

Optional Accessories

BT-13  
Battery Case



PB-42L  
Li-ion Battery Pack



SMC-32  
Speaker Microphone



SMC-33  
Speaker Microphone  
with Remote Control



SMC-34  
Speaker Microphone  
with Volume & Remote  
Control



HMC-3  
Headset with VOX & PTT



KHS-21  
Headset without VOX & PTT



EMC-3  
Clip Microphone  
with Earphone & PTT



PG-3J  
Cigar Lighter Cord  
with Noise Filter



PG-2W  
DC Cable



Specifications

TH-F7E			
GENERAL			
Frequency Range			
Main A-band (TX/RX)	144MHz: 144 ~ 146MHz 430MHz: 430 ~ 440MHz		
Main A-band guaranteed range (TX or RX)	144MHz: 144 ~ 146MHz 430MHz: 430 ~ 440MHz		
Sub B-band	RX: 0.1 ~ 1300MHz		
Modulation			
Main A-band	F3E (FM), F1D (FSK), F2D		
Sub B-band (reception)	F2D, F3E (FM), A1A (CW), A3A (AM), J3E (SSB)		
Antenna Impedance	50Ω		
Current Voltage Range			
Battery terminal	DC 5.5 V ~ 7.5V (standard voltage: DC 7.4V)		
External battery terminal	DC 12.0V ~ 16.0V (standard voltage: DC 13.8V)		
Power Consumption (approximate figures)			
Transmission (single band)	144MHz	430MHz	
HI: DC 13.8V (DC-IN terminal)	1.8A	2.0A	
HI: DC 7.4V (battery terminal)	2.0A	2.0A	
LOW: DC 7.4V (battery terminal)	0.8A	0.8A	
EL: DC 7.4V (battery terminal)	0.5A	0.5A	
Reception			
Standby (single band)	100mA	100mA	
Average battery save (single band)	30mA	30mA	
Simultaneous reception			
Standby (dual-band)	170mA	170mA	
Average battery save (dual-band)	35mA	35mA	
Dimensions (W x H x D, mm) / Net Weight (g)			
With PB-42L Li-ion Battery Pack including projections	58 x 87 x 30 61 x 104 x 35 / 250		
With BT-13 Battery Case including projections	58 x 87 x 38 61 x 104 x 38 / 280		
Operating Temperature Range			
With supplied Li-ion Battery	-20 ~ +60° C -10 ~ +50° C		
RECEIVER			
Circuitry			
	Double super heterodyne (except for W-FM) Single conversion (W-FM)		
Intermediate Frequency	A band	B band: FM/AM/SSB	B band: W-FM
1 <sup>st</sup> IF	59.85MHz	57.60MHz	10.8MHz
2 <sup>nd</sup> IF	450kHz	450kHz	
Sensitivity			
Main A band: 144/430MHz (FM 12dB SINAD)	Less than 0.18 μV		
Sub B band: AM (approximate)	7.08 μV(0.3 ~ 0.52MHz) 2.24 μV(0.52 ~ 1.8MHz) 0.89 μV(1.8 ~ 50MHz) 0.40 μV(118 ~ 250MHz) 0.40 μV(380 ~ 500MHz)		
Sub B band: FM (approximate)	0.40 μV(5 ~ 108MHz) 0.28 μV(118 ~ 144MHz) 0.22 μV(144 ~ 225MHz) 0.89 μV(225 ~ 250MHz) 0.40 μV(380 ~ 400MHz) 0.22 μV(400 ~ 450MHz) 0.40 μV(450 ~ 520MHz) 7.08 μV(520 ~ 700MHz) 1.26 μV(800 ~ 950MHz) 0.40 μV(950 ~ 1300MHz)		
Sub B band: W-FM (approximate)	3.16 μV(50 ~ 108MHz) 2.82 μV(150 ~ 222MHz) 3.98 μV(400 ~ 500MHz)		
Sub B band: SSB (approximate)	0.45 μV(3 ~ 30MHz) 0.40 μV(30 ~ 50MHz) 0.22 μV(144 ~ 148MHz) 0.22 μV(430 ~ 450MHz)		
Squelch			
	Less than 0.13 μV		
Selectivity			
-6dB	More than 12kHz		
-40dB	Less than 28kHz		
Low frequency output (at 8 ohms, 10% distortion)			
	More than 300mW at 7.4V		
TRANSMITTER			
RF Output Power* (Approximate)	144MHz	430MHz	
DC IN: HI / LOW / EL	5 <sup>+</sup> / 2 / 0.5W	~2 <sup>+</sup> / 2 / 0.5W	
Li-ion: HI / LOW / EL	5 / 0.5 / 0.05W	5 / 0.5 / 0.05W	
BT-13: HI / LOW / EL	0.5 / 0.3 / 0.05W	0.5 / 0.3 / 0.05W	
Modulation			
	Reactance modulation		
Maximum Frequency Deviation			
	FM: ±5kHz, N-FM: ±2.5kHz		
Spurious Radiation			
More than 1W/Less than 0.1~1W/ Less than 0.1W	Less than -60dB / -50dB / -40dB		
Frequency Stability			
	±5 ppm (-10 ~ 50° C), ±8 ppm (-20 ~ 60° C)		
Modulation Distortion			
	Less than 3% (300 ~ 3kHz)		
Microphone Impedance			
	2kΩ		

\*1 Figure not approximate  
\*2 RF output power in DC-IN mode: Factory preset is 5W but for safety reasons, when the receiver is using an external power source in the high-power 430MHz range mode, it will automatically switch to 0.5W (approx.) if temperature in the main unit increases. The time for automatic switchover will vary according to ambient temperature; however, it should normally take approximately two to five minutes in continuous operation. For continuous operation, it is highly recommended that LOW power (approx. 2W) be used.

Except for sensitivity, specifications are guaranteed for Amateur bands only.

Kenwood follows a policy of continuous advancement in development.  
For this reason specifications may be changed without notice.

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CE 0682

# KENWOOD

## TH-F7E

### 144/430MHz FM DUAL BANDER

Simultaneous 2 frequency RX,  
even on the same band

FM/FM-W/FM-N/AM plus  
SSB/CW receive

0.1 ~ 1300MHz  
high-frequency range RX  
(Sub B band)

7.4V 1550mAh  
lithium-ion battery for 5W  
output and extended operation

1200/9600bps packet  
function (ext. TNC)

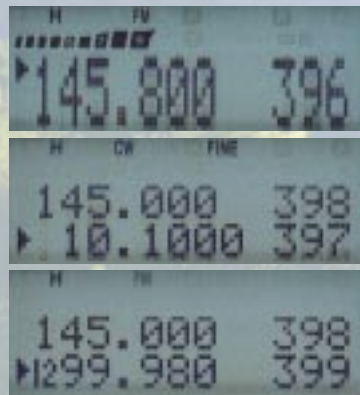




# Small is beautiful: Kenwood's super-compact FM dual bander with dual-channel RX!

## ■ Priority on operating ease

Simple operation is an essential component of this FM dual bander, and Kenwood engineers have ensured that it can be operated effortlessly with one hand. Your attention is drawn to the easy-to-read LCD — equipped with both contrast control and backlight — displaying essential frequency and memory information, intuitive menus, and multi-level battery status. In mono-band mode, the size of the frequency display is doubled for even greater visibility.



## ■ Multi-scroll key & 16-key pad

Operating ease is further enhanced with the multi-scroll key. Similar to the control found on some mobile phones, this can be rocked up & down, left & right with the thumb.



Vertical operation controls frequency, while horizontal movement controls band selection. There is also a 16-key pad with keys that are ergonomically spaced and illuminated for night-time use.

## ■ 434 memory channels, multiple scan functions

Other specifications are equally impressive: 434 memory channels, including 2 call channels and another 20 for programmable scan. Additionally, the convenient Memory Name function allows you to register a name (with up to eight characters) for each channel. A complete range of scan functions is also provided — including MHz, memory, call, tone, CTCSS, and DCS, plus a variety of Visual Scanning features. Group scan mode covers 8 groups of 50 channels each. And you can choose between time-operated (TO) and carrier-operated (CO) busy-stop-resume (SE).

## ■ Multi-band transceiver (Main band) + wideband receiver (Sub band)

As polished as the user interface may be, it's what is inside that counts. And the TH-F7E counts twice over: it's both a 2-band transceiver (Main A band) and a wideband 0.1–1300MHz receiver (Sub B band). In addition to FM/FM-W/FM-N/AM and SSB/CW, the receiver section offers a special information memory channel RX mode (10 channels), built-in ferrite bar antenna<sup>1</sup> for receiving AM broadcasts, and Fine mode — with selectable increment (33/100/500/1000Hz<sup>2</sup>) — for extra-accurate SSB tuning. What's more, this handheld transceiver can receive 2 frequencies simultaneously, even on the same band. Versatility is first rate.

<sup>1</sup> Switchable with external antenna. <sup>2</sup> Increment figures are approximate.



Internal ferrite bar antenna

## ■ Tough construction

The smaller a transceiver, the farther it is likely to travel. Fortunately, the TH-F7E is built to take rough treatment in stride, satisfying the stringent MIL-STD 810 C/D/E standards for resistance to vibration, shock, humidity and light rain.



Nestled in the palm of your hand, Kenwood's new TH-F7E is incredibly small — just 58 x 88 x 29 mm (WxHxD). How could so much be packed into such a super-compact design? Impossible! But it's true. This little wonder is an FM dual bander (144/430MHz) with dual-channel RX capability, 16-key pad, multi-scroll key, and no fewer than 434 memory channels. Other attractive features include a built-in ferrite bar antenna for AM broadcasts, LCD with backlight, and a lithium-ion battery. Small enough to slip into a pocket, the TH-F7E allows you to roam freely while enjoying the clear, reliable communications for which Kenwood is renowned. And despite its smart looks, it's tough enough to meet MIL-STD criteria for withstanding the rigors of outdoor use, while delivering superb performance.

## ■ Lithium-ion battery

Equipped as standard is a powerful 7.4V 1550mAh lithium-ion battery, offering high output with selectable HI/LOW/EL settings. Remaining lithium-ion battery capacity can be easily checked on the LCD display as it is clearly shown in 4-step increments. And as the charging circuitry is built-in, the battery can be charged while the TH-F7E is operating from a DC (13.8V) supply.

Operation time: duty cycle @ 6-6-48		(hours)	
		144MHz	430MHz
Supplied Li-ion battery	HI	6.5	6
	LOW	12	11.5
	EL	16	14.5
Optional alkaline batteries with BT-13 battery case	HI	5	5
	LOW	6	6
	EL	8	8

Approximate figures

- Compatible with external 1200/9600bps TNC
- Selectable squelch configuration
- Memory shift
- Key lock
- Built-in CTCSS (42 subtone frequencies), DCS (104 codes), 1750Hz tone burst
- Large frequency display for single-band use
- Time-out timer & APO (OFF/30/60 min)
- Automatic simplex checker
- ATT (attenuator) on/off
- Internal VOX
- MCP Software (Free download from Kenwood website)

## Supplied accessories

- Belt hook
- Whip antenna
- Hand strap
- 7.4V 1550mAh lithium-ion battery
- AC adapter

## Wideband reception: Cautions regarding use

- The sub band is used for wideband reception. This unit offers more basic performance than a dedicated receiver. In an area of very strong signals, it may be advisable to switch the attenuator on for certain frequency range. Remember that the performance of antenna determines reception quality. You will enjoy better reception, therefore, if you devise an antenna that is tailored for your target frequency range.
- The SSB/CW filters offer basic performance, so in some cases you may experience interference.
- In addition to dual watch, this product is designed for wideband reception. Consequently, multiple beats (cross and internal) are generated from the frequency structure. Those frequencies effectively blocked by the major crossbeat signals can be calculated using the formula given in the user manual.\* Note that it may be possible to move an internal beat away from the target signal using the beat shift function.
- When operating this product from an external power source, if the latter's voltage rises above 14.5V, transceiver output will be automatically switched to 2W.

\*Formula and more details on wideband reception cautions are available on our website: [www.kenwoodcorp.com/it/products/info/amateur.html](http://www.kenwoodcorp.com/it/products/info/amateur.html)



Actual size