

**HYBRID IP TRANSCEIVERS**

**LTE**  
Transceiver

**IDAS™**  
Transceiver



Hybrid Handheld IP Radio for  
Local & Nationwide Communications



Large-scale disaster



When network congestion occurs

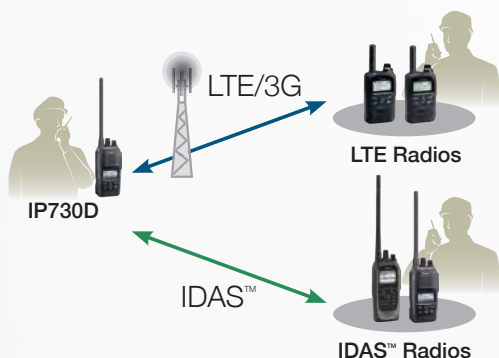


Remote, mountainous areas

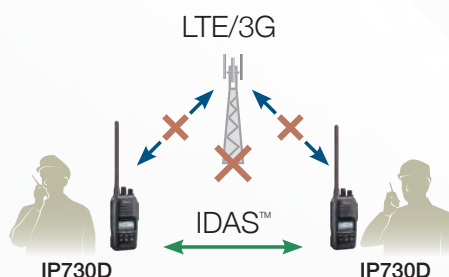
## Dual Mode

The IP730D series can receive both communications from an LTE radio group and IDAS™ (or analogue) group at a time (audio mixed). You can press either the main PTT for LTE or the sub PTT button for IDAS™ or analogue channel to answer in accordance with pre-programming. If necessary, you can press the main and sub PTT buttons to address two groups at the same time.

Expand an existing IDAS™ system with an LTE network



Communication redundancy, when network congestion occurs or network service is temporarily unavailable



## Bridge Function

The Bridge function\* relays received IDAS™ digital audio to the LTE radio group, while transferring the LTE radio conversations to the IDAS™ group. This function is useful when communicating outside of the LTE service coverage area with an IDAS™ radio, or temporary cross band connection between two IDAS™ radio groups using different frequencies or channels. (Not available in Analogue mode).

\* When using the Bridge function, operating time will be shorter and output power of the IP730D/IP740D is reduced to 1 W. The Bridge function may be prohibited in some countries. Please check the legal requirements in your country before using this function.

IDAS™ Group ↔ IP730D ↔ LTE Group



VHF ↔ IP730D ↔ IP740D ↔ UHF





# Innovative LTE Radios with Licensed Professional Radio Mode for Increased Capacity and Coverage

The IP730D and IP740D are dual mode “hybrid” radios that provide nationwide coverage over LTE networks and conventional VHF/UHF professional radio mode (IDAS™ digital/analogue mode).

HYBRID  
LTE X IDAS



HYBRID IP TRANSCEIVERS

**IP730D** (LTE + VHF)

**IP740D** (LTE + UHF)

## LTE Mode

LTE mode provides secure private push-to-talk communication over an LTE (4G) and 3G network\*. The cellular network provides coverage into building basements or high-rise floors where conventional radio systems may not reach.

\*Network coverage provided by a custom SIM card. Service availability depends on the country.



## IDAS™ Mode

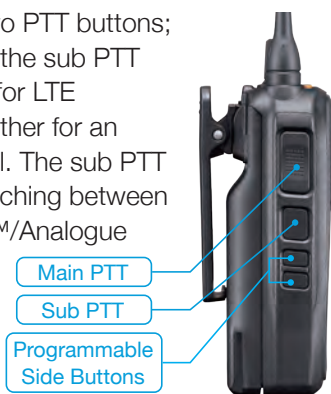
IDAS™ digital mode is a conventional VHF/UHF radio mode using licensed professional radio channels. It also provides Individual, Group and All calls with PTT operation. When operating in remote, mountainous areas, 4G/3G networks may not be available. Conventional VHF/UHF communications provide a stable, local alternative.

**IDAS™**  
ICOM DIGITAL ADVANCED SYSTEM



## Sub PTT Button for Dual Mode Operation

The IP730D series has two PTT buttons; the main PTT button and the sub PTT button. You can use one for LTE communication and the other for an IDAS™/Analogue channel. The sub PTT button offers smooth switching between talking on LTE and IDAS™/Analogue channels.



## Full-Duplex Communication in LTE Mode

The IP730D series provides full-duplex operation in LTE mode. This allows users to talk and receive at the same time, much like a telephone conversation.

## 1500 mW Powerful Audio

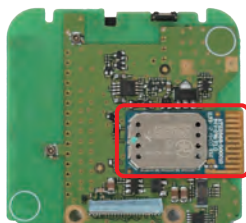
Icom's custom high-power capacity speaker delivers a loud 1500 mW audio output with improved acoustic sound clarity for noisy environments.

\* Typical at 10% distortion.



## Built-in Bluetooth® Technology

Built-in Bluetooth® capability provides wireless operation with a Bluetooth accessory. The optional Bluetooth® headset, VS-3 has PTT and programmable buttons.



Bluetooth® Unit

## GPS Data Transmission Capability

The IP730D series has a built-in GPS receiver that can automatically transmit position data at programmed intervals\*. (LTE mode only)

\* GPS mapping software is required separately. (Mapping software availability may vary by region.)

## IP67 Waterproof and Dust-Tight Specification

The IP730D series is durable enough to endure water pressure under 1 - meter depth for 30 minutes, and has dust-tight protection. The radio meets MIL-STD-810 specifications.



## Emergency Call Features

By holding down the orange emergency button, users can transmit an emergency call.

In addition, the radio has three emergency related functions: Man Down, Lone Worker and Motion/Stationary Detection functions. If one of these functions is activated, the radio automatically transmits emergency signals to alert your controller or dispatcher of any potential trouble.

(Common to LTE and IDAS™ mode)



Emergency button

## Digital Voice Recording/Playback

The IP730D series can record incoming calls of up to 4 minutes, or a maximum of 10 messages, and the user can check recorded communications.

## RoIP Gateway to Link to Other Systems

With the VE-PG4 RoIP gateway, the IP730D series can interconnect with an IP phone and various radio systems including WLAN radio, satellite PTT, LTE, IDAS™ and analogue radios.



VE-PG4



Communication Links

## Other Features

### General Features

- 136 – 174, 350 – 470, 400 – 520 MHz versions
- 128 Channels/8 Zones
- Rotary encoder with channel announcement function<sup>\*1</sup>
- DTMF code transmission with optional DTMF microphone, HM-245T<sup>\*2</sup>
- Vibration alert function
- Surveillance function
- AquaQuake™ function prevents audio degradation from a water-logged speaker

### IDAS™ Operating Mode

- NXDN™ conventional
- NXDN™ multi-site conventional over IP network
- IDAS™ digital simulcast

### IDAS™ Digital Functions

- Over-the-Air Programming (OTAP) function updates the radio configuration over the LTE
- Over-the-Air Alias (OAA)<sup>\*1</sup> displays the caller's name without programming
- Up to 500 ID numbers for IDAS™ mode can be saved in the Call List to show the alias name
- Individual, Group and All calls
- Digital voice scrambler (15-bit encryption)
- Talk back

### Analogue Functions

- CTCSS and DTCS
- 12.5 kHz channel spacing

<sup>\*1</sup> These functions will be available with future firmware upgrades.

<sup>\*2</sup> DTMF microphone, HM-245T will be available later.

### Supplied accessories:

(May differ, or not supplied, depending on version)



## SPECIFICATIONS

GENERAL		IP730D & IP740D	
Audio output power (8 Ω load)	Internal SP	1500 mW typ. (10% distortion), 1300 mW typ. (5% distortion)	
	External SP	1000 mW typ. (10% distortion), 650 mW typ. (5% distortion)	
	HM-222H	1500 mW typ. (10% distortion), 1300 mW typ. (5% distortion)	
Operating temperature range		-30 °C to +60 °C, -22 °F to +140 °F	
Power supply voltage		7.5 V DC nominal	
Current drain (approximate)	Receive	Max. audio (INT SP) 520 mA, Stand-by 300 mA	
	Transmit	Hi (5 W) 1.8 A	
Dimensions (H x W x D; Projections not included)		140.5 x 61.7 x 42.8 mm, 5.5 x 2.4 x 1.7 in (with BP-303)	
Weight (approximate)		320 g, 11.3 oz (with BP-303)	
Bluetooth® technology		Version: 4.2, Output: Class 2, Protocol: HFP, HSP	
LTE (4G)/W-CDMA (3G)		IP730D & IP740D	
Network	EUR, EXP	LTE (4G): B1, B3, B7, B8, B20	W-CDMA: B1, B8
	USA	LTE (4G): B2, B4, B12	W-CDMA: B2, B5
	AUS, EXP	LTE (4G): B1, B3, B5, B7, B8, B28	W-CDMA: B1, B5
Rated output power		0.25 W	
Receiver sensitivity (QPSK)		-102 dBm typ.	
Compatibility		IP501H, IP503H, IP501M, IP500APP, VE-PG4	
IDAS™ digital/Analogue		IP730D	IP740D
GENERAL			
Frequency range* (* Depending on the version)		136 – 174 MHz	350 – 470 MHz, 400 – 520 MHz
Number of conventional channels		128 channels /8 zone	
Type of emission* (* Depending on the version)	USA	11K0F3E (15.0 kHz), 4K00F1E, 4K00F1D (6.25 kHz)	
	EUR, EXP, AUS	8K50F3E (12.5 kHz), 4K00F1E, 4K00F1D (6.25 kHz)	
TRANSMITTER			
Output power (Hi, L2, L1)		5 W, 2 W, 1 W	
Frequency stability		±1.0 ppm	
Spurious emissions		90 dB typ. (TIA-603)	
FM hum and noise (Without CCITT filter)		0.25 µW (≤ 1 GHz), 1.00 µW (> 1 GHz) (EN301 166, EN300 086)	
FSK error		60 dB typ. (TIA-603)	
		5% max. 1% typ. (EN301 166)	
RECEIVER			
Sensitivity	Digital (1% BER)	-6.5 dBµV emf typ. (0.24 µV typ.) (EN301 166)	-7 dBµV emf typ. (0.22 µV typ.) (EN301 166)
	Analogue (12 dB SINAD)	0.22 µV typ. (TIA-603)	0.17 µV typ. (TIA-603)
	Analogue (20 dB SINAD)	-2 dBµV emf typ. (0.4 µV typ.) (EN300 086)	-2 dBµV emf typ. (0.4 µV typ.) (EN300 086)
Adjacent channel selectivity	Digital	62 dB typ. (EN301 166)	63 dB typ. (EN301 166)
	Analogue	67 dB typ.	67 dB typ.
Intermodulation rejection	Digital	76.5 dBµV emf typ. (EN301 166)	73 dBµV emf typ. (EN301 166)
	Analogue	74 dB typ. (TIA-603)	72 dB typ. (TIA-603)
		67 dB typ. (EN300 086)	66 dB typ. (EN300 086)
Hum and noise (Without CCITT filter)		60 dB typ. (TIA-603)	60 dB typ. (TIA-603)

Measurements made in accordance with 3GPP TS-36, TIA-603, EN300 086 and EN301 166.

All stated specifications are subject to change without notice or obligation.

### Applicable U.S. Military Specifications & IP Rating

Standard	MIL 810G	
	Method	Procedure
Low Pressure	500.5	I, II
High Temperature	501.5	I, II
Low Temperature	502.5	I, II
Temperature Shock	503.5	I-C
Solar Radiation	505.5	I
Rain Blowing/Drip	506.5	I, III
Humidity	507.5	II
Salt Fog	509.5	-
Dust Blowing	510.5	I
Immersion	512.5	I
Vibration	514.6	I
Shock	516.6	I, IV

Also meets equivalent MIL-STD-810-C, -D, -E and -F.

### IP Rating

Ingress Protection Standard	
Dust & Water	IP67 (Dust-tight and waterproof)

### Battery Life

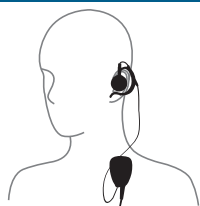
Battery Pack	Type	Capacity	Operating time*		
			LTE	VHF	UHF
BP-303	Li-ion, 7.2V	3350 mAh (typ.) 3200 mAh (min.)	Up to 24 hours	Up to 13 hours (at 5 W) Up to 15 hours (at 1 W)	

\* Bluetooth® OFF, Backlight OFF, Duty cycle TX: RX: Stand-by = 5: 5: 90 ratio.



## I OPTIONAL ACCESSORIES

## SPEAKER MICROPHONES and EARPHONES

**HM-245T**

DTMF microphone with sub PTT button (Available later)

Water proof



(3.5 mm plug)

**HM-222H**

High-power speaker (Available later)

Water proof



(3.5 mm plug)

**AD-135**

Earphone jack adapter



(3.5 mm plug)

**SP-27**

Tube earphone

**SP-29**

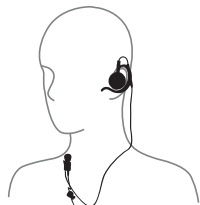
Earhook earphone

**SP-40**

Earphone



## TIE-CLIP MICROPHONES and EARPHONES

**HM-238MC**

Tie-clip microphone with sub PTT button



(2.5 mm plug)

**HM-163MC**

Tie-clip microphone



(2.5 mm plug)

**EH-15B**

Earphone

**SP-26**

Tube earphone

**SP-28**

Earhook earphone



## HEADSETS and PTT SWITCH CABLE

**HS-94**

Earhook type headset

**HS-95**

Neck-arm type headset

**HS-97**

Headset with throat microphone

**VS-5MC**

PTT switch cable for manual PTT, and VOX operation



## BLUETOOTH® HEADSET

**VS-3**

Bluetooth® headset



## SPEAKER MICROPHONES

**HM-184H**

High-power speaker type

Water proof

**HM-236**

Compact type

Water proof



## BATTERY PACKS and BATTERY CASE

**BP-303**

Li-Ion battery pack 3200 mAh (min.) 3350 mAh (typ.) (Same as supplied)

**BP-305**

Battery case LR6 (AA) × 5 cells



## CHARGERS

**BC-226**

Multi-connectable rapid charger

**BC-123S**

AC adapter for single unit

**BC-228**

AC adapter (Required for multiple connections)



(Connectable up to six BC-226)

**BC-227**

(AC adapter BC-123S supplied)



## CIGARETTE LIGHTER CABLE and DC CABLES

**CP-23L**

Cigarette lighter cable (For use with BC-227)

**OPC-515L**

DC power cable (For use with BC-227)



## CARRYING CASE

**LC-195**

Carrying case (Charging is possible while the case is attached)



## SHOULDER STRAP

**MB-57L**

Shoulder strap (Use with the LC-195)



## BELT CLIPS AND HANGERS

**MB-133**

Belt clip (Same as supplied)

**MB-136**

Belt clip (Swivel type)

**MB-96N**

Belt hanger (Swivel type)

**MB-96F**

Belt hanger (Fixed type)

**MB-96FL**

Belt hanger (Long type)

## ANTENNAS

**Standard Antennas**

FA-SC25V 136–150 MHz  
 FA-SC55V 150–174 MHz  
 FA-SC27VS 142–150 MHz  
 FA-SC28V 148–162 MHz  
 FA-SC29V 160–174 MHz  
 FA-SC25U 400–430 MHz  
 FA-SC57U 430–470 MHz  
 FA-SC72U 470–520 MHz  
 FA-SC01U 350–400 MHz  
 FA-SC02U 330–380 MHz  
 FA-SC03U 380–430 MHz

**Stubby Antennas**

FA-SC26VS 136–144 MHz  
 FA-SC27VS 142–150 MHz  
 FA-SC56VS 150–162 MHz  
 FA-SC57VS 160–174 MHz  
 FA-SC26US 400–450 MHz  
 FA-SC73US 450–490 MHz

**High Gain Antennas**

FA-SC62V 155 MHz  
 FA-SC63V 160 MHz

**Cut Antennas**

FA-SC61VC 136–174 MHz  
 FA-SC61UC 380–520 MHz

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