
GL-R9000

Digital High Speed NPCS Acknowledgment Receiver System



Features:

- Improved Sensitivity via Diversity and DSP Technology
- Supports Multiple Reverse Channels
- GPS or Forward Channel Synchronization
- Flexible Link Interface Options
- Integrated Network Management

Glenayre[®]

Glenayre is proud to introduce its powerful new GL-R9000 NPCS Acknowledgment Receiver System. New system architecture and technology based on its proven paging systems provides Glenayre an end-to-end solution for NPCS voice and data messaging applications.

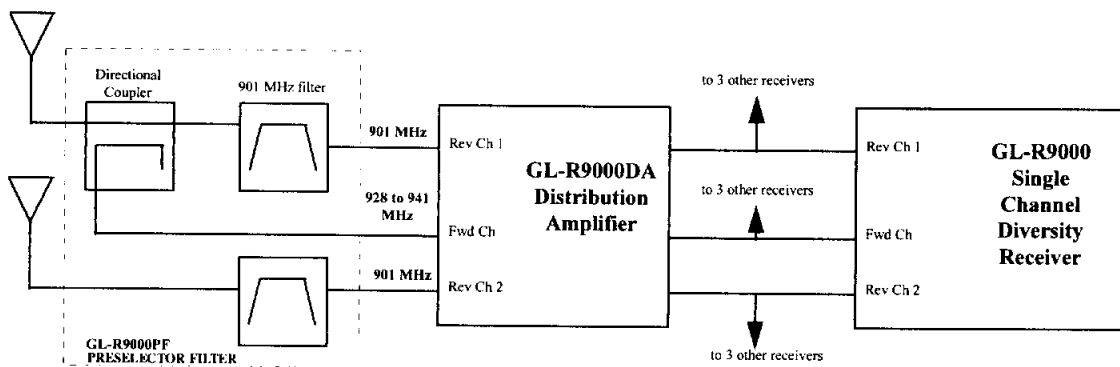
The GL-R9000 NPCS Acknowledgment Receiver System takes advantage of innovative Digital Signal Processing demodulation techniques that maximize receiver sensitivity. This highly optimized technology is essential to support the critical link budgets of the NPCS system response channel. The GL-R9000 Receivers are available in configurations to support several link interface options, dual antenna diversity, and multiple response channels.

Improved Sensitivity via Diversity and DSP Technology

- Maximizes receiver sensitivity
- Minimizes receiver to transmitter ratios
- Compensates for large RF carrier frequency offsets with no performance degradation
- Enhances performance in multi-path environments

Supports Multiple Reverse Channels

- Receivers can be stacked and connected together and configured as diversity or non-diversity
- Low Noise Distribution Amplifier distributes RF to multiple receivers from single or diversity antennas
- Preselector Filter provides additional filtering to prevent overload from collocated paging transmitters



Multiple Reverse Channels with Diversity using External Forward Channel Input

GPS or Forward Channel Synchronization

- Global Positioning System (GPS) is used to coordinate the precise synchronization required for message
- Forward Channel Synchronization (FCS) option is available as a plug-in card in the receiver chassis
- FCS offers cost effective alternative to GPS synchronization in stand-alone receiver sites, thereby saving initial and recurring costs of GPS receivers and antennas.

Flexible Link Interface Options

- Plug & Play standard interface
- Serial / LAN interface option
- DS0 / LAN interface option
- DS1 / LAN interface option

Integrated Network Management

- Remote receiver software download capability
- Internal modem
- Remote configuration and monitoring via TCP/IP
- Network management and advanced alarming capability

Receiver Configurations

Model	Configuration	Option Description	Dimensions (HxWxD")	Weight
GL-R9000	Diversity Receiver or Single Channel Receiver	Forward Channel, Network Options	1RU: 1.75x19x16.5	<20 lb.
GL-R9000DA	Distribution Amplifier	RF Distribution for Multichannel Systems	1RU: 1.75x19x5	<8 lb.
GL-R9000PF	Preselector Filtering	Filtering With Four Options	1RU: 1.75x19x5	<8 lb.

Receiver Specifications

Parameter	Specification
GENERAL INFORMATION	
Reverse Channel Frequency	895-902 MHz
Channel Spacing	12.5 kHz in 6.25kHz steps
Diversity	Internally supports two antenna diversity
Sensitivity	-127 dBm for 90% packet throughput at 800 bps
Spurious/Image Rejection	Exceeds -90dB
Intermodulation Immunity	-80dB EIA SINAD
Selectivity	-65dB @ 12.5kHz EIA SINAD
Maximum RF input level	-10dBm in band, +10dBm out of band (>928 MHz, and <880 MHz) +30dBm out of band with external filtering (GL-R9000PF)
RF Input Impedance	50 ohms
Frequency Stability	$\pm 10^{-6}$ free running, $\pm 10^{-7}$ locked to forward channel
Antenna Connector	Type "N"
DEMODULATION	
Demodulator Design	DSP based results in very fast acquisition and compensation for large RF carrier frequency offsets
Data Rates	800, 1600, 6400, and 9600 bps programmable
POWER INPUT/OUTPUT	
Power Supply for Stand Alone Configuration	Switching and AC input options, battery backup option
Power Input to Rack Mount Chassis	26 $\pm$ 6 Vdc with battery backup option, less than 4 amps
CONTROL OPTIONS	
Synchronization	Synchronized to GPS or Forward Channel
Network Communications	Connection using collocated GL-C9000 Controller, or Connection using modular linking options or modems
Receiver Control	Communicates with Glenayre RF Director via IPP protocol
INTERFACE OPTIONS	
Plug & Play (standard)	Provides 1 x SIP Receiver PNP Port
Serial/LAN (option)	Provides 2 x (EIA 232, EIA 530, V.35) Serial plus LAN
DS0/LAN (option)	Provides 1 x DS0, 1 x Serial, 1 x LAN
DS1/LAN (option)	Provides 1 x DS1, 1 x Serial, 1 x LAN
ENVIRONMENTAL	
Operating Temperature	-30°C to +60°C
Operating Humidity	0% to 95% non condensing
Altitude	0 to 10,000 feet AMSL (derate 2°C per 1,000 feet above altitude of 5,000 feet)

Distribution Amplifier Specifications

Parameter	Specification
Frequency Ranges	895-902 MHz reverse channel 928-942 MHz forward channel
Configuration	Two RF inputs, 8 reverse channel RF outputs, 4 forward channel RF outputs
Diversity Option	Internally supports two antenna diversity
Noise Figure and Internal Gain	NF: 6dB reverse channel, +25dB forward channel, int. coupled Gain: 3 $\pm$ 3dB reverse channel, -15 $\pm$ 3dB forward channel
Third Order Intercept Point	+15dB reverse channel, +33dB forward channel, int. coupled (nominal)

Preselector Filter Specifications

Parameter	Specification
Frequency Ranges	895-902 MHz reverse channel 928-942 MHz forward channel
Configuration	Two RF Inputs, 8 reverse channel RF outputs, 4 forward channel RF outputs
VSWR	Max 1.5:1 (all ports)
Insertion Loss	<0.5dB max each filter .4dB max additional with coupling path
Filter Rejection	20dB nominal at >928 MHz
Options	GL-R900PF-DF: Diversity and Forward Channel Sync GL-R9000PF-D: Diversity GL-R9000PF-F: Forward Channel Sync GL-R9000PF-N: Single Channel

Cabinet Options

Model	Description	Dimensions (HxWxD)
28o-GLT	Outdoor Cabinet, Floor, Wall, or Pole Mount	28" x 23" x 23" (14RU)
46i-GLT	Indoor Cabinet	46" x 23" x 22" (23RU)
72i-GLT	Indoor Cabinet	72" x 23" x 22" (38RU)
87i-GLT	Indoor Cabinet	87" x 23" x 22" (47RU)

All specifications and features subject to change or improvement without notice



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