

# Automatic Antenna Tuner

## FC-20

### Installation Instructions

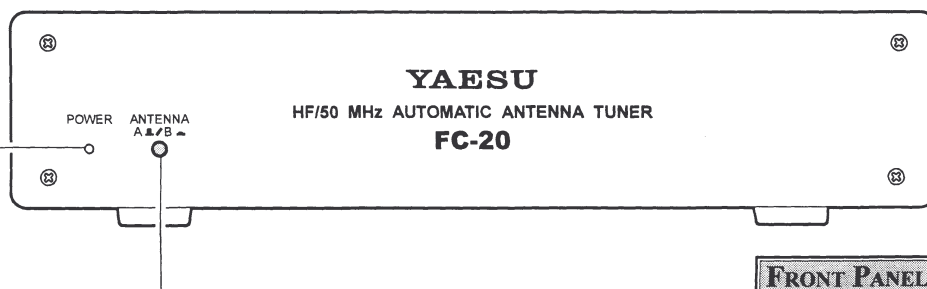
Thank you for your purchase of the model FC-20 Automatic Antenna Tuner, designed specifically for the FT-847 HF/VHF/UHF Transceiver. The FC-20 can accommodate two antenna inputs, and it includes a cooling fan to ensure thermal stability of the critical matching elements within its compact case.

The FC-20 Automatic Antenna Tuner responds to control commands from the FT-847 Transceiver, providing microprocessor-based impedance matching on the 160 through 6 meter Amateur bands. On HF, the impedance matching range is from  $16.5\Omega$  to  $150\Omega$  (up to 3:1 SWR), while on the 50 MHz bands the impedance matching range is  $25\Omega$  to  $100\Omega$  (up to 2:1 SWR). Accordingly, the FC-20 should not be expected to match "long wire" type antennas unless you have taken specific design steps to ensure that the impedance presented to the FC-20 is within these specifications.

Please refer to the FT-847 Operating Manual for operating instructions.

#### Front/Rear Panel Information

The **POWER** indicator becomes illuminated when the Control Cable is connected between the FT-847 and FC-20 and when the FT-847's **POWER** switch is turned on.

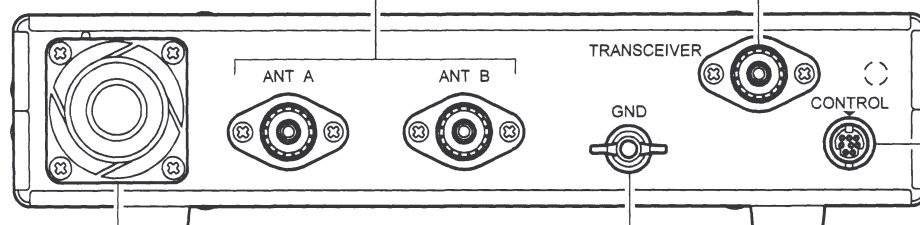


The **ANTENNA** switch allows you to select one of two antennas connected to the rear panel jacks. The (protruding) "A" position of this switch selects the "ANT A" jack, while the (depressed) "B" position selects the "ANT B" jack.

These "M" type ("SO-239") coaxial jacks accommodate the "A" and "B" antenna inputs for the FC-20.

Use this "M" type ("SO-239") jack for connection of the interconnecting coaxial cable from the FT-847.

#### REAR PANEL



Connect the interconnecting Control Cable from the FT-847 to this miniature DIN connector.

This is the exhaust vent for the cooling fan, which ensures thermal stability of the matching elements inside the FC-20 compartment.

For best performance and safety, connect a good earth ground to the **GND** lug provided.

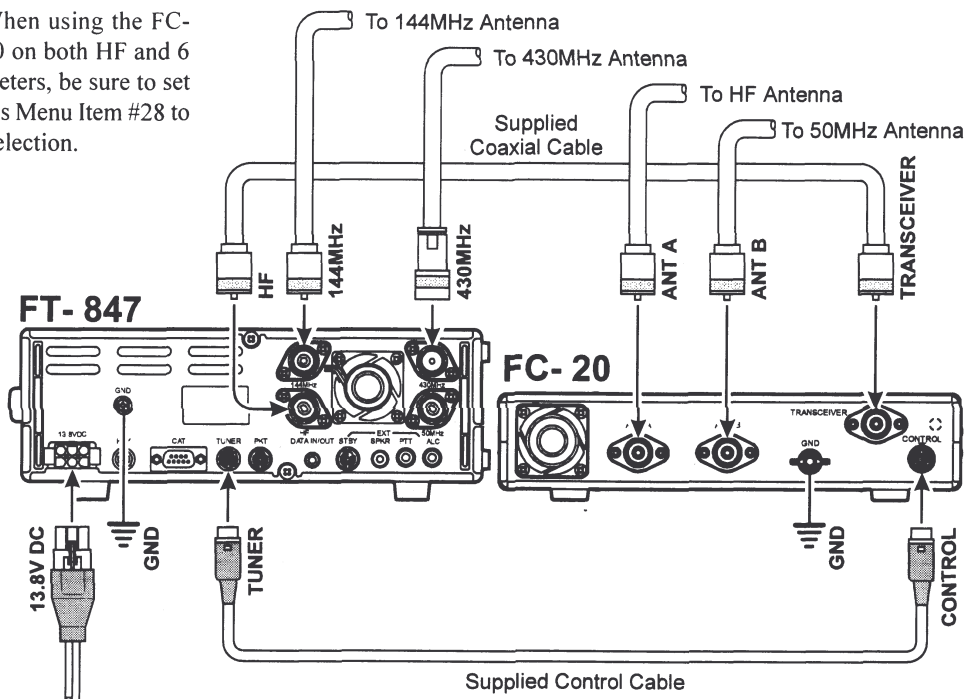
日本語の説明は裏面に記載してあります。



## Interconnections to FT-847



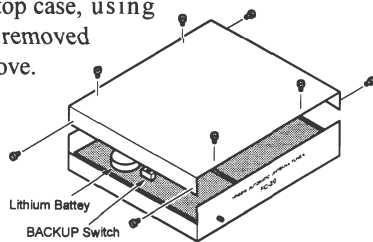
When using the FC-20 on both HF and 6 meters, be sure to set the FT-847's Menu Item #28 to the "HF" selection.



## Replacing the Lithium Backup Battery

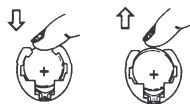
After several years of operation, it is possible that the microprocessor's backup battery (CR2032) may become discharged. To restore the memory for the tuner settings, the battery will require replacement. Contact your Yaesu Dealer to obtain a suitable replacement, and follow the instructions below:

1. Turn the FT-847 POWER switch OFF.
2. Remove the 8 screws affixing the top case of the FC-20, and remove the top case.
3. Turn the FC-20's internal BACKUP switch OFF.
4. Remove and replace the lithium backup battery, per the illustration below.
5. Turn the transceiver's POWER switch ON, then set the FC-20's BACKUP switch to ON.
6. Replace the top case, using the 8 screws removed in step (2) above.



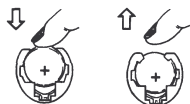
### Removing the Lithium Battery

Gently press inward on the exposed side of the battery, then use your finger to tilt the battery upward and out.



### Installing the Lithium Battery

Lay the battery into the holder at an angle, then gently press it inward and downward to latch it in place.



## Specifications

- FREQUENCY RANGE: 1.8 ~ 30 MHz, 50 ~ 54 MHz
- INPUT IMPEDANCE: 50Ω
- MAXIMUM POWER: 100 Watts
- MATCHED SWR: 1.5:1 or less
- TUNE-UP POWER: 50W (±2.5W)
- TUNE-UP TIME: 30 seconds or less
- IMPEDANCE MATCHING RANGE:
  - 1.8 ~ 30 MHz: 16.5Ω ~ 150Ω
  - 50 ~ 54 MHz: 25Ω ~ 100Ω
- IMPEDANCE MATCHING MEMORIES: 100 channels
- INPUT VOLTAGE REQUIREMENT: 13.5V ±10% (supplied from transceiver)
- OPERATING TEMPERATURE RANGE: -10°C ~ +50°C
- CASE SIZE (WHD): 260 x 55.5 x 193 mm (10.2" x 2.2" x 7.6")
- WEIGHT: 2 kg (4.4 lb.)

Specifications subject to change without notice of obligation.

## Supplied Accessories

- Coaxial Cable (1.5 m) ..... 1
- Control Cable (1.5 m) ..... 1

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### YAESU EUROPE B.V.

P.O. Box 75525, 1118 ZN Schiphol, The Netherlands

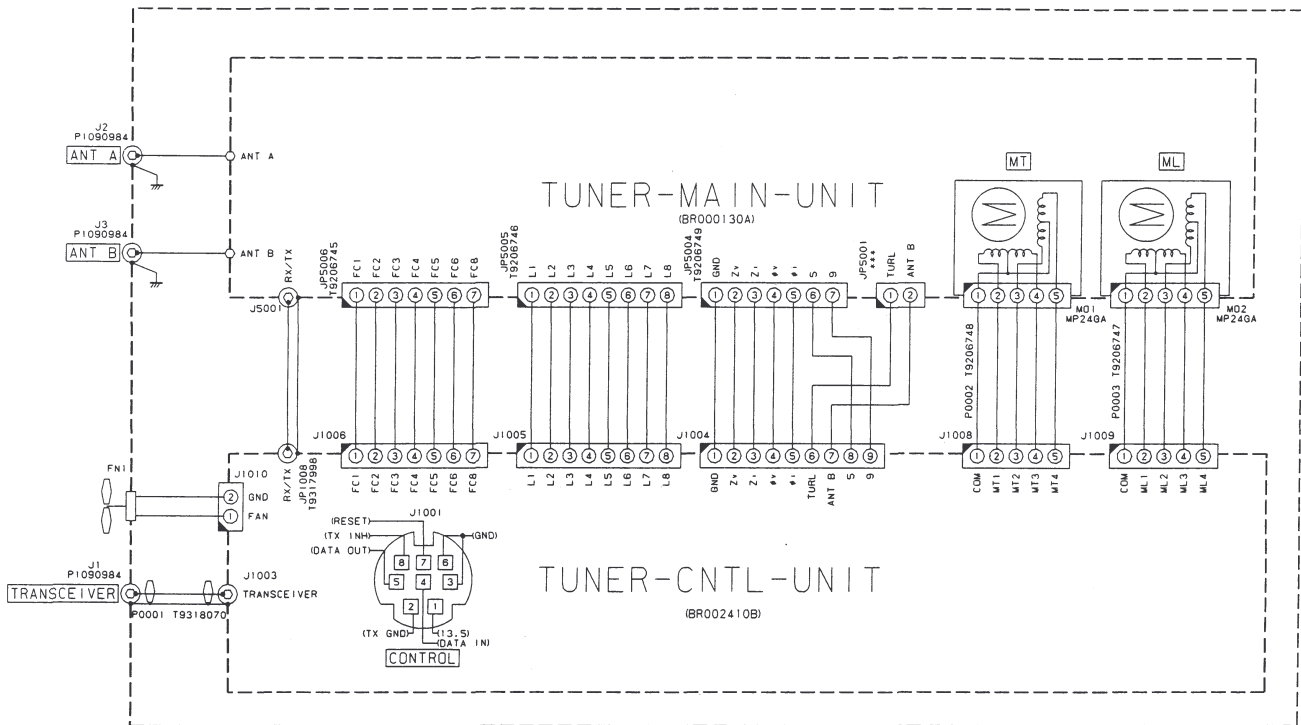
### YAESU UK LTD.

Unit 12, Sun Valley Business Park, Winnall Close  
Winchester, Hampshire, SO23 0LB, U.K.

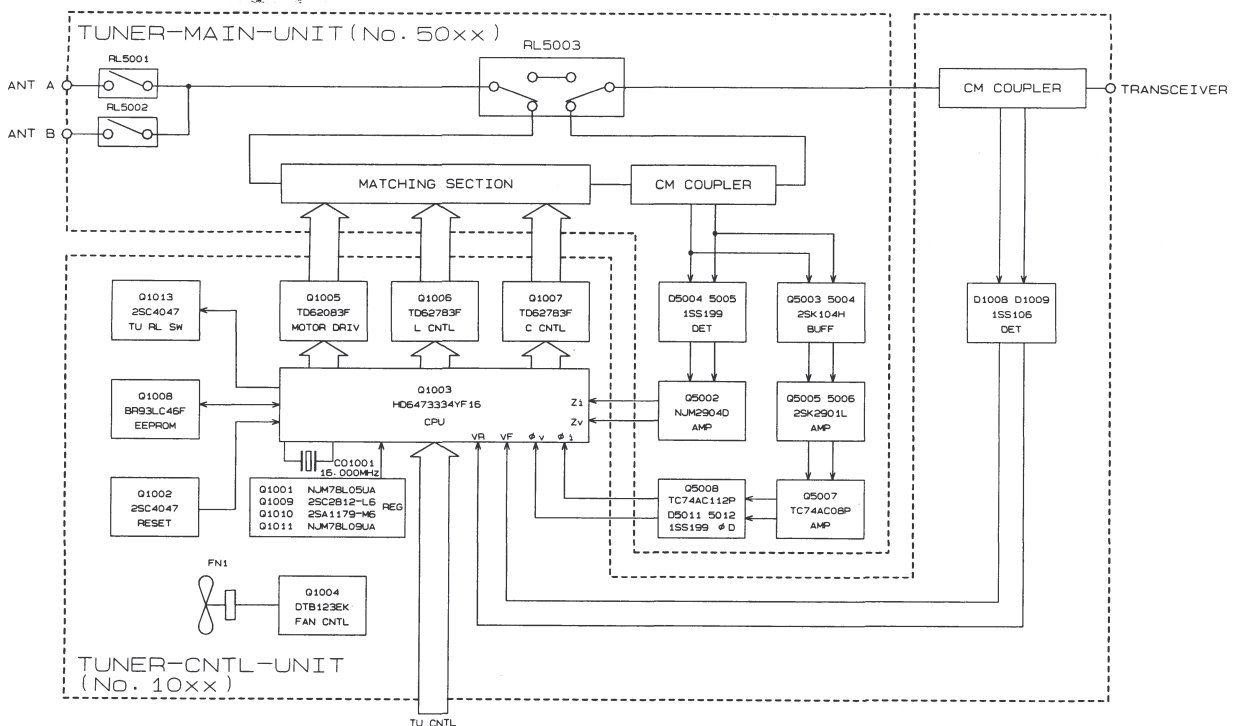
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### CONNECTION DIAGRAM



### BLOCK DIAGRAM



# CIRCUIT DIAGRAM

