

YAESU

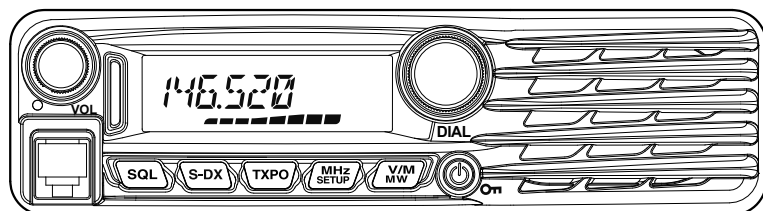
Radio for Professionals

FT-3165R

FT-3165E

Operating Manual

VHF FM TRANSCEIVER



Contents

FT-3165R/E Quick Reference Guide.....	1	Memory Operation.....	24
Introduction.....	2	Memory Storage.....	24
New Features of the Yaesu FT-3165R/FT-3165E.....	2	Split Memory.....	24
Other Features.....	2	Naming a Memory Channel.....	24
Accessories & Options.....	3	Memory Recall.....	25
Supplied Accessories.....	3	Memory Recall from the Microphone Keypad.....	25
Optional Accessories.....	3	Moving Memory Data to the VFO.....	25
Safety Precautions (Be Sure to Read).....	4	Memory Only Mode.....	25
Installation.....	6	Masking Memories.....	26
Connecting the Microphone.....	6	Unmasking Memories.....	26
Connecting the Antenna.....	6	HOME Channel Memory.....	26
Mobile Installation.....	6	Changing the frequency of the home channel.....	26
Power connection.....	7	Scanning.....	27
Base Station Installation.....	8	Basic Scanner Operation.....	27
AC Power Supplies.....	8	Scan Resume Options.....	27
Front Panel Controls & Switches.....	9	Memory Skip Scanning.....	27
Front Panel.....	9	Preferential Memory Scan.....	27
Microphone Switches.....	11	Programmable Memory Scan (PMS).....	27
Microphone (SSM-85D).....	11	Priority Channel Scanning (Dual Watch).....	27
Rear Panel Connectors.....	12	Miscellaneous Settings.....	28
Rear Panel.....	12	Keyboard Beeper.....	28
Basic Operation.....	13	Display Brightness.....	28
Turning the Transceiver ON and OFF.....	13	Time-Out-Timer (TOT).....	28
Adjusting the Audio Volume Level.....	13	Automatic Power Off (APO).....	28
Adjusting the Squelch Setting.....	13	Busy Channel Lock-Out (BCLO).....	28
Lock Feature.....	13	TX Deviation Level.....	28
Frequency Navigation.....	14	MIC Gain Setting.....	28
Using the Dial.....	14	Displaying the Supply Voltage.....	28
Using the SSM-85D Microphone.....	14	Displaying the Temperature.....	28
Channel Step Selection.....	14	Band Edge Beeper.....	28
Transmission.....	15	Reset Procedure/Clone.....	29
Adjusting the transmit power.....	15	Reset Procedure.....	29
Repeater Operation.....	16	All Reset.....	29
Checking the Repeater Uplink (Input) Frequency.....	16	Set Mode Resetting.....	29
Tone Calling (1750Hz).....	16	Clone.....	29
Advanced Operation.....	17	Setup (Menu) Mode.....	30
Super DX and Noise cancelling function.....	17	Maintenance.....	32
Priority Channel Scanning (Dual Watch).....	18	Care and maintenance.....	32
Programming the Key Assignments.....	19	Replacing the fuse.....	32
CTCSS Operation.....	20	Replacing the fuse of the DC power supply cable ..	32
Tone Search.....	20	Specifications.....	33
DCS Operation.....	21	YAESU LIMITED WARRANTY.....	34
DCS Search.....	21		
Weather Broadcast Reception.....	22		
Severe Weather Alert Feature.....	22		
EPCS (Enhanced Paging & Code Squelch) Operation.....	23		
Split Tone Operation.....	23		
DTMF Operation.....	23		

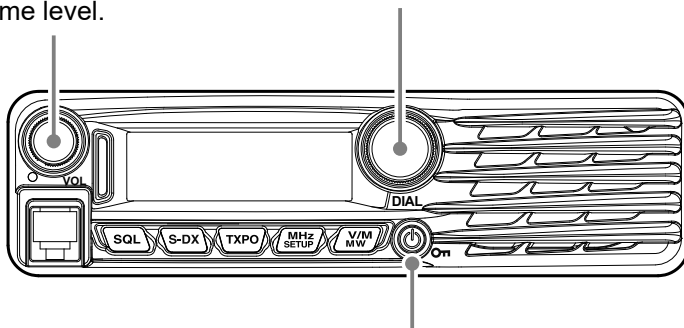
FT-3165R/E Quick Reference Guide

② VOL Knob

Adjusts the audio volume level.

③ Frequency DIAL Knob

Selects the operating Frequency.

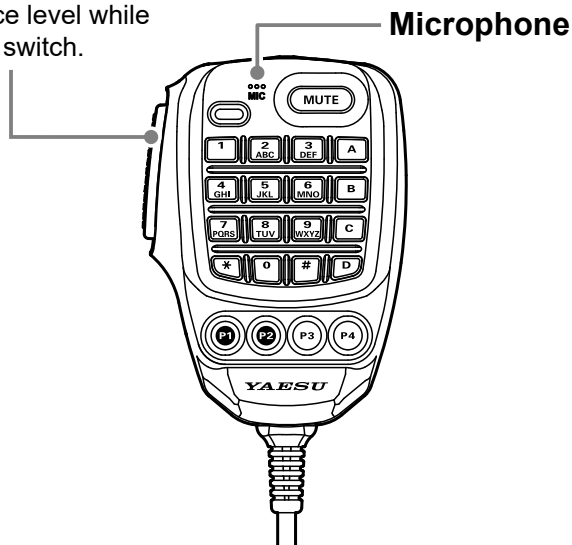


① Power Switch

Press and hold for one second.

④ Transmission Switch

Speak into the microphone in a normal voice level while pressing this switch.



New Features of the Yaesu FT-3165R/FT-3165E

- The new Super DX function increases the sensitivity of the RF amplifier when the received signal is weak, and expands the communication range.
- Installing the optional "Signal Processing Unit SPU-1", permits digitally processing the received audio signal to separate and remove noise. The voice can be brought out to produce clearer, easier-to-listen-to sound quality. Even weak signals that were previously inaudible due to noise can now be received clearly.
- A highly durable 5W high-quality, front loud speaker has been newly adopted to ensure uninterrupted communication, even in noisy environments.

Other Features

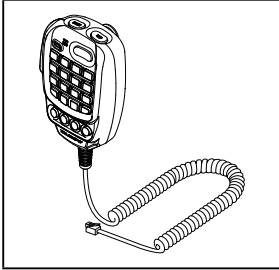
- Optimizing the final power amplifier section and incorporating a small, highly efficient cooling fan, has achieved a transmission output of 65W.
- Expanded receiver coverage: 136-174MHz
- Keyboard entry of operating frequencies from the microphone
- 220 memories (199 "basic" memory channels, 10 sets of band-edge memory channels, and one "Home" channel) which can store repeater shifts, odd repeater shifts, CTCSS/DCS tones, and 8-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

Additional features include a transmit Time-Out-Timer (TOT), Automatic Power-Off (APO), and Automatic Repeater Shift (ARS). Also included is an RF Squelch circuit that allows the owner to set the squelch to open at a programmed setting of the S-Meter, thus reducing guesswork in setting the squelch threshold.

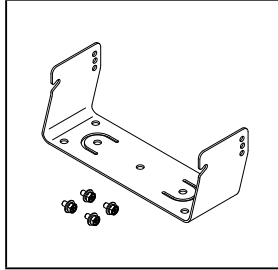
Congratulations on your purchase of the FT-3165R/E. Whether this is your first rig, or if Yaesu equipment is already the backbone of your station, the Yaesu organization is committed to ensuring your enjoyment of this high-performance transceiver. It should provide you with many years of satisfying operation. 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-3165R/E, so that you fully understand the capabilities of your new transceiver.

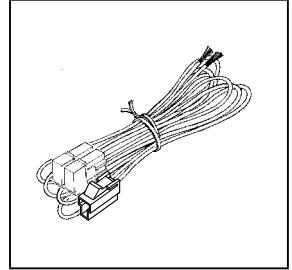
Supplied Accessories



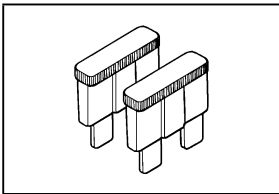
DTMF Microphone
SSM-85D



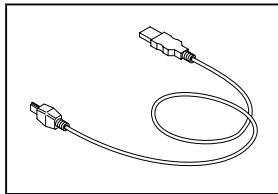
Mobile Mounting Bracket
(Attachment screw set)



DC power cable w/Fuse



Spare fuse (25 A)
(20 A, European version)



USB cable

Operating Manual

Optional Accessories

DTMF Microphone (equivalent to the supplied microphone)
Microphone
Signal Processing Unit
High-Power External Speaker
AC Power Supply (USA market only)
AC Power Supply (USA/Asian market only)




SSM-85D
MH-42C6J
SPU-1
MLS-100
FP-1023
FP-1030A

Safety Precautions (Be Sure to Read)





Be sure to read these important precautions, and use this product safely.

Yaesu is not liable for any failures or problems caused by the use or misuse of this product by the purchaser or any third party. Also, Yaesu is not liable for damages caused through the use of this product by the purchaser or any third party, except in cases where ordered to pay damages under the laws.








Types and meanings of the marks

 DANGER	This mark indicates an imminently hazardous situation, which, if not avoided, could result in death or serious injury.
 WARNING	This mark indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.
 CAUTION	This mark indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury or only property damage.








Types and meanings of symbols









	These symbols signify prohibited actions, which must not be done to use this product safely. For example:  indicates that the product should not be disassembled.
	These symbols signify required actions, which must be done to use this product safely. For example:  indicates that the power plug should 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 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 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.	 When an alarm goes off with the external antenna connected, cut off the power supply to this radio immediately and disconnect the external antenna from this radio. If not, this may result in fire, 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 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.
 Never touch the antenna during transmission. This may result in injury, electric shock and equipment failure.	

WARNING



















 Do not use voltages other than the specified power supply voltage. Doing so may result in fire and electric shock.	 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.
 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.	 Keep the power plug pins and the surrounding areas clean at all times. This may result in fire, liquid leak, overheating, breakage, ignition etc.
 Do not dismantle or modify the device. This may result in injury, electric shock and equipment failure.	 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.
 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.	

-  **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.

-  **When transmitting, keep the antenna at least 1.8m away from your body. Do not use modified or damaged antennas.**
-  **RF Exposure:** This device should be operated with a minimum separation distance of 20cm (8 inches) between the equipment and a person's body.
-  **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 our company amateur customer 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.
-  **Do not use the device when the alarm goes off.**
For safety reasons, please pull the power plug of the DC power equipment connected to the product out of the AC socket.
Never touch the antenna as well. This may result in fire, electric shock and equipment failure due to thunder.



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 this 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.
-  **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.

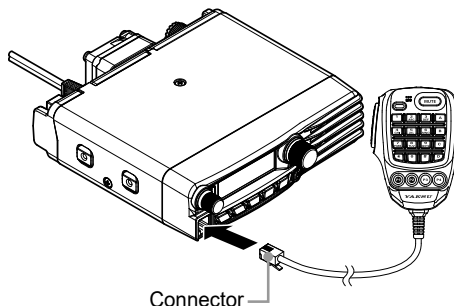
Installation

Connecting the Microphone

Connect the supplied SSM-85D microphone to the FT-3165R/E.

Plug the microphone connector into the MIC jack on the front panel until it clicks.

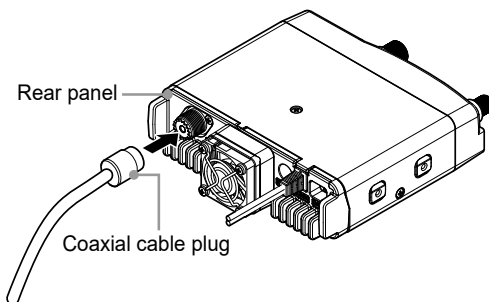
Note: When disconnecting the microphone, pull the cable while pressing the connector latch.



Connecting the Antenna

Connect the coaxial cable to the body.

Plug the coaxial cable jack into the ANT terminal on the rear panel of the body, then rotate and tighten it.

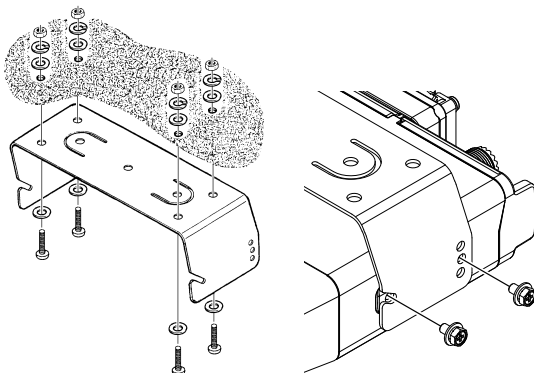


Mobile Installation

The FT-3165R/E 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 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 transceiver's case. Refer to the diagrams showing proper installation procedures.



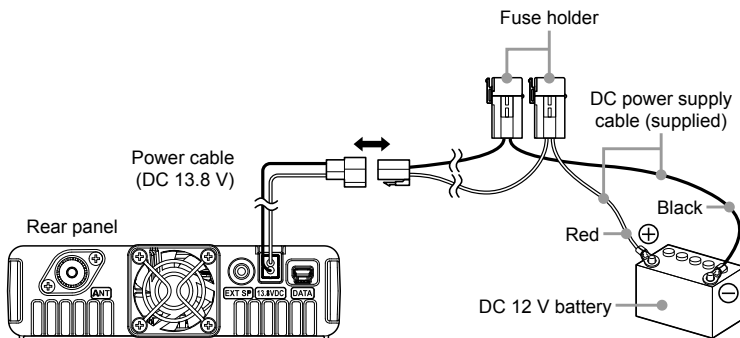
Power connection

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 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-3165R/E, nor DC voltage greater than 15.8 Volts. When replacing the fuse, only use a 25-A (20-A, European version) fuse. Failure to observe these safety precautions will void the Limited Warranty on this product.

- ☐ Before connecting the transceiver, check the voltage at the battery terminals while revving the engine. If the voltage exceeds 15 Volts, adjust the vehicle's voltage regulator before proceeding with installation.
- ☐ Connect the **RED** power cable lead to the **POSITIVE (+)** battery terminal, and the **BLACK** power cable lead to the **NEGATIVE (-)** terminal. If you need to extend the power cable, use #12 AWG or larger insulated, stranded copper wire. Solder the splice connections carefully, and wrap the connections thoroughly with insulating electrical tape.
- ☐ Before connecting the cable to the transceiver, verify the voltage and polarity at the voltage at the transceiver end of the DC cable, using a DC voltmeter. Now connect the transceiver to the DC cable.



Warning!

- Do not use a DC power supply cable other than the one that is supplied or specified.
- Do not place anything on the DC power supply cable or step on it.
- Do not use the DC power supply cable with the fuse holder cut off.
- Do not reverse the polarity (positive and negative) when connecting the battery.

Installation

Base Station Installation

The FT-3165R/E is ideal for base station use as well as in mobile installations. The FT-3165R/E is specifically designed to integrate into your station easily, using the following information as a reference.

AC Power Supplies

Operation of the FT-3165R/E from an AC line requires a power source capable of providing at least 20 Amps continuously at 13.8 Volts DC. The FP-1023 (USA market only) and FP-1030A (USA/Asian market only) 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 the transceiver to make the power connection 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.

