Manufacturer Note

FTL Series Radios

-SERIES-

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Synthesized Wideband Mobile Two-Way Radios

Model	Power (W)	A	B	BH	C	D	F	P1	P2	P3
FTL-1011	60	29.7 - 38	37 - 48	37 - 50						
FTL-1011H	110	29.7 - 38	37 - 48	37 - 50						
FTL-2011	40	134 - 160	150 - 163		146 - 174					
FTL-7011	25	400 - 430				450 - 486	485 - 512			

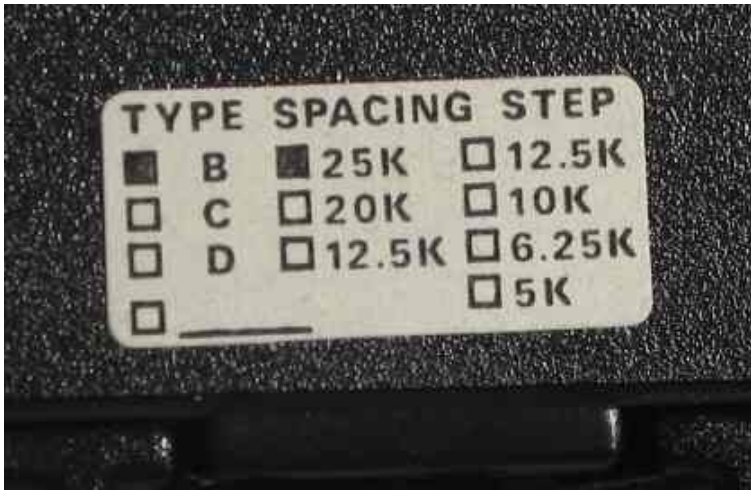
FTL-8011	15		*					-	(10x10)	(10x40)

*8011 frequency range as stated in manual

- 851.0125 - 868.9875 MHz RX
- 806.0125 - 823.9875 MHz TX
- 851.0125 - 868.9875 MHz Talk Around

Both P2 and P3 models state 830 channels which simply can't be true

A small plate on the underside to the rear shows the bandsplit, step and spacing.



Models shown here are the P1, P2 & P3 respectively. Note that the P2 8011 may have differently labled press buttons.

Software

See Software Hacking for more detail

Title	Version	Year	Radios	Note
CE-5	v3.00	1990	FTL-1011/2011/7011	
CE-5	v4.10	1992	FTL-1011/2011/7011	Mod from 12 channels to 24
CE-7	v2.0	1991	FTx 1011/2011/7011 99 Chan	USA
CE-7	v3.3	10 Oct. 1994	FTx 1011/2011/7011 99 Chan	USA (in bundled suite)
GENCRON USA	v1.12		FTL-7011	GENCRON USA
CE-11	v1.50	29 Aug 1995	FTL- 8011 -P2 &P3	Ver 1.70 has been seen listed

An examination of the data structure of CE11

Hex editing the 8011 for 6 metres

Level	Specification		Notes
P1	4ch		
P2	12ch / 24ch		Max 10 groups per system
P3	99ch LCD		

Hi chaps,
I recently bought an FTL-8011 (99ch LED display) BNIB through eBay from a seller who was also in

England. I'm not certain how it ended up on these shores as there are to the best of my knowledge no LTR trunked systems in the UK and almost certainly not on 800MHz.

I've built a lead and my trusty 286 laptop is running CE-11 ver 1.5 very just fine but I have noticed a few irregularities with the duplex offset. The software seems to do 25kHz occupancy channels with a 12.5kHz offset available up to channel 600 and thereafter, the channel numbers step at 12.5kHz and with a bit of luck there's a narrow IF filter kicking in too.

What is really strange though is that just above ITAC-1, the duplex offset goes from 45.000MHz to 45.025. When on talk around, there is a 25kHz offset too.
Is this a known issue?

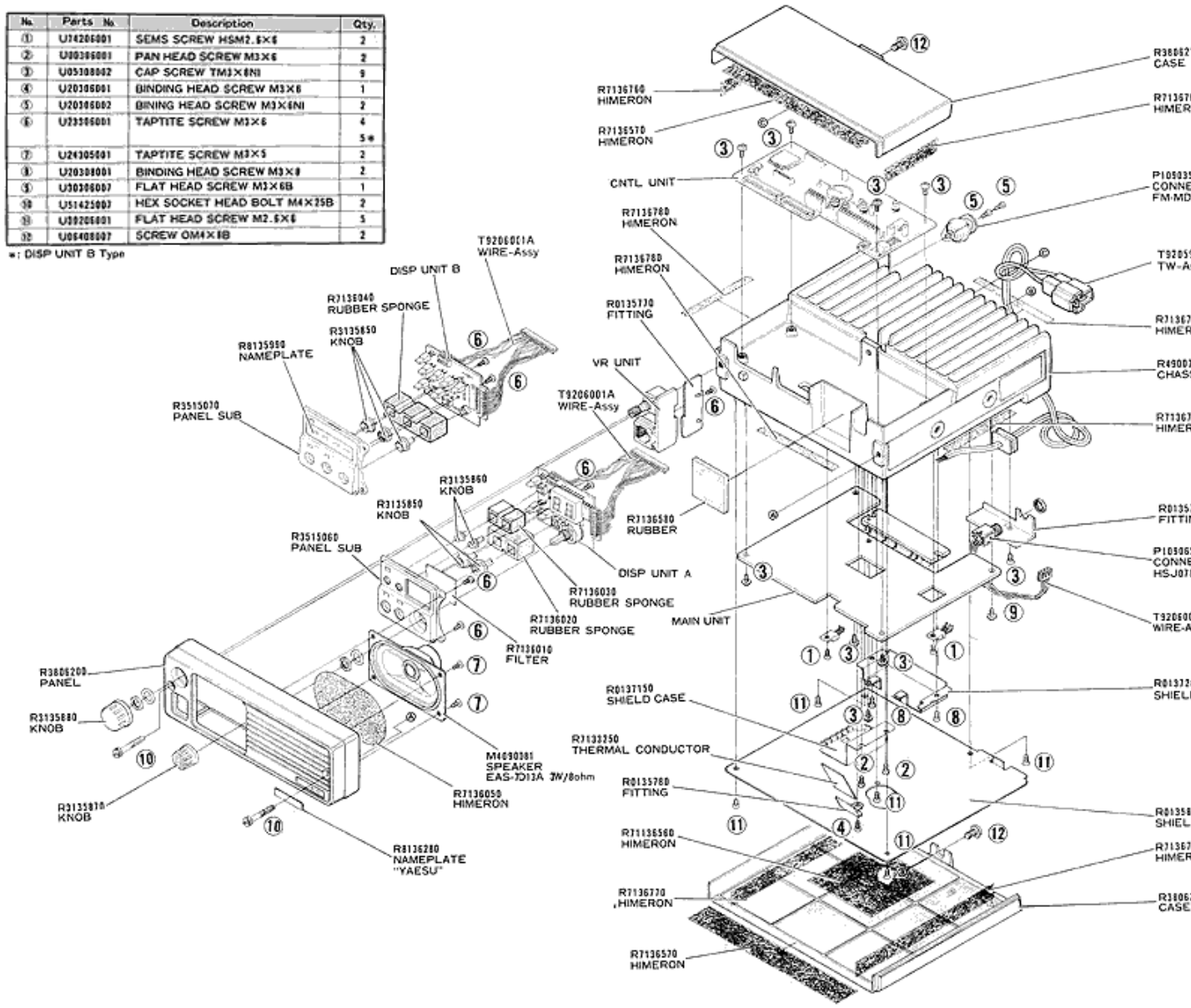
Ideally, I'd like a different software which is more flexible for conventional use and preferably goes out of band. CE-5 v4.1 says at first it's not for the 8011 but then it's available in the radio selection menu. If I put the radio into CL and press space and 'A' it comes back with 'Problem detected with connection to the radio. Transfer aborted' I guess perhaps CE-5 does the 8011 but only the 4,12 or 24 channel varieties.

CE-7 3.3 USA appears to do 99 channel radios but this give me an error message so general it makes no odds if the radio is switched on or not.

I understand there was a CE-11 version 1.7. Is this true?

Regards,

Tony.



No.	Parts No.	Description	Qty.
①	U74206001	SEMS SCREW HSM2.6×6	2
②	U00306001	PAN HEAD SCREW M3×6	2
③	U05308002	CAP SCREW TM3×8NI	9
④	U20306001	BINDING HEAD SCREW M3×6	1
⑤	U20306002	BINING HEAD SCREW M3×6NI	2
⑥	U23306001	TAPTITE SCREW M3×6	4 5✱
⑦	U24305001	TAPTITE SCREW M3×5	2
⑧	U20308001	BINDING HEAD SCREW M3×8	2
⑨	U30306007	FLAT HEAD SCREW M3×6B	1
⑩	U51425003	HEX SOCKET HEAD BOLT M4×25B	2
⑪	U30206001	FLAT HEAD SCREW M2.6×6	5
⑫	U06408007	SCREW OM4×8B	2

✱: DISP UNIT B Type

FTL-8011-Px

The radio is tuned manually. No RF settings are accessable through software.

It's an LTR Trunked radio but can be made to work in conventional mode.

Other software such as the CE5 & CE7 may also programme the FTL-8011. There is also special software for the FTL-7011 written in Scotland

CE7 actually reads the LCD head P3 but the data is garbled and in parts meaningless.It can cause a PC crash trying to manibulate these dara.

FTL-8011-P2

Frequency range of the P2 version is 851.0000 MHz (Channel 001 BO) to - 868.9875 MHz (Channel 830). unless there is a means of changing the base frequency.

Mine has what seems to be a VCO problem whilst in TA as an error tone is produced whilst forcing the radio to these higher TX frequencies.

This uses essentially CE-11 software which is DOS based but runs under NT with mouse support. The Sclear.gif CE-11 software comes bundled with other software in a menu driven environment.

FTL-8011-P3

The manual states this is an 830 channel radio, however, as far as conventional channels are concerns, the software does not seem to allow more than 100.

The CE-11 software can be run from here (CE-11)

The software is released as PRG VPL-1 which Includes: FTL-series 4, 12, 24 & 99 channel/FTH-2070/VX-200/500/510/800/2000/3000/VXR-1000/5000/7000/SVC-19/31/FTE-18)

This table shows the frequencies apparent from the ce-11 software. These are the old channels prior to rebanding. Channel steps in the logical order are 25kHz but the fifth column (Border Offset) provides a checkbox which offsets the frequency of any given group (channel) down by 12.5kHz.

830 is the maximum allowed value

Something odd occurs when trying to apply the offset to higher logical channels. The offset cannot be applied above channel 600. Editing is denied and yet it can be fudged. Since rebanding, some old 25kHz channels were kept with guard bands to accomodate them. This appears to account for this unusual quirk.

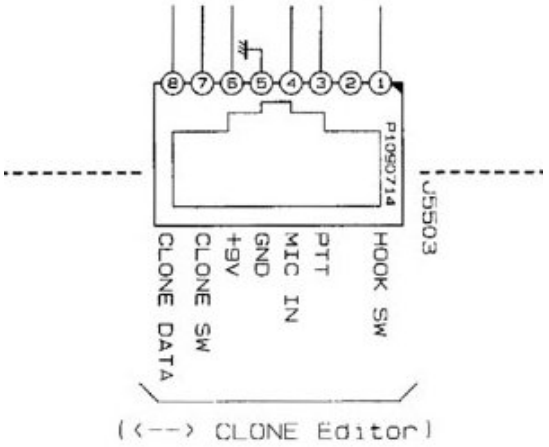
In ITU Region 2 there is the 33 Centimeter amateur band. It ranges from 902 to 928 MHz

Interface

Programming is carried out via RS232 serial port, through a level shifter to the microphone socket.

The microphone pin out is as follows

1. Hook Switch
2. -
3. PTT
4. Mic in
5. GND
6. + 9v
7. Clone SW
8. Clone Data



The microphone pin out is a simplified version of several RJ45 based Vertex and Yaesu microphones.

Pins 1 & 3 are pulled to ground in order to achieve their respective functions, Hook and PTT respectively.

Pin 7 is pulled high to 5V in order to put the radio in Clone / Programming mode. The only safe solution is to take the +9 or +12v and return +5v through a +5v regulator to the CLONE SW pin. This +5v rail can then also be used to drive the voltage level converter transceiver. Programming was successfully achieved with a simple MAX232 circuit with no device buffering. Batlabs suggest that DTR and DSR need to be looped as well as RTS and CTS.

The FTL-7011 would not work with the interface I created for my three FTL-8011 radios. The FluX Research VXR-7000 schematic suggests a 3k9 resistor on the MAX232 TTL output. I used a 7400 buffer which allowed me to read the radio but soon realised that CE-5 would read the radio even if this link was broken. It was determined that the 3k9 resistor is indeed necessary for the FTL-7011.

The P3 will not work with the 3k9 resistor in place.

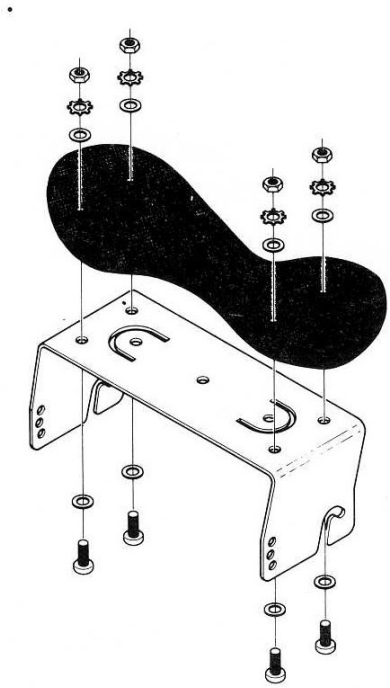
Accessories

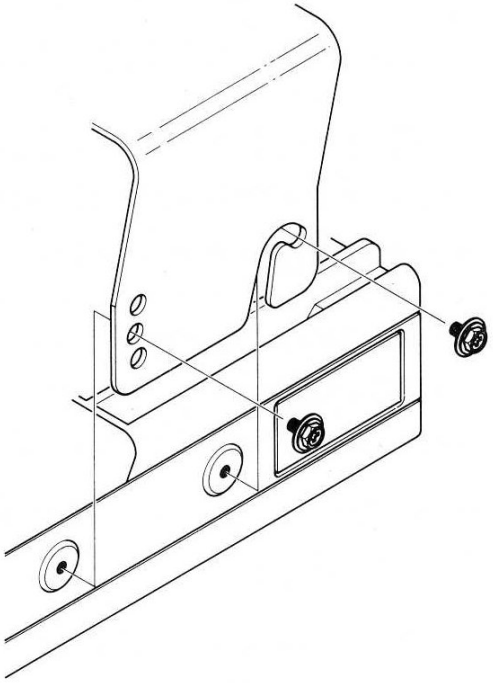
MH-5J8 The standard fist mic according to the user manuals

MH-600 DTMF Microphone (schematic)

MD-11A8J Desktop microphone

The mounting bracket for this series is the MMB-48. The width of the radio is 160mm and the M4 mounting holes are 50mm apart. This makes it very similar to the Icom IC-F1000 series except that the Vertex bracket is 10mm wider.





The 99 channel head is deeper than the basic heads. The two mounting screws are M4x30 LCD and M4x25 LED. The speakers are different. The LED 7seg head plugs onto the top board. The LCD head has a smaller speaker which plugs into a daughterboard within the head. The LED head has many more wires connecting the head and the top logic/audio board. LCD versions have only 6 wires and a ground LCD 31.23 x 49.80mm eliptical 8 Ohm 0.5W LED 41.15 x 71.00 mm square with holes at 33.50 x 63.00 mm 7D13A 4 Ohm Take care with the LED speaker mounting as there are two different lengths of screw on either side. Both are Japanese parts

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