

GSM / GPRS / EDGE



Maximize Capacity, Coverage and RAN Sharing

- **Quad-Band RAN**
- **Up to 16 Carriers / TRXs**
- **Peer-to-Peer IP Switching (Tandem-Free Operation)**
- **IP Backhaul**
- **AMR Vocoding**
- **Compact Outdoor Enclosure**



Tecore's flagship GSM RAN has powered national mobile networks. Now this platform has been enhanced with an array of features designed to increase capacity and coverage, and even facilitate RAN sharing among multiple operators, to deliver powerful services at the lowest cost of deployment.

The iBSS Super-Capacity GSM RAN is designed specifically for fast deployment and cost-effective capacity and coverage for voice and data. With the unparalleled combination of spectrum-saving vocoders, frequency hopping, support of 16 carriers / TRXs and quad-band operation, operators can achieve maximum capacity for their licenses. This RAN eliminates the costly and cumbersome equipment and installation challenges associated with traditional systems, combining the BTS, BSC and optional vocoding into a single unit. This unique compact outdoor RAN architecture is suitable for providers of all sizes, starting with new license networks serving basic voice to thousands of subscribers, and scaling to support high-capacity networks providing voice, high-speed data and advanced applications.

High Channel Capacity and Quad-Band Operations

The Tecore Super-Capacity RAN can support up to 16 radio frequency carriers or transceivers in 4 sectors; unique in the industry, each sector can support up to 8 carriers / TRXs and can independently operate in any of 4 frequency bands (850, 900, 1800 or 1900 MHz).

RAN sharing support

Multiple operators can share capacity, utilizing different frequency bands, the availability of multiple network IDs per sector, or a combination of these features; when combined with Tecore's software-defined core network platform, multi-operator support extends throughout the network.

Backhaul Optimization

The Super-Capacity RAN supports IP backhaul, taking advantage of the dominance and cost-effectiveness of IP networking worldwide. The RAN can further reduce an operator's overall backhaul expense when installed with Tecore's AirSite™ Backhaul-Free BTS, which relays backhaul traffic via in-band channels.

Peer-to-Peer IP Switching (Tandem-Free Operation)

The Super-Capacity RAN implements a peer-to-peer RTP switching architecture that delivers RTP (voice) packets through the network in the most efficient manner, avoiding costly tromboning. Whether both parties in the call are within the base station, within a group of base stations in a particular area or on opposite sides of the network, Tecore provides a solution that allows the flow of packets directly between the two end points in the most efficient path.


Adaptive Multi-Rate Vocoding

Audio data compression vocoders reduce the bandwidth needed for the existing network load, so the remainder can serve additional subscribers or alternatively be freed up for the introduction of data services.

FarSite Extended Range

This feature achieves a cell radius up to 75 miles (120 km), more than triple the standard range of a GSM base station. It overcomes a limitation on cell radius imposed by the GSM radio channel structure. The substantial increase in range is particularly beneficial to operators in rural or remote locations, who can now install less equipment without sacrificing performance.

With a powerful array of features designed to grow the network and add services while lowering costs, the iBSS Super-Capacity GSM RAN is the ideal platform for operators worldwide.

Technical Specifications 			
RF	Maximum Number of Carriers / TRXs (per Sector)	8	
	Max. Number of Sectors	4	
	Up to 16 Carriers / TRXs		
	Integrated Transcoder (Optional)	G.711, G.729	
	Channels	8 channels per RF carrier / TRX - max. 128 channels	
	Air Interface	GSM / GPRS / EDGE	
	Frequency Bands	850, 900, 1800 and 1900 MHz	
	Quad-Band	Each sector can be independently configured for any of the 4 bands	
	Receive Sensitivity	-110 dBm (Typical)	
	Frequency Hopping	Cyclical and Random	
	Bandwidth Optimization	Bundling, VAD, Peer-to-Peer RTP Switching	
	Vocoders	AMR FR, AMR HR, EFR, FR	
Ciphering	A5 0 / 1 / 2		
ENVIRONMENTAL	Ambient Temperature	-40°C to +50°C (-40°F to +122°F) (Operating Outdoors)	
	Maximum Temperature Variation	8.3° C per hour (14.94°F per hour)	
	Relative Humidity	5% to 95%, non-condensing	
POWER	Input Voltage	+27VDC standard	
	Power	OMNI = 925W, 2-Sector = 1850W, 3-Sector = 2775W, 4-Sector = 3700W	
PHYSICAL	Dimensions	60" H x 23" W x 28" D (1.5m x 0.6m x 0.7m) - With Pedestal Height is 70" (1.77m)	
	Weight	OMNI = 290 lb, 2-Sector = 330 lb, 3-sector = 375 lb, 4-Sector = 415 lb	
	Serial Port, Ethernet Port	RJ-45	
	T1 / E1 Ports	Stripped wire into surge box	
	TMA Power	Internal to internal DC injectors	
	RX ANT; TX / RX ANT	N-Type coaxial	
	DC	POS / NEG / GND Terminal Block (10 to 2 AWG)	

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