

DU 1500 T ANTNEEA TUNER

FEATURES

The DU 1500 optimizes the performance of your antenna and transmitter or SWL receiver By providing adjustable impedance matching.The DU 1500 also measures the Power and Standing Wave Ratio (SWR),which allows you to tune the indicted SWR to the lowest possible ratio for the selected transmit frequency.

SPECIFICATION

FRONT PANEL INDICATORS AND CONTROLS

Meter.....Cross needle Power and SWR meter.

CONTROLS

Input Tuning.....Continuous rotation 4,5kV capacitor 330pF

Antenna Tuning.....Continuous rotation 4,5kV capacitor 330pF

Antenna Switch Selector.....Five position ceramic switch:COAX 1, Tuned and COAX 2 Tuned and BYPASS,COAX 1 DIRECT, COAX 2 DIRECT

Power Range Switch.....Two position: 200W/2kW
!!1.8MHz SWR wors then 1:3 MAX 800W!!

REAR PANEL CONNECTORS

Coax 1.....SO-239 Teflon connector

Coax 2.....SO-239 Tflon connector

Balanced Line.....Dual high voltage ceramic terminal
Include 4:1 balun

OTHER

Frequency Coverage.....1.8-30MHz ,continuously tunable

Power Maximum.....1500W max 2kW

Input impedance.....50ohm

Output inoedance.....25-600ohm and wire 2000ohm

Dimension.....H 330xW 330xD 120

Weight.....10lbs.(4,5kg)

CONTROL/CONNECTORS

FRONT PANEL FUNCTIONS

1. Output (Transmitter)

Continuously adjustable input capacitor

2. POWER/SWR METER

Dual needle meter displays FORWARD and REFLECTED Power in Watts.
The SWR is measured where the two needles intersect on the red scale.

3. INPUT (Antenna)

Continuously adjustable output capacitor.

4. DIRECT-TUNED MODE SWITCH

Five-position rotary switch an output coaxial connector.

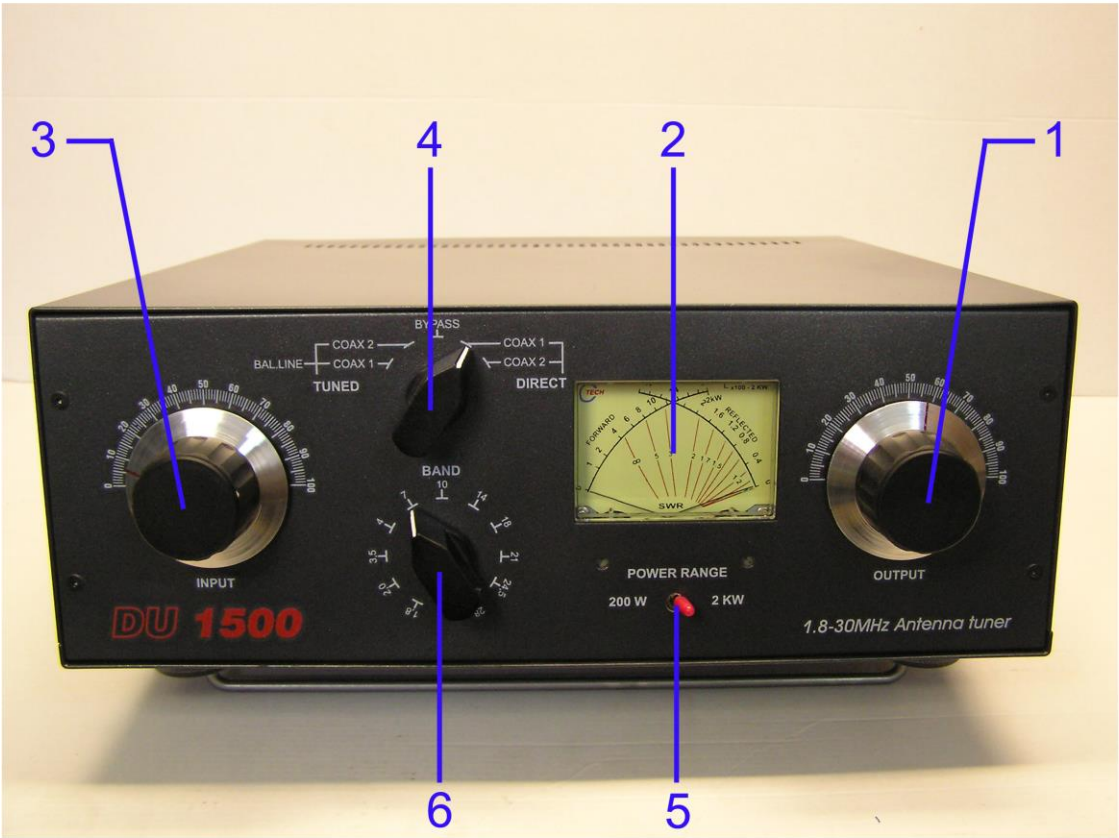
1. TUNED COAX 1 selects the COAX 1 connector through the impedance matching circuit.
2. TUNED COAX 2 selects the COAX 2 connector through the impedance matching circuit.
3. DIRECT BYPASS selects BYPASS COAX connector bypassing the impedance matching circuit but providing SWR, FORWARD, and REFLECTED power meter readings.
4. DIRECT COAX 1 select the COAX 1 connector bypassing the impedance matching circuit but providing SWR, FORWARD, and REFLECTED meter readings.
5. DIRECT COAX 2 selects the COAX 2 connector bypassing the impedance matching circuit but providing SWR, FORWARD, and REFLECTED meter readings.
6. TUNED WIRE/BAL selects the BAL.LINE+COAX 1 connector through the impedance matching circuit.

5. RANGE SWITCH

Two-position switch selects the range (200W or 2kW) of FORWARD and REFLECTED Power displayed on the power meter.

When the METER (power range) switch 200W the FORWARD meter Scale reads 200W full scale and the REFLECTED meter scale reads 40W Full scale.

When the METER switch 2kW, the FORWARD meter scale reads 2kW Full scale and the REFLECTED meter scale reads 400W full scale.



REAR PANEL CONNECTORS

1. RF INPUT

Coaxial connector for input from SWL receiver or transmitter.

2. COAX 1

Coaxial connector for output to Antenna One.

3. COAX 2

Coaxial connector for output to Antenna Two.

4. BYPASS

Coaxial connector for output to dummy load or third coax output.

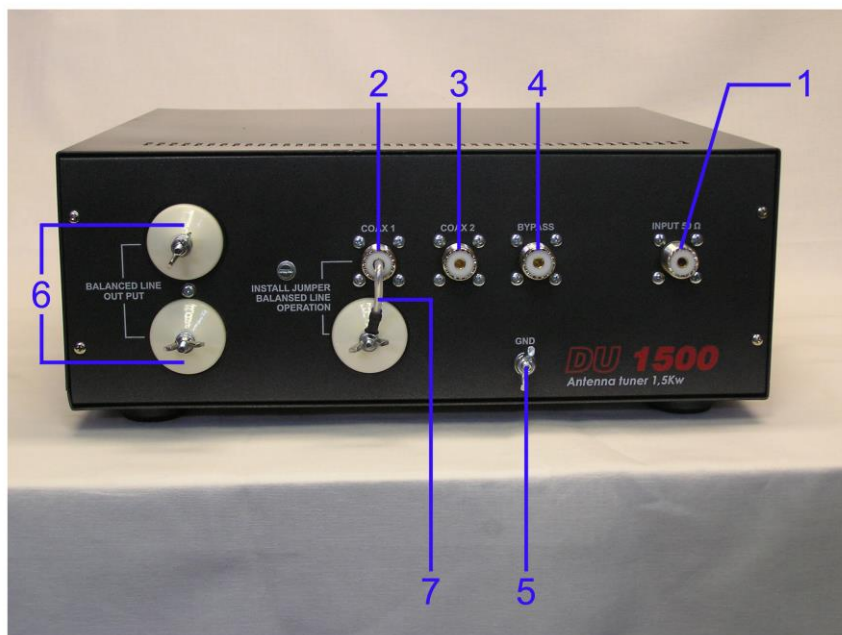
5. GROUND

Post/Wing-nut type ground connector.

6. BALANCED OUTPUT

Two ceramic post for output to RF balanced twin-lead antennas.

7. Install Jumper



INSTALLATION

Select a location for the DU 1500 that allows the connectors to be free of any possible contact during operation.

WARNING:SOME BALANCED OR END-FED ANTENNAS WILL PRODUCE HIGH RF VOLTAGES AT THE BANANA CONNECTORS.RF BURNS MAY RESULT IF TOUCHED DURING TRANSMISSION.

INSTALLATION PROCEDURES

1. Connect a coax cable from your transmitter or receiver to the RF INPUT connector on the rear panel.Keep the cable as short as possible. If you use a linear amplifier,connect your transmitter to the linear amplifier output to the DU 1500.
2. Connect coax cable(s) from your antenna to COAX 1 or COAX 2 connectors on the rear panel.These connectors are either direct from the transmitter or through the tuned circuit depending on the setting of the OUTPUT SELECTOR switch on the front panel.
3. If you are using a balanced feed antenna,connect the INSTALLJUMPER in the COAX 1 connector and switch band switch TUNED COAX 1.
4. If using a single wire antenna,connect it to post COAX 1 without installing jumper.
5. Connect a dummy load to the BYPASS CONNECTOR using a coax cable.This lets you select the dummy load from the OUTPUT SELECTOR switch.Any antenna that does not require the use of an antenna tuner may be connected to the BYPASS connector,if desired.

BEFORE OPERATION

1. To avoid possible damage to the DU 1500,set INPUT,OUTPUT,BAND SWITCH and POWER RANGE switches as outlined in the next section before applying transmitter power.(Tuning Section)
2. Begin tuning with your transmitter set at a low power setting (50 to 100W)

WARNING: DO NOT OPERATE THE DU 1500 WITH THE COVER OFF!

TUNING

1. Select the band and frequency of desired operation.
2. Set INPUT, OUTPUT, and BAND SWITCH controls to the suggested settings before applying transmitter power. Actual settings may vary from antenna to antenna.
3. Set up your transmitter to a low power output. If your transmitter has a TUNE position, select that position.
4. If you use a linear amplifier, set it to STANDBY. Do not use the linear amplifier until the DU 1500 is tuned.

WARNING: DO NOT EXCEED 1500 WATTS AVERAGE (SINGLE TONE).

5. Set POWER RANGE switch to 200W.
6. Set OUTPUT SELECTOR switch to BYPASS, or the position matching your antenna connection. To tune your antenna, the switch selection must be set to: COAX 1 TUNED, COAX 2 TUNED, or BAL. LINE + COAX 1. Selecting COAX 1 DIRECT, COAX 2 DIRECT, or BYPASS.
7. Rotate the INPUT and OUTPUT controls for maximum noise or signal as heard on your receiver.
8. Key your transmitter and adjust the power level for a reading of 50-100 watts on the FORWARD scale. Adjust the INPUT and OUTPUT controls for a minimum REFLECTED reading while maintaining a FORWARD reading of 50-100 watts using your transmitter power control.
9. Read the SWR on the red scale at the point where the two needles intersect. Repeat step 8 until the lowest SWR reading is obtained. The SWR should be 2:1 or lower.
NOTE: This procedure takes patience the first time. The INPUT and OUTPUT Controls vary the capacitors and provide fine adjustments.

NOTES

1. An SWR of 1:1 is best, but an SWR as high as 2:1 may be acceptable. Check your transmitter manual for details.
2. If you cannot get an acceptable SWR, lengthen or shorten your antenna and/or feedlines and retune.
3. If you get low SWR readings at more than one setting, use the setting that:
 - Gives the highest FORWARD power reading.
 - Gives the lowest REFLECTED power reading.
 - Uses the largest capacitance (highest number) on the TRANSMITTER and ANTENNA controls.
4. Any time a new or different antenna is connected, it is necessary to repeat the tuning procedure for each antenna.