

Disruptive communications technology

'SVURG' using 'Z-Mod' concept ^{C5}

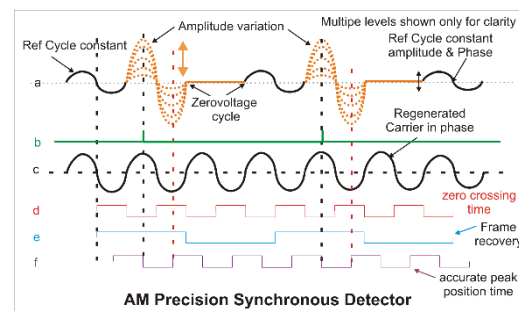
By Rakesh Aggarwal

'SVURG' technology using 'Z-Mod' modulation process, is a path breaking Patented invention for communications with "ZERO SIDEBANDS". The technology principals employ unique process to directly generate modulated carrier sine wave cycles. The concept is explained with practical application approach, in book "A Disruptive Approach to Digital Broadcasting" published by, and available from Amazon. SVURG Technology is covered by Indian patents 351456, 351458, 360271, 368356 and US patent US 10,979,368 B2, US 2021/0144038 A1.

SVURG principals used in 'Z-Mod' modulation process, challenge the present belief that, "SIDE_BANDS" carry all the information and scientifically establishes that pure Carrier itself (without any side bands) can carry many thousands time more data and information in all forms of communications systems. Z-Mod provides, three distinct major advantages simultaneously: -

1. Reduces spectrum needed for communication channel to fraction of 1 Hz, or zero bandwidth.
2. Increases data/signal carrying capacity by many thousand time.
3. Reduces radiated RF power requirement to 0.01% or less. Or increase area coverage by 10,000 times or more.

The SVURG/Z-Mod process directly generates modulated carrier sine wave cycle from 0° to 360°, using static modulating signal values, for each carrier cycle period. Generated carrier sine wave cycles, one or more properties may differ from one complete cycle to the next cycle based on type of modulation (AM/FM/PM or combinations) is being performed?



Direct commercial advantages of patented technology are: -

Backward compatible with Existing infrastructure and reduced operational costs as the technology enhances capacity of existing spectrum, with backward compliant implementation, compliant to existing standards. Immediate implementation is possible, by upgrading the transmission infrastructure initially, which will allow existing receivers to operate during transition and add new services in new receivers triggering exponential growth in Cellular and other communication networks. As it will need fraction of a percent, signal power for excellent reception making the existing transmission infrastructure to cover many thousand time more area. This reduced

power requirement also improves quality and reliability of communication making poor connectivity a thing of the past.

With new receivers' data capacity will increase by Million times using part of existing spectrum and reduce individual receive channel bandwidth to less than 1 Hz. As the SVURG technology will allow creation of new level of security with enhanced data capacity. For the next generation receiver's stricter security with advanced encryption can ensure improvement in day-to-day life of consumers with complete peace of mind with ecommerce and related services.

The SVURG Technology is universally applicable broadly to all segments of communications including Cellular, Wi-Fi, Broadcasting, satellite, Microwave links, remote control, surveillance, monitoring, remote medicine and other applications without disrupting existing user base and services.

As the radiated power requirement for reliable communication drops to fraction of a percentile, negative impact on health due to RF radiations on human body will reduce considerably. Also, the power consumption and operational costs will go down substantially.

SVURG technology IP being with Patriotic Indian national with Freedom Fighter background, it can benefit India, by adding Trillions of Dollars to the Indian economy with smart licensing of technology. It has further unlimited possibility for all round industry growth of electronics manufacturing sector. A proper policy framework is all needed to make India achieve its goal of becoming world leader.

The SVURG invention comes at most opportune time and could be a game changer for creating a virtually connected secure world with independent super high-speed connectivity for every human being and every connected device with complete safety from hacking and other malwares. The current culture of working from home can be supported, in much superior way with this technology, providing efficient, reliable, dedicated, independent super high-speed connectivity on every nook and corner of the universe.

As the technology grows beyond the first phase of implementation, it envisages use of highly specialised electronic hardware for achieving full commercial potential. It provides extra ordinary potential for new electronic component industry, with first mover advantage to India.

The technology qualifies as a green technology for reducing power consumption in communication system to a fractional percentile. It also supports India's digital initiative as it is a disruptive digital tech revolutionising how and how much data is consumed. Further the SVURG principals challenge the existing communication principals and theory, it is poised to trigger a new challenge to educationalists to change textbooks with new concepts in the field.

The basic “**proof of concept**” is available, with the inventor with inhouse evaluation and third-party certification is next target. The technology is available for further developments and commercial licensing.

In simple words **SVURG** technique is a disruptive innovative technology which appears unbelievable at beginning but as it is based on scientific principles it prevails over, for the learned community. The technology has potential to be called the “Invention of the Millennium”.