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REPAIR AND MODIFICATION RECORD DRAKE TR7 - S/N 3157

Date	Location	Action
Nov 2004	PTO unit	Tuning mechanism cleaned, metal bearings relubricated and ball-bearing adjusted.
	Chassis	Replace color filter on S-meter and PTO scale. LEE Filters "Peacock blue #115" (www.leefilters.com)
	Parent Board	Circuit for 'TX inhibit' signal at power 'ON' added. (See website GW4ALG).
	Chassis	Surge arrester mounted from EXT ANT Jack to ground at KEY jack (parallel with 3 PI choke) on rear chassis. 90 Volt arrester 1000uF capacitor added on chassis under power supply board, on +10 V line from pin 3 (gnd) to pin 10 (+). This is necessary +10 V filtering. Internal connection between EXT ANT and EXT RCVR jacks
	Up-converter Board	Crystals Y401 and Y402 in 48.05MHz filter module replaced (defect?). Filter shielding resoldered and filter response readjusted on network analyzer
Dec 2004	2nd IF/Audio Board	R1187 (10K) added; not assembled in S/N 3157 (thump in CW position of Mode switch eliminated).
	2nd IF/Audio Board	R1112 (22K) disconnected from collector Q1103 and connected to +10V DC (11/13) (disable momentarily switch to 'transmit' when switching to CW mode).
	2nd IF/Audio Board	Connector pin CW 11/3 pulled up to + 10V DC with 4K7 and 1N4148 in series with R1106 (22K) both for usage with K1EL keyer.
	Power Supply Board	Variable resistors R2103 - R2113 - R2116 - R2119 - R2122 - R2125 replaced by 10-turn types. Resistors R2112 - R2115 - R2118 - R2121 - R2124 - R2111 and diode CR2101 moved to backside of PCB
	High Pass Filter Module	Defect diode CR1402 (MPN3404) replaced. Erratic filter response and loss.
	TX exciter board	Q307 (2N4402) replaced after short in +10V R by BC327 (Note: BC327 has different pinout)
	Chassis	Steel M3 inserts for rear screws in rear top shield.
Jan 2005	2nd Mixer Board	Ferrit-bead in drain of Q702 (3N204). Prevent parasitic oscilation
	2nd Mixer Board	C737 (10uF) added; not assembled in S/N 3157.
	2nd Mixer Board	Ferrit-bead added in series with C725 (10nF).
	Cabinet	Fan FA7 replaced by 12V type.
	PTO Mechanism	Rubber doughnut behind dial skirt replaced. Used 3/8" rubber fuel hose line.
	PS7 Power Supply	Wiring for AC switching in PS7 Control Cable disconnected. No mains power wires to reach the TR7. Reason: safety and cancel hum in audio.
	PS7 Power Supply	Wiring for 110V AC fan disconnected.
	PS7 Power Supply	Mains switch added on front plate for 230V AC switching.
	Up-converter Board	RFC401-403-407-408 replaced by VK200 chokes (default was 5.6uH choke). Reduce spurious in RX
	Up-converter Board	Coax cables to 2nd Mixer and High Pass Filter double shielded. Reduce spurious in RX
	2nd IF/Audio Board	Board modified to version #2 by replacing product detector circuit (CR1113/CR1114 & Q1112) with MC1496P circuit.
	Digital Readout Board	Isolating stand-offs mounted.
	PBT/Reference Board	BFO signal level adjusted for new product detector; R1060 removed and R1058 → 68e.
	2nd IF/Audio Board	R1188 (180e) added; not assembled in S/N 3157 (thump in AM position of Mode switch eliminated).
	2nd IF/Audio Board	Q1111(2N3904) replaced by BC549B (Noise reduction in audio). (Note: BC549B has different pinout)
	2nd IF/Audio Board	Version #2 mods AGC circuit: - CR1101 (AA119) removed. Replaced by 4K7 for increased adjustment range. - R1101 (220e) replaced by CR1116 + CR1117 (2x 1N4148) in series - R1174 → 470e (1K in S/N 3157) - R1111 → 3K3 (2K2 in S/N 3157) - Top lead of R1127 (1K) removed from +10V DC to +10R 11/14
	2nd IF/Audio Board	Audio response changed: Flat -3dB @ 100Hz to 3kHz - C1150 → 150nF (50nF+100nF) - C1152 → 32nF (10nF+22nF) - C1167 → 4n7 - C1173 → 220pF - R1178 → 600e (270e+330e) - Q1113 (2N3904) replaced by BC549B (Noise reduction in audio). (Note: BC549B has different pinout)
	Chassis	10e resistor in series with lamps DS1 and DS2. Extend lifespan of #53 incandescent bulbs

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Juli 2005	PTO	Added "Huff Puff" PTO stabilizer
Feb 2008	2nd IF/Audio Board	Audio response modified by adding switched capacitor filter with MAX7400
Feb 2011	Bandswitches	Disassembly of the High Pass and Low Pass filter units and cleaning all rotary switches with isopropyl alcohol and Deoxid Pro Gold (hell of a job !)
		Note: Capacitors 100n = 0.1uF, 4n7= 0,0047uF etc.
		Note: Resistors 100e = 100 ohms, 2k2 = 2200 ohms etc.