

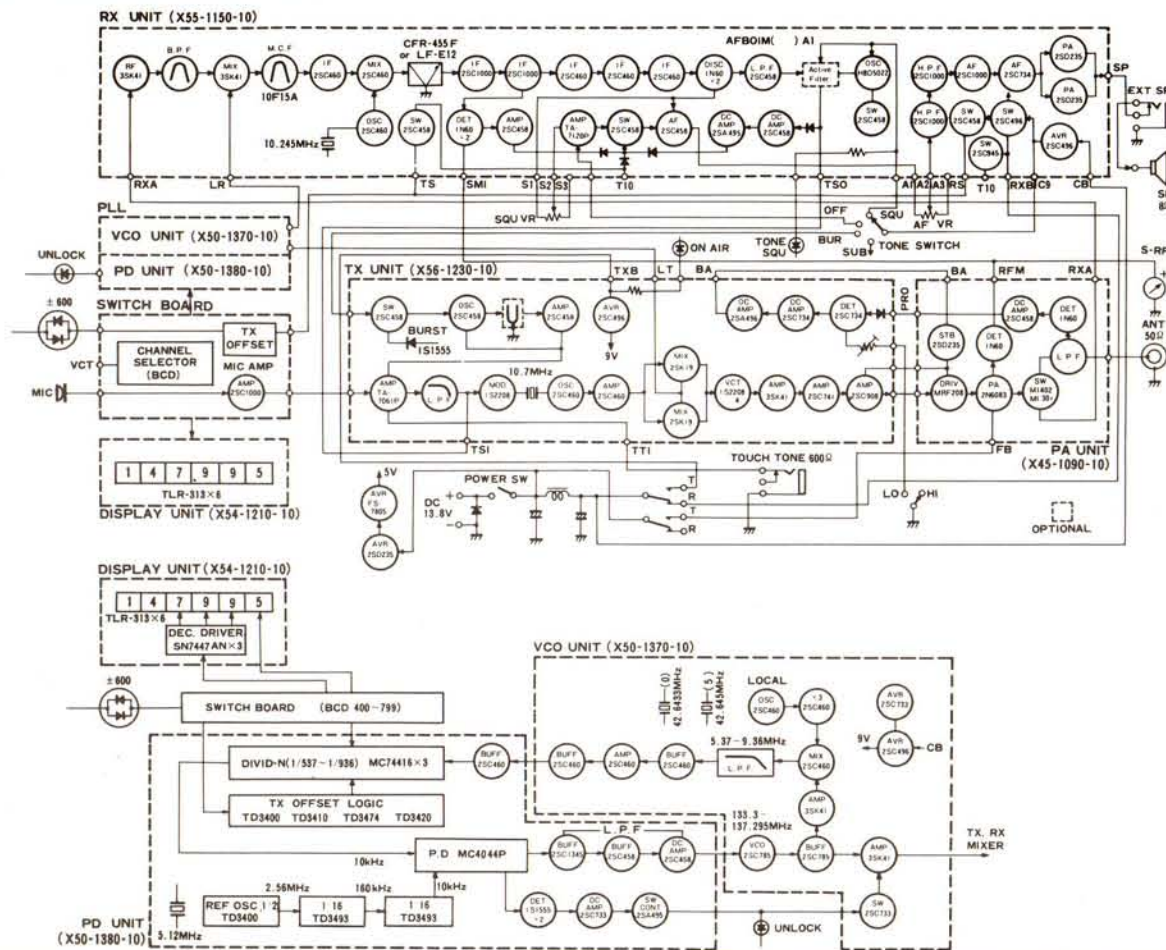
 **KENWOOD**

**2 METER
FM
TRANSCEIVER**

TR-7400A



TR-7400A BLOCK DIAGRAM



SPECIFICATIONS

GENERAL

Semiconductors:	Transistors 59 FETs 7 ICs 19 Diodes 63
Frequency Range:	144.000 to 147.995 MHz
Mode:	FM
No. of Channels:	800
Operating Temperature:	-20 to +50 degrees C
Power Voltage:	11.5 to 16.0V DC (13.8V DC nominal)
Grounding Polarity:	Negative ground
Antenna Impedance:	50 Ohms
Current drain:	Less than 1A in receive with no input signal Less than 8A in transmit (HI) Less than 4.5A in transmit (LOW) (at 13.8V DC)

Dimensions:

182 mm (7-3/16") wide
270 mm (1 -5/8") deep
74 mm (2-7/8") high
Approximately 2.8 kg (6.2 lbs.)

Weight:

TRANSMIT SECTION

RF Output Power:	High: 25 Watts Low: 5 Watts (approximately) Variable reactance frequency shift
Modulation:	Variable reactance frequency shift
Frequency Deviation:	±5 KHz
Spurious Radiation:	Better than -60dB
Tone Burst Duration:	0.5 to 1.0 sec
Touch Tone Input Impedance:	600 Ohms
Microphone:	Dynamic microphone with PTT switch, 500 Ohms

RECEIVE SECTION

Receive System:	Double conversion superheterodyne
Intermediate Frequency:	1st IF: 10.7 MHz 2nd IF: 455 kHz
Sensitivity:	Better than 0.4 uV for 20 dB quieting Better than 1 uV for 30 dB S/N
Squelch Sensitivity:	Better than 0.25 uV
Selectivity:	12 kHz at -6dB down 40 kHz at -70dB down
Image Rejection:	Better than -70 dB
Spurious Interference:	Better than -60 dB
Audio Output:	More than 1.5 watts across 8 Ohms load 10% distortion
Intermodulation:	Better than 66 dB

Circuits and ratings may be subject to change without notice due to development in technology.

Distributed by
TRIO-KENWOOD COMMUNICATIONS, INC.
116 East Alondra Blvd. Gardena Calif. 90248



EXCITING NEW TRANSCEIVER FOR 2-METER FM OPERATION ...TR-7400A

The KENWOOD TR-7400A FM Transceiver is a revolutionary synthesized 2-meter amateur rig boasting a host of new, exciting features. Unique squelch system, 25 Watt power output, entire 2-meter band coverage with 800 channels, digital readout and much, much more make the TR-7400A tops in its class.

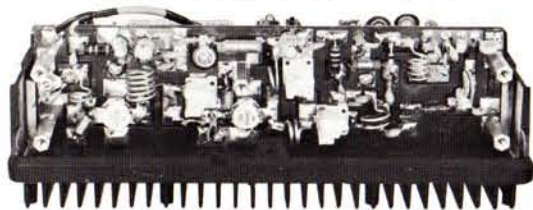
CHECK THESE FEATURES

The most complete squelch system yet devised:

The TR-7400A has provisions for continuous tone-coded squelch (CTCS); encode and decode or encode only. Common frequency active filters are available (optional). Also, tone burst operation can be achieved by inserting optional tone burst modules (TBM). Standard frequency modules are available at your KENWOOD dealer. Of course, the TR-7400A can be used for normal carrier squelch operation. A convenient, front panel switch selects the squelch system you desire. This versatile, self-contained squelch system allows the TR-7400A user to "access" any of his favorite repeaters.

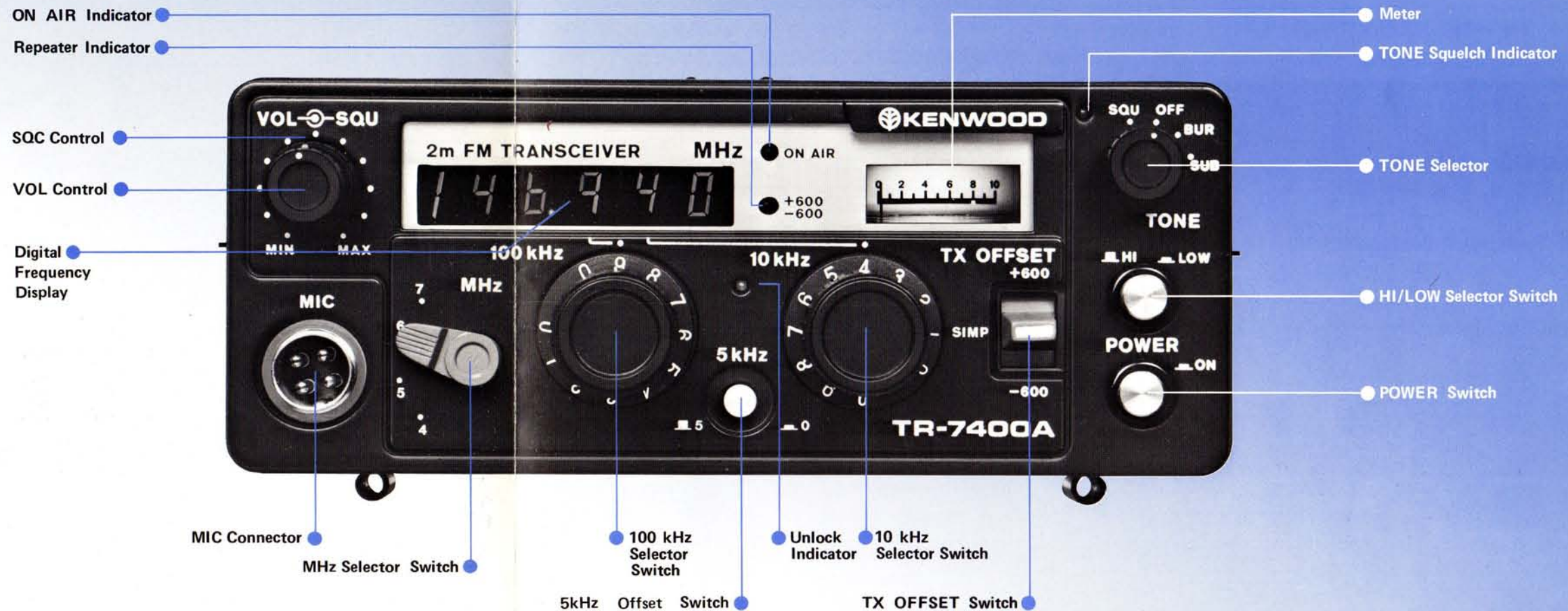
High Power, Solid State Final:

The KENWOOD TR-7400A is conservatively rated at 25 Watts RF output power to provide solid, reliable communications. High performance and reliability are obtained through the use of the Motorola MRF-208 (driver) and 2N6083 (final) transistors mounted on a large die cast heat sink.



LED Indicators:

The front panel of the TR-7400A is designed with an ON AIR indicator, repeater indicator showing +600 kHz or -600 kHz offset, unlock indicator, and tone squelch indicator. These allow you to know your operating condition at a glance.



Digital Frequency Display:

Large light-emitting diodes (LEDs) indicate your operating frequency in six digits allowing fast, efficient readout.

800 Channel Coverage:

The phase-locked loop (PLL) frequency synthesizer in the TR-7400A divides the 4 MHz bandwidth into 400 channels at intervals of 10 kHz. The frequency may be offset 5 kHz higher with the push of a button, thus providing 800 discrete channels.

Final Protection Circuit:

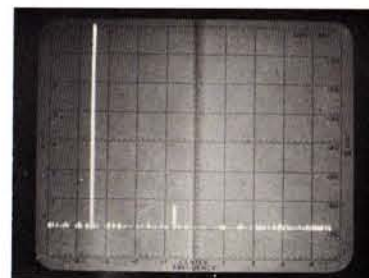
The final transistor in the TR-7400A is protected from antenna impedance mismatch. Excessive reflected power reduces the amount of drive to the final transistor rather than turning off the final stage. This practical feature allows continued safe operation at a reduced power level whether the antenna becomes opened or shorted.

Excellent Output Signal:

Effectively minimizes unwanted output signals. Second and third harmonics are down better than -60 dB.

Spectrum-analyzer display of the TR-7400A output

Vertical scale : 10 dB/div.
Horizontal scale : 50 MHz/div.
Power Output : 30 Watts
Frequency : 146.0 MHz



PLL Unlock Protection Circuit:

In the event that the TR-7400A's PLL synthesizer circuit becomes unlocked, a built-in protection circuit prevents the unit from radiating all unwanted signals. This condition is indicated by a front panel LED.

Repeater Offset Circuit:

A convenient front panel switch offsets the transmit frequency of the TR-7400A up OR down 600 kHz for standard repeater operation. This offset circuit uses digital technology to provide a highly stable offset frequency without spurious response.

Low Power Position:

The TR-7400A is also capable of low power (5 Watts) operation at the push of a button for use with most 2-meter FM amplifiers.

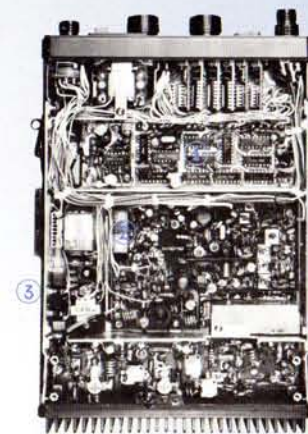
Superior Receiver Characteristics:

The large helical resonators, 2-pole 10.7 MHz monolithic crystal filter, and MOSFET front-end circuitry combine to give outstanding performance.

***Accessories Included:** Handheld Dynamic Microphone
Mounting Bracket with hardware
Power Cable
Speaker (built-in)
Line filter (built-in)

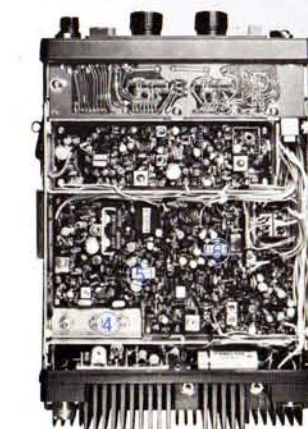
***Optional Accessories:** Tone Burst Modules: (1800 Hz, 1950 Hz, 2000 Hz, 2100 Hz, 2150 Hz, 2250 Hz, 2400 Hz, and 2550 Hz).
Active Filter Units: (For CTCS operation). Most common frequencies available.

* Optional accessories available from your authorized KENWOOD dealer.



1 PLL Unit:

Improves the C/N characteristics of the VCO (voltage-controlled oscillator) output signal so highly that it could realize a high sensitivity and high selectivity.



2 Tone Burst Module:

Can be easily plugged in the TR-7400A

3 Tone Pad Connection:

Allows convenient connection of a tone pad to the TR-7400A.

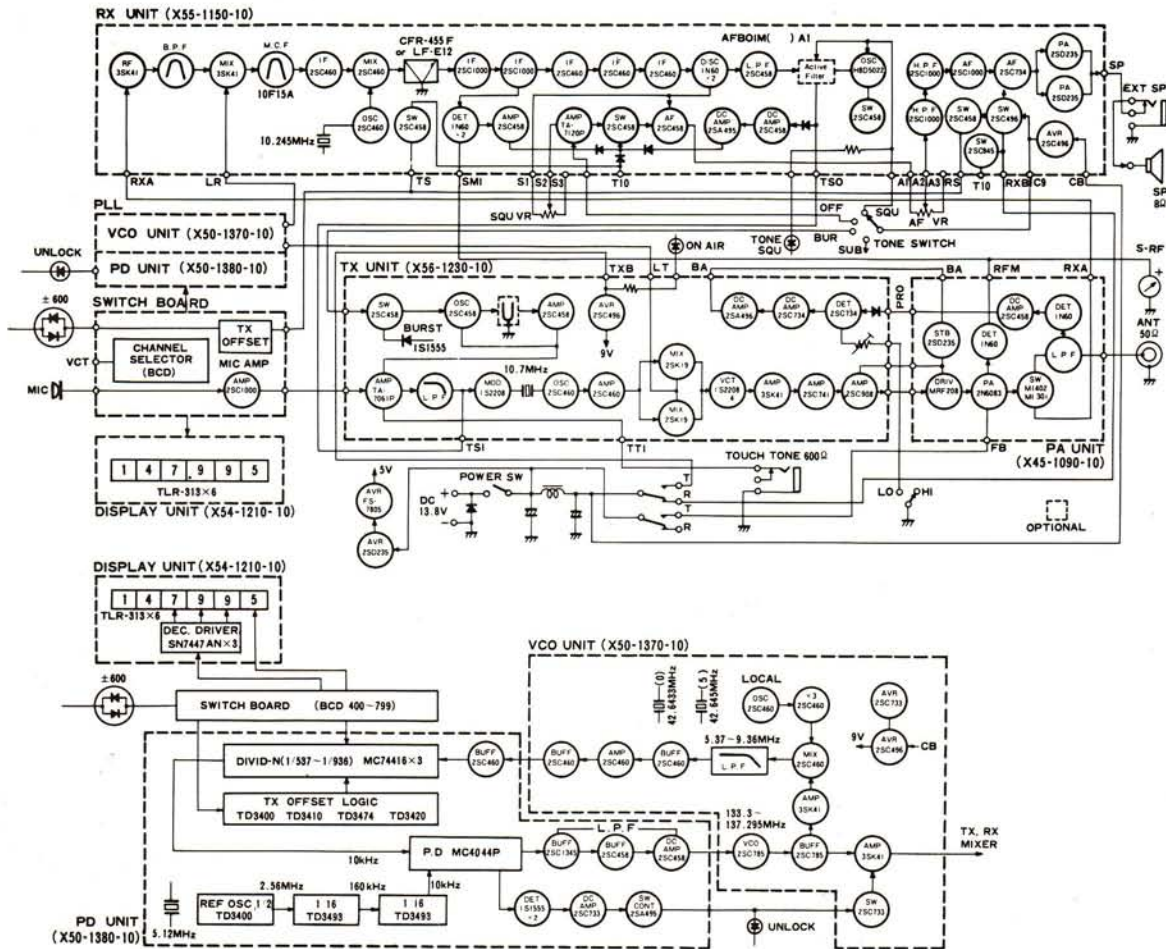
4 Helical Resonators - Improved Intermod Characteristics:

These large-sized helical resonators with high Q minimize undesirable interference from outside the 2-meter band.

5 10.7MHz monolithic crystal filter

6 Active Filter Unit:

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