



GOVERNMENT & SYSTEMS



# Icom P25 Solutions



# Icom P25 Road Map

**F70/80**

Consolidate  
& Enhance

**P25  
Trunking  
Radios**

F9011, F9511  
F9511 HT

**P25 Trunking  
Infrastructure**

Daniels  
RFT



## F70/80 F1721/2721

- Analog
- Digital Upgradeable
- I.S.
- HPUK
- P25 Grant Money
  
- Analog Now
- Digital Upgradeable

## F70D/F80D F1721D/F2721D

- Analog
- Digital Conventional
- I.S.
- FIPS 140 380-430
- HPUK
  
- Analog Now
- Digital Now
- Mixed Mode

## F9011/F9021 F9511/F9521

- Analog
- Digital Conventional & Trunked
- Multi-Site Network
- CAP, 110W
  
- Analog Now
- Digital Now
- Mixed Mode



## Multi Mode

- Analog
- P25 Conventional
- P25 Trunked

- Analog
  - Use analog now
  - Migrate to P25 conventional in future

- P25 Conventional
  - Use P25 conventional now
  - Backwards compatible to analog

- P25 Trunked
  - P25 Trunked
  - P25 Network
  - Backwards compatible to:
    - Analog
    - P25 Conventional

## Migration Strategy



# F70/80

- Consolidation
  - Elimination of the non-intrinsically safe versions
  - Price reduction on the intrinsically safe versions
  - “Intrinsically safe at no extra charge”
- Enhancements
  - Launch of Enhanced MDC versions of F70/80 and F1721/2721
  - First shipments of HPUK (110W High Power Upgrade Kit) for the F1721/2721.



## F70/F80 and F70D/F80D Series

### Analog

Model	Frequency	Standard Intrinsicly Safe (I.S.)	
		Non-Keypad	Full-Keypad
F70	136–174 MHz	F70S 23	F70T 33
F80	400–470 MHz	F80S 45	F80T 55
	450–512 MHz	F80S 46	F80T 56

F70DS/F80DS



F70DT/F80DT



Any of these analog versions may be upgraded to P25 digital. Optional UT-120 board and P25 activation key must be purchased.

### Digital

Model	Frequency	Standard**		Intrinsicly Safe (I.S.)**		FIPS 140-2***	
		Non-Keypad	Full-Keypad	Non-Keypad	Full-Keypad	Non-Keypad	Full-Keypad
F70	136–174 MHz	F70DS 01	F70DT 11	F70DS 21	F70DT 31	F70DS 04	F70DT 14
F80	380–450 MHz	F80DS 31	F80DT 35			F80DS 31	F80DT 35
	400–470 MHz	F80DS 01	F80DT 21	F80DS 41*	F80DT 51*	F80DS 32*	F80DT 36*
	450–512 MHz	F80DS 02	F80DT 22	F80DS 42*	F80DT 52*	F80DS 33*	F80DT 37*





# F1721/F2721 | F1721D/F2721D Series



F1721D Series



F2821D w/external speaker

## Analog (P25 upgradable)

Model	Frequency	Power Output	Standard		EMDC*	110W Mobile Kit (HPUK)***	
			Non-Keypad	Full-Keypad	Non-Keypad	Non-Keypad	Full-Keypad
F1721 Series	136-174 MHz	50W	F1721 03	na	F1721 03 EMDC	IAS HPUK F1721 03	IAS HPUK F1821 13
F2721 Series	400-470 MHz	45W	F2721 05	F2821 25	F2721 05 EMDC	IAS Hpuk F2721 05	IAS HPUK F2821 25
	450-512 MHz	45W	F2721 06	F2821 26	F2721 06 EMDC	IAS Hpuk F2721 06	IAS HPUK F2821 26

Any of these analog versions may be upgraded to P25 digital. Optional UT-120 board and P25 activation key must be purchased.

## Digital (P25 ready)

Model	Frequency	Power Output	Standard**		110W Mobile Kit (HPUK)***	
			Non-Keypad	Full-Keypad	Non-Keypad	Full-Keypad
F1721D Series	136-174 MHz	50W	F1721D 01	F1821D 11	IAS HPUK F1721D 01	IAS HPUK F1821D 11
F2721D Series	400-470 MHz	45W	F2721D 01	F2821D 21	IAS HPUK F2721D 01	IAS HPUK F2821D 21
	450-512 MHz	45W	F2721D 02	F2821D 22	IAS HPUK F2721D 02	IAS HPUK F2821D 22



F1721 SERIES HIGH POWER UPGRADE KIT

## 110W MOBILE KIT



### **"HPUK"**

*High-Powered  
Mobile VHF  
Upgrade Kit*

- **Comes Completely Assembled:**

- Radio
- Amplifier
- Mounting Brackets
- Cooling Fans



**GOVERNMENT & SYSTEMS**



# Icom P25 Trunking



# Buzzwords

- Cosmetic Interoperability
- Certified Interoperability
- It's a network
- Phase 2 migration
- Enhanced Vocoder
- CAP
- 6W
- 1000mW BTL
- Analog-P25 Conventional-P25 Trunked in one radio
- Mixed Mode
- FIPS140 Migration
- OTAR
- IP57
- 3 Year Warranty



F9011T

F9011S

F9011B

F9021T

F9021S

F9021B



### F9011 Series Portable\*

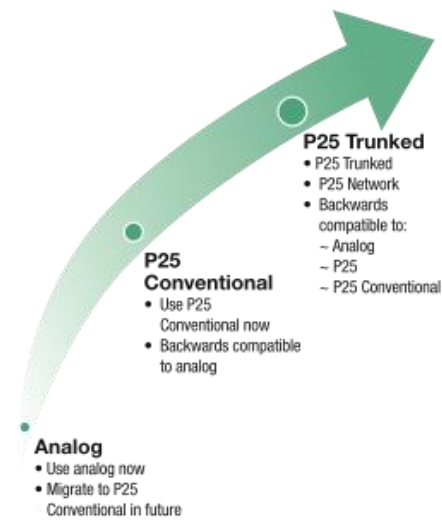


Model	Frequency	Output Power	LCD Display	Keypad
F9011B 01	136-174 MHz	6W	No	No
F9011S 05	136-174 MHz	6W	Yes	No
F9011T 10	136-174 MHz	6W	Yes	Yes
F9021B 01	400-470 MHz**	5W	No	No
F9021S 05	400-470 MHz**	5W	Yes	No
F9021T 10	400-470 MHz**	5W	Yes	Yes
F9021B 41	380-470 MHz	5W	No	No
F9021S 45	380-470 MHz	5W	Yes	No
F9021T 50	380-470 MHz	5W	Yes	Yes



### F9511 Series Mobile\*

Model	Frequency	Output Power	LCD Display	Keypad
F9511S 01	136-174 MHz	50W	Yes	No
F9511T 01	136-174 MHz	50W	Yes	Yes
F9511HT 01	136-174 MHz	110W	Yes	Yes
F9521S 01	400-470 MHz**	45W	Yes	No
F9521T 01	400-470 MHz**	45W	Yes	Yes



#### Analog

- Use analog now
- Migrate to P25 Conventional in future

#### P25 Conventional

- Use P25 Conventional now
- Backwards compatible to analog

#### P25 Trunked

- P25 Trunked
- P25 Network
- Backwards compatible to:
  - Analog
  - P25
  - P25 Conventional

\* These radios may be upgraded with AES and DES encryption (FIPS pending). Optional hardware must be purchased.  
 \* Special order only. Please allow 90-120 days ARO for delivery.



F9511S  
F9521S

F9511T  
F9521T



# F9511HT 110W



## Icom America Systems - Daniels Electronics Strategic Partnership

- Icom America Systems & Radios
- Daniels Electronics infrastructure
- Completely integrated P25 system solutions
- Full engineering, project management and field support
- "One source" for a true "turnkey" P25 communication systems
- All components designed to work together and supported by one team
- Scalability (Conventional to Digital to Digital Trunked)
- Add CAP Compliant
- Low Power Consumption
- AM
- P25 Trunking Migration





## Icom America Systems – DRB-25

- Built-in P25 IMBE vocoding and P25 OFB DES encryption
  - Simultaneous operation and linking DIGITAL and ANALOG
  - Simultaneous operation and linking VHF and UHF
  - Base station/repeater operating modes
  - Direct connection to existing tone remote and console systems, PSTN and microwave links
  - Multiple call types (including individual calls and group calls)
  - IP-enabled providing VoIP and Web-based real-time control and user, Web-diagnostic, monitoring and alarm information using corporate intranets and public internets
- (Continued on next slide)*





## Icom America Systems – DRB-25

- Easy programming via Windows®
- JF 12 Number
- CVSD
- Scalability - Common HW modules means a repeater can be reconfigured and deployed as a base or x-band etc. with addition of modules, minimal reconfig of control interface.
- Individual module sparing, sub-rack selectable channels. An RF module can be programmed with multiple channels, and the sub-rack selects which channel to use based on system configuration, if spared out





## Icom America Systems – RFT Eclipse2

- Software Defined Radio for P25 and Analog
- Broadband VHF (136-174 MHz) and UHF (400 - 520 MHz) Coverage
- No In-field Tuning or Aligning: IP Remote Upgrade Path
- P25/Analog Voting over IP
- Analog/Digital Auto Sense
- Field-flash P25
- Modular, Hot-swap
- Common HW for all Formats





## Icom America Systems – P25 at-a-glance comparison

	RFT Eclipse2	DRB-25	Daniels
<b>Modes</b>			
Analog Repeater	X	X	X
P25 Repeater	X	X	X
Analog Base	X	X	X
CVSD Capable		X	
P25 Base		X	X
Paging in all bands (T&V or POCSAG/FLEX/GOLAY)	X		X
<b>Upgrade Migration</b>			
Field-flash P25	X		X
Modular, hot-swap	X	X	X
Field-reconfig	X	X	X
Common HW for all formats	X	X	X
P25 Trunking			X
<b>Bands</b>			
VHF AM 118-136			X
VHF Low Band FM 38-50			X
VHF Low Band FM 66-88	X		
VHF 136-174	X	X	X
UHF 380-406			X
UHF 380-420		X	
UHF 460-512		X	
UHF 400-470		X	
UHF 400-430	X		
UHF 406-470			X
UHF 440-480	X		
UHF 485-520	X		
UHF T-Band 470-520			X
UHF -805-870	X		
UHF 769-806			X
UHF 806-869			X

Notes: 1. Dalman - IP Solarcast; 2. with OEM ext reference; 3. Single CH; 4. Base station feature; 5. IP network provided; 6. With OEM voting comparator; 7. Zetron, Avtec, Telex; 8. P25 audio only; 9. Twisted pair - Avtec

	RFT Eclipse2	DRB-25	Daniels
<b>Network</b>			
RF Linking Analog	X	X	X
RF Linking P25	X	X	X
Analog IP linking	X		X
P25 IP linking	X		*8
Multi-Xband & conditional linking	X		X
<b>Voting</b>			
Analog Voting	X	*6	*6
P25 Voting Capable	X		
<b>Trunking</b>			
P25 Trunking			X
<b>Simulcast</b>			
External Reference Input	X	X	X
Analog Simulcast	*1		*2
P25 Simulcast			
<b>Console</b>			
Tone Console - Analog	*3	X	X
Tone Console - P25		X	X
DFSI Console Compliant	*9		*7
<b>Configuration</b>			
19" Rack Mountable	X	X	X
Transportable Packages			X
<b>Tech Support</b>			
OEM Tech Support	Excellent	Satisfactory	Excellent
IAS Staff Trained	X	X	X
<b>Other</b>			
2yr + ext. available warranty	X		X
Low current draw			X
Stand Alone Repeater Available	X	X	
SDOC P25 CAP Compliant			X
ICOM GSA Contract	X		
NY State Contract ( ICOM )	X		
WSCA ( ICOM )		X	
JF 12 Number		X	
<b>Pricing</b>	Low	Mid-High	High