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Communications
Group

900PTT IP730D/IP704D



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900PTT IP730D/IP740D

SPECIFICATIONS & FEATURES

The IP730D series from Icom is a new Hybrid radio that can provide nationwide coverage over LTE networks as well as conventional VHF/UHF professional radio mode (IDAS digital/Analogue radio modes) to work locally. The versatility of having two technologies (LTE & IDAS Digital PMR) merged into one, provides a range of options and applications for industries ranging from event and facility management to large utility infrastructure projects.

FEATURES

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 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 1500mW 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® headsets, VS-3 has PTT and programmable buttons



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-metre 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. If one of these 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 up to 4 minutes, or a maximum of 10 messages, and the user can check recorded communications.

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).

OTHER FEATURES

GENERAL FEATURES

- 136 - 174, 350 - 470, 400 - 500 MHz versions
- 128 Channels / 8 Zones
- Rotary encoder with channel announcement function*1
- DTMF code transmission with optional DTMF microphone, HM-245T*2
- 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 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
- *1 These functions will be available with future firmware upgrades
- *2 DTMF microphone, HM-245T will be available later.

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.

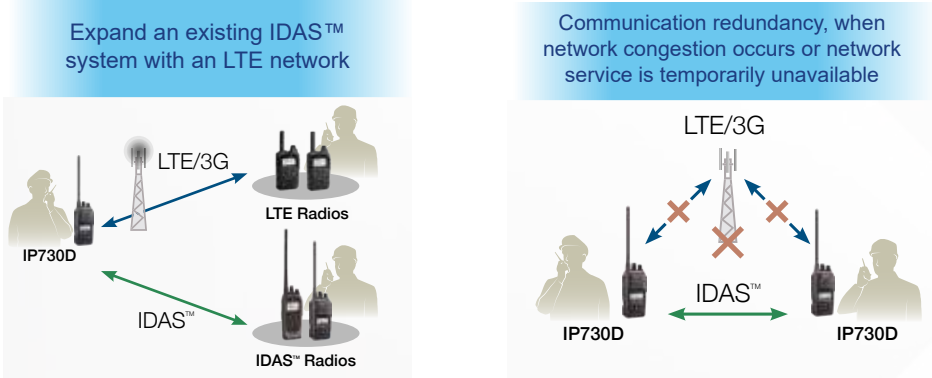


DIFFERENT MODES

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

Dual Mode

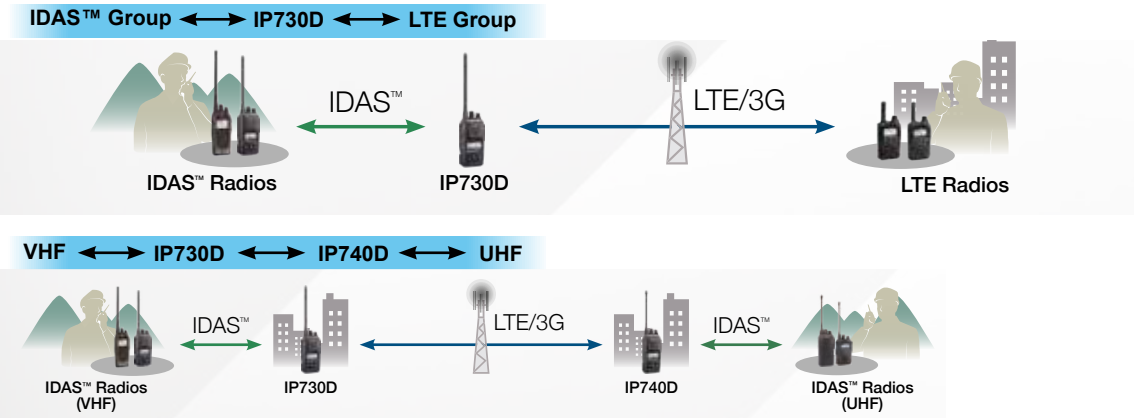
The IP730D series can receive both communications from an LTE radio group and IDAS™ (or analogue) group at a time (audio mixed). You can press either the main PTT for LTE or the sub PTT button for IDAS™ or analogue channel to answer in accordance with pre-programming. If necessary, you can press the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



Bridge Function

The Bridge function* relays received IDAS™ digital audio to the LTE group, while transmitting 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 1W. The Bridge function may be prohibited in some countries. Please check legal requirements in your country before using this function.



SPECIFICATIONS

GENERAL			
Audio output power (8 Ω load)	Internal SP	1500mW typ. (10% distortion), 1300mW typ. (5% distortion)	
	External SP	1000mW typ. (10% distortion), 650mW typ. (5% distortion)	
	HM-222H	1500mW typ. (10% distortion), 1300mW 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 (5W) 1.8 A	
Dimensions (H x W x D; Projections not included)		140.5 x 61.7 x 42.8mm, 5.5 x 2.4 x 1.7 in (with BP-303)	
Weight (approximate)		320g, 11.3oz (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		0.25W	
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)		5W, 2W, 1W	
Frequency stability		±1.0 ppm	
Spurious emissions		90 dB typ. (TIA-603)	
FM hum and noise (Without CCITT filter)		60 dB typ. (TIA-603)	
FKS 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)	

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.

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

SUPPLIED ACCESSORIES



BP-303 Battery Pack



MB-133 Belt Clip

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

IP RATING

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

Battery Pack	BP-303
Type	Li-ion, 7.2V
Capacity	3350 mAh (typ.) 3200 mAh (min.)

Operating time*

LTE	Up to 24 hours
VHF	Up to 13 hours (at 5 W)
UHF	Up to 15 hours (at 1 W)

OPTIONAL ACCESSORIES



SPEAKER MICROPHONES AND EARPHONES



HM-245T
DTMF microphone with sub PTT button (Available later)
(3.5mm plug)

or

HM-222H
High-power speaker (Available later)
Waterproof
(3.5mm plug)

or

AD-135
Earphone jack adapter
(3.5mm plug)

+

SP-27
Tube earphone

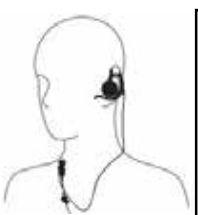
or

SP-29
Earhook earphone

or

SP-40
Earphone

TIE-CLIP MICROPHONES AND EARPHONES



HM-238MC
Tie-clip microphone with sub PTT button
(2.5mm plug)

or

HM-163MC
Tie-clip microphone
(2.5mm plug)

+

EH-15B
Earphone

or

SP-26
Tube earphone

or

SP-28
Earhook Earphone

SPEAKER MICROPHONES

HM-184H
High-power speaker type
Waterproof

HM-236
Compact type
Waterproof

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

CHARGERS

BC-226
Multi-connectable rapid charger

BC-123S
AC adapter for single unit

BC-228
AC adapter (Required for multiple connections)

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

(Connectable up to 6 BC-226)

BELT CLIPS AND HANGERS

MB-133 Belt clip (Same as supplied)

MB-96F Belt hanger (Fixed type)

MB-136 Belt clip (Swivel type)

MB-96FL Belt hanger (Long type)

MB-96N Belt hanger (Swivel type)

ANTENNAS

Standard Antennas
FA-SC25V 136-150MHz
FA-SC55V 150-174MHz
FA-SC28V 148-162MHz
FA-SC29V 160-174MHz
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

BATTERY PACKS AND BATTERY CASE

BP-303
Li-ion battery pack
3200mAh (min)
3350mAh (typ.)
(Same as supplied)

BP-305
Battery case
LR6 (AA) x5 cells

BLUETOOTH® HEADSETS

VS-3
Bluetooth® headset

CIGARETTE LIGHTERS 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)

COMMUNICATE ANYTIME, ANYWHERE



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0845 600 4 900

www.ninehundred.co.uk
sales@ninehundred.co.uk

White Rose Way | Doncaster Carr | Doncaster | DN4 5JH

