

## RADIO WEST MODIFIED SPR-4

A vast improvement on an already great receiver  
by Randy Tomer

After using a Drake SPR-4 for six months, I consider this receiver to be an excellent DX machine. I feel that a good used SPR-4 bought for three or four hundred dollars and then given the \$60 Radio West "Selectivity and AVC Time Constant" modification represents one of the best deals available in true DX radios.

Basically, the SPR-4 as originally marketed is a very fine DX receiver, but is victimized by some minor drawbacks that prevent it from being truly great. These drawbacks are: (1) Too high a price when bought new. (2) A slow AVC release time--fine for listening to Hams on SSB, but lousy for listening to weak AM signals in a noisy location. The slow AVC also makes peaking or nulling signals with the S-meter difficult, due to its slow reaction to tuning changes. (3) Only one AM bandwidth, 4.8 kHz. This is more than adequate for domestic DX, but limits the SPR-4 in receiving foreign splits.

The above limitations are all eliminated by buying a used SPR-4 and giving it the Radio West treatment. They add a front panel switch giving fast, slow, and AVC-off positions, and do some rewiring that allows the SPR-4's existing 2.4 kHz SSB filter to be used in the AM mode. A second front panel switch is installed for switching the BFO on or off. 2.4 kHz selectivity on AM is then obtained by switching the mode to either "LSB" or "USB". The "CW" position gives you 0.6 kHz selectivity, but is worthless for AM signals--way too tight.

After this modification there is an unbelievable improvement in reception. The fast AVC is a real "must" for this receiver and gives excellent fast-acting S-meter response. The 2.4 kHz bandwidth gives truly excellent selectivity on foreign splits; easily separating stations only 1 kHz apart, and still gives good readability for such a tight filter. Signals will jump out of the splatter that could not previously be heard with the 4.8 kHz bandwidth.

A few of the SPR-4's inherent good qualities should be mentioned. It is very compact and light in weight, and can be run from a 12-volt car battery. It gets along fine with just about any antenna you hook up to it. It has an excellent and highly useful IF notch filter. It has a fantastically accurate main dial, with well-separated (1 kHz!) divisions, that needs very little recalibration when moving from one end of a band to the other. Using the BFO (see below) you can easily measure carrier frequency to less than  $\frac{1}{2}$  kHz. No digital readout is needed with this receiver. The SPR-4 has excellent overload resistance; noticeably better than the HQ-180's, and is far superior to the FRG-7's. No attenuator switch is required with the SPR-4 in this location. DX'ing the Ham bands is a cinch, as SSB tuning is excellent. No fine tune or vernier tuning is necessary, as the SPR-4's dial is well spread out and tuning speed is in low-gear. This makes careful tuning quite easy.

One disadvantage of this receiver is the lack of variable BFO control. This would allow the user to center the BFO in the middle of an AM carrier; handy for measuring frequencies. You can get around this deficiency easily. Place the mode switch on AM, turn on the BFO switch, zero beat on a known frequency, and set the dial by turning the chrome ring behind the black tuning dial. Then tune around and find a weak station, listening for the BFO note, and zero-beat it to determine its frequency. Normally with an SPR-4 you would tune 2.4 kHz away from this to get the audio, but with the modified version, just switch the mode to "LSB", turn the BFO switch off, and there's your audio with no re-tuning. If you want the wide filter, switch to "AM" and retune 2.4 kHz lower for best audio.

Reports of poor sounding audio in the SPR-4 are unwarranted, in my opinion. Yes, the sound is "tinny" and has a weird character to it, but it is still clean and in no way interferes with a weak ID. This is a DX machine, not an entertainment radio. By the way, I tried running the sound from the SPR-4's audio-out jack into a good hi-fi mono amp (a Heath AA-18) and found it to be of little advantage. The amp only faithfully reproduced what was already there. A good external speaker is helpful. I find the use of my high impedance headphones makes the biggest improvement in sound.

In conclusion, the SPR-4 is a fine receiver that has become somewhat forgotten by DXers, but can be obtained for a fair price on the used market and turned into a very fine piece of DX gear.