NOTES ON THE K.W. VESPA Mk.II

AS MODIFIED TO THE LATEST STANDARD

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The Vespa is, and always has been, a very nice job and this article will be of interest to owners or prospective buyers of the Transmitter, either new or second-hand. The photographs have been chosen to show the general layout and method of construction of modern amateur-band equipment.
—Editor.

THE subject of these notes is the K.W. Vespa Mark II transmitter; the earlier Mark I was looked at in SHORT WAVE MAGAZINE back in August 1968, and anyone with a copy of that issue could well re-read it in conjunction with this article.

Coverage is all of Top Band, Eighty, Forty, Twenty, the CW and SSB areas of Fifteen, and three segments of 200 kHz bandwidth in the 28 mHz band, namely, 28·0, 28·4 and 28·6 as the LF band edges of each segment. This of course leaves a sizeable area of Ten uncovered, and a small, but from the DX-er's point of view significant, part of 21 mHz.

Presentation is very much along the lines of the KW-2000 and 2000A series of transceivers. As between the Mark I and Mark II Vespas, the only obvious difference is in the legend on the tuning-dial bezel and the weight of the PSU.

The subject transmitter has had several vicissitudes, which have progressively brought it from the standard of one of the earliest Mark II transmitters up to just about the most recent build-standard currently available new from K.W. Electronics, who make it. In its original owners hands the PA stage suffered from misuse, resulting in a melted PA valve and a soggy mess where the *pi*-tank had once been. It was rebuilt by K.W. with a new PA valve and the *pi*-coil replaced by the later glass-fibre version, in which condition your reviewer bought it.

In this form it has had about a year of knockabout use on the bands, with the reservation that as the writer spends long hours in his shack doing things not connected with Amateur Radio, it likewise spends long hours with power on but in the " receive " condition, so that if a few spare moments occur it can be put to immediate use. The only difficulty during this period was that one 6HF5 was wrecked by a short on the ATU reflecting back into the PA and overstressing the valve, which indeed was flashed over internally. A few days later the standing anode-current started to rise—always a sign of the imminent demise of one of these valves.

At this point the transmitter was fitted with the ALC modification and a new 6HF5, for a further period of service. A few months later a similar rise in anode current was observed as a result of a similar mishap—this time the aerial lead-in was not connected when the PA was switched over from the dummy load, in the mistaken idea that the aerial was still fully tuned from the previous evening's DX-chasing! This time, K.W. Electronics suggested it should be brought to the latest standard, with the current 6LQ6 PA valve built in, a modification-kit for which is available from the firm. (They also gave the writer to understand that the improvement was so great that all earlier ones traded-in were being endowed with the 6LQ6 valve before being put on the re-sale lists.)

Tx as Modified

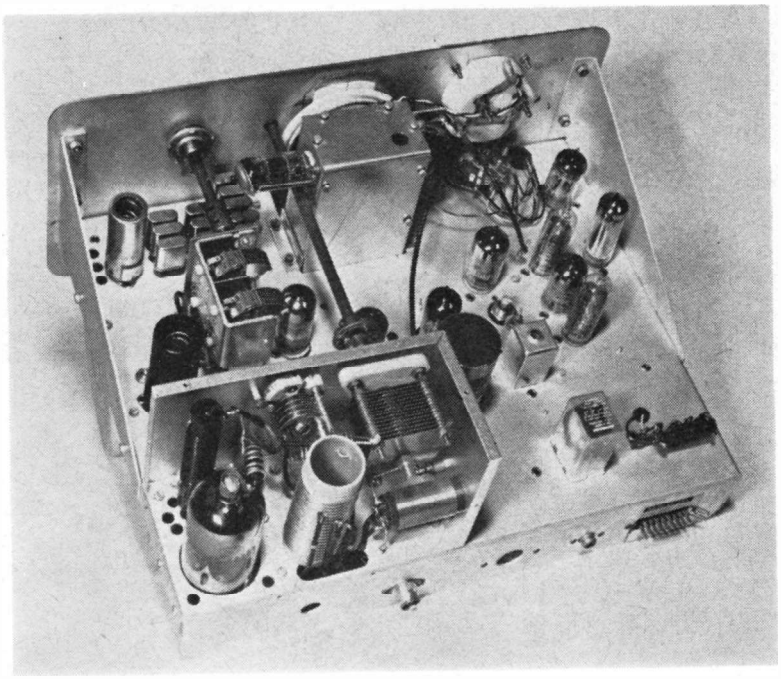
The transmitter duly modified was proved to be absolutely transformed. It always was a fine job, as experience with the original Mark I had proved, and with the 6LQ6 PA and ALC it is now one of the best on the market. The power output is equal to or better than the maker's quoted figure on all bands, stability is impressive, and the whole thing is as docile as a lamb.

An impressive demonstration of the stability in practical use was given recently, when the rig was fired up from stone-cold on Ten to work an old buddy who was said to be about. The power to the shack was connected, receiver and transmitter switched on, and all netted on to the frequency. A contact of nearly an hour under extreme weak-signal conditions resulted, when any significant drift at either end would have resulted in a lost contact with the heavy QRM existing on the band at the time.

Keep it Cool

It is, of course, not possible to put the PA on full carrier-output conditions for hours on end, due to the ratings of the output valve, but it can be said that sustained operation on SSB or CW telegraphy does not cause it any worry so long as the cabinet is not covered by piles of magazines, *Call Books* and whatever—in other words, free ventilation is important. The PSU on the Mark I was remarked on for its cool running, but the Mark II, with its greater power output, has a PSU that normally runs quite warm, albeit not unreasonably so—it has been run for several hours cocooned in a pile of papers deliberately and no harm resulted. It gets warm, but that is all.

The frontal appearance of the KW-2000, 2000A and the various Marks of Vespa is so familiar to readers that the photographs have deliberately concentrated on the innards and the Power Unit. For those few who may not have seen one, either in advertisements or " in the flesh," suffice it to say that it is very acceptable from the start and it grows on you to the point where this writer at



Upper chassis view of the K.W. Vespa Mk.II—PA stage at lower left.

least would be very loth to part with his Vespa!

The cabinet is of metal-gauze type, for good ventilation, and the PA is fully screened within the compartment. (The screening has of course been removed for the photographs.) Ventilation is very good, as the stream of hot air rising from the PA compartment shows, and the VFO does not seem to be seriously affected by the close proximity of the output stage as far as heat transfer is concerned.

From the underside, a keen eye will surely discern a piece of insulation-tape near the connector for the power supplies; this was, it must be stressed *not* part of the original transmitter, but was put there by your reviewer for his own convenience in getting into one of the bias leads.

Quality and Keying

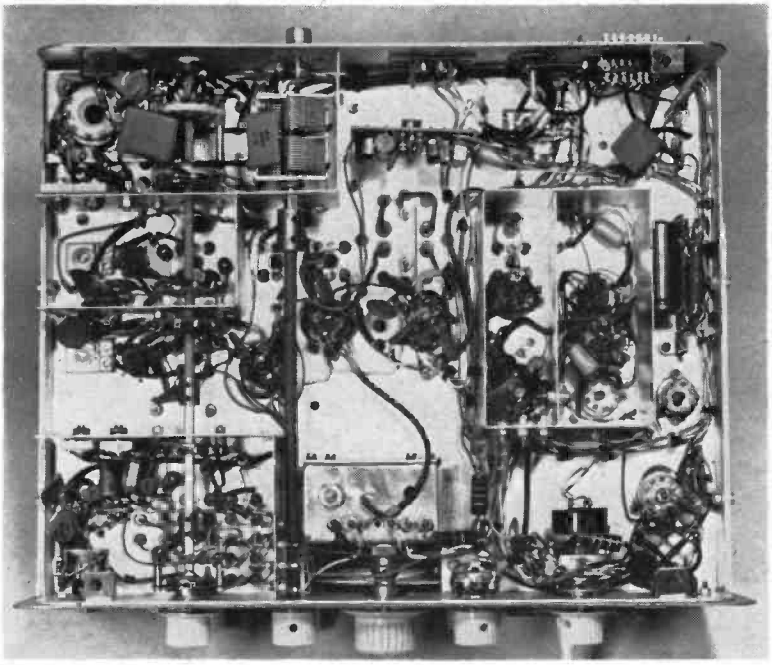
SSB quality is extremely good with a crystal microphone; external control for either " push-to-talk " or an outboard foot switch is available on the mike socket. This facility is used by the writer to control the Tx whether CW or Phone is being used, the transmitter having built-in aerial change-over facilities and spare contacts of the change-over relay available for muting the receiver and operating a linear from the same switch. Thus full control of the station is available at the touch of a button.

With the recommended key-click filter fitted, the CW quality is excellent, although one has to remember to turn the AF gain to zero or remove the mike-plug, depending on whether one is controlling the rig from the switch on the transmitter, or externally. For Top Band, as far as CW is concerned, one has a problem, insofar as the standing current of 25 mA is more than 10 watts input! However, it is possible to overcome this quite successfully by reducing the standing current to *just* zero by adjustment of the pre-set potentiometer on the PSU, and inserting carrier under key-down conditions in the QRP notch until the anode current is ten watts. Indeed, it is possible to do this in the QRO notch and still achieve the desired 10 watts input. However, one could wish the authorities would allow SSB rigs used under these conditions to be run correctly, with the higher standing current for Class-AB1 operation, and set a figure for the maximum *output* power; this would then result in the advantage, in terms of low harmonic radiation, of correct PA stage operation. Nonetheless, it must be said the signal is extremely fine when keyed on any band, provided the specified key-click filter is used on the keying leads.

General Observations

With the 200 kHz band-segments, the dial reading accuracy is very good, it being quite possible to set within 1 kHz of a desired spot " blind "—indeed your reviewer tends to rely more on the Vespa dial than that of the receiver with its calibrator!

Tuning-up is quite easy, although, as with all SSB rigs, one must read *and understand* the instructions before attempting to do this! As for the ruggedness of the PA in the present form, all that needs to be said is that since it was brought up to 6LQ6 standard, an o/c



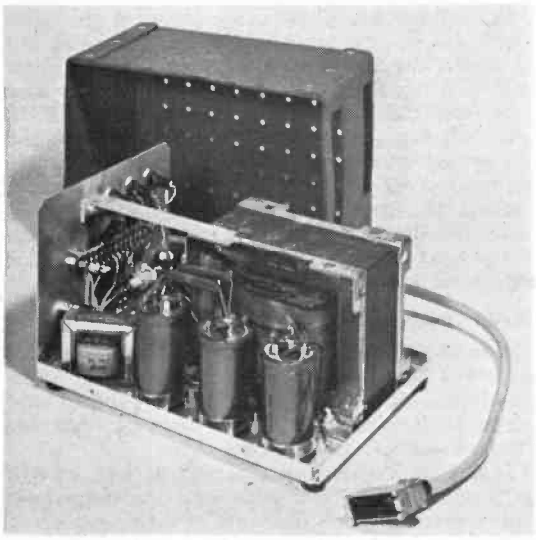
Under chassis layout and wiring, Vespa Mk.II. — PA stage at upper left.

feeder in the 2-el. beam for Ten has occurred and, as it happened, when the beam was first brought into use; the rig was operated into the open feeder for several seconds before the reason for the reverse current was apparent and the switch thrown back to " receive." No signs of damage were apparent, either at the time or since.

If you prefer " separates " rather than a transceiver, then this is the one for you. If you screw the power-pack in its fibre case to the underside of the operating-table you have just the Tx and the Rx visible, plus a loudspeaker if you prefer. Neat, tidy, and eminently practical. If you couple it to a reasonable aerial system, then you are all set to work the DX on your chosen band. At this location it was even possible to do this through the Cup Final with no TVI complaints!

Speaking of TVI, one must comment that there is no such thing as a TVI-proof rig. This one can be run into a screened dummy load with no interference to a TV alongside on any band, which is the first criterion for dealing with TVI. If it is run through a low-pass filter in a matched coaxial line, to an ATU and thence to the aerial, and if the TV set is treated correctly, operation is possible on all the HF bands; but a change of TV set or a bit of corrosion in the aerial of either the Tx or the TV/Rx and the balance may well be upset. However, the Vespa is as good in this respect as the best.

Summing-up: This is a good buy, and will give hours of pleasure, with no trouble if it is treated right. It will stand a reasonable amount of abuse, and it looks good. What more could you want for your money?



Power Supply Unit for the Vespa Mk.II.

U.K. *CALL BOOK* OUT OF PRINT

The U.K. (G) *Call Book*, 1970 Edn., published by the RSGB, is now out of print and will not again be available till the new (1971) edition appears, about September.

NEW PREFIX LIST

Our new Prefix List—reviewed on p.94 of the April issue of SHORT WAVE MAGAZINE—is now priced at 2s. As before, it comes free with the *DX Zone Map* (14s. 9d., including postage and packing).