



## CASE STUDY

Vox Power was approached by a manufacturer of medical equipment to provide a power platform for upcoming product designs that could easily be reconfigured to suite the power requirements of existing products. Prior to finalising a proposal Vox Power engineers met with the head design engineer of the customer to discuss the requirements in more detail.

In addition to the overall specification we learned that the fourth output (+24Vdc) is used to provide the input to a separate high voltage DC/DC converter. This high voltage will also be a requirement for all upcoming product designs. A custom design would have been a very viable solution; however as the head engineer further explained that the increased activity from competitors meant that reduced system cost and time to market was of the utmost importance. At a relatively low volume of 500pcs per year, high NRE fees, high approvals costs and long design times, a custom solution was not feasible from their point of view.

Vox Power engineered the following solution:

The NEVO600M front end, three standard output modules and a specially designed high voltage output module would form the power platform the customer will use in future product designs. The specially designed high voltage output will interface with the front end like other standard output modules without impacting any of the safety critical areas within the Nevo product and as a result safety evaluation would be limited to the output module, directly reducing time and cost. Designing an output module only also reduces design time and associated NRE fees.

Major Benefits:

- Each DC/DC converter costs USD65. Eliminating the need for an additional DC/DC results in direct savings of USD 32'500 per year.
- Substantially reduced safety approval costs compared to a full custom design.
- Substantially reduced NRE fees compared to a full custom design.
- Reduced time to market due to reduced design time and approvals time.
- Increased system reliability due to elimination of DC/DC converter.
- Reduced space requirements within the end system.
- Lower inventory cost, less vendors and reduced freight costs.
- Improved system assembly.

The proposal of a custom high voltage output module will completely satisfy the customers' requirements and brings significant benefits to the customer. The Nevo600M is also suitable for existing products as the standard OP3 (+24Vdc) can still be used to power the high voltage DC/DC.

The customer wanted an improved and reduced cost power platform for future designs but did not want to explore a custom design due to high costs and long design times. The Vox Power proposal enables the customer to recover costs much faster, approach the market much faster and further adds value through all the additional and hidden benefits.