Version 1.1
October 2018

NXDN™

IC-F1100D/DT/DS
IC-F2100D/DT/DS

PRODUCT GUIDE

IC-F1100D

IC-F1100DS

IC-F1100DT

PG-IC-F1100D/F2100D-V1.1

PREFACE

This product guide is made to promote our new products, the IC-F1100D/IC-F2100D series transceivers. The new product's technology components are described in this document, and you will understand the target uses, built-in functions, and sales points of these transceivers. This product guide's target users are dealer sales staff members who are going to sell these transceivers for the first time.

Icom hopes this product guide will help you to promote sales of the IC-F1100D/IC-F2100D series transceivers.

TABLE OF CONTENTS

SECTION 1 PRODUCT OUTLINES

1-1 ABOUT THE PRODUCT OUTLINES, SALES POINTS, AND TARGET USERS

About the IC-F1100D/IC-F2100D series transceivers

The IC-F1100D/IC-F2100D series transceivers are low tier NXDN™ handheld transceivers.

The transceivers were developed based on the IC-F1000D and IC-F2000D, but as the models with an LCD display. So, they take over the IC-F1000D/IC-F2000D concepts, such as small size, light weight, waterproof, and dustproof. The LCD display enables not only an Individual ID or Talkgroup ID display, but also the Status message and SDM (Short Data Message) functions.
In addition, the transceivers can support the Single-site trunking system, just like the IC-F1000D/IC-F2000D series transceivers.

Sales points

• **Four programmable keys on the front panel**

The transceivers inherit the operability of the IC-F3260D/IC-F4260D series and IC-F3230D/IC-F4230D series transceivers. The transceivers operability is increased due to four programmable keys that the IC-F1000D/IC-F2000D series transceiver do not have.

• **Extensive line-up**

A total of three versions are in the lineup to suit user demands: with an LCD display and 10-keys, with an LCD, and without an LCD versions. The display is composed with 14 segments and 8 digits.

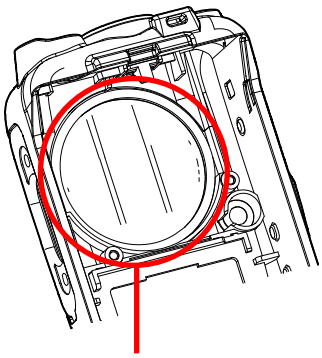
With an LCD display and 10-key version

With an LCD display version

• **High sound pressure available**

Higher sound pressure is provided by a modified speaker grill structure. The speaker grill structure has been modified to have more capacity for the front of the internal speaker. And also, a newly designed custom high output power speaker is used with the IC-F1100D/IC-F2100D series transceiver (See Figure 1-1). Combined, these provide an approximately 1.4 times higher sound pressure compared to the IC-F1000D/IC-F2000D series transceivers.

The BLT (Bridge-Tied-Load) amplifier (See Figure 1-2) is also used with the IC-F1100D/IC-F2100D series transceivers, so the audio output power in the specifications is roughly doubled compare to the IC-F1000D/IC-F2000D series transceivers.



Speaker grill structure is modified.

The new custom high output power speaker

Figure 1-1. Modified speaker grill structure and speaker

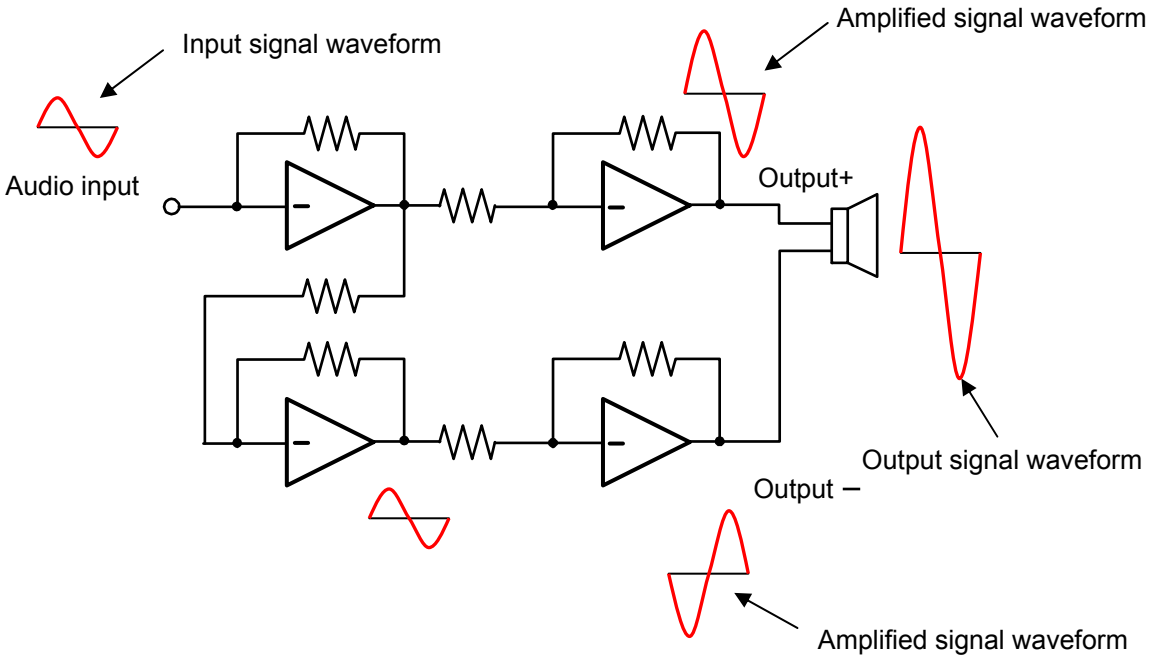
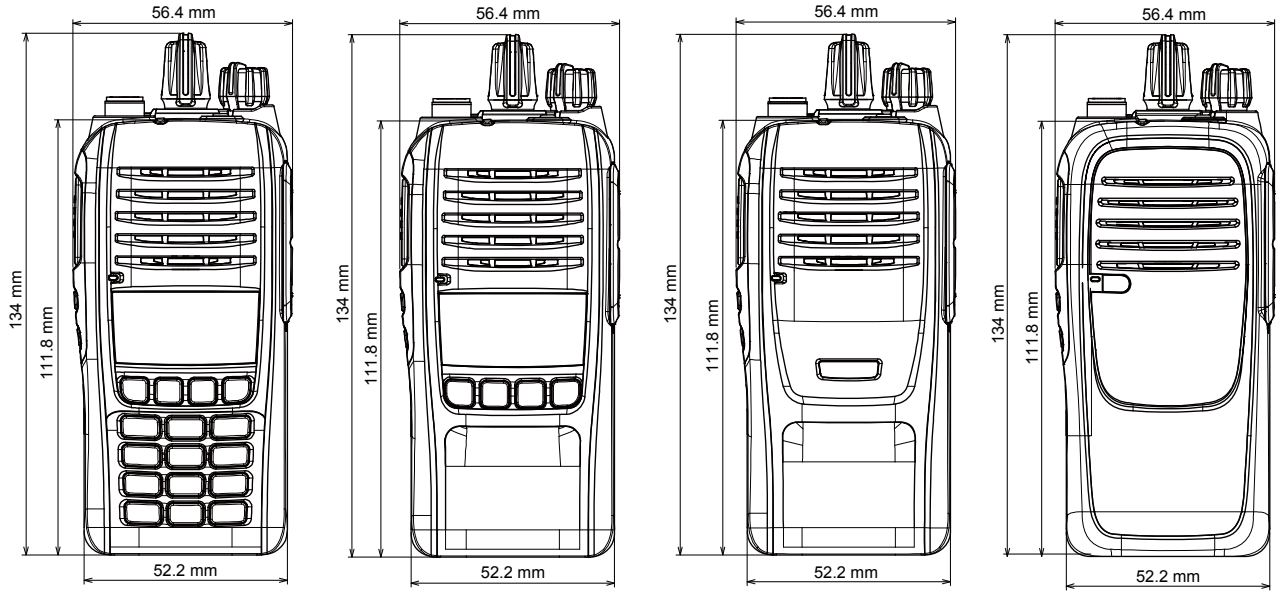


Figure 1-2. BTL (Bridge-Tied-Load) amplifier concept

• **Slim and compact body**
Even with an LCD display and four programmable keys installed, the transceiver size is almost the same as the IC-F1000D/IC-F2000D series transceivers.

➢ Front view and size comparison



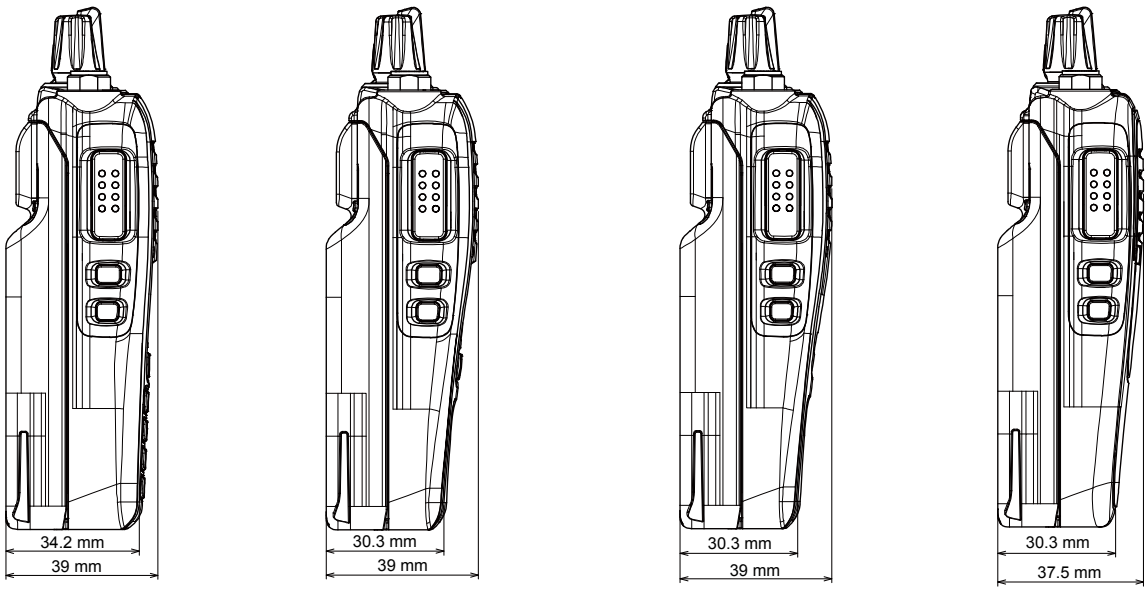
IC-F1100DT
IC-F2100DT

IC-F1100DS
IC-F2100DS

IC-F1100D
IC-F2100D

IC-F1000D
IC-F2000D

➢ Side view and size comparison



IC-F1100DT
IC-F2100DT

IC-F1100DS
IC-F2100DS

IC-F1100D
IC-F2100D

IC-F1000D
IC-F2000D

Target users

B&I market (Hotels, shopping malls, and so on)

Public works (Electric power industry, Water services, and so on)

Airports

Security services

Construction sites

Plants

Warehouses

1-2 SPECIFICATIONS

Model name			IC-F1100D/DS/DT	IC-F2100D/DS/DT
Corresponding measurement standard			• USA-01: TIA-603 • EUR-01, UK-01: EN300 086, EN301 166 • EXP-01: TIA-603, EN300 086, EN301 166	• USA-01: TIA-603 • EUR-01, UK-01: EN300 086, EN301 166 • EXP-01: TIA-603, EN300 086, EN301 166 • EXP-02: TIA-603, EN300 086, EN301 166
GENERAL				
Frequency coverage			136 ~ 174 MHz	400 ~ 470 MHz Except [EXP-02] 350 ~ 400 MHz [EXP-02] only
Number of conventional channels			16 ch/8 zones [D] 128 ch/8 zones [DS], [DT]	
Type of emission		Analog	8K50F3E (12.5 kHz: N) [EN300 086] 11K0F3E (15.0 kHz: N) [TIA-603] 14K0F3E (20.0 kHz: M) [EN300 086] 16K0F3E (25.0 kHz: W) [EN300 086]	
		Digital	4K00F1E, 4K00F1D (6.25 kHz)	
Intermediate frequency			1st: 46.35 MHz, 2nd: 450 kHz	
Power supply requirement			7.5 V DC nominal (negative ground)	
Current drain (approximate)	TX High		1.3 A (at 5 W)	1.4 A (at 4 W)
	RX	Maximum audio	520 mA (Internal speaker)	
		Stand by	110 mA	
Supplied battery pack			BP-280 (2400 mAh typical)	
Antenna impedance			50 Ω nominal	
Microphone impedance			2.2 kΩ	
Audio impedance			8 Ω	
Operating temperature range			–30°C ~ +60°C; –22°F ~ +140°F [TIA-603] –25°C ~ +55°C [EN300 086], [EN301 166]	
Dimensions (with BP-280) (Projections not included)			52.2(W) × 111.8(H) × 29.4(D) mm [D], [DS] (2.1(W) × 4.4(H) × 1.2(D) inches) 52.2(W) × 111.8(H) × 34.1(D) mm [DT] (2.1(W) × 4.4(H) × 1.3(D) inches)	
Weight (with MB-133 and BP-280) (approximate)			258 g (9.1 oz) [D] 266 g (9.4 oz) [DS] 277 g (9.8 oz) [DT]	

[D]: IC-F1100D/IC-F2100D, [DS]: IC-F1100DS/IC-F2100DS, [DT]: IC-F1100DT/IC-F2100DT

Specifications: Measurements made in accordance with TIA-603, EN301 166, EN300 086, and EN300 113.

Model name		IC-F1100D/DS/DT	IC-F2100D/DS/DT
Corresponding measurement standard		• USA-01: TIA-603 • EUR-01, UK-01: EN300 086, EN301 166 • EXP-01: TIA-603, EN300 086, EN301 166	• USA-01: TIA-603 • EUR-01, UK-01: EN300 086, EN301 166 • EXP-01: TIA-603, EN300 086, EN301 166 • EXP-02: TIA-603, EN300 086, EN301 166
TRANSMITTER			
Output power (at 7.5 V DC)		5 W	4 W
Modulation		Variable reactance frequency modulation, FSK modulation	
Maximum permissible deviation		±2.5 kHz (N) ±2.5 kHz (N), ±4.0 kHz (M), ±5.0 kHz (W)	[USA-01] only Except [USA-01]
Frequency error		±2.0 ppm	±1.0 ppm
Spurious emissions		70 dB minimum [TIA-603]	70 dB minimum [TIA-603] (350 ~ 400 MHz is included.)
		0.25 µW (≤ 1 GHz), 1.0 µW (> 1 GHz) [EN300 086], [EN301 166] (Except 350 ~ 400 MHz.)	
Adjacent channel power	**Analog**	70 dB typical (N) 73 dB typical (M) [EN300 086] 74 dB typical (W) [EN300 086]	68 dB typical (N) 73 dB typical (M) [EN300 086] 74 dB typical (W) [EN300 086]
	Digital	65 dB typical (6.25 kHz)	
Audio harmonic distortion	**Narrow**	1.0% typical @ AF 1 kHz 40% Deviation	
	Middle	0.9% typical @ AF 1 kHz 40% Deviation [EN300 086]	
	Wide	0.8% typical @ AF 1 kHz 40% Deviation [EN300 086]	0.7% typical @ AF 1 kHz 40% Deviation [EN300 086]
FSK error		5% maximum (D: 6.25 kHz)	
FM hum and noise (without CCITT filter)		44 dB typical (N) [TIA-603] 46 dB typical (W) [EN300 086]	44 dB typical (N) [TIA-603]
Residual modulation (with CCITT filter)		45 dB typical (N) [EN300 086] 49 dB typical (M) [EN300 086] 51 dB typical (W) [EN300 086]	48 dB typical (N) [EN300 086] 52 dB typical (M) [EN300 086] 54 dB typical (W) [EN300 086]
Limitation characteristics of the modulator		60% to 100% of max. deviation	

[D]: IC-F1100D/IC-F2100D, [DS]: IC-F1100DS/IC-F2100DS, [DT]: IC-F1100DT/IC-F2100DT

Specifications: Measurements made in accordance with TIA-603, EN301 166, EN300 086, and EN300 113.

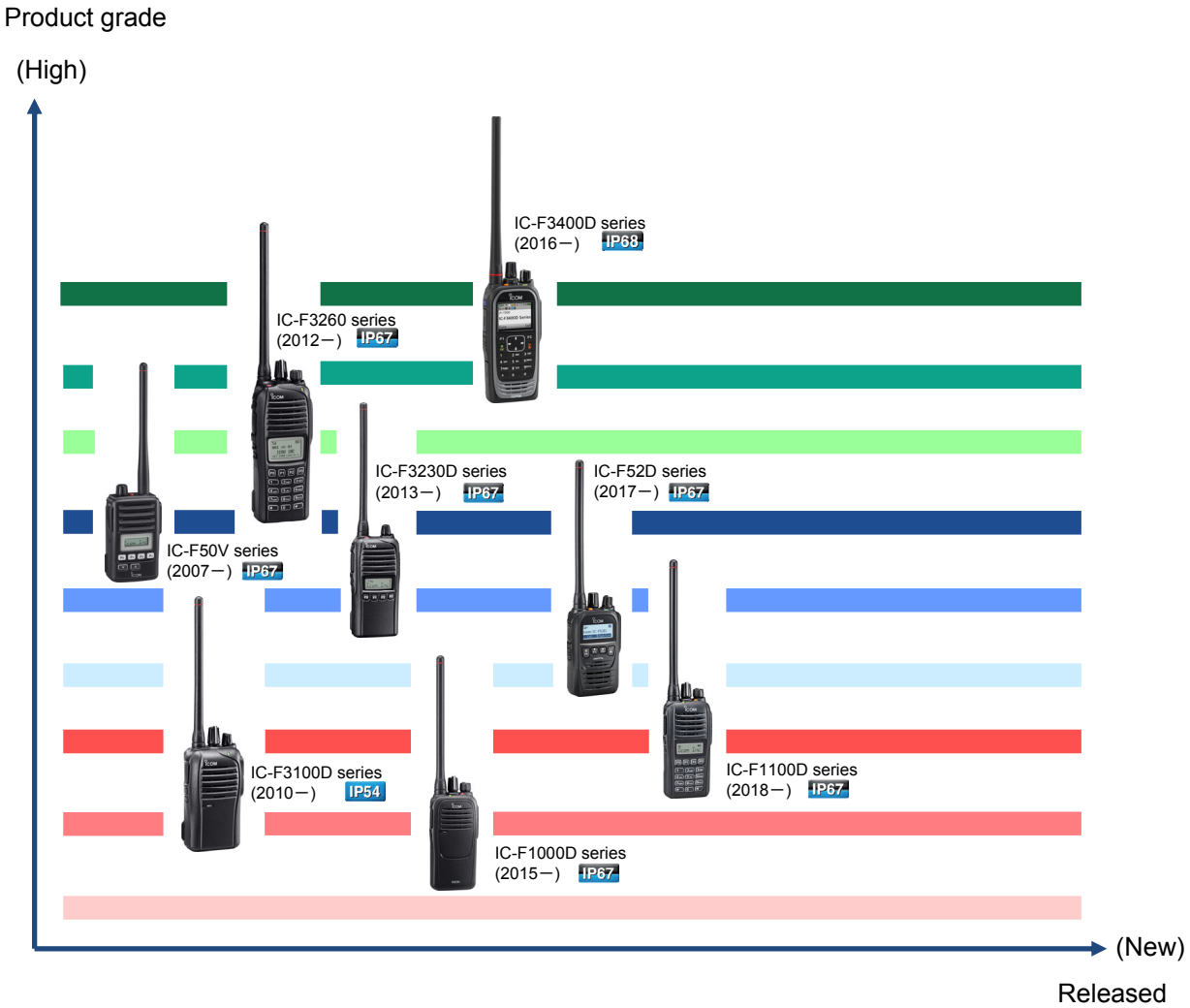
Model name		IC-F1100D/DS/DT	IC-F2100D/DS/DT
Corresponding measurement standard		• USA-01: TIA-603 • EUR-01, UK-01: EN300 086, EN301 166 • EXP-01: TIA-603, EN300 086, EN301 166	• USA-01: TIA-603 • EUR-01, UK-01: EN300 086, EN301 166 • EXP-01: TIA-603, EN300 086, EN301 166 • EXP-02: TIA-603, EN300 086, EN301 166
RECEIVER			
Sensitivity	**Analog**	• 0.24 µV typical @ 12 dB SINAD [TIA-603] • –2.0 dBµV (EMF) typical @ 20 dB SINAD (N) [EN300 086] • –5.0 dBµV (EMF) typical @ 20 dB SINAD (W, M) [EN300 086]	• 0.24 µV typical @ 12 dB SINAD [TIA-603] • –2.0 dBµV (EMF) typical @ 20 dB SINAD (N) [EN300 086] • –5.0 dBµV (EMF) typical @ 20 dB SINAD (W, M) [EN300 086]
	Digital	–9.0 dBµV (EMF) typical @ 5% BER	–8.0 dBµV (EMF) typical @ 5% BER
Audio power output	**INT SP**	1.5 W typical @ 5% distortion into 8 Ω	
	EXT SP	0.45 W typical @ 5% distortion into 8 Ω	0.4 W typical @ 5% distortion into 8 Ω
Adjacent channel selectivity	**Analog**	67 dB typical (N) 75 dB typical (M) [EN300 086] 77 dB typical (W) [EN300 086]	69 dB typical (N) 75 dB typical (M) [EN300 086] 76 dB typical (W) [EN300 086]
	Digital	59 dB typical	58 dB typical
Spurious response rejection		80 dB typical	80 dB typical
Intermodulation	**Analog**	75 dB typical (N) [TIA-603] 76 dB typical (W) [EN300 086] 69 dB typical (N, M, W) [EN300 086]	77 dB typical (N) [TIA-603] 77 dB typical (W) [EN300 086] 70 dB typical (N, M, W) [EN300 086]
	Digital	71 dB typical [TIA-603] 74 dBµV (EMF) typical [EN301 166]	70 dB typical [TIA-603] 74 dBµV (EMF) typical [EN301 166: 400 ~ 470 MHz] 71 dBµV (EMF) typical [EN301 166: 350 ~ 400 MHz]
Hum and noise	**Without CCITT filter**	43 dB typical (N) [TIA-603] 48 dB typical (W) [TIA-603]	42 dB typical (N) [TIA-603]
	With CCITT filter	46 dB typical (N) [EN300 086] 49 dB typical (M) [EN300 086] 51 dB typical (W) [EN300 086]	45 dB typical (N) [EN300 086] 48 dB typical (M) [EN300 086] 50 dB typical (W) [EN300 086]
Squelch sensitivity (Threshold)		0.2 µV typical [TIA-603] –8 dBµV (EMF) typical [EN300 086], [EN301 166]	

[D]: IC-F1100D/IC-F2100D, [DS]: IC-F1100DS/IC-F2100DS, [DT]: IC-F1100DT/IC-F2100DT

Specifications: Measurements made in accordance with TIA-603, EN301 166, EN300 086, and EN300 113.

SECTION 2 PRODUCT RANGE

The IC-F1100D/IC-F2100D series transceivers are low tier models that include excellent operability, compact size, and are lightweight. The IC-F1100D/IC-F2100D series transceivers are land mobile handheld transceivers that are easy to use by installing carefully selected features. As shown in the positioning map below, the IC-F1100D/IC-F2100D series transceivers replace the IC-F3100D/IC-F4100D series transceivers, as well as the IC-F1000D/IC-F2000D series transceivers.



SECTION 3 MAJOR FUNCTION INTRODUCTION

The major functions of the IC-F1100D/IC-F2100D series transceivers are described as follows. These functions are included in the main firmware 1.00 for the NXDN™ transceiver version.

- **Emergency call transmission with the Man Down function and Motion Detection**
  The IC-F1100D/IC-F2100D series transceivers can transmit an emergency call with the Man Down function. Also, an emergency call can be made by the Motion Detection and Stationary Detection. The Motion Detection functions when the operator moves fast for a specified time, and the Stationary Detection functions when the operator stays in the same place, regardless of the key or channel selector operation.

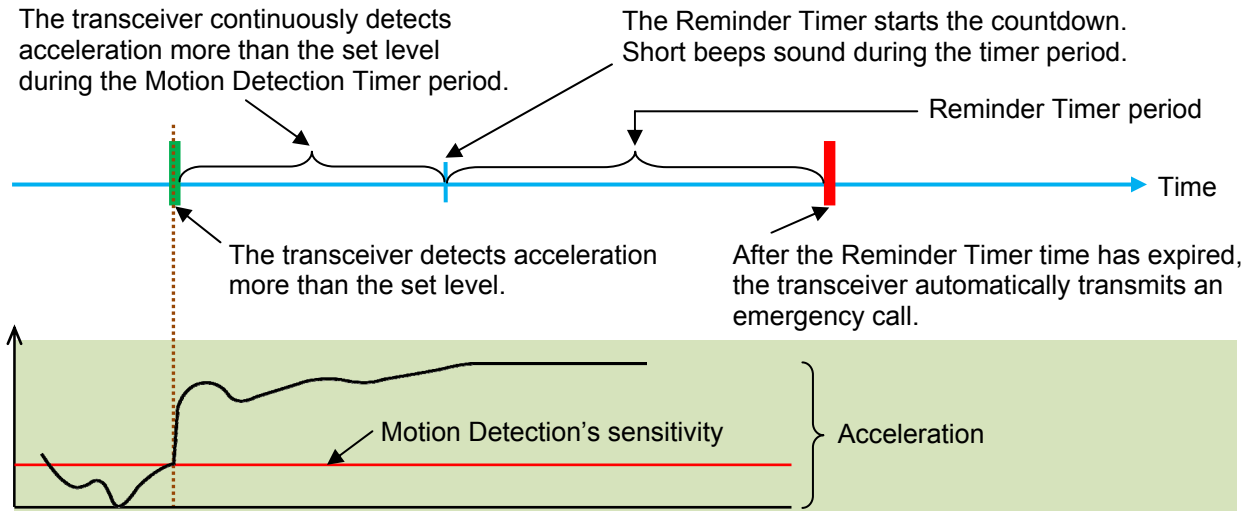


Figure 3-1. Emergency call process with the Motion Detection

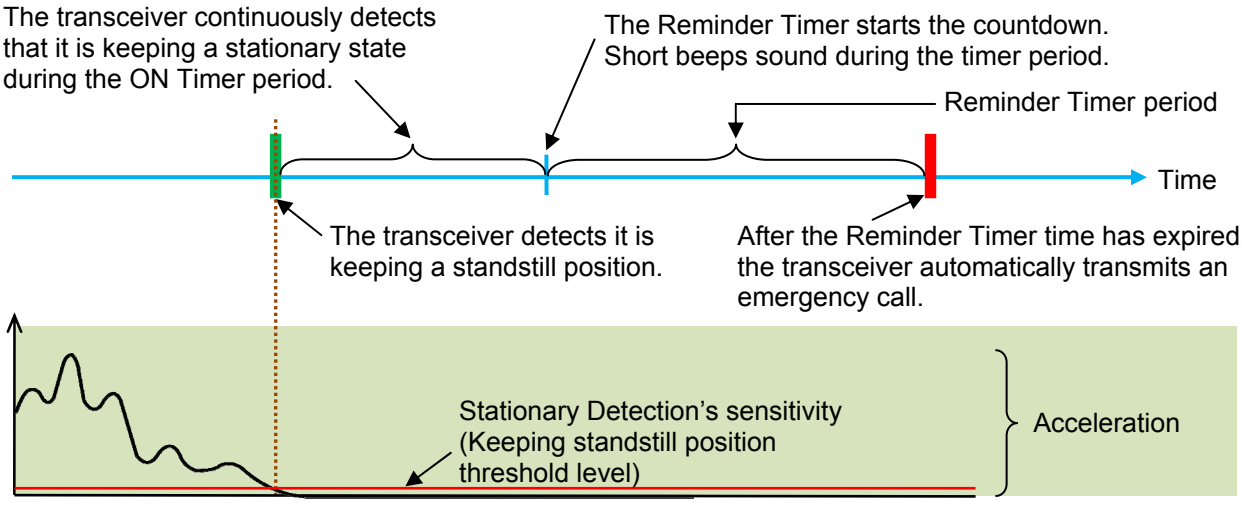


Figure 3-2. Emergency call process with the Stationary Detection

- **OAA (Over-the Air Alias) function**
  Even if the IC-F1100D/IC-F2100D series transceivers receive a call in which caller's name is not programmed into the Call List, this function can automatically display and program the caller's name into the appropriate ID (The OAA function and settings are also required on the caller transceivers). If the caller's name that is set in the transceiver is changed, the receiving transceiver automatically overwrites the ID name.

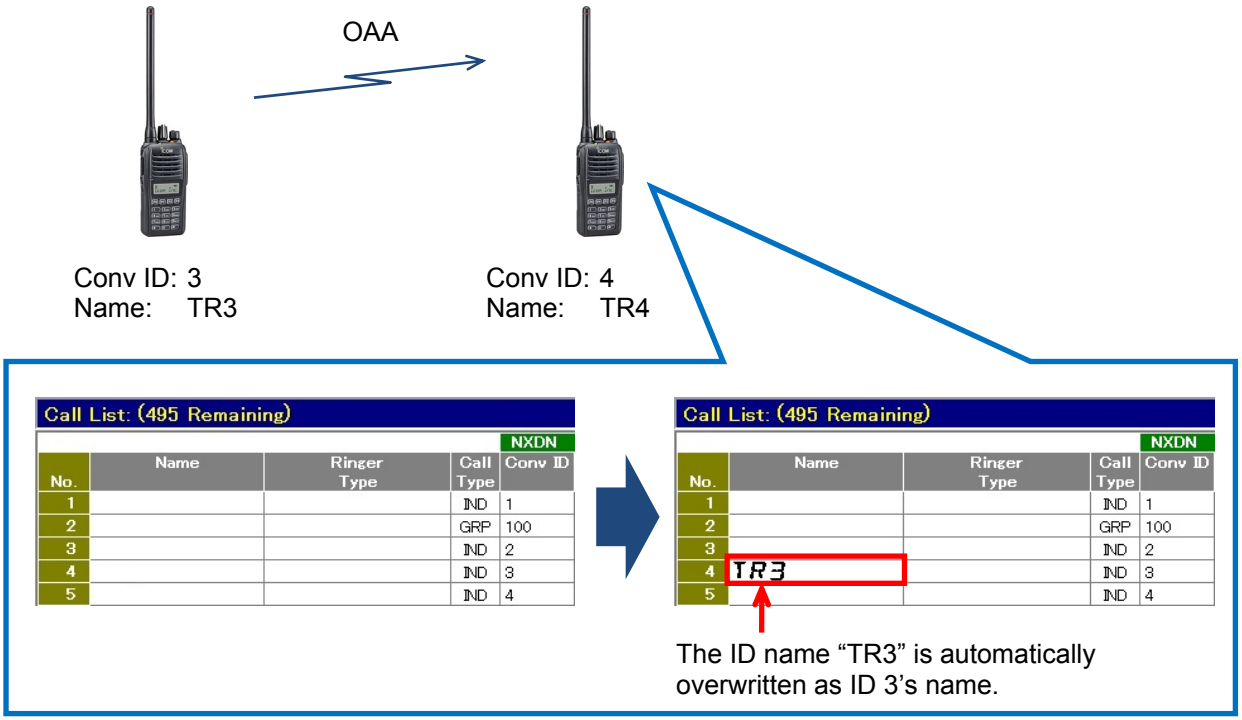


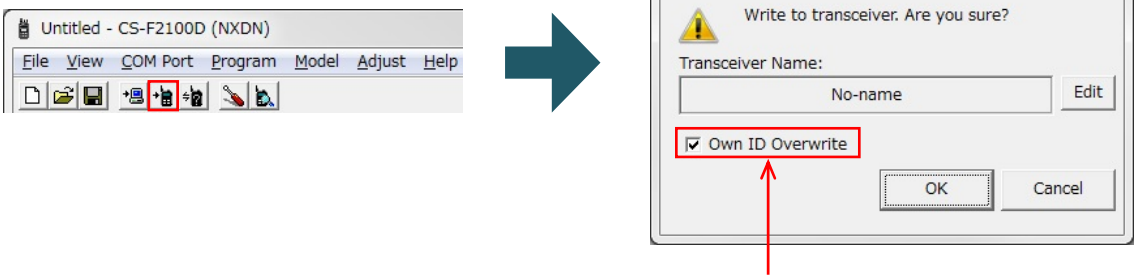
Figure 3-3. OAA example

- **AQUAQUAKE™ function**
  The IC-F1100D/IC-F2100D series transceivers have the AQUAQUAKE™ function that is already used in the Icom marine transceivers. The function can forcibly drain the water that comes in through the speaker grill. Therefore, you can hear the clear received voice, even in heavy rain.

- **Compatible with NXDN™ CAI v1.3**
  The IC-F1100D/IC-F2100D series transceivers' Stationary Detection, Motion Detection, Lone Worker, and Low Level Encryption are compatible with the NXDN™ CAI v1.3. In the NXDN™ CAI v1.3, the following status information was added as the cause of the Emergency call: Stationary Detection, Motion Detection, Lone Worker, and Man Down. The transceiver can identify the cause of an Emergency Call, such as Stationary Detection, Motion Detection, Lone Worker, or Man Down.

- **High power transmitting is available, even in a low battery situation**
  The IC-F1000D/IC-F2000D series transceivers and IC-F3100D/IC-F4100D series transceivers automatically select "Low1" power when the battery power is nearly exhausted. However, IC-F1100D/IC-F2100D series transceiver can be programmed to keep the output power setting, even if the battery power is nearly exhausted.

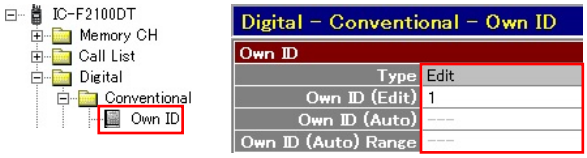
- **Writable the setting data without overwriting the Own ID**
  You can select whether or not to overwrite the Own ID setting when you write the setting data to the transceiver using the CS-F2100D programming software. This enables updating the transceiver settings without overwriting the Own ID setting. This is a convenient feature when updating two or more transceivers' settings at one time.



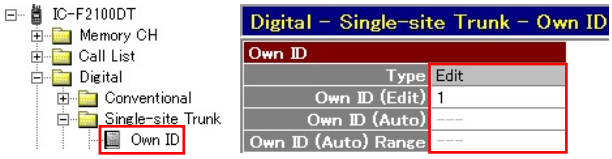
If "Own ID Overwrite" is checked, the Own ID is overwritten.
- The default setting: Checked
- This programming software will save the Own ID Overwrite's check condition.

When the "Own ID Overwrite" is checked, the following Own ID settings are overwritten.

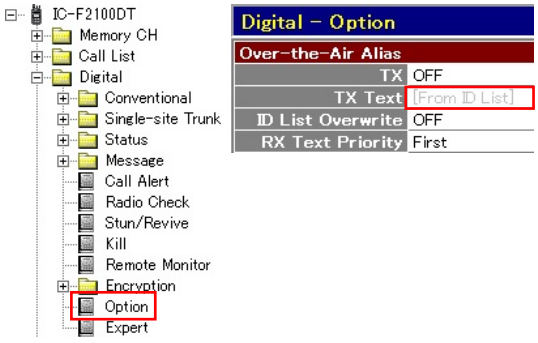
- Type、Own ID (Edit), Own ID (Auto), and Own ID (Auto) Range in Conventional.



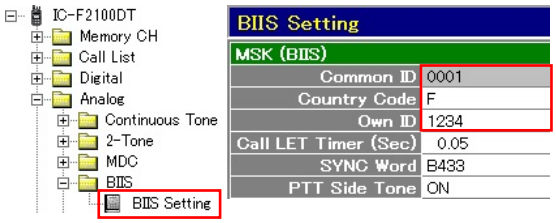
- Type、Own ID (Edit), Own ID (Auto), and Own ID (Auto) Range in Single-site Trunk.



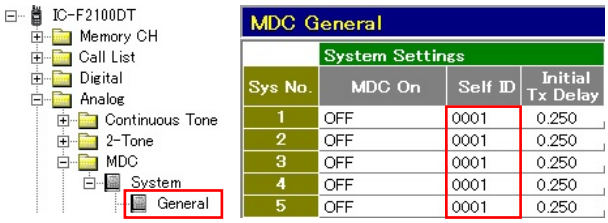
- TX Text in Over-the-Air Alias.



- Common ID, Country Code, and Own ID in BIIS.



- Self ID in MDC.



SECTION 4 COMPARISON WITH EXISTING MODELS

4-1 NXDN™ FUNCTION COMPARISON BETWEEN THE IC-F1100DT/IC-F2100DT AND EXISTING MODELS

Functions \ Models	IC-F1100DT IC-F2100DT SERIES	IC-F1000D IC-F2000D SERIES	IC-F52D IC-F62D SERIES	IC-F3400D IC-F4400D SERIES	IC-F3261D IC-F4261D SERIES	IC-F3230D IC-F4230D SERIES
PTT ID	YES	TX only	YES	YES	YES	YES
Individual List	YES (Total 500ID)	YES (Max. 500ID)	YES (Total 500ID)	YES (Total 1000ID)	YES (Max. 500ID)	YES (Max. 500ID)
Talkgroup List		YES (Max. 500ID)			YES (Max. 500ID)	YES (Max. 500ID)
RX Group	YES	YES	YES	YES	—	—
Call Log	YES	—	YES	YES	YES	YES
Block Decode	YES	YES	YES	YES	YES	YES
RAN code	YES	YES	YES	YES	YES	YES
Status message	YES	YES*4	YES	YES	YES	YES
SDM (Short Data Message)	YES	—*4	YES	YES	YES	YES
Call Alert	YES	YES	YES	YES	YES	YES
Radio Check	RX only	RX only	YES	YES	YES	RX only
Stun/Revive/Kill	RX only	RX only	YES	YES	YES	RX only
Remote Monitor	RX only	RX only	YES	YES	YES	RX only
Digital voice scrambler	YES	YES	YES	YES	YES	YES
OAA (Over-the-Air Alias)	YES	—	YES	YES	—	—
OTAP (Over-The-Air-Programming)	—	—	Optional	Optional	—	—
OTAR (Over-The-Air-Rekeying)	—	—	—	Optional	—	—
DES (4 or less keys)	—	—	—	YES	—	—
DES (5 or more keys)	—	—	—	YES*2	—	—
AES	—	—	—	YES*3	—	—
GPS unit	Optional HM-171GPW	Optional HM-171GPW	Optional HM-233GP	Built-in	Built-in*1	—
GPS position data TX/RX	TX/RX	TX only	TX/RX	TX/RX	TX/RX	RX only

*1Depending on versions. *2Optional UT-134 is required. *3Optional UT-134 and ISL-AKAES are required.
*4Beeps sound and the LED indicator blinks when the transceiver receives the SDM or Status message.
TX: Transmit, RX: Receive

4-1 NXDN™ FUNCTION COMPARISON BETWEEN THE IC-F1100DT/IC-F2100DT AND EXISTING MODELS (Continued)

Models / Functions	IC-F1100DT IC-F2100DT SERIES	IC-F1000D IC-F2000D SERIES	IC-F52D IC-F62D SERIES	IC-F3400D IC-F4400D SERIES	IC-F3261D IC-F4261D SERIES	IC-F3230D IC-F4230D SERIES
NXDN™ Type-D Single-site trunking	YES	YES	YES	YES	YES	YES
NXDN™ Type-D Multi-site trunking	—	—	YES*5	YES*5	YES	YES
		EMERGENCY FUNCTIONS				
Emergency key	YES	YES	YES	YES	YES	YES
Man Down	YES	YES	YES	YES	YES*1	—
Lone Worker	YES	YES	YES	YES	YES	YES
Stationary Detection	YES	—	YES	YES	—	—
Motion Detection	YES	YES	YES	YES	—	—

*1Depending on versions. *5Optional ISL-UGMTR is required.
TX: Transmit, RX: Receive

4-2 FUNCTION COMPARISON BETWEEN THE IC-F1100DT/IC-F2100DT AND IC-F1000D/IC-F2100D

FUNCTION	IC-F1100DT/F2100DT SERIES	IC-F1000D/F2000D SERIES
OPERATABLE MODE		
Single-site conventional	YES	YES
Multi-site conventional	YES	YES
NXDN™ Type-D Single-site trunking	YES	YES
6.25 kHz Digital mode	YES	YES
12.5 kHz Analog mode	YES	YES
20.0 kHz Analog mode	YES (Depending on version)	YES (Depending on version)
25.0 kHz Analog mode	YES (Depending on version)	YES (Depending on version)
Analog/Digital mix mode	YES	YES
VOICE FUNCTIONS		
Voice announcement	YES	YES
VOX function	YES	YES
EMERGENCY FUNCTIONS		
Emergency key	YES	YES
Lone Worker	YES	YES
Man Down	YES	YES
Motion Detection	YES	YES
Stationary Detection	YES	None
DIGITAL FUNCTIONS		
Radio Check	YES (RX only)	YES (RX only)
Stun/Kill/Revive	YES (RX only)	YES (RX only)
Remote Monitor	YES (RX only)	YES (RX only)
Call Alert	YES	YES
SDM (Short data message)	YES	None*
Status	YES	YES*
Digital voice scrambler	YES	YES
OAA (Over-the-Air Alias)	YES	None
ANALOG FUNCTIONS		
CTCSS	YES	YES
DTCS	YES	YES
2-Tone	YES	YES
5-Tone	YES (10 digits tone is usable)	YES
DTMF	YES	YES
MDC1200	YES	YES
BIIS	YES	YES
OTHER FUNCTIONS		
AquaQuake™	YES	None

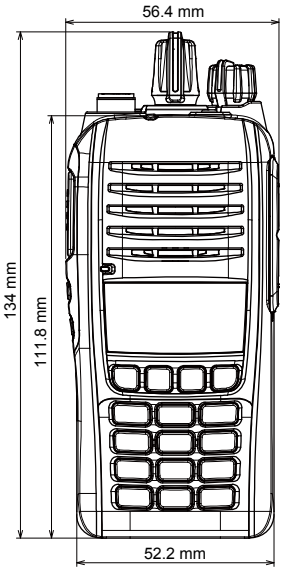
*Beeps sound and the LED indicator blinks when the transceiver receives the SDM or Status message.

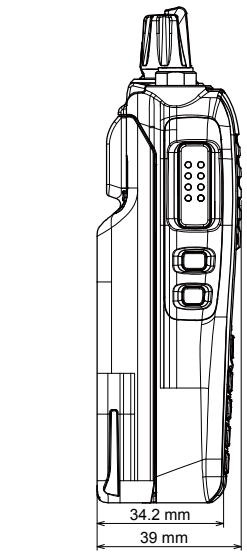
SECTION 5 COMPARISON WITH OTHER MANUFACTURE'S PRODUCTS

5-1 DIMENSION COMPARISON BETWEEN THE IC-F1100D/IC-F2100D (NXDN™) AND OTHER MANUFACTURE'S PRODUCTS

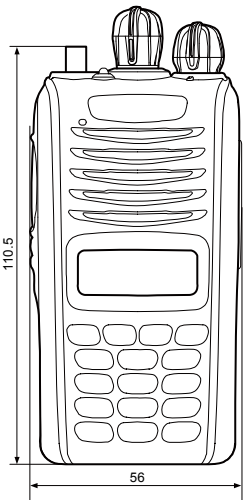
The dimension comparisons between the IC-F1100D/IC-F2100D, NX-220, PD68X, and XPR3500 are as shown below.

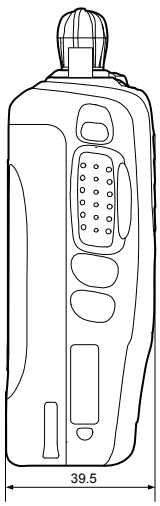
IC-F1100DT/IC-F2100DT



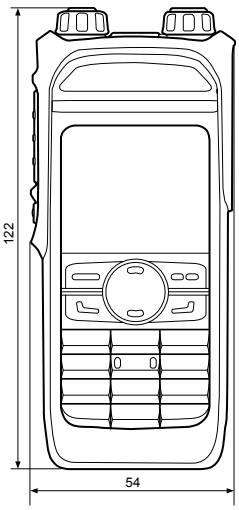


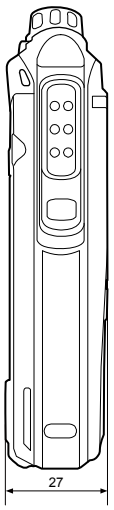
NX-220



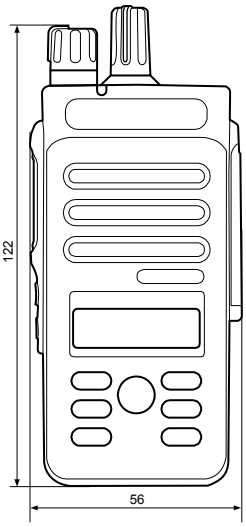


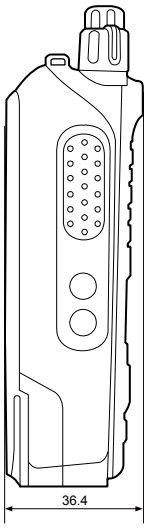
PD68X





XPR3500





5-2 FUNCTION COMPARISON BETWEEN THE IC-F1100D/IC-F2100D (NXDN™) AND OTHER MANUFACTURE's PRODUCTS

FUNCTION	IC-F1100DT IC-F2100DT	NX-220	PD68X	XPR3500
CALL TYPE				
Group Call	YES	YES	YES	YES
Individual Call	YES	YES	YES	YES
All Call	YES	YES	YES	YES
VOICE FUNCTIONS				
Voice announcement	YES	YES	YES	YES
DIGITAL FUNCTIONS				
Lone worker function	YES	YES	YES	YES
Man down function	YES	YES	Optional	None
Motion detection function	YES	Optional	Unclear	None
Radio check	YES (RX only)	YES	YES	YES
Stun/Kill/Revive	YES (RX only)	YES	YES	None
Remote monitor	YES (RX only)	None	YES	None
Call alert	YES	None	YES	YES
Emergency	YES	YES	YES	YES
Short data message (SDM)	YES	YES	YES	YES
Status message	YES	YES	Unclear	Unclear
Digital voice scrambler	YES	YES	YES	Unclear
OAA (Over-the-Air Alias)	YES	YES	Unclear	Unclear
6.25 kHz Digital mode operation	YES	YES	None	None
OTHER FUNCTIONS				
GPS receiver	Optional	Optional	Optional	None

5-3 SPECIFICATION COMPARISON BETWEEN THE IC-F1100D (NXDN™) AND OTHER MANUFACTURE'S PRODUCTS

Model name		IC-F1100D	NX-220	PD68X	XPR3500
GENERAL					
Number of conventional channels		128 ch/ 8 zones	260 ch/ 128 zones	1,024 ch/ 64 zones	128 ch
Power supply requirement		7.5 V DC	7.5 V DC	7.4 V DC	7.5 V DC
Operating temperature range		–30 °C ~ +60 °C; –22 °F ~ +140 °F	–30 °C ~ +60 °C; –22 °F ~ +140 °F	–30 °C ~ +60 °C; –22 °F ~ +140 °F	–30 °C ~ +60 °C; –22 °F ~ +140 °F
Weight (approximately)		277 g; 9.8 oz (with MB-133 and BP-280)	330 g; 11.64 oz (with KNB-57L)	310 g; 10.9 oz (with battery)	285 g; 10.0 oz (with IMPRES SLIM Li-Ion)
TRANSMITTER					
Output power (at 7.5 V DC)		5 W	5 W	4 W	5 W
Adjacent channel power		70 dB typical @ 12.5 kHz 74 dB typical @ 25 kHz	Unclear	60 dB @ 12.5 kHz 70 dB @ 25 kHz	60 dB @ 12.5 kHz 70 dB @ 25 kHz
Audio harmonic distortion		1% typical	Less than 3%	3%	3%
RECEIVER					
Sensitivity	**Analog (12 dB SINAD)**	0.24 µV typical	0.25 µV	0.22 µV	0.22 µV typical
	Digital	–9.0 dBµV (EMF) typical @ 5% BER	• 0.2 µV (EMF) @ 3% BER (6.25 kHz) • 0.25 µV (EMF) @ 3% BER (12.5 kHz)	0.22 µV (EMF) @ 5% BER	0.19 µV (EMF) typical @ 5% BER
Audio power output (Internal speaker)		1.5 W typical @ 5% distortion into 8 Ω	0.5 W @ 3% distortion into 8 Ω	0.5 W typical @ 3% distortion	0.5 W @ 3% distortion
Adjacent channel selectivity		67 dB typical @ 12.5 kHz 77 dB typical @ 25 kHz	67 dB @ 12.5 kHz 73 dB @ 25 kHz	60 dB @ 12.5 kHz 70 dB @ 25 kHz	60 dB @ 12.5 kHz 70 dB @ 25 kHz
Intermodulation		75 dB typical @ 12.5 kHz 76 dB typical @ 25 kHz	70 dB	70 dB @ 12.5/25 kHz	70 dB
Spurious response rejection		80 dB typical	70 dB	70 dB @ 12.5/25 kHz	70 dB

5-4 SPECIFICATION COMPARISON BETWEEN THE IC-F2100D (NXDN™) AND OTHER MANUFACTURE'S PRODUCTS

Model name		IC-F2100D	NX-320	PD68X	XPR3500
GENERAL					
Number of conventional channels		128 ch/ 8 zones	260 ch/ 128 zones	1,024 ch/ 64 zones	128 ch
Power supply requirement		7.5 V DC	7.5 V DC	7.4 V DC	7.5 V DC
Operating temperature range		–30 °C ~ +60 °C; –22 °F ~ +140 °F	–30 °C ~ +60 °C; –22 °F ~ +140 °F	–30 °C ~ +60 °C; –22 °F ~ +140 °F	–30 °C ~ +60 °C; –22 °F ~ +140 °F
Weight (approximately)		277 g; 9.8 oz (with MB-133 and BP-280)	330 g; 11.64 oz (with KNB-57L)	310 g; 10.9 oz (with battery)	285 g; 10.0 oz (with IMPRES SLIM Li-Ion)
TRANSMITTER					
Output power (at 7.5 V DC)		4 W	5 W	4 W	4 W
Adjacent channel power		68 dB typical @ 12.5 kHz 74 dB typical @ 25 kHz	Unclear	60 dB @ 12.5 kHz 70 dB @ 25 kHz	60 dB @ 12.5 kHz 70 dB @ 25 kHz
Audio harmonic distortion		1% typical	Less than 3%	3%	3%
RECEIVER					
Sensitivity	**Analog (12 dB SINAD)**	0.24 µV typical	0.25 µV	0.22 µV	0.22 µV typical
	Digital	–8.0 dBµV (EMF) typical @ 5% BER	• 0.2 µV (EMF) @ 3% BER (6.25 kHz) • 0.25 µV (EMF) @ 3% BER (12.5 kHz)	0.22 µV (EMF) @ 5% BER	0.19 µV (EMF) typical @ 5% BER
Audio power output (Internal speaker)		1.5 W typical @ 5% distortion into 8 Ω	0.5 W @ 3% distortion into 8 Ω	0.5 W typical @ 3% distortion	0.5 W @ 3% distortion
Adjacent channel selectivity		69 dB typical @ 12.5 kHz 76 dB typical @ 25 kHz	65 dB @ 12.5 kHz 72 dB @ 25 kHz	60 dB @ 12.5 kHz 70 dB @ 25 kHz	60 dB @ 12.5 kHz 70 dB @ 25 kHz
Intermodulation		77 dB typical @ 12.5/25 kHz	70 dB	70 dB @ 12.5/25 kHz	70 dB
Spurious response rejection		80 dB typical	70 dB	70 dB @ 12.5/25 kHz	70 dB

SECTION 6 ACCESSORIES

Current optional accessories available for the IC-F1100D/IC-F2100D series transceivers are shown below. (Some accessories may not be available in some countries.)

BATTERY CHARGERS

- **BC-213** Desktop Charger
  + **BC-123SA/SE/SUK*** AC Adapter

BC-123SA/SE/SUK

BC-213

- **BC-214** (#01, #02, #03) Multi-charger
  + **BC-157S** AC Adapter

BC-214

BC-157S

- **MB-130** Charger bracket for use with the BC-213

- **AD-130** Charger adapter for BC-214 (repair part)

- **CP-23L** Cigarette Lighter Cable for BC-213

- **OPC-656** DC Power Cable for BC-214

*The AC adapter design may be different, depending on version.

BATTERY PACKS

- **BP-278** Li-ion battery pack
  7.2 V/1190 mAh typical (1130 mAh minimum)
  Meet IP67 waterproof/dustproof

- **BP-279** Li-ion battery pack
  7.2 V/1570 mAh typical (1485 mAh minimum)
  Meet IP67 waterproof/dustproof

- **BP-280** Li-ion battery pack
  7.2 V/2400 mAh typical (2280 mAh minimum)
  Meet IP67 waterproof/dustproof

BP-278 BP-279 BP-280

BELT CLIP AND PROGRAMMING SOFTWARE

- **MB-133** Alligator belt clip
  Same as that supplied

- **CS-F2100D** Programming software
  Including adjustment software

- **OPC-478UC** USB type radio programming cable

ANTENNAS

For VHF

- **FA-SC25V** 136~150 MHz
- **FA-SC55V** 150~174 MHz
- **FA-SC28V** 148~162 MHz
- **FA-SC29V** 160~174 MHz
- **FA-SC61VC** 136~174 MHz Cut-type
- **FA-SC26VS** 136~144 MHz Stubby
- **FA-SC27VS** 142~150 MHz Stubby
- **FA-SC56VS** 150~162 MHz Stubby
- **FA-SC57VS** 160~174 MHz Stubby

For UHF

- **FA-SC25U** 400~430 MHz
- **FA-SC57U** 430~470 MHz
- **FA-SC61UC** 380~520 MHz Cut-type
- **FA-SC26US** 400~450 MHz Stubby
- **FA-SC73US** 450~490 MHz Stubby
- **FA-SC01U** 350~400 MHz
- **FA-SC02U** 330~380 MHz

PTT SWITCH + HEADSETS, SPEAKER-MICROPHONES, AND EARPHONE-MICROPHONES

- **VS-4LA** PTT Switch cable for manual PTT operation (For use with either the HS-94, HS-95, or HS-97)

- **OPC-2004LA** Plug adapter cable for VOX operation (For Use with either the HS-94, HS-95, or HS-97)

- **HS-94** HEADSET Earhook type with boom Microphone (Use with either the VS-4LA or OPC-2004LA)

- **HS-95** HEADSET Behind the head type (Use with either the VS-4LA or OPC-2004LA)

- **HS-97** HEADSET Throat Microphone type (Use with either the VS-4LA or OPC-2004LA)

- **HS-94LWP** HEADSET Earhook type with boom Microphone (With a waterproof connector)

- **HS-95LWP** HEADSET Behind the head type (With a waterproof connector)

- **HM-171GPW** GPS speaker microphone with a waterproof connector (IP67 protection)

- **HM-168LWP** Waterproof speaker microphone with a waterproof connector (IP67 protection)

- **HM-159LA** Speaker microphone with a 3.5 mm earphone jack

- **HM-158LA** Compact speaker microphone with a 3.5 mm earphone jack

- **HM-153LA** Durable lapel microphone with earphone

- **HM-166LA** Light weight lapel microphone with earphone

The revision record

Version	Date	The revised content
Version 1.0	July, 2017	1st issued.
Version 1.1	October, 2018	• Added UK-01 and EXP-02 versions to the IC-F2100D. • Revised “1-2 SPECIFICATIONS” of SECTION 1. • Added “SECTION 5 COMPARISON WITH OTHER MANUFACTURE’S PRODUCTS.” • Changed section number of “ACCESSORIES,” from SECTION 5 to SECTION 6. • Revised ANTENNAS in SECTION 6.

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