

# Additional Crystal Deck For Collins S-Line Equipment

**Z Communications Company**  
**410 Lawndale Drive**  
**Richardson, Texas 75080**  
**(972) 231-5011**  
zcomco@attbi.com

**Prices DO NOT include any crystals, are for switch assemblies only!**

The following described assemblies allow for additional crystals to be added to the following Collins S-Line equipment: 75S-1, 75S-2, 75S-3, 75S-3A, 75S-3B, 75S3-C, KWM-2, and KWM-2A. Unfortunately, due to the design characteristics of the 32S-1, 32S-2, 32S-3, and 32S-3A transmitters, these assemblies cannot be installed without slight modification of the unit. In the receivers and transceivers, no modifications are required, either physically or electrically. The assembly mounts using a single screw, that which holds the top front of the preselector in place. This screw must be temporarily removed and then replaced after the assembly is put in place.

Electrical connection is made through one, or more, plugs of the same type as the HC6/U crystals used in the Collins equipment for the heterodyne oscillator. These plugs are inserted in place of the individual crystal on the upper crystal board of the equipment (there are two boards, one located below the chassis in the 75S-2, 75S-3A, 75S-3C, and KWM-2A models, the 75S-1, 75S-3, 75S-3B, and the KWM-2 do not have this additional board). These plugs have been given a "letter" except in the case of the two versions of the assembly that only replace a single crystal. The single crystal at the position in which the plugs are inserted then is expanded to 3, 4, 6, or 12 positions depending on the actual model of the assembly. The frequency range of these additional crystals must be for operation in the range that is selected by the bandswitch.

The 200 KHz band-segment is selected by placing the bandswitch in the desired position. Whenever occupied by a plug from the assembly, then the top cover of the unit must be opened and the knob on the switch on the assembly placed in the desired position. If this switch has been previously set, and if there is no need to change selection, there is no need to open the top of the unit. Depending on the individual model, a single position of this internal switch will select 1, 2, 3, or 4 crystals simultaneously, one for each of the plugs that have been inserted into the top crystal board. Thus, changing the bandswitch of the unit to another position in which the assembly is connected will actually select a different crystal on the assembly, one for each plug.

Due to the design of the switch used in the assembly, one side of the plug is connected to ground. In the unit one side of every crystal socket on the crystal board is also connected to ground. Since the location of this ground connection varies, it is possible to insert the plug from the assembly wrong. If the unit fails to operate when the bandswitch is placed on a position in which a plug is inserted, reverse the plug. This will get the ground connection in the plug connected to the ground in the unit and will connect the external crystal to the proper circuitry as well.

It is strongly suggested that the plugs from the assembly be inserted and the operation checked before attaching the assembly to the unit. Otherwise, it will be necessary to remove the screw holding the assembly in place to be able to access the plugs in the top crystal board.

The position of the crystal is indicated with either a number (in the case of the two models that only have a single bandswitch position) or a letter-number. The letter indicates which plug that the crystal will be connected to and the number corresponds with the position of the switch mounted on the assembly. In the model 6C-2P, the letters A and B occur with the numbers 1 through 6. The model 4C-3P utilizes the letters A, B, and C with the numbers 1 through 4. Finally, model 3C-4P utilizes the letters A, B, C, and D with the numbers 1 through 3. The model 6C-1P (also called the "6 Pack") only has numbers as does the model 12C-1P.

If it is desired to use any of these assemblies with the 32S-1, 32S-2, 32S-3, and 32S-3A transmitters, it will be necessary to drill a single hole in the tuning assembly approximately 1 inch back from the front of the existing front screw.

The narrow strip that goes along the preselector rack has provisions for writing in the 200 KHz frequency range of each crystal. It is suggested that this is done, or, at least, recording the band segment that each crystal covers somewhere near the unit for reference.

Following is a description of each model available as well as current pricing (December 2002) for the United States and Canada. For all other countries, please contact Z Communications Company to get a total price including shipping. All prices are in United States dollars and include shipping in CONUS and Canada. Texas residents must add 8.25% state sales tax.

Model 6C-1P, the original "6 Pack", consists of a total of 6 crystal positions that can be connected to a single bandswitch position. Price for this model is \$69.95 CONUS, \$73.95 Canada, \$75.72 Texas residents.

Model 3C-2P consists of 3 crystal positions that are each connected to 2 bandswitch positions. This is, each bandswitch position is expanded to 3 crystals instead of the original 1. Price for this model is \$79.95 CONUS, \$83.95 Canada, \$86.55 Texas residents.

Model 12C-1P consists of a total of 12 crystal positions that can be connected to a single bandswitch position. Price for this model is \$139.95 CONUS, \$144.95 Canada, \$151.50 Texas residents.

Model 6C-2P consists of 6 crystal positions that are each connected to 2 bandswitch positions. That is, each bandswitch position is expanded to 6 crystals instead of the original 1. Price for this model is \$139.95 CONUS, \$144.95 Canada, \$151.50 Texas residents.

Model 4C-3P consists of 4 crystal positions that are each connected to 3 bandswitch positions. That is, each bandswitch position is expanded to 4 crystals instead of the original 1. Price for this model is \$154.95 CONUS, \$159.95 Canada, \$167.73 Texas residents.

Model 3C-4P consists of 3 crystal positions that are each connected to 4 bandswitch positions. That is, each bandswitch position is expanded to 3 crystals instead of the original 1. Price for this model is \$159.95 CONUS, \$164.95 Canada, \$173.15 Texas residents.

Model 4C-5P consists of 4 crystal positions that are each connected to 5 bandswitch positions. This can be used to expand all 5 bands on the equipment. Each bandswitch position is expanded to 4 crystals instead of the original 1. Price for this model is \$259.95 CONUS, \$264.95 Canada, \$281.40 Texas residents.

**Remember these prices are for the assemblies only. The prices DO NOT include any crystals.**

Assemblies for other crystal combinations and switching arrangements are possible. For a quotation on providing other combinations please feel free to contact us.



The basic "6 Pack"



All of the 12 crystal decks are of this basic design



The "6 Pack" installed in a 75S-1



The "6 Pack" installed in a KWM-2A





A 12 crystal deck installed in a KWM-2A



A 12 crystal deck installed in a 758-1