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Rockwell  
International

October 15, 1975

REVISION 2  
TO  
32S-3 SERVICE BULLETIN NO 7

Attached is a revised issue of 32S-3 Transmitter Service Bulletin No 7, titled "Convert 32S-3 to 32S-3A" originally dated June 1, 1972.

This revision corrects and clarifies the modification kit parts list and illustrations regarding quantities of parts and Collins part numbers.

Black bars in the margin show where the changes are made. This revised issue entirely replaces the original.

AMATEUR RADIO GROUP  
32S-3 TRANSMITTER  
FREQUENCY SELECTING SECTION

SERVICE BULLETIN NO 7

CONVERT 32S-3 TO 32S-3A

Modification kit, Collins part number 522-3373-000, when installed converts the 32S-3 amateur band transmitter to a general coverage transmitter 32S-3A by providing crystal positions for 14 additional 200 kHz frequency bands.

Approximately 12 hours are required to install this modification.

NOTE: Persons unfamiliar with electronic circuits or who lack circuit wiring experience should not attempt this modification.

Modification kit (522-3373-000) may be ordered from any Collins equipment dealer or authorized service agency. If preferred, the transmitter may be shipped to a service agency where the modification will be made. Consult the agency for cost and instructions before shipping. Refer to the 32S-3 service bulletin number 7 when consulting a Collins dealer or agency concerning the modification.

## INSTALLATION PROCEDURES

Before starting the installation, carefully check all parts against the list in table 1. Refer the description and part number of any irregularities to the dealer or agency who supplied the kit.

NOTE: General coverage crystals are not furnished with the kit.

- a. Remove four rubber feet and the holding screws on the bottom of the transmitter. Remove two unpainted screws under the front edge of the lid, then slide the transmitter out of the cabinet.
- b. Remove and discard the coaxial cable that connects XV12-1 to S11. Refer to the wiring drawing in figure 1.
- c. Remove the hexnut from GRD-10 then move terminal E12 to GRD-10.
- d. Remove R136 and replace with new 100-ohm resistor from the kit.

Viewing the front of the panel, measure approximately 4.062 (4-1/16) inches in from the left edge and 2-19/32 inches up from the bottom edge. At this intersection, locate the existing 3/8-inch hole at the rear of the panel. Use a 1/4-inch drill-bit and bore a pilot hole through the panel overlay coincident with the rear hole.

**CAUTION:** DO NOT MAR THE PANEL OVERLAY SURROUNDING THE HOLE.

- f. Use a 0.687 to 0.718-inch spot face drill or counter-bore and carefully bore through the 0.032-inch panel overlay.
- g. Carefully disassemble crystal switch S11 and, from the kit, install switch section S14 using new hardware specified in figure 1, bottom view.
- h. Observe detail A-A in figure 1. Note the parts that make up the assembly and their relative positions, then install switch S15.
- i. Wire socket XY2, S14, and S15 as shown in the wiring diagram in figure 1.
- j. Observe detail B-B in figure 1. Mount crystal socket XY2 using kit hardware specified in the drawing.
- k. Transfer the amateur band crystals from XY1 to their respective positions in XY2 (under the chassis).
- l. Plug the desired general coverage crystals into the top chassis socket XY1. Consult the 32S-3 instruction book section, OPERATION OUTSIDE THE AMATEUR BANDS.
- m. Place the new bar knob on switch S15 shaft (refer to detail B-B).
- n. Discard the old bandswitch knob, replace with the new knob from the kit.
- o. Use fine sandpaper or a typing eraser to remove paint from the plastic frequency escutcheon area that reads 32S-3. Be careful not to remove paint beyond the area of the overlay plate, item 28. Remove tape from the back of the 32S-3A overlay plate and position the plate on the escutcheon, over the 32S-3. Align the edges and press tight with finger pressure.
- p. Recheck all wiring and solder connections carefully.
- q. Slide transmitter into the cabinet and replace feet and screws removed in procedure a.

## OPERATION

The bar knob on top of the band switch frame operates switch S15 and transfers the oscillator grid from the amateur crystals to the general coverage crystals. The bar knob also moves the frequency select card which identifies the new set of band frequencies. To identify new bands, hand letter the frequency of the low end of the band on the window card. Refer to the 32S-3 instruction book.

## PARTS TABLE

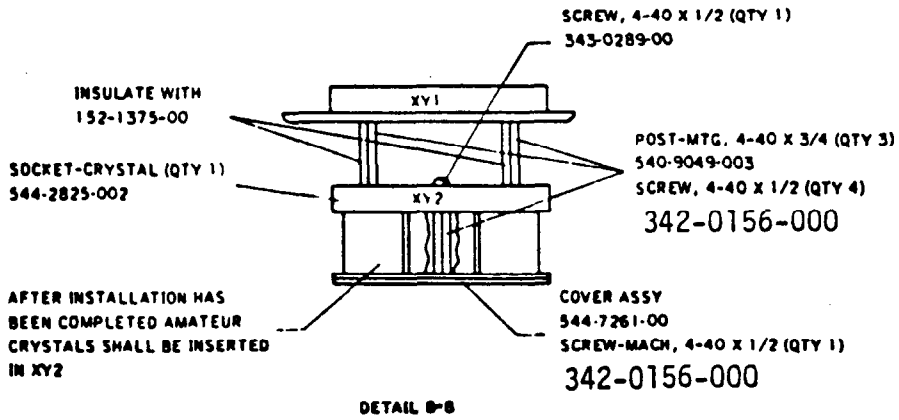
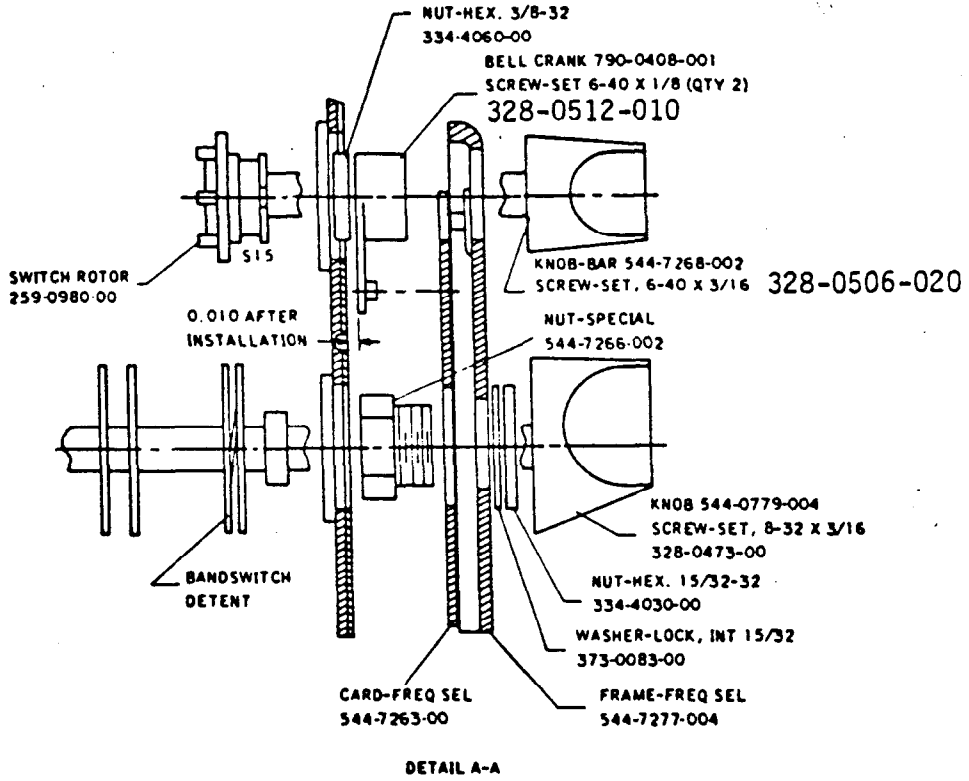
A description of parts furnished with modification kit (522-3373-000) are listed in table 1 with Collins part numbers.

Table 1. Parts List for Modification Kit.

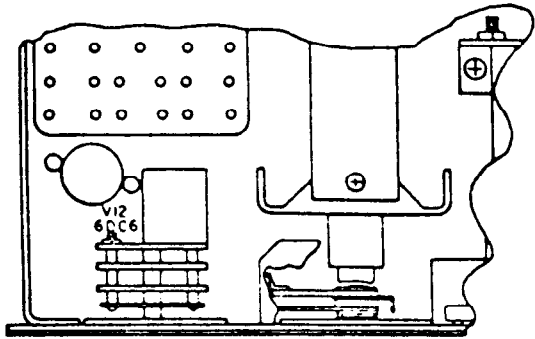
ITEM NUMBER	QUANTITY FURNISHED	COLLINS PART NUMBER	DESCRIPTION
1	1	259-0980-000	Rotary switch section S15
2	2	269-1402-000	Tubular spacer (3/16 in)
3	1	269-2023-000	Switch section S14
4	1	303-1034-000	Acetate washer
5	2	328-0512-010	Setscrew (6-40 x 1/8)
6	1	328-0473-000	Setscrew (8-32 x 3/16)
7	1	334-4030-000	Hexnut (15/32 - 32)
8	1	334-4060-000	Hexnut (3/8 - 32)
	3	342-0156-000	Screw (4-40 x 1/2)
10	1	343-0289-000	Machine screw (4-40 x 1/2)
11	2	343-0290-000	Machine screw (4-40 x 5/8)
	2	343-0291-000	Screw (4-40 x 3/4)
12	1	373-0083-000	Shakeproof washer (15/32)
13	2	421-2220-000	Electrical wire
14	15	428-4824-000	Electrical hookup wire
15	3	540-9049-003	Mtg Post (4-40 x 3/4)
16	1	544-0779-004	Pointer knob
17	1	544-2825-002	Crystal socket (XY2)
18	1	609-1476-002	Rf cable
19	1	544-7261-000	Crystal cover assy
20	1	544-7263-000	Frequency selector card
21	1	544-7266-002	Special nut
22	1	790-0408-001	Crankbell
23	1	544-7268-002	Bar knob
24	1	544-7277-004	Frequency selector frame

Table 1. Parts List for Modification Kit (Cont).

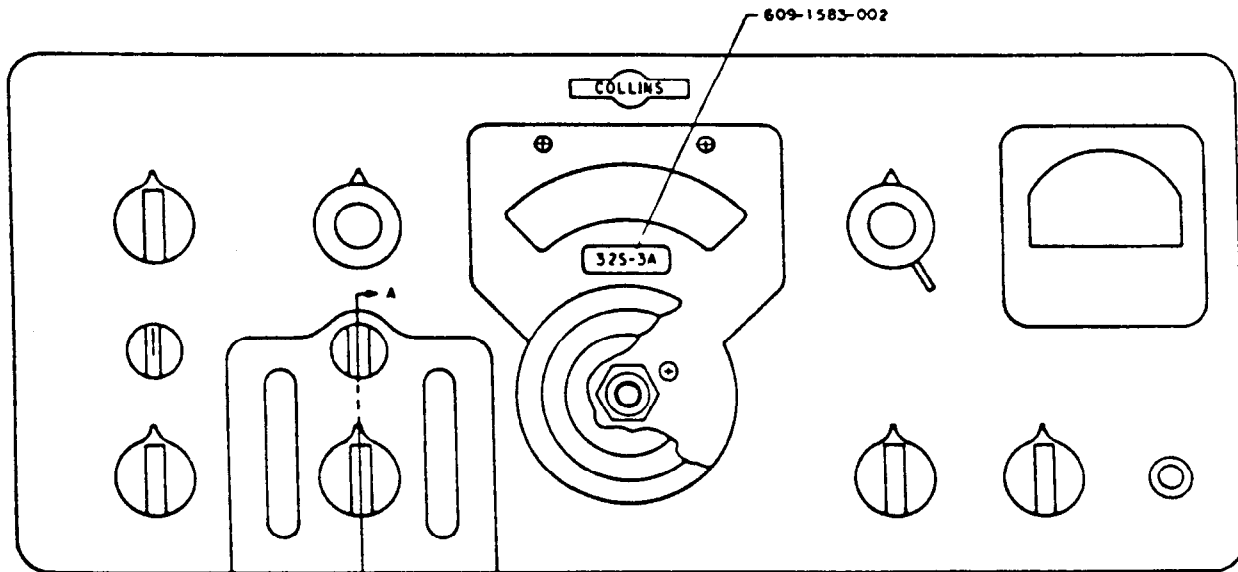
ITEM NUMBER	QUANTITY FURNISHED	COLLINS PART NUMBER	DESCRIPTION
25	0.2 ft	152-1375-000	Sleeve insulation
26	1	745-1310-000	100-ohm resistor, 1/2 W
27	1	328-0506-020	Setscrew (6-40 x 3/16)
28	1	609-1583-002	32S-3A Overlay Plate
35	1	024-0167-000	Wrench, sch screw no 6



32S-3 Amateur Transmitter, Added Crystal Board,  
Installation Drawing  
Figure 1 (Sheet 2)

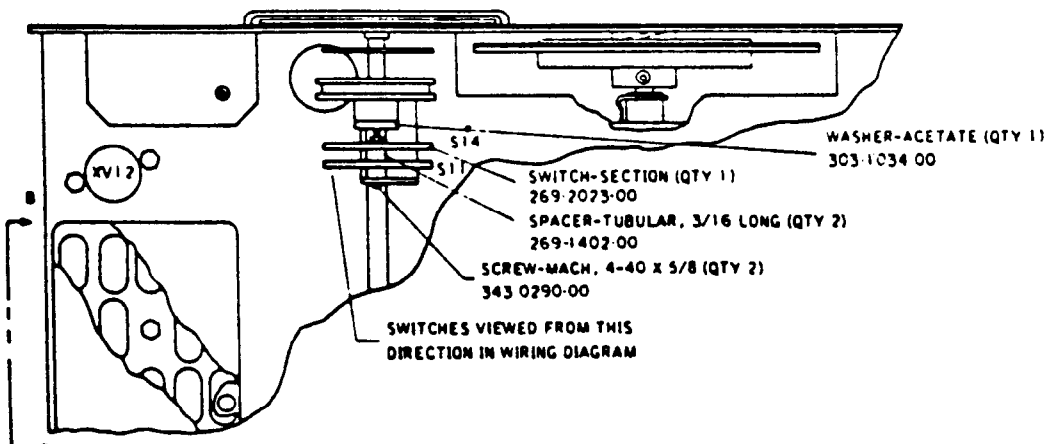


TOP VIEW



SEE DETAIL A-A

FRONT VIEW



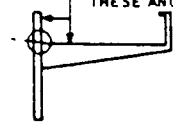
SEE DETAIL B-B

BOTTOM VIEW

32S-3 Amateur Transmitter, Added Crystal Board,  
Installation Drawing  
Figure 1 (Sheet 1 of 3)

THIS LINE WHERE CHASSIS  
HITS FRONT PANEL IS  
REPRESENTED DOTTED ON  
WIRING DIAGRAM. IT SHOWS  
WAFERS ON ONE SIDE AND  
SWITCH ON OTHER

WIRING DIAGRAM  
VIEWED FROM  
THESE ANGLES



UNIT UPSIDE DOWN

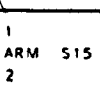
DETAIL C-C

ADDED WAFER. SEE BOTTOM  
VIEW AND DETAIL C-C AS TO  
HOW VIEWED

PRESENT  
WAFER

SEE DETAIL C-C

SWITCH  
259 0980-00



WIRE ELECTRICAL-BA  
421-2220-000

COAX 609-1476-002

SHIELD

WIRES SHOWN  $\ominus$  ARE  
INSULATED HOOK-UP  
428-4824-000

CRYSTAL  
SOCKET  
XY1 AS  
LOOKING  
AT BOTTOM  
OF CHASSIS

ADDED CRYSTAL SOCKET XY2  
LAID OVER WITH TERMINALS  
UP TOWARD YOU

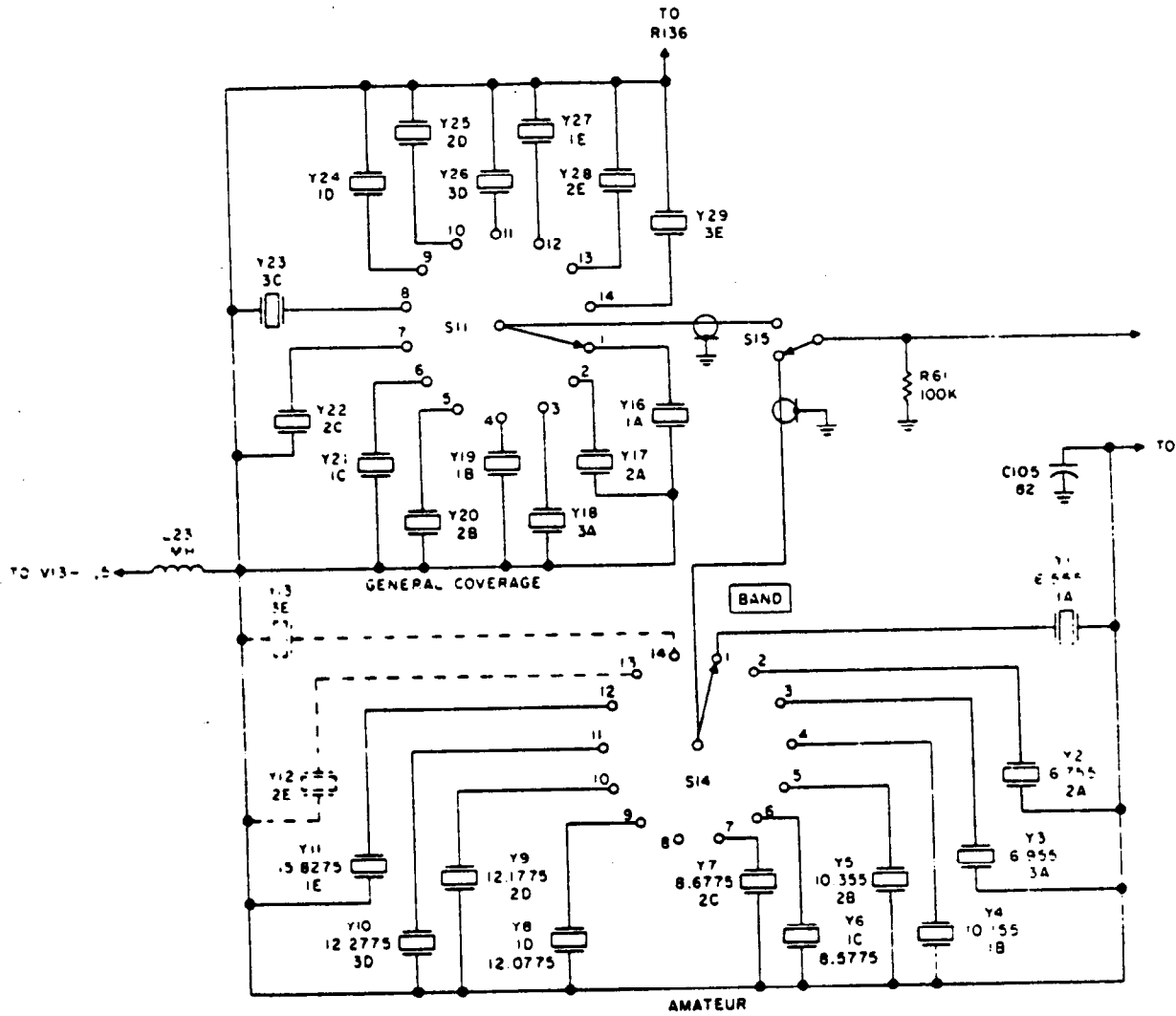
PRESENT COAX IN THE  
DOTTED TO BE RE-  
MOVED AND DISCARDED

WIRING DIAGRAM

Jun 1/72  
2 - Oct 15/75

32S-3 Amateur Transmitter, Added Crystal Board,  
Installation Drawing  
Figure 1 (Sheet 3)





**32S-3 Amateur Transmitter, Added Crystal Board  
Schematic Diagram  
Figure 2**