

Emergency Stand Alone Switch

Voice Reliability and Uninterrupted Access to Emergency Services for TDM-based Remote Office Access Systems



Introduction

Aztek Networks' 5000S is a remote office Emergency Stand Alone (ESA) switch that ensures uninterrupted local calling capability and access to 911 emergency services for all TDM-based access systems within a local serving area. Aztek Networks' 5000S communicates via the GR-303 standard and will interoperate with all GR-303-based digital loop carriers (DLCs) or multi-service access platforms (MSAPs). The 5000S is the ideal solution for the replacement of proprietary remote switching units.

How It Works

The 5000S continuously and passively monitors all GR-303 interface groups that run between access systems or line frames within a remote office and the host central office switch. If there is a break in the line between the remote office and the host switch due to construction, natural disaster or other causes, the 5000S automatically assumes call control functionality and allows for the completion of all local calls within the local serving area until the link to the host switch is restored. While in ESA mode, the 5000S routes all emergency 911 calls directly to pre-designated local emergency responders such as local police, fire or ambulatory services.

The 5000S is a compact, environmentally-hardened, NEBS-compliant system with fully redundant processor cards. The 5000S can be upgraded via a change in software to provide ESA functionality for future installations of IP-based networks.

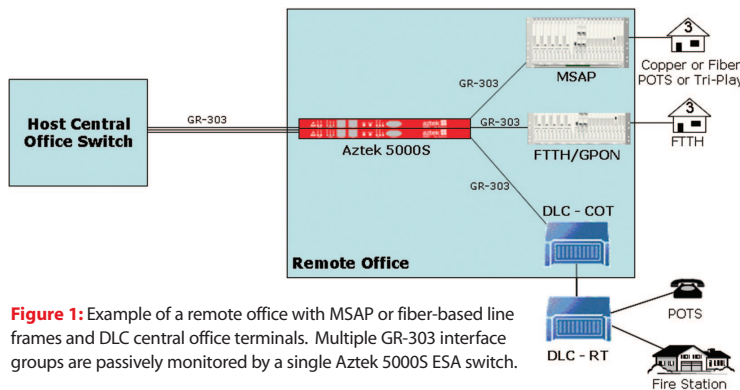


Figure 1: Example of a remote office with MSAP or fiber-based line frames and DLC central office terminals. Multiple GR-303 interface groups are passively monitored by a single Aztek 5000S ESA switch.

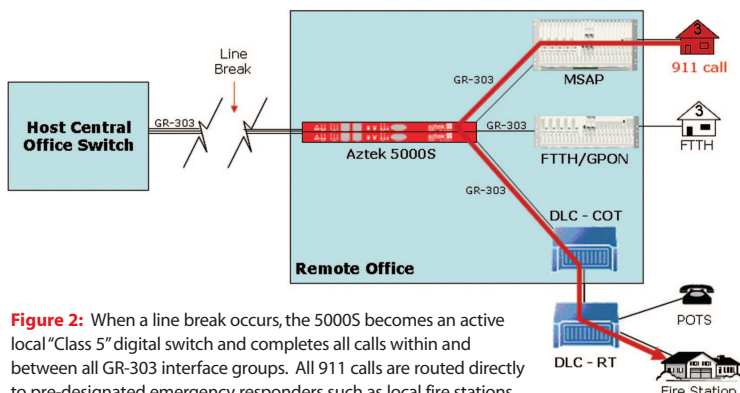


Figure 2: When a line break occurs, the 5000S becomes an active local "Class 5" digital switch and completes all calls within and between all GR-303 interface groups. All 911 calls are routed directly to pre-designated emergency responders such as local fire stations.

5000S

Features:

- Patent-pending True ESA™ switching is a backup switch in the event of a line-cut or host switch failure.
- Supports up to 4 GR-303 interface groups (8 T1s).
- Allows for local calls within and between all access systems and interface groups.
- Directs 911 calls directly to local emergency services.
- Dual processors and fully redundant control cards ensure ESA service is available when needed.
- Automatically updates dial plan.
- Compact (1RU) design and environmentally hardened.
- NEBS 3 certified.
- Ideal solution for replacement of proprietary remote switch units.

Technical Specifications



System Features

- ESA Services for GR-303-based access systems and line frames
- Continuously monitors for catastrophic failure of CO facilities
- Call progress tones, ringing and subscriber connections during facilities failures
- Provides 911 connections to pre-designated 911 subscriber group
- Distinctive ringing pattern in ESA mode for 911 designees
- Pre-designated 911 positions receive Caller ID in ESA mode
- Pre-designated 911 positions have call connection control during ESA mode
- Call Detail Recording (CDR) during ESA events – up to 40,000 CDRs
- Field upgradeable software
- Automatic network clock (Stratum 4) synchronization
- Continuous background system audits
- Automatic daily updates to internal dialing plan database

Switch and DLC Interface Standards

- 16 T1s (8 network side and 8 subscriber side)
- 2 gigabit Ethernet interfaces for future IP operations.
- GR-303-CORE
- ANSI T1.403
- GR-499-CORE
- GR-1244-CORE

Environmental / Physical

- Dimensions: 1.75 in.(1U) x 17.4 in. x 12 in. (HWD)
- Ambient operating temperature: -40 to +65° C
- Operating relative humidity: up to 85% (non-condensing)
- Designed for outside plant deployment
- Boards hot-swappable
- Field-replaceable fans & filter

Power

- Dual redundant power feeds. Reverse polarity protected
- DC: -42.75 to -60.0V, 42 Watts
- GR-513-CORE
- ANSI T1.315-2001
- Power quality and temperature monitoring

Safety and Regulatory

- NEBS level-3 (GR-63-CORE, GR-1089-CORE)
- Safety Compliance: UL 60950 (CSA 950) 3rd edition
- Emissions Compliance: FCC, 47 CFR § 15, Subpart B, Class A
- Compliant to RUS, 7 CFR § 1755.522

Management

- Web Browser-based GUI
- Command Line Interface (CLI)
- Persistent provisioning
- Recording of system events in three accessible logs
- Alarm Contact Closures: 2 in and 3 out
- Two RS-232 and two 10/100 Base T Management Interfaces

Aztek Networks, Inc.

2477 55th Street, Suite 202
Boulder, CO 80301-2835 USA
303.786.9100
sales@azteknetworks.com

5000S Data Sheet | © 2007 Aztek Networks Inc.

All rights reserved. The Aztek Networks logo, Remote Switch Gateway and True ESA are all trademarks of Aztek Networks, Inc.