

THE HEATH



HWA-202-1 AC Power Supply

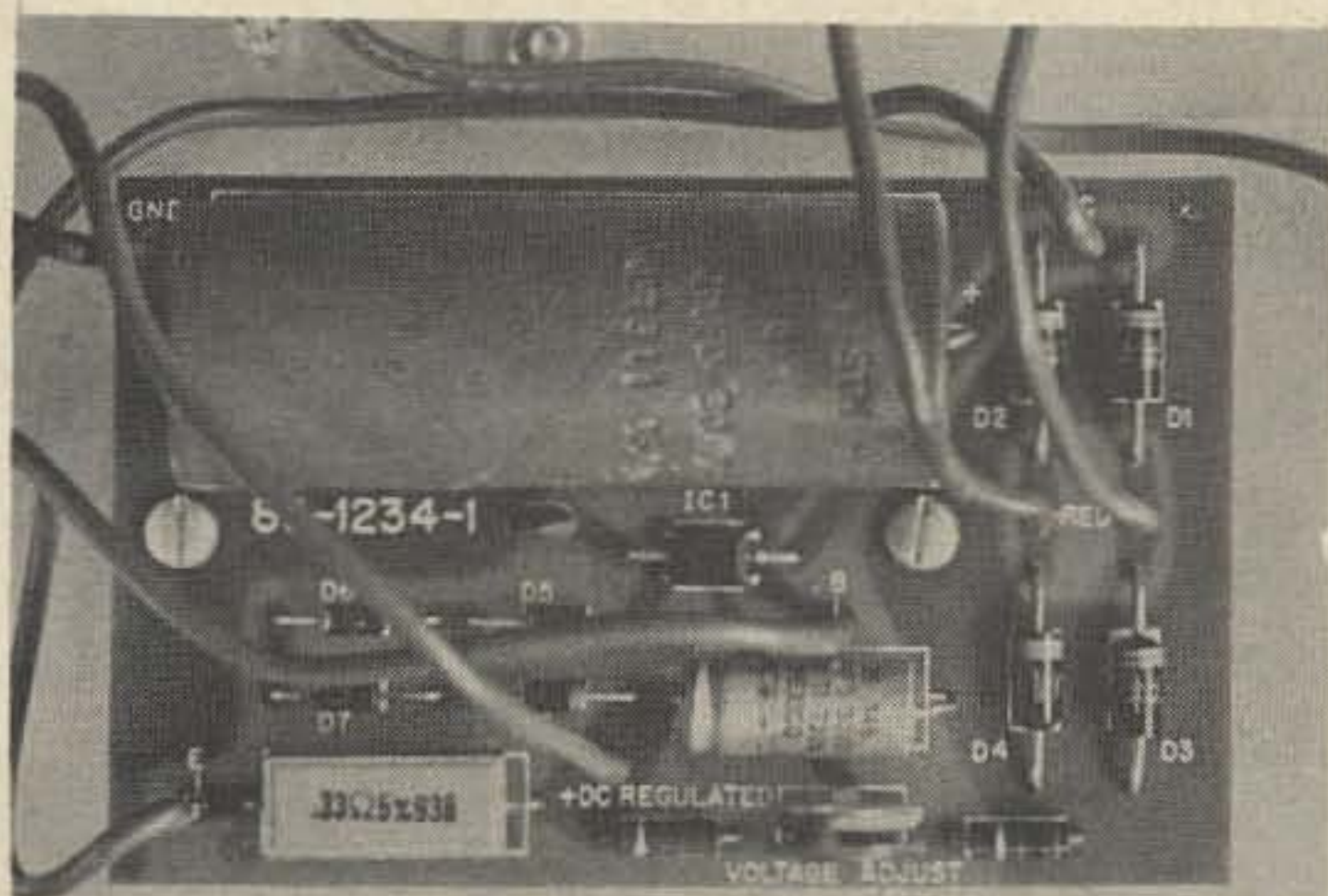
The HWA-202-1 power supply is intended for use as a companion unit for the Heath HW-202 2 meter FM Transceiver when that rig is operated at a fixed QTH where ac power is available. However, the features of this supply also make it a very fine general duty, 12 V, 2 ampere source for operating miscellaneous solid-state receivers, converters, amplifiers or experimental circuits on the bread board.

Output voltage is internally potentiometer adjustable from 10 to 15 V and is completely regulated within 1½% from no load to full load (2.2 amps). In addition to conventional circuit breaker protection, the unit is electronically protected from current

overload (short circuit) by the integrated circuit sensing arrangement which is the heart of the regulator circuitry. Voltage from the ac plug up to the dc regulator is a conventional transformer-diode bridge rectifier capacitor filter circuit...but between this point and the output connector is a large regulator transistor whose emitter — collector path is in series with the power supply's load. The base of this transistor is biased by the IC output which is determined by its comparing a zener diode reference voltage with that of the output voltage.

Assembly of the kit is very simple and can be accomplished in less than 2 hours. Most of the components are mounted on a small etched circuit board and this accounts for the rapid assembly.

Upon completion of my power supply, I plugged into a nearby ac receptacle, placed the unit's power switch to the ON position...and promptly popped the circuit breaker. This bordered on discouraging. I rechecked the wiring. Nothing. I checked for cold or bridged solder joints. Nothing. I checked the marked polarity of the electrolytic capacitors and diodes. Looked OK. I rechecked the wiring. Nothing. I unsoldered the transformer leads and measured resistances in a search for shorted windings.



This Photo shows diode D4 with cathode band painted on wrong end.

Checked OK. I rechecked the wiring. Nothing. I removed the regulator transistor and made emitter to base and base to collector resistance readings. Read OK. I rechecked the wiring. By now the power supply was almost back in the unassembled condition that I had started with two hours earlier! Finally, while checking the front-to-back resistance of the diode rectifiers, I discovered a curious thing...one of the diodes had the *cathode band painted on the wrong end!* After turning the diode around (and reassembling the power supply), everything worked as advertised. In all of my years in electronics, this was the first time that I ever encountered a mismarked component, and it was certainly not the fault of

the Heath Company, but it is something to look for when almost all else fails.

As a final check prior to placing the unit in service, I connected an oscilloscope to the output leads and, with the vertical sensitivity at .05v/Cm, was unable to detect any ripple component of the dc voltage. Under load, using an HW-202 in the transmitting mode, less than 10 millivolts peak-to-peak ripple was observed, which for practical purposes is negligible.

Priced at \$29.95, the HWA-202-1 rates a "good buy" as an accessory unit for the HW-202 transceiver, which it matches in size and style, and as a well regulated 12 V source for the ham shack.

...W3WTO

HOW TO BE SURE THAT HAM RADIO HAS A FUTURE

Gabe Gargiulo WA1GFJ
17 Whitney Street
East Hartford CT 06118

The best way to protect something is to get someone powerful to look after it. The fact that you, the ordinary person, want to safeguard amateur radio means nothing. The only way to guarantee a future for ham radio is to get business behind it. Look at what the electronics manufacturers are doing to keep and expand CB!

Big business is not going to care one hoot about ham radio if you tell it how great and wonderful ham radio is, or what worthwhile things are accomplished on the air. They will begin to care only if the outlook is good for profit.

Yes money — the root of all evil. That is what will make company presidents sit up and ask, "What in hell is ham radio?" If they realize that there is money to be made on the hobby of those crazy nuts, they will take pains to protect it. Money will be spent to influence legislation on our behalf. Subtle pressures will be felt by government officials at all levels. Better yet electronics manufacturers will continue to produce ham gear at competitive prices. They will promote ham radio and introduce young people to it. All this will expand the hobby and cause it to grow.

Nice — but it won't happen unless some money starts to flow into the treasuries of the makers of ham gear. This means that you, Joe Ham, must get out and *buy*. Purchase ham gear. Buy new equipment. Don't spend your money on cigarettes. Forego the luxury of a new air-conditioned car. Instead, buy a quad and a 40 foot tower.

Buy! Buy new transceivers, receivers, transmitters, antennas. Get into two meter FM and ATV. Get that scope you always wanted. When your wife asks where all the money is going, tell her that it is to insure that ham radio has a future, and to protect your investment in all that expensive equipment. Remember, you aren't wasting money or indulging yourself — you're only protecting your investment. Besides, you're helping to create jobs in the electronics industry.

How can you resist now, knowing all the benefits of buying more radio gear? Just thumb through this magazine and you'll find page after page of luscious goodies just waiting to be bought. Protect your investment. Be sure ham radio has a future. Buy. Buy. Buy.

...WA1GFJ