Ours is an age of “easy” communications via the Internet. Push a button, and your message is sent without hearing a sound.

Which is precisely why, today, the allure of HF DX communication is stronger than ever.

HF DX involves communication with imagination…

The dream of faraway place and the wonder at how your signal will get to the far side of the world. The noise, the polar flutter, the echo of the Long Path…and the sudden joy at hearing your callsign being sent in response to your call.

This is the essence of DX, and only a person who has experienced the thrill can know the thrill.

Drama, emotion, and excitement…

These are the essential elements of the lure of HF DX.

A fundamental human need to know what’s out there.

The magnificence of Nature brings unforeseen ionospheric encounters, and you prepare yourself for these special moments.

You improve your technical skills, optimize your antennas, and tweak your rig for the best possible performance.

It’s been said that the destination is not as important as the journey. Surely this expression was written with Ham Radio in mind…
Named after the well-known FT-101, a cornerstone in the history of HF Transceivers, creating the future of HF communications

Birth of the FTdx101
**True Performance**

*Hybrid SDRs (Narrow Band SDR & Direct Sampling SDR)*

- 2kHz RMDR: 123dB+
- 2kHz BDR: 150dB+
- 2kHz 3rd IMDR: 110dB+

*400MHz HRDDS (High Resolution Direct Digital Synthesizer)*

- 2kHz Phase Noise: $-150$dBc/Hz

*VC-TUNE (Variable Capacitor Tune) signal peaking*

*3DSS (3-Dimensional Spectrum Stream) visual display*

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**In Homage to the Founder of Yaesu – Mr. Sako Hasegawa JA1MP**

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**FT DX 101D**

- In-House Power Supply with a 3.54kg (100mm) Front Speaker, FPP-101 included
- VC-Tune unit (MAIN band) included (For VC-Tune SUB band unit installation, please contact YAESU)
- Supplied Accessories: Hand Microphone SM-705, DC Power cable

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**FT DX 101MP**

- External Power Supply with a 3.5kg (100mm) Front Speaker, FPP-101 included
- VC-Tune unit x 2 (MAIN and SUB bands) included / 300Hz CW Filter (MAIN band) included
- Supplied Accessories: Hand Microphone SM-705, External Power Supply with Speaker FPP-101

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**JA1MP Commemorative Tree at ARRL Headquarters**
We believe that hearing a weak signal close in a strong interfering signal environment has been in the past and is today the most important performance requirement of HF DX communications equipment, and is the ultimate mission that Yaesu has been challenging for over 60 years.

**Hybrid SDR Configuration**

In addition to the Narrow band SDR receiver providing excellent fundamental Performance, the Hybrid SDR Configuration also provides a Digital Processing Real-Time Spectrum Scope with Direct Sampling SDR.

**Narrow band SDR & Direct Sampling SDR**

Emphasizes Excellent Receiver Performance and Hybrid SDR Functionality

Digital Processing Generated Real-Time Spectrum Scope

The Narrow band SDR receiver removes strong out of band signals by using a superhetrondyne method, with narrow band roofing filters which significantly attenuates unwanted out of band frequency components, and the wanted signals within the passband are converted to digital by a high resolution 14-bit A/D converter and sent to an FPGA (Field Programmable Gate Array) for signal processing. The FT tx 101 series uses a hybrid SDR configuration that integrates a direct sampling SDR receiver in order to view the entire band status in real-time, with the excellent dynamic receiver performance achieved by the narrow band SDR receiver circuit. By using this hybrid SDR design, the overall performance of the entire FT tx 101 receiver system is improved. The Direct Sampling SDR driving the real time spectrum display with its large dynamic range enables the weakest signal to be observed on the display when it appears and the Narrow Band SDR enables that signal to be selected, filtered and then decoded. If there is powerful AM station near your location or in challenging operating situations where there are a lot of strong signals in the band from Contest, DX-pedition activity, these signals outside the passband can be attenuated by the very effective roofing filter in the front stage of the A/D converter. This reduces the signal load on the A/D converter which is a bottleneck from the viewpoint of the entire receiving circuit. Therefore, interference is reduced making it is possible to continue to operate even under such difficult conditions.

**Truly Quiet and Clear Reception**

Ultra Low-Noise Local Oscillator System: 400MHz HRDDS (High Resolution Direct Digital Synthesizer)

The C / N ratio (carrier-to-noise ratio) of the local oscillator signal injected into the 1st mixer is an important factor in improving the close-in multi-signal receiving characteristics. The local circuit of the FT tx 101 series uses the 400MHz HRDDS (High Resolution Direct Digital Synthesizer) method as used in the FT tx 5000. This circuit configuration is different from a general PLL that generates a local signal, and by creating a local signal by directly dividing from a high frequency of 400MHz, the theoretical PLL lockup time becomes zero, and CN deterioration by the lockup time does not occur. The significantly improved CN characteristic by directly dividing the frequency contributes dramatically to reduce the noise in the entire receiver stage, and so improves the BDR (Blocking Dynamic Range) close-in performance. In the FT tx 101 series, the 400MHz HRDDS latest design characteristics and the careful selection of the components used in the design results in the phase noise characteristics of the local signal achieves an excellent value of -150dBc/Hz or less at 2kHz separation.

**Crystal Roofing Filters**

Enable Phenomenal Multi-Signal receiving Characteristics

The Down Conversion type receiver configuration is similar to the FT tx 5000. With a low noise figure dual gate MOS FET, D-quartz SSM (Double Balanced Mixer) with excellent intermodulation characteristics. Narrow band SDR configuration with the 1st IF at 8MHz makes it possible to have excellent narrow back with crystal roofing filters that have the desired sharp cliff edge step factor. These high quality roofing filters enable the amazing multi-signal receiving performance demanded when faced with the most challenging on-air interference situations! In addition to the down-conversion configuration, FT tx 101 has adopted YAESU’s Legendary powerful RF Front-End, outstanding low-noise Local Oscillator, roofing filter with sharp slope factor and the latest circuit configuration where we have carefully selected all other circuit elements.

As a result, the dynamic performance figures are outstanding like the close-in BDR (Blocking Dynamic Range) in the 140MHz band reaches 150dB or more, the IMD2 (Reciprocal Mixing Dynamic Range) reaches 123dB or more, and the 3rd IMD3 (third-order Intermodulation Dynamic Range) reaches 110dB or more.

**High Stability TCXO Reference Oscillator**

The 400MHz HRDDS reference oscillator circuit adopts high precision TCXO with a frequency stability of ±0.1 ppm in the temperature range of 14°F to 140°F (-15°C to +60°C), ensuring stable operation. This highly enable high frequency accuracy contributes greatly when operating under harsh conditions such as DX-podiums, and busy digital data communications signal with bands such as FT8 and FT10 mode operation.
Unparalleled –70dB Maximum Attenuation VC-Tune

Newly developed VC-Tune RF Preselector with high precision stepping motor drive provides outstanding attenuation characteristics

**Automatic RF Preselector VC-Tune with a High Precision Stepping Motor**

In the FT dx 101 series, a next-generation RF preselector VC-Tune further improves the high performance High Q RF µ (µ)Tuning system adopted in FT dx 996t, using a remarkable miniaturization design while producing an unparalleled attenuation characteristic of maximum out of band attenuation of –70dB. The newly developed VC-Tune circuit drives a variable capacitor (VC) with a high precision stepping motor and has achieved a remarkable miniaturization over our earlier µ-tuning system. VC-Tune does not cause any clicks or noise in the receiver as it operates because it tunes using a variable capacitor driven by a high-precision stepping motor as it follows the receiver frequency, compared to the conventional preset type of switching coils and capacitors by relay which can cause clicks and noise in the receiver audio. Even when there are multiple strong signals in the band, moving the “VC-TUNE”-type and tuning the MPVD (Multi-Purpose VFO Outer Dial) ring on the VFO dial to drive variable capacitor, you can easily fine-tune to the optimum tuning point that attenuates the strong interfering signal in the band. VC-Tune automatically stores the last tuning point for each band so that when it is needed, it is stored without the keyboard. The VC-Tune will automatically select the last settings.

**Effective QRM rejection with the IF DSP**

The 32-bit high speed floating decimal point DSP, TMS320C6745 (maximum 2549 MIPS/ 2220 MFLOPS) made by Texas Instruments, is used for the IF section of the FT dx 101. The signal processor operates at 388.64MHz clock frequency.

Yaesu’s Renowned Interference Reduction Systems SHIFT / WIDTH / NOTCH / CONTOUR / APF (Audio Peak Filter) / DNR (Digital Noise Reduction) / NB (Noise Blanker) controls are all available on the front panel independently for both the MAIN and SUB band

**IF SHIFT / IF WIDTH**

IF SHIFT: While keeping the bandwidth, the passband relative position can be moved, so that harmful signals are rejected from the low or high side of passband.

IF WIDTH: By adjusting the bandwidth, interfering signals can be removed from both sides of the passband, without changing the passband position.

You can also improve your reception by choosing to narrow the bandwidth of the IF WIDTH function and then varying the passband with the IF SHIFT. The IF SHIFT function allows setting the passband over a range of ±1.2kHz in 20kHz steps.

**IF NOTCH / DNF (AUTO NOTCH)**

The IF NOTCH features a very high “Q”, and produces a deep notching characteristic, that effectively removes a strong beat signal. The DNF (Digital Notch Filter) 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. You can choose between NOTCH1 and DNF depending on the interference condition.

**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 adjusted.

**15 Separate (HAM 10+GEN 5) Powerful Band Pass Filters**

There are 15 band pass filters (BPF) between the VC-Tune and the RF amplifier stage. These are divided into 10 Band Pass Filters dedicated for the amateur bands and 5 dedicated for GEN (General coverage receiver). Band Pass Filters are automatically selected according to the frequency band to eliminate the co-channel converted signals and send the desired signal to the RF amplifier.

**DNR (Digital Noise Reduction)**

The 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 IF bandwidth. The desired signal components are peaked and the random noise components are effectively cancelled.

**CONTOUR**

The CONTOUR function varies the outline of the IF DSP filter passband characteristics, and the IF and adjacent signal characteristics can be partially altered. Unlike the IF SHIFT or IF WIDTH controls which operate on the whole passband, the CONTOUR control can be used to change a specific part in the passband. It can be viewed as similar to the tone control for audio frequencies where Treble or Bass frequencies can be boosted or cut, but operates at RF frequencies within the IF passband.

**Maxwell Coil**

The Maxwell coil is a device used in the design of the IF frequency mixer to provide a means of decoupling the signal paths. It is used to prevent signal feedback and to improve the signal-to-noise ratio. The Maxwell coil is typically composed of a single-turn winding on an iron core.
Signal Purity
High-Quality transmission with outstanding phase noise characteristics

Transmit Final Stage produces the Highest Signal Purity

The excellent C/N characteristics provided by the 400MHz IQDDS (High Resolution Direct Digital Synthesizer) used in the local oscillator circuit also contributes significantly to the transmitter section. In a generic circuit, noise or distortion may occur depending on the circuit configuration and the components, up to the final stage that is producing the transmit signal, even if the local signal is of high quality. In the FT-101, a thorough examination of each element up to the final TX stage was made. The clock distributor that divides and distributes the local signal from the 400MHz IQDDS circuit to each block, as well as the FPGA/D/A converter, the final power amplifier, etc., and carefully selecting the latest circuit configurations to improve the C/N characteristics of the entire transmitter block. The transmit signal of the FT-101 is directly generated from a 16-bit D/A converter without passing through a mixer circuit, therefore distortion and noise are significantly suppressed. As a result, high-quality local signal characteristics are maintained without degradation to the final stage, and the transmission phase noise characteristics achieve -150dBc/Hz at 2kHz separation. FT-101 transceiver users will appreciate the finest performance with a high-quality transmission signal.

High-Power & Super-stable Final Amplifier

FT-101 (MP version: 200W) power amplifier utilizes push-pull VRF750 MOS FET devices (VDS= ±170V, VGS=±20V, ID=200W), operating at 50% with excellent linearity, low distortion and high withstand voltage, and by optimizing the bias circuit for the optimal operating points, a high-quality and stable output with low distortion is realized. FT-101 (D version: 100W) power amplifier utilizes push-pull construction with BD140HEF1 MOS FET, and provides stable RF power performance.

A large Aluminum Heat Sink with Low-Noise Cooling Fan

In order to ensure stable transmissions and high output power, the dedicated heat sink of the 200W (MP version) uses an aluminum material with high heat dissipation efficiency to effectively diffuse the heat. The use of a large aluminum die-cast chassis ensures a stable high-power output even in continuous transmission modes and operation under harsh environments. In addition, a 95mm large axial flow cooling fan for the final amplifier is placed at the rear. In long-term operation, the temperature rise inside the cabinet is detected, and the fan starts and the rotation speed automatically adjusted depending on the temperature. The cooling fan uses a large bearing motor with low-noise and rotates at low speed, thereby minimizing the acoustic noise of the fans during night operation. The temperature of the final Power Amplifier can be constantly monitored on the screen of the display.

RF & AF Transmit Monitor

By displaying the RF spectrum of the transmit signal after passing through the final amplifier, on the scope screen, it is possible to visually confirm the quality of transmitted signal actually emitted. In the MULTI screen display, along with the RF spectrum of the audio transmit signal, the AF-FFT display and the oscilloscope can be simultaneously displayed on one screen. The audio filter characteristics during transmission, and the effect of adjusting the speech processor, and parametric equalizer can be observed. In addition, you can also monitor your own voice, and the CW side-tone during keying operation.

Microphone Amplifier with Three-Stage Parametric Equalizer (SSB/AM mode)

The modulating circuit of the FT-101 utilizes a three-stage parametric equalizer that makes possible versatile digital variations of the TX audio quality, by tuning the TX band audio spectrum. The parametric equalizer can alter the Low, Mid and High audio frequencies separately. This three-stage parametric equalizer can generate high quality TX audio sound, because it can be finely tuned without sacrificing the audio integrity.

Transmit Status Monitor with Analog Meter Display

Touch the meter display to select the meter meter display to be active while transmitting.
- PO: TX Power Output
- TEMP: Temperature of the FFT amplifier section
- SWR, etc.

Yaesu Renowned Speech Processor

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. The compression level may be adjusted with the dial on the front panel to adapt the transmitted SSB signal to best suit the situation, propagation conditions and pile-up. The setting can be selected from COMP (SSB mode) which adjusts the compression level, or AMC (Auto Mic Gain Control) function (SBK, PSK/DATA, AM mode) which adjusts the level automatically when the noise input is excessive.
New Generation Scope Display 3DSS

Intuitively grasp changes in the strength of the signals

Newly developed 3DSS (3-Dimensional Spectrum Stream) system in addition to a conventional Waterfall display

7-inch TFT Color
Touch Panel Display
Size: 7-inch Wide
Resolution: 800 x 480 pixels

Scope Specifications
- Sweep speed: 50 ITU (Approximately)
- Display range: 100dB
- Span width: 1-1000kHz
- Scope Display: Dual/Monaural

The 3DSS display is a remarkable completely new system that displays the constantly changing band conditions in three dimensions (3-D) with the frequency as the horizontal axis (X axis), the signal strength as the vertical axis (V axis), and the time as the Z axis. The operator can intuitively view the constant changes in signals' strength as the signal flows to the back of the screen giving a sensation of traveling in Time and space.

The 3DSS exhibits a colorful easily viewed presentation that contains the outputs from both the Narrow band SDR and the Direct sampling SDR within one common screen. The operator can effectively see the close-in QRM situation from the Narrow band SDR output; while at the same time easily observe activity across the whole band from the Direct sampling SDR output.

MULTI Display

The MULTI Display mode allows the oscilloscope and the AF-FFT audio scope to be shown on the screen, in addition to the RF Spectrum Scope display. In MULTI display, while monitoring the receive band, a simultaneously view the contact station’s transmitted audio characteristics can be viewed with the AF-FFT function. At the same time the RF filter and interference reduction functions can be checked for their influence on the receive signal visually on the MULTI display, even in Contest, etc., The display can easily check the transmitter audio characteristics, it is very effective in monitor adjustment of the parametric equalizer.

Filter Function Display & Expand Feature

In the upper part of the display, separate Analog-meter and Filter function displays for both the MAIN and SUB bands are available at all times. The filter function display shows in-band information from the DSP as well as the operation status of the interference reduction function. You can check the operating status of WIDTH, SHIFT, NOTCH, and CONTOUR at a glance, as well as check the status of the spectrum within the passband.

When the “DSS” key is pressed, the scope display is switched to the enlarged image of the filter section, and the interference reduction functions can be adjusted while viewing their effect on the scope display in the band.

Versatile Display Configurations Designed for the Situation

FTx101 provides a variety of display configurations depending on the preferences and the situation. As a single band display, Monoaural (MONO) shows only the information of the MAIN or the SUB receiving frequency band. The Dual (DUAL) presents both the MAIN and the SUB band status in dual reception. The Dual display of the scope screen divides the information of the MAIN band and the SUB band vertically or horizontally. The “EXPAND” screen mode that expands the image of the scope. The status of the filters can also be expanded to make fine adjustments easily.

Rx Operation Status Display

The receiver status display shows the current receiver status and settings of the MAIN and SUB bands at a glance. The settings of connected antennas, terminals, and settings, are displayed at the center of the screen to support efficient operating.

Versatile Scope Operating Modes

Center Mode (CENTER)

The receiver frequency is always at the center on the screen and displays the spectrum within the range set by “SPAN”. The CENTER mode is a convenient view to monitor the spectrum around the operating frequency.

FIX Mode (FIX)

The FIX mode is convenient when operating within a fixed band. The display is fixed between the frequencies set in “SPAN” according to the band limit etc. By pressing and holding the “FIX” key, the start frequency of the scope may be input. Enter the band to be monitored with the SPAN setting. In FIX mode and CURSOR modes, there are many signals in the band, marker trajectories are clearly visible on the 3DSS display, enabling efficient signal tracking.

Cursor Mode (CURSOR)

Monitor the spectrum within the range set with “SPAN”. When the frequency (marker) exceeds the upper limit or the lower limit of the range, the screen is automatically scrolled and the spectrum outside the setting range can be observed.
**ABI (Active Band Indicator) & MPVD (Multi-Purpose VFO Outer Dial)**

Deliver Superior Operability and Visibility

Instant Access to Numerous Functions

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**Front Panel Design Emphasizes Solid Superior Response and Operability**

Important primary operation functions, such as the Main VFO dial, VC-TUNNE and WIDE/Shift are arranged near the center of the panel for easy access. Band select keys are placed in a row on the ABI (active band indicator) above the VFO dial, for operating efficiency and comfort. On the large “Gain” Touch Panel Display, the panel layout emphasizes quick visibility and operability as a First Priority.

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**ABI (Active Band Indicator)**

ABI Indicators are arranged as the band select keys in a horizontal row above the VFO dial. When the MAIN Band is selected, the LED indicators in white, and when the SUB Band is selected, the LED indicators in blue. When the transmit key is pressed, the LED will light red and you can instantly confirm which VFO is transmitting. In addition, the orange LED lights up when you press and hold the band key, you can use it to display a band that has an antenna connected or to display a band operated in DX-pedition mode as a memo. Below the band key is a key for selection between transmission and reception of the MAIN and SUB band, and below that, there is a switching key for using the VFO knob on the MAIN or SUB tuning. Even when the operating on the MAIN and SUB bands at the same time, the band control can be performed smoothly, and erroneous operations in tuning is reduced.

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**MPVD (Multi-Purpose VFO Outer Dial)**

The MPVD is a large high-grade aluminum multifunctional ring around the outside of the VFO dial. The MPVD allows control of SUB VFO frequency dial, VC-TUNNE, Clarifier and CS (custom select function). The MPVD is a handy dial that allows you to adjust important functions in ever-changing 10 communications without taking your hand off the VFO. The ring has the traditional Vero outstanding smooth and solid feeling when used.

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**CS (custom select) key**

The CS (custom select) key can call an often needed function with a single touch by assigning it in advance from the user menu. Functions assigned as CS can be used the MPVD dial to make configuration changes and adjustments.

Available selection items:
- Transmission Power Output setting
- Monitor level setting + DAN level setting
- Noise Blanker level setting + VTX gain setting + VDX delay setting
- Anti-VOX setting + Frequency change at pre-setting stop
- Memory channel selection + Memory group selection
- Recording filter pass band/channel selection

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**LED Indicators and Adjustment Knobs are Arranged Independently for the MAIN and SUB Band**

Multicolored LED indicators and adjustment knobs show clearly whether they apply to the Main band (White) or Sub band (Blue) by color, thus enabling easy identification by band and function, when adjusting for band conditions.

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**Instant Frequency Setting by Scope Screen**

In addition to the frequency changes performed by the VFO dial, the FT101 supports ten key inputs using touch panel operation in the frequency display section, and also the frequency can be moved by touching the peak of the desired signal on the scope screen display, the frequency is instantly moved to the desired signal.

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**Receiver Status Display with One Touch Switching**

The status of important receiver operations, such as antennas selection, antenna and loading (filters) are shown on the display, where they can always be confirmed. To change a setting, touch it, and then select the appropriate type or value on the display.

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**Remote Keypad HF-2 provides Convenient Message Memory Control**

The optional remote control keypad (HF-2) supports the message memory function that records and transmits short voice messages. It also supports the current memory keyer used for CW operation to transmit short messages automatically in contents etc.

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**Equipped with USB Ports**

Two USB ports (A type) on the front panel are available to use for operating the transceiver and inputting text with a combination mouse and keyboard.

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**SD Memory Card Slot**

Use a commercially available SD Memory Card to save the transceiver settings, the memory contents, and screen capture image. The SD Card is also used to update the firmware.

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FT101 Series
Supports Enjoyable CW Operation

CW Sine-Display

Tune the pitch frequency can be adjusted using the PITCH knob anywhere between 300Hz and 1000Hz. This pitch tone frequency is used as the reference in transmission, and so ensures that there is no difference between the TX and RX pitch. In addition, the FT-101 has the CW tuning bar display. By using this function, when the pitch of the received CW signal becomes close to the programmed pitch, the pitch mark on the bar-display moves closer to the center from right or left side of the display depending on whether the received pitch is higher or lower than the programmed pitch. And, when the pitch mark is on the center, you can visually confirm the signal is zero beat with the programmed pitch.

CW Auto zero

CW Auto Zero-zero measures the frequency of the received CW signal and tunes the beat frequency Oscillator to match the programmed pitch frequency automatically (auto-zero). Even for the experienced operator, it is sometimes difficult to zero beat just by listening, but this function enables zero beat with auto-zero, and so the operator can start the QSO very quickly.

During CW operation, if there is interference in the received signal, CW reverse function provides a means of removing the temporary interference by inverting the side band.

Other CW Features

- Two keys jacks on the front and rear panels
- Built-in Digital Keyer (key code selection: A/B/Y/ACS)
- Keying emission
- Keyer Weight control
- Keyer public D.D.shield reversal
- Constant output auto count up

RTTY (PSK)/PSK Encode/Decode Function

The FT-101 has a built-in encoder and decoder of PSK and FSK, (PSK/QPSK) digital messaging communication modes and so can operate in RTTY and PSK31.

- RTTY Encode/Decode function

The RTTY decoding and encoding functions can be easily tuned in the received signal using the marker on the filter function that is displayed together with the decoding screen. Mark frequency, SHIFT width and the baud rate can be changed in the setting items. Also, by connecting the FT-101 to a PC with a commercially available USB cable (A-B), permits RTTY operation using commercially available data communication software.

Other Practical Features

Optimal RF Gain selection by IFO (Intercept Point Optimization)

Depending on the connected antenna and the received signal conditions, the gain of the RF amplifier section can be selected from three operating states to input a signal of the optimum level to the mixer. In particular, IFO is effective in severe reception conditions encountered on the low frequency bands. AMPL1 gain (gain 10dB) provides a balance of sensitivity and selectivity by connecting one stage of RF amplification, AMPL2 (gain 20dB) utilizes two stages of RF amplifier with emphasis on sensitivity.

AGC (Automatic Gain Control) Function

AGC automatically adjusts the overall gain of the receiver according to the strength of the received signal. This prevents the receiver from saturating and causing distortion in AUTO mode, the tone constant is automatically switched according to the operating mode. However, when there is no fading, the time constant of the AGC circuit can be switched according to the situation to maintain the optimum level. The AGC setting is stored for each band used.

Quick and Sync Functions make SPLIT Operation Effortless

The quick-split function enables using different frequencies set in the MAIN band and SUB band, this supports smooth and comfortable operation during DX-peditions.

- Quick Split功能

Set the receive frequency in the MAIN band first then press and hold the “SPL1” key. The auto-tuner frequency is set directly higher than the receive frequency, and the split operation can be performed quickly. (Set to change the offset frequency in the setting menu.)

- Quick Split Input

When quick split is selected in the setting menu, you can hold down the “SPL1” key and specify the offset frequency with the touch panel operation on the screen.

- Sync function

By pressing the SYNC key, you can change the MAIN and SUB bands frequencies simultaneously. Also, by pressing and holding the SYN (SYNC) key, the frequency of the MAIN band and the frequency of the SUB band can be made the same with one touch.

92mm Exceptional Sound Quality Built-in Speaker

The large-diameter 92mm built-in speaker faithfully reproduces the received signal with high sound quality design. The pleasant audio will reduce fatigue even in extended operations or contests.

Hand Microphones with Keys SSM-25G (Supplied Accessory)

The hand microphone (SSM-25G) can perform band selection with one touch. It provides the microphone, a transmit PTT key, and several function keys.

- Frequency UP/DOWN
- MAIN main band selection
- SUB band selection
- MUTE

Compatible Long Wire Auto Antenna Tuner (FS-40)

A tuner terminal on the rear panel supports the FS-40 auto antenna tuner that can match a wide 20m or more in length to amateur bands 1.8MHz to 30MHz, 50MHz to 6MHz. Matching frequencies are stored in 200 matching memories making tuning up much quicker when returning to a previously used operating frequency. (Support for up to 100w output)

Extensive External input/output connections

Equipped with 3 antenna Terminals to Accommodate Various Antenna Arrangements

Three antenna connectors are provided on the rear panel. The antenna configuration can be switched with one touch to change the operating antenna connections, such as when using a receive-only antenna or a transmit/receive antennas in a contest etc. The ANT1 & ANT2 terminals can be used for transmission and the ANT3 terminal is set to receive only to connect an antenna. The setting information of the antenna terminals is automatically stored for each band, and the antennas are switched to the optimum antenna by changing the band. The antenna selection display is easy-to-understand and reduces the possibility of mistuning operation.

Output Terminal (RX-OUT, IF-OUT) for External Device Connection

MAIN and SUB bands are independently equipped with RX-OUT and IF-OUT terminals for external device connection. The RX-OUT signal is after the RF amplifier, and the IF-OUT signal is before the IF filter signal. Outputs can be used in various applications such as receiving the same band with an external receiver and connecting to various external SDR devices.

External Display

An external display terminal (DVI-D) on the rear panel provides a dedicated video output for connecting to a large screen monitor.

ACC Terminal

An optional LAN unit can be connected to the ACC (Accessory) terminal to perform remote operation via a LAN or the Internet.

Automatic Speaker Terminal (A/B)

Two external speaker terminals are provided, and by connecting external speakers to terminals A and B, you can control the audio output destination between the external speakers and the built-in speakers.

Linear Amplifier Connection Terminal

A dedicated terminal for connection to a 1kW linear amplifier (YL-1000), and can be connected to the VL-1000 via the CT-178 (sold separately) for coordinated operation by sharing band data.
PC Remote Control Software
Expand Operating to Remote Locations
Dual Band-Scope available even from a distance
Remote Operation utilizing advantages of the Hybrid SDR

Remote Operation with a LAN or Internet Connection

PC control software is available that permits remote operation of the transceiver from a remote location via the LAN or the Internet. (Requires optional external LAN unit) To remote operation, as well as the transceiver's basic operations, the compatible DUAL-BAND scope and remote display enable sophisticated operation. Also, there are various enjoyable uses such as monitoring the band conditions on a large display at a location away from the "burn area", by connecting to a home LAN network.

Flexible Operating Panel Layout may be Customized by User

Using the PC mouse, the layout of the operating panel on the PC screen can be enlarged or reduced according to preference. The layout on the screen can also be altered on the left or right side of the display. The upper and lower positions of the MAIN Band and SUB Band can be alternated. When used as a band monitor, the display scope may be expanded to full-screen without the operating panels. Create the best panel display arrangement depending on the situation, from monitoring the band activity at a little distance while in the shack, to displaying the frequency spectrum on a large screen at a remote location.

DUAL Band Scope Display & MULTI Display

The scope function provides a MONO display in which only the active band is enlarged and displayed on the full PC screen. Alternately, in the DUAL display, the MAIN and SUB band scope screens are displayed simultaneously. The new SSS spectrum scope function is supported, and utilizes all the operating advantages of the Hybrid SDR. The narrow receive band of SDR is displayed in detail, while also monitoring the signals of the entire band in direct sampling SDR, even from a remote location. The conventional waterfall display, and the various color selections of the scope screen are available as the users prefer. In MULTI mode, an oscilloscope and RF-ZFT are displayed on the band scope, and you can select MONO display or DUAL display. With the MULTI on DUAL display, the best tuning can be achieved while also checking the entire band condition of the MAIN and SUB bands. The status of the transmit and receive audio of both bands, may also be displayed.

Valuable Features in Remote Operation

- MAIN/SUB transmit/receive operation
- Roofing Filters & Interference Reduction function
- Dual scope function • Audio Recording & Playback
- Audio Equalizer Characteristic Display
- Data Mode RTTY & P65-1 • CW (External Keyer not supported)
- Memory Channel Function • Screen Capture function • Others
  * Supported features differ depending on the transceiver

Supports Conventional HF Transceivers

PC remote control of conventional HF transceivers via the LAN or the Internet is supported. (Requires optional external LAN unit)

Network Remote Control System LAN Unit

This optional LAN Unit is an interface unit for transceiver remote operation via LAN or Internet, from a Personal computer with PC control software installed. The transceiver transmissive voice, RF scope, AF scope, and CAT commands can be converted, and permits comfortable remote communication, effortless tuning and setting of various filters, scope functions, interference reduction functions etc. from a PC via the network.

* Specifications and appearance of the PC remote control software and LAN unit are subject to change without notice or obligation.
* Advertisement image may be different from the actual unit.
**FRONT PANEL / REAR PANEL**

**FOOT PANEL**
- USB Jacks
- 2 Volume Knobs
- Power Switch
- LCD Display
- Menu Button
- M-1 Microphone
- M-10 Microphone
- LAN unit
- HDMI In
- HDMI Out
- USB Port
- SD Card Slot

**MAIN ACCESSORIES**
- BA-101 High-quality External Speaker
- FHX-101 External Power Supply
- FHX-102 Power Supply
- AC-101 Remote Control

**OPTIONS**
- VCS-101 Color-Coded External Speaker
- CW / SSB Narrow Filters
- SSB Narrow Filter

**ACCESSORIES**
- VL-1000 100W Line Amplifier
- VL-1000 Power Supply
- CT-116 3.5mm connection cable
- VN-1000 Lightweight Recording Headphone
- MD-200AEX USB LIGHT MICROPHONE

**SPECIFICATIONS**
- Power Source: 100V/220V AC 50/60Hz
- Power Consumption: 20W
- Frequency Response:
  - 20Hz to 20kHz
- Signal-to-Noise Ratio: 100dB
- Dynamic Range: 120dB
- Dimensions: 320 x 200 x 45mm
- Weight: 800g

**FT DX101 Series Standard Equipment**
- Transmitter Power Output: 100W
- Receiver Power Source: 12V DC
- Receiver Power Source: 12V DC
- Recorder: SD Card recorder

**FTX101 Series**
- Power Source: 12V DC
- Power Source: 12V DC
- Recorder: SD Card recorder