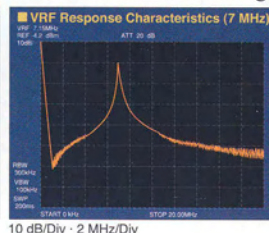


• VRF Unit

Crafting the FT DX 9000's Robust Receiver: Our 1.8 ~ 54 MHz VRF Preselector, and 1st IF 3 kHz Roofing Filter

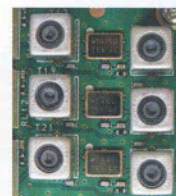


The RF front end input circuit, consisting of the VRF (Variable RF Filter) and BPF (Bandpass filter) stages, is designed to protect the stages to follow (especially the RF amplifier and first mixer) from the effects of strong off-frequency signals. The VRF operates as an RF "preselector" with sufficient "Q" to be significantly narrower than the traditional BPF networks used for decades in solid-state receivers; as a result, much more interference suppression is afforded by the VRF circuit. The high Q is obtained, depending on the frequency of interest, by using large-diameter (T-80) toroidal inductors and air-core coils; a total of 31 relay-selected combinations of coils and capacitors are used to establish resonance around the operating frequency, and the VRF may also be optimally skewed to one side or the other of your operating frequency, in difficult cases of co-location interference inside the bandpass filter, by manually turning the VRF dial on the front panel. Following the VRF preselector stage, which operates an all Amateur bands from 160 through 6 meters, a fifteen-bank Bandpass Filter stage (8 networks for Amateur bands, 7 for general HF coverage) further extends the out-of-band protection, sending a thoroughly-filtered signal to the RF preamplifier. To switch these bandpass filters, 17 expensive surface-mount type relays are employed, guaranteed against surge voltage of 2500 V, providing immunity to contact degradation due to air pollution or humidity.

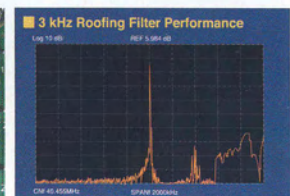


First IF (40 MHz) 3 kHz Roofing Filter

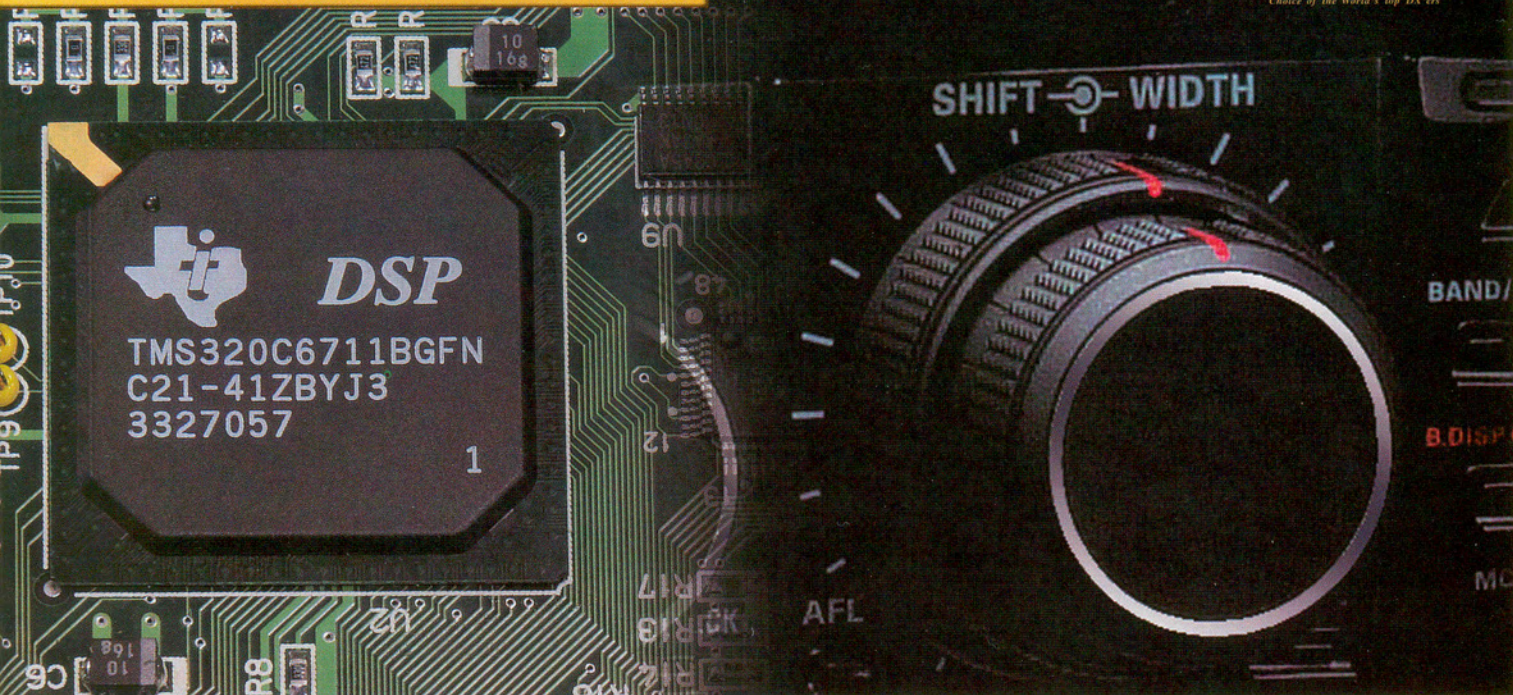
In the 40 MHz 1st IF, three selectable roofing filters are provided, in bandwidths of 3 kHz, 6 kHz, and 15 kHz, to protect the following stages from strong signals that could degrade dynamic range in the first IF amplifier and subsequent stages. Each roofing filter consists of a four-pole fundamental-mode monolithic crystal filter array, the best technique evaluated in Yaesu's exhaustive testing process.



• Three Selections of IF Roofing Filters



10 dB/Div · 200 kHz/Div



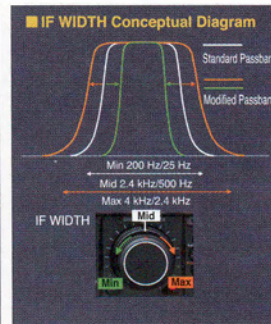
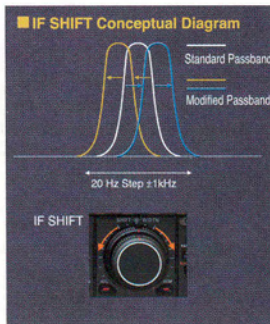
Enjoy the New World of YAESU 32-bit Floating-Point DSP, Crafted through Worldwide DXer Input for Uniquely High Performance and Operability



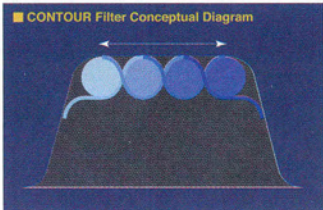
Renowned Interference-Fighting WIDTH/SHIFT Controls: Now DSP-Based!

The IF DSP system brings the operator razor-sharp, precise adjustment capability of the dual filtering concept known traditionally as IF Shift and IF Width controls, only now these functions are generated in the DSP. These filter systems allow both the width of the IF passband, and the center frequency of the filter response, to be continuously adjusted; the result is the perfect passband response, without a complicated adjustment procedure. IF Shift may be adjusted ± 1.0 kHz in 20 Hz steps, and precise bandwidth setting is facilitated by the large-diameter, concentric knobs on the front panel; one-touch "Narrow" presets may also be engaged, for quick reduction of bandwidth to a favorite value.

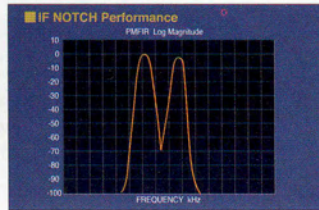
The IF bandwidth, at the center detent of the large (1.5"/39 mm) IF Width control, is set to 2.4 kHz for SSB, and 500 Hz for CW, RTTY, and PSK. Counter-clockwise rotation of the Width control will narrow the bandwidth further, to reduce interference, and for local hi-fi ragchews you can expand the SSB bandwidth out to 4000 Hz by rotating the Width control clockwise from the center detent. The current alignment of the IF Width and IF Shift controls is portrayed graphically on the TFT (D version) or LCD window (MP/Contest versions).



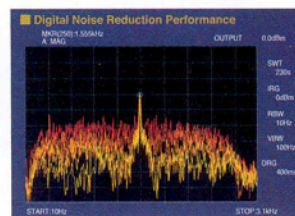
New-Design Analog-like DSP CONTOUR Passband Adjustment



Interference-Fighting IF Notch and Ultra-Narrow Auto-Notch Beat Reduction Filter



Digital Noise Reduction





●400 W Final Amplifier

**The pinnacle of HF Transceiver performance has been reached
in the 400-Watt FT DX 9000MP.**



You'll know that special feeling from the moment your fingertips touch the dial . . .

Stable, reliable power output from a PA module without peer . . .

The final amplifier stage of the FT DX 9000MP utilizes four SD2931 MOS FET devices in a parallel, push-pull configuration, running at 50 volts to obtain the highest power output in a production Amateur Radio transceiver today. Careful crafting of the bias circuit has resulted in low distortion and reliable performance over long hours of operation. The new heat sink design utilizes an aluminum base 130% larger than that of the 200-Watt versions, and thick copper fins with a high coefficient of

thermal conductivity are employed in the cooling system, which has a total volume of 3580 cc. This huge heat sink assembly typically cools the transceiver through convection, but when the heat sink temperature reaches 167° F (75° C), a thermostat will engage the cooling fan automatically. The cooling fan is uniquely mounted to the chassis using a rubber pad that suppresses vibrations; this plus the low-RPM design afforded by the large bearing size means you'll have lower fan noise than you've ever experienced!



Professional-Grade Cannon (XLR) Microphone Connector



For audio professionals, a Cannon-type (XLR) balanced connector is provided on the front panel of the transceiver, affording easy connection to Heil Sound® or other high-end microphone systems and processors. And if your microphone has a traditional 8-pin connector, a matching jack is provided on the rear panel of the transceiver.

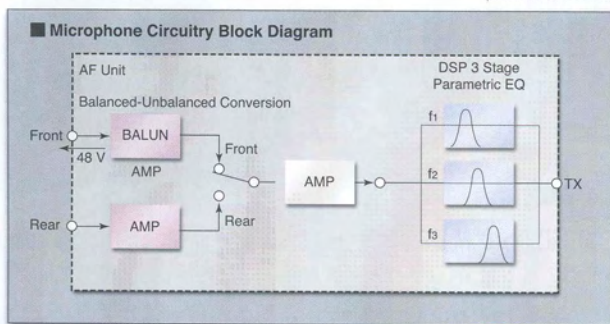


*Cannon (XLR) Connector (w/48 V Mic Power LED engaged)

may be enabled on the front panel XLR connector by changing an internal jumper, and a LED on the front panel will light up to confirm that voltage is being supplied to the XLR connector.

Yaesu Exclusive: 3-Stage Parametric Equalizer Microphone Amplifier

Another design breakthrough on the FT DX 9000 Series is the incorporation of the industry's first three-band Parametric Equalizer Microphone Amplifier. The Parametric Equalizer, compared to simpler designs, allows very precise enhancements of three different ranges (bass, mid-range, and treble) of audio frequency response, providing unmatched ability for you to match your radio's response to your voice and microphone. The front and rear microphone inputs may be equalized independently, and the sparkling fidelity from your FT DX 9000 will make you the envy of everyone else on the band!



Skillfully-Conceived Microphone Circuit for First-Class Transmit Audio Quality

The microphone input circuit is a low-noise FET design, using a professional-grade Tamura TpAs-203 audio transformer to ensure high fidelity is preserved. Additionally, when using a professional high-fidelity condenser microphone requiring a 48-Volt supply, this voltage

