

figures should be around 8dB better for 3rd order at the high levels, and that high orders should be reducing much more quickly.

One absolutely fascinating pointer to a good design is whether the IM products are symmetrical about the two input tones or not. We are pleased to report that the symmetry was excellent up to 350W, and surprisingly reasonable at 500W PEP, showing good earth routing etc.

Since we had had a slight reservation about the RF sensing threshold, we checked it quite carefully and found that it varied from just over 0.5 to 0.9W. I would have preferred to see this rather more sensitive, particularly for applications when low power drivers might be used, and RF sensing becomes essential. The through loss on receive measured very well at less than 0.5dB. The internal power meter was a little optimistic, indicating around 10% too high, but perhaps German watts are that much louder! Quite frequently, when tuning up, we exceeded 0.4A for a short while, and the box protested mildly with its intermittent red light showing it to be gasping for breath, and when this happened we always allowed it to cool off for a while. We had no problems at all in measurement, apart from the odd occasion when we switched from stand-by to off by mistake, which resulted in a curse, followed by an 80 second wait for the 'ready' light to come on every time this happened, this being accompanied by rather impatient foot tapping! Better to save the valve than the leather on our shoes, though!

Conclusions

I highly recommend this linear to those who appreciate the fun that can be had from running high power, although there are many provisos. If you have previously been running no more than 10W and you suddenly step up to 400W, you must expect much hammering on your front door for a while, abusive phone calls, and a check by the Home Office as a result of many complaints being handed in at the local Post Office. If you can survive all this, or live in a house miles away from anywhere, you can then begin to enjoy the Dressler for a longer period.

If you are a dab hand at fiddling, then you should be able to improve, or re-adjust both the input and output

Table 1. Laboratory test results

Frequency of input signal for single tone tests: 144.45 MHz
unless otherwise stated.
Frequencies for two tone tests: 144.35 MHz and 144.45 MHz

Measurement	Result	Notes
Output power for the following inputs (SSB position) 0.01/0.1/1.0/2.0/W	4.5/46/350/500	'HI' gain input used 'HI' gain input used
Anode current at 500W o/p -SSB position (mA)	380	
HT volts — no load (kV)	2.1	
HT volts — 500W o/p	2.0	
Grid 1/Grid 2 current -SSB (mA)	0/1	
Output power for 2W input —FM position (W)	330	'HI' gain position used
Anode current at above output (mA)	240	
Grid 1/Grid 2 current —FM (mA)	0/0	
Standing anode current FM/SSB (mA)	< 10/100	
Intermodulation distortion of two tone source at 1W PEP level (dBc)	3rd order: -55 >3rd order: < -70	
Intermod at 100W PEP output 3rd/5th/7th/9th/ >9th order (dBc)	-32/-55 /-64/-68 /< -70	
As above but for 190W PEP output	-28/-48/ /62/-70 /< -70	
Intermod at 340W PEP output (dBc) 3rd/5th/7th/9th/11th/13th/15th/17th order	-25/-33/-48/ -52/-58/-60/ -60/-65	
As above but for 500W PEP output	-23/-38/-46/ -50/-60	
Through loss on RX (dB)	0.3	
RF sensing switching level 'LO'/'HI' gain (mW)	560/890	
Delay between switching back to RX	Adjustable between 0 and 1.5 secs.	
-3dB Bandwidth (MHz)	1.7	
Harmonic output — 350W o/p 2nd/3rd/4th/5th/6th (dBc)	-42/-52/-50/ -55/-50	

matching. I would have preferred, also, a slightly higher HT voltage for SSB linearity improvement. The variable input attenuator will be a real boon to those who like to fiddle, and now that Dressler have greatly improved reliability since their company was taken over by new management comparatively recently, it seems fair to suggest that the rather unfortunate name that the company had acquired originally should now be well and truly forgotten. Perhaps you ought to take out an insurance policy on the price of a new valve, though, which is now well over £160 in

the UK, although you should be able to get it rather cheaper in the US if you look around.

I am slightly concerned that perhaps one or two components are being stretched a bit, for example the mains transformer is rated at 630VA. It seems logical that Dressler will bring out a new model eventually, perhaps with a larger fan, but in the meantime this present model is certainly the best bet commercially.

I have very much enjoyed using this machine and am now trying to justify its purchase, which perhaps is the best praise that I could give it. ●