



# SmarTrunk II<sup>®</sup> DIGITAL TRUNKING SYSTEM



## THE WORLD'S MOST POPULAR VHF/UHF RADIO TRUNKING PROTOCOL

- Proprietary digital signalling prevents unauthorized mobile users
- Supports PTT (Push-to-Talk) dispatch, private calling, radiotelephone, and conventional operation
- Operates in environments with co-channel users
- May be installed in parallel with a conventional repeater system
- Up to 16 trunked channels per system
- Over 4,000 ID's for group or individual calling
- Remote "Radio Kill" to disable illegal or non-paying customers
- Store and forward dialing, just like cellular phones
- Last number re-dial; Automatic 10 number speed-dial
- Affordable alternative to cellular, PCS, and other radio trunking formats (Smartnet<sup>®</sup>, LTR<sup>®</sup>, MPT, etc.)

*SmarTrunk II<sup>®</sup> is a registered trademark of SmarTrunk Systems, Inc. Smartnet<sup>®</sup> is a registered trademark of Motorola, Inc. LTR is a registered trademark of E.F. Johnson.*

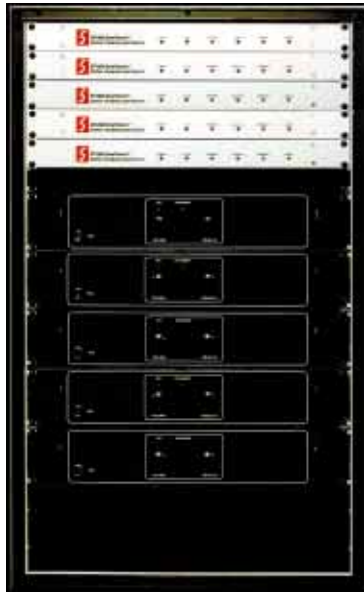
# A WORLD STANDARD TRUNKING SYSTEM

The SmarTrunk II Digital Trunking System is designed to provide sophisticated trunking and telephone interconnect features using low cost two-way radio equipment at frequencies below 800 MHz. First introduced in 1994, the SmarTrunk II trunking protocol is now offered by most of the world's leading radio manufacturers, including Alinco, Icom, Kenwood, Motorola, Standard, and Yaesu/Vertex. There are now over 5,000 SmarTrunk II systems operating in over 90 countries worldwide.

The proprietary SmarTrunk II trunking protocol provides automatic channel acquisition and call privacy for systems of up to 16 channels and 4,000 subscribers. Many types of calls are supported, including mobile to landline, mobile to mobile, landline to mobile, group calling, emergency calls, as well as conventional operation. Best of all is the relatively low cost of both the base and mobile radio equipment, making SmarTrunk II the system of choice for trunking applications below 800 MHz.

## THE SMARTRUNK II CONTROLLER

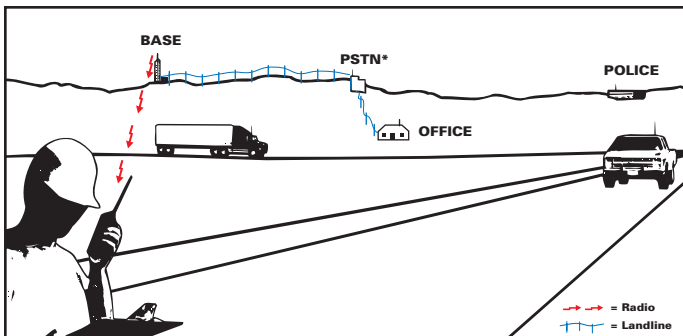
The heart of the SmarTrunk II System is the Digital Trunking Controller which performs all the signaling and trunking functions, including subscriber validation and call record accounting. The controller can be connected to any full duplex base station or repeater (one controller per channel), and may also be installed in parallel with a conventional tone panel.



For systems offering telephone interconnect, the ST-853 provides the interface between the base radio and the telephone system or PABX, making SmarTrunk II an ideal solution for in-plant paging systems.

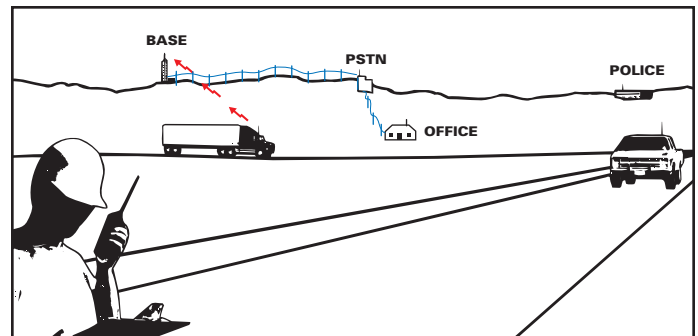
- Capacity for over 4,000 subscribers per system
- Over 300,000 paging codes available
- Over 4,000 call accounting records per channel
- Two subscriber telephone line inputs
- Proprietary signalling protocol highly immune to hackers and pirates
- User friendly PC programming, locally or remotely via modem
- Single access point for programming and system management
- Serial databus linking all controllers at a single site
- Multi-level password scheme for control of system access
- Versatile array of telephone interconnect features
- Priority and emergency call override feature
- Compatible with most radio base stations and repeaters

## VERSATILE DESIGN PROVIDES A WIDE



\*Public Switch Telephone Network

**LANDLINE TO MOBILE**



**MOBILE TO LANDLINE**



**Portable Radio**



**Modem**



**Telephone**

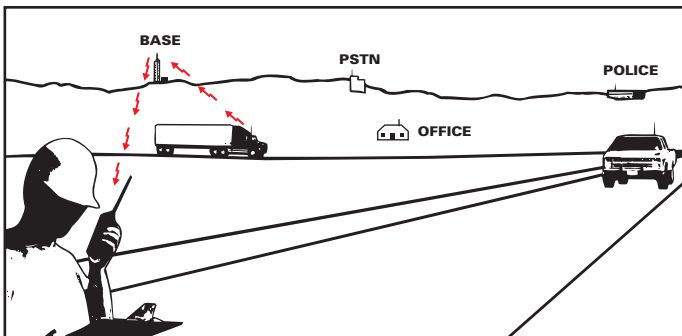


**FAX**

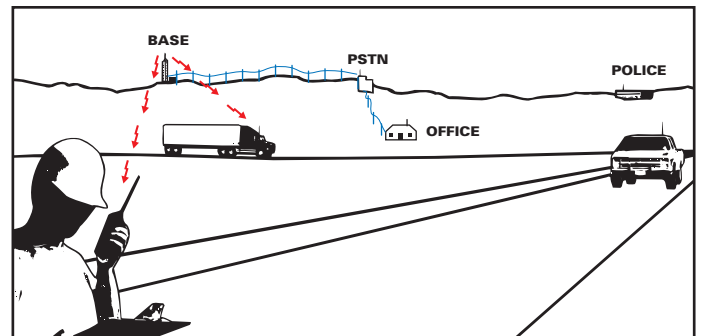


*A SmarTrunk II system with mobile, portable, and fixed site users. Offering a wide range of flexibility, SmarTrunk II can support any combination of PTT dispatch, private calling, and radiotelephone applications.*

## **VARIETY OF COMMUNICATIONS OPTIONS**



**MOBILE TO MOBILE**



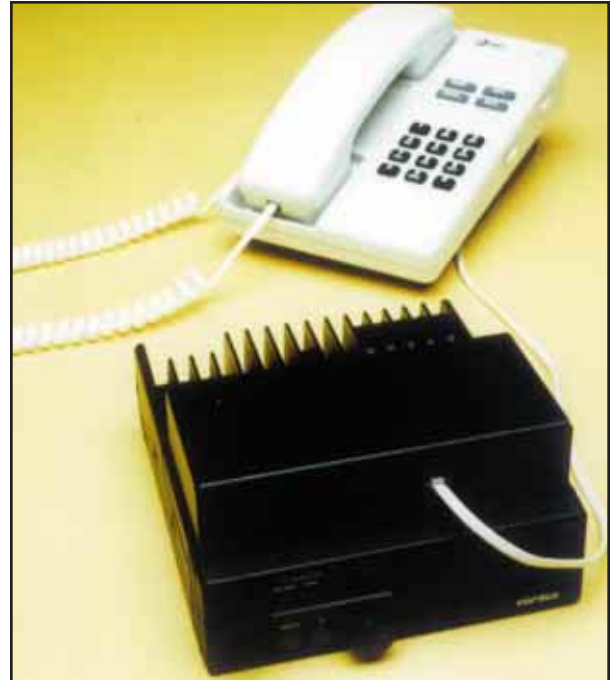
**GROUP CALLING**

## ALSO AVAILABLE: SPECIAL RADIO/TELEPHONE INTERFACE MODULE

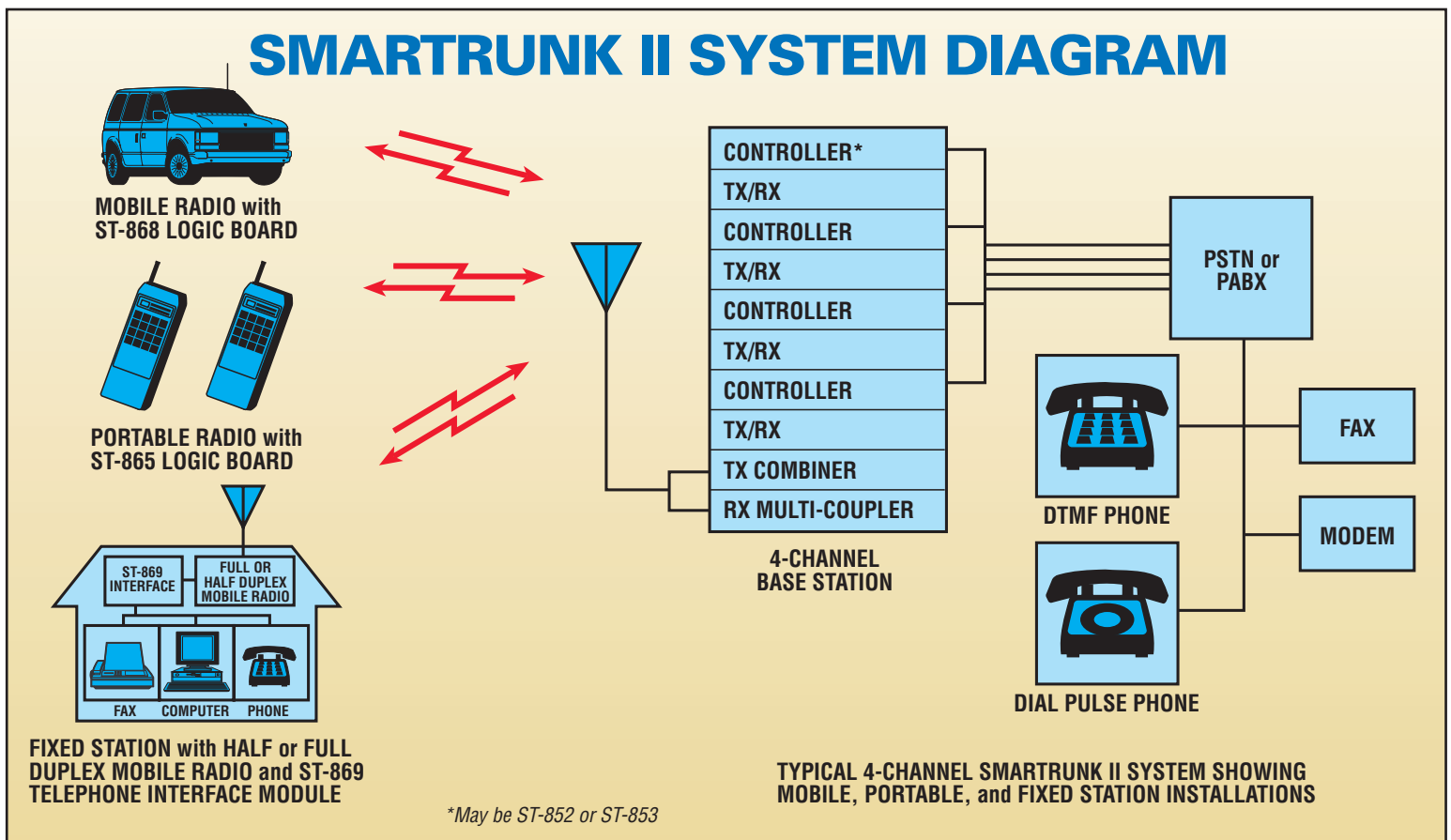
The ST-869 SmarTrunk II Radio/Telephone Interface Module provides the complete interface circuitry between a half or full duplex RF transceiver and fixed station telephone equipment (telephone, fax machine or computer modem). When used with a full duplex transceiver, the ST-869 provides "POTS" (Plain Old Telephone System) service to remote locations where it is either impractical or uneconomical to run copper wire to subscriber sites.

Common applications for this type of WLL (Wireless Local Loop) service include pay phones, public calling offices in small towns and villages, remote industrial sites such as mines and oil fields and rural homes, offices or vacation retreats. Features include:

- Connects directly to a standard telephone, fax machine, or computer modem
- Built-in VOX (Voice Operated Transmit) circuit for use with half-duplex radios
- 48V talk battery and 4.0 REN output rings up to four extensions
- Includes SmarTrunk II logic
- Works with the same SmarTrunk II base station as mobile and portable units



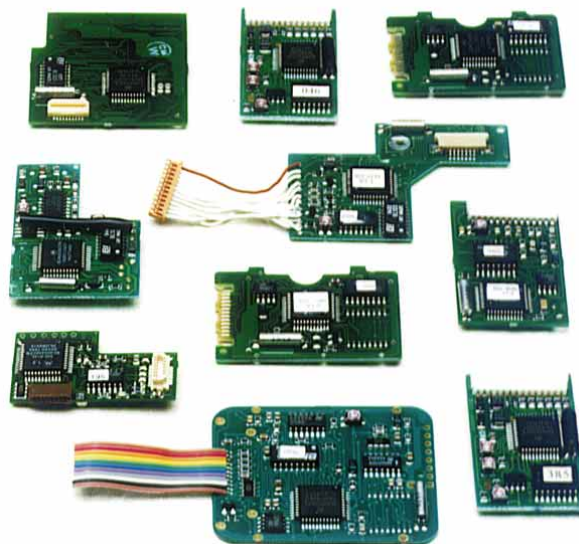
*The ST-869 can connect directly to any telephone, fax machine, or computer modem. Compact size allows easy installation on many mobile transceivers.*



# SMARTRUNK II LOGIC BOARDS

A key component of the SmarTrunk II system is a miniature logic board which installs inside the mobile or portable radio equipment. Specified as the ST-865XX or the ST-868-XX, these logic boards are custom-designed for each radio and control all the signaling and trunking functions, including scan, PTT, and monitor.

SmarTrunk II logic boards are available from SmarTrunk distributors or directly from the radio manufacturer or dealer. In most cases, the logic boards are designed to plug into the host radio equipment for a simple field installation. In some cases, solder connections are required. Detailed installation and programming instructions are provided for each logic board.



## NEW "OMNI" FEATURE SET FOR SMARTRUNK II LOGIC BOARDS

Logic boards for newer radio models offer the latest SmarTrunk II Omni Feature Set with new capabilities found only in more expensive trunking systems:

- **Multiple channel banks**—for roaming and wide area applications. Allows user to easily select different banks of radio frequencies or different talk groups with the turn of a switch or press of a button.
- **Multiple PTT groups**—up to 16 different talk groups selected with channel select switch or function button. Ideal for users who frequently change work assignments.

- **Multiple receive groups**—allows user to receive several different pre-programmed talk groups. Useful for supervisory monitoring and control.
- **SmartScan**—remembers open channels on each scan cycle. Provides faster channel access, especially on larger systems.
- **Positive Radio Kill**—allows a system operator to remotely disable a lost or stolen radio.
- **PC Programming**—integrated with radio software for easy programming of logic board parameters.

*Note: Actual features may vary from model to model. Contact factory for details.*

## LOGIC BOARDS ARE AVAILABLE FOR MANY POPULAR RADIO MODELS

### Portable Radios

Alinco DJ-191/680  
Alinco DJ-195/196\*\*  
Icom IC-F3/F4 Series\*\*  
Icom IC-F30/F40 Series\*\*  
Kenwood TK-270/278  
Kenwood TK-370/378  
Kenwood TK-270/278G\*\*  
Kenwood TK-370/378G\*\*  
Motorola GP68  
Motorola GP88  
Motorola GP300  
Motorola GP350

Motorola P1225\*\*  
Motorola Pro Series\*\*\*  
Motorola ELP Series\*\*  
Standard HX270  
Standard HX290\*\*  
Yaesu/Vertex VX10\*\*  
Yaesu/Vertex VX210\*\*  
Yaesu/Vertex VX400\*\*  
Yaesu/Vertex VX500  
Yaesu/Vertex VX800\*\*

### Mobile Radios

Alinco DR-108/130/140/430  
Alinco DR-135\*\*  
Alinco DR-605\*  
Icom IC-F310/410\*\*  
Icom IC-F320/420\*\*  
Icom IC-F1010/F2010\*\*  
Icom IC-F1020/F2020\*\*  
Kenwood TK-760/768  
Kenwood TK-860/868  
Kenwood TK-760/768G\*\*  
Kenwood TK-860/868G\*\*

Motorola GM300  
Motorola GM350  
Motorola M216  
Motorola Pro Series\*\*  
Motorola SM50  
Motorola SM120  
Motorola M1225\*\*  
Ranger SM-1630-US\*  
Ranger SM-1645-HS\*  
Standard GX1608  
Tait T-2000 series  
Telemobile TM-MTD25\*  
Yaesu/Vertex FTL-2011/7011

