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## **Exhibit 9: Additional information in response to 47 CFR Ch1 Sec. 2.1033**

**External Radio Frequency  
Linear Amplifier  
Model Expert 1K-FA**



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## **Additional information in response to 47 CFR Ch. 1 Sec. 2.1033**

### **Section c.1.**

The “Expert 1K-FA” Linear Amplifier will be assembled and production testing performed in Italy (Rome).

S.P.E. (**SOCIETÀ PER L'ELETTRONICA** s.r.l.) is located in via di Monteverde 33 – 00152 Rome, Italy. The President and principal owner of S.P.E. is dr. Scasciafratti Gianfranco.

Applicant for certification is S.P.E. s.r.l. Rome – Italy.

Applicant is responsible for all aspects of quality assurance, marketing and service, as well for the compliance with FCC rules.

Applicant has conducted or observed all design-proof testing and will re-test samples of production equipment on an ongoing basis to assure conformance to Applicant's quality standards, including all FCC regulatory requirements.

### **Section c.2.**

This product designated ‘SPE EXPERT 1K-FA’ hereafter ‘EXPERT 1K-FA’ is an external radio frequency power amplifier that covers all amateur bands from 1.8 MHz through 29.7 MHz and from 50 MHz to 54 MHz and provides 900W PEP (HF) and 700W PEP (50MHz) output power with typically 60W exciter drive or 500W output continuous carrier.

The EXPERT 1K-FA will be marketed in the United States for use for the Amateur Radio Service. The FCC identifier for the EXPERT 1K-FA will be: UW31K-FA.

### **Section c.3.**

A copy of the Installation and Operating Instruction for the EXPERT 1K-FA is included as Exhibit 6.

### **Section c.4.**

The equipment is suitable for all types of emission authorized for amateur use in 97.305 of FCC rules.

### **Section c.5.**

The equipment is designed to meet all specifications and FCC performance standards on all amateur bands from 1.8 MHz to 29.7 MHz and from 50 MHz to 54 MHz. When delivered to any buyer within FCC's jurisdiction, the equipment is not operable on frequencies between 24 MHz and 35 MHz according to FCC 97.317(b).

### **Section c.6.**

The equipment can be operated at the maximum power “Full” state automatically using the ALC link. To reduce the amplifier output, if required, it is necessary only to set the amplifier to “HALF” power state rather than changing the transceiver drive power. It is also possible to regulate continuously the amplifier output power by changing the level of drive power from the transceiver.



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### **Section c.7.**

The equipment is rated for maximum RF power output of 900W PEP or 500W output continuous carrier, 50 % duty cycle. It is limited to 1000W maximum.

### **Section c.8.**

Nominal voltages and currents at rated output (900/500W) are :

DC PA voltage 44V (FULL), 30V (HALF)

DC IA current 41A (FULL), 30A (HALF)

### **Section c.9.**

The amplifier has an automatic tuner that handles load mismatches up to 3:1 VSWR (2,5:1 for 50 MHz).

The circuit used is a PI - L network with excellent harmonic suppression.

The amplifier contains a look-up table with all the permitted bands.

For tuner management, antenna data and other working data are stored.

Every band has a sub-band set, and for each of those, data related to the antenna and auto-ATU tuning is stored.

The procedure description is included in Exhibit 11, as well as in the User's Manual – Exhibit 6.

### **Section c.10.**

Several features of the EXPERT 1K-FA design are specifically intended to reduce spurious radiation to a minimum.

The input circuit ensures that VSWR of 1.3:1 or less is presented to the exciter at the RF input terminal over the entire frequency range. The output circuit comprises a classic PI - L network, which suppresses the harmonic emissions.

Results of EXPERT 1K-FA RF performance and spurious emissions are included as Exhibit 5.

### **Section c.11.**

A photograph showing the design of the FCC identification label for the EXPERT 1K-FA is included as Exhibit 1

### **Section c.12.**

Photographs showing the construction and layout of the EXPERT 1K-FA are included as Exhibits 2 and 7.

### **Section c.13.**

Not applicable to external RF power amplifier.

### **Section c.14.**

Not applicable, as provided in Section c.15.



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**Section c.15.**

Measurement data indicating compliance with requirements of Part 97.307 ad Part 97.317 is included as Exhibits 5 and 10.

**Section c.16.**

Not applicable to external RF power amplifier.

**Section c.17.**

Not applicable to external RF power amplifier. The subject application is not part of a composite system.