

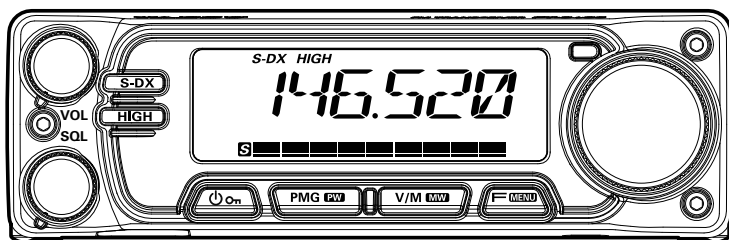
YAESU

Radio for Professionals

VHF FM TRANSCEIVER

FT-3185R

Operating Manual



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The Yaesu **FT-3185R** is a deluxe, rugged FM mobile transceiver providing high power output and outstanding receiver performance for the 144MHz Amateur band. Included in the **FT-3185R**'s feature complement are:

- ☐ 85 Watts of power output, with selection of four power levels for every operating situation.
- ☐ Keyboard entry of operating frequencies from the microphone.
- ☐ Excellent protection from receiver intermodulation distortion, thanks to Yaesu's renowned Advanced Track Tuning front end.
- ☐ 226 memories (200 "basic" memory channels, 10 sets of band-edge memory channels, one "Home" channel, and 5 "PMG" memory channels) which can store repeater shifts, odd repeater shifts, CTCSS/DCS tones, and 6-character Alpha-Numeric labels for easy channel recognition.
- ☐ 10 NOAA Weather Broadcast Channels, with Weather Alert and a Volume Control for the Weather Alert tone.
- ☐ Built-in CTCSS and DCS Encoder/Decoder circuits.
- ☐ Extensive Menu system, which allows customization of a number of transceiver performance characteristics.
- ☐ The Yaesu-exclusive multi-function LCD display.

Additional features include a transmit Time-Out-Timer (TOT), Automatic Power-Off (APO), Automatic Repeater Shift (ARS), plus provision for reduction of the Tx deviation in areas of high channel congestion.

Congratulations on your purchase of the **FT-3185R**! Whether this is your first rig, or if Yaesu equipment is already the backbone of your station, the Yaesu organization is committed to ensuring your enjoyment of this high-performance transceiver, which should provide you with many years of satisfying operation. Our dealer network and technical support personnel stand behind every product we sell, and we invite you to contact us should you require technical advice or assistance.

We recommend that you read this manual in its entirety prior to installing the **FT-3185R**, so that you fully understand the capabilities of your new transceiver.

About this manual

This manual contains symbols and conventions to call attention to important information.

Symbols	Description
	This icon indicates cautions and alerts the user should be aware of.
	This icon indicates helpful notes, tips and information.

Safety Precautions

Note beforehand that the company shall not be liable for any damages suffered by the customer or third parties in using this product, or for any failures and faults that occur during the use or misuse of this product, unless otherwise provided for under the law.

Type and meaning of the marks



DANGER

This symbol indicates the possibility of death or serious injury being inflicted on the user and the surrounding people when these instructions are ignored and the product is mishandled.



WARNING

This symbol indicates the possibility of death or serious injury being inflicted on the user and the surrounding people when these instructions are ignored and the product is mishandled.



CAUTION

This symbol indicates the possibility of physical impediments occurring or impediments being inflicted on the user and the surrounding people when these instructions are ignored and the product is mishandled.

Type and meaning of symbols



Prohibited actions that must not be attempted, in order to use this radio safely. For example,  signifies that disassembly is prohibited.



Precautions that must be adhered to in order to use this radio safely. For example,  signifies that the power supply is to be disconnected.



DANGER



Do not use the device in “regions or aircrafts and vehicles where its use is prohibited” such as in hospitals and airplanes.
This may exert an impact on electronic and medical devices.



Do not use this product while driving or riding a motorbike. This may result in accidents.

Make sure to stop the car in a safe location first before use if the device is going to be used by the driver.



Never touch the antenna during transmission.

This may result in injury, electric shock and equipment failure.



Do not operate the device when flammable gas is generated.

Doing so may result in fire and explosion.



Do not transmit in crowded places in consideration of people who are fitted with medical devices such as heart pacemakers.
Electromagnetic waves from the device may affect the medical device, resulting in accidents caused by malfunctions.



Do not touch any liquid leaking from the liquid display with your bare hands.

There is a risk of chemical burns occurring when the liquid comes into contact with the skin or gets into the eyes. In this case, seek medical treatment immediately.



WARNING



Do not use voltages other than the specified power supply voltage.
Doing so may result in fire and electric shock.



Do not transmit continuously for long periods of time.

This may cause the temperature of the main body to rise and result in burns and failures due to overheating.



Do not dismantle or modify the device.

This may result in injury, electric shock and equipment failure.



Do not handle the power plug and connector etc. with wet hands. Also do not plug and unplug the power plug with wet hands.
This may result in injury, liquid leak, electric shock and equipment failure.



When smoke or strange odors are emitted from the radio, turn off the power and disconnect the power cord from the socket.

This may result in fire, liquid leak, overheating, damage, ignition and equipment failure. Please contact our company amateur customer support or the retail store where you purchased the device.



Keep the power plug pins and the surrounding areas clean at all times.

This may result in fire, liquid leak, overheating, breakage, ignition etc.



Disconnect the power cord and connection cables before incorporating items sold separately and replacing the fuse.

This may result in fire, electric shock and equipment failure.

Safety Precautions



Never cut off the fuse holder of the DC power cord.
This may cause short-circuiting and result in ignition and fire.



Do not use fuses other than those specified.
Doing so may result in fire and equipment failure.



Do not allow metallic objects such as wires and water to get inside the product.
This may result in fire, electric shock and equipment failure.



Do not place the device in areas that may get wet easily (e.g. near a humidifier).
This may result in fire, electric shock and equipment failure.



When connecting a DC power cord, pay due care not to mix up the positive and negative polarities.
This may result in fire, electric shock and equipment failure.



Do not use DC power cords other than the one enclosed or specified.
This may result in fire, electric shock and equipment failure.



Do not bend, twist, pull, heat and modify the power cord and connection cables in an unreasonable manner.
This may cut or damage the cables and result in fire, electric shock and equipment failure.



Do not pull the cable when plugging and unplugging the power cord and connection cables.
Please hold the plug or connector when unplugging. If not, this may result in fire, electric shock and equipment failure.



Refrain from using headphones and earphones at a loud volume.
Continuous exposure to loud volumes may result in hearing impairment.



Do not use the device when the power cord and connection cables are damaged, and when the DC power connector cannot be plugged in tightly.
Please contact YAESU Technical Support or the retail store where you purchased the device as this may result in fire, electric shock and equipment failure.



Follow the instructions given when installing items sold separately and replacing the fuse.
This may result in fire, electric shock and equipment failure.



CAUTION



Do not place this device near a heating instrument or in a location exposed to direct sunlight.
This may result in deformation and discoloration.



Do not place this device in a location where there is a lot of dust and humidity.
Doing so may result in fire and equipment failure.



Stay as far away from the antenna as possible during transmission.
Long-term exposure to electromagnetic radiation may have a negative effect on the human body.



Do not wipe the case using thinner and benzene etc.
Please use a soft and dry piece of cloth to wipe away the stains on the case.



Keep out of the reach of small children.
If not, this may result in injuries to children.



Do not put heavy objects on top of the power cord and connection cables.
This may damage the power cord and connection cables, resulting in fire and electric shock.



Do not transmit near the television and radio.
This may result in electromagnetic interference.



Do not use optional products other than those specified by our company.
If not, this may result in equipment failure.



When using the device in a hybrid car or fuel-saving car, make sure to check with the car manufacturer before using.
The device may not be able to receive transmissions normally due to the influence of noises from the electrical devices (inverters etc.) fitted in the car.



For safety reasons, switch off the power and pull out the DC power cord connected to the DC power connector when the device is not going to be used for a long period of time.
If not, this may result in fire and overheating.



Do not throw or subject the device to strong impact forces.
This may result in equipment failure.



Do not put the device near magnetic cards and video tapes.
The data in the cash card and video tape etc. may be erased.



Do not turn on the volume too high when using a headphone or earphone.
This may result in hearing impairment.



Do not place the device on an unsteady or sloping surface, or in a location where there is a lot of vibration.
The device may fall over or drop, resulting in fire, injury and equipment failure.

Safety Precautions

 **Do not stand on top of the product, and do not place heavy objects on top or insert objects inside it.**
If not, this may result in equipment failure.

 **Do not use a microphone other than those specified when connecting a microphone to the device.**
If not, this may result in equipment failure.

 **Do not touch the heat radiating parts.**
When used for a long period of time, the temperature of the heat radiating parts will get higher, resulting in burns when touched.

 **Do not open the case of the product except when replacing the fuse and when installing items sold separately.**
This may result in injury, electric shock and equipment failure.

Accessories & Options

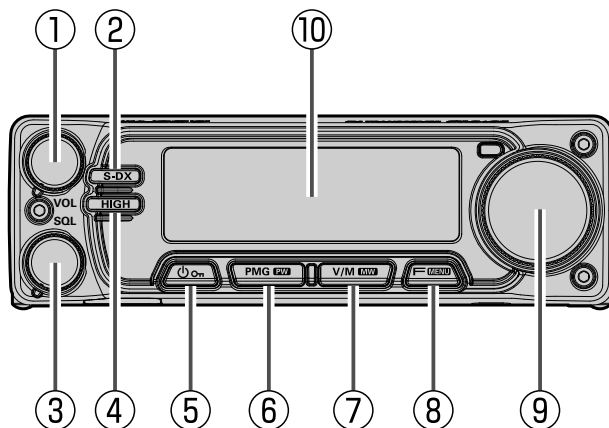
Supplied Accessories

Microphone SSM-85D	1
Mobile Mounting Bracket MMB-83	1
DC Power Cord w/Fuse.....	1
Spare Fuse 25A.....	2
Standing Foot	2
Operating Manual	1

Optional Accessories

High-Power External Speaker	MLS-100
DTMF Microphone.....	SSM-85D
Microphone.....	MH-42C6J
Mic Extension Kit 10ft (3m) for SSM-85D and MH-42C6J.....	MEK-5

Front Panel Controls & Switches



① **VOL Knob**

This control adjusts the audio volume level. Clockwise rotation increases the volume level.

② **S-DX Key**

Enable the Super DX function to increase sensitivity.

③ **SQL Knob**

This control is used to silence background noise on the receiver. It should be advanced clockwise just to the point where the noise is silenced, so as to provide the best sensitivity to weak signals.

④ **HIGH Key**

Switches the transmit power output between “HIGH” and “LOW”.

⑤ **PWR Key**

Press and hold this key for one second to toggle the transceiver’s power ON and OFF.

Press this key to toggle the Lockout Feature “ON” or “OFF”.

⑥ **PMG(PW) Key**

Press this key momentarily to Displays PMG (Primary Memory Group).

Press and hold in this key to Register the displayed frequency in PMG.

⑦ **V/M(MW) Key**

Press this key momentarily to switch the frequency control among the VFO, Memory System, and Home channel.

Press and hold in this key for one second to activate the Memory Storage mode.

Front Panel Controls & Switches

⑧ F(MENU) Key

Press this key to display the function list screen. Rotate the DIAL knob to select an item and perform the functions and make settings.

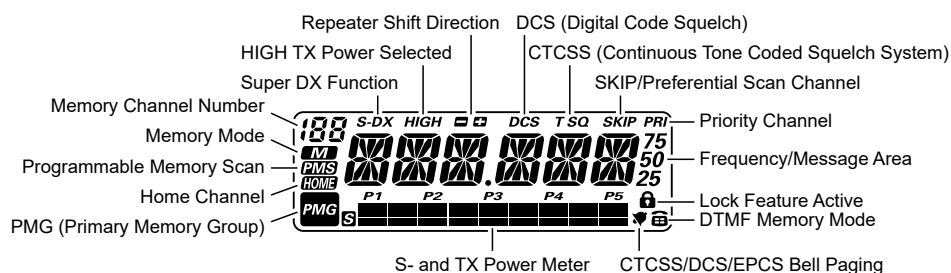
Press and hold in this key to enter set-up menu.

⑨ DIAL Knob

Change the frequency or select the memory channel. The microphone [UP]/[DOWN] buttons duplicate the functions of this knob.

⑩ Display

The main digits on the display may show the operating frequency, memory name, or any of many parameters during Menu setup.



① MIC

Speak into the microphone during transmission.

② TX LED

Lights red while pressing PTT switch.

③ PTT

Press and hold the PTT switch to transmit, and release it to receive.

④ DWN

Press this button to move the frequency or memory channel lower by one step, press and hold it to start scanning.

⑤ UP

Press this button to move the frequency or memory channel up by one step, press and hold it to start scanning.

⑥ MUTE

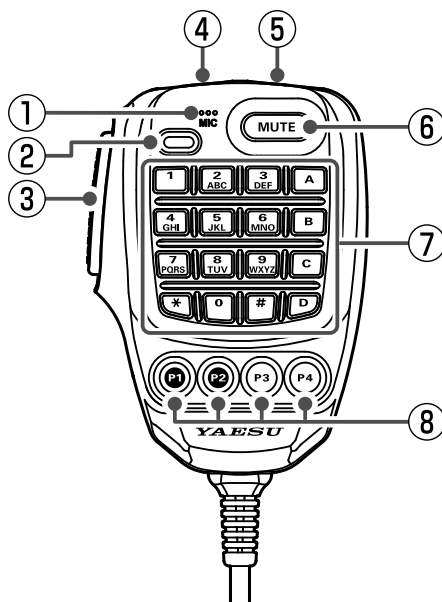
Press this button to mute the receive audio. Press it again to unmute the audio.

⑦ DTMF keypad

Press these keys during transmit to enter and send a DTMF sequence.

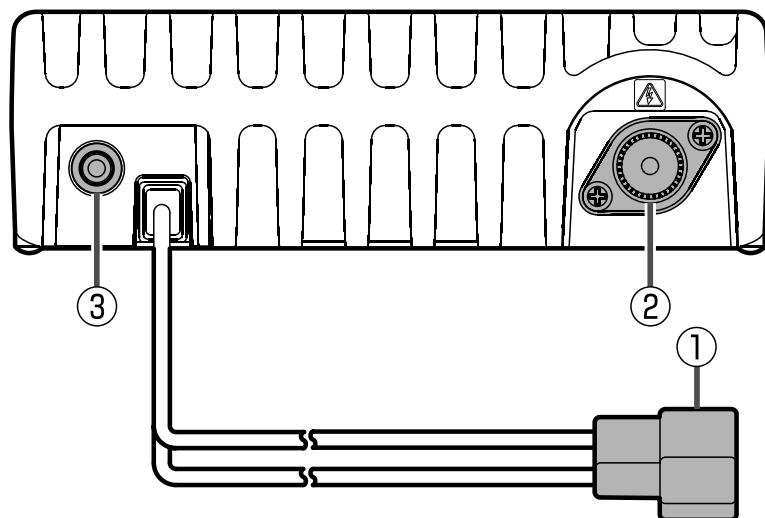
⑧ Program keys ([P1]/[P2]/[P3]/[P4])

The default function settings of the [P1] / [P2] / [P3] / [P4] keys are shown in the table below.



Key	Function	Description
P1	SQL OFF	Opens the squelch (SQL off)
P2	HOME	Recalls the HOME channel
P3	DW	Operation setting of dual receive function
P4	WX	Switches operation to the Weather Channel Bank

Rear Panel Connectors



① **13.8V DC Cable Pigtail**

This is the power supply connection for the transceiver. Use the supplied DC cable to connect this pigtail to the car battery or other DC power supply capable of at least 15 Amperes (continuous duty). Make certain that the red lead connects to the positive side of the supply. The fuse is 25A.

② **ANT Coaxial Socket**

Connect a 144-MHz antenna to this type-M (SO-239) socket using 50-Ohm coaxial cable and a type-M (PL-259) plug. Make sure the antenna is designed specifically for use on the operating frequency.

③ **EXT SP Jack**

This 2-contact 3.5-mm mini phone jack provides receiver audio output for an optional external speaker. The audio impedance is 4 Ohms, and the level varies according to the setting of the front panel's **VOL** control. Inserting a plug into this jack disables audio from the transceiver's internal speaker.

This chapter describes the installation procedure for integrating the **FT-3185R** into a typical amateur radio station. It is presumed that you possess technical knowledge and conceptual understanding consistent with your status as a licensed radio amateur. Please take some extra time to make certain that the important safety and technical requirements detailed in this chapter are followed closely.

Preliminary Inspection

Inspect the transceiver visually immediately upon opening the packing carton. Confirm that all controls and switches work freely, and inspect the cabinet for any damage. Gently shake the transceiver to verify that no internal components have been shaken loose due to rough handling during shipping.

If any evidence of damage is discovered, document it thoroughly and contact the shipping company (or your local dealer, if the unit was purchased over-the-counter) so as to get instructions regarding the prompt resolution of the damage situation. Be certain to save the shipping carton, especially if there are any punctures or other evidence of damage incurred during shipping; if it is necessary to return the unit for service or replacement, use the original packing materials but put the entire package inside another packing carton, so as to preserve the evidence of shipping damage for insurance purposes.

Installation Tips

To ensure long life of the components, be certain to provide adequate ventilation around the cabinet of the **FT-3185R**.

Do not install the transceiver on top of another heat-generating device (such as a power supply or amplifier), and do not place equipment, books, or papers on top of the **FT-3185R**. Avoid heating vents and window locations that could expose the transceiver to excessive direct sunlight, especially in hot climates. The **FT-3185R** should not be used in an environment where the ambient temperature exceeds +140 °F (+60 °C).

Installation

Antenna Consideration

The **FT-3185R** is designed for 50 Ohm resistive impedance at the amateur operating frequencies.

The antenna (or a 50 Ohm dummy load) should be connected whenever the transceiver is turned on, to avoid damage that could otherwise result if transmission occurs accidentally without an antenna.

Ensure that your antenna is designed to handle 85 Watts of transmitter power. Some magnetic-mount mobile antennas, designed for use with hand-held transceivers, may not be capable of withstanding this power level. Consult the antenna manufacturer's specification sheet for details.

Construct the antenna and coaxial cable, to maintain the impedance presented to the **FT-3185R** antenna connector for an SWR of 1.5 or less. Careful preparation of the antenna will permit maximum performance and protect the transceiver from damage. High voltages may be present on the antenna; install it so it will not be easily touched when in operation.

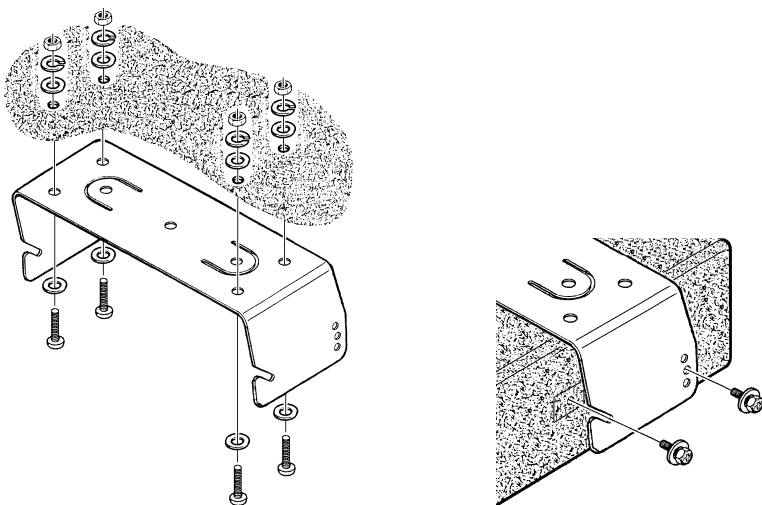
About coaxial cable

Use high-quality 50-Ohm coaxial cable for the lead-in to your **FT-3185R** transceiver.

Mobile Installation

The **FT-3185R** must only be installed in vehicles having a 13.8 Volt negative ground electrical system. Mount the transceiver where the display, controls, and microphone are easily accessible, using the supplied **MMB-83** mounting bracket.

The transceiver may be installed in almost any location, but should not be positioned near a heating vent nor anywhere where it might interfere with driving (either visually or mechanically). Make sure to provide plenty of space on all sides of the transceiver so that air can flow freely around the radio's case. Refer to the diagrams showing proper installation procedures.



Mobile Power Connections

To minimize voltage drop and avoid blowing the vehicle's fuses, connect the supplied DC power cable directly to the battery terminals. Do not attempt to defeat or bypass the DC cable's fuse - it is there to protect you, your transceiver, and your vehicle's electrical system.

Warning!

Never apply AC power to the power cable of the FT-3185R, nor DC voltage greater than 15.8 Volts. When replacing the fuse, only use a 25-A fuse. Failure to observe these safety precautions will void the Limited Warranty on this product.

- ☐ Use the transceiver only in a car with a negative ground 12V DC system, where the minus (-) pole of the battery is connected to the car body.
- ☐ Do not connect the radio to the 24V battery of a large vehicle.
- ☐ Do not use a DC power cable other than the one that is supplied or specified.
- ☐ High current is carried during transmissions; do not use the cigarette lighter connector inside the car as a power source.

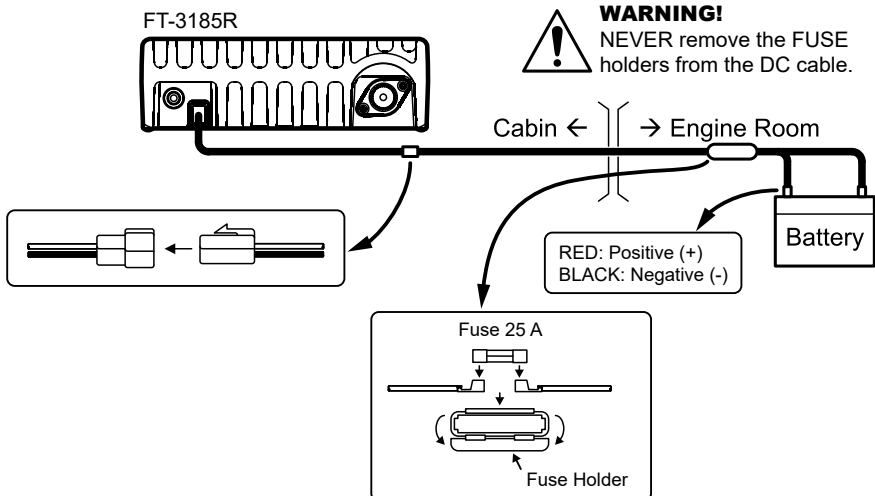


High RF voltage is present in the TX RF section of the transceiver while transmitting. Absolutely! Do not touch the TX RF section while transmitting.



Permanent damage can result when improper supply voltage, or reverse polarity voltage, is applied to the **FT-3185R**. The Limited Warranty on this transceiver does not cover damage caused by application of AC voltage, reverse polarity DC, or DC voltage outside the specified range of 13.8V $\pm$ 15%. When replacing fuses, be certain to use a fuse of the proper rating.

The **FT-3185R** requires a 25 Amp blade fuse.



Mobile Speakers

Installation

The optional **MLS-100** External Speaker includes its own swivel-type mounting bracket, and is available from your Yaesu dealer.

Other external speakers may be used with the **FT-3185R**, if they present the specified 4-Ohm impedance and are capable of handling the 3 Watts of audio output supplied by the **FT-3185R**.

Base Station Installation

The **FT-3185R** is ideal for base station use as well as in mobile installations. The **FT-3185R** is specifically designed to integrate into your station easily, using the information to follow as a reference.

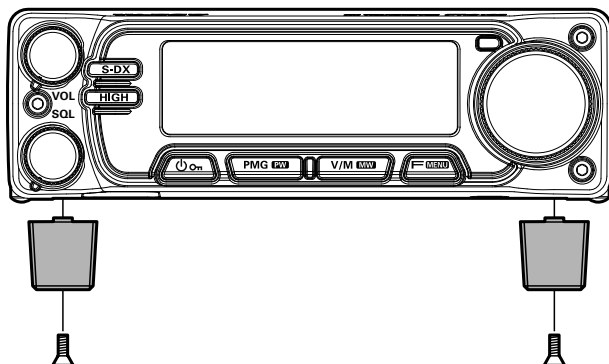
AC Power Supplies

Operation of the **FT-3185R** from an AC line requires a power source capable of providing at least 15 Amps continuously at 13.8 Volts DC. The **FP-1023** and **FP-1030A** AC Power Supplies are available from your Yaesu dealer to satisfy these requirements. Other well-regulated power supplies may be used, as well, if they meet the above voltage and current specifications.

Use the DC power cable supplied with your transceiver for making power connections to the power supply. Connect the **RED** power cable lead to the **POSITIVE (+)** power supply terminal, and connect the **BLACK** power cable lead to the **NEGATIVE (-)** power supply terminal.

Base Station Feet

The supplied Base Station Feet allow the transceiver to be tilted upward for better viewing. To install the Base Station Feet, remove the two screws affixing the front side of the bottom cover, then install the Base Station Feet using these screws.

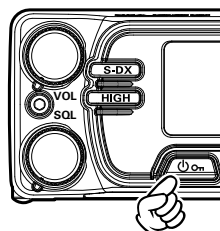


Turning the Transceiver On and Off

1. To turn the transceiver on, press and hold in the **PWR** key for one second.

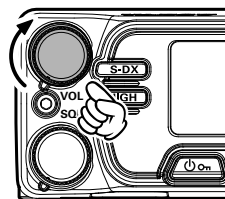
When you turn on the **FT-3185R**, the current DC supply voltage is indicated on the LCD for 2 seconds. After this interval, the display will switch its normal indication of the operating frequency.

2. To turn the transceiver off, again press and hold in the **PWR** key for one second.



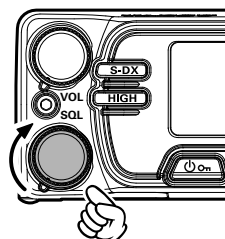
Adjusting the Audio Volume Level

Rotate the **VOL** control to adjust the receiver volume. Clockwise rotation increases the audio output level.



Adjusting the Squelch Setting

Rotate the **SQL** control just to the point where the noise is silenced. If the **SQL** control is set further clockwise, sensitivity to weak signals is reduced.



Basic Operation

Frequency Navigation

1) Tuning Dial

Rotating the **DIAL** knob allows tuning in the pre-programmed steps. Clockwise rotation of the **DIAL** knob causes the **FT-3185R** to be tuned toward a higher frequency, while counter-clockwise rotation will lower the operating frequency.

Press the **DIAL** knob momentarily, then rotate the **DIAL** knob, to change the frequency steps to 1 MHz per step. This feature is extremely useful for making rapid frequency excursions over the wide tuning range of the **FT-3185R**. Instead of pressing the **DIAL** knob, you may also press the **[A]** key on the Microphone's keypad to engage tuning in 1 MHz steps.

2) Direct Keypad Frequency Entry

The keypad of the **SSM-85D** DTMF Microphone may be used for direct entry of the operating frequency.

To enter a frequency from the **SSM-85D** keypad, just press the numbered digits in the proper sequence.

Examples: To enter 145.520 MHz

[1] ➡ [4] ➡ [5] ➡ [5] ➡ [2]

To enter 145.000 MHz

[1] ➡ [4] ➡ [5] ➡ [Press and hold any numeric key]

3) Scanning

From the VFO mode, press the microphone's **[UP]/[DWN]** keys momentarily to initiate scanning toward a higher- or lower frequency, respectively. The **FT-3185R** will stop when it receives a signal strong enough to break through the squelch threshold. The **FT-3185R** will then hold on that frequency according to the setting of the "Resume" mode (Menu "27 SCN.RSM").

Press the **[UP]/[DWN]** keys again to cancel scanning. You may also press the **PTT** button momentarily; scanning will stop, but you will not transmit until you release the **PTT** button, and press it again.

Transmission

To transmit, simply close the **PTT** (Push To Talk) switch on the microphone when the frequency is clear. Hold the microphone approximately 1" (25 mm) from your mouth, and speak into the microphone in a normal voice level. When your transmission is complete, release the **PTT** switch; the transceiver will revert to the receive mode.

Changing the Transmitter Power Level

You can select from among a total of four transmit power levels on your **FT-3185R**.

To change the power level, press the **[HIGH]** key. These power levels will be stored, in memory registers, at the time of memory storage.

Function List

From 44 items of the Setup Menu, frequently used functions in the Function List can be registered and then recalled by simply pressing the **[F(MENU)]** key. To recall a function, press the **[F(MENU)]** key, then turn the **DIAL** knob.

Registration to function list

Select the function or item to assign from the menu list, then press and hold the **[F(MENU)]** key.

Cancel registration to function list

Select the function or item to cancel, then press and hold the **DIAL** knob. The function is canceled from the function list and returns to normal operation. The PMG screen can be switched to auto mode or manual mode by press and hold the **DIAL** knob.

PMG (Primary Memory Group)

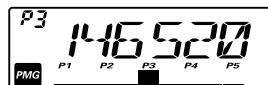
The PMG function that displays the receive status of registered channels in a bar graph allows registration of up to 5 channels by pressing and holding the **[PMG(PW)]** key for the current display frequency of either the VFO or the memory channel.

Register the frequency to PMG

Display the frequency of the VFO or memory channel, then press and hold the **[PMG(PW)]** key. The frequency is registered in PMG.

Display the PMG screen

Press the **[PMG(PW)]** key to display the PMG screen.



Press the **DIAL** knob to switch between Auto Mode and Manual Mode.

Auto Mode:

Scan and receive simultaneously on channels with signals.

When there is no signal, scanning is resumed and the receive status is displayed in real time.

Manual Mode:

It is fixed to the channel selected by the **DIAL** knob, and when there is a signal, the received audio is output.

When there is no signal on the selected channel, it scans and displays the receive status of other channels in real time. (Even if there is a signal on another channel, the received audio is not output.)

Advanced Operation

Weather Broadcast Reception

The **FT-3185R** includes a unique feature which allows reception of weather broadcasts in the 160 MHz frequency range. Ten standard Weather Broadcast channels are pre-loaded into a special memory bank.

To listen to a Weather Broadcast Channel:

1. Press the Microphone's **[P4]** button to recall the Weather Broadcast channels.
2. Turn the **DIAL** knob to select the desired Weather Broadcast channel.

CH	Frequency	CH	Frequency
01	162.550 MHz	06	162.500 MHz
02	162.400 MHz	07	162.525 MHz
03	162.475 MHz	08	161.650 MHz
04	162.425 MHz	09	161.775 MHz
05	162.450 MHz	10	163.275 MHz

3. If you wish to check the other channels for activity by scanning, just press the Microphone's **PTT** switch.
4. To exit to normal operation, press the **[P4]** button again. Operation will return to the VFO or Memory channel you were operating on before you began Weather Broadcast operation.



The **[P4]** key, one of the programmable keys, is assigned (default setting) as the “**WX Broadcast**” one-touch access key. Please note that if you change/assign another function to the **[P4]** key, one-touch access to the **WX** channel will be unavailable.

Severe Weather Alert Feature

In the event of extreme weather disturbances, such as storms and hurricanes, NOAA (the National Oceanic and Atmospheric Administration) sends a weather alert accompanied by a 1050 Hz tone and subsequent weather report on one of the NOAA weather channels. You may enable this feature via Menu Item “43 WX ALT”, if desired.

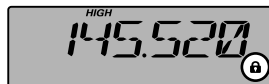
When scanning the band or the “regular” memories, with the Severe Weather Alert feature engaged, you will notice that the **FT-3185R** will break over to the Weather Channel bank every five seconds, performing a quick scan of those channels in search for the 1050 Hz alert tone. If the alert tone is received, operation will lock on the weather broadcast station issuing the alert; otherwise, the radio will revert to the VFO or memory scan session in progress without interruption.

When the alert tone is received, press the **PTT** button momentarily to disable the alarm, and the Severe Weather message will now be audible from the speaker.

LOCK Feature

To activate the locking feature, press the **[Power]** key. The “**🔒**” icon will appear on the LCD.

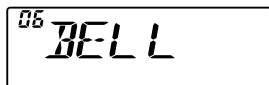
To cancel locking, press the **[Power]** key again.



Keyboard Beeper

A key/button beeper provides useful audible feedback whenever a key/button is pressed. If you want to turn the beeper off (or back on again):

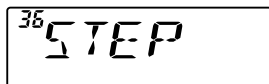
1. Press and hold in the **[F(MENU)]** key for one second, then rotate the **DIAL** knob to select “5 BEEP”.
2. Press the **DIAL** knob, then rotate the **DIAL** knob to set the display to “OFF”.
3. Press the **[F(MENU)]** key to save the new setting and exit to normal operation.
4. To turn the beep back on again, select “LOW (factory default)” or “HIGH” in step 2 above.



Channel Step Selection

Tuning steps are factory preset to default increments which are appropriate for the country to which this radio is exported. You may have a reason to use a different step size, however, and here is the procedure for changing the channel steps:

1. Press and hold in the **[F(MENU)]** key for one second, then rotate the **DIAL** knob to select “36 STEP”.
2. Press the **DIAL** knob, then rotate the **DIAL** knob to select the desired step size (AUT 0/5/6.25/10/12.5/15/20/25/50/100 kHz).
3. Press the **[F(MENU)]** key to save the new setting and exit to normal operation.



Display Brightness

The **FT-3185R** display illumination has been specially engineered to provide high visibility with minimal disruption of your “night vision” while you are driving. The brightness of the display is manually adjustable, using the following procedure:

1. Press and hold in the **[F(MENU)]** key for one second, then rotate the **DIAL** knob to select “8 DIMMER”.
2. Press the **DIAL** knob, then rotate the **DIAL** knob to select the comfortable brightness level (OFF / MID / MAX).
3. Press the **[F(MENU)]** key to save the new setting and exit to normal operation.



Repeater Operation

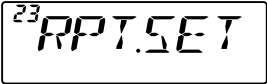
The **FT-3185R** includes a host of convenience features which makes operation on amateur repeaters both efficient and enjoyable.

This transceiver offers three methods of setting up split-frequency operation on repeaters:

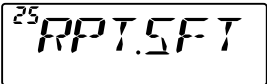
- ☐ Manual selection of preset repeater shifts (Standard Repeater Shift);
- ☐ Automatic Repeater Shift (ARS), providing automatic activation of repeater shifts while operating within designated repeater frequency subbands; and
- ☐ Independently stored transmit and receive frequencies (typically not corresponding to established repeater frequency shifts).

Standard Repeater Shift

To activate the standard shift manually, you may use the Set (Menu) mode:

1. Press and hold in the **[F(MENU)]** key for one second, then rotate the **DIAL** knob to select “23 RPT.SET”.
2. Press the **DIAL** knob, then rotate the **DIAL** knob to select the desired shift direction (SIMP, -RPT or +RPT).
3. Press the **[F(MENU)]** key to save the new setting and exit to normal operation.

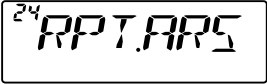
The repeater offset is fixed to 600kHz from the factory. Change the offset by the following procedure, if needed for vacation travel or other purposes:

1. Press and hold in the **[F(MENU)]** key for one second, then rotate the **DIAL** knob to select “25 RPT.SFT”.
2. Press the **DIAL** knob, then rotate the **DIAL** knob to select the desired offset. Note that the resolution of the “standard” repeater shift is to the nearest 50kHz multiple.
3. Press the **[F(MENU)]** key to save the new setting and exit to normal operation.

Automatic Repeater Shift

The ARS (Automatic Repeater Shift) feature in this transceiver allows easy and convenient repeater operation by automatically activating the repeater shift function whenever you tune to a standard repeater subband. The ARS function is preset at the factory to conform to the standards for the country to which it is exported.

The ARS function is enabled at the factory. To disable it:

1. Press and hold in the **[F(MENU)]** key for one second, then rotate the **DIAL** knob to select “24 RPT.ARS”.
2. Press the **DIAL** knob, then rotate the **DIAL** knob to change the display to “OFF”.
3. Press the **[F(MENU)]** key to save the new setting and exit to normal operation.

To enable the ARS function again, select “ON” in step 2 above.