



Echelon Network Interface Module

The Echelon™ Network Interface Module (NIM) is an optional plug-in communication controller for the TAC NETWORK 8000™ Global Control Module (GCM™) series GCM-86000. It provides a reliable peer-to-peer bus architecture for the GCM building automation system controllers. Based on Echelon Corporation's LonWorks™ technology utilizing the LonTalk™ protocol, the GCM-ECH-001 offers the advantages of using an authenticated industry standard communication protocol along with the proven quality of the TAC NETWORK 8000.

The Echelon NIM controllers provide Local Area Network (LAN) connectivity between the GCM-86000 building automation system controllers. This allows the sharing of data between segments of the network in addition to the use of common printers, modems, and terminals.

Four logical networks with up to 31 nodes per logical network on a single pair of wires (using repeaters) permit extensive network expansion or very complex building automation systems. Optional wire and fiber repeaters are available to provide a wide range of network configurations.

Connection of the GCM models GCM-84000 to the Echelon LAN is accomplished through use of the GCM-ECH-002 retrofit NIM controller. This provides the capability to connect these two versions of the GCM together on the same Echelon LAN, allowing easy, cost effective upgrading of existing TAC NETWORK 8000 systems.

- 1.25 Mega bits per second (bps) data rate (LonWorks TP/XF 1250) assures fast throughput for any size network.
- Level 4, twisted-pair, unshielded wire usage provides for low cost installation.
- TAC NETWORK 8000 system reports and alarm messages can be output across the network to multiple printers, terminals, modems, etc.
- Allows access across the network (view, edit, or reconfigure) to operators at different GCM controllers.
- Multiple logical networks assure straightforward system expansion.

Communications

Communications between GCM-86000s and/or GCM-84000s is accomplished via optional Echelon NIMs which provide Echelon LonWorks based communications at 1.25 Mega bps transmission rate over twisted-pair, unshielded cable.

Recommended Trunk Cable

Level 4, 22 AWG, unshielded, twisted-pair (UTP) cable. See Table-1 for cable compliance requirements.

Table-1 Cable Compliance Requirements.

Application	Compliance
UTP, Level 4 General Purpose Cable	CM
UTP, Level 4 Riser Cable	CMR
UTP, Level 4 Plenum Cable	CMP

ACCESSORIES

RPTR-BATT-001	Battery for repeater backup operation
RPTR-ECH-WW	Echelon wire to wire repeater, TP/XF 1250
RPTR-ECH-W1F	Echelon wire to fiber repeater, TP/XF 1250 to ST fiber
RPTR-ECH-W2F	Echelon wire to dual fiber repeater, TP/XF 1250 to ST fiber
RPTR-ECH-W3F	Echelon wire to triple fiber repeater, TP/XF 1250 to ST fiber
TERM-ECH	Echelon network termination module (one required at each end of segment)

SPECIFICATIONS

HARDWARE SPECIFICATIONS

Dimensions

11.25" high x 5.75" wide x 2.75" deep
(286 mm x 146 mm x 70 mm).

Power Supply Input

Supplied from GCM-86000.

Maximum Power Consumption

Supplied from GCM-86000.

Transient Compliance

Meets requirements of ANSI/IEEE
C62.41.

AGENCY APPROVALS

FCC

Part 15 Class A.

UL-916

(pending).

UL-864

(Categories UUKL, QVAX, and UDTZ)
(pending).

C-UL

(pending).

CSA

(pending).

AMBIENT LIMITS

Operating Temperature

32 to 122°F (0 to 50°C).

Shipping and Storage Temperature

-40 to 140°F (-40 to 60°C).

Humidity

Up to 85% RH, non-condensing.

Diagnostic Display

Diagnostic Light Emitting Diodes (LEDs) are provided to indicate proper operation of processor and trunk communications.

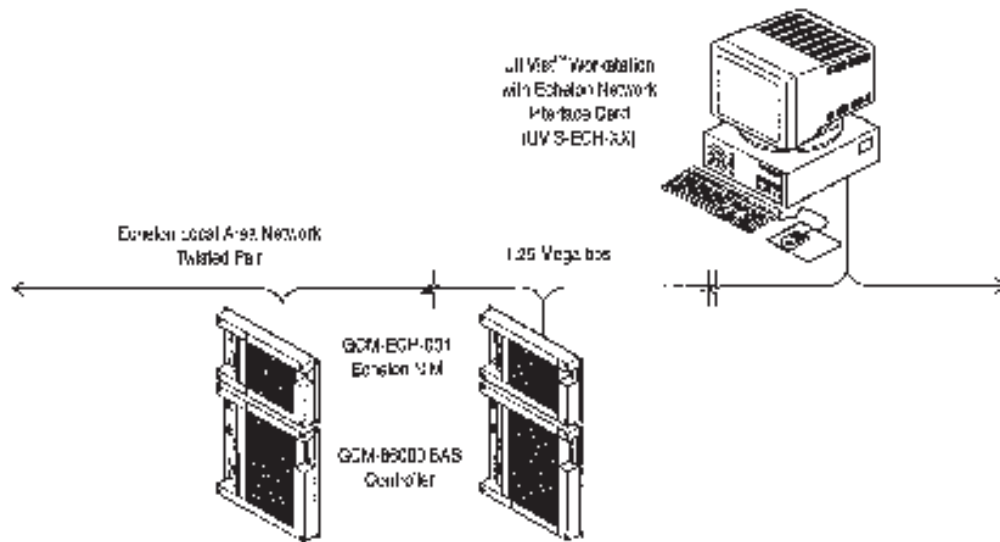


Figure-1 TAC NETWORK 8000 GCM System Architecture - Echelon Topology.

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