

# SMARTLINK I-Network

## Communication Platform

INTEGRATION

PROTOCOL AGILE

SCALABLE ARCHITECTURE

PSAP

ENERGY

Homeland Security

Transportation

INSTANTANEOUS COMMUNICATION

PUBLIC SAFETY



At the core of the SMARTLINK I-Network communications platform is our I-Switch. It provides intelligent, dynamic routing of network traffic based on a granular, real-time database. The switch is capable of accommodating any number of ad-hoc and predefined communication scenarios that are instantly accessible.

**I-Switch** Supports the integration of any connected communication resource thereby facilitating their dynamic, intelligent application to provide instantaneous communications between any number of network resources irrespective of their physical locations within the network. Its extraordinary granular, real-time database accommodates a virtually unlimited array of pre-defined or ad hoc communications scenarios through the formation of network talkgroups containing any number and variety of the available network resources. Maximum availability of each network resource is maintained by only invoking its use at the moment and for the duration it is needed to support a requested communication then immediately releasing it for use by others. Up to 128 simultaneous, full-duplex calls can be supported and end-to-end call setup is virtually real-time at 500 mS irrespective of the number of sites or resources involved.

**I-Site** provides support for the various network modules used to integrate the desired communication resources required and to allow their connection to the network switch via any number of linking mediums and protocols with both the flexibility and minimal bandwidth requirements always desirable but frequently required to support disaster recovery.

**I-Site Modules** contain the required hardware and firmware to support the integration of new or existing communications resources as "network nodes" capable of dynamically encoding and decoding numerous signaling protocols thereby allowing the switch to instantly invoke the required resources and their respective encoding schemes to support the desired scenario. Module variants are available to support virtually any form of radio, telephony or related communication resources.

**I-Console Dispatch Station** connect directly to the network switch thereby eliminating the traditional need for and potential single-point failure of a common equipment bank while allowing dispatch personnel and supervisors access to any or all network resource for which they are authorized. This unique approach also allows any operator position to backup any other operator position irrespective of their geographic location within the network addressing the traditional lack of redundancy accorded dispatch centers even those associated with a Public Safety Answering Point (PSAP). This unique approach permits total network access to be provide anywhere a wired or wireless link to the switch can be established including mobile Incident Command Posts.

# SMARTLINK I-Network Platform Specifications

## Technical Features

- Intelligent, software-defined networking and interoperability
- Foundational digital communications platform
- Totally scalable building block architecture
- Frequency transparent – supports use of all current and any future bands
- Support of both digital and analog communication resources
- Real-time, network call setup time in 125mS with End-to-End call completion <500mS
- Sites may be linked over digital or analog circuits using a variety of protocols including ATM, DDS, Frame Relay, TDM, IP
- Software-defined translation capabilities, (e.g., protocol code to auto telephone dial-up)
- Protocol agile modules decode/encode multiple conventional and trunked protocols or EIA DC & Tone remote control standards
- Network talkgroups are dynamically activated based upon decode of incoming protocol
- Always on and instantly available to authorized units
- All sites involved in a call are brought up simultaneously
- Anywhere-to-Anywhere network connectivity for authorized users
- DID, DOD & POTS telephony interfaces for PABX, PBX & PSTN circuits
- PC-based advanced dispatch console positions connect to switch and require no CEB

## Operational & Management Features

- T1 link circuits not required except in simulcasting configurations
- Network talk groups may be pre-configured to support SOP & Disaster plans
- Support of wide-area, multi-site roaming via manual or auto registration depending on protocol implemented
- Software-defined logging interface supports recording of any network talkgroup, even those that never appear at a console
- Network resource busy signal provided to even simplex conventional users during network generated hang time
- Remote monitoring of (Fwd/Ref) power with remote alert and alarm capabilities

## Enhanced Protocol Features

- 65,504 Unique Identity (UID) codes and 4,800 Group Identity (GID) codes per system
- Radio Kill and Radio Sleep
- Electronic Serial Number (ESN) Control
- Roaming and Automatic Registration

## Warranty

- 1-year parts and labor is included
- Optional 3-year extended warranty, parts only

## Chassis & Electrical

### SmartLink I-Switch

Size	7" H x 19" W x 12.4" D
Mounting	19" Rack Mount
Weight	~21.5 lbs fully loaded; ~6.5 lbs empty
AC Input	110 Volt
DC Input	11–16 Volt
Fuse	10 Amp fuse per shelf
Each rack holds 8 modules	

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### Operating Range

I-Switch	0 to 50C
I-Site	-30 to +60C

### FCC Compliance

Part 15 and Part 68

### MTBF

Per Mil spec 217C. 15,000–18,000 hours

### Application Modules

All Application Cards are Hot Swappable and are programmed by SMARTLINK Site Manager.

Size	7" H x 2" W x 97/8" D
Weight	~2 lbs

### Channel Modules

Supports the integration of RF stations with dynamic protocol decode/encode of supported protocols into the SMARTLINK platform. One module is required for each RF station to be integrated.

RX input	600/100K, 50 Mv to 3 VRms
TX audio	600 ohm, 25 Mv to 2 VRms
TX Data	100 ohm, 100 Mv to 3 V peak

### RIC Module

Supports the integration of 2-wire or 4-wire PABX or PSTN telephony circuits using DID, DOD or POTS signaling into the SMARTLINK platform. One module is required for each telephone circuit to be integrated.

Line impedance	600 ohm
Ringer Equiv	2
Input level adj. range for 0 db digital	-20 to +10 Dbm
Output level range into 600 Ohm	-18 to +7 Dbm

### EIA 2/4-W Termination Module

Supports 2-wire or 4-wire integration or termination of console, remote and station equipment employing DC, E&M or EIA Tone signaling. One module is required per integration or termination.

### 5-Channel Audio Recorder

Provides recording interface for up to five radio channels/talkgroups.

