

**INSTALLATION AND
TUNING INSTRUCTIONS
P-SERIES-RES-LOK
BANDPASS DUPLEXERS
CM-1003**

ENCLOSURES

THIS HIGHLY VERSITILE RES-LOK™ CONSTRUCTION OF DUPLEXERS CAN BE RACK, WALL OR FLOOR MOUNTED TO SUIT ANY SYSTEM NEED.

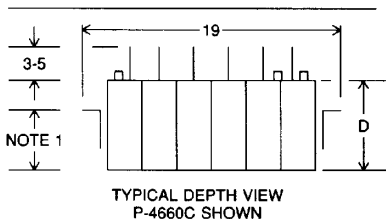
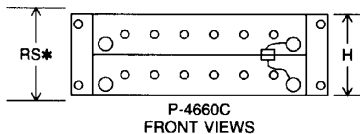
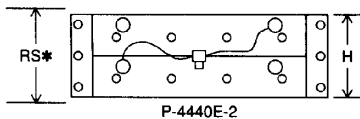
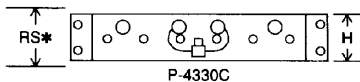
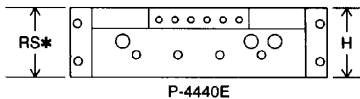
**P-SERIES
RES-LOK DUPLEXERS
806-960 MHZ**

**ELECTRICAL
SPECIFICATIONS**

	P-4440E	P-4440E-2	P-4330C*1	P-4330C*2	P-4660C
FREQUENCY RANGE MHZ					
TRANSMIT	851-896	851-896	851-896	890-960	851-861
RECEIVE	806-821	806-949	806-821	896-901	806-816
MEAN TX-RX SPACING MHZ	45		45		45
TX-RX PASSBAND WIDTH MHZ	15		5	1 OR 5	10
INSERTION LOSS dB	0.5 TYP		1.1 MAX.		1.5 MAX.
TX	0.5 TYP.		1.1 MAX.		1.5 MAX.
RX	1.2 TYP.	0.5 TYP.	1.1 MAX.		1.5 MAX.
ISOLATION DB	50 TYP		65 MIN.	70 MIN.	75 MIN.
TX	50 TYP		65 MIN.	70 MIN.	75 MIN.
RX	85 TYP.	50 TYP.	65 MIN.	70 MIN.	75 MIN.

TERMINATIONS: TYPE "N" FEMALE *1 CONVENTIONAL TRUNKING *2 UPBAND TRUNKING

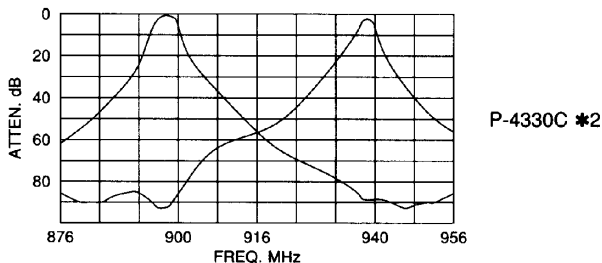
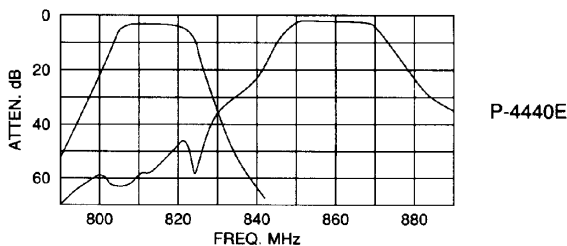
**MECHANICAL
SPECIFICATIONS**



MODEL	H	D	RS*	NOTES
P-4440E	7.00	5.0	7.00	NOTE 1: NOT APPLY
P-4330C	4.17	5.5	5.25	
P-4440E-2	8.35	5.5	8.75	
P-4660C	8.35	5.5	8.75	

RS*: Vertical rack space required
NOTE 1: Mounting brackets are adjustable front to rear

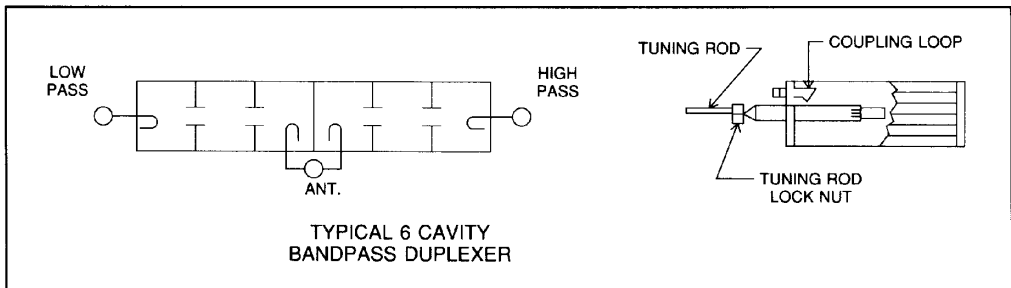
TYPICAL SELECTIVITY



GENERAL INFORMATION

Sinclair P-Series bandpass duplexers consist of 3 or 4 inch square Res-Lok aperture coupled cavities and in some models also utilize the high selectivity of a combline filter in the receiver section (ie. P-4440E).

Combinations of 2 to 6 cavities are used in the transmit and receiver sections, depending upon the electrical specifications required.



The duplexers are equipped with rotateable coupling loops to optimize VSWR (return loss) without removal or replacement of the loops. The insertion loss is factory set by choice of apertures.

ELECTRICAL SPECIFICATIONS

These duplexers are shipped factory tuned to specific passbands and insertion loss settings as specified by the customer. Refer to CI-1017 for the specifications of the various models.

TUNING PROCEDURE

The coupling loops are factory set for the required insertion loss and selectivity. No further adjustments should be made to the loops.

The aperture sizes have been cut to obtain the specific passbands in the frequency bands as ordered by the customer and cannot be changed in the field.

The antenna junction output cables are also a critical length and should not be altered in length.

BASIC RULES IN RETUNING

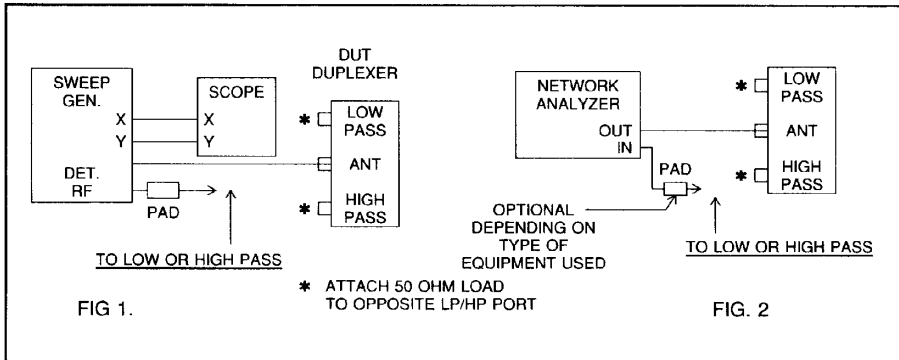
Pushing the tuning rods into the cavity lowers its resonant frequency and conversely pulling it out raises the resonant frequency.

Retuning of each section of the duplexer is accomplished by the adjustment of the tuning rods to shift the passband across the frequency band.

RETUNING INSTRUCTIONS

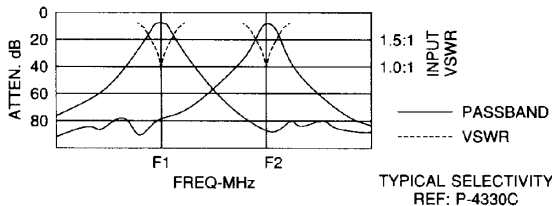
The duplexer is pre-tuned to the exact frequencies as ordered. No further tuning or adjustment is required. Retuning instructions are furnished for the purpose of readjustment in the event of frequency changes in the associated equipment in the field.

Typical test equipment set ups.



The duplexer is tuned using either test setup as shown in Figures 1 or 2. It is recommended to use a 6-10 dB, 50 OHM pad in the input lines in order to reduce VSWR reflections which may be introduced in the test equipment being used.

1. To retune the duplexer, loosen the tuning rod lock nuts, reference CI-1018.
2. Set the frequency to be passed into the high pass terminal and detect it at the antenna terminal with the low pass terminal terminated with 50 OHMS. Adjust the high pass tuning rods for maximum signal.
3. Set the frequency to be passed into the low pass terminal and detect it out the antenna terminal with the high pass terminal terminated with 50 OHMS. Adjust the low pass tuning rods for maximum signal.
4. Repeat steps 2 and 3 - then tighten all tuning rod lock nuts securely into position. Finally check that both high and low are tuned to the new frequencies and VSWR (return loss) is 1.5: 1 or greater at both frequencies.



WARNING:
Do not tune the duplexer with the TX keyed into the duplexer.