Amplifier coil L5 improperly adjusted
- NOTE: FM trap coil L5 was carefully adjusted at the factory. Normally it should require no further adjustment. If adjustment is necessary, L5 should be spread or compressed until the first FM trap null occurs at 96 MHz. 88 MHz will then occur outside of FM trap with nominal gain of 21 dB. (This adjustment should be made only by qualified service technicians using RF sweep equipment and crystal markers.)

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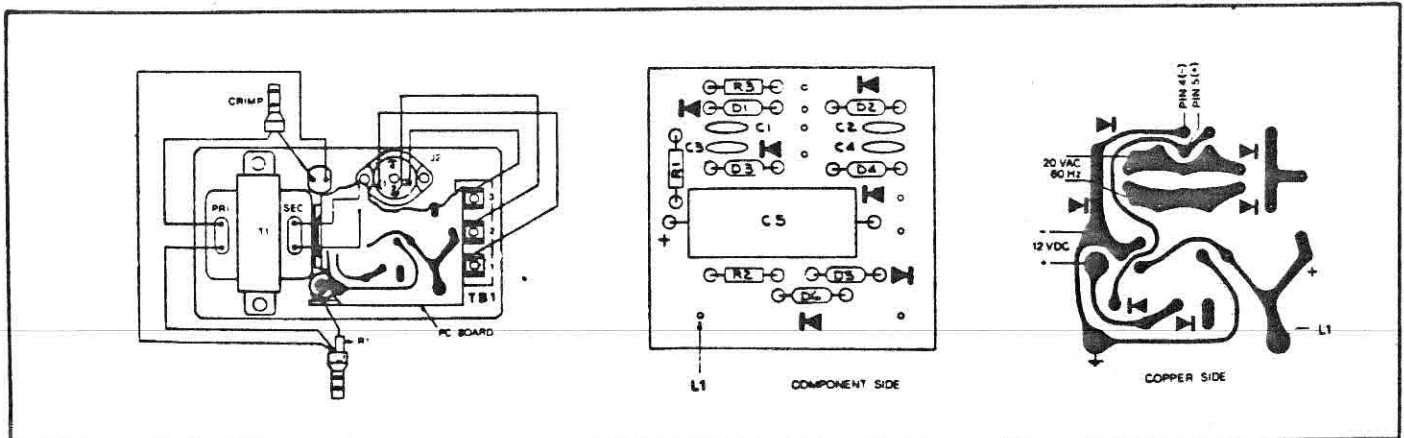


Figure 9. Power Supply Components.



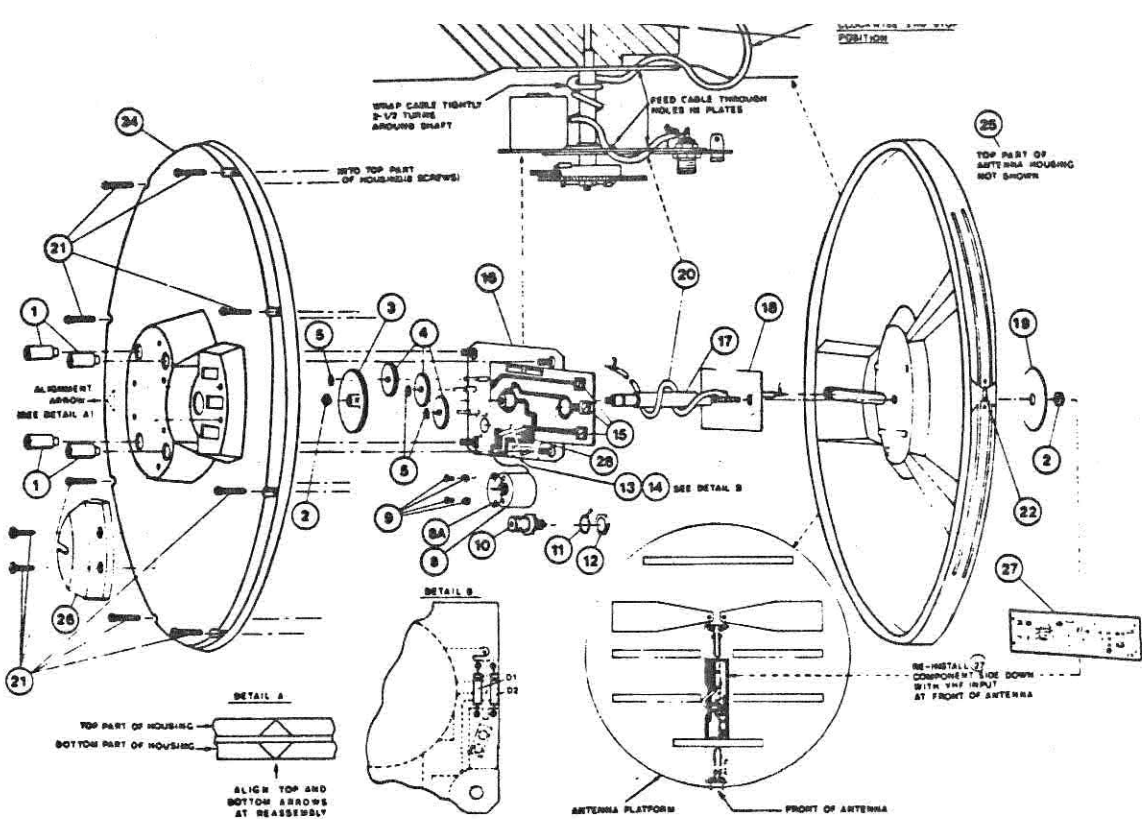


Figure 10. Antenna System Components.

## Replacement Parts

Symbol	Stock No.	Description	Symbol	Stock No.	Description
		<b>POWER SUPPLY</b>	26	740749	Cover, Terminal Board
(Fig. 5)	742939	Power Supply, complete	21		Screw, No. 8, self tapping, 7/8" lg
C1,2,3,4,6	740775	2000 pF 500 V ceramic			<b>ROTATOR UNIT</b>
C5	742941	330 uF, electrolytic		742942	Rotator Drive Unit, complete (Items 1-5, 8-20)
D1 to D6	231669	Diode 1N4003	1	740751	Insert, mounting
J2	742940	Connector, 5-pin, chassis	2	740752	Nut, self threading (2 per pkg)
J3	741819	Connector, 2-pin (DC)	3	742943	Gear, Drive, with spring finger contact
L1	740739	Coil, RF choke	4	740754	Gear, Idler
R1	502515	1.5 Meg, 5% 1/2 W	5	740755	Washer, retaining (3 per pkg)
R2	502027	27 Ohms, 5% 1/2 W	8	740756	Motor, with pinion, mounting screws and washers
R3	502147	470 Ohms, 5% 1/2 W	8A	743405	Insulator, motor
R4	502047	47 Ohms, 5% 1/2 W	9	740757	Screw and Washer, Motor Mtg (2 ea. per pkg)
T1	743404	Transformer, Power	10		Coaxial Connector, chassis
TB1	740740	Terminal Board Ass'y, with 3 screw connectors	11		Washer, with solder lug
	245347	Strain Relief, power cord	12		Nut, connector
	246608	AC Power Cord	13/D1	231669	Diode, CCW End Stop, 1N4003
	742937	DC Power Cord	14/D2	231669	Diode, CW End Stop, 1N4003
		<b>AMPLIFIER</b>	15	740758	Terminal, with screw and nut (3 per pkg)
(Fig. 8)	741244	Amplifier, complete	16	742944	Gear Plate Ass'y, with PC board, and Items 10,11,12,13,14,15,28
C1,8,9	423553	3 pF, 50 V ceramic	17	740760	Shaft, Drive
C2,4	423283	100 pF, 10% 50 V ceramic	18		Plate, Support
C3,7	740984	10 pF, 50 V ceramic	19		Washer, fiber
C5	245268	1000 pF, 50 V ceramic	20	740761	Cable, coaxial wrap-around
C6	423285	2000 pF, 50 V ceramic	28	740762	Switch, End Stop
D1	741100	Diode, 1S953			<b>MISCELLANEOUS</b>
Q1	740727	Transistor, 2SC1424	(Fig. 3)	742945	Bracket, Antenna Mast Mounting; includes: 4 screws (10-32 x 1/2" lg), 4 split lock washers, 1 U-bolt, 2 nuts
R1	227741	560 Ohms, 5% 1/2 W		740764	Lag, Mounting, hairpin type, set of 3
R2	106866	2200 Ohms, 5% 1/2 W	(Fig. 5)	10G221	VHF/UHF Band Separator
R3	106861	100 Ohms, 5% 1/2 W		5MS401	30' Prefabricated Coaxial/3-Wire Rotator Cable
		<b>CONTROL UNIT</b>			
(Fig. 5)	742936	Control Unit, complete			
DS1,2,3	740746	Lamp, Indicator			
SW1	740743	Switch, Control			
	742938	Lens, Indicator			
	742969	Control Cable, with plug			
		<b>ANTENNA UNIT</b>			
22 (R1)	502136	Resistor, antenna termination, 360 Ohms, 1/2 W, ± 5%			
24	740747	Antenna Housing, bottom section			
25	740748	Antenna Housing, top section			

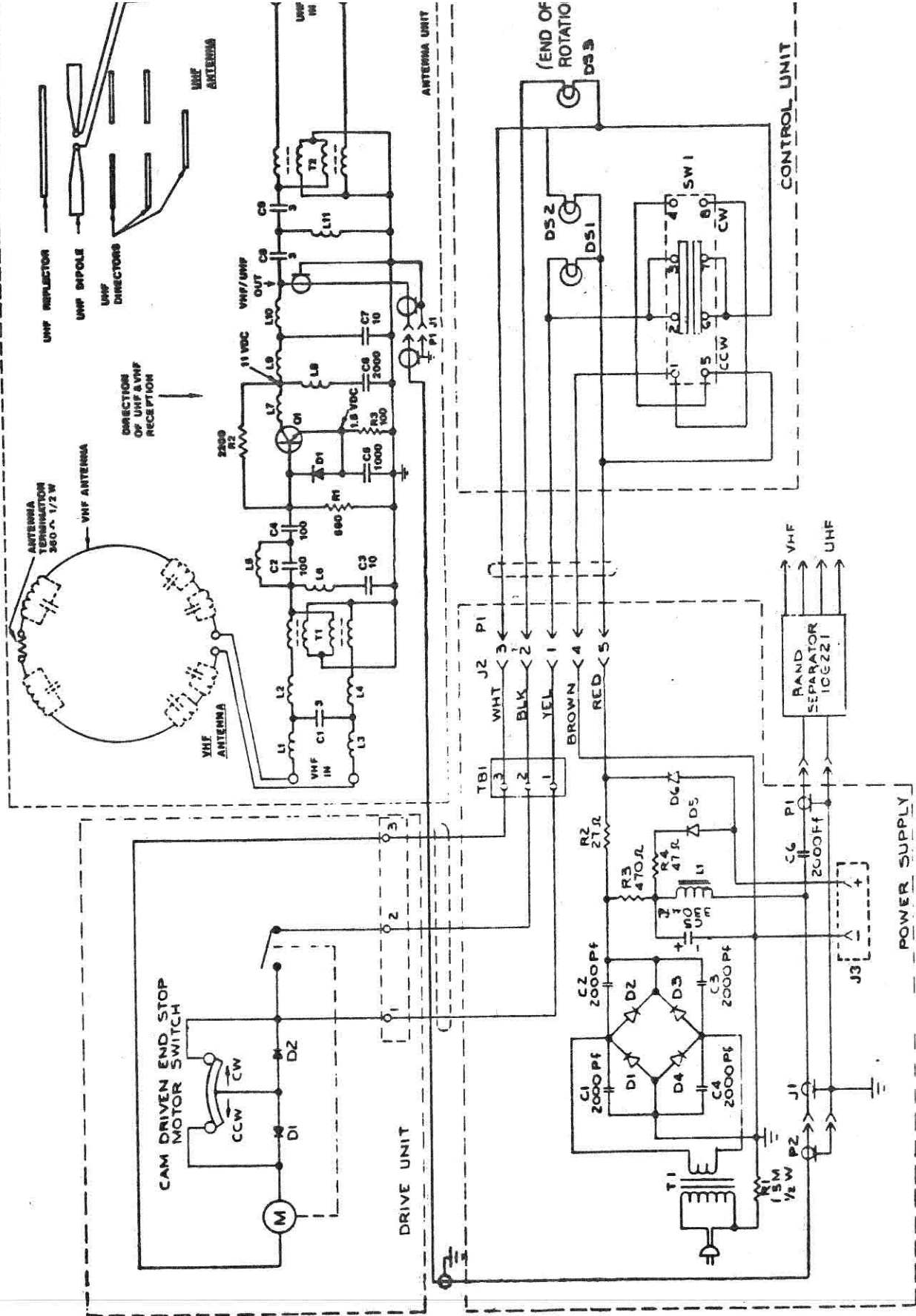


Figure 11. Antenna System Overall Schematic.



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