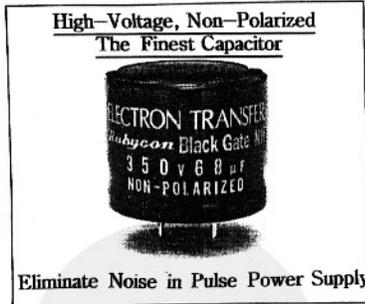


## Rule The World with The Revolutionary Capacitor King BLACK GATE, Eradicates Electro-Magnetic Wave and Distortion, Realizes The Ultra Hi-Fi, Super High Information Density, Freezeless

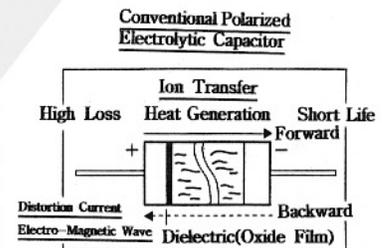


### [Polarized Capacitors Drive Signal Information into Deteriorating and Dropping]

There is no essential dielectric(oxide film) on the cathode of existing dry and wet type polarized electrolytic capacitors because it is always destroyed by ions. The signal direction from the cathode to anode becomes loss resistance as Figure 1, and the capacitors just work half of its initial ability.

The performances in a forward direction and backward one are, therefore, totally different when AC signals flow into the capacitor. The backward one is 1000 times(60db) worse than the forward one in an analog circuit(Refer to Table 1). In a digital circuit, pulse signals in the backward one become radiated to other nearby circuits or outside, and change to electro-magnetic wave noise.

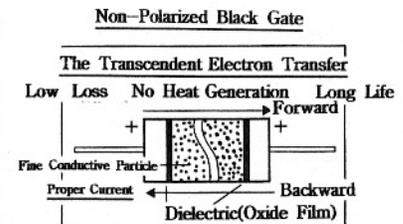
Figure 1: The Structure Comparison



The noise deteriorates information signals, and 16 bit signals declines to around 10 bit. Heat is generated as well when current runs through the loss resistance, and it is mainly responsible for the short life of the capacitor.

A notorious computer MPU freezing is also caused by the capacitor because they are driven in a frequency band higher than their operation band in electrolyte. Such both would ultimately cause a very serious incident as the whole system break down. Now is the time to consider these troublesome capacitors.

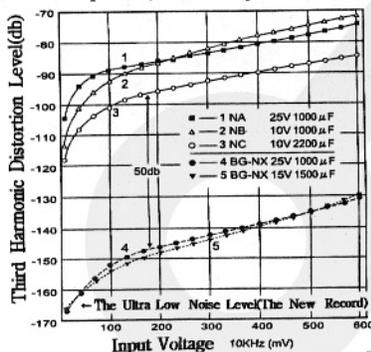
It is surprising how many companies are still pursuing the electronics without noticing or understanding the critical defect of the capacitor structure. The best resolution is, utilizing a wide-band non-polarized electrolytic capacitor of which the eternal oxide films are formed on the both electrodes even under DC current. Such capacitor, however, was thought to be impossible to realize.



### [The Perfect Non-Polarized Black Gate Completed by The Revolutionary Patented Method]

Jelmax discovered that when distributing some amount of fine conductive particles without any contact each other in a separator, the DC electric field which had been occurred from one electrode and influenced on the other disappeared. Electrons separated from ions, and an conventional ion transfer system independently converted to an electron transfer one having 100,000 times ultra faster speed. The typical destruction on the oxide films due to the impact of ions stopped, and a perfect non-polarized Black Gate was born.

Table 1: Non-Linear Distortion Comparison(Measured by CLT-1 EX)



The unprecedented achievement was a giant leap for capacitors. The excellent chief features are the frequency characteristic improved 100,000 times faster, distortion noise reduced to 1/1000, impedance and E.S.R. characteristics 1/10 less, power transfer efficiency improved by 5 times, and moreover, the life prolonged to almost permanent(Refer to Table 2). The extraordinary long life span of Black Gate is due to no ion consumption, and it would be the best cost benefit for your products.

A permanent oxide film with selected voltage is formed on the cathode of every Black Gate capacitor as Table 3, and the non-polarized operation of ultra low distortion is secured within each selected voltage.

As you are aware, all the electronic devices are comprised L, C, R and active components, and C is finally become perfect by Black Gate. It contributes significantly to the improvement of your products, and that has been proved all over the world.

No other existing capacitor has realized its wonderful features and operation. Adopt the Black Gate and commit the quality revolution for the new century.

Table 2: The Features Comparison among Capacitors

	Non-linear distortion noise	Phase Characteristics	Power transfer efficiency	Down sizing	Frequency Characteristics	Temperature Characteristics	High Voltage	High Capacity	Life	Cost
Black Gate Capacitor	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Ordinary Aluminum Electrolytic Capacitor	×	○	×	⊙	×	×	○	⊙	×	⊙
Tantalum Electrolytic Capacitor	×	△	△	⊙	○	○	△	△	○	△
Organic Semiconductor Capacitor	×	×	×	○	○	○	×	△	○	△

Table 3: The Cathode Formation Voltage for Whole Black Gate Products

Kinds	BG-Standard	BG-FK	BG-WK	BG-WKZ	BG-WKZ	BG-AC, BG-N
	BG-PK, C	BG-VK, K	350V	500V	BG-NX, BG-NH	
Cathode Formation Voltage(V)	2.0	10	100	160	250	The Same as Anode, Perfect Non-Polarized