

YAESU
The radio

HF/50MHz Transceiver

FTDX 3000 Series

Heritage continues



The radio... YAESU

Building on the YAESU FT DX Heritage

The FT DX 3000D is the newest member of the YAESU FT DX Series. It inherits the design concepts of the FT DX 9000 and FT DX 5000 transceivers that have received high praise from all over the world by those pursuing the highest ideal of Amateur HF communication equipment.

FT DX 3000D



Actual Size

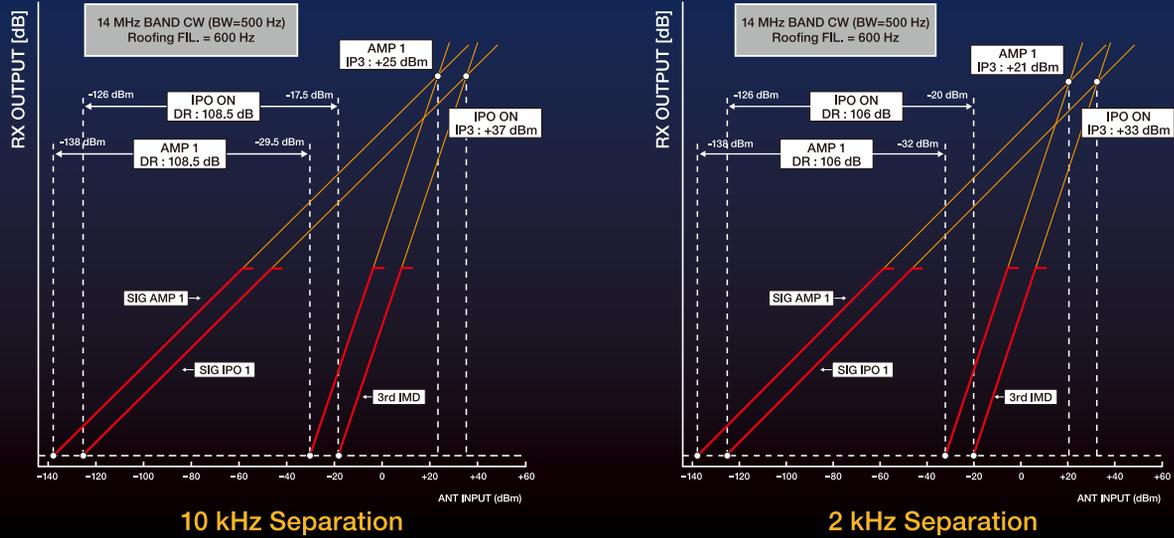
The RF front end boasts the ultimate receiving performance

This is the Heritage of the High Performance Receiver

Phenomenal multi-signal characteristics that were demonstrated in the FT DX 5000

Using the two signal dynamic range measuring method with 10 kHz signal separation, the FT DX 3000 performance is 108.5 dB, IP3 +37 dBm, (Test settings: CW 500 Hz BW, Roofing Filter: 600Hz and IPO is ON). With frequency separation of only 2 kHz between the desired signal and an interfering signal, the dynamic range measures 106 dB and IP3 +33 dBm. (Test settings: CW 500 Hz Band Width, Roofing Filter: 600Hz and IPO is ON) This is amazing!

IDR (IMD Dynamic range) / IP3 (3rd-Order Intercept Point) characteristics



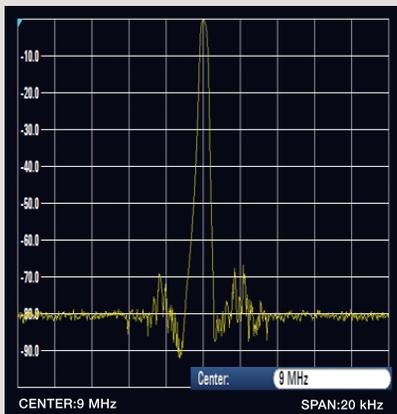
The powerful narrow bandwidth crystal roofing filter enhances the receiver multi-signal characteristics

The Down Conversion receiver construction is similar to the FT DX 5000. The first IF frequency is 9 MHz. This makes possible the narrow bandwidth crystal roofing filters (300 Hz, 600 Hz or 3 kHz) with a sharp shape factor, and creates the amazing multi-signal receiving performance. The 3 kHz roofing filter greatly improves SSB signal reception, during close adjacent multi signal conditions. The 300 Hz and 600 Hz roofing filters provide the best CW receiving environment when the adjacent signals may affect the desired signal reception.

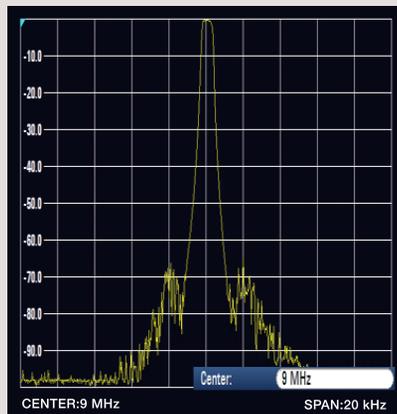
*Note: 300 Hz filter optional.



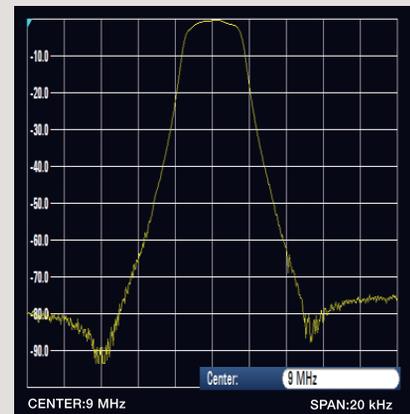
Characteristics and frequency response of Roofing Filters



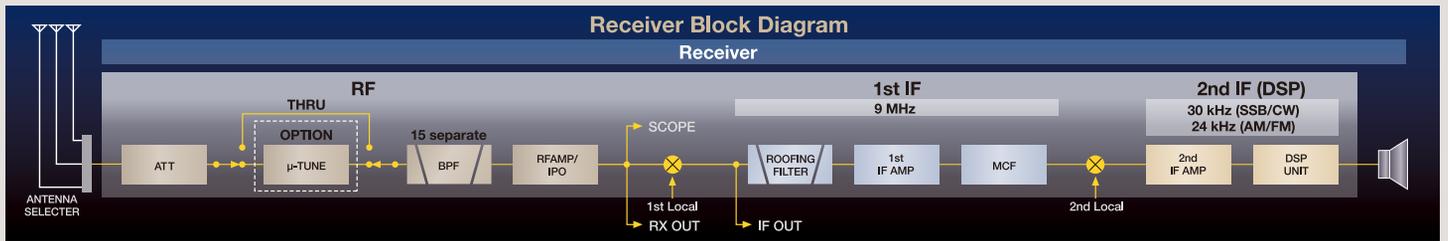
300 Hz (SPAN: 20 kHz)



600 Hz (SPAN: 20 kHz)



3 kHz (SPAN: 20 kHz)



This is the tradition of the YAESU FTDX series. The RF front end realizes the ultimate receiver performance for HF radios.

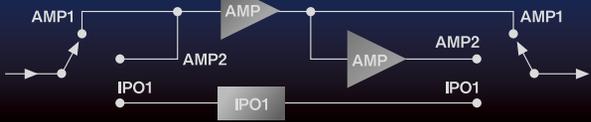
The RF front end circuit is the most important element, and determines the HF receiver performance. Our Yaesu Engineering team has concentrated superior RF engineering knowledge into the design of the FT DX 3000 front end. Fifteen separate band pass filters (BPF) are used for the front end protection, this effectively reduces the undesired and out of band signals. In the RF amplifier, the strong bipolar transistor (2SC3357) is used. This transistor shows a low NF, and realizes superior intermodulation performance.



RF Amp

The gain of each individual device is kept lower, and the best optimized working point, with the lowest NF, is selected. In addition, a custom-designed wide coverage transformer, with less magnetic saturation, is used for the I/O of the RF amplifier. This construction makes the device performance better and provides excellent multi signal performance.

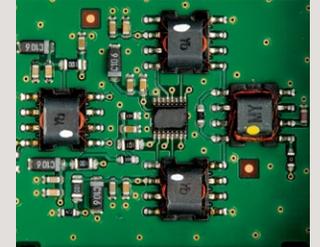
IPO and RF Amp



The 3-step IPO settings permit the most appropriate gain for best signal reception

The IPO (Intercept Point Optimization) is selected by a control switch located on the front panel. The IPO selection determines the gain of the RF amplifier. The gain setting is very effective in optimizing the receiver performance, depending on the antenna and the communication propagation conditions.

The IPO, the ATT and one stage of the RF amplifier are used to optimize the signal levels that are sent to the mixer. This is especially important for HF low-band operation. The "AMP 1" uses one RF amplifier stage, and maintains a better balance between the sensitivity and the receiver performance (the gain is around 10 dB). In addition, "AMP 2" uses two stages of the RF amplification and can obtain higher sensitivity (the gain is around 17 dB).



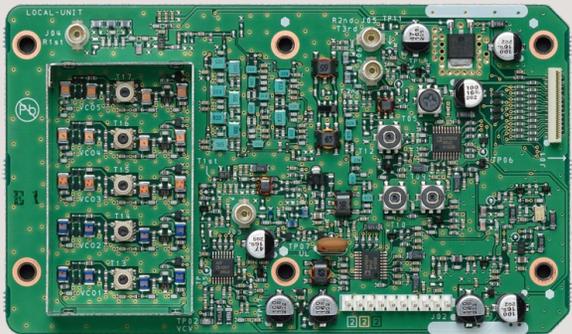
Mixer Unit

This variety of selections provides superior receiver performance and the best possible communications with changing band conditions.

High Quality, High Stability Local Oscillator

High accuracy TCXO and the DDS & PLL circuits realize unmatched Local Oscillator signal quality

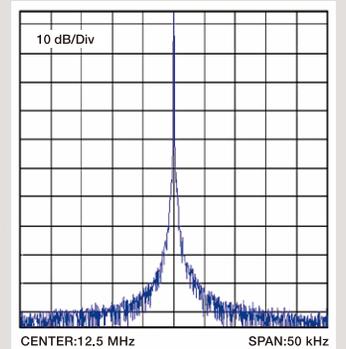
The S/N ratio (signal-to-noise ratio) of the local signal that is injected into the 1st IF mixer, is one of the most important factors for improving the receiver properties in the ultra-multi-signal environment. In the FT DX 3000, the combination of the high stability and high accuracy 40 MHz TCXO ($\pm 0.5\text{ppm}$, $-10^\circ\text{C} \sim +60^\circ\text{C}$), and the DDS, create the fundamental frequency of this radio, and is locked to the PLL-IC and VCO directly. This circuit construction and method creates the highest quality local signal, with superior S/N performance. This means the receiver noise floor is kept lower, and realizes the best blocking dynamic range at 2 kHz IP3 performance. This is a phenomenal improvement!



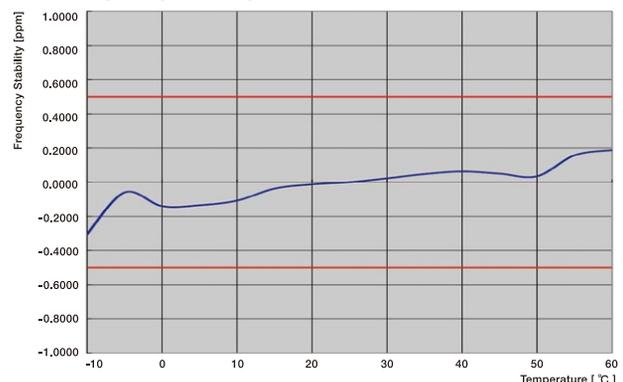
Local Unit

The High Accuracy TCXO with $\pm 0.5\text{ppm}$ performance fundamental oscillator provides excellent frequency stability

The fundamental oscillator for the FT DX 3000 uses a high accuracy 40 MHz TCXO that provides $\pm 0.5\text{ppm}$ stability in the -10 to $+60$ degree C temperature range. This TCXO exhibits superiority in the PSK31 and EME communications that require the highest stability. Also in the harsh environment of Dxpeditions, this TCXO provides great performance and high frequency stability.



TCXO Frequency Stability



Local Oscillator Block Diagram



Effective QRM rejection with the FT DX 3000 IF DSP

The 32-bit high speed floating decimal point DSP, TMS320C6727B (maximum 2800 MIPS/ 2100 MFLOPS) made by Texas Instruments, is used for the IF section of the FT DX 3000. The signal is processed with the high speed 300 MHz clock frequency.



Well proven IF WIDTH and IF SHIFT functions provide great QRM rejection performance

You can adjust the IF WIDTH and IF SHIFT, and eliminate the QRM, by rotating the SHIFT/WIDTH knob located on the front panel.

IF SHIFT: With the normal bandwidth, the pass band area can be moved relatively, so that harmful signals are rejected from the pass band

IF WIDTH: By adjusting the band width, Interfering signals can be removed from both sides of the pass band, without changing the pass band position..

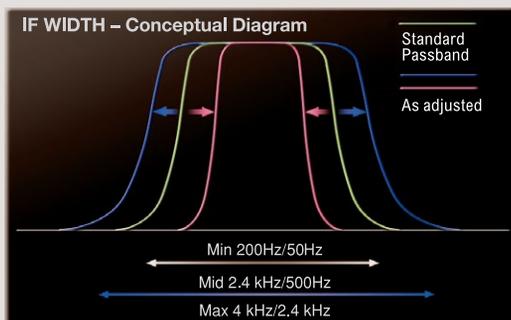
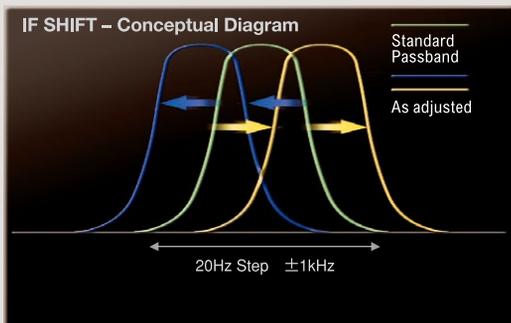
In addition, you can use both functions at the same time, by moving the pass band with the IF SHIFT, and also narrow the pass band with the IF WIDTH function.

The YAESU original IF width function can make the pass band narrower with one-touch. This function is effective in a pile-up or contest, when the undesired signals are located just above and below the target signal. When the IF SHIFT and IF WIDTH functions are used together, more effective undesired signal rejection may be achieved.

When the IF Width knob is centered (click point), the pass band width is 2.4 kHz in the SSB and CW modes.

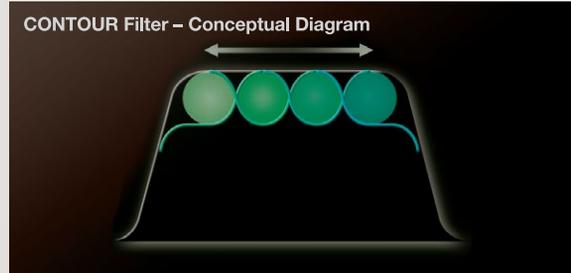
When NAR is turned on, the minimum pass band becomes 50 Hz (200 Hz in the SSB mode), making it possible to minimize the QRM with this sharp filter shape factor.

When the IF Width is turned clockwise from the center click point, the pass band width can be extended wider, up to 4000 Hz. This may provide a richer sounding and more comfortable QSO when in a local rag chew.



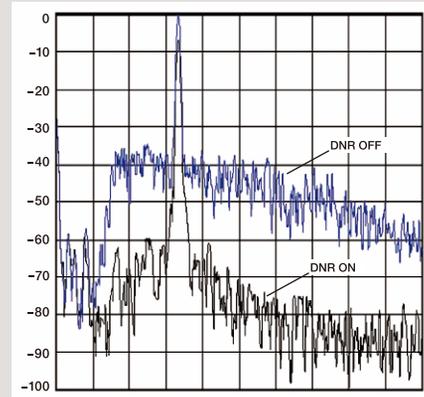
CONTOUR function ideally tailors the received audio signal without changing the bandwidth

The CONTOUR function varies the outline of the IF DSP filter pass band characteristics, and the in-band signal construction can be partially altered. Differently from the IF SHIFT or IF WIDTH, the special CONTOUR pass band, can reduce or peak the desired signal, partially and continuously across the pass band. This feature is effective especially when the undesired signal is close to the center frequency.



Digital Noise Reduction (DNR) by DSP

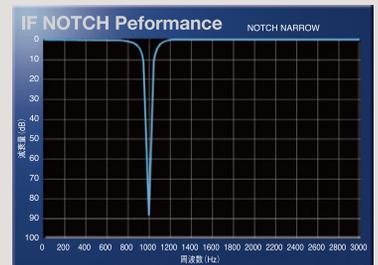
The installed digital noise reduction circuit provides 15 separate parameters. The noise reduction constants may be set to the optimal working point by varying the 15 step parameters according to the actual noise within the HF band. The desired signal components are peaked and the random noise components are effectively cancelled.



Digital Noise Reduction Performance

IF NOTCH

This high Q circuit has steep attenuation characteristics of 70dB or more. Effective removal of a strong beat signal is obtained. The damping characteristics can be switched to wide or narrow band width, and the attenuation level may be adjusted in the Setting Mode Menu. Interfering signals may be attenuated, while minimizing the impact on the received signal.



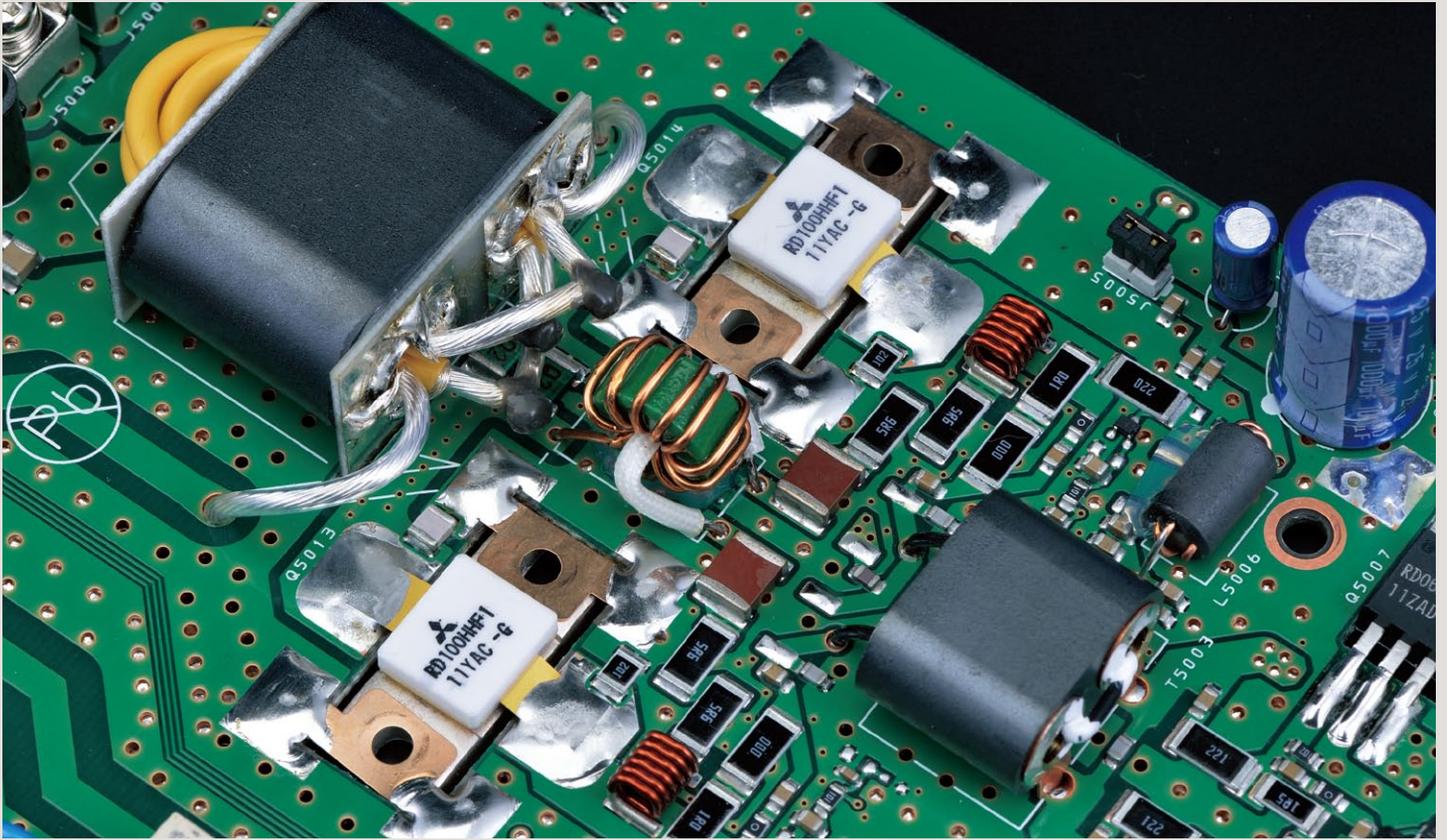
Digital Notch Filter (DNF) (AUTO NOTCH)

The Digital Notch Filer (DNF) is a feature that automatically follows the interfering heterodyne signals, even if there are more than one, and even if the beat frequency changes with time. This is effective in removing jamming signals.

CW APF (Audio Peak Filter)

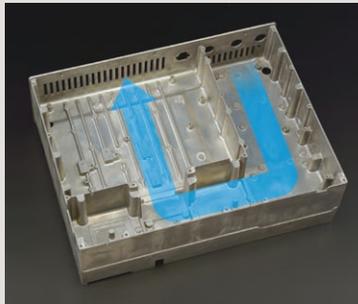
In the CW mode, the included APF (Audio Peak Filter) function has an audio peak at the signal frequency; this improves the S/N and increases the readability of the CW signal. The APF peak frequency can be finely aligned.

Stabilized High RF Output and High Quality Transmission Signal



The Final Amplifier provides stabilized high RF output

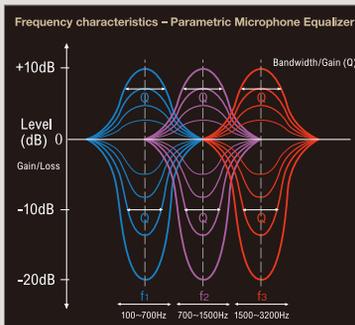
For the RF final amplifier, RD100HHF1 MOS FETs are used in the push-pull amplifier construction. This circuitry provides stabilized RF power performance. The amplifier produces a clean transmit signal with less spurious emissions and distortion. The large heat sink is combined with the die cast chassis and has 1200 cc capacity. The material is aluminum that provides high heat conductive performance. This reduces the heat resistance and dissipates the heat that is generated in the final amplifier section, which is directly defused from the chassis. This makes it possible to transmit continuously, and keep the temperature increase of the RF amplifier stage in the minimum range.



Further, the cooling fan is located just beside the final amplifier and the TX Low Pass Filter, this air flow can ventilate the heat away from inside of the transceiver cabinet. The large 60 mm diameter, axial flow fan is mechanically isolated from the chassis to reduce vibration and noise. The speed of the fan is continuously controlled by the temperature of the PA amplifier, starting at 40 degree C.

Microphone Amplifier that includes Parametric Equalizer

The modulation circuit of the FT DX 3000 utilizes the digital variation operational modulation type, which creates ideal high quality transmission audio. This radio has the parametric equalizer that makes possible the versatile adjustment of the TX audio quality by aligning the TX band audio spectrum. The parametric equalizer can alter the Low, Mid and High part of the audio separately. This three stage parametric equalizer can generate the high quality TX audio sound, because it can be tuned in detail without sacrificing the audio dignity.



IF DSP Speech Processor Punch is Contest Proven

The SSB Speech Processor uses IF digital signal processing to increase the intelligibility of the transmitted signal during weak signal crowded conditions. The DSP increases the average power of the important speech spectrum components, and reduces the TX power of the less significant components. Adjust the compression level in the Menu Mode to adapt the transmitted SSB signal to best suite the situation, propagation conditions and pile-up.

High Speed Automatic Antenna Tuner includes 100 Memory Channels

The FT DX 3000 antenna tuner is the digital type that uses LC switching. It has a large capacity memory, and the tuning data is automatically memorized in the 100 channel memory. The optimized antenna tuning data is immediately recalled to reduce tuning time when changing frequency, and the best matching point is realized.



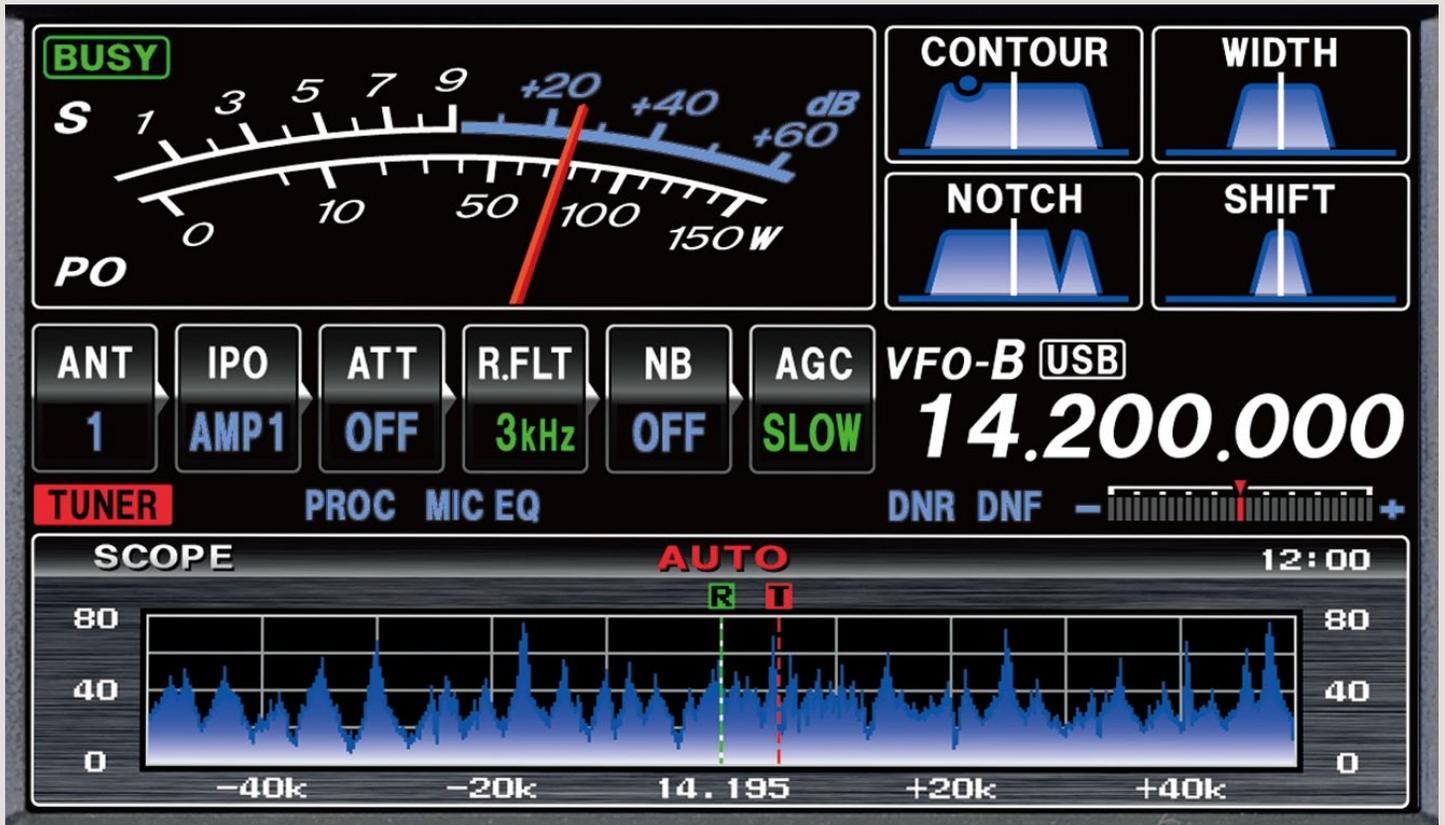
Three Antenna Connectors permit a variety of antenna configurations

Three antenna connectors are available at the rear panel of the radio. The antenna switching circuit permits flexibility and ease of operation, even with a complicated antenna configuration. For example: it is possible to use ANT 1 or ANT 2 for TX and ANT 3 for RX only. During a contest, antennas may be switched with the touch of a button. The antenna connection information is automatically stored for each band, and conveniently displayed in the TFT Block diagram area, making it possible to easily see your antennas configuration, helping to avoid making an accidental incorrect connection.

Superior Operability and Visibility

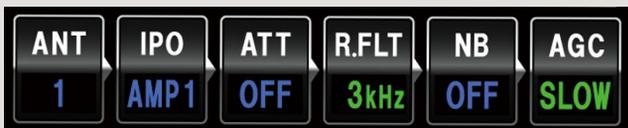
A huge TFT full-color display

The FT DX 3000 presents a wide, 4.3-in TFT full color display, which provides a convenient view of the radio's working functions. Even though the FT DX 3000 has many features and functions, the TFT display makes operation of the radio easy and comfortable for the new or experienced user.



The Block Diagram displays the RX Signal Path

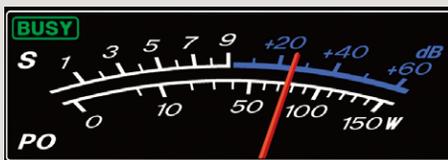
The TFT color display also provides a block diagram of the radio circuitry showing the RX signal path and the RX settings. The receiver configuration and signal path can be comprehended with a brief glance at the screen.



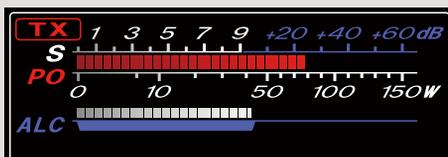
Choose Analog or Bar Graph Meter

The FT DX 3000 presents either an analog type meter indication (needle deflection type), or a bar graph type meter indication (selectable).

The Bar Graph Meter indication permits the SWR, ALC level, and Speech Processor Compression level to be displayed, along with the PO indication. The Peak Hold indication is available as well.



Analog meter display



Bar graph display (PO & ALC)



Separate Independent Frequency Display

The operating frequency is additionally shown in a large wide display, directly above the main VFO dial knob, and is separate from the main information display of the radio. This is one of the most important features of the FT DX 3000 transceiver. Superior operability can be realized with this convenient display. A wide view angle, high contrast LCD (negative type VA-LCD), is used for the display. It permits excellent visibility from different viewpoints.

Smooth Spinning Main Dial Knob with Adjustable Torque

A heavy weighted 165g brass core part (balanced), is used for the main dial knob. This imparts a smooth flywheel operating feeling. Continuous adjustment of the rotation torque is accomplished by pressing the dial knob skirt and rotating the dial knob. Each user may set his/her favorite torque feeling of the main dial rotation.

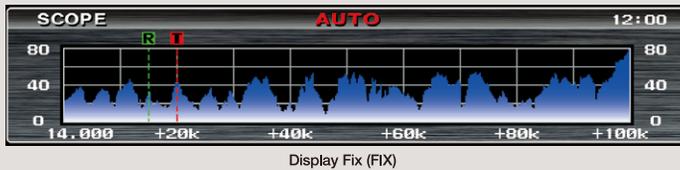
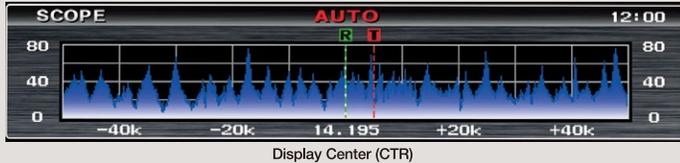
High Speed Spectrum Scope function included

The FT DX 3000 has a high speed, high resolution Spectrum Scope included as standard, making it possible to visualize signals, and tune to their frequency in the band. Changes of the signals in the band that vary moment by moment can be viewed immediately. The Spectrum Scope has two modes: the auto mode monitors, and sweeps the band continually; the manual mode sweeps the band once, each time the sweep key is pressed. Bandwidth of the spectrum scope may be set to any of six different spans: 20kHz, 50kHz, 100kHz, 200kHz, 500kHz, or 1MHz. In the case of split operation, TX and RX markers will appear in the spectrum scope, making the relationship between transmit frequency and receive frequency easily observed.

Spectrum Scope Display modes

The Spectrum Scope may operate in either the Center or Fixed mode.

- Center mode: displays the frequencies both above and below the VFO frequency.
- Fixed mode: displays the signal situation with the band edge frequency fixed at the left of the display.

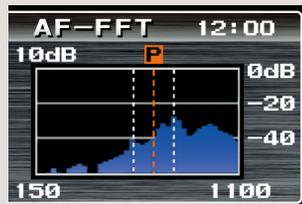


Spectrum Scope Memory function

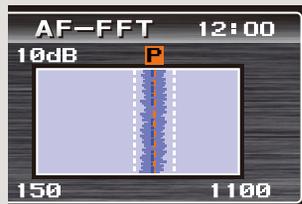
The Spectrum Scope screen can be stored or recalled with one touch. Simultaneously the time information is recorded in the memory, so that the difference in activity may be reviewed and compared, depending on the seasons and times.

AF-FFT Scope Function demonstrates the AF characteristics of the TX/RX signal

The FT DX 3000 also has an AF-FFT (Audio Frequency Fast Fourier Transform) scope built in. This AF-FFT function was first demonstrated in the FT DX 9000 series. With this Scope, the audio characteristics of the received signals; the effect of adjusting the RX IF filter performance; and utilizing the QRM rejection features, may be visually observed. It is also possible to observe the TX audio characteristics of your own signal while using the Monitor function. This is very effective for tuning the parametric equalizer for voice characteristics and the microphone audio.



AF-FFT scope (normal display)



AF-FFT scope (waterfall display)

Level Indicator that easily shows the setting values

The function names and the setting levels of the following functions are shown in the TFT main display when a function knob is rotated: Clarifier, Microphone Gain, Speech Processor, SHIFT, WIDTH, KEYSPEED and CONTOUR



The Cursor Keys make operation selection easy

Six keys that are used frequently in normal operation are located at the left side of the TFT display. Other functions can be operated by pressing the "SCOPE" key which changes the "Spectrum Scope screen" to "Function Key Display screen". In the Function Key Display, the currently selected function is highlighted. Another Function may be selected and highlighted, by using the up, down, left, and right cursor keys, and then pressing the SELECT key to operate the desired function. Even if the radio is turned off, the last operated Key Function is memorized and highlighted, so that a frequently used Function may be easily operated.



To access advanced settings, press the MENU key to recall/display the Menu Screen, then change the item selection, and the level or value by using the cursor keys.

CW decode feature

The FT DX 3000 has a Morse code, decode function that can decipher and show the characters on the TFT screen. This function helps the CW beginner and supports the actual CW communications by showing the decoded message on the display.

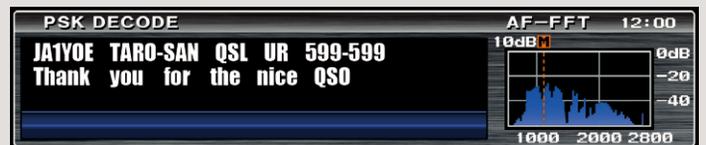
Note: The decoding rate may be decreased by signal fading, interference, or the operator's keying peculiarity, even though the message may be audibly copied.



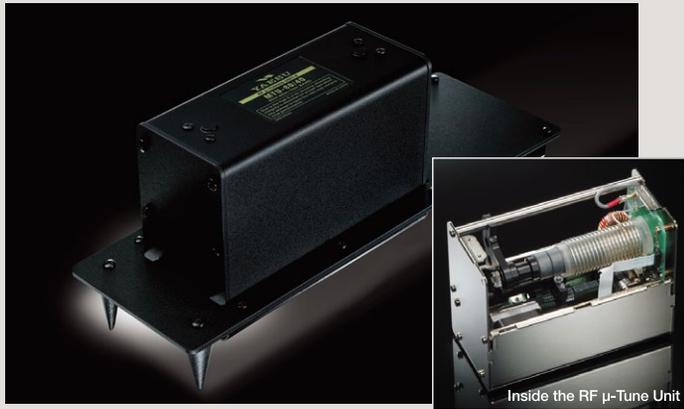
RTTY/PSK31 Encode Decode function

The FT DX 3000 has a practical RTTY and PSK31 encoder and decoder. In the RTTY mode, when pressing and holding the SCOPE key, the RTTY encode and decode screen is shown. On the AF-FFT screen, the programmed mark and space frequencies are displayed, making it possible to easily match the peak of the received signal.

The Mark frequency can be selected from 1275 Hz and 2125 Hz, and the Shift width can be selected from 170/200/425/850 Hz. The baudot code meets both US and CCITT standards. Pressing and holding the SCOPE key in the DATA mode, will show the PSK31 screen. The PSK31 decode and encode functions correspond to both BPSK and QPSK that use common error correction functions.

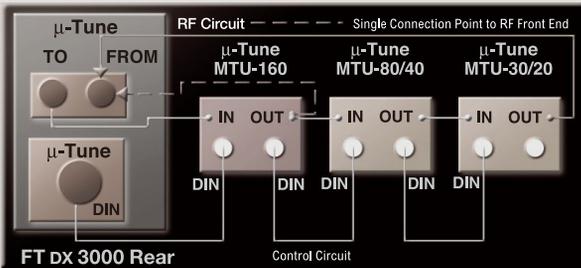


Fully-Automatic μ -Tuning Kit

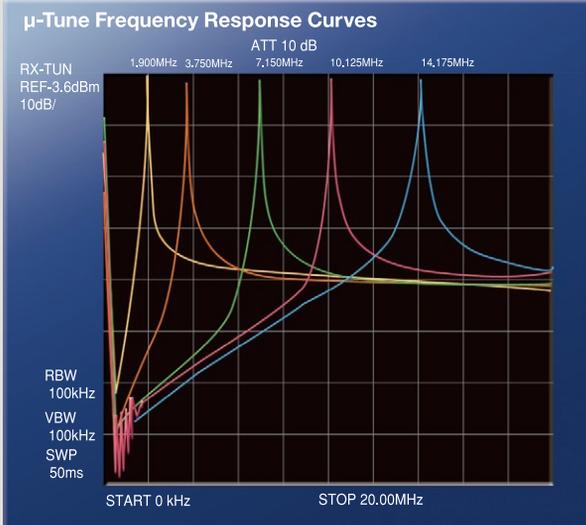
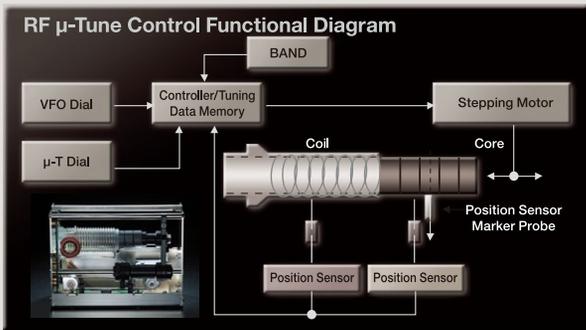


Optional FT DX 9000 Series μ -Tuning Kit

The μ -Tuning Kit that was developed for the FT DX 9000, is optionally available for use with the FT DX 3000 series. A large diameter 28 mm inductor, with an adjustable ferrite magnetic material (Ni-Zn ferrite) core, is combined, with a high resolution and high torque stepping motor to automatically find the resonance point. By inserting these tuning units prior to the RF front end of the receiver, the IP3 points are improved by around 4 dB. Three tuning units cover frequencies from 1.8 MHz through 14 MHz, they are especially recommended for use in Low-Band operation.



RF μ -Tune unit Connection Diagram



10 dB/Div \cdot 2 MHz/Div

For the CW Enthusiast

CW Auto Zero-in

The received CW signal frequency may be detected and the VFO automatically tuned to match the frequency and programmed pitch (auto-zero-in). Even for the experienced operator, it is difficult to zero-in only by listening. This function accomplishes the zero-in operation with one-touch, and the QSO can start immediately.

CW Zero-in Display

The TX CW side tone pitch frequency can be adjusted in the MENU. The setting range is 300 Hz to 1050 Hz. This tone pitch is used as the reference in transmission. This means that the point, at which the TX pitch is equal to the RX pitch, becomes the zero-in point. In addition, the FT DX 3000 has a CW tuning display feature. By using this function, as the pitch of the sound that is heard when receiving the CW signal becomes closer to the programmed pitch, the lighted mark moves closer to the center of the display. When the center mark light turns RED, the signal is at the zero-in point.

Other CW features

- APF (Audio Peak Filter) with three bandwidth steps
- Separate KEY Jacks on the front and rear panels
- Electronic Keyer Weight control
- Keyer paddle Dot-Dash reversal
- ELEKEY MODE (IAMBIC) A/B selection
- "Bug" keying emulation
- CW Full Break-in
- Four-channel Message Memory (50 characters each); five memories available with FH-2 Keypad
- Automatic insertion of incrementing contest number into stored messages
- Automatic "Beacon" keyer mode
- CW "VOX" Delay is adjustable: 20 ms – 3000 ms
- CW Mode reversal (USB or LSB injection)
- CW Keying available during SSB operation
- Dial step setting (for the CW mode only)
- CW SPOT Feature

Advanced functions that are useful for actual and practical operation

Three antenna selections that are especially effective for DX and Contest operation, etc

Three antenna connectors are available on the rear panel. The antenna connection selections are memorized for each operating band, so the appropriate antenna is automatically selected when changing bands. The ANT 3 can be set for the RX only antenna.

TX monitor function

The IF DSP output in the TX mode is monitored, and it is possible to monitor the signal condition that is similar to the actual TX signal. When changing the microphone, adjusting the compression level of the speech processor and / or adjusting the TX audio quality control by using the parametric equalizer, this function is very convenient.

CS key

The Custom Selection (CS key) is placed at the left side of the main dial. It is a very useful feature that can activate a previously selected MENU function at the touch of a button.

Other practical features

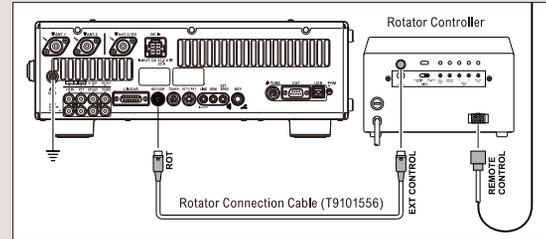
- Four-position receiver front-end attenuator (0/6/12/18 dB) for operation in noisy or strong signal reception environment
- Quick Memory Bank (QMB) for instant storage and recall of frequency/ mode information.
- Five-channel digital voice message memory function for repetitive voice message. Each memory channel is capable of storing up to 20 seconds of audio using the optional DVS-6.
- The FH-2 Keypad provides message storage and recall of voice and CW messages together with remote control functions.
- VOX (Voice-operated TX/RX control)
- MOX (Manual TX/RX control)
- All mode Squelch function
- 50-tone CTCSS Encoder/Decoder for FM operation
- Automatic Repeater Shift function with CTCSS Tone Encoder for 29MHz FM
- Wide/Narrow modes for AM and FM
- LOCK Function
- Flexible, easy-to-use VFO/Memory command selections:
VFO A→VFO B, VFO A←→VFO B, VFO/Memory, Memory→VFO A, VFO A→Memory
- Memory Channel Offset Tuning function (MT)
- Versatile Scanning Capability
- Versatile Menu Mode for customization of setup features
- Rear panel, constant-level audio output jack (transmit + receive)
- External control (CAT) is possible using the USB or serial port. This makes remote control from a distant location available.
- Various easy connection availability for RTTY, SSTV, PSK31, JT65 (EME) and other digital modes
- Optional VL-1000 Quadra System HF – 50 MHz Linear Amplifier for automatic operation
- General coverage reception: 30 kHz – 56 MHz (specifications guaranteed only in Amateur bands)
- Mode-optimized Automatic AGC decay selection (OFF/SLOW/MID/FAST)
- Versatile Memory system: 99 channels and up to 5 Memory Groups
- USB terminal that can be used for firmware updates. This also facilitates CAT, USB AUDIO IN / OUT and USB TX Control (PTT, KEY and FSK)

- RX OUT terminal (the signal from the receiver RF amplifier can be output to an external receiver for in-band simultaneous receiving).
- IF OUT terminal (1st IF 9MHz signal with wide bandwidth)
- Rotator Control function which enables you to control the speed and direction of YAESU G-800DXA, G-1000DXA/C, or G-2800DXA/C rotator using the 10 key keypad.

Rotation speed control 0 – 100%



“Overlap” indication
Direction (0 – 360 (+ 90) deg)

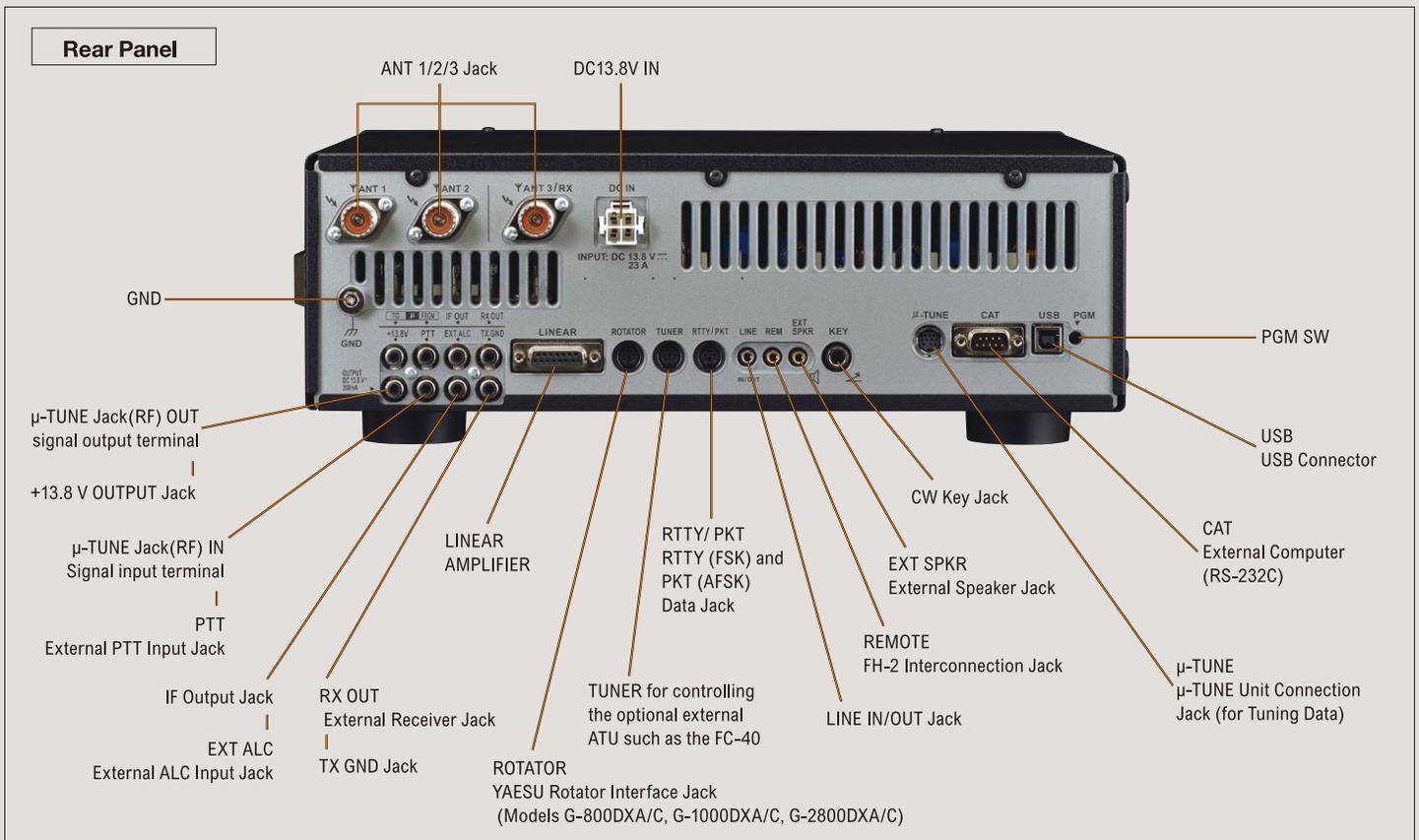


Supplied Accessories



**DC Cable
T9025225**

An external power supply is required when using the FT DX 3000.



Specifications

General	
RX Frequency Range	30 kHz - 56 MHz (operating) 160 - 6 m (specified performance, Amateur bands only)
TX Frequency Ranges	160 - 6 m (Amateur bands only)
Frequency Stability	±0.5 ppm (after 5 minute @14°F→+122° F)
Operating Temperature Range	14° F - +122° F (-10° C - +50° C)
Emission Modes	A1A (CW), A3E (AM), J3E (LSB, USB), F3E (FM), F1 B (RTTY), G1B (PSK)
Frequency Steps	1/5/10 Hz (SSB, CW, & AM), 100 Hz (FM)
Antenna Impedance	50 Ohms, unbalanced 16.7 - 150 Ohms, unbalanced (Tuner ON, 1.8 - 29.7 MHz Amateur bands) 25 - 100 Ohms, unbalanced (Tuner ON, 50 MHz Amateur bands)
Power Consumption (Approx.)	RX (no signal) 1.8 A RX (signal present) 2.1 A TX (100 W) 23 A
Supply Voltage	DC 13.8 V ±10% (Negative Ground)
Dimensions (W x H x D)	14.4" x 4.5" x 12.3" (365 x 115 x 312 mm)
Weight (Approx.)	22.0 lbs (10 kg)
Transmitter	
Power Output	5 - 100 watts (2 - 25 watts AM carrier)
Modulation Types	J3E (SSB): Balanced, A3E (AM): Low-Level (Early Stage), F3E (FM): Variable Reactance
Maximum FM Deviation	±5.0 kHz / ±2.5 kHz
Harmonic Radiation	Better than -60 dB (160 - 10m Amateur bands: Harmonics) Better than -50 dB (160 - 10m Amateur bands: Others) Better than -63 dB (6m Amateur band)
SSB Carrier Suppression	At least 60 dB below peak output
Undesired Sideband Suppression	At least 60 dB below peak output
3rd-order IMD	-31 dB @14 MHz 100 watts PEP
Bandwidth	3 kHz (LSB/USB), 500 Hz (CW), 6 kHz (AM), 16 kHz (FM)
Audio Response (SSB)	Not more than -6 dB from 300 to 2700 Hz
Microphone Impedance	600 Ohms (200 to 10 kOhms)

Receiver	
Circuit Type	Double-conversion Super heterodyne
Intermediate Frequencies	9.000 MHz / 30 kHz (24 kHz for AM/FM)
Sensitivity	SSB (BW: 2.4 kHz, 10 dB S+N/N) 0.2 μV (1.8 - 30 MHz) (AMP 2) 0.125 μV (50 - 54 MHz) (AMP 2) AM (BW: 6 kHz, 10 dB S+N/N, 30 % modulation @400 Hz) 2 μV (0.5 - 1.8 MHz) (AMP2) 2 μV (1.8 - 30 MHz) (AMP 2) 1 μV (50 - 54 MHz) (AMP 2) FM (BW: 15 kHz, 12 dB SINAD) 0.5 μV (28 - 30 MHz) (AMP 2) 0.35 μV (50 - 54 MHz) (AMP 2) There is no specification for frequency ranges not listed.
Squelch Sensitivity (RF AMP 2 "ON")	SSB/CW/AM 2 μV (0.1 - 1.8 MHz) 2 μV (50 - 54 MHz) FM 1 μV (28 - 30 MHz) 1 μV (50 - 54 MHz) There is no specification for frequency ranges not listed.
Selectivity	Mode -6 dB -60 dB CW/RTTY/PKT 0.5 kHz or better 750 Hz or less SSB 2.4 kHz or better 3.6 kHz or less AM 6 kHz or better 15 kHz or less FM 12 kHz or better 25 kHz or less
Image Rejection	70 dB or better (160 - 10m Amateur bands) 60 dB or better (6m Amateur band)
Maximum Audio Output	2.5 W into 4 Ohms with 10% THD
Audio Output Impedance	4 to 8 Ohms (4 Ohms: nominal)
Conducted Radiation	Less than 4 nW

Specifications are subject to change, in the interest of technical improvement, without notice or obligation, and are guaranteed only with in the amateur bands.

Options

 XF-127CN CW Narrow Crystal Filter (C/F: 9 MHz : B/W 300 Hz)	 DVS-6 Voice Memory Unit	 MD-200A8X Ultra High fidelity Desktop Microphone	 MD-100A8X Desktop Microphone	 YH-77STA Stereo Headphones Microphone	CT-178 VL-1000 Connection Cable	 FC-40 "Automatic Antenna Tuner (for Long wire antenna)" The FC-40 is a microprocessor controlled antenna impedance matching network designed to provide all-amateur-band transmitting capability with the FTD3000 of transceivers, when used with an end-fed random wire or long whip antenna.
RF μ-Tune Kits Wt. abt. 5.7 Lbs(2.6 kg)/ 5 W x 4.7 H x 13 D in (127 x 120 x 328mm)						
 160m Band RF μ-Tune Kits A	 80/40m Band RF μ-Tune Kits B	 30/20m Band RF μ-Tune Kits C	 FP-1030A External Power Supply (13.8 VDC 25 A)	 FP-1023A (USA Only) External Power Supply (13.8 VDC 23 A)	 QUADRA SYSTEM HF-50 MHz 1 kW Linear Amplifier (50 MHz: 500 W/USA Version) VL-1000 Automatic Antenna Tuner Built In VL-1000 Power Supply VP-1000	

* Up to three/3 μ-Tune Kits may be installed. All and any μ-Tune Kits shall be installed by the users.

About this brochure: We have made this brochure as comprehensive and factual as possible. We reserve the right, however, to make changes at any time in equipment, optional accessories, specifications, model numbers, and availability. Precise frequency range may be different in some countries. Some accessories shown herein may not be available in some countries. Some information may have been updated since the time of printing; please check with your Authorized Yaesu Dealer for complete details.

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