COMMUNICATIONS-APPLIED TECHNOLOGY

A Veteran-Owned Small Business

Tactical Voice Communications Solutions for HLD/HLS

The Incident Commander's Radio Interconnect (ICRI) Solution to a multitude of tactical problems…

- **Interconnects US/coalition military radios, municipal public safety radios, state and federal radios, land-line/cell/satellite telephones,** in moments through the unmanned ICRI.

- **ICRI provides a rugged, highly portable, radio cross-band (** HF, VHF, UHF, 7-900MHz**), cross platform (digital/analog, trunked /talk-around, AM/FM)** capability for mutual aid operations.

- **Enhance the radio link** between warfighters operating in areas of poor RF propagation **(inside-outside buildings, tunnels)** and remotely located C^2 personnel by serving as a rapidly field-able "repeater."

ICRI

An effective and low cost solution to:

- **Establishing immediate C^2 with the dissimilar radios of Guard Special Response Teams, USAR, police, medical triage, and other supporting agencies**

- **Enhancing in-building and below grade radio communications**

ICRI-E….

The Equipment

o **Small, rugged package/circuitry**

o **Highly portable**

o **Rapidly deployable (under 5 minutes)**

o **Multiple radio interconnect without adding technical complexity**

o **Minimal "operator" training**

o **Wide range of power sources (including "AA" batteries)**

o ***Low cost in equipment , allocated manpower, sustainment requirements***

• *DHS CEDAP selection 2006-2008*

   4 Talk Group version

USCG Detroit Section 2011

ICRI Capabilities…
NGB selection for CERF-P
ICRI-4TG, 10 Radio Port

- Total weight: 20lbs
- Integrated, water-proof Pelican™ case;
- 10 radio ports, handset or headset port, telephone port
- 4 talk group selection for all ports
- Cell and land-line telephone (POTS/PSTN) compatible
- Commercial and military satellite compatible
- HF, UHF, VHF, 700-900MHz and P25 portable/mobile compatible
- Low current drain:
  - 5 radio bridge mode: 100mA @12V,
  - 10 radio bridge mode: 200mA @12V
- Operates on 8 or 16 AA batteries, external 6.5V-20 (24-31VDC option), 115/220 AC

- **NGB BPA** W9133L-11-A-0016

ICRI Capabilities…
ICRI-E (DoD Guardian II Force Protection selection)

- 7.0 lbs
- 13.5" x 10.5" x 6.0"
- WATERPROOF, SAND-PROOF
- Internal housing for eight (8) "AA" alkaline/primary batteries provide an 24+ hour duty cycle; also uses external DC (7-31V)
- Uses standard "military" connectors and compatible with the H-250/350 "green gear" handset
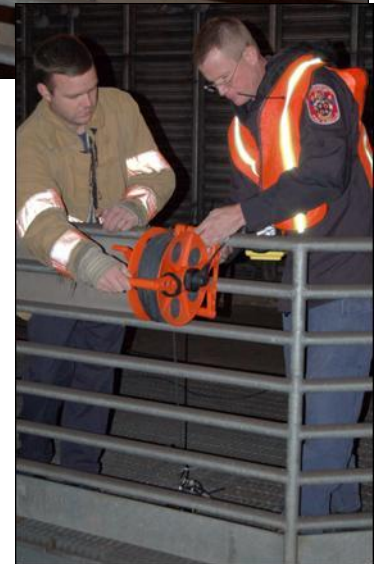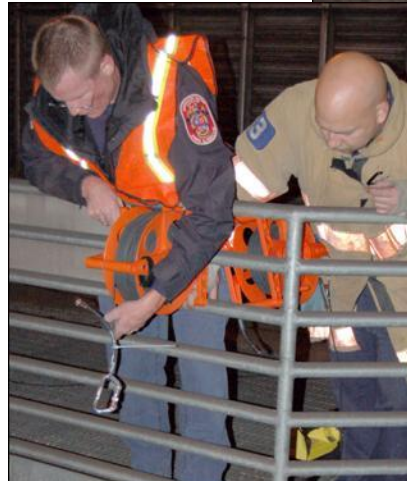
ICRI Capabilities…
in support of tunnel and large structure entries

ICRI-2PED

- 6 lbs
- Tactical Repeater
- 8" x 12" x 10"
- Two Radio I/O ports + telephone port + handset port
- 6 "AA" alkaline batteries in the internal housing provides a 30 hour duty cycle.
- Multiple cables (up to 5000') extends radio communications quickly and reliably

Recon team to TOC commo up to 5000' into a tunnel

ICRI Mobile Command Post Capabilities…
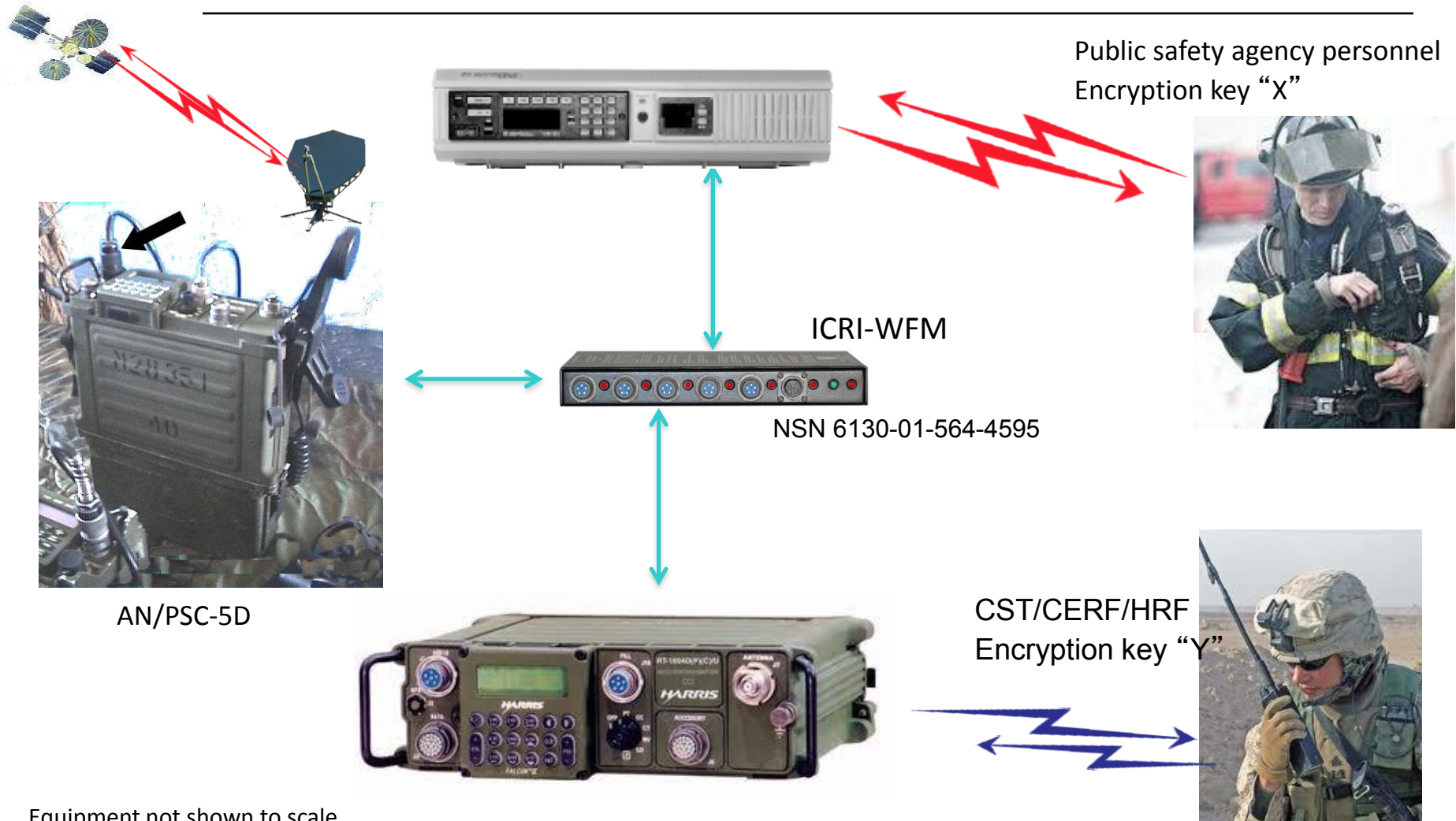## ICRI-4TG, 10 Radio Port with RoIP/VoIP, Rack-mountable

- 4 talk group selection for all ports
- Cell and land-line telephone (POTS/PSTN) compatible
- Commercial and military satellite compatible
- Low band, VHF, 220-900MHz legacy and P25 portable/mobile compatible
- VoIP options include DTMF pad/hook/flash switch
- Operates on external 6.5V-20, 115/220 AC
- Low current drain: 200mA @12V

Extending Situational Awareness
Line-Of-Sight Radio Link to Beyond-Line-Of Sight Using Military and Commercial satellites

ICRI Capabilities…
Seamless Radio Comms with Civilian Public Safety Personnel
On-Scene and Beyond

Public safety agency personnel
Encryption key "X"

ICRI-WFM

NSN 6130-01-564-4595

AN/PSC-5D

CST/CERF/HRF
Encryption key "Y"

Equipment not shown to scale
ALL VOICE TRANSMISSIONS OVER RF LINKS ARE ENCRYPTED

LightSquared MSAT-G2

Multi-agency radios linked to LightSquared MSAT-G2

All versions of the ICRI can be rapidly connected to a G2 terminal via G2's RJ45 handset and serial ports.

The G2 handset connects to an RJ45 jack on the ICRI interface cable

Radio can be separated from the interface and G2 by 500' using the C-AT cable-reel

LMR linked to LightSquared MSAT-G2

- **A portable or mobile radio can be rapidly connected to a G2 terminal via the RJ45 handset port and serial port.**
- **The C-AT interface requires no separate power supply – draws 60mA from G2**
- **Radio can be separated from the interface and G2 by 500' using the C-AT cable-reel**

C-AT LMR-to-G2 interface shown scaled to G2

Radio on reel

BGAN INMARSAT terminal with analog handset

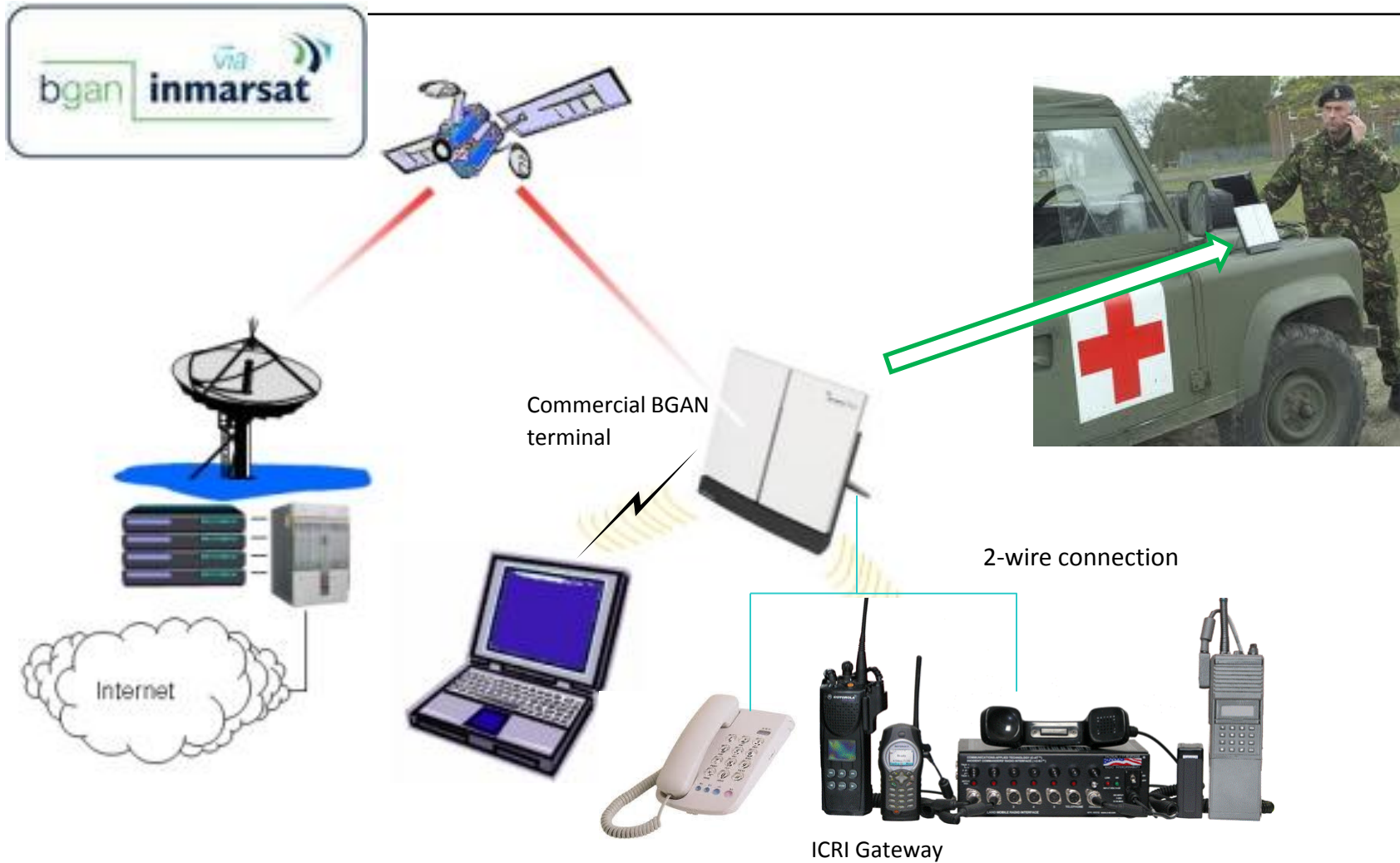To ICRI's 2-wire audio I/O port

All versions of the ICRI can be rapidly connected to a BGAN terminal via the analog telephone jack (a parallel connection with the phone.
Alternately, the ICRI can be configured with an internal PSTN circuit and a keypad.

2-wire RJ-11 port

BGAN

bgan **inmarsat**

Commercial BGAN terminal

2-wire connection

Internet

ICRI Gateway

For Additional Information...

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TACTICAL / 1ST RESPONSE

RADIO INTEROPERABILITY

MADE IN THE U.S.A