

Topic	Sub-topic	See or See Also	HSN Vol.- Page reference
3TF7			
	Alternate methods, substitutions	<i>Tubes, R-390A Modifications</i>	
51J()		<i>Collins</i>	
	AGC mod		26-4, 36-6
	Band 1 sensitivity modification		26-4
	Decals		23-6
	PTO remarks		26-5
	RF Amp tube substitution	<i>Tubes</i>	23-2
	Series modifications		11-4, 22-6
	Technical notes		23-5
51J-4		<i>Collins</i>	
	General information		20-3, 23-5
	Modifications		22-2
	Product detector/AGC		24-11, 28-4, 36-6
	AGC (fast attack-slow release)		26-6, 36-6
	Use of SSB converter	<i>HC-10</i>	22-5
AN/FRR Receiver		<i>FRR Receivers</i>	18-4, 23-5
AN/URM-25(), D		<i>Signal generators</i>	21-4&5, 31-3, 32-8, 41-7
	Modulation oscillator problems		34-6
	Repair case history		38-6
	Rebuilding		39-6
Antenna Coupler		<i>CU-286/FRR-33</i>	
Antennas			
	BCB Loop amplifier		5-4
	Long wires		18-3
ARR-41		<i>R-648/ARR-41</i>	
Audio Signal Generators		<i>Signal Generators</i>	
Ballast tubes		<i>Tubes, R-390A</i>	
	Handbook		19-5, 31-7
	NC-400 problems		19-5
BC-453		<i>Q-5'er</i>	4-1
Blue Ridge Communications		<i>Hammarlund</i>	
Books		<i>Publications</i>	
	The ARRL HANDBOOK		16-2
	BALLAST TUBE HANDBOOK		19-5, 31-7
	COMMUNICATION RECEIVERS - 1932-1981		20-2, 33-8
	The COMPLETE HANDBOOK OF RADIO RECEIVERS and TRANSMITTERS		16-2
	ELECTRONIC COMMUNICATION		16-2

Please note that later volumes may
supersede information in earlier ones.

<u>Topic</u>	<u>Sub-topic</u>	<u>See or See Also</u>	<u>HSN Vol.- Page reference</u>
Books	The FIRST FIFTY YEARS: A HISTORY OF THE		
(cont.)	COLLINS RADIO		5-3
	RADIO HANDBOOK		16-2
	SEMICONDUCTOR REPLACEMENT GUIDE		16-3
	TUBE SUBSTITUTION HANDBOOK		31-7
Bristol		<i>Tools, spline</i>	
Capacitance Bridges			31-4
Catalogs		<i>Dealers, Publications</i>	9-3, 13-2&3, 19-3&4, 20-2 + 33-8
Cleaning tips			
	General		24-11&12
Collins			
	51J-4	<i>51J-4</i>	20-3, 22-2, 23-5
	Filters	<i>Filters</i>	
	History	<i>Books, Publications</i>	
Connectors		<i>See specific receiver</i>	
	Sources	<i>Dealers</i>	
Converters, SSB		<i>HC-10, CV-1758/URR</i>	
'Cosmos'		<i>PTO, R-390A</i>	
"CQ" magazine article references			11-4
CU-286/FRR-33			39-2
CV-1758/URR (MSR-9)			33-3
DA-121/U Dummy Load		<i>R-390A; Signal generators</i>	23-2
Dealers			
	Military		1-1, 2-1, 7-2, 19-2, 22-4
	Connectors		1-1, 2-1, 3-3, 4-2, 5-2, 12-3, 19-2 + 39-6
Decals		<i>51J, R-388</i>	23-6
Digital display			13-3
Diversity reception			3-4, 17-2, 24-2
Drake			
	Digital display for R-4 series		13-3
	R-4C review		11-4

Please note that later volumes may supercede information in earlier ones.

Topic	Sub-topic	See or See Also	HSN Vol.- Page reference
Eico		<i>Signal generators</i>	
	324 RF Signal Generator		21-4&5
	377 AF Signal Generator		21-4&5
EK-07-D/2		<i>Rhodes & Schwarz</i>	24-7
Fair Radio Sales			19-2
Filters			
	Crystal		
	Sweep aligning w/function generator		37-2
	Mechanical	<i>Collins, R390A</i>	11-2, 12-4, 15-2, 18-4
	Sources	<i>Dealers</i>	12-6
	Torsion		30-2
	Modifications		35-2, 36-2
Frequency Counters			
	HP-5245,5246		31-4
FRR () Receivers			18-4, 23-5
Function Generators		<i>Filters - Crystal</i>	
Ham Trader Yellow Sheets		<i>Publications</i>	
Hammarlund		<i>See specific model</i>	
	Parts sources		14-3,4,6
	Speakers		14-2
	Survey		13-4, 14-2&4
	SP-600	<i>SP-600</i>	
	SPC-10 SSB Converter	<i>SPC-10</i>	
	Super-Pro variations		33-7
Headphones		<i>Headsets</i>	
Headsets			
	Modifying 8 ohm for 2000 ohm use		17-2
	Alternate (Radio Shack)		26-3
Hellmut Singer Elecronik		<i>Catalogs</i>	
HC-10			11-3, 16-4, 22-5
HQ-120		<i>Hammarlund</i>	
	Overview		20-3
HQ-129X		<i>Hammarlund</i>	
	Information source		9-2
HQ-150		<i>Hammarlund</i>	
	Information source		9-2

Please note that later volumes may supercede information in earlier ones.

Topic	Sub-topic	See or See Also	HSN Vol.- Page reference
HQ-180		<i>Hammarlund</i>	
	Digital display		13-3
	Manual supplement		14-2
	Rectifier modification		12-4
	Repair notes, general		9-4
	Receiver sensitivity test		37-4
	S-Meter circuit variations		17-5+24-10
Internet			
	Useful sites		39-4, 40-8
	Mail reflectors		43-8
Manuals			
	General		5-4, 19-3, 39-2, 44-7
	Heath		5-4
	Military		1-3, 2-2, 12-2, 23-3&4, 31-8, 41-5
	Ryder's		
	SP-600		16-3
Nameplate screws			34-7
National receivers		<i>Specific models</i>	18-5
NC-400		<i>National</i>	
	Ballast tube		19-5
NRC (National Radio Club)		<i>Publications</i>	
Oscilloscopes			31-4
Pax Mfg Co.		<i>Hammarlund</i>	
PK-3A		<i>RF probe</i>	23-2
Polishing tips		<i>Cleaning</i>	24-11 & 12
Problems, general			
	Intermittent/weak reception		7-4
	Noisy power supplies		11-3
PTO		<i>Specific receiver</i>	
	Linearity - 51J3 vs R-390A		37-7
Publications		<i>Catalogs</i>	
	AM PRESS EXCHANGE		12-2
	ANTIQUÉ RADIO CLASSIFIED		9-2, 12-2
	Collins Engineering Reports		12-2

Please note that later volumes may supercede information in earlier ones.

Topic	Sub-topic	See or See Also	HSN Vol.- Page reference
Publications (cont.)			
	Communication Receivers - Ray Moore		33-8, 41-8
	ELECTRIC RADIO		33-7,35-8
	FINE TUNING		33-8
	HAM TRADER 'YELLOW SHEETS'		19-3
	NRC Receiver Reference Manuals - 1, 2		11-3, 14-5
	POPULAR ELECTRONICS		36-8
	R-390 & R-390A Handbook		40-8
	Radios by Hallicrafter		39-7
	Racal Handbook		39-7
	Tube Lore - A Reference for Users and Collectors		40-7
	Tube substitution handbooks		31-7
Q-5'er		<i>BC453, R11A</i>	4-1
R4-C		<i>Drake</i>	
R11A		<i>Q-5'er</i>	
R-388 (& R-388A)		<i>51J, 51J4</i>	
	Decals		23-6
	Equivalence to 51J-4		23-2
	Repairs/service		23-5
	RF Amp tube substitution	<i>Tubes</i>	23-2
R-389		<i>Publications</i>	12-2
	Relay problems	<i>Relays</i>	24-3
R-390		<i>R-390A</i>	
	Power connection		33-7
	Modifications		
	Fan installation		36-6
	Removal of silver tarnish		41-6
R-390A			
	Accessories		
	Dummy load	<i>Signal generators</i> <i>DA-122/U</i>	23-2
	Longwave converter		2-3
	Use of Q-Multiplier		24-2, 27-2
	SB-620 (Heath)	<i>Scanalyser,</i> <i>Spectrum analyser</i>	24-2
	Speaker, Radio Shack		26-3, 32-8
	SSB (HC-10)		11-3, 16-4, 22-5, 27-3
	SSB (CV- series)		27-3
	Adjustments		
	BFO zeroing		4-4
	Drift problems		7-2
	AGC, external	<i>Diversity reception</i>	17-2
	Age identification		4-2

Please note that later volumes may supercede information in earlier ones.

Topic	Sub-topic	See or See Also	HSN Vol.- Page reference
R-390A (Cont.)			
	Alignment		
	Antenna balancing		45-5
	General		4-4, 29-5, 34-2
	PTO		6-3, 18-6, 23-3, 45-1, 46-1
	Cosmos PTO		13-3, 29-5
	Antenna		
	Coax use		4-4, 18-3
	Connectors	<i>Dealers</i>	4-4, 19-2, 31-7, 34-7
	Relay voltage		31-5
	Audio improvements	<i>Modifications</i>	
	Cabinet, alternative		32-7
	Coax	<i>Antenna, Repairs</i>	
	Comparisons		11-5, 24-6
	Contract/Order numbers, genesis		33-2, 35-5
	Diversity reception	<i>Diversity reception</i>	
	Inputs		
	Impedance		4-4
	Connectors		4-4
	Mechanical Filters	<i>Filters, Modifications</i>	
	Meters		
	General		2-4
	Radioactivity		19-4
	Specifications		22-2
	Lighting		12-3
	Miscellaneous		
	Engineering reports, Collins		12-2
	RF immunity		16-5
	Shipping information		2-2
	Modifications		
<i>(for modifications not recommended and revisions to previous advice, see 1-2, 13-2, 19-5, 26-1)</i>			
	AGC	<i>SSB</i>	23-4, 27-3, 36-5
	Antenna trimmer		45-3
	Audio Gain		1-2, 2-5, 3-3, 5-6
	Audio Local/Line mod		33-7
	Audio replacment, solid state		4-3
	Audio response improvement		2-4, 26-2, 32-8, 34-7
	Ballast tube alternate	<i>Tubes</i>	1-1,2-2&5, 10-1, 17-5 + 18-4, 19-5, 23-2, 24-5
	BFO	<i>AGC</i>	27-3
	Capt. Lee's Product detector		40-2, 41-2
	Chambers-Lankford	<i>AGC, BFO</i>	27-3, 36-5
	Cornelius SSB	<i>SSB-Cornelius</i>	
	"CQ" magazine articles		11-4, 27-2
	"Electric Radio" modifications		26-1, 35-8
	Filter Mod 2 - Lankford		35-2
	Filter Mod 3 - Lankford		36-2
	Line Filter modification		43-7
	Longwave conversion		2-3
	Maynard's ILO	<i>Synchronous detection</i>	

Please note that later volumes may supercede information in earlier ones.

Topic	Sub-topic	See or See Also	HSN Vol.- Page reference
R-390A (Cont.)			
	Meter lighting	<i>Meters</i>	12-3
	Power supply (rectifier)		1-4, 2-4, 17-6
	Product detector (Capt Lee's)		40-2, 41-2
	PTO drift		1-2
	Regulator	<i>Ballast tube</i>	
	Relay rectifier replacement		38-6
	Speaker disconnect jack		12-3
	SSB-Cornelius		1-2, 10-2, 23-4
	SSB Adapter		2-1, 10-2, 41-6
	Synchronous detection, AM		17-3, 18-2, 19-6&7, 27-2
	Torsion filter, 6 Kh BW		30-2
	Tube shields	<i>Tubes</i>	
	Tube substitutions	<i>Tubes</i>	
	PTO	<i>Alignment, Modifications</i>	
	Calibration of Cosmos		45-1 (continued in 46-1)
	Oven damage		37-7
	Parts source		37-7
	Repairs / service		
	AGC		9-4, 28-2, 34-8
	Antenna trimmer		45-3
	Calibrator, crystal		13-4
	Capacitor replacement		5-1+6-1, 7-5
	Carrier meter potentiometer		40-6
	Coax, miniature (RG-187AU)		16-5
	FUNCTION switch		27-2, 32-2
	KCS straightening		37-7
	Gears, clean/lubricate		2-5, 31-3, 45-7
	Potentiometers		32-7, 33-6
	Relays		24-3, 31-5, 34-7
	Spline screws		23-3
	Tuning cores		1-2
	Varnish-sealed screws		24-11
	Special Problems		
	Coax antenna feedline		18-3
	Fading, intermittent		7-4, 32-7
	Low sensitivity		5-4, 34-7
	Nameplate screws		34-7
	Popping noise		33-6
	Radioactive meters	<i>Meters</i>	
	Radioactive tubes	<i>Tubes</i>	19-4
	Stand-by operation		16-4
	'Thunderstorm' noise		27-2
	Warm-up drift		7-2
	Variations	<i>R-1230, R-725</i>	24-5
	Tools		1-5, 13-3

Please note that later volumes may supercede information in earlier ones.

Topic	Sub-topic	See or See Also	HSN Vol.- Page reference
R-391			
	Engineering report	<i>Publications</i>	
	Relay problems	<i>Relays</i>	
	XC-2 version		20-1
R-392			
	Power supply		4-1
	Overview "Adventures with the R-392"		38-2
R-648/ARR-41			13-3
R-725			16-5, 32-7
R-1230			16-5
Racal			
	RA.17 review		37-2, 38-7
Radiokit		<i>Catalogs</i>	
Relays			24-3, 31-5
Repair/service tips			
	Engravings, restoring white-filled		24-12
	Soldering techniques		24-4
	Tuning cores		1-2
	Varnish-sealed screws		24-11
RF Coils			
	Litz wire - effect of broken strands		44-6
RF probe		<i>PK-3A</i>	23-2
RF Signal Generators		<i>Signal Generators</i>	
Rhodes & Schwarz			
	EK-07-D/2 review		24-7
RT-510		<i>Tubes, 3TF7</i>	
Scanalyser		<i>R-390A accessories</i>	
Signal Generators			
	RF		
	General		31-3
	Eico		21-4&5
	Impedance match	<i>R-390A; DA-121/U</i>	23-2
	Military	<i>AN/URM-25()</i>	21-5
	AF		
	HP 200CD		31-4
Soldering, techniques			24-4

Please note that later volumes may supercede information in earlier ones.

Topic	Sub-topic	See or See Also	HSN Vol.- Page reference
SP-600		<i>Hammarlund</i>	
	Accessories		
	SSB Converter	<i>HC-10, SPC-10</i>	22-5, 34-8
	Cabinets		36-8
	Modifications		
	Filter choke		18-4
	General		22-6
	Rectifier		14-2
	VLF conversion		22-4
	Rebuild/Repair		
	Capacitors		16-3, 17-2, 19-7, 22-4,38-7, 45-6
	Crystal oscillator		23-6
	Filter choke		18-4
	Overhaul notes		19-7, 16-3, 20-2, 22-4
	Review		42-2, 43-2
	Serial Numbers, JX codes		35-7, 38-5, 42-5, 45-4
SP-600 VLF			22-4
Space diversity		<i>Diversity reception</i>	
SPC-10 SSB Converter			34-8
Speakers		<i>Hammarlund</i>	
	Recommendations		26-3
Spectrum analyser		<i>R-390A accessories</i>	
Spline wrenches		<i>Tools</i>	
SSB Converters		<i>HC-10, CV-1758/URR</i> <i>SPC-10</i>	33-5
Tools			1-5, 13-3
	Spline (Bristol) wrenches		1-5, 13-3, 24-3, 31-8, 41-8
	Long-shaft Phillips		39-7
Tubes		<i>Publications</i>	
	3TF7 ballast	<i>R-390A modifications, ballast tube</i>	
	Cleaning pin/sockets		35-8
	Cooling		3-3
	Faded numbers, reading of		5-2
	Filament voltage advice		24-3
	Life extension (Variac)		32-8
	Replacement modifications		
	R-390A	<i>R-390A modifications</i>	1-1, 17-5, 23-2, 24-5
	R-392		4-3

Please note that later volumes may supercede information in earlier ones.

Topic	Sub-topic	See or See Also	HSN Vol.- Page reference
Tubes (Cont.)			
	Replacements, solid state	"Tubesters"	
	26Z5		7-4
	RT-510	R-390A modifications, ballast tube	
	Shields		1-2, 2-5, 5-3, 23-2, 45-7
	Sockets		8-1
	Sources		1-1, 3-1, 4-2, 5-3, 9-2 + 12-2,3, 13-4, 19-2&4, 32-6
	Specifications		
	6AU6, 6AU6A		5-2
	6E5		9-3
	12BA7		8-3
	12SQ7		12-1
	35W4		10-4
	Suffix codes (W, WA)		6-5
	Substitutions		3-1, 5-4,7-2,8-3,12-4 + 18-2, 19-5, 23-2, 31-6&7 + 32-6, 33-5
	Surge protection		2-2, 3-3, 9-2
	Symbols, schematic		6-1
	Tips		5-2, 6-5
	"Tubesters"		3-2
Tube Testers			
	Hickok 539B		32-4
	TV- series specs		21-2
	TV-10B/U problems/fix		28-2
	Roll chart repairs		41-6
Tuning Cores			
		Repair/service tips	
Unsoldering			
		Soldering	
URM-25D			
		AN/URM-25(),D	
Variable tuning capacitor, notches			
			17-2
VTVM			
			44-1
"Yellow Sheets"			
		Publications	
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p>Please send any corrections or additons to: Reid Wheeler, Editor Hollow State Newsletter 5910 Boulevard Lp SE Olympia WA 98501-8408 fax 360-753-3824 e-mail - reid@olywa.net</p> </div>			