eca3G Perfect Ground System

US Patent No 7,652,865 B2

Grounding Device which not need to be buried in Ground

- Proven at 4000+ National Security sites for 19yrs
- Registered at US Army Foreign Technology Database (GSTW)

eca3G-LM Series | eca3G-TNC Series | eca3G-TM Series | eca3G-LP Series

eca3G Energy Conversion Apparatus 3rd Generation

- Total Lightning Protection(Targeting 100% protection)
- Provide Equi-potential, common grounding function (near zero N-G Potential difference assured - below 0.2V)
- Patented technology(USA, PCT, Korea)
- Product Liability Insurance Asia, South America
- Digital Grounding Apparatus
  - Need not additional grounding rod
  - Need not low earthing resistance
  - Grounding without burying in ground
- Multi-Pulse lightning protection design
- Modular design for PGS Maintenance Service

US Patent as “Grounding Device which not need to be buried in Ground”

US Patent No 7,652,865 B2

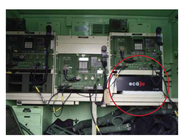
Perfect total lightning protection for

· Military Communication, Radar, Broadcasting systems
· Rocky, mountain area where could not get low earthing resistance
· Mobile radar / Communication vehicles without Grounding Rod
· Frequently surge damaged sites which could not find perfect protection solution yet.
· Airport Instrument landing guide system
· Border surveillance, coastal radar system
· IP CCTV network system

<Navy Communication system>

<Army - Ammunition Depot Surveillance>

<Remote controlled automated water treatment plant>



<Mobile communication vehicle >

Low-Altitude Surveillance Radar
http://www.lignex1.com:8001/en_US/product/product_detail.jsp?pid=19&scode1=&scode2=&scode3=&skey

<Mobile communication vehicle >

Countries using eca3G Product

a. Korea : 19 years, mostly for National Security about 4000 sites
   - Navy, border surveillance, digital TV, Mobile radar vehicle
b. Malaysia for 7 years for Police, Telecom Malaysia, Army PABX, Air force radar, Airport ILS, Police relay station
c. Thailand for 5 years for Satellite station, Army ammunition depot, Border surveillance, Army video network
d. India for 4 year for Glide path of airport, Military engineering, Police communication, Satellite Research Institute, Telecom
e. Brazil for 2 year for telecommunication (TIM, CLARO), Army communication. Vaccine lab, Water Plant
f. Turkey for 1 year : Meteorological radar station
g. Indonesia for 1 year : Airport ILS, Police communication station

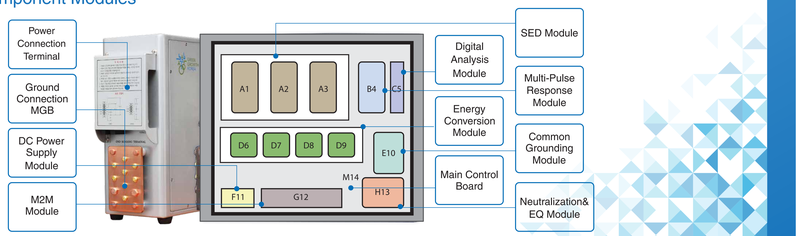
eca3G [eka three Gee]

<eca3G> protects PCB, IC-Chip, Electronic component, Digital ICT devices from Changes of Lightning protection environment

1. **Multi-pulse lightning become 70~80% of recent lightning**
   - 3~4 strikes in a second at same lighting strike path
2. **More IC Chips(Semi-conductors) are applied for advanced Digital, Network systems**
   - 88.3% of unknown failures of electronic equipment caused by surge
3. **Networked electronic, digital, communication, IT equipment**
   - Reference potential (neutral), TN grounding become important
4. **Most damages of electronic equipment by indirect lightning**
   - Most damages from Reverse surge, Ground Potential Rise, NOT by direct lightning,
5. **N-G potential difference affect functions of advanced IC chips**
   - MRI scanning image distortion. CNC Lathe signal error, Data input error at data center

< eca3G > is specially designed for perfect lightning protection under above environment

eca3G Component Modules



Overseas Performances

Brazil Vaccine Lab

Airports Authority of India Glide Path

Malaysia Airforce Radar Station

Telekom Malaysia Station

Turkey Meteorological Radar Station

Thailand border surveillance

Brazil 4G Biosite

India BSNL Repeater station

Malaysia Police Microwave

Thailand Army Wireless IP Link

Malaysia Airforce Localizer station

Indonesia Critical Communication

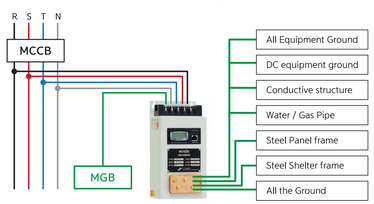
India Police wireless site

Malaysia Police NOC

Thailand Navy Satellite Station

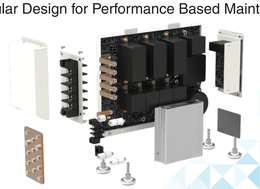
Malaysia Airforce FIR

eca3G Installation configuration



eca3G Component Modules

- Modular Design for Performance Based Maintenance Service



eca3G Product Information

eca3G-LM Series

eca3G-TM Series

eca3G-LP Series

eca3G-TNC-P Series