



There is always a contradiction between the power supply system and the power-using equipment: the power-using equipment requires uninterrupted, transient-free, pure sine-wave AC power supply and pulsation-free, transient-free DC power supply; while the power supply system expects the power-using equipment to be a constant load, which should not result in voltage waveform distortion due to the fluctuation of the load. For ordinary small appliances, even if they stop working under the influence of fluctuations in the power supply system, it will not cause too much damage. However, for public transportation such as airplanes and ships, the stability of the electrical system should not be taken lightly.

However, in actual testing work, users are faced with the problems of extremely strong industry attributes, extremely high professional requirements, and complex testing standard versions with a huge amount of engineering work. For example, aviation generators emit electricity of a certain specification, such as 115Vac/400Hz, which cannot be used with industrial frequency equipment, however, the voltage levels of electrical equipment include both DC and AC. AC includes three-phase equipment and single-phase equipment, and the power supply system is transformed by rectification or step-down, boosting and so on by the power distribution link. These power conversion devices, as well as the electrified power systems, entertainment systems, lighting systems and other electrical equipment on the aircraft, need to be certified and tested to professional aviation regulations to ensure the safety of aircraft/ship operations. The power supply systems used in different aircraft models can vary, and even within the same standard regulation, there are differences in versions. High-performance AC power supplies and professional software testing assistance become indispensable.

APS4000 Simulation Software for Power System of Aerospace and Ship launched by ITECH specifically for aircraft/ship customers can be equipped with IT7800 high performance programmable AC and DC power supply, provides 2kVA-1MVA and 16Hz~2400Hz power output for airborne electrical equipment. The software covers mainstream aircraft power supply characteristics test standards, such as MIL-STD-704, DO160, A350, A380, GJB181B, HB20326 and MIL1399, etc., and truly reproduces a variety of AC and DC power supply systems in the

aviation field, including DC 270Vdc, 28Vdc, single Phase AC 115V/400Hz, three-phase AC 115V/400Hz, and broadband 360Hz-800Hz. The APS4000 series software includes four models to meet different testing

Model	Built-in regulations
APS4000-ASTD	MIL-STD-704/D0106/ABD0100.1.8.1/GJB181B/HB20326
APS4000-B787&AMD	B787/AMD24C
APS4000-AVALL	APS4000-ASTD+ APS4000-B787&AMD
APS4000-1399	MIL-STD-1399-300

Table 1 APS4000 series software models

The convenient operation interface allows users to easily select test regulations, versions, voltage levels, and test items, such as harmonic distortion, abnormal voltage transients, etc. The test item numbers correspond to regulatory standards one-to-one, and the test can be started with one click, saving engineers a lot of test editing time and configuration time.



Figure 1 APS4000 software interface

Check the data recording function during the test to record various parameter data during the test in real time. After the test is completed, EXCEL can be exported from the software to the computer to facilitate further analysis by engineers.

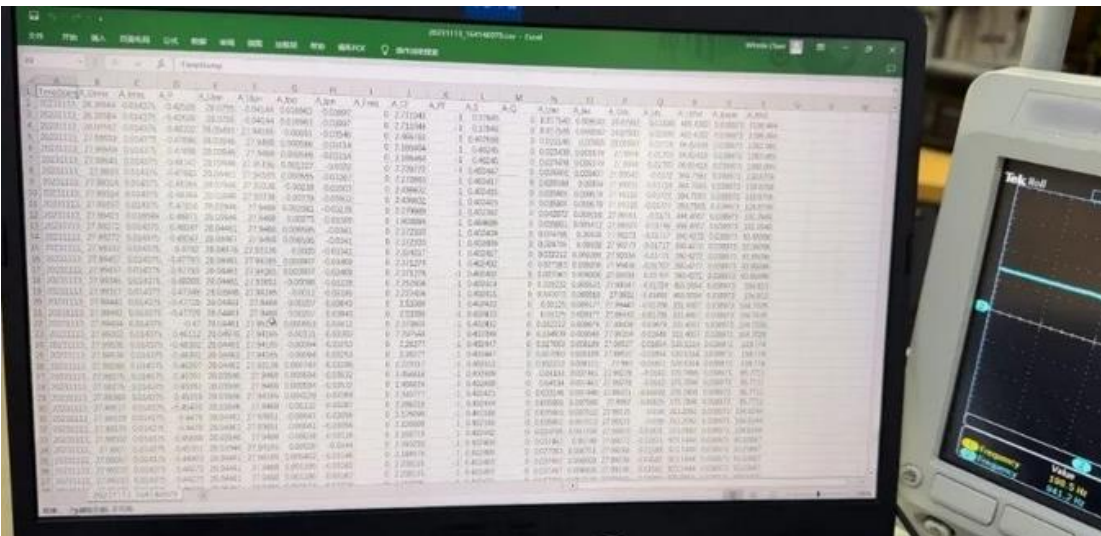


Figure 2 APS4000 software data recording function

IT7800E/IT7900E/IT7900EP series is a new product of ITECH's new generation AC power supply family, with 3U up to 21kVA and can be expanded to large-capacity AC and DC output above 1MVA. Compared with standard models, the cost performance is further improved, providing users with a more competitive high-power testing solution. The whole family has four output modes: AC/DC/AC+DC/DC+AC, single-phase/three-phase/reverse-phase modes can be freely switched and has powerful power supply waveform simulation function. IT7900EP high-performance power grid simulator can be a high-power AC power supply, or can be used as a power grid simulator and a full four-quadrant power amplifier. It is also a feedback AC/DC electronic load, which can complete more in the laboratory. test. APS4000 aviation and ship regulations software can be used with the specific series models of the AC power supply family as follows:

Model		Parameter
IT7800	AC Power Supply	350VL-N/2 kVA-960kVA
IT7900P	Regenerative grid simulator	350VL-N/5kVA-960kVA
IT7800E	AC Power Supply	350VL-N/21kVA-1000kVA+
IT7900EP	Regenerative grid simulator	350VL-N/21kVA-1000kVA+

Table 2 APS4000 hardware model table

1U/6kVA • 3U/15kVA

Models with Touch Screen and Keyboards

ATE Models



*Figure 3 IT7800

series model diagram*

IT7800/IT7900 high power programmable AC power supply and IT8200 AC/DC electronic load have added 1U ATE and 2U models in addition to the 3U model, which can cover wider test requirements and further reduce the test space for small and medium power tests.



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