



**Name: FT-817 FAQ - Frequently Asked Questions**

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TOPIC ▾	QUESTION	ANSWER	DATE
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\*\*\*\*\*  
 GENERAL \*\*\*\*\*  
 INFORMATION \*\*\*\*\*  
 \*\*\*\*\* Last  
 Update: 20 December  
 2004 \*\*\*

Please submit any data to be included in the FAQs, comments, or corrections to w4wb@arrl.net. Kindly submit both a question and an answer with a suggested topic. Your submission may be incorporated into either a new entry or an existing entry in the FAQs. Better viewing can be realized by clicking on "Printable Report" above. Should you desire to have a printed copy of the FAQ, use the print function on your browser. (However, it has been noticed that in order to have all the material printed, the landscape paper orientation should be selected. Also, only the Explorer Browser appears to print correctly --- Netscape does not.) A copy of the FAQ in the Adobe pdf format is maintained in the "Files" area of the FT817 Group. It is updated frequently, but the most current version is in the FT817 Group "Database."  
 \*\*\*\*\* NOTICE: The information contained in this FAQ is believed to be accurate; however, reader beware and use this information solely at your own risk and liability. \*\*\*\*\*

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SEARCHING \* \* \* \* \*

\* HOW DO I LOCATE  
SOMETHING IN THE  
FAQs?

YAHOO! Groups provides a nice search function to help you locate specific information. Just above this table (the database format, not the Printable Report Form) and to the right side of the page, you will find "This Table." Enter your request in the data input window next to it. All table entries containing this data request will be returned. If you use the Printable Report form, then use the standard Windows search (Find) technique. Use Ctrl +F to have the Find Window pop up. This will find each occurrence of whatever text you enter. If you are using the pdf form, you may be able to search it or not depending upon your system. FOR THE PDF VERSION IN THE FILES AREA: To locate a word, use the search function provided in the Acrobat Reader.

21/06/02-R

ACC DIN PLUG

Where can I find the  
connector for the ACC  
socket on the radio?

It is an 8-pin mini-DIN. They were used for serial cables on older Macintosh computers. You might try looking for a straight-through serial cable at a Macintosh dealer or other computer store (cut it in half and you get 2 cables for the radio). Also, check Universal Radio (<http://www.rffun.com>), W4RT Electronics (<http://www.w4rt.com>), and GigaParts (<http://www.gigaparts.com>) as additional sources. See the FILES section of the group website for schematics of the RS-232C to TTL interface for CAT use, or purchase a CT-62

14/06/02-R

CAT interface cable from your Yaesu dealer. Also see [www.w4rt.com](http://www.w4rt.com) for the male-female cable pairs.

AGC	Does it really matter to what mode I set the AGC?	To enhance your operating experience, you should select the proper mode for the AGC. With put into the AUTO mode, the FT-817 will automatically select the AGCslow setting for the voice modes and the AGCfast setting for the CW and DIG modes. In some situations, it may be necessary to turn the AGCoff for fastest response; however, unexpected behavior can occur. Note that when operating PSK or CW under strong signal condition (S-9+), AGCslow will likely give better performance.	18/04/01-R
ALIGNMENT	How do you enter the alignment menu?	With the FT-817 turned OFF, press the A, B, and C keys at the same time and turn the power ON. When you enter the first time, you should record each and every value before changing anything. *** BEWARE ***	
ALIGNMENT	Where can I find information about how to align the FT-817?	See TOPIC - MANUALS	

AMPLIFIER	Can an amplifier be used with the FT-817?	<p>YES. You can reach Tokyo Hy-Power by e-mail, fax, or postal mail. Either Nobuki Wakabayashi or Lucy Nakashima handle most if not all of the English language correspondence. You can reach THP at TOKYO HY-POWER LABS, INC., 1-1, HATANAKA 3-CHOME, NIIZA, SAITAMA 352-0012 JAPAN, Phone +81-48-481-1211, Fax +81-48-479-6949, E-mail info@thp.co.jp</p>	18/18/2004
AMPLIFIER	Is it OK to buy an external RF linear from an amateur radio dealer even though the manufacturer can not sell them in the USA?	<p>YES. It is also legal for the dealer to buy and sell the amplifier from a licensed amateur radio operator under FCC Rule 97.315. US hams can purchase whatever they desire because they are also required to meet a number of other regulations regarding emission standards. Read the FCC Rules.</p>	
AMPLIFIER	Can I use a linear amplifier legally (USA amateurs) with the FT-817? Can I build my own amplifier for the FT-817?	<p>YES, but you are not allowed under FCC Rule 97.315 to construct the amplifier from a kit. You can build your own amp legally. One example is the excellent amplifier project by K5OOR. See <a href="http://www.hfprojects.com">www.hfprojects.com</a>.</p>	14/06/02-R

AMPLIFIER	Are external RF amplifiers sold for the FT-817?	YES. The Tokyo Hy-Power amplifiers have been reported to work with the FT-817; however, since their amplifiers can not be sold in the USA under FCC Rule 97.315 and 97.317, the amplifiers have to be acquired directly or by some other means. The model HL-50B is the most popular. See <a href="http://www.qsl.net/ku4qd/thp/qpamps.html">http://www.qsl.net/ku4qd/thp/qpamps.html</a> and <a href="http://www.thp.co.jp">http://www.thp.co.jp</a> for more information. Other external RF amps are available, but extreme caution should be used since they are frequently "harmonic rich" or have other problems.	14/06/02-R
ANTENNA CONNECTOR	How can I tell if the front or rear antenna connector has been selected?	If you see a "R" on the right end of the second line of the display, the the rear connector has been selected. Otherwise, the front antenna connector has been selected.	
ANTENNA CONNECTOR	When the front or rear antenna connector has been selected, does that selection apply to all bands?	NO. Each band (HF as a group, 50, 144, adn 440 MHz) can have either antenna connection assigned to it. Use Menu Item 07 [ANTENNA]. If you change bands and it seems like the antenna is no longer connected, then check to see which antenna connection is active. When the REAR ANTENNA CONNECTOR is selected, the "R" icon will appear on the display (see page 15 in Operating Manual).	26/03/01-R

## ANTENNA CONNECTOR

My BNC connectors will not completely seat. Can this be fixed without returning the unit to Yaesu?

YES. W2PW suggests that you first take off the front panel (it's surprisingly easy... after the top and bottom covers are off; it simply pops off). Next, take a reamer tool that looks like a cone with teeth and make the hole that the BNC fits through a little wider. Use a BNC plug as a test fit to make sure the plug's lower ring fits through, just snugly. When you replace the front panel, you will find those recalcitrant BNCs go on nicely as they bottom out INTO the panel as they seat. Note that you do not have to remove the BNC from the inner panel.

It depends upon what mode you are using. If you are operating AM or FM, then you can just key the microphone and tune given that you don't modulate the carrier. If you are operating CW with a straight key, then you just have to hold down the key. For other modes it becomes more complicated. If you are using the built-in keyer, then you have to turn off the keyer, press the "dit" paddle while tuning, and then turn on the keyer again. If in USB, you will need to change modes to AM or the like, key the microphone while tuning, and change the mode back to USB. The only mode that can safely be used to produce a legal carrier throughout the amateur bands is PKT. The number of "actions" needed to be taken during tuning typically ranges from 5

## ANTENNA TUNER

How do I produce a carrier for tuning my

03/06/01

system?

to 11. Recently, W4RT Electronics introduced One-Touch Tune as a FT-817 accessory. It mounts on the rear of the FT-817 and is operationally transparent to the FT-817. By pressing a single button, the unit determines the status of the FT-817, commands it to produce a carrier, and returns the FT-817 to its prior settings upon release of the button. If used with an updated LDG Electronics Z-11 QRP Autotuner, the tuning process becomes highly automated. Simply pressing the Tune Button on the Z-11 results in the completed tuning process being accomplished. See [www.w4rt.com](http://www.w4rt.com) or major amateur radio dealers in the US or Waters & Stanton ([www.wsplc.com](http://www.wsplc.com)) in the UK.

ANTENNA TUNER

Does the FT-817 include an internal antenna tuner?

NO. You either use an antenna that matches the 50-ohm unbalanced input of the FT-817 or use an external antenna tuner such as the LDG Z-11 (<http://www.ldgelectronics.com/z-11.html>) or the EMTCH ZM-2 ATU <http://www.emtech.steadynet.com/zmdesc.htm>. The Z-11 is a fully automatic tuner that requires power; however, it has latching relays so that power is conserved. A pair of 9-V NiCad batteries in series will provide hundreds of tunings. The ZM-2 is a manually tuned unit. They cover 10-80 m with the Z-11 also covering 160 m. Both are good units. Price of the

25/03/01-R

Z-11 is several times that of the ZM-2.

## ANTENNA TUNER

Will the Z-11 antenna tuner work with the FT-817 on 6 m?

The Z-11 specifications state that it covers 160 m through 10 m; however, the Z-11 may or may not work on 6 m depending upon what the SWR of the antenna is with respect to that caused by the insertion of the tuner itself. The Z-11 actually increases the system SWR (on 6 m) if you insert it in-line with a 6-m antenna having low SWR at the selected operating frequency. Since the antenna's SWR is lower than that associated with the tuner, the tuner cannot do anything to improve the situation. In the case of a non-resonant antenna with its SWR being higher than that of the Z-11, the Z-11 will tune and reduce the system SWR. However, if the SWR is so bad that the output power of the transmitter is reduced below the amount needed for the Z-11 to tune, then no improvement will be realized.

01/04/01

## AUTOMATIC BAND

Is there an interface for the FT-817 that provides a band output for interfacing

YES. K6XX has designed an interface box for the Yaesu FT-817 that includes a band output port, a computer serial interface, and a remote interface for the FL-7000 (and Quadra?) solid state power amplifiers. The band output port drives things like relay-switched bandpass filters (BPF)—DuneStar 600 or ICE 419, for example—remote coax switches, etc., and does not require a computer. The serial interface allows rig control via

04/09/01-R



## SELECT

with power amplifiers,  
coax switches, etc.?

computer, and makes logging programs like TR-Log and CT really shine (if the program supports the FT-817 protocol). The amplifier remote interface provides complete band switching and transmit/receive sequencing control for Yaesu solid state power amplifiers—change the band on the FT-817, and the amplifier follows automatically. See <http://www.k6xx.com/ft817/ft817.html>.

## BAND SELECT

Is there an interface for the FT-817 that provides a band output for interfacing with power amplifiers, coax switches, etc.?

See TOPIC - AUTOMATIC BAND SELECT

24/03/01

## BATTERIES

Do I really have to cut the "green" wire?

W2PW observes that anyone concerned about restoring the unit for alkalines should not perhaps CUT the green wire, but rather take a safety pin (or the like), and poke into the connector to release the clip that holds the pin or socket connection in the white plug or socket body. Slide out the wire with the tiny connection intact, tape it out of the way and you can reseat it when desired.

## BATTERIES

How can I protect the FT-817 from reversing polarity when I hook up the battery?

See TOPIC - POWER SUPPLY

## BATTERIES

Is there a NiMH battery pack that fits into the FT-817?

YES. (1) W4RT Electronics offers the One-Plug Power (OPP) that contains a 2300 mAh battery pack (presently the largest capacity of any FT-817 packs). It replaces the supplied battery tray and battery cover door. The unit is fully fused (electrically and thermally) and can be charged using the internal charger or fast charged using an external charger such as the W4RT One FAST Charger. The new door has a hole in it for plugging in a cable for fast charging (you don't have to open the door to fast charge). See [www.w4rt.com](http://www.w4rt.com). (2) Radio Shack has a 9.6 volt / 1600 mAh battery pack (NiMH) designed for radio controlled vehicles. The number is 23-331 and it fits perfectly into the battery compartment of the FT-817. Price is \$25. (3) Maha Energy ([www.mahaenergy.com](http://www.mahaenergy.com)) will offer the MH-FNB-72 NiMH battery pack specifically for the FT-817. The MH-FNB-72 provides 1700 mAh at 9.6 V. It also includes a special charging cable that will allow the pack to be directly plugged into the Molex connector on the MH-C888 charger (the MH-C777 should work also). It does require the battery door to be opened and unplugged from the radio for the fast charge. Price is \$60. Also, see TOPIC - CONNECTORS to find source for connectors to the FT-817. (Ed.: A transition cable can be

20/12/04-R

made to minimize the amount of wear and tear on the FT-817 internal power connector. One approach is to replace the rather large connector on the RS battery pack with a Molex plug 03-06-2024 with 3 A pico fuses in each leg (see TOPIC - FUSE). Next make the transition cable using a Molex receptacle 03-06-1022 and the little female Molex connector that mates with the FT-817. This can be taken from the Yaesu supplied battery holder or a new Molex connector. The ears on the larger Molex connector need to be cut off. The wires dress nicely and the fit is fine. The terminals are 02-06-1103 for the female and 02-06-2103 for the male.)

BATTERIES	Can NiMH batteries be used?	YES. Despite Yaesu's statement to the contrary, you CAN fill the AA holder with NiCd or NiMh AA cells. They can be charged at about 18mA trickle and 180mA which is about right for 10 or more hours. However you are cautioned to install a fuse at the battery pack. Try a 2.5 or 3 A "picofuse" which has leads and is tiny. Also make sure the cut green wire is insulated from ground. Beware your warranty.	01/04/01-R
BATTERIES	How much current is drawn by the FT-817?	The approximate values are 380 mA on RX and 1.8 A on TX.	01/04/01
BATTERIES - NiMH	Do the NiMH batteries need to be fully drain before recharging?	NO. These batteries do not suffer the memory effect. Also see other TOPIC - BATTERIES - NiMH.	01/04/01

## BATTERIES - CHARGING TIME ESTIMATION

How is the charging time estimated when using the internal FT-817 charger?

An estimate of charging time for the NiMH batteries (assuming nominally discharged, 0.9 V per cell or 7.2 V total) is as follows: Tchg = (charging time), Ichg = (charging current), and F = 1.5 to 1.8 (factor due to charging efficiency < 1). The relationship between these parameters is  $Tchg = F * CP / Ichg$ . Example:  $1.6 * 1600 \text{ mAh} / 190 \text{ mA} = 13 \text{ hr } 30 \text{ min}$ . The charging current varies with the voltage of the external DC supply. ZL1BK, KB2TQX and others have measured the charge current vs. external voltage to be 190 mA for 13.8 V, 180 mA for 13.0 V, 160 mA for 12.5 V, and 100 mA for 12.0 V. The internal charger provides the nominal charging current during the time the charger is turned on. The charging current reduces somewhat as the cells approach full capacity. When the charger is off and the external power supply is connected, the charger provides trickle charging current of appropriately 14 to 18 mA. The minimum current to affect charging is 60 mA (ref. Energizer engineering data sheet). The min/max overcharge currents are 60/110 mA. You should avoid overcharging your batteries. For a fully discharged set of 1600 mAh batteries (7.2 V), the charge time could vary within the range of 13-15 hours. Two 8-hour cycles would likely work. Although a 6-hour cycle and an 8-hour cycle would

24/04/01-R

be preferred. The trickle charging will not harm the NiMH batteries even if fully charged. Caution, the maximum momentary ( 1 second) discharge current can exceed 15 A.

BATTERIES - NiMH	Do NiMH batteries need to be conditioned?	YES. Even though NiMH batteries don't suffer from the "memory effect," new NiMH batteries should be fully cycles at least 3 times before general recharging. Thereafter, you should perform a conditioning cycle every 10 charges to ensure top performance from your battery.	01/04/01
BATTERIES - NiMH	How well do NiMH batteries maintain their voltage under FT-817 discharge rates?	In general, they will hold the 1.2 V value until about 80-90% discharged. Actual performance varies by battery brand and discharge rate.	01/04/01
BATTERIES - NiMH	What is the hold time or shelf life of NiMH batteries?	It depends upon the storage temperature. Assuming that the batteries were properly conditioned and fully cahrged when stored, it should be reasonable to expect, after a month of storage time, a charge retention of 70-85% at room temperature and 30-40% at 40 deg C (113 deg F). If the batteries are cooled, the retention time is significantly increased. [At room temperature, the capacity decreases about 1% per day.]	06/06/01-R

BATTERIES - OPERATING TIME ESTIMATE	How do I estimate the operating time for the batteries?	For an approximate estimate of the operating time for a battery pack, the following may be used. This assumes that the battery pack is full. *** Itx = 1800 mA (transmit at 5 W), Irx = 380 mA, CP = 1600 mAh (battery capacity), Ttx = 0.5 hr (transmitting time), Trx = ? (receiving time), and * ==> multiplication. The relationship between these parameters is $CP = Ttx * Itx + Trx * Irx$ . This equation is then solved for Trx. For the example values, Trx = 1 hr 50 min. Also see TOPIC - CURRENT DRAIN.	07/04/01
BATTERY OPERATION - CUT OFF	What is the minimum operating voltage for the FT-817 using the internal batteries?	The FT-817 is set to terminate operation (to turn itself off) when the indicated voltage is 7.2 V. This is the full discharge voltage of both NiCd and NiMH batteries (8 cells times 0.9 V per cell = 7.2 V). If you wait a few minutes, the battery pack will recover slightly (showing 8 V or so) and will run the radio for another minutes or so.	12/06/01
BILLS	Who the heck are the "Bills" anyway?	See TOPIC - GO BILLS!	14/04/01
BIRDIE	Have any spurious signals been observed?	See TOPIC - SPURIOUS SIGNALS. NOTE: Yaesu now has a fix for the birdie that significantly reduces the level. The unit should be returned to Yaesu for this fix. After Lot 32, the main circuit board was modified to properly correct the problem. No birdie is now heard.	13/01/02 R
BLINKING ICON - POWER	What does the blinking power icon mean?	See TOPIC - POWER OUTPUT.	12/06/01

## CALIBRATION MENU

Does the FT-817 contain a "Hidden Menu?" If so, what is its purpose.

YES. \*\*\* B E W A R E \*\*\* W  
A R N I N G \*\*\* This is the  
factory calibration area. The  
data stored in here is NOT  
recovered when you do any  
reset, it is unit specific. DO  
NOT CHANGE ANYTHING  
unless you know exactly what  
you are doing. There are 76  
menu items. You should  
WRITE DOWN everything  
displayed for all 76 menu items  
when you first enter this area.  
Put this information in a safe  
place. Access is obtained by  
first turning the power off. Next  
turn the power back on while  
holding down the A, B, and C  
buttons at the same time. You  
should hear a "diddle-diddle-  
diddle" sound. You are now in  
the Hidden Menu area. The SEL  
knob allows you to move  
between menu items. The Main  
Dial adjusts the parameter in the  
menu item. To exit, press and  
hold the "F" button. \*\*\* HEED  
THE WARNING PLEASE \*\*\*

07/04/01

## CARRIER POINT

Does the FT-817 have adjustments that will improve the TX audio match to my voice?

YES. Set Menu #52 to ON.  
Next adjust the TX carrier point  
for LSB using Menu #56 and  
Menu #57 for the TX USB  
carrier point. Have someone  
monitor you or listen on another  
radio to obtain the best audio  
quality. With the option SSB  
filter, you can realize about 0.5  
dB increase in talk power. One  
way to adjust these parameters  
is to use an averaging true rms  
voltmeter to obtain the  
maximum average signal. Also  
see <http://w4rt.com/obf/qq-Oct->

14/05/02

01-Filter-Review.pdf. You can also adjust Menu #53 and #54 for improving RX audio match.

CARRYING CASE	Does Yaesu offer a carrying case for the FT-817?	YES. It is a vinyl carrying case, part number CSC83 and costs approximately \$25.	24/03/01
		The "right" carrying case for you likely depends upon how you are planning to use your rig and what additional items need to be carried. FT-817 users have reported finding interesting cases at Office Depot, Best Buy, All Electronics, Mountain-Ops Communications, and other such companies. The "ideal" or "universal" case has not been identified yet. *** 10 APR	
CARRYING CASE	Where can I find a carrying case for the FT-817, the tuner, power supply, and other items?	2001: CSE-10 is sold out and no longer available *** W4WB recently received the All Electronics Model CSE-10 padded, shoulder-carrying case with inside dimensions of 16 x 6 x 2.5 inches for \$5. See <a href="http://www.allelectronics.com/cgi-bin/category.cgi?category=search&amp;item=CSE-10&amp;type=store">http://www.allelectronics.com/cgi-bin/category.cgi?category=search&amp;item=CSE-10&amp;type=store</a> . The FT-817, Z-11, microphone, CUP36-12-1 power supply, 4:1 balun, batteries for the Z-11, and interconnecting coax cables fit fine in this case.	10/04/01-R



CAT

How do I connect the FT-817 and my computer together?

Use the Yaesu CT-62 cable. It includes the electronics to perform the level translations between the FT-817 and the serial port of the computer. Alternatively, DL3DAZ suggest that you can make one and refers to <http://krasnodar.online.ru/hamradio/images/yaesucat.gif>. He has tried it and the cable worked fine even at 38400 Baud. Transistors can be any NPN type that can handle 20mA and 15V. He put the circuit into a DB9 case using SMD resistors from a defective harddisk PCB. **WARNING:** Any mistake leading to excess voltage connected to the FT-817 may cause damage! So be careful...

CAT

Is it possible to make my own CAT cable for the FT-817?

YES. VE3CVG has posted a file in the "FT817 Files Section" (click on Files to the left) that contains a schematic of his version of a CAT cable suggested by DL3DAZ (see TOPIC -CAT). Rick warns that you use this information at your own risk! File reference is <http://groups.yahoo.com/group/FT817/files/817cat.gif>.

30/01/01

CAT

Can I program the FT-817 using the CAT interface?

See TOPIC - PROGRAMMING 22/5/01

CAT CONTROL SOFTWARE	What software is available to operate the FT-817 via the CAT port? Can the memories be managed with this software?	YES. Several programs will soon be announced. G4HFQ just announced that FTBasic has been enhanced to provide management of the 200 memories in the FT-817. The first Beta release is available at <a href="http://www.bob.freeth.dial.pipex.com/polarplot/download.shtml">http://www.bob.freeth.dial.pipex.com/polarplot/download.shtml</a> . Look for FTB144B7EX.EXE. You must already have a 'full package' version of FTBasic installed.	21/04/01
CIVIL AIR PATROL	Can the FT-817 be used for Civil Air Patrol applications?	NO for HF and NO for VHF/UHF (at one time it was approved with the TXCO-9 installed, but no longer). See <a href="https://ntc.cap.af.mil/comm/equipment/HF_Detail.cfm?rec_id=125">https://ntc.cap.af.mil/comm/equipment/HF_Detail.cfm?rec_id=125</a> for more detail.	16/03/03
CLONE	What is the CLONE speed for the FT-817? Can it be adjusted?	G4HFQ reports that the clone speed for the FT-817 is fixed internally at 9600,N,8,2. It can not be adjusted.	28/04/01
CODE PRACTICE	The manual for the FT-817 explains how to use the radio for cw sending off the air using a straight key. Can this feature be used with an iambic keyer as well?	W4RK comments that "I use a Logi-Key iambic keyer with my FT-817 when I'm in the hamshack and not in the field. Just plug in the keyer output cable to the FT-817 key jack, turn off the KYR flag and you're done. If you want to practice, also turn off the BK IN flag and you get the rig's sidetone, but no RF. (You'll need to be in CW or CWR mode) You can do the same thing with the FT-817's internal iambic keyer for practice. In this case turn ON the KYR flag, plug your iambic paddles into the 817's key jack on the rear and leave the BK IN	11/04/01

		flag OFF. If you're in CW or CWR mode, you'll get the sidetone."	
CONNECTORS	Any recommendations for inexpensive, yet functional, interconnecting connectors for the power supplies/sources?	KQ6AX describes a standardized modular system based on using "2-Wire Trailer Plug Connectors." See <a href="http://www.qsl.net/kq6xa/connect/">http://www.qsl.net/kq6xa/connect/</a> . She provides a wealth of photographs, ideas, and good common sense advise on things to do and NOT to do to protect your equipment and power sources.	
CONNECTORS	Where can I find the plug that fits the DATA socket on the FT-817?	W4JZ observes that the needed plug is the same as the one commonly used on a Mouse and many keyboards.	26/01/01
CONNECTORS	Where can I find the connector for the internal battery pack?	DG1SMD identified the connectors as Molex parts. The female housing is part 51021-0500 (5 pole) and the (5 each) female terminals are part 50058-8100. The male connector housing is part 51047-0500 and the corresponding pins are 50125-8000. One source is Digi-Key.	28/01/01
CONNECTORS	Where can I get a DC power connector for the FT-817?	It is a coax-style connector having dimensions of 4.0 x 1.7 mm. One source is Radio Shack and the part number is 274-1532. WARNING: The power connector is not the most durable connector seen, so be careful not to try to force on the wrong size connector. An "exact" replacement for the Yaesu supplied connector is Philmore No. TC240 (6 Ft. DC Power Cord).	30/03/02-R

CONNECTORS - MOLEX FOR INTERNAL BATTERY	Is there a source for the completed Molex connector with pigtails that mates with the internal battery connector?	NO.	10/06/04-R
CURRENT DRAIN	What is the approximate current drain of the FT-817?	(Source is K9QI appearing in "The QRP Quarterly," April 2001.) The following values are for when the external 13.8 V power supply is used. RX fully active = 380 mA; RX with backlight off = 348 mA; RX with backlight off and squelched audio = 338 mA (note that Yaesu manual states 250 mA); TX CW @ 5 W = 1.92 A; TX CW @ 2.5 W = 1.62 A; TX CW @ 1 W = 1.17 A; TX CW @ 0.5 W = 1.05 A; TX SSB with 2 tones @ 5 W PEP = 1.26 A.	07/04/01
CW - OPERATING TECHNIQUES	Is there a guide that will help me to improve my CW operating skills?	YES. An excellent resource is "A Beginner's Guide to Making CW Contacts" by Jack Wagoner - WB8FSV. See <a href="http://www.netwalk.com/~fsv/CWguide.htm">http://www.netwalk.com/~fsv/CWguide.htm</a> .	11/04/01
CW FILTER	What are the settings for the CW filter?	After the CW filter is installed, set Menu #38 to CW. No change is noise heard will occur. If you switch Menu #38 to SSB, the noise heard will change. Be sure you set Menu #38 to CW. Press and hold the F button to exit the Menu. To use the CW filter, press the NAR button (button C on row 7 of the operating functions). The CW filter is toggled by this button. You can use the CW filter in CW, CWR, and DIG modes. See also TOPIC - FILTERS.	08/04/01
CW OPERATION	How can QRM be reduced when working CW?	See TOPIC - QRM SUPPRESION ON CW.	07/04/01

DIN PLUG FOR ACC JACK	Where can I find the connector for the ACC socket on the radio?	See TOPIC - ACC DIN PLUG.	22/04/02
DIRECT FREQUENCY INPUT KEYPAD	Can the frequency be directly entered into the FT-817 without using an external computer?	YES. See TOPIC - KEYPAD.	19/04/02
FACTORY CALIBRATION	Where is the factory calibration data located?	See TOPIC - CALIBRATION MENU	07/04/01
FAST STEP TUNING	How do I turn ON or OFF the Fast-Step Tuning mode?	On the supplied MH-31ABJ microphone, there is a FST key located between the DWN and UP keys. When the Fast-Step Tuning is ON, an icon of a running man is displayed in the lower right of the display. Pressing the FST key toggles this mode. When ON, the VFO tuning rate increases by a factor of 10 (steps are 100 Hz rather than 10 Hz). The FM steps double.	09/0701
FCC RULES	Can I find the FCC Part 97 Rules on the Web?	YES. KB8PYM identified <a href="http://www.access.gpo.gov/nara/cfr/waisidx_01/47cfr97_01.html">http://www.access.gpo.gov/nara/cfr/waisidx_01/47cfr97_01.html</a> as a resource.	18/04/02
FERRITE BEAD	Where can I obtain the ferrite bead for the power cord to mitigate the RF pickup on 440 MHz?	See TOPIC - POWER SUPPLIES.	05/03/01
FILTER	How do I install the optional filters?	The procedure is explained in the manual; however, AD6A has prepared an excellent web page that provides detailed installation instructions and photographs for the CW filter. See <a href="http://www.cooltechstuff.com/FT817_CWfilterinstall.html">http://www.cooltechstuff.com/FT817_CWfilterinstall.html</a> . NOTE: When you install the filter, you should be able to see the writing on the filter. It doesn't work upside down!	28/01/01-R

FILTER

Can I install both the optional SSB and CW filters at the same time in my FT-817?

YES & NO. W4RT Electronics ([www.w4rt.com](http://www.w4rt.com)) offers a mod that allows you to use both filters. You must send them your 817 for the mod. If you don't use their mod, then you must select one. Both the CW and SSB filters improve the operation capability of the FT-817 and are highly desirable.

11/12/01-R

FILTER

What sources are available for obtaining the optional filters?

Yaesu, W4RT Electronics (<http://www.w4rt.com>), and INRAD (<http://www.qth.com/inrad/ft-817.htm>) are the only commercial sources at present. All three use Collins Mechanical Filters, but not the same ones. The filters offered by Yaesu and W4RT Electronics are identical except that the W4RT Electronics termination has been optimized for their boards. W4RT Electronics is the only source offering a dual Collins Filter option for the FT-817. It replaces the stock ceramic filter with the 10-pole Collins Mechanical filter and includes either the 7-pole 500 Hz or 8-pole 300 Hz Collins Mechanical filter for CW. Note that the Yaesu CW filter is 500 Hz @ -6 db with a shape factor of 4 and the INRAD CW filter is 600 Hz @ -6 dB with a shape factor of 2.5. INRAD also offers a 340 Hz CW filter @ -6 dB having a shape factor of 2.5. Shape factor = (BW @ -60 dB / BW @ -6 dB). For the SSB filter, INRAD offers two choices with one identical to the Yaesu YF-122S

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and the other provides about 250 Hz more bandwidth, Another option is to build your own. K6XX prepared a quality presentation on how to make your own optional filter using available Collins mechanical filters. See <http://www.k6xx/ft817/817cwf.pdf>. A good article on this subject appeared in "QRP Quarterly" in 2001. A reprint is available to view at <http://w4rt.com/obf/QQ-Oct-01-Filter-Review.pdf>.

Although the original Yaesu ad for the FT-817 on the inside-rear cover of QST clearly states that the optional filters are 10-pole Collins filters, the CW filter is actually a 7-pole filter. Yaesu has determined that the ad was in error and has corrected future ad copy. The correction first appeared in the April 2001 issue of QST. The Collins part number of the filter is 526-8686-030. The specifications that Yaesu supplied with the filter are as follows: Center Freq: 455 kHz, Selectivity (-6/-60 dB): 500Hz/2.0 kHz, Poles: 7 poles, and Dim: 56x9x14 mm. The shape factor is a 4 (BW@-60 dB / BW@-6 dB). How does the filter work in practice? Simply put, if you work CW, then this filter makes CW enjoyable with this rig. A good article on this subject appeared in "QRP Quarterly" in 2001. A reprint is available to view at <http://w4rt.com/obf/QQ-Oct-01-Filter->

FILTER

What are the characteristics of the optional CW filter for the FT-817? Do I need one?

26/11/01-R

Review.pdf .

FILTER	Can the CW filter be used for DIG modes, especially for PSK31?	YES. See TOPIC - PSK31.	17/02/01
FILTER - SSB	Does the optional Yaesu SSB filter Y-122S provide any meaningful improvement?	<p>YES. The stock filter is a ceramic filter that rolls off somewhat either side of about the center of the passband and has modestly wide skirts. The optional Yaesu SSB filter is a 10-pole mechanical filter by Collins. Its bandwidth is 2.3 kHz and its frequency response is very flat with rather sharp skirts. Measurement of average RF output (talk power) was about +2 dB greater than that observed when using the stock filter. On-the-air performance reports consistently are that the signal is a couple of dBs stronger and that the audio sounds "cleaner" or more articulate. On receive, the difference between the filters is not very great. However, if the FT-817 has a good quality external speaker attached, the difference in hearing is noticable improved. It should be noted that PSK31 performance is improved on both transmit and receive since the spectrum is now flat rather than being rolled off to either side. A good article on this subject appeared in "QRP Quarterly" in 2001. A reprint is available to view at <a href="http://w4rt.com/obf/qq-Oct-01-Filter-Review.pdf">http://w4rt.com/obf/qq-Oct-01-Filter-Review.pdf</a> .</p>	09/06/02-R



FM MODE	What is the maximum deviation in the FM mode?	The maximum deviation in the FM mode is +/-5 kHz. See TOPIC - FMN MODE also.	15/04/01
FMN MODE	What is FMN?	FMN is the narrow FM mode having a maximum deviation of +/-2.5 kHz. This mode is activated by turning NAR ON (Operating Function Row 7, Key C) when in the FM mode. The display will show FMN. In the US, there is no specific FCC Rule that limits the bandwidth used for phone modes; however, Rule 97.101(a) does require that the amateur follow good engineering and operating practices. It is common practice to use the narrow mode on 10-m FM for example. (Tnx to G0EHX for noting the FMN.)	15/04/01
FREQUENCY BAND MODIFICATION	Can I perform a software modification to my radio that will allow 60 m operation?	YES. (Tnx to Peter VK2IT) Use the SoftJump.zip program contained in the files sections of this group. You can find it at <a href="http://groups.yahoo.com/group/FT817/files/softjump.zip">http://groups.yahoo.com/group/FT817/files/softjump.zip</a> You will need a CAT cable and a computer to do the mod. Use the code F8 BF rather than 00 00.	24/08/03
FREQUENCY RANGE - FACTORY	What is the solder-ball configuration for the factory designated frequency ranges?	For the U.S. version, the pattern is OOXOOOOO where X is shorted (solder ball) and O is open. If your unit has been modified and you are attempting to recover the factory configuration, you must perform the following reset after the solder-ball configuration is restored. Reset: (1) Turn OFF the FT-817 power. (2) Press and hold the "F" and the "V/M" buttons and turn the FT-817	08/04/01

power ON.

FUSE

What is a "pico fuse" and what size is appropriate to use with the battery pack?

A pico fuse is a small fuse that can be used in the battery leads to protect the battery and the radio from damage should a short circuit occur. A 3 A fuse is suggested. The FT-817 draws 2 A during high-power transmissions. A 3 A pico fuse is rated to blow at 3 A in 4 hours and at 6 A in 5 seconds. In a recent test by W4WB and N4BK, a sample 3 A pico fuse blew at 5.1 A in just about a second or so. Pico fuses may be found in many electronic supply stores. One source is All Electronics Corp. ([www.allelectronics.com](http://www.allelectronics.com)). See also TOPIC - BATTERIES.

08/04/01

GO BILLS!

Who the heck are the "Bills" anyway?

The FT817 Moderator, Pres Waterman W2PW, has created this FAQ. Look at <http://www.buffalobills.com> for the answer!

14/04/01

GREEN WIRE

What is the purpose of the green wire modification?

See also TOPIC - BATTERIES. The cable from the FT-817 to the FBA-28 battery holder contains five wires, one of which is green, two that are black, and two that are red. The green wire needs to be connected to the FBA-28 when alkaline batteries are being used. Should you desire to put NiCd or NiMH cells in the FBA-28 battery holder, then disconnect the green wire. When the FT-817 is powered from a 13.8V power supply, the FT-817 will charge the batteries for the time set in the BATT-CHG menu option and then drop to trickle

16/06/01-R

charge. (NOTE: The red wires (positive leads) are connected together in parallel and in a like manner, the black wires (negative leads) are connected in parallel. This is required because the Molex connector used is rated at 1 A per pin and the FT-817 is specified at a maximum current draw of 2 A.)

HIDDEN MENU	Is there a hidden menu?	YES. See TOPIC - CALIBRATION MENU	07/04/01
ICON - POWER	What does the power icon mean when it is blinking or is blank/off?	See TOPIC - POWER OUTPUT.	12/06/01
IF CONTROL	Is there a variable IF width control?	NO. However, you can see some adjacent-frequency interference reduction by using the IF shift control with the frequency control. This creates a makeshift narrow filter that can help some when working CW and you don't have the optional CW filter.	
IF CONTROL	Can the IF be shifted?	YES. Use it to move an interfering signal out of the passband. See the manual for instructions to operate the IF shift control.	
IF SHIFT CONTROL	Can the IF Shift control be used in the PSK mode?	YES. It is generally necessary to use this control when the CW filter (NAR = ON) is used. See TOPIC - PSK31.	17/02/01

IPO	What is the IPO and when should it be used?	<p>IPO stands for Intercept Point Optimization. A detailed explanation of the IPO is beyond the scope of these FAQ; however, it can be considered as a means to bypass the receiver preamp to improve the signal overload performance of the receiver. See page 15.19 in the 77th edition of the ARRL Handbook or similar book to understand more about this parameter. In general, atmospheric noise dominates the HF bands and is much greater than the receiver noise. Improved performance can often be realized by turning ON the IPO under such conditions or when you experience strong signals. If the band is quiet, you may benefit by turning the preamp back ON by turning the IPO OFF. The feature is not available on 2 m and 70 cm bands.</p>	
KEYPAD	Is there a direct entry keypad available for the FT-817?	<p>YES. See <a href="http://john.hansen.net/keypad.htm">http://john.hansen.net/keypad.htm</a> for detail information about the Millennium QSYer Keypad.</p>	19/04/02
LOCK	The radio doesn't respond to changing the dial or other frequency-control keys. What's wrong?	<p>It is likely that the LOCK feature has been turned ON. Look on the right-hand side of the display and see if a symbol of a key is shown. If so, you may turn it OFF by pressing the front panel LOCK Key. There are several levels of LOCK that can be selected through the menu.</p>	

## LOCKED UP SYSTEM

My system is locked up!  
Nothing seems to work.  
What should I try?

Several people have reported that proper operation was restored by unplugging the microphone cable from the FT-817 and then replugging it one or two times. Why this worked is not presently known. Other things to try are to (1) be sure the LOCK function is turned off, (2) turn power off and remove all power sources (disconnect battery too) for 30 seconds and restore power, and (3) perform the system reset(s) given in the Operating Manual plus perhaps with the unit off, press and hold F+V/M buttons while turning the power back on.

10/04/01

## MANUALS

Where can I find a copy of the FT-817 Operating Manual on-line?

See [http://gullfoss2.fcc.gov/cgi-bin/ws.exe/prod/oet/forms/reports/Search\\_Form.hts?mode=Edit&form=Exhibits&application\\_id=98753&fcc\\_id=K66FT-817](http://gullfoss2.fcc.gov/cgi-bin/ws.exe/prod/oet/forms/reports/Search_Form.hts?mode=Edit&form=Exhibits&application_id=98753&fcc_id=K66FT-817). It is the version that Yaesu provided the FCC during the certification process. It is not as complete as the current manuals, but may serve your purpose. Also see the Files section of this FT-817-eGroup.

## MANUALS

Where can I find out something about how to align the FT-817?

See [http://gullfoss2.fcc.gov/cgi-bin/ws.exe/prod/oet/forms/reports/Search\\_Form.hts?mode=Edit&form=Exhibits&application\\_id=98753&fcc\\_id=K66FT-817](http://gullfoss2.fcc.gov/cgi-bin/ws.exe/prod/oet/forms/reports/Search_Form.hts?mode=Edit&form=Exhibits&application_id=98753&fcc_id=K66FT-817). An alignment document is included in this set of files. Also see the Files section of this FT-817-eGroup. Note that this is not the Technical Manual that should become available soon from

MANUALS	Can I obtain a spare Operator's Manual for the FT-817?	Yaesu (Parts Department). YES. In the US, contact: Parts Department (Manuals, Parts 8 am - 4 pm PST): (714) 827-7600 Phone, (714) 827-8100 FAX, Email: yaesuparts@vxstdusa.com. Price is \$6.74 plus UPS shipping. (Hint: Phone orders work well.)	21/0602-R
MANUALS	Can I obtain the Technical (Service) Manual for the FT-817?	YES. This manual contains alignment instructions and more in-depth technical information about the FT-817. In the US, contact: Parts Department (Manuals, Parts 8 am - 4 pm PST): (714) 827-7600 Phone, (714) 827-8100 FAX, Email: yaesuparts@vxstdusa.com. Cost is \$14.29 plus UPS shipping. See ordering information for Operator's Manual.	15/03/01-R
MANUALS - REFERENCE	Is there a reference manual for the FT-817?	YES. Hugh McCully, VE3AYR, has prepared an excellent 160+ page pocket-size book called "The Pack-It Reference for the Yaesu FT-817" that sells for \$12.95 plus \$3.50 S/H. See either (1) <a href="http://www3.sympatico.ca/januscs/">www3.sympatico.ca/januscs/</a> or (2) <a href="http://www.w4rt.com">www.w4rt.com</a> for ordering information. As the famous TV advertisement says (well, paraphrased a bit) "Don't leave home without it; Pack-It!"	20/12/04-R

## MANUALS - REFERENCE CARDS

Where can I find simple reference cards to quickly locate the feature or command I need to use with my FT-817?

N7RR has produced the "Vade Mecum" comprising two laminated cards. One is about 7"x10" and the other is about 4"x3-1/2". The larger card is divided into four sections, viz., Basic Controls, Operating Menu, Customizing Menu, and Power-Saving Settings. The smaller card covers the Operating Menu and Customizing Menu in an abbreviated form. Price is \$6 plus \$1 S/H in the US and \$3 S/H outside the US. The Vade Mecum (meaning roughly something to take with you) can be obtained from either (1) Kairos Research, 853 Alder St., Blaine, WA 98320-8030, USA or (2) [www.w4rt.com](http://www.w4rt.com).

03/06/01

## MEMORY CHANNEL TO VFO

How can a memory channel be copied to one of the VFOs?

ZL2IH discovered that to copy a memory channel to one of the VFO's, you may use the following procedure. (1) Put the Operating Functions to Row 1 (A/B, A=B, SPL); (2) Turn to memory channel of choice (via V/M button); (3) When displaying memory channel, press/hold A=B button until display changes to the VFO mode; and (4) This will write the memory channel to the VFO not displayed, i.e., you will have to press the A/B button to access the other VFO and your newly transferred memory channel contents.

16/04/01

## MEMORY CHANNELS

Can I mask (soft erasure) memory channels?

YES. K7JA provided the procedure for masking (soft erasure) memory channels in the FT-817: 1. Press the [F] key momentarily, then rotate the SEL knob, as needed, until Operating Function Row 2 [MW, MC, TAG] appears on the display. 2. Press the [A (MW)] key momentarily, then rotate the SEL knob to select the memory channel to be deleted. 3. Press the [B(MC)] key momentarily. The frequency display field will go blank. 4. Wait about three seconds; the data will now be "masked" and will not be available for operation. 5. To restore the masked frequency data, repeat the above steps. However, if you store new frequency information on a channel containing masked data, the masked data will be overwritten and lost. 6. Memory Channel 1 is used for Priority operation, and frequency information may only be overwritten (not masked) on this channel.

YES. SM6LKM found an undocumented way to enter text tags for memory channels without having to access the Menu [Menu #35 - MEM TAG]. The procedure is as follows: (1) Make sure "MW MC TAG" is selected for the A-B-C softkeys [Function Row 2]. (2) If the menu is visible, momentarily press [F] to get rid of it. (3) Press [V/M], then select the



## MEMORY TAG

Is there a convenient way for entering the text for Memory Tags without leaving the memory mode?

memory channel with <SEL>. (4) Press [A] (MW) twice, the memory number (top left) starts to flash, the text tag is shown and a cursor is visible under the first character. (5) Enter the text with <SEL> and <DIAL> in the usual manner. (6) Press and hold [A] (MW) for a second BEEP... BEEP and the text is now entered. (7) Rotate <SEL> to the next memory channel to be edited and then GO TO Step 4 above and repeat the process until you have completed the Memory Tagging. Contrary to the documented method of entering memory text tags, this method has an "inactivity timeout" of about 5-6 seconds (the memory number stops flashing and the display returns to its previous state).

19/07/01

## MENU #38

Can the Up/Down buttons on the microphone be used to select the optional SSB or CW filter?

NO. On page 59 on the FT-817 manual, under Menu #38, it states that you can accomplish this control. This is a misprint and a likely copy of a portion of the text from Menu #36.

13/01/02

## MIC UP/DOWN BUTTONS

Can the Up/Down buttons on the microphone be used to select the optional SSB or CW filter?

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13/01/02

MICROPHONE MODIFICATION	Can the FT-817 Yaesu microphone be modified to use the Heil HC-4 and HC-5 inserts?	YES. M0AWS removed the Yaesu microphone insert, modified the TONE switch on the back, and connected the HC-4 and HC-5 inserts instead of the discrete components. Then with a flick of the switch, you have either HC-4 or HC-5 insert ready to use! For information on this modification, see his web site <a href="http://www.cybatek.fsnet.co.uk/m0aws/FT817-mic-mod.html">http://www.cybatek.fsnet.co.uk/m0aws/FT817-mic-mod.html</a> . The photographs and discussion should help you accomplish this modification easily.	10/06/01-R
MODIFICATIONS	When a solder ball modification was made, it appears that the repeater shift is lost when I QSY. Any fix?	DL6OBU suggests that the FT-817 will remember the duplex setting if ARS (Menu #1 and #2) is set to OFF.	25/04/01
MODIFICATIONS	Is it possible to extend the receive and transmit coverage of the FT-817?	YES. The coverage is controlled in general by the selection of the solder ball jumpers. See the message board and use the search function to learn what others believe they have discovered. It seems that different lots of the FT-817 behave somewhat differently. Once the information for modifications can be sorted out, one or more modification files will be placed in the Files Sections. See also <b>FREQUENCY BAND MODIFICATION</b> for a software alternative.	24/08/03

MODIFICATIONS	My FT-817 is the Japanese market version. It doesn't have the coverage I need for my area. Is there a simple modification to change the coverage?	NO. Some changes can be made by selection of solder balls, but it really requires changing the CPU. GL!
MOLEX	What is "MOLEX?"	MOLEX or Molex is the name of a company that manufactures connectors used to connect the internal battery to the FT-817. See TOPIC - CONNECTORS and TOPIC - CONNECTORS, MOLEX FOR INTERNAL BATTERY. 02/04/01
MORSE CODE	Is there a training aid to help me learn Morse code or to improve my skill?	YES. There are many aids, but there is a very nice FREE program for learning morse code written by Gary "The Morseman" Bold, ZL1AN. Gary is very well known in New Zealand for his commitment to supporting learning the code. It is great for the beginner and those that want to obtain higher speeds. It provides a good Windows interface. See <a href="http://www.nzart.org.nz/nzart/exam/morse.html">http://www.nzart.org.nz/nzart/exam/morse.html</a> . Another FREE program is provided by G4FON. See <a href="http://www.qsl.net/g4fon/CW%20Trainer.htm">http://www.qsl.net/g4fon/CW%20Trainer.htm</a> . 11/04/2002
NOISE BLANKER	Can I do anything about improving the performance of the noise blanker in the FT-817?	YES. See Clint's KA7OEI efforts on this topic at <a href="http://www.ussc.com/~turner/ft817_mods.html#blanker">http://www.ussc.com/~turner/ft817_mods.html#blanker</a> . The modification requires adequate skill. 26/04/02

NVIS	What is NVIS?	<p>NVIS stands for Near Vertical Incidence Scattering and is a system concept to provide HF operation over a range of 300-400 miles about the station. For an example antenna, see <a href="http://www.vcars.org/CARL/NVIS.html">http://www.vcars.org/CARL/NVIS.html</a>.</p>	21/06/02
POWER CORD	Is the length of the power cord of importance?	<p>Perhaps. The resistance of each leg of the Yaesu supplied power cord is about 0.033 Ohm/foot. The total resistance of the power cord is <math>2 * 6 \text{ ft} * 0.033 \text{ Ohm/foot} = 0.4 \text{ Ohm}</math>. The voltage drop due to the power cord when transmitting at 5 W (about 2 A) is therefore 0.8 V and the power dissipation is 1.6 W. Consequently, you should attempt to keep your power cord short when running off of an external battery. If you are using an AC power supply, the importance is less.</p>	13/04/01
POWER OUTPUT	Can the RF power output be adjusted to any value under 500 mW?	<p>NO. You must select from 5/2.5/1/0.5 watts. To attain intermediate RF outputs, including less than 0.5 W, you might consider using an QRP-type attenuator. Unless the attenuator is rigged with a bypass on receive, the received signal will also be attenuated.</p>	11/04/01-R

POWER OUTPUT

Is the RF output really  
5/2.5/1/0.5 W?

YES, it appears to be that, based upon a limited sample, the RF output is very close to the stated value with the exception of 2 m. On 2 m, all of the outputs were notably higher. If you are planning to work QRP distance tests (miles/watt) or other such activity where knowing the real RF power output is important, then you should consider obtaining a QRP wattmeter.

POWER OUTPUT

How can I tell the current  
power output setting or  
what does the icon mean?

See page 28 in the Operator's Manual. There are two situations to consider, viz., when operating from an external power source or the internal battery pack. In both cases, when the power output icon shows 1 bar, it indicates 500 mW, 2 bars indicates 1 W, and 3 bars indicates 2.5 W. When using the internal battery pack, a flashing 3-bar icon indicates 5 W. When using an external power source, the icon is OFF or not visible for the 5 W setting.

05/03/01

POWER OUTPUT

Can the power level be set  
differently for each band  
(HF/50/144/430)?

NO. Although the Operating Manual (bottom of page 28) states that one can set the power level differently for each band (HF/50/144/430), it does not seem to be the case. Yaesu has been notified of this issue.

02/04/01

## POWER SUPPLY

Is there a light-weight power supply that can be used with the FT-817?

YES, there are a number of them. One relatively inexpensive, small, and light-weight power for the FT-817 is the Radio Shack part number 22-503. Regular price is \$50.

Beware that this is a switching power supply and can create noise in the rig. This particular power supply from Radio Shack has a mixed history. Some works just fine and others are noisy. You might take your rig to the store and try out different ones until you find a quiet one.

YES. International Power Sources offers the Model CUP36-12-1 switching power supply. It is rated at 13.5 V +/- 4%, 2.4 A, 32 W continuous duty. The CUP36-12-1 is provided in a non-vented 94V-0 rated polyphenylene oxide case only 4.3" x 2" x 0.8". Included is a strain-relieved, six foot output cable with standard barrel type connectors. Full power operation from 0 to 40°C allows use in virtually any indoor environment. Universal Input allows input voltages of 90-264VAC without the need to configure the supply with jumpers, switches or straps. Input to output isolation is 3000VAC for safety agency requirements. Approvals have been received from UL, CSA and TÜV as well as it meets EMI limits per FCC and CISPR. Output voltage accuracy is better than 2% at full line, load and temperature range. Fully

Is a very light-weight and compact power supply

## POWER SUPPLY

available that can be used over a wide input voltage range?

loaded 100% burn-in greatly enhances reliability. Protection is provided for overvoltage, short circuit and input surge. More information can be found at <http://www.intlpower.com/series/cup36.html> that includes a link to a pdf version of the complete specification sheet. (Ed.: My lab and operational measurements of this power supply have validated the specifications. It works great with my FT-817. See TOPIC-CONNECTORS or POWER SUPPLY for information about the correct power plug to install.) NOTE: It is reported that Morse Express/Miles Technologies (<http://www.morsex.com>), Universal Radio (<http://www.universal-radio.com/catalog/hamps/0565.html>), and ForeSight Electronics ([http://www.fse-power.com/html/ips\\_tabletops.html](http://www.fse-power.com/html/ips_tabletops.html) and 800-253-0490) are now selling the CUP36-12-1.

04/09/01-R

It is noted that the FT-817 does not have 100% protection for that time when Mr. Murphy (of Murphy's Law fame) helps you to place the negative wire from the FT-817 on the positive side of the battery and the positive on the negative side.

Examination of the circuit diagram indicates that there will be some smoke if this happens. Remember that whenever something loses its smoke, it's dead! An inexpensive way to protect the FT-817 from this

## POWER SUPPLY

How can I protect my FT-817 from power supply problems?

type of “operator error” and from overvoltage glitches is to place a 2.5-A fuse in-line with the positive wire and install a Zener diode (such as 1N4745 or RS 276-564 ) across the power leads. The fuse goes between the diode and the power source (external battery or power supply). The cathode should be connected to the POSITIVE wire and the anode to the NEGATIVE wire. Be sure to test this setup BEFORE you plug the power cable into the FT-817. If the measured voltage at the power source and the output of the power cable are not the same, you need to replace the diode with a good one. Reverse the leads and verify that the fuse blows. (Sadly, first smoke cause by unprotected lead reversal was recently reported on eHam.com.) Thanks to W4JZ and W3PM for their input.

10/02/01

## POWER SUPPLY

Where can I obtain the ferrite bead for the power supply cord to mitigate the RF pickup on 440 MHz?

Contact Yaesu Parts Department and request this part from them. It is a no-cost item. See TOPIC - MANUALS for contact information.

05/03/01

## POWER SUPPLY

Where can I get another power plug?

You can find it at many electronic supply stores. It is a coax-style plug having dimensions of 4.0 x 1.7 mm. Radio Shack has them as part number 274-1532

05/02/01-R

## POWER SUPPLY

Can I use Yaesu's E-DC-5 cord?

NO. It has been shown to have an unacceptable voltage drop.



PROGRAMMING	Where can I find information about how to program the FT-817 other than what is in the manual?	WARNING! Messing around with this aspect of the FT-817 can lead to an unusable radio. BEWARE! KA7OEI has sniffed around inside the FT-817 and has been able to map a significant portion of the memory. You can find this information at <a href="http://www.ussc.com/~turner/ft817_meow.html">http://www.ussc.com/~turner/ft817_meow.html</a> .	08/06/01
PROGRAMMING	Can I program the FT-817 using a program like ADMS?	YES. RT Systems now offers a programmer for the FT-817. It is available directly from RT Systems at <a href="http://www.cloningsoftware.com">www.cloningsoftware.com</a> or 1-678-354-3500 (Tues, Wed, and Thurs, 5:30-9:00 PM), <a href="http://www.w4rt.com">www.w4rt.com</a> , and several other vendors. Also see TOPIC - CAT CONTROL SOFTWARE	03/06/01-R
PROGRAMMING	Is the information in the FT-817 Operating Manual regarding "CAT System Programming" correct?	NO. There are several misprints. (1) In the Opcode Command Chart, under Operating Mode, "P1 = PKT" should read "P1 = 0C: PKT". (2) In the Opcode Command Chart, under Read RX Status, "(Note 3)" should read "(Note 4)". (3) In the Opcode Command Chart, under Read TX Status, "(Note 4)" should read "(Note 3)". (4) Under Note 3: "RX" should read "TX". (5) Under Note 4: "TX" should read "RX".	29/03/01

PSK31

The manual states on page 39 that the FT-817 can operate in the PSK31 mode. What is PSK31?

PSK31 is a new digital mode designed by Peter G3PLX. PSK31 is based on the RTTY mode of operation and useful for live keyboard to keyboard QSO that works at 31.25 baud. It uses varicode character coding that performs well at 50 wpm. PSK31 is easy to use and monitor, and gives very good copy under poor or weak signal conditions and is thus suitable for QRP. Software is available for free for many platforms, including Windows (c) with SoundBlaster-type soundcard. PSK31 utilizes advanced DSP techniques to generate a narrow-band filter with a bandwidth of just 31 Hz! Although the PSK31 software includes digital filters, it often can be helpful to use the CW filter to minimize the AGC pumping of strong nearby stations. PSK31 stations typically run less than 30 W and worldwide communications are easily achieved using this mode.

PSK31

Where can I find out more about obtaining PSK31 software?

See the PSK31 Official Home Page at <http://aintel.bi.ehu.es/psk31.html>. This page also contains a wealth of information to help you become involved in PSK31.

PSK31	Do I need a TNC (terminal node controller) to operate PSK31?	NO. You just need a computer with a good sound card of the SoundBlaster type. The FT-817 can be hooked directly to the sound card with excellent results. Follow the instructions in the FT-817 Manual. You may need to adjust the output of the sound card and the DIG MIC of the FT-817 to achieve a high-quality PSK31 signal. Transmit control can be manual by taking the PTT line from the DATA plug to ground. For perhaps more enjoyable operation, you may find it desirable to build a simple interface or to purchase something like the popular RigBlaster from West Mountain Radio ( <a href="http://www.westmountainradio.com/RIGblaster.htm">http://www.westmountainradio.com/RIGblaster.htm</a> ) or the RASCAL PSK31 kit (Model FTMDIN) from BUX CommCo ( <a href="http://www.packetradio.com/psk31.htm">http://www.packetradio.com/psk31.htm</a> ).	13/04/01-R
PSK31	Where can I find the plug for the DATA socket on the FT-817 so that I can operate PSK31 and other digital modes?	See TOPICS - CONNECTORS.	
PSK31	Can the CW filter be used in the PSK31 modes? If so, when should it be used?	YES. The CW filter can be used as an effective tool in mitigating undesired signals when operating in the PSK31 modes. When you have NAR set ON, you will see the signals displayed on the waterfall display be limited to about 500 Hz (filter bandwidth) and all others signal are essentially eliminated. However, the spectral position of the CW	17/02/01

filter passband is determined initially by the CW setup in Menu. Consequently, you may have to move the CW filter passband center frequency to the desired signal by using the IF shift control. See manual for control operation.

Q- Signals

Where can I find a listing of the Q-Signals?

You may likely find it interesting to look at the comprehensive listing of "More Than You Ever Wanted To Know About "Q" Signals" at <http://www.c-zone.net/wa6dfg/qsigs.htm#R>.

24/03/01

QRM SUPPRESSION ON CW

How can QRM be reduced when working CW?

Effective QRM suppression when working CW can be often achieved by using a combination of the IF Shift, CW/CWR mode selection, NAR, AGC recovery time constant selection, and the Clarifier. The CW/CWR mode selection switches between USB and LSB carrier injection and is frequently an overlooked but powerful tool to move the QRM source out of the passband.

18/04/01-R

QRP

What does the term QRP mean?

"QRP" is the designation for low-power communications and comes from the "Q" signal meaning to reduce power. Today, QRP is universally used to denote amateur communications utilizing under 5-W RF output. The term QRPP denotes milliwatt power levels. The FT-817 qualifies as a QRP rig and, when operated at the 0.5 W power level, as a QRPP rig.

QRP	Are there any QRP clubs?	YES. There are a number of QRP clubs. Many serve a local area or region. The oldest is likely the QRP Amateur Radio Club International or QRP-ARCI ( <a href="http://www.qrparci.org">www.qrparci.org</a> ). The quarterly magazine is excellent and is included in the modest \$15 annual membership dues.	
QRP	I know what "73" means, but what does "72" mean?	"72" and "73" mean the same thing. "72" was brought into use years ago by QRPers to say "best regards" when they were QRP.	
REFERENCE MANUAL	Is there a reference manual for the FT-817?	YES. See TOPIC - MANUALS	07/04/01
REFERENCE OSCILLATOR	The TX and RX frequency are not the same as the frequency displayed. How can I adjust it?	See Yaesu FT-817 Technical Manual. You may be able to adjust it by tuning TC5001 located on the TCXO. KG6CYN was told by Yaesu Service that the reference oscillator for the DDS was off frequency. To fix this, C5001 (27pF), located on the REF-UNIT board next to the crystal, had to be changed to a 15pF cap and TC5001 had to be adjusted. In some rare cases, the reference crystal will have to be replaced by Yaesu.	22/04/02-R
REMOTE COAX SWITCH	How may I control remote coax switches with the FT-817?	See TOPIC - AUTOMATIC BAND SELECT.	25/03/01
REMOTE INTERFACE	How may I control remote equipment with the FT-817?	See TOPIC - AUTOMATIC BAND SELECT.	25/03/01
RESET	How do I reset my FT-817 when all else fails?	See TOPIC "LOCKED-UP SYSTEM."	22/10/02

REVERSE POLARITY PROTECTION	Does the FT-817 have reverse polarity protection?	Early units don't. G8IFF notes that Lots 17-29 have a fuse and diode on a small carrier board in place of D1084. Fuse is 3.15A. Lots 32 onward have a 3.15A fuse fitted between D1084 and the battery connector.	05/12/02
RF GAIN & SQUELCH	The SQL/RF control is fully clockwise and I hear no sounds at all from the rig. What's wrong?	See TOPIC - SQUELCH & RF GAIN.	
RTTY	I have a TNC that I have used for RTTY with my other rig. Do I have to lug that around to operate RTTY when portable?	NO. If you have a computer with a soundcard (see comments under PSK31), you can use one of several software realizations of RTTY operation. For example, TrueTTY works well and also includes a PSK31 mode (see <a href="http://www.dxsoft.com">www.dxsoft.com</a> ).	
S-METER	My S-meter just quit working. What's wrong?	Most likely, you have turned your AGC to OFF. In this mode, the S-meter will not work since it monitors the AGC voltage. You can reset it by pressing the Function Key and going to Operating Function Row 8 and toggling key B to select auto, fast, or slow.	
S-METER	Is the calibration of the S-meter accurate?	Based upon the evaluation of one unit, the S-meter appears to provide a reasonably good representation of signal strength. Over all bands, it was within a S-unit except on 2 m. It should be noted that the difference in S-units dramatically decreases for lower S-unit values. The signal difference between S-2 and S-3 is less than 2 dB (1/3 of a S-unit). Consequently, use care when interpreting low signal levels with the S-meter.	31/05/01

S-METER	What is a S-unit?	The S-unit is defined to be a 6-dB change in the signal strength. S-9 is typically defined to be 50 microvolts at the antenna input.	
SEL KNOB	The SEL knob seems to have some play in it. Is this normal?	YES. In general, this knob has a slight amount of play in it. Remember that it is both a push button and rotary switch.	12/09/01
SERIAL INTERFACE	How do I make a serial interface for the FT-817?	See TOPIC - AUTOMATIC BAND SELECT	25/03/01
SERIAL NUMBER	How do you interpret the FT-817's serial number?	Yaesu uses the same serial number scheme for all of their ham gear. The serial number has the form YMLLNNN where Y = the last digit of the year of manufacture, M is a letter representing the month of manufacture with "C" = January, "D" = February, and so on, the lot number is represented by the two digit LL (00 - 99), and NNNN (0001-9999) is the unit number within lot LL. As an example, 0N070145 means December 2000, lot 7, unit 145. The lot number is not linked to the year & month, i.e., LL does not reset to 00 each year. Service bulletins refer to lot numbers.	
SLASH ZERO	How do I make a slash zero symbol?	Try alt + 0216. This works for most systems.	24/08/03
SPEAKER	My speaker is not centered over the grill holes. Should I fix this mistake made by Yaesu?	NO. It is not a mistake. This is a "trick" used to improve the frequency response of the speaker for better sound.	

SPEECH COMPRESSOR	Is there a speech compressor for the FT-817?	<p>YES. Presently there are two commercial speech compressors for the FT-817. The first is manufactured by W4RT Electronics (<a href="http://www.w4rt.com">www.w4rt.com</a>) and is called the One BIG Punch (OBP). It can be mounted inside the MH-31 microphone that comes with the FT-817 or it can be installed within the FT-817 case. The MH-31 microphone element is used (the Heil HC-4 element can also be used with excellent results). The OBP utilizes an Analog Devices chip to produce AF compression over the normal voice range and strong compression (limiting, not clipping) for the highest level inputs and strong downwards expansion for the low-end inputs (noise gating). This unit does not clip the signal. Installation can be made by the user or by the company. The second solution is called the DF4ZS RF Clipper (<a href="http://www.jwm.de/afu/index0.htm">http://www.jwm.de/afu/index0.htm</a>) and is offered in NA by Tony VE3TNW (<a href="mailto:bravhart@cogeco.ca">bravhart@cogeco.ca</a>). This unit incorporates its own microphone element and utilizes the RF clipping approach presented by Sabin in QST (July 1967). The audio is compressed, placed on a 455 kHz carrier, peak clipped, brought back to AF, and filtered. This is also an user installed unit. Neither is difficult to install, but some skill is necessary as well as are the proper tools. Both units provide</p>	20/06/02-R
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good performance, but have different audio characteristics.

## SPURIOUS SIGNALS

Have any spurious signals been observed?

YES. WB6CKT was the first to report a spurious signal at 7240 kHz (17 Dec 2000). KC3VO reported that this "birdie" can be greatly reduced by adding a third harmonic trap to the reference oscillator output. This spurious signal can be heard without any antenna attached to the FT-817. Others have reported spurious signals in the VFH/UHF bands. Yaesu now has a fix for the birdie that significantly reduces the level. The unit should be returned to Yaesu for this fix. After Lot 32, the main circuit board was modified to properly correct the problem. No birdie is now heard.

13/01/02 R

## SQUELCH & RF GAIN

The SQL/RF control is fully clockwise and I hear no sounds at all from the rig. What's wrong?

Likely nothing is wrong with the FT-817. First, it should be noted that the default configuration of the US version of the FT-817 is different than the other export versions. This control can be set to either control the squelch or the RF gain (via Menu #45). The default for the US version is RF GAIN. Maximum gain is when the control is fully clockwise. When in the squelch mode, the control knob fully counterclockwise opens the squelch. The RF gain is always set for maximum sensitivity in this setting. If the control knob is fully clockwise and the LED just above the Main Dial is not glowing green, it is likely you are in the Squelch mode. See

		pages 20 and 67 in the manual for more detail.	
SSB FILTER	What are the settings for the SSB filter?	After the SSB filter is installed, set Menu #38 to SSB. Press and hold the F button to exit the Menu. See also TOPIC - FILTERS.	08/04/01
SSB FILTER	Does the SSB filter really provide any meaningful performance improvement?	See TOPIC - FILTER - SSB.	18/06/01
STORING MEMORY CHANNEL DATA TO A VFO	How can a memory channel be copied to one of the VFOs?	See TOPIC - MEMORY CHANNEL TO VFO.	16/04/01
SWR	What do the SWR meter bars mean?	The Operating Manual does not indicate the calibration of the SWR meter. KD6JUI presents in FT817 Message #2990 his extensive measurements of SWR vs. band vs. power level. Validity not confirmed, but most useful.	07/04/01
		YES. You can increase your talk power in several ways. The simplest is to learn to speak clearly and to properly project your voice. Another way is to use the optional Collins SSB filter available from Yaesu, W4RT Electronics, or INRAD. Tests indicate this increases talk power by about 2 dB. The third way is to use a good speech compressor (see TOPIC - SPEECH COMPRESSOR). Yet another is to modify your ALC circuit, but be very careful should you decide to go this route. A further way is to use a special microphone element such as the Heil HC-5. And perhaps the final way is to use a	

## TALK POWER

Can I increase my "talk power" and what does talk power mean?

combination of these techniques. So what is talk power? Simple put, it is the ratio of peak to average power (sort of like the crest factor). It is desired to have this ratio as low as possible WHILE still maintaining adequate articulation of your speech. The typical voice can have peaks that are 12-14 dB greater than the average. Some of the preceding methods modify the power spectrum of the voice while others dynamically transform the signal amplitude. By careful optimization, it is possible to raise the talk power from the -12 dB range to the - a few dB range! This is almost like having linear. Note that you are using more energy from your batteries since the average output power has increased relative to the normal FT-817.

30/03/02

## TCXO

The TX and RX frequency are not the same as the frequency displayed. How can I adjust it?

See TOPIC - REFERENCE OSCILLATOR

23/09/01

## TCXO-9

Do I really need the TCXO-9 for normal use of the FT-817?

NO. The TCXO-9 provides even more stable operation of the FT-817; however, it is not needed for PSK31 or other typical modes with the F-817. For use in non-amateur applications such as CAP and MARS, it may allow the FT-817 to be utilized. This Group is limited to only amateur radio applications and does not discuss non-amateur applications.

22/04/02

TUNING	How do I generate the carrier for tuning with the FT-817?	See TOPIC - ANTENNA TUNER.	03/06/01
TX CARRIER POINT	What is the TX carrier point used for in the FT-817?	See TOPIC - CARRIER POINT	14/05/02
USB PORT	Can the FT-817 be connected to the USB port on a computer?	<p>YES, if you use a USB to Serial converter. One such device is the UC-232A USB Converter which provides an easy solution for adding an additional Com Port to a Windows® or Macintosh computer having a Universal Serial Bus port. The RS-232 connection is the standard 9-pin D Type male connector. The unit is powered from the USB connection, so no external power supply is necessary. Gary N3JPU has used this device with the Yaesu CT-62 cable that connect the FT-817 to a serial port. For more information, see <a href="http://www.usb-port.com/uc232.html">http://www.usb-port.com/uc232.html</a>.</p>	09/06/02
WARRANTY	If I purchase a FT-817 from someone during the warranty period, the rig is still covered by the Yaesu warranty isn't it?	<p>NO. The warranty policy Yaesu has regarding previously-owned equipment is tough. The warranty applies ONLY to the original purchaser. If you buy a rig still in the unopened box from someone that recently bought it, you will have no warranty. The warranty card is not the "proof," it is the bill of sale from an authorized Yaesu Dealer. The name and address need to match that of the person sending in the equipment or be able to explain you moved at least. Of course, you may recognize a way to handle this</p>	

difficulty, but that can have problems too. You should consider that even "fresh" Yaesu gear being sold by a purchaser rather than a store should have less value simply because the warranty is gone!