

# The Yaesu FTM-300DE

## 144/430MHz dual-band C4FM/FM transceiver

**I already have two Yaesu radios and was interested to see what this new transceiver would bring to my station.**

Because we have a Fusion equipped repeater (soon to be two) here in Pembrokeshire, I use a Fusion equipped mobile in the car (FTM-7250) and in the shack (FTM-400XDE) and find them both enjoyable and useful rigs to use. Like many, I suspect, I was intrigued when the FTM-300 was announced and wondered how it would fit into the line up of the existing radios.

First of all, let's have a quick look to see what some of the Yaesu blurb has to say:

*The new FTM-300DR/E provides stable and reliable 50W RF power output. As in recent YAESU mobile transceivers, the FTM-300DR/E is also equipped with a heavy-duty heat sink that includes our exclusive FACC (Funnel Air-Convection Conductor – Wind Tunnel).*

*Real Dual Band Operation (V+V, U+U, V+U, U+V) is available with two independent receivers, and the FTM300DR/E supports simultaneous C4FM digital monitoring for both the A and B bands.*

*2-inch High-Resolution QVGA Full-Colour TFT Display clearly highlights the frequency and operation bands.*

*With the Band Scope Function, users can monitor up to 63 channels centred around the current VFO frequency in real time. (21 channels in memory channel mode)*

*Memory Channel Band Auto Grouping (MBAG) is one of the advanced features of the FTM-300DR/E. Memory channels are automatically categorized in each band, and memory channels can be easily and quickly recalled by 4 Band Groups – Airband(M-AIR), VHF(M-VHF), UHF(M-UHF) and 174-400/ 480-999.99MHz (M-GEN).*

*3W audio power speaker ensures a clear and crisp audio – that has been specifically tuned for quality audio. Two individual external speaker jacks are provided. Users can output the VFO A and B band Receiver to separate speakers or mix A and B signals when a single external speaker is used.*



The Yaesu FTM300 has a main unit and a head unit for easy mounting in a vehicle.

*Built-in Bluetooth unit is installed in the FTM-300DR/E. This enables the hands-free operation with the YAESU SSM-BT10 or a commercially available product. The SSM-BT10 is equipped with a PTT button and also supports VOX operation. Using the new USB charger cable – SCU-41 with the controller of the FTM-300DR/E, the SSM-BT10 can be easily charged. The SSM-BT10 works for approximately 20 hours on single charge.*

*The FTM-300DR/E supports both the WiRES-X Portable Digital Node function and Fixed Node function with the HRI-200. Since simultaneous C4FM monitoring on both VFO A and VFO B is possible, users can enjoy both WiRES-X communications on one channel while monitoring another local channel at the same time.*

*Other advanced features of the new FTM-300DR/E include; DG-ID (Digital ID); Group Monitor; positional awareness from the built-in 66ch High Sensitivity GPS receiver enabling Real Time Navigation; Backtrack feature; a GPS Terminal for an external GPS receiver; 1200/ 9600 ARRS data modem for APRS mode; Voice Recording of both Received and Transmitted audio; save and load data including configuration and*

*memory channel information to a micro SD card; Snapshot function using the optional MH-85A11U camera microphone.*

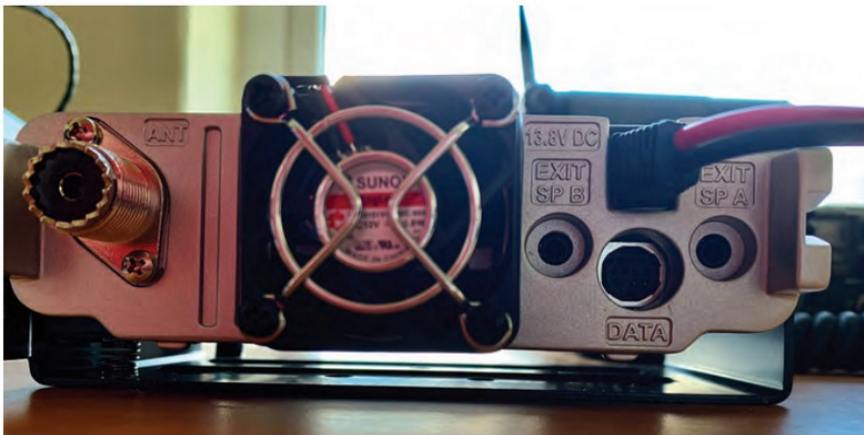
### First impressions

The main unit feels of good solid construction. The head unit though, felt a bit less substantial. There's absolutely nothing wrong with it, but it does feel a bit less robust than the head unit on the old FTM-400, it is a bit smaller too. You can cut that both ways – it's great news if you are planning to fit it into a car. Or, it's a bit smaller for fat fingers! The colour display is pleasant to look at and easy to read.

Of course, I was keen to try the FTM-300 out, so I moved the shack FTM-400 aside and connected up it up. There's a supplied cable between the head and main unit. In fact, there's two. A short one, if you want to mount the head unit directly onto the main unit and a long one (3m) if you want to mount the head unit away from the main unit. By the way, if you do mount the head unit directly onto the main unit, you can't then access the main microphone connector. If you are going to use the Bluetooth headset



It was fairly easy to set up the APRS function and there's a full APRS manual you can download.



The rear of the FTM300.

that's no problem and there's also a data connector on the side of the head unit where you can attach, for example, the Yaesu Camera Snapshot microphone, enabling (low resolution) images to be sent whilst the rig is in C4FM data mode.

I wanted to use the supplied microphone, so kept the short cable between the head and main units so that I could plug the microphone into the main unit.

The FTM-300DR claims a feature called E2O-II (Easy to Operate-II) so I was interested to see whether I needed to resort to the manual to get on the air. Well, actually I *did* get the book out – on switch on, you need to set the callsign that will be used on Fusion. Although it wasn't at all difficult, I did quickly check how to enter my callsign and set it.

### On the air

I was pleased to find though, that I could work out how to set the repeater shift and CTCSS tone without too much difficulty. I

was then able to set up some of my local and not-so-local repeaters. E17MLR, some 80 plus miles away came up on first call on 70cm. Power levels on the FTM-300 on both bands are 50W/25W/5W. I'm always sorry if there is no 10W level for a Foundation licensee to use.

Taking advantage of the dual receivers, with one side of the radio on E17MLR, I placed the other receiver on 144.800MHz (APRS) and switched the APRS packet modem on. The GPS receiver quickly locked onto the satellites (the radio's control head was close to the shack window), thus determining my position and enabling the APRS display to show distance and bearing to stations that were received. It was faintly disconcerting to have the APRS display updating (and beeping) whilst I was transmitting on E17MLR. I found that I could switch off the beep produced on an incoming APRS beacon. Although I found it fairly easy to setup the APRS functionality, it's worth mentioning that APRS is only quickly mentioned in the Operating Manual supplied

with the rig, but there's a full APRS manual that you can download from the Yaesu website that is full of information if you want to get the best out of the APRS features.

While I was over on the GB3SP repeater trying out the C4FM capability, Peter, GW4VRO asked me if the FTM-300 can receive C4FM on both Bands A and B. The answer is yes and I was able to try that out. However, what the rig will not do is to receive two C4FM signals on Bands A and B simultaneously (which contradicts the Yaesu blurb, but not the manual). Another enjoyable QSO during the review period was with Endaf, N6UTC (MW1BQO) on his morning commute in Los Angeles – digital voice is really very good for this sort of thing.

It's worth mentioning that the C4FM digital mode works surprisingly well mobile. I'm quite often surprised to find that although FM signals are scratchy and weak, C4FM in the same place can be much more readable. If you've used the C4FM digital mode before then there are no surprises with the FTM-300 and everything seemed to work as it should.

Transmitted audio quality reports on both FM and C4FM were good. I had to remember, though, to keep the microphone further away from my mouth on C4FM than on FM, otherwise the audio became rather 'breathy'. On receive, received audio was easy to understand although the tone was not quite as full as some of the other receivers in the shack. Perhaps an external loudspeaker would help resolve this minor criticism. Talking of external loudspeakers, remember that you can feed audio from one side of the radio to one speaker and from the other side of the radio to a second speaker – there are two speaker jacks. If you are 'only' using one speaker then audio from the two sides of the radio is mixed together.

### Bluetooth as standard

With Bluetooth built as standard into the FTM-300, you can use a Bluetooth headset (Yaesu offer such a product), or many cars have a Bluetooth audio system that you may be able to connect to. Please note the use of the word '*may*' – as past experience (not with the FTM-300) suggests that not all Bluetooth in-car audio systems are equal. If in doubt, ask your dealer, who may be able to help. Peter, GW4VRO gave me some useful feedback on the Bluetooth features and wrote, '*It works very well with the built*

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