

A Universal 40m Driver Amplifier Module

Pete Juliano, N6QW, n6qwham@gmail.com,

Nick Tile, G8INE, juggie@cix.co.uk

This article describes a process that we can follow to develop our own equipment. It describes how even before the soldering iron comes out, we can develop and test ideas. Many of you will doubtless be aware of the prolific designer **Pete Juliano N6QW** and may follow his blog. He and Tony G4WIF have recently discussed the possibility of several building block modules that can be reliably reproduced by anyone embarking on their own design confident that they will work predictably and can be built from available parts.

Most recently and having acquired an "old" article from "*ham radio*" November 1985 written by **K1BQT, Pete** has embarked on a project to drag it into the 21st century as the core devices, MC1350 IF amps, and MC1496 double Balanced Mixers are still available, albeit with some difficulty.

Pete's technique is to model specific modules of the circuits that he is developing in *LTSpice* and determine whether they are worth pursuing in hardware, which he duly did for the 20m and 40m driver amplifier stage and which is where I started to experiment. He had to develop a replacement for the original stage as the primary component, the 40673 dual-gate mosfet is now almost unobtainable. His initial design, partly developed from earlier designs looked like :

For anyone not familiar with *LTSpice*, it is a free programme that lets you breadboard without ever picking up a soldering iron and experiment on your design. You can either copy the circuit shown or ask the designer for the file and work on it.

This circuit shows an essential element of Pete's design in the twin J310s used to replace the single 40673 and how they can be configured. Gain is set by R4 and C4 and the

40m Driver Amp ~ IC Transceiver N6QW Modified Redesign 2/3/2018 with 2N2219A Output Stage

