

SG-500

SMARTPOWERCUBE™

**Microprocessor
Controlled Linear
Amplifier**



(cat. #52-96)

**Dramatically boost your
power, at low cost.**



fault which has occurred. Backing up this user-friendly visual system, the SG-500's microprocessor protects the SmartPowerCube™ from faults with preprogrammed shutdown procedures; in the event of a microprocessor fault, the unit shuts down automatically.

The SG-500 is designed to do exceptional service in fixed, mobile, and marine applications. It's an exceptionally rugged power source with a cast aluminum enclosure and extra heavy duty heat sinks, powder coat finish, and only the most durable electronic components and assembly techniques. In real world applications, it's nearly indestructible.

It's also very compact, taking up less than 1 cubic foot of space. Considering how much power it produces, the SmartPowerCube™ is remarkably light, around 21lb. (9.5kg.). So, it may be heavyweight in performance, but it's slim and trim for installation.

Most significantly, the SG-500 is specifically designed to operate in an unattended manner. In other words, it's ideal for installations where access to the amplifier is limited.

When evaluating the 12 volt SG-500 SmartPowerCube™, the key word is "smart." because the SG-500 is not just another mindless mass of wire and diodes simply pumping power down the line. It's an *intelligent*—microprocessor controlled—high powered linear amplifier. It constantly monitors your HF-SSB's activities, power needs and antenna condition, and automatically—in less than 15 milliseconds—selects the right broadband filter.

A bank of status LED's on the front panel of the SmartPowerCube™ functions as built-in test equipment (BITE) and allows the operator to quickly determine any

**The SG-500
SmartPowerCube™.**
It's high power,
that's intelligent,
at low cost.

*The SmartPowerCube™ produces
tremendous power—nearly as
much as a 1 kW amplifier.
Ample heat sinks help it
reliably do the job.*



"No Compromise communications"

SGC, Inc., P.O. Box 3526, Bellevue, WA 98009 USA
Tel: 425-746-6310 or 1-800-259-7331 Fax: 425-746-6384
E-mail: SGCMKTG@aol.com Web site: <http://www.sgeworld.com>
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SG-500 SmartPowerCube™



Heavy duty cooling fan option for continuous CW use. (cat. #51-82)



SG-500 features microprocessor controlled LED bank fault indicators and extra heavy-duty input/output connections.



Only premium components and assembly techniques are utilized. The SG-500 is engineered and built to reliably function, essentially unattended, in the most demanding conditions.



"No Compromise Communications"

Full 500 watt output.

- The SG-500 produces enough power to be within 1 "S" unit (3dB) of a 1 kW amplifier.

Microprocessor Controlled:

- Automatically adjusts amplifier input sensitivity.
- Monitors all parameters for faults (Heat, high VSWR, under voltage, etc.).
- Automatically selects the correct filter band.
- Export versions control transmit/receive switching.

Fully compatible with most HF equipment produced by SGC or other HF manufacturers.

Important Installation Tips:

- The SmartPowerCube™ should be located as close as possible to the antenna or coupler.
- When installing the SmartPowerCube™, be absolutely certain that your antenna will handle the power output.
- Since some antennas are overrated, plan on using an antenna system which is designed for at least 1 kW of power. Antennas rated at 500 watts or less are likely to fail.
- Avoid corona discharge by using "corona dope" to coat pointed metal parts on your antenna.
- Antenna wire should be at least AWG #8.
- Feedline should be at least RG-8, with larger cable for runs over 25 feet.

1-800-259-7331

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Specifications:

Power Output:	
SSB:	500 watts PEP
CW:	500 watts 10 Min. (no fan) 500 watts Unlimited with fan
AM:	250 watts Carrier max.
Frequency Range:	1.6-24 MHz (U.S.) (For marine and ham use pending FCC approval) 1.6-30 MHz (Export)
Power Input:	50-90 watts (Automatic or preset) 90- 150 watts
Band Switching:	Fully Automatic
Input Voltage:	14.0 VDC
Input Range:	10.0-18.0 VDC
Input Current:	40 amps average (SSB) 90 amps peak, or for CW
Cooling:	Convection standard
Optional Cooling:	Cooling fans
T/R Switching Time:	10 mS nominal
Band Switch Time:	15 mS nominal
Keying:	Via PTT line (U.S. version) PTT or RF Sense (Export)
Protection:	Input overdrive Under voltage (adjustable): Factory default 10.0 VDC Amplifier module current imbalance VSWR faults Frequency out of specified range Over current Over temperature
Built-In Test Equipment:	Microprocessor controlled LED band fault indicator
Modes Supported:	SSB, CW, RRTY, SITOR, ALE, SSTV, AM at 250 watts
Dimensions:	6Hx12.25Dx11.4W inches
With Optional Cooling Fans:	Changes H to 9.75 inches
Color:	Matte black
Case:	Special aluminum casting
Weight:	21 lb. (9.5Kg)
SG-500:	catalog #52-96
Fan Option:	catalog #51-82

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