



Peak voltage =  $= 36 \times 1.4$   
 $= 51 \text{ V (2)}$   
Total voltage across capacitor (1)+(2)  $= 901 \text{ V}$

This calculation assumes:

1. A  $50\Omega$  load, which may be far from correct!
2. Sinusoidal modulation – in reality any spikiness of the audio waveform may produce transients much higher.

So I would say that for a safe margin a capacitor with double the working voltage as a minimum is neces-

sary. In fact, 4,700pF 2,500V disc ceramic pulse capacitors are a standard easily obtainable TV part, and are ideal for this application and power level.

Another precaution that is worth taking is to wire a carbon resistor of say  $10\text{k}\Omega$  across the aerial socket, simply to provide a discharge path for this capacitor. Whilst it does not store a lot of energy, the aerial socket can give you a nasty surprise if you touch it after switching off the supply – this definitely happens with the 19 set, guess how I found out!

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