

**N3 CARRIER TELEPHONE SYSTEM**  
**CHANNEL MODEM UNIT**  
**J99300AB AND J99300AY**  
**FILTER INSTALLATION AND EQUALIZER**  
**ADJUSTMENT**

**1. GENERAL**

**1.01** This section contains instructions for installing channel bandpass filters prior to placing channel modems in service. These instructions may also be used for replacing defective filters. Adjustment of the 4075A equalizer in the J99300AB unit is also covered, since the screw settings on the equalizer must correspond to the code of the receiving bandpass filter. The J99300AY modem has a fixed-loss 4168A equalizer and no screw settings.

**1.02** The purpose of this reissue is to include a caution about handling 654-type crystal filters. The procedure for disposition of defective 654A-M filters is also changed. Arrows are used to indicate changes. This reissue does not affect the Equipment Test List.

**1.03** The J99300AB and J99300AY channel modems are designed for use in any of the 12 channels in an N3 or N3-L group and, consequently, do not contain bandpass filters when received from the factory. These 654-type filters are ordered separately for the desired channels and installed in the field.

**1.04** The currently manufactured channel bandpass filters, coded 654AA through 654AM, can be used in either the J99300AB or J99300AY modems. However, the manufacture discontinued 654A through 654M filters can be installed only in the J99300AB modem. **Defective 654A-M filters should be returned for credit through the normal engineering complaint procedure. The new type of filter, 654AA-AM, should be used as the replacement.** Replacement of a receiving filter of the old type, in a J99300AB modem, with a filter of the new type will require resetting of the screws on the 4075A equalizer.

**2. FILTER INSTALLATION (INITIAL SERVICE AND MAINTENANCE)**

**2.01** The channel bandpass filters are stamped with codes for easy identification. Later manufactured filters are also stamped with the channel number.

**2.02** Refer to Table A for the filter code corresponding to the J number of the channel modem and the channel to be put in service. Note that the two filters in the J99300AB modem may have different codes, since one filter may be of the old type (654A-M) and the other of the new type (654AA-AM).

**2.03** Obtain two filters with the proper code and install them as follows, using Fig. 1 or Fig. 2 as a guide.

**Caution:** *The 654-type crystal filter is fragile and should be handled carefully to avoid damage.*

**2.04** On a new modem the six filter leads are taped down. It is recommended that these leads be taped whenever modems are stored without filters.

**2.05** Remove the tape and bend the leads back from the space allotted for the filters.

**2.06** Place the filters on the board and secure them with the mounting screws. These screws must be tight to connect the filter case to electrical ground.

**2.07** Connect the loose wire leads to the filter pins. Notice that the length and location of the connecting leads naturally determine their proper connection to the filters.

TABLE A

MODEM FILTER CODES – J99300AB AND J99300AY CHANNEL MODEM UNITS

CHANNEL NO.	FILTER CODE*	
	J99300AB	J99300AY
1	654A or 654AA	654AA
2	654B or 654AB	654AB
3	654C or 654AC	654AC
4	654D or 654AD	654AD
5	654E or 654AE	654AE
6	654F or 654AF	654AF
7	654G or 654AG	654AG
8	654H or 654AH	654AH
9	654J or 654AJ	654AJ
10	654K or 654AK	654AK
11	654L or 654AL	654AL
12	654M or 654AM	654AM

\* Each channel modem unit requires two filters of the specified filter code.

2.08 Record the channel number in the write-in space provided in the upper right-hand corner of the faceplate.

3. EQUALIZER ADJUSTMENT (J99300AB MODEM)

3.01 The J99300AB channel modem has an adjustable equalizer within the 4075A network. Adjustments are made by closing or opening designated screw switches (see Fig. 1).

3.02 The screw switch settings are dependent upon the type of filter used in the receiving circuit (FL2). The 654A-M filters are stamped with the designations of screws to be turned down. A common setting is used for the 654AA-AM filters.

3.03 When a defective 654A-M receiving filter (FL2) is replaced with a 654AA-AM filter, the 4075A equalizer screws must be reset. Care should be taken to properly identify the receiving channel bandpass filter (see Fig. 1) so that the new type (coded 654AA-AM) is installed in the FL2 position.

3.04 Turn the equalizer screws down as indicated in Table B. Screws which are not specified to be turned down should be opened to the maximum counterclockwise position. If the transmitting channel bandpass filter (FL1) is replaced with a new filter, no screw switch settings are changed.

TABLE B

4075A NETWORK ADJUSTMENT  
J99300AB CHANNEL MODEM UNIT

CHANNEL NO.	RCVG FILTER CODE (FL2)	4075A NETWORK SCREW SWITCH SETTINGS	
		DOWN	UP
1	654A	R5, R8, C6, C7	*
2	654B	R4, R10, C6, C7	
3	654C	R6, R10, C6, C10	
4	654D	R7, R11, C6, C9	
5	654E	R5, R11, C6, C7	
6	654F	R4, R10, C6, C7	
7	654G	R7, R8, C6, C10	
8	654H	R7, R8, C6, C7	
9	654J	R5, R11, C6, C7	
10	654K	R5, R11, C6, C7	
11	654L	R5, R11, C6, C7	
12	654M	R7, R11, C6, C7	
1-12	654AA-654AM	R6, R11, C6, C7, C9	

\* All screw switches not listed in the down column must be fully opened (set to maximum counterclockwise position).

*USE WITH J99300 AB  
+ 4075A NETWORK*

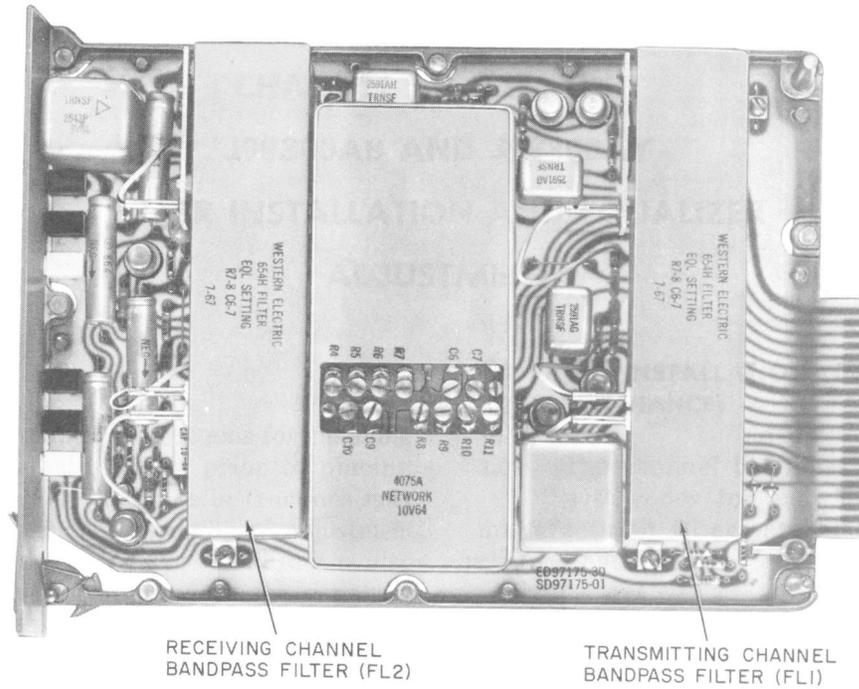


Fig. 1—J99300AB Channel Modem with Filters

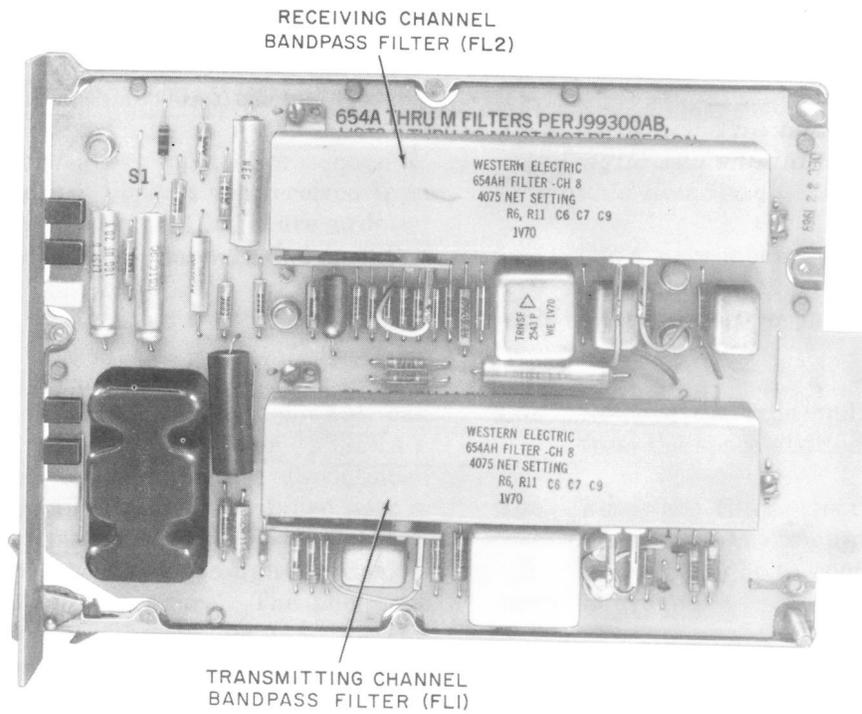


Fig. 2—J99300AY Channel Modem with Filters