

**AIR-GROUND RADIO
PRIVATE SYSTEMS
ECHO-FOX UHF RADIO SYSTEM
REPLACEMENT AND REPAIR PROCEDURES**

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Note: Figures 1 through 5 are not stock forms and should be reproduced locally, as required.

1.02 This section supercedes Section 406-116-800, Issue 3. New table, Table B, added.

1.03 *Equipment Test Lists are affected (Part 4).*

1. GENERAL

1.01 This section describes procedures for the replacement and repair of General Electric Co. radio units in the Air-To-Ground Echo-Fox UHF Radio System. Recommended work sheets are shown in Fig. 1 through 5.

2. REPAIR OF EQUIPMENT

2.01 Two types of repair service are available. The defective unit may be returned to the manufacturer, General Electric Co. at Lynchburg, Va. The unit may also be repaired by the local General Electric service manager. See Tables A and B for location and telephone number of local General Electric service manager. Local judgment will determine which repair procedure to follow.

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

TABLE A

**GENERAL ELECTRIC COMPANY
REGIONAL SERVICE LOCATIONS**

Service Region 100 (J)

Regional Service Manager—Palo Alto, CA	E. H. Longden	415-494-2533
R102 District Service Manager—Sacramento, CA	F. Armev	916-927-0163
R103 District Service Manager—Seattle, Wash.		206-575-2937
R104 District Service Manager—Billings, Mont.		406-252-6329
R105 District Service Manager—Beaverton, Ore.	L. E. Enneberg	503-643-1522
R107 District Service Manager—Los Angeles, CA	H. P. Hall	213-627-2871
R108 District Service Manager—Los Angeles, CA	H. C. Williams	213-627-2871
R109 District Service Manager—Phoenix, AZ	R. R. Carroll	602-264-2064
R110 District Service Manager—Denver, Colo.	A. L. Kish	303-922-8125

Service Region 200 (D)

Regional Service Manager—Pittsburgh, PA	C. W. White	412-242-6306
R203 District Service Manager—Columbus, Ohio	P. D. Jasiewicz	614-438-2150
R205 District Service Manager—Cleveland, Ohio	E. A. Henson	216-331-8851

Service Region 300 (A)

Regional Service Manager—Hamden, CN	J. W. Wiggins	203-288-2595
R302 District Service Manager—Framingham, MA	J. W. Bayne	617-872-4851
R304 District Service Manager—Woodside, NY	F. R. Schroeder	212-446-4811

Service Region 400 (B)

Regional Service Manager—Richmond, VA	F. M. Bruington	804-233-9218
R401 District Service Manager—Towson, MD	D. B. Chandler	301-823-2261
R405 District Service Manager—Columbia, SC	J. Q. Harrison	803-252-5437
R416 District Service Manager—Raleigh, NC	D. F. Plyler	919-828-5434

Service Region 500 (C)

Regional Service Manager—Tallahassee, Fla.	L. O. Carr	904-224-4105
R501 District Service Manager—Atlanta, GA		404-451-1626
R504 District Service Manager—Birmingham, Ala.	A. F. Dalesandro	205-708-3808
R505 District Service Manager—Nashville, TN	D. N. Baker	615-254-7065
R506 District Service Manager—Tampa, Fla.	C. T. Legg	813-872-0505

Service Region 600 (G)

Regional Service Manager—Shawnee Mission, Kan.	J. R. Morris	913-384-3700
R601 District Service Manager—Park Ridge, IL		312-696-3414
R602 District Service Manager—Des Moines, Iowa	D. E. Adams	515-279-3603
R605 District Service Manager—Mission, Kan.		913-384-3121
R606 District Service Manager—Minneapolis, Minn.	C. B. Green	612-831-2220
R608 District Service Manager—St. Louis, Mo.	H. M. Seamans	314-966-2220
R614 District Service Manager—Lincoln, Neb.	M. F. Japel	402-467-4393

TABLE A (Cont)

**GENERAL ELECTRIC COMPANY
REGIONAL SERVICE LOCATIONS**

Service Region 700 (H)

Regional Service Manager—Dallas, Tex.	C. W. Weaver	214-661-9697
R701 District Service Manager—Edmond, OK	T. W. Fitzgerald	405-341-6175
R702 District Service Manager—Lubbock, Tex.	J. O. Halbrooms	806-799-5520
R703 District Service Manager—Dallas, Tex.	J. W. Reitz	214-661-8654
R704 District Service Manager—Austin, Tex.	J. T. Bradberry	512-452-6478
R705 District Service Manager—Metairie, LA	P. R. Wellborn	504-837-0318
Manager-Product Service—Lynchburg, Va.	V. J. Deas	804-846-7311 Ext. 2267
Manager-Product Service Engineering—Lynchburg, Va.	A. K. Guthrie	804-846-7311 Ext. 2711
Manager-Lynchburg Service Station—Lynchburg, Va.	B. L. Woody	804-846-7311 Ext. 2685

TABLE B

Circuit Number	Radio Station Location	General Electric Co. Service District (See Table A)
GR59708	Waldorf, Maryland	R401
GR59709	New York City, N. Y.	R304
GR59710	Navarre, Ohio	R205
GR59711	Williamstown, Kentucky	R203
GR59713	Memphis Jct., Arkansas	R505
GR59714	Alexandria, Louisiana	R705
GR59715	Ennis, Texas	R703
GR59716	Seguin, Texas	R704
GR59717	Norway, Illinois	R601
GR59718	Red Oak, Iowa	R602
GR59719	Hays, Kansas	R605
GR59720	Prospect Valley, Colorado	R110
GR59721	Rock Springs, Wyoming	R110
GR59722	Levan, Utah	R110
GR59723	Winnemucca, Nevada	R102
GR59724	Turquoise Jct., Calif.	R108
GR59725	Stockton, Calif.	R102
GR59727	Adairsville, Georgia	R501
GR59728	Hillsboro, Missouri	R608
GR59729	Mounds, Oklahoma	R701
GR59730	Wyoming, Minnesota	R606
GR59731	Chamberlain, S. D.	R614
GR59732	Portland, Maine	R302
GR59733	Brewton, Alabama	R504
GR59735	Perrine, Florida	R506
GR59736	Amarillo Jct., Texas	R702
GR59737	Midland, Texas	R702
GR59738	Mt. Wilson, Calif.	R107
GR59739	Mt. Baldy, Oregon	R105
GR59740	Seattle, Washington	R103
GR59741	Spokane, Washington	R105
GR59742	Boise Jct., Idaho	R104
GR59743	Holbrook, Arizona	R109
GR59744	Clines Corner, New Mexico	R109
GR59745	Seligman, Arizona	R109
GR59746	Helena Jct., Montana	R104
GR59747	Miles City, Montana	R104
GR59750	Crescent Jct., Utah	R110
GR59751	Charleston, S. Carolina	R405
GR59752	Daytona Beach, Florida	R506
GR59753	Westover, N. Carolina	R416

2.02 Before a defective unit can be returned to the General Electric Co., a maintenance spare unit must be obtained.

3. MAINTENANCE SPARE UNITS

3.01 Two locations have been selected for the storage of emergency maintenance spare units for restoration of service in the radio portion of the Echo-Fox system. These locations are as follows:

1. Albuquerque Jct., New Mexico

Address:

American Telephone & Telegraph Co.
 ♦14806♦ Central - South West
 Albuquerque, New Mexico 87105
 Telephone: (505) 765-6307

2. Waldorf, Maryland

Address:

American Telephone and Telegraph Co.
 Post Office Box 97
 Waldorf, Maryland 20601
 Telephone: (301) 645-7089

3.02 The maintenance spare radio units assigned at each of above locations are as follows:

2—Transmitter Exciters—♦G.E. Co. 4ET59D10
 Special♦

2—Receivers—♦G.E. Co. 4ER42B10 Special♦

2—Power Supplies—♦G.E. Co. 4EP38A10 Special♦

Note: Spare power amplifiers and power amplifier power supplies are not stocked. Refer to Section 406-116-502, Chart 6, for low power (60 watt) operation. The station will then operate on low power while the defective unit is returned to the General Electric Co. for repair or is repaired locally.

3.03 To obtain required maintenance spare unit, contact either the Albuquerque Jct. or Waldorf location (select closest location as first choice) for release and shipment of the spare unit. The storage location receiving the request will assign a "Case Number" and required information to "Log" sheet—see Fig. 1. Shipping information will be

requested by the storage location of the requesting location to complete "Work Sheet"—see Fig. 2.

3.04 Most requests for maintenance spare units will be related to an "Out of Service" condition. Thus, this expedited shipment will be marked "Hold at Airport for Pickup by—(name and title of Bell System employee provided by the requesting office)". Requesting location shall make arrangements to have maintenance unit picked up at agreed airport at estimated time of arrival as provided by the storage location.

3.05 REA air express has proven to be the best means of shipping with respect to speed and control. This mode of shipping will be used by the storage location unless the requesting location provides information of an alternate mode.

3.06 Since only a limited number of spare units are available on a national basis, it is imperative that shipments for repairs be made promptly, so that spares will continue to be available to any location requiring them.

3.07 The location having the defective unit is responsible for prepaid air express shipping to General Electric Co. Repair Section, Lynchburg, Virginia. Provide a brief description of trouble experienced. Authorize General Electric Co. to bill location returning defective unit and to indicate to which storage location the repair unit should be returned. This should be accomplished by preparing the three forms which were sent from the storage location with the replacement unit—see Fig. 3, 4, and 5.

Copy A—Send to General Electric Co. with defective unit.

Copy B—Retain for local file.

Copy C—Mail to storage location that provided spare.

3.08 The storage location is responsible for the status of the units being repaired by General Electric Co.

3.09 If the repaired unit has not been received by the storage location three weeks after the defective unit was returned to General Electric Co. at Lynchburg, Va., as indicated by the ship date on Copy "C" mailed from the requesting

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location, contact by telephone General Electric Co.—Supervisor of Service Center: ♦(804)846-7311, ext. 2685,♦ for status. Recheck status on a weekly basis until unit is repaired and shipped. Maintain information log on all calls made.

4. MAINTENANCE ROUTINE

4.01 To insure that all of the maintenance spare units are in operational condition, each

storage location should test all spare units as follows:

- (a) Test unit when received from General Electric Repair Section.
- (b) Test units that have been on shelf quarterly.

Maintain a record of the latest test date on each unit.

Case No. _____

ECHO-FOX STORAGE LOCATION SHIPPING WORK SHEET

Please Fill in All Items

Date _____

Time _____

Initials of Person Requesting Equipment _____

Location _____

Send to _____

Airport to which Equipment is to be Sent _____

Mark Box Hold at Airport _____ YES _____ NO

Contact Phone Number at Distant End _____ AM - PM

Flight Schedule Obtained From Airlines or REA. _____

Initials of Person at Distant End who was Notified of Flight Schedule _____

Remarks:

Fig. 2—Echo-Fox Storage Location Shipping Worksheet

SEND TO G.E. CO. WITH DEFECTIVE EQPT.

COPY A

Case No. _____

ECHO-FOX AIR-TO-GROUND RADIO SYSTEM

Ship defective unit prepaid via Air Express to:

**General Electric Company
Mobile Radio Repair Section
Carroll Avenue Plant
Lynchburg, Virginia**

2. Date defective unit was sent to General Electric Company
Day _____ Month _____ Year _____

Brief description of trouble. _____

4. This is authorization for General Electric Company to bill (location shipping defective unit) _____

for repair of (number and type of units returned) _____

Billing for repair should be sent to:

(Address of Sender)

Billing Authorization Signature _____

5. The General Electric Company is authorized to repair the defective unit and to ship it to the same storage area that supplied the spare unit. Indicate which of the two listed storage areas supplied the spare unit.

_____ Albuquerque Jct., New Mexico

**American Telephone and Telegraph Company
Echo-Fox Supervisor
14806 Central - South West
Albuquerque, New Mexico 87105**

_____ Waldorf, Maryland

**American Telephone and Telegraph Company
Echo-Fox Supervisor
P.O. Box 97
Waldorf, Maryland 20601**

This form is in compliance with the administrative information and requirements specified in BSP Section 406-116-800 the return and repair of the General Electric radio equipment in the Echo-Fox System.

Fig. 3

RETAIN FOR LOCAL FILE

COPY B

Case No. _____

ECHO-FOX AIR-TO-GROUND RADIO SYSTEM

1. Ship defective unit prepaid via Air Express to:

**General Electric Company
Mobile Radio Repair Section
Carroll Avenue Plant
Lynchburg, Virginia**

2. Date defective unit was sent to General Electric Company

Day _____ Month _____ Year _____

3. Brief description of trouble. _____

4. This is authorization for General Electric Company to bill (location shipping defective unit)

for repair of (number and type of units returned)

Billing for repair should be sent to:

(Address of Sender)

Billing Authorization Signature _____

5. The General Electric Company is authorized to repair the defective unit and to ship it to the same storage area that supplied the spare unit. Indicate which of the two listed storage areas supplied the spare unit.

_____ Albuquerque Jct., New Mexico

**American Telephone and Telegraph Company
Echo-Fox Supervisor
14806 Central - South West
Albuquerque, New Mexico 87105**

_____ Waldorf, Maryland

**American Telephone and Telegraph Company
Echo-Fox Supervisor
P.O. Box 97
Waldorf, Maryland 20601**

This form is in compliance with the administrative information and requirements specified in BSP Section 406-116-800 for the return and repair of the General Electric radio equipment in the Echo-Fox System.

Fig. 4

MAIL TO STORAGE AREA THAT PROVIDED SPARE

COPY C

Case No. _____

ECHO-FOX AIR-TO-GROUND RADIO SYSTEM

Ship defective unit prepaid via Air Express to:

**General Electric Company
Mobile Radio Repair Section
Carroll Avenue Plant
Lynchburg, Virginia**

2. Date defective unit was sent to General Electric Company
Day _____ Month _____ Year _____

Brief description of trouble. _____

4. This is authorization for General Electric Company to bill (location shipping defective unit)

for repair of (number and type of units returned)

Billing for repair should be sent to:

(Address of Sender)

Billing Authorization Signature _____

5. The General Electric Company is authorized to repair the defective unit and to ship it to the same storage area that supplied the spare unit. Indicate which of the two listed storage areas supplied the spare unit.

_____ Albuquerque Jct., New Mexico

**American Telephone and Telegraph Company
Echo-Fox Supervisor
14806 Central - South West
Albuquerque, New Mexico 87105**

_____ Waldorf, Maryland

**American Telephone and Telegraph Company
Echo-Fox Supervisor
P.O. Box 97
Waldorf, Maryland 20601**

This form is in compliance with the administrative information and requirements specified in BSP Section 406-116-800 the return and repair of the General Electric radio equipment in the Echo-Fox System.

Fig. 5