

# FULLY CHARGED



*Talking Book Machine Repair  
Community Service Project  
Produced in Cooperation with the  
National Library Service*

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## **PROFILE OF THE WORCESTER, MA PIONEER TALKING BOOK REPAIR SHOP**

The Worcester, Massachusetts repair shop was started by Norman Collins and Ed Gill with 10 telephone retirees in 1992. Donald Rich and Ed Gill of the original group are still active. Elaine Reynolds, Rosel Patton, and Bob McMahon comprise the rest of the current group. We meet Tuesdays from 8 AM to 12 noon. To date we have repaired 14,400 machines in a secure room at the Verizon Greendale Central Office where coffee and great conversation are provided. We are looking forward to the new Digital Talking books.

**Ed Gill, Project Leader**

## **ORDERING THE FOIL PIONEER REPAIR LABELS**

The foil self-adhesive Pioneer repair labels (with the new TelecomPioneer logo) should now be ordered directly from the TelecomPioneer Resource Center in Denver at: [resourcecr@pioneersvolunteer.org](mailto:resourcecr@pioneersvolunteer.org), Tel. 1-800-976-1914.

## **SHARPIE MARKER COLOR FOR 2010**

The Sharpie marker color for replaced drive kits and tape heads is BLUE. The part number for ordering is AID-09B.

**KW**

## **WARRANTY REPAIRS FOR DIGITAL TALKING BOOK PLAYERS**

The Digital Talking Book machines (DTBM) are under warranty by Shinano Kenshi Corp. for 13 months. A sticker with the warranty expiration date is located inside the cord storage compartment. Only machine-lending agencies (MLA) are authorized to return defective machines under warranty by first obtaining an authorization number from the factory. Repair groups encountering a defective DTBM under warranty should return it to their machine-

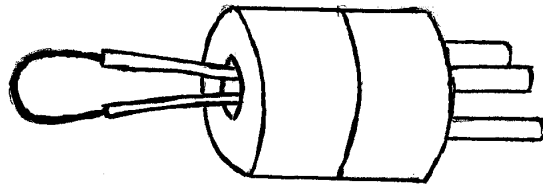
lending agency for warranty repair. Visible signs of customer abuse (damaged power cable, liquid spilled over or into player, or vermin infestation) will void the warranty. Machines with a voided warranty will need to be repaired by a repair group.

(Machines and Accessories: [www.loc.gov/nls/networkdocs/machines/2009/04.html](http://www.loc.gov/nls/networkdocs/machines/2009/04.html))

## SA

### **GROUNDING PLUG FOR WORKING ON OPEN DTB PLAYERS**

The electrostatic discharge (ESD) pad and wrist strap used when working on an open DTB Player require connection to a reliable earth ground. This ground is present in every 3-prong electrical socket. Shops can prepare for this work by constructing grounding plug(s) containing an exposed loop of copper wire to provide a place to alligator clip the wires from the ESD pads and wrist straps.



Purchase a replacement 3-prong plug for about \$3 at a hardware store. Strip the insulation from both ends of a 6-inch length of #14 insulated solid copper wire and also strip a section in the

middle for connecting the alligator clips. Form the wire into a loop and hook one end around the other, leaving the unhooked end long enough to connect to the green ground terminal in the plug. Close up the plug with the middle of the wire loop exposed outside the plug.

**Larry Love, California/Nevada AT&T Regional Repair Coordinator**

### **DTBM SERVICE MANUAL TECHNICIAN EDITION AVAILABLE ONLINE**

The complete Technician Guide version of the DTBM Service Manual is available online at: [www.loc.gov/nls/digitalbooktraining/docs.html](http://www.loc.gov/nls/digitalbooktraining/docs.html) under the heading "Library Guide". It is in a 10.6 MB PDF file. In addition to the operating instructions, the area of most interest to repair groups during this period when all machines are under warranty will be the Player Checkout Procedure and Troubleshooting Activities. The NLS will eventually make a hard copy available for ordering through the WOW system.

A wise course of action for repair groups who expect to work with the DTBMs will be to obtain a copy of this Technician Guide version of the DTBM Service Manual, even if it means printing the 127 pages from the web site (omitting the final 10 pages of schematics that are not needed for our work). The information and procedures in the Service Manual are quite clear and you will then be equipped to do warranty checkout on any machines that need it to determine if the machine has a defect that qualifies it to be returned to the factory for warranty repair.

## SA

### **DTB PLAYER CHECKOUT WORKSHEET FOR WARRANTY CHECKING**

The following pages 3 & 4 contain a single-sheet double-sided checkout worksheet that will be helpful for warranty checkout of a digital Talking Book machine. This worksheet covers everything in the Player Checkout Worksheet and Post-Service Acceptance Test Record found in the Service Manual. The procedures for the tests are contained in the Service Manual, Section 6 - Player Checkout Procedure.

# 11.4 DTB Player Checkout Worksheet

Inspector's name: \_\_\_\_\_

Player Serial Number \_\_\_\_\_

Checkout Date \_\_\_\_\_

Check internal Ser. No. against Player label)

Check for service	Description	Comment	Manual Ref.
	<b>6.1 Inspection</b>		
	<b>Damage or Excessive Contamination</b>		
	Key Pad		8.3
	Speaker Grill		8.3
	Cartridge Dock		8.1
	Cartridge USB Connector		8.4
	Headphone Connector		8.5
	AT USB Connector		8.6
	AC Power Cord		8.7
	Upper Housing		8.3
	Lower Housing		8.12
	Handle		8.10
	Handle Motion (jammed or loose)		8.10
	Battery Access Panel		8.2
	Battery Pack & Cable		8.2
	Loose Internal Parts		7.1
	<b>Missing Components</b>		
	Rubber Feet		8.11
	AT USB Cover		6.11
	Battery Access Panel		8.2
	Housing Fasteners		7.1
	<b>6.2 AC Power Evaluation</b>		
	"Power Error" announcement (battery problem)		7.2
	"System Error" announcement (circuit board failure)		8.3
	No "Power On" announcement (AC power problem)		7.3
	"Power On" announcement in headphones only (speaker audio problem)		7.4
	<b>6.3 Battery Power Evaluation</b>		
	Player does not remain operating (on battery) when AC power is removed. Player does not announce hours of play time remaining when unplugged. Player announces "Battery Not Detected" or "Power Error". (battery problem)		7.2

Check for service	Description	Comment	Manual Ref.
<b>6.4 Battery Recharge</b> (Enter Technician Service Level)			
	No "Battery recharge in progress" response from status inquiry after initiating recharge. (battery problem)		7.2
<b>4.2.3 Battery Condition &amp; software version</b>			
	Battery Charge Cycles_____. Replace battery if more than 400.		8.2
	Software Version_____. Upgrade software if not the current version.		8.13
<b>6.7 Keypad Operation</b> (Exit Technician Service Level)			
	Keypad identifiers are not announced or keys do not respond reliably  (clean or replace keypad) Record in the Comment block the names of keys that fail.		8.3
<b>6.8 Cartridge Operation</b>			
	Persistent cartridge error message. (troubleshoot cartridge USB cable)		8.4
	Poor cartridge mechanical fit or cartridge not retained in the cartridge dock. (troubleshoot cartridge USB Cable)		8.4
<b>6.9 Audio Quality</b> (Maximum volume)			
	Audio distorted or noisy (troubleshoot upper housing)		8.3
<b>6.10 Headphone Operation</b>			
	Speaker audio does not stop on connector insertion (replace headphone cable)  Poor quality audio or one side missing (troubleshoot headphone cable)  Poor headphone connection (troubleshoot headphone cable)		8.5
<b>6.11 AT USB Device Port Operation</b>			
	AT port failure (troubleshoot AT port cable)		8.6
<b>Notes:</b>			

## **POTENTIAL C-1 AUDIO PROBLEM FROM WIRE TOUCHING THE SPEAKER CONE**

A number of C-1 machines have been coming through our shop lately with one or the other of the red and black wires from the wiring harness to the reed switch circuit board almost or actually touching the speaker cone as the wires pass over the speaker. If either wire touches the cone, the cone will buzz, destroying audio fidelity. This indicates a need to inspect every machine for this potential problem. At the very least, pull the wires away from the speaker. A permanent fix can be made by attaching a tie wrap loosely around the red and black wires and also around a few of the harness wires at the Jack Panel circuit board G connector. This holds the red and black wires away from the speaker cone but still allows the Tape Transport plate to be turned over for maintenance.

## **SA**

## **PROFILE OF THE GEORGETOWN, DELAWARE TALKING BOOKS REPAIR TEAM**

The Verizon Pioneers Caesar Rodney Council Talking Books repair team reconditions all C-1 machines for the State of Delaware Library for the Blind and Physically Handicapped. The current team of eight Pioneer volunteers meets weekly at the Georgetown, DE Verizon Central Office. A senior member of the team repairs all circuit boards (amplifier, jack board and motor control) used by the team. The team has reconditioned Talking Books for 30 years.

### **Mac McWilliams, Team Coordinator**

## **IDENTIFICATION OF THE GEORGETOWN, DE REPAIR TEAM**



Back Row: Joe McQuaide, Gene Errara, Larry Burgee, Mac McWilliams

Front Row: George Brower, Bob Willey, Dave Herron, Quentin Welch