



- **Selective and All-Call Paging**
- **Private Conversations**
- **Can place and receive outside calls**
- **Each station allows simultaneous, independent conversations on each phone**
- **Emergency page function is automatically enabled if switchboard is out of order, or if power fails**
- **Flashing light designed for use in noisy areas where a ring might not be heard; light also improves ability to locate phone in dark areas**
- **For ease of installation, each interface cabinet supports up to 80 extensions**
- **8-hour battery backup**

The GAI-Tronics Mine Dial/Page Phone system provides the convenience of a telephone station plus paging capabilities, in gaseous or dusty locations where standard telephone equipment is considered too hazardous. Specifically, the system is rated as “permissible” for use in coal mines by the Mine Safety and Health Administration (MSHA) of the United States Department of Labor (Approval 9B-43).

The System is used in conjunction with a public or private branch exchange (PBX). Each station in the system is made up of three components; (1) the Mine Dial/Page Phone station mounted at the point where needed, (2) a GAI-Tronics interface card mounted outside the hazardous area and electrically connected between the station and the telephone exchange, and (3) an interface cabinet. The GAI-Tronics Interface

Cabinet houses MSHA approved safety barriers, interface cards, electronic switching, power source, and all the equipment necessary to interface the Mine Dial/Page Phone with the customer’s plant telephone system.

Once installed, the Mine Dial station can place a call to any Mine Dial/Page Phone, generate a page to a specific Mine Dial/Page Phone, page all Mine Dial/Page Phones, or place a call to a standard telephone. For maximum safety, in the event of a power failure or if the switchboard is down for any reason, the Mine Dial/Page Phone can still generate pages and allow two-way communication.

MODEL 491 MINE DIAL/PAGE PHONE

Line Voltage: 12 VDC
Supervisory Current: 20 mA DC, max.
Audio impedance, input: 200 ohms, nominal
External controls (2): Push-to-operate (in handset)
..... Emergency Page (on panel)
Internal Controls (2): Speaker volume sidetone
Microphone: Dynamic, noise-canceling
Speaker: Dynamic, horn-loading
Power Supply: Internal dry battery, 12 volts
Page/Indicator Lamp: 66 Flashes per minute; 6.6% duty cycle
Approvals: MSHA Permissible, Approval Number 9B-221

MODEL 495-001 INTERFACE CABINET

Number of Channels: 80 Max.
Audio Impedance, switchboard: 600-900 ohms
Metering: Power supply voltage; load current;
..... Battery charging current
Transient Isolation - Telephone circuit to corresponding mine circuit: 500 volts min.
Transient Limiter - across mine lines: 25 volts, peak
Normal Power Requirements: 120 volts, 50-60 Hz.
Standby Power Operation: 8 hours, minimum via rechargeable battery

SWITCHBOARD REQUIREMENTS

Station Selection: DTMF (Dual Tone Modulation Frequency) Operation
Ringing: Bridged across line 85 volts nom., 20 Hz.
Open-circuit voltage: 48 VDC, nominal
Supervisory Current: 50 mA., 20 mA min.
Auxiliary Requirements:
1. Page Audio: 0 dBm, 600-900 ohms
2. Page Control: "A" contact, normally open
3. Monitor: 48 VDC nom., 1200 ohms,
max. source/line resistance

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Quality Management System Certified by DNV - ISO 9001:2008
The policy of GAI-Tronics is one of continuous improvement; therefore the company reserves the right to change specifications without notice.