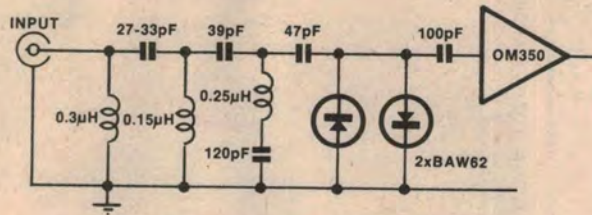


## CIRCUIT & DESIGN IDEAS

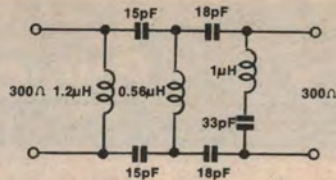
### High-pass filter for Mast-Head Amplifier



I read your article on the Mast-Head Amplifier in the August, 1979 issue of Electronics Australia with interest but I was surprised to note that you had not included a high pass filter at the input of the device. On experimenting with similar devices in the Philips range it was found that even though their nominal frequency range is 40MHz to

860MHz, they do in fact often have no more than 2dB variation in gain between 10MHz and 1.2GHz. This means that they will respond very well to HF amateur and to 27MHz CB transmissions.

These problems can be cured quite readily by fitting a suitable high pass filter ahead of the amplifier.



I have constructed a number of 300-ohm balanced filters and I have found it desirable to use a combination of constant-K and M-derived filters with a notch in the 27-29MHz range. I achieved over 35dB of attenuation below 30MHz and at the notch frequency about 55dB. Below about 10MHz at least 55dB of attenuation was achieved. The circuit of the balanced filter is shown. Also, a suggested unbalanced filter for coaxial cable which should suit the amplifier is also shown. The cut-off frequency of the filters which I constructed was 45MHz, with an insertion loss of no more than 1dB worst case.

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