

MODEL 213400 MULTI-CHANNEL DIGITAL ANNOUNCER
MAINTENANCE

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1. GENERAL

1.01 The Model 213400 Multi-Channel Digital Announcer, once installed, will require only a minimum amount of maintenance. Two fuses (one in the C.P. Chassis, one in the M.C. Chassis) are replaceable. Models with the Battery Backup of Message option have batteries in the C.P. Chassis that, though rechargeable, may need replacement after a considerable period of time or after a prolonged power outage.

1.02 This section contains maintenance procedures for the multi-channel digital announcer.

1.03 References.

- 756-0224-100 Model 213400 Multi-Channel Digital Announcer, Equipment Description
- 756-0224-200 Model 213400 Multi-Channel Digital Announcer, Installation
- 756-0224-300 Model 213400 Multi-Channel Digital Announcer, Operating Procedure

For additional information, contact:

Northern Telecom Inc.
Cook Electric Division
6201 Oakton Street
Morton Grove, IL 60053
Telephone 312-967-6600
Telex 72-4472
TWX 910-223-3654
Cable "Cookpro".

2. MAINTENANCE PROCEDURE

2.01 For both battery replacement and replacement of the C.P. Chassis fuse, the top cover of the C.P. Chassis must be removed.

For replacement of the M.C. Chassis fuse, the top cover of the M.C. Chassis must be removed. Remove Digital Announcer from the rack or cabinet if necessary to gain access to the top covers. Remove top, front, and rear panel screws as needed to free the cover, then lift the cover aside.

FUSE REPLACEMENT

2.02 Fuse F1 of the C.P. Chassis is located at the corner of the main circuit board, as shown in figure 1. Fuse F1 of the M.C. Chassis is located at the corner of the circuit board, as shown in figure 2. In both cases, the fuse is installed in a clip type fuse holder, and should be replaced with a one-ampere 3AG type fuse, Cook Electric Part No. 752-5872-019.

BACKUP BATTERY REPLACEMENT

2.03 In models with Battery Backup of Message option, the C.P. Chassis contains four rechargeable cells located on a small circuit board, mounted on stand-offs attached to the main circuit board. The battery pack location is shown in figure 1.

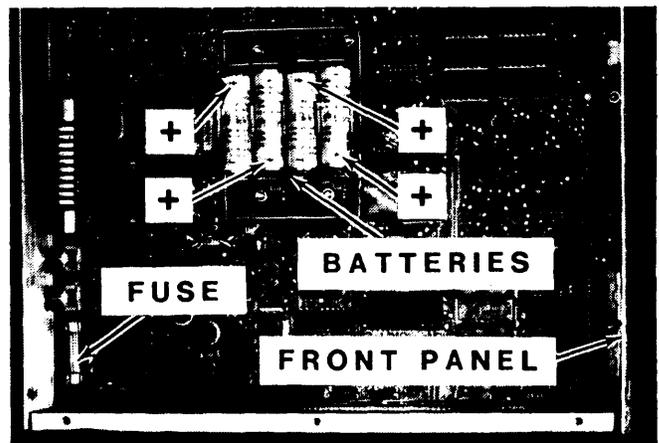


Fig. 1 - Fuse and Battery Locations in Control Processor Chassis

2.04 These batteries supply power to retain the message data in memory in the event of a -48V power outage. The only time the batteries are switched into the circuit is during an interruption of external power. Otherwise, during normal operation, these batteries are kept

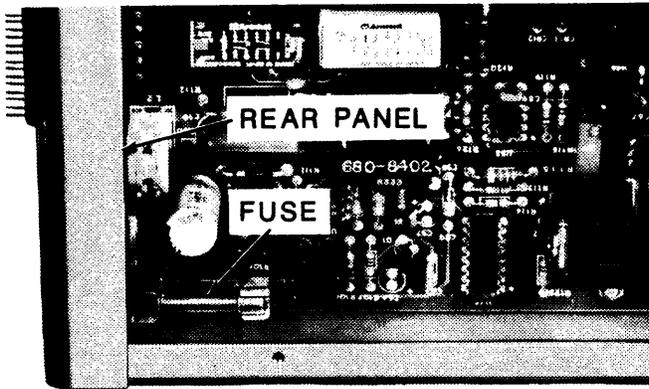


Fig. 2 - Fuse Location in Multi-Channel Chassis

on charge in the battery pack holders. After a power outage, during which the batteries had been in use, it will take up to fourteen or fifteen hours for the batteries to fully charge.

2.05 The condition of the batteries may be tested without the use of test fixtures or special equipment by the use of the following instructions. Select a period of low usage (i.e., no requests for messages) and turn the Digital Announcer POWER Switch to its OFF position (the BATTERY Switch must remain ON). Wait 5 minutes, then turn the Digital Announcer POWER Switch ON again. Clear any Alarms and test the messages as described in the Operating Instructions section of this manual. Weak or

defective batteries will cause partial or total memory failure; good batteries will retain the announcement without fault. It is recommended that a backup copy of the announcement should be available before performing this battery test.

NOTE: The battery pack circuit board is mounted to the main board with four stand-offs; do not put excessive strain on the main circuit board when replacing batteries.

2.07 Individual cell and battery pack voltages are provided in Table 1 to further define failures. The voltages listed in the table are not to be taken as absolute values; they are intended only to serve as guidelines to determine acceptable performance limits. Please contact Northern Telecom for replacement batteries or for additional assistance.

3. REPAIR

3.01 Repairs involving replacement of components on the circuit boards are not recommended. Return to Northern Telecom Inc., Cook Electric Division, 6201 Oakton Street, Morton Grove, IL 60053. If technical assistance is required, call 312-967-6600 or TWX 910-223-3654.

Table 1. Rechargeable Battery Parameters

TEST CONDITIONS	MEASUREMENT	POSSIBLE PROBLEM
BATTERY Switch set to ON POWER Switch set to ON	Individual cell voltages between 1.2 and 1.5 volts	Higher voltage: poor contact or corrosion Lower voltage: weak or shorted cell
BATTERY Switch set to ON POWER Switch set to ON	Total battery pack voltages between 5.0 and 6.0 volts	Higher voltage: cracked foil or loose nuts Lower voltage: cell installed backwards
BATTERY Switch set to ON POWER Switch set to OFF	Total battery pack voltages between 4.8 and 5.8 volts	Lower voltage: weak cell, poor contact, or in- sufficient charging time