ICOM

IP730D (LTE + VHF)
IP740D (LTE + UHF)

HYBRID IP TRANSCEIVERS

LTE
Transceiver

IDAS™
Transceiver

Hybrid Handheld IP Radio for
Local & Nationwide Communications

Bluetooth®

HYBRID LTE IDAS

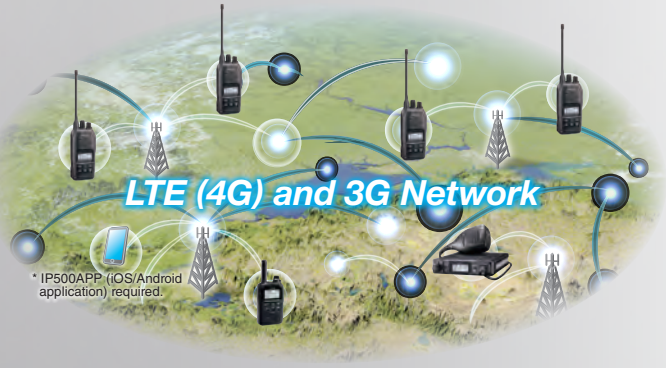
Innovative LTE Radios with Licensed Professional Radio Mode for Increased Capacity and Coverage

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).

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.

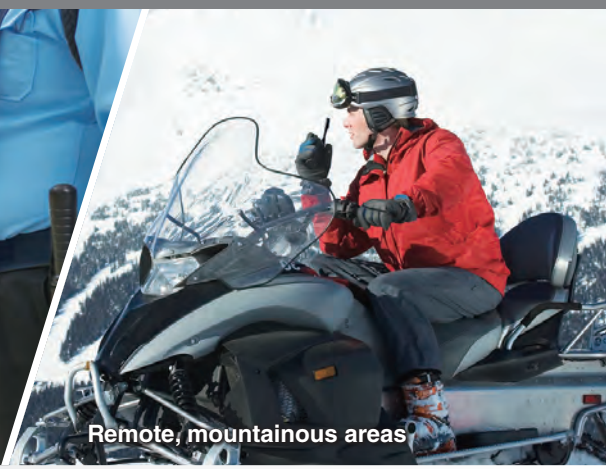
HYBRID IP TRANSCEIVERS

IP730D (LTE + VHF)

IP740D (LTE + UHF)

Large-scale disaster

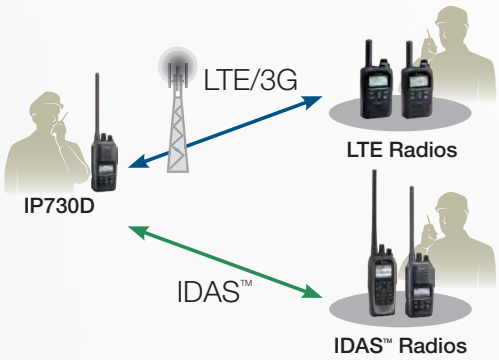

When network congestion occurs


Remote, mountainous areas

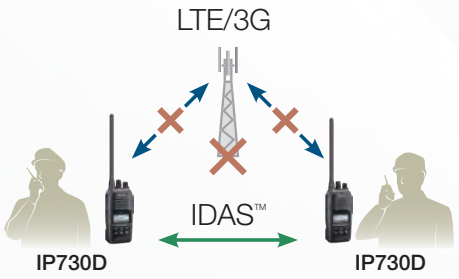
Dual Mode

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



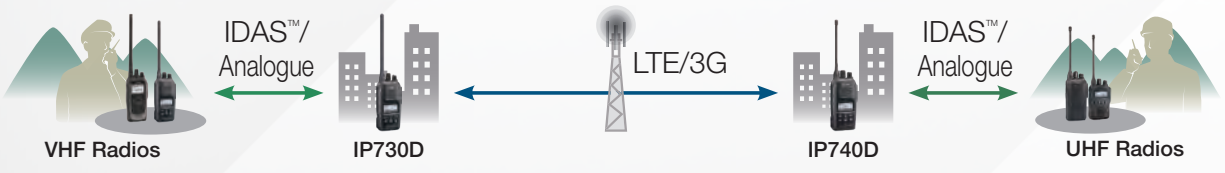
Bridge Function

The Bridge function* relays received IDAS™ digital (or analogue) audio to the LTE radio group, while transferring the LTE radio conversations to the IDAS™ digital (or analogue) group. This function is useful when communicating outside of the LTE service coverage area with a conventional digital/analogue radio, or temporary cross band connection between two conventional digital/analogue radio groups using different frequencies or channels.

* 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.

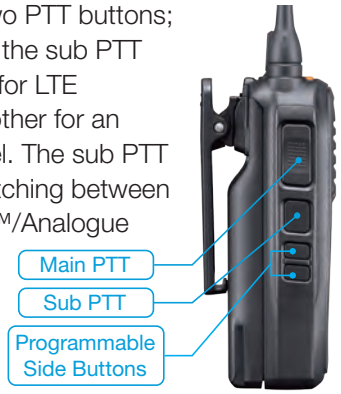
IDAS™/Analogue Group ⟷ IP730D ⟷ LTE Group

VHF ⟷ IP730D ⟷ IP740D ⟷ UHF



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.

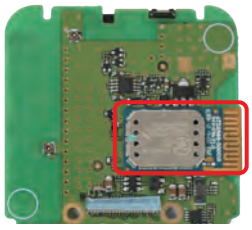
1500 mW Powerful Audio

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*. (Common to LTE and IDAS™ mode)

* 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)

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 Wi-Fi radio, satellite PTT, LTE, IDAS™ and analogue radios.

Communication Links

Other Features

General Features

- 136 – 174, 350 – 470, 400 – 520 MHz versions
- 128 Channels/8 Zones
- Rotary encoder with channel announcement function*1
- DTMF code transmission with optional DTMF microphone, HM-245T
- 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)*1 displays the caller's name without programming
- Up to 500 ID numbers for IDAS™ mode can be saved in the Call List
- Individual, Group and All calls
- 56-bit DES encryption
- Digital voice scrambler (15-bit encryption)
- Talk back

Analogue Functions

- CTCSS and DTCS
- 12.5 kHz channel spacing

*1 These functions will be available with future firmware upgrades.

Supplied accessories:

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

BP-303 battery pack

MB-133 belt clip

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 × 61.7 × 42.8 mm, 5.5 × 2.4 × 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		IP510H, IP504H, IP503H, IP501H, IP-M60, 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)	
		0.25 µW (≤ 1 GHz), 1.00 µW (> 1 GHz) (EN301 166, EN300 086)	
FM hum and noise (Without CCITT filter)		60 dB typ. (TIA-603)	
FSK error		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) 67 dB typ. (EN300 086)	72 dB typ. (TIA-603) 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)

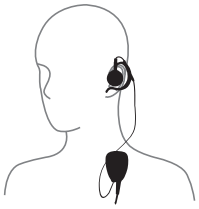
Battery Life

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.

OPTIONAL ACCESSORIES

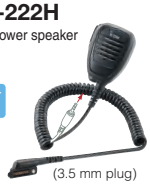
SPEAKER MICROPHONES and EARPHONES



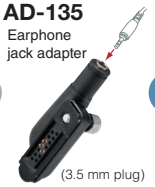
HM-245T
DTMF microphone with sub PTT button
Water proof

(3.5 mm plug)

or

HM-222H
High-power speaker
Water proof

(3.5 mm plug)

or

AD-135
Earphone jack adapter

(3.5 mm plug)

+

SP-27
Tube earphone

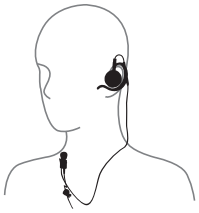

or

SP-29
Earhook earphone


or

SP-40
Earphone


TIE-CLIP MICROPHONES and EARPHONES



HM-238MC
Tie-clip microphone with sub PTT button

(2.5 mm plug)

or

HM-163MC
Tie-clip microphone

(2.5 mm plug)

+

EH-15B
Earphone


or

SP-26
Tube earphone


or

SP-28
Earhook earphone


HEADSETS and PTT SWITCH CABLE

HS-94
Earhook type headset


or

HS-95
Neck-arm type headset


or

HS-97
Headset with throat microphone


+

VS-5MC
PTT switch cable for manual PTT, and VOX operation


BLUETOOTH® HEADSET

VS-3
Bluetooth® headset

Not available for European Market
(Not compliant with EN62368-1)

SPEAKER MICROPHONES

HM-184H
High-power speaker type
Water proof


HM-236
Compact type
Water proof


BATTERY PACK 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)

(The straight plug type is required)


(Connectable up to six BC-226)

BC-227
(AC adapter BC-123S supplied)


MULTI-CHARGER

BC-214N (#62~#63)
AC adapter BC-157S is supplied, depending on the charger version


CARRYING CASE

LC-195
Carrying case (Charging is possible while the case is attached)


DC POWER CABLES

CP-23L
For use with BC-227


OPC-515L
For use with BC-227


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-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

Check the Icom website for details.

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