

# Yaesu FT-101

The FT-101 is a hybrid radio that employs a solid state transmitter, receiver, and a tube final amplifier. The solid state features of the radio offer high-performance, low-current characteristics, while the tube amplifier provides a nearly "bullet-proof" transmitter and tuner stage.

The tube amplifier consists of a 12BY7A pre-driver stage that feeds a pair of 6JS6C tubes providing a nominal output power of 130 watts PEP SSB, 90 watts CW, 40 watts AM. The 6JS6C tubes are matched to 50 Ohms through a conventional pi-output network. The pi-network transforms the 3000 ohm output impedance of the tubes to a 50 Ohm feed system, provides harmonic attenuation, and can actually match to a variety of output impedances from 25 to 100 Ohms with ease.

The transceivers were made with plug-in boards that could be sent to the factory for replacement or repair. This modular design was unprecedented in the amateur community, which explains why so many FT-101's are still in use today. In fact, board extenders could be purchased to extend any board above the main chassis for measurement, alignment, and repair. For any plug-in board, all voltages, grounds, and signal traces were routed through a single edge connector (facing down into the main chassis). This removed the need for wires and cables to these circuit boards. This yielded a clean and trim internal upper chassis. The bulk of the wiring harness is below the deck of the main chassis where all main circuit board edge connectors are fed. Yes, there are many wires!

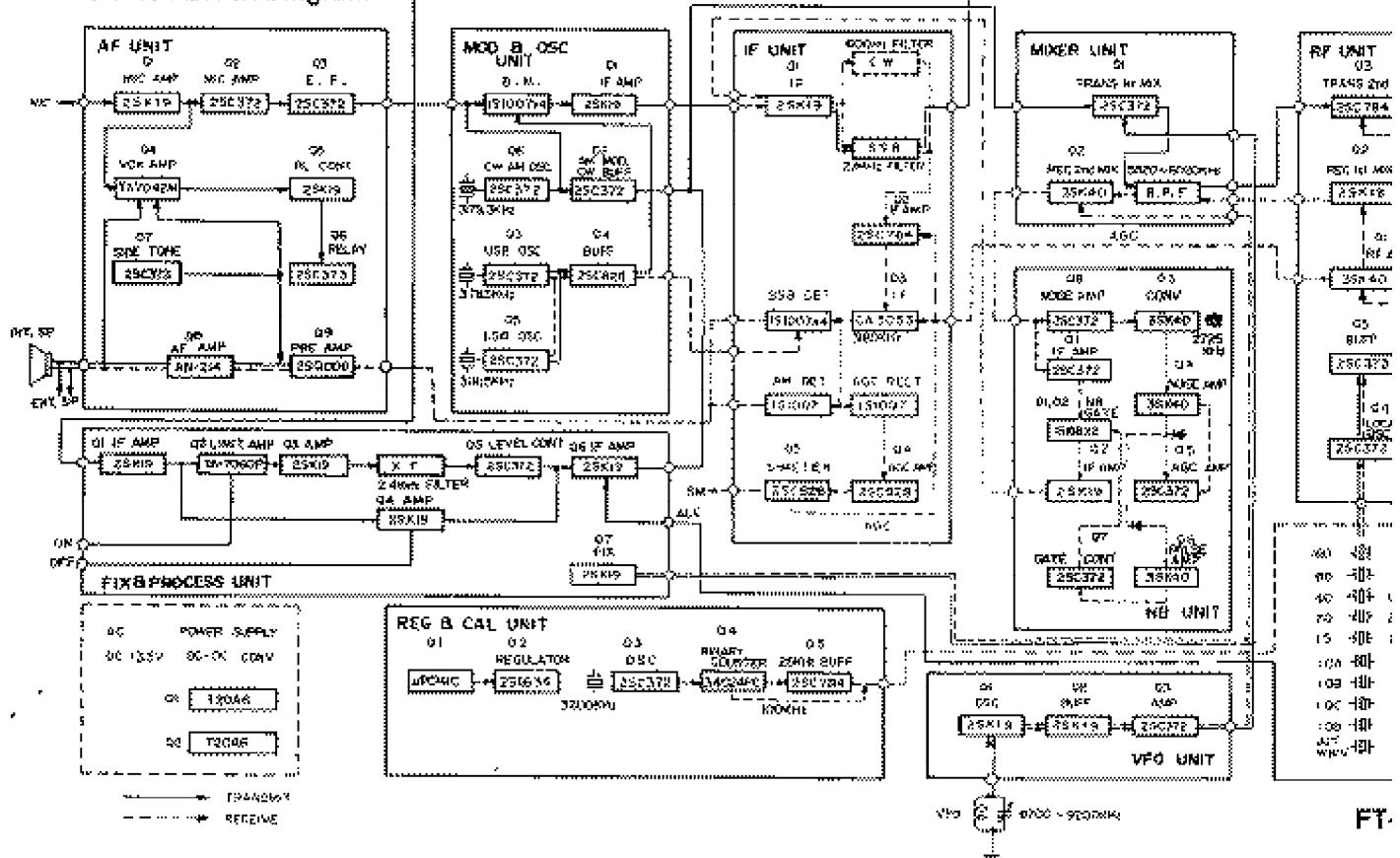
The most complicated device in this radio is the Band Selector Switch. This is a 12-position rotary switch that runs from the front of the radio to the back. It has 13 sections (wafers A thru M) which route everything from DC voltages, oscillator sections, crystals, tuning circuits, and RF Power in the high-voltage tank and output circuits. One band selector switch position is used for: 160M, 80M, 40M, 20M, 15M, 10A, 10B, 10C, 10D, 11M or AUX, and WWV receive-only. Each position allows the main VFO to cover 500kHz on any band.

The entire transceiver was made of metal. Covers, chassis, shields, shafts, etc., are all metal. Even the plastic RF/S-meter trim and knobs have brass metal inserts. At 35 pounds, there is a lot of metal in this radio! The 10 major circuit boards are mounted with threaded hardware to the main chassis. Very rugged indeed. A clear plastic sheet covers the entire painted surface of the faceplate. A well-cared-for FT-101 will still have this clear plastic front.

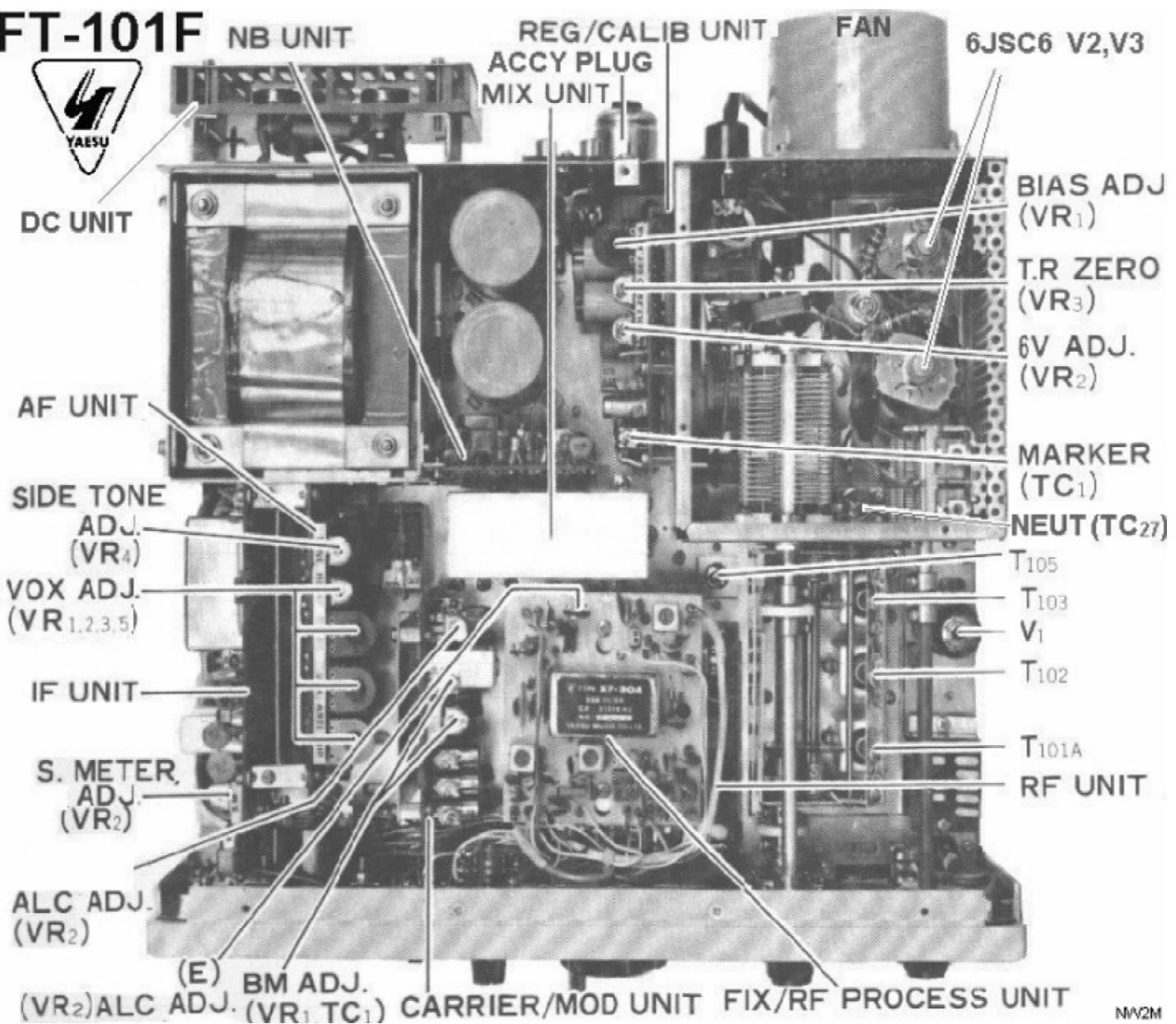
Because critical circuit designs were kept to a manageable size, hams had no problem in offering circuit changes, isolating and repairing problems. This knowledge base was so active that in January 1972, Milton Lowens WA2AOQ, founded the International Fox Tango Club and the Fox Tango Newsletter. The Fox Tango Newsletters were published for 14 years covering the early FT-101's thru the latest Yaesu Transceivers in 1985. By then, surface mount technology and circuit complexity outpaced many ham's ability to maintain this level of equipment. In doing so, new chapters in circuit densities, solid state transmitters, and LSI chips were born, which closed the door (and the covers) to many radios.



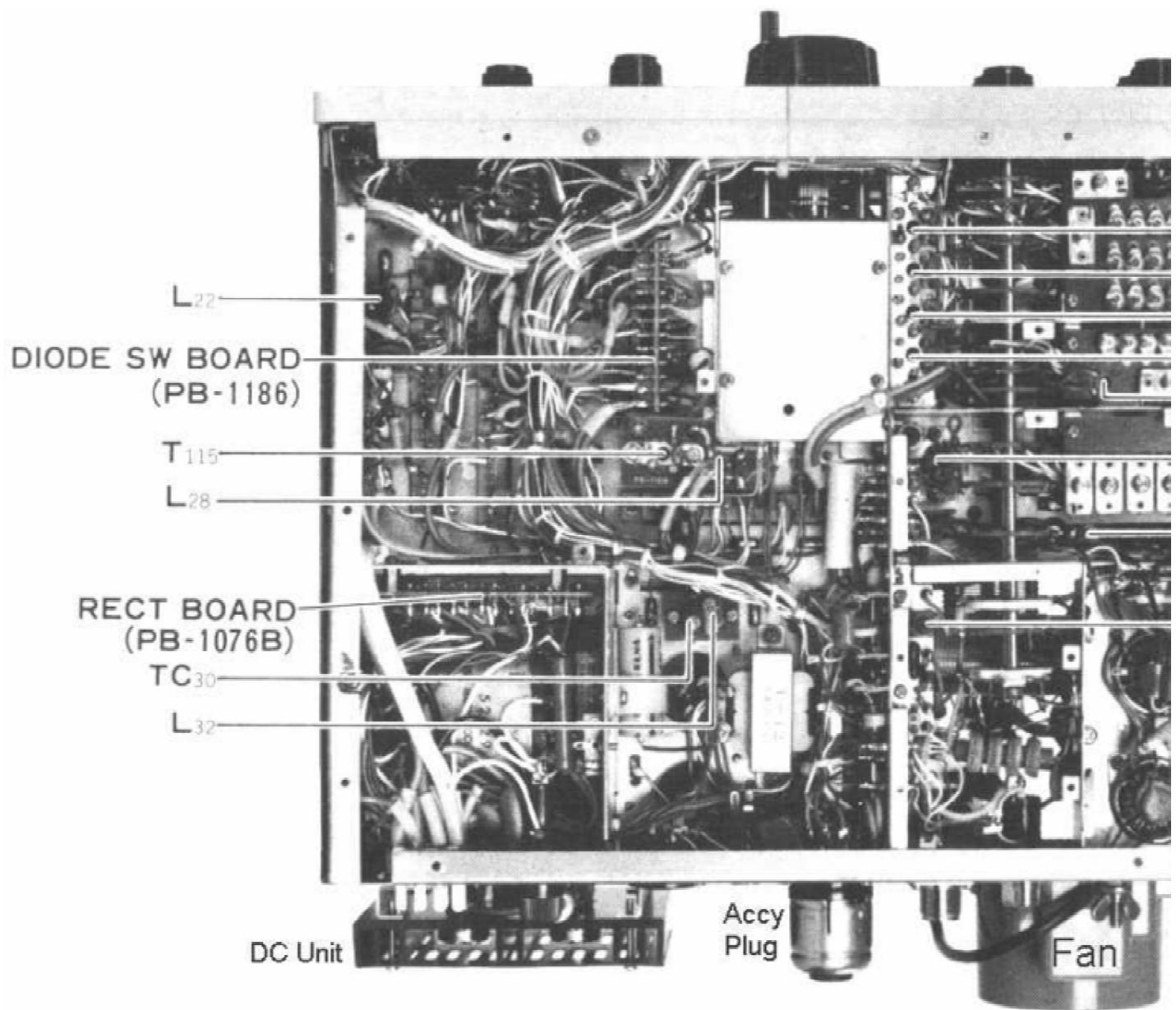
## FT-101 Block Diagram



# FT-101F



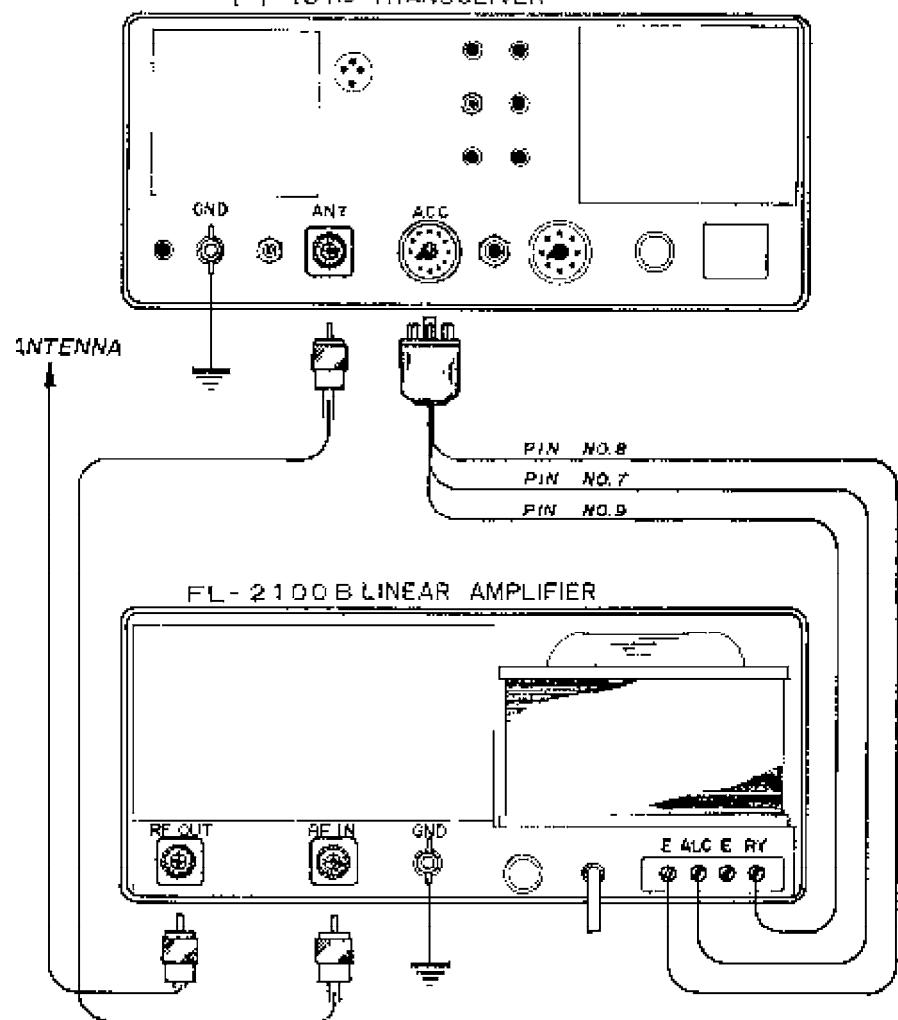
NW2M



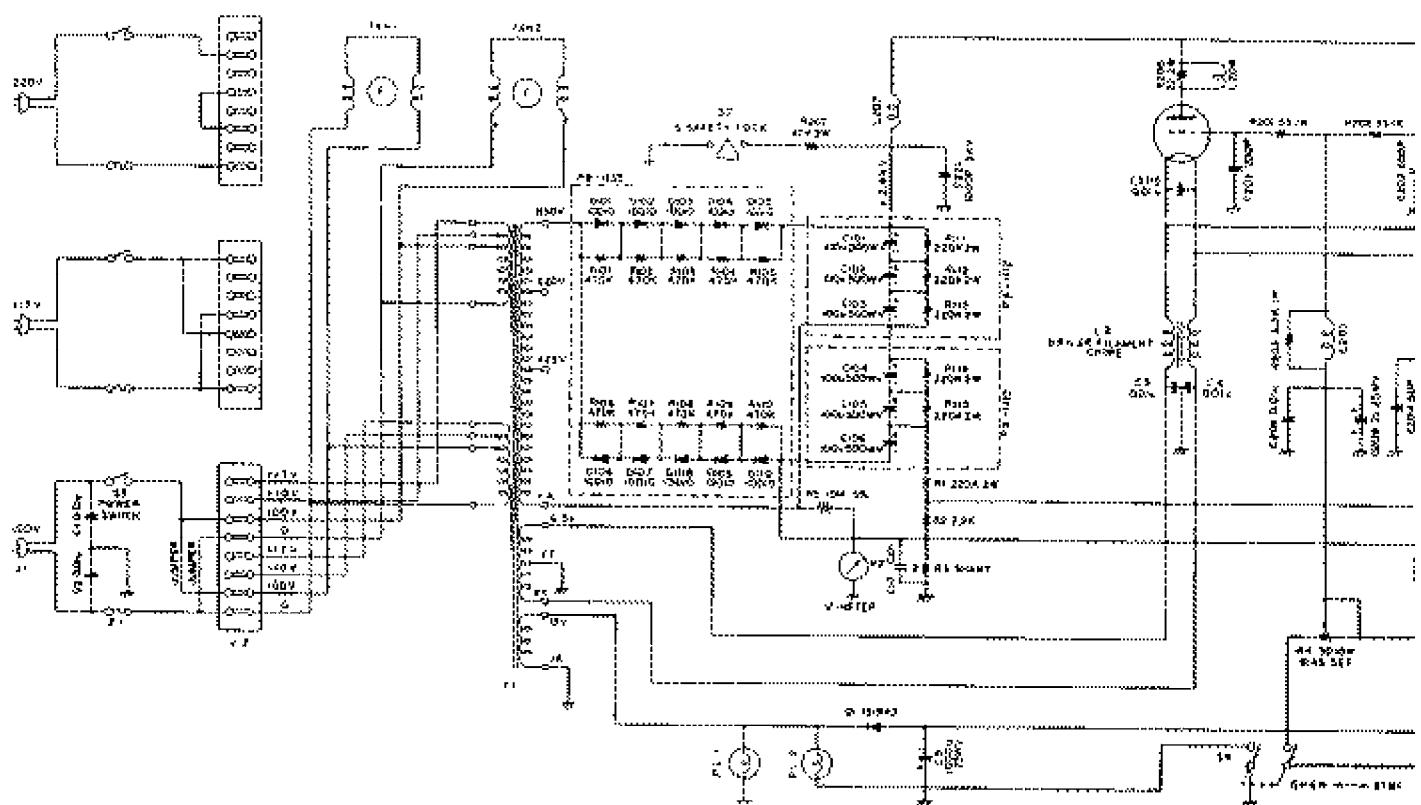
Yaesu made an entire suite of accessories to complement any FT-101 operator's station. Here is one of the accessories.

#### **FL-2100B/F/Z Linear Amplifier**

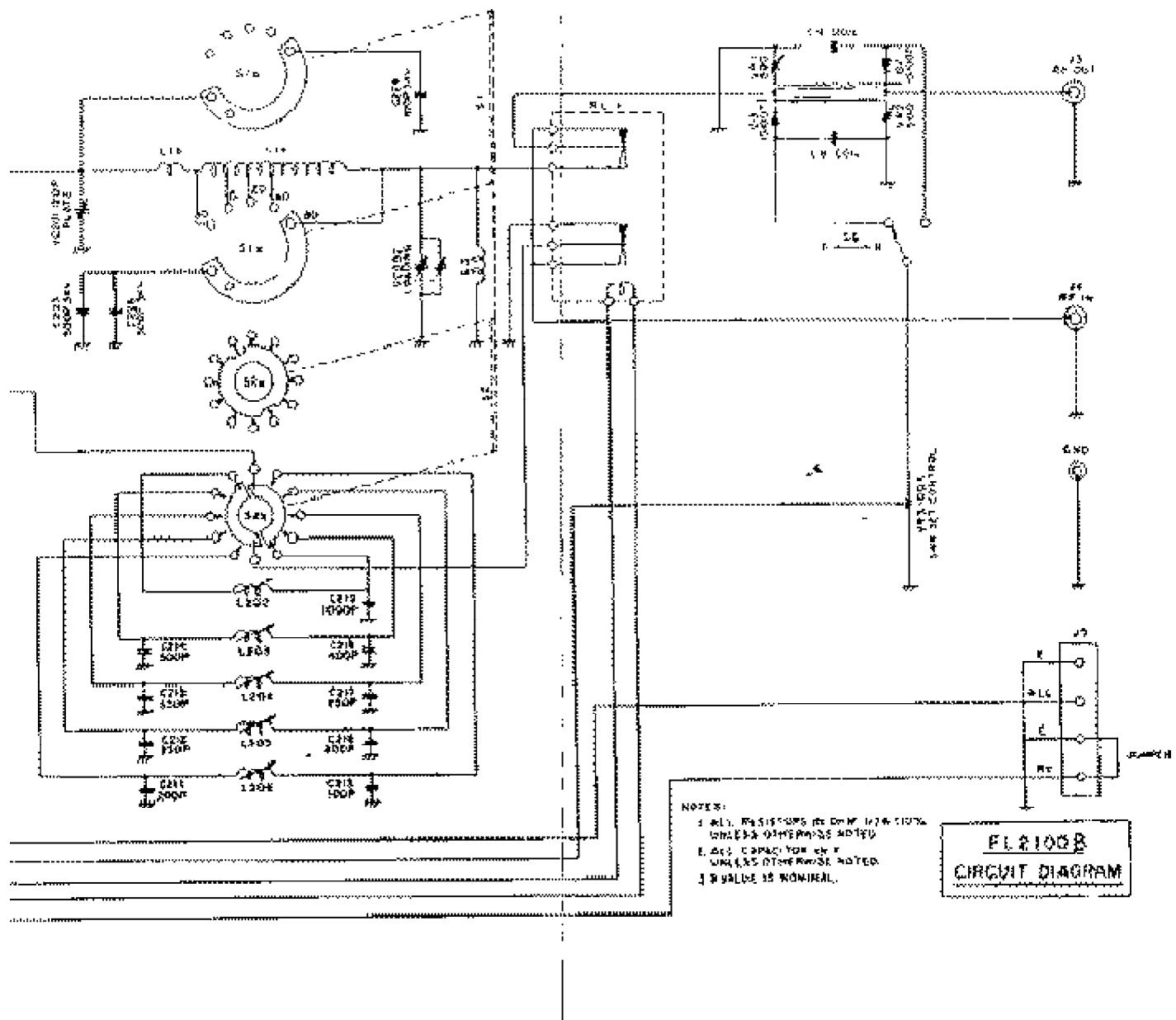
INTERCONNECTION DIAGRAM  
FT-101B TRANSCEIVER



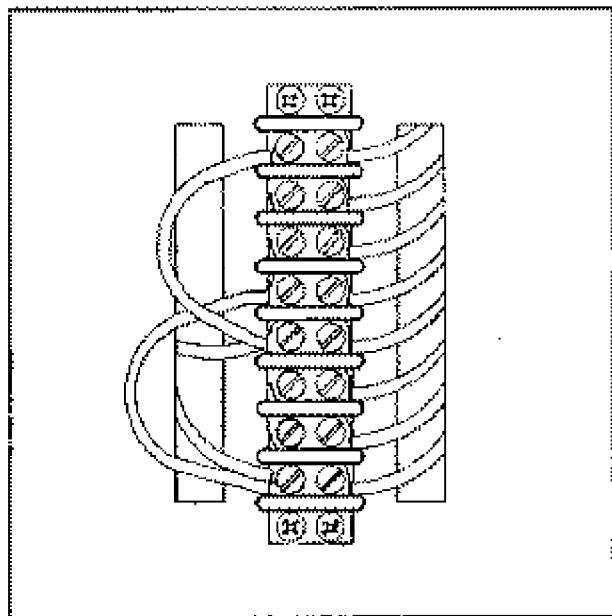
**FL-2100 Schematic A**



**FL-2100 Schematic B**

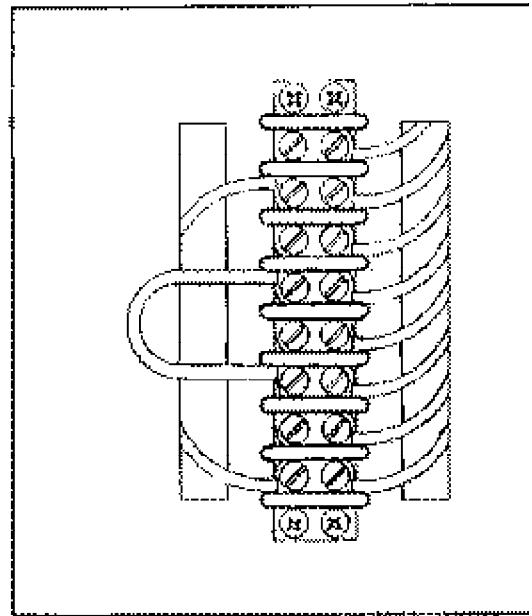


117 V



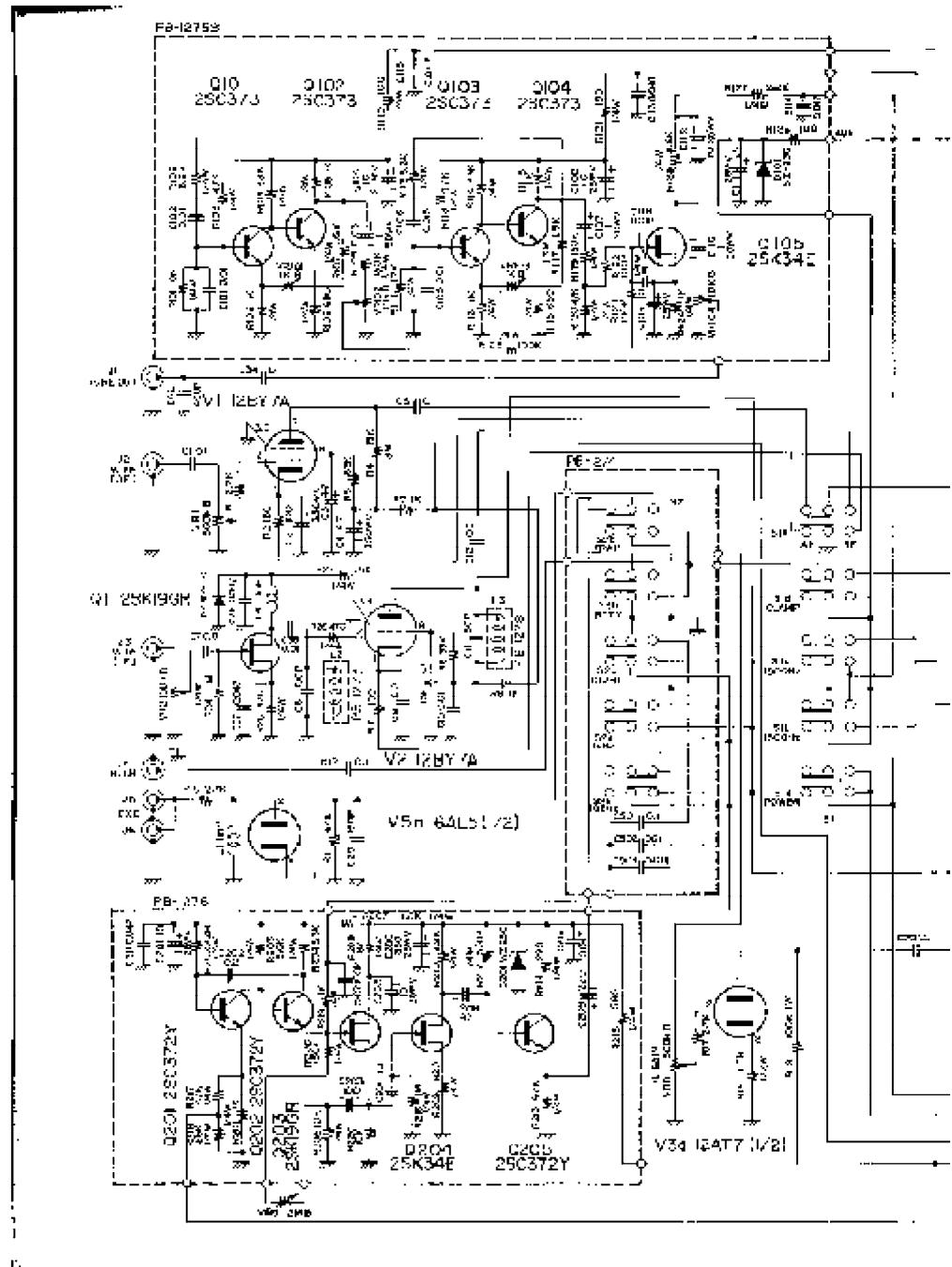
FL-2100

220 V

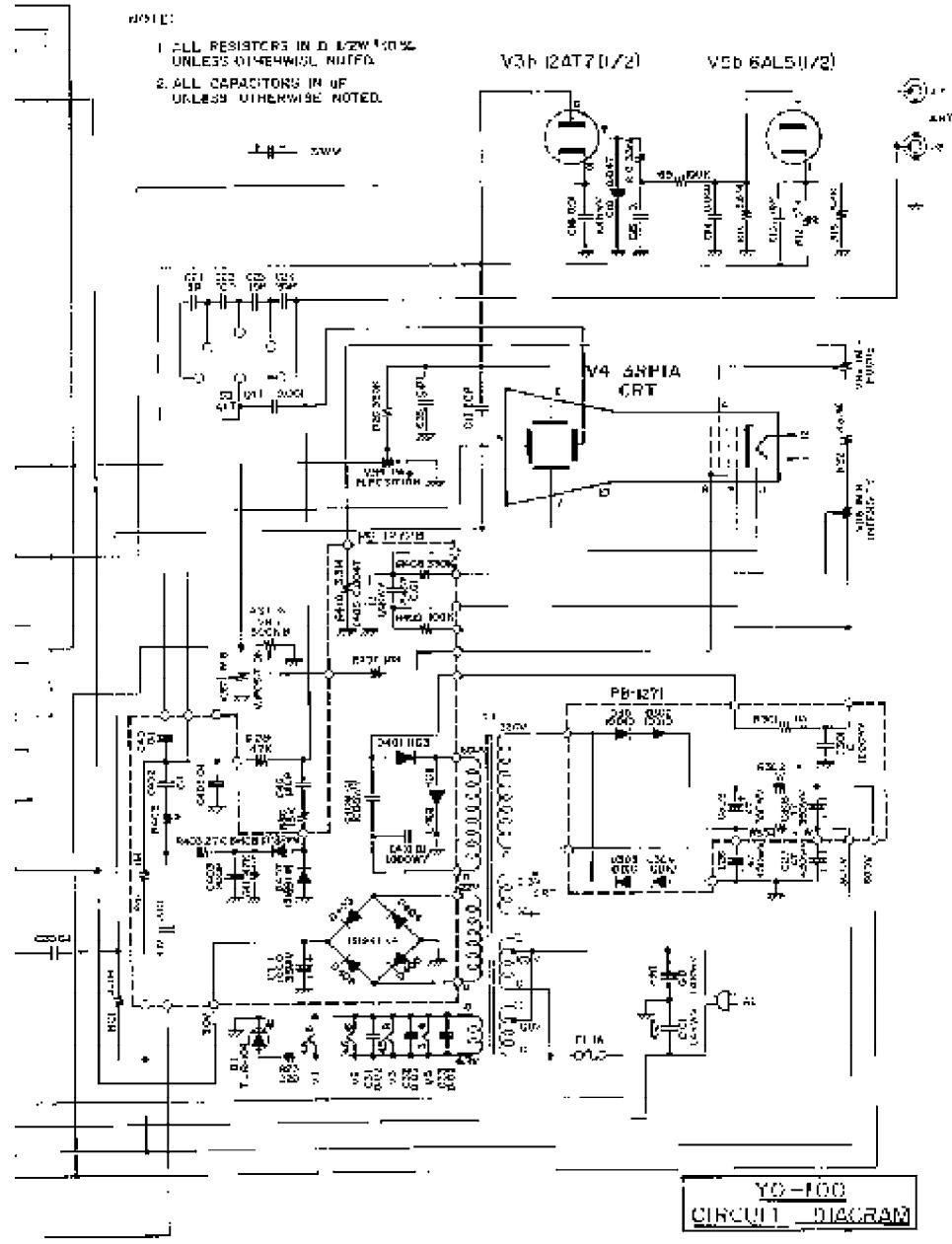


**YO-100 / YO-101 Monitor Scope**

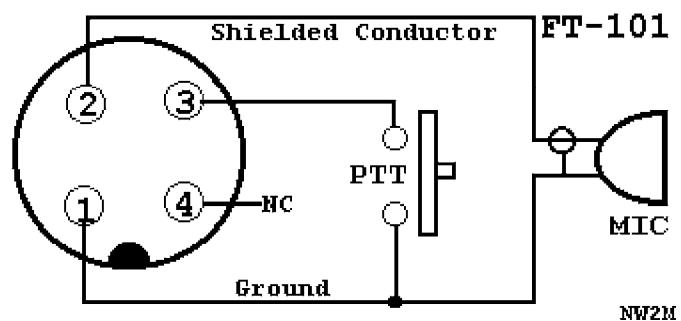
**Circuit A**



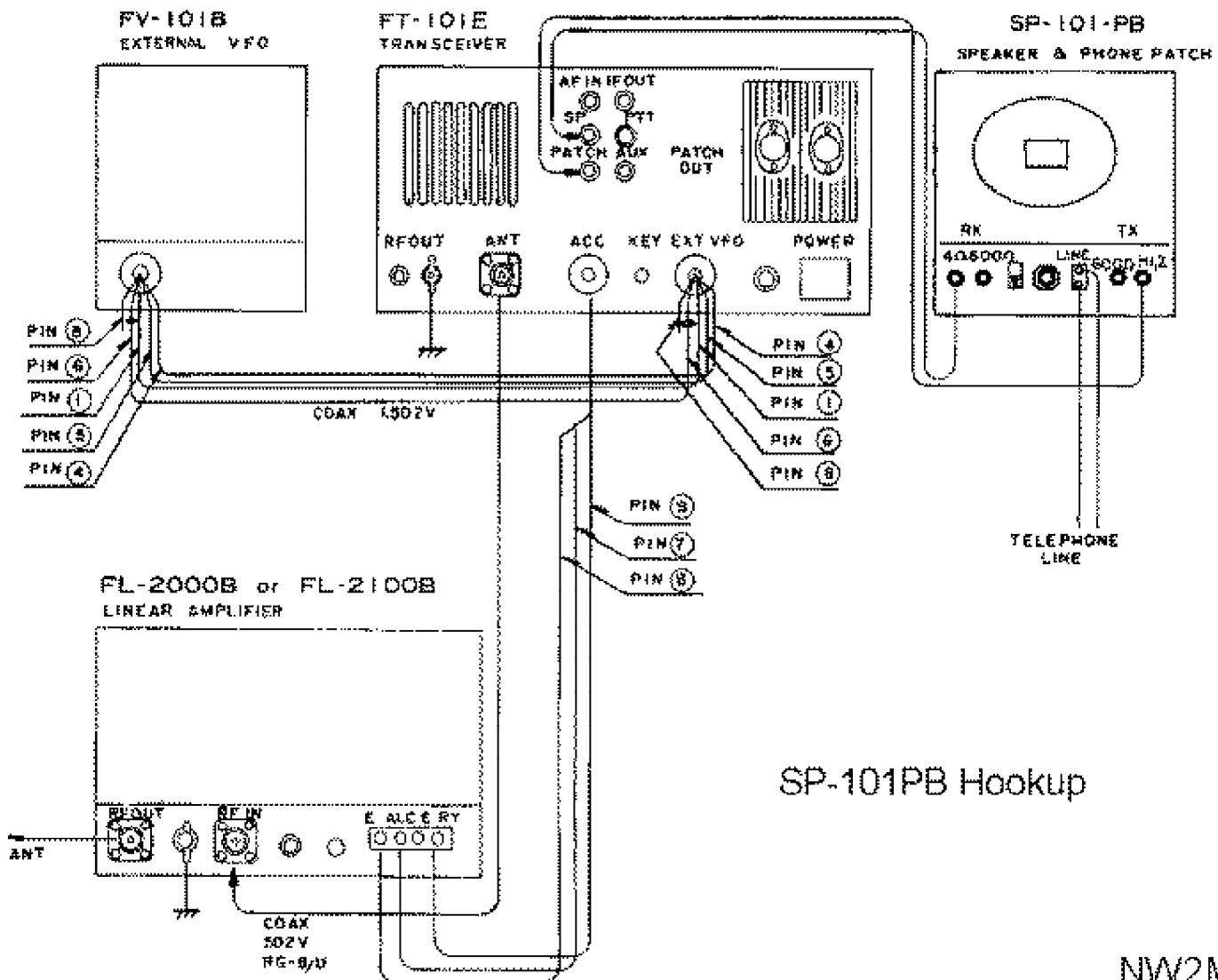
**Circuit B**



**FT-101 Microphone Connection Detail**



SP-101PB Hook-up diagram



## SP-101SP Schematic

SP-101PB

