

## **Early recollections of the Garex Two Mobile – Peter Longhurst G3ZVI**

The following information and recollections are extracted from several emails I've exchanged with Peter G3ZVI in the last few years as I started to gather together information about the Two-Mobile for this page.

### ***What radio was the Garex Two-Mobile based on?***

The starting point was a Pye Cambridge. Garex had a buying concession with Pye Telecom on condition that surplus equipment could not find its way back into commercial service, hence running hacksaws through the kit was a very acceptable way of keeping faith with this deal. The MkII started with the LC10FM which was the original 10 channel Post Office radiophone and we had a quantity of brand new units, being left over production when the radiophone system moved up a gear. (LW15FM - based on the FM Westminster). All solid state Rx as per Cambridge, and solid-state multiplier and quick heat valves driver and PA (YL1080's).

Although I made quite a few, in the early days of my ownership of Garex I still had a full time job and a part time PMR business and there were just financially more rewarding things to do than build Two/Fourmobiles, which is why I didn't push them as hard as I might have done. Rex G3MMJ, the original Mr Garex, subcontracted production work to a variety of people. When I took over, these folks had various excuses as to why they were unable to continue, and some of them were an inconvenient distance away, which ruled them out as far as I was concerned.

### ***The circuit diagram only shows a box for the VFO, I've recently heard that Mike G8AMG might have been involved in the design of the VFO?***

The VFO was indeed designed and built by Mike G8AMG; we shipped to him ready made diecast boxes and SM drives and he returned sealed calibrated units. I did have a circuit of the VFO, but it was rather regarded as a trade secret at the time. In fact, it was a simple FET oscillator design, but the clever bit was choice of circuit components with opposing pos & neg coefficients, so it was exceptionally stable. Also a very high quality Jackson tuning cap. [*Mike has now in fact supplied the details of the VFO, see the link on the Garex page*]

### ***How can you identify what vintage of Two-mobile you have?***

We need to find a photo of the MkII Twomobile as made by me. A quick identifier is sets made under Rex's command were green, mine were silver. My later models had 6, then 12 Tx channels.

Apart from the outer case metal, all the rest (front, rear panels, etc.), were recycled Pye metal, e.g. Vanguard lids. I don't recall ever buying any significant amounts of metal. I inherited from Rex the services of an old boy called Wally (surname escapes me just now). Wally was an engineer ex Morris Motors in Cowley and could turn his hand to anything mechanical. My other skilled "outworker" was my father-in-law Joe Sugars who was a builder by trade, but an all-round craftsman.

Probable explanation for erratic appearance of Two-mobile adverts during the '70's would be because I had a quite demanding full time job plus a young family plus part time PMR servicing, so I probably wasn't able to keep up with demand.

Very few Four-mobiles were made at the time, lack of interest in 4 metres probably as good a reason as any for lack of sales.

***Why do some rigs have tone bursts and others do not?***

Early sets didn't have tone burst (no repeaters!).

When I started making them, requirement for it was just coming in. In the beginning as you know, there was 1700 & 1750Hz. My earliest production used a 2 tone TBG, mounted vertically behind the front panel near the aerial relay, i.e. on the LHS, looking at the front. There was a 2P c/o toggle switch to select either tone.

When 1700 went away, I reverted to a single tone unit which was mounted flat on the plate which covered the 455 filter and the second mixer, i.e. just behind the mike input lead. The switch stayed in the original position, but changed to SP on/off.

The circuit was very simple (4001 or 4011 - need to check which, handbook not handy). Two of the gates were used as the oscillator and the other two gates as the 500ms timer and gate to the modulator. It was very stable, due to use of good components, and also the board was dipped in yacht varnish to stop damp upsetting it.

***Can you please explain details behind the number of Tx channels and what crystals they should use?***

Early ones were 3 channels. Nominal 8MHz HC6U. My early production 6 channel, 8MHz, HC6U Both above used holders mounted in a metal sub-chassis, with Pye 12pf tubular trimmers. Channel number legend printed on panel.

My later production 10 channel, nominal 12MHz, HC25U, (same spec as then current Trio sets TR2200G – readily available from Lowe's!). Crystals on handmade pcb, using small round ceramic trimmers, as used in Pye FM Westminster oscillators. Channel number indication using a skirted knob, as Westminster.

*Thank you Peter for the detailed answers*

Steve Morton G8SFR  
August 2010