

# MIRAGE

COMMUNICATIONS EQUIPMENT, INC.

## A1015

6 METER POWER  
AMPLIFIER

P.O. BOX 1000 • MORGAN HILL, CA 95037 • (408) 779-7363

The MIRAGE A1015 represents the latest in 6 meter power amplifiers. It incorporates features that make it the most useful and versatile amplifier available today. The A1015 has a built-in receive preamp, remote keying, and complete remote control when using the optional RC-1, Remote Head. It will amplify SSB, CW, and FM signals. It has built-in thermal protection to prevent over heating.

FREQUENCY RANGE . . . . . 50 to 52 MHz  
BANDWIDTH . . . . . 2 MHz  
POWER INPUT . . . . . 1 to 15 watts (20 watts max)  
POWER OUTPUT . . . . . 150 watts or more for  
10 watts input  
DUTY CYCLE . . . . . intermittent  
MODES . . . . . SSB, CW, and FM  
RECEIVE PREAMP. 10 db gain with  $1.5 \pm .5$  db noise figure  
DC POWER . . . . . 13.6 VDC at 18-22 amps nominal  
FUSE . . . . . 35 amps (internally mounted)  
IMPEDANCE . . . . . 50 Ohm input and output  
SIZE . . . . . 12" X 3" X 5½"  
WEIGHT . . . . . 5 LBS  
TYPE ACCEPTANCE . . . . . Type Acceptance under  
FCC rules part 90

#### INSTALLATION:

The A1015 may be mounted by using the brackets supplied. The A1015 must have adequate ventilation around the heat sink. Use of No. 8 or larger wire to connect the A1015 to the power supply or battery is recommended. Use good quality 50 Ohm coax, between the radio and the A1015. RG-8U or the equivalent should be used between the A1015 and the antenna. The antenna should be matched, to better

than 1.5:1 for best performance. Higher SWR could damage the amplifier and will degrade the system performance.

#### AMPLIFIER KEYING:

The A1015 has RF sensed switching. The relays will automatically engage when you transmit unless your output is very low. If you have problems with the relays chattering, you may use an external control.

The phono jack on the rear panel is provided for externally switching the relays. Connecting the center conductor to the outer conductor of the phono jack will cause the A1015 to go into the transmit condition. Many radios have an extra relay contact that closes when the radio transmits. Just connect that to the phono jack and you're ready to amplify signals below the sensitivity of the automatic sensing circuit.

#### FRONT PANEL FUNCTIONS:

- POWER ON/OFF** This switch turns the Transmit Power Amplifier on and off.
- PREAMP ON/OFF** Turns on and off the Receive Amplifier. This works independently of the power on/off switch.
- LED (Power On)** This LED will go out if the amplifier over heats. It will come back on when the amplifier has cooled.

#### REAR PANEL FUNCTIONS:

- "RADIO"** This connects to the transmitter or transceiver.
- "ANT"** This connects to the antenna.
- RCA JACK** This is for external control of the transmit/receive relays. Shorting the center to the outside will switch the A1015 into the transmitting state. See "Amplifier Keying" for more information.
- 6 PIN REMOTE CONNECTOR** The RC-1 Remote Control Head connects here.

#### PRECAUTIONS:

##### HEAT-SINK TEMPERATURE

Along with high power output comes the possibility of high heat-sink temperatures. The A1015 must be mounted where air can circulate over the heat-sink. The A1015 has a built in thermostat that will turn it off at 170 degrees F. The amplifier will not come back on until the temperature drops to 140 degrees F.

##### INPUT POWER

Input power should not exceed 15 to 20 watts. Higher power than this may cause failure of the transistors. This may Void Any Warranty.

#### INTERNAL ADJUSTMENTS

##### TUNE UP:

##### POWER AMP SECTION:

The A1015 has been tuned at the factory and normally does not require any adjustment. Should adjustment be required the following procedure should be followed.

Return the amplifier to the factory with a letter describing in detail the problem you are having. Include the frequency you want to use the Amp on. Specify the mode - i.e., SSB, CW, or FM. What is the transmitter output power? Is the antenna SWR less than 1.5 to 1 at the desired frequency of operation? What is the DC voltage to the amplifier when transmitting with the amplifier power switches? If so, state the

switch settings when the problems occurs. If possible, measure the SWR between the transmitter and the input jack of the amplifier and note the SWR both with the amps off and on.

This information will greatly assist our technicians in servicing your Mirage amplifier.

#### PREAMP SECTION:

The preamp has a broad-band input circuit which does not require any adjustment.

#### IN CASE OF DIFFICULTY:

- 1 CHECK FOR LOOSE ANTENNA OR B+ CONNECTORS.
- 2 CHECK S.W.R. OF ANTENNA
- 3 LOOK FOR BAD OR LOSSY COAX:

#### 5 YEAR LIMITED WARRANTY

Any MIRAGE COMMUNICATIONS product found defective in materials or workmanship (except RF Power Transistors), within 5 years from date of purchase, by the original owner, will be replaced or repaired at no charge, if the product is returned to the factory, freight prepaid. RF Power Transistors are warranted for 1 year from date of purchase.

All internal adjustments are factory set for best performance consistent with reliable operation. Changing internal adjustments may void the 5 year warranty.

Unauthorized repairs may void the 5 year warranty. We suggest that repair problems be returned to the factory.

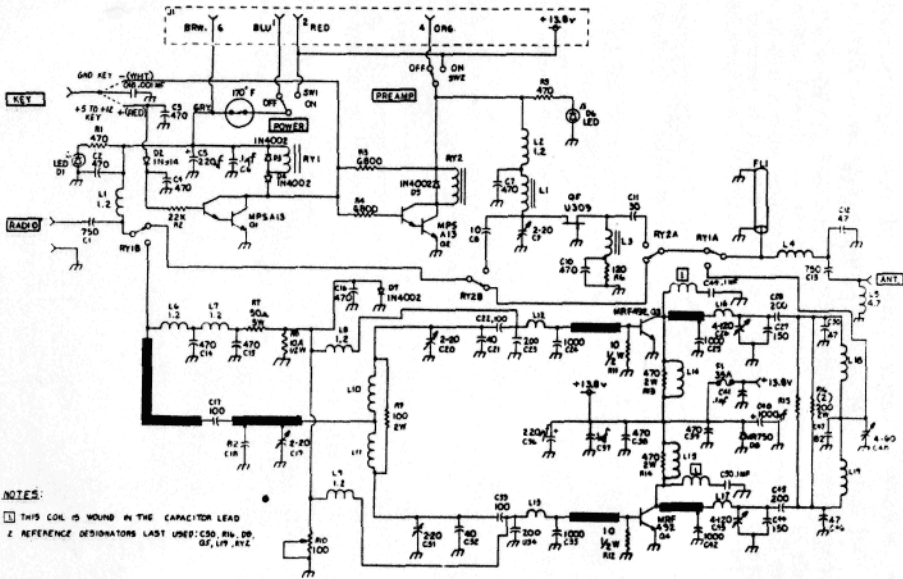
RF power transistor replacement beyond the 1 year warranty period must be done at the factory to maintain the 5 year warranty on the rest of the unit.

This unit was not designed for repeater operation. The use of Mirage amplifiers in repeater service is at your own discretion. Consult the factory for recommendations regarding repeater service.

The Warranty Registration card must be submitted within 10 days from date of purchase, to obtain warranty service.

MIRAGE COMMUNICATIONS assumes no responsibility for any antenna, or accessories connected to this product.

This warranty does not apply to units that have been misused, accidentally damaged, subjected to more than the rated input power, manufactured prior to June 1978 or subjected to unauthorized service or repair.



NOTES:

- 1 THIS COIL IS WOUND IN THE CAPACITOR LEAD
- 2 REFERENCE DESIGNATORS LAST USED: C50, R16, D6, Q5, L19, RYZ