

Last modified: 27-02-2011

**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" ( <a href="http://www.leefilters.com">www.leefilters.com</a> )
	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. <b>90 Volt arrester</b> 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. <b>Erratic filter response and loss.</b>
	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). <b>Prevent parasitic oscilation</b>
	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. <b>Used 3/8" rubber fuel hose line.</b>
	PS7 Power Supply	Wiring for AC switching in PS7 Control Cable disconnected. <b>No mains power wires to reach the TR7. Reason: safety and cancel hum in audio.</b>
	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). <b>Reduce spurious in RX</b>
	Up-converter Board	Coax cables to 2nd Mixer and High Pass Filter double shielded. <b>Reduce spurious in RX</b>
	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 ( <b>Noise reduction in audio</b> ). (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: <b>Flat -3dB @ 100Hz to 3kHz</b> - C1150 → 150nF (50nF+100nF) - C1152 → 32nF (10nF+22nF) - C1167 → 4n7 - C1173 → 220pF - R1178 → 600e (270e+330e) - Q1113 (2N3904) replaced by BC549B ( <b>Noise reduction in audio</b> ). (Note: BC549B has different pinout)
	Chassis	10e resistor in series with lamps DS1 and DS2. <b>Extend lifespan of #53 incandescent bulbs</b>

