

**L MULTIPLEX TERMINALS**  
**LMX-1**  
**TRANSMITTING GROUP BANKS**  
**PATCHING PROCEDURES**

This section provides patching procedures whereby regular equipment (transmitting group banks) is removed from or restored to service. Because of the numerous configurations applicable to the equipment involved, only typical transmitting group bank configurations are depicted by these procedures. Each office must determine its own equipment configuration and establish applicable patching procedures.

To prevent service interruptions while patching group equipment, effective monitoring procedures should be used. Three types of signals are available for monitoring purposes: test tone, conversation, and pilot. The most effective signal is a 1-kHz tone on a voice channel; however, local policy must establish monitoring and verification procedures to keep service interruptions to a minimum.

Transmission requirements must be met for the equipment involved before proceeding.

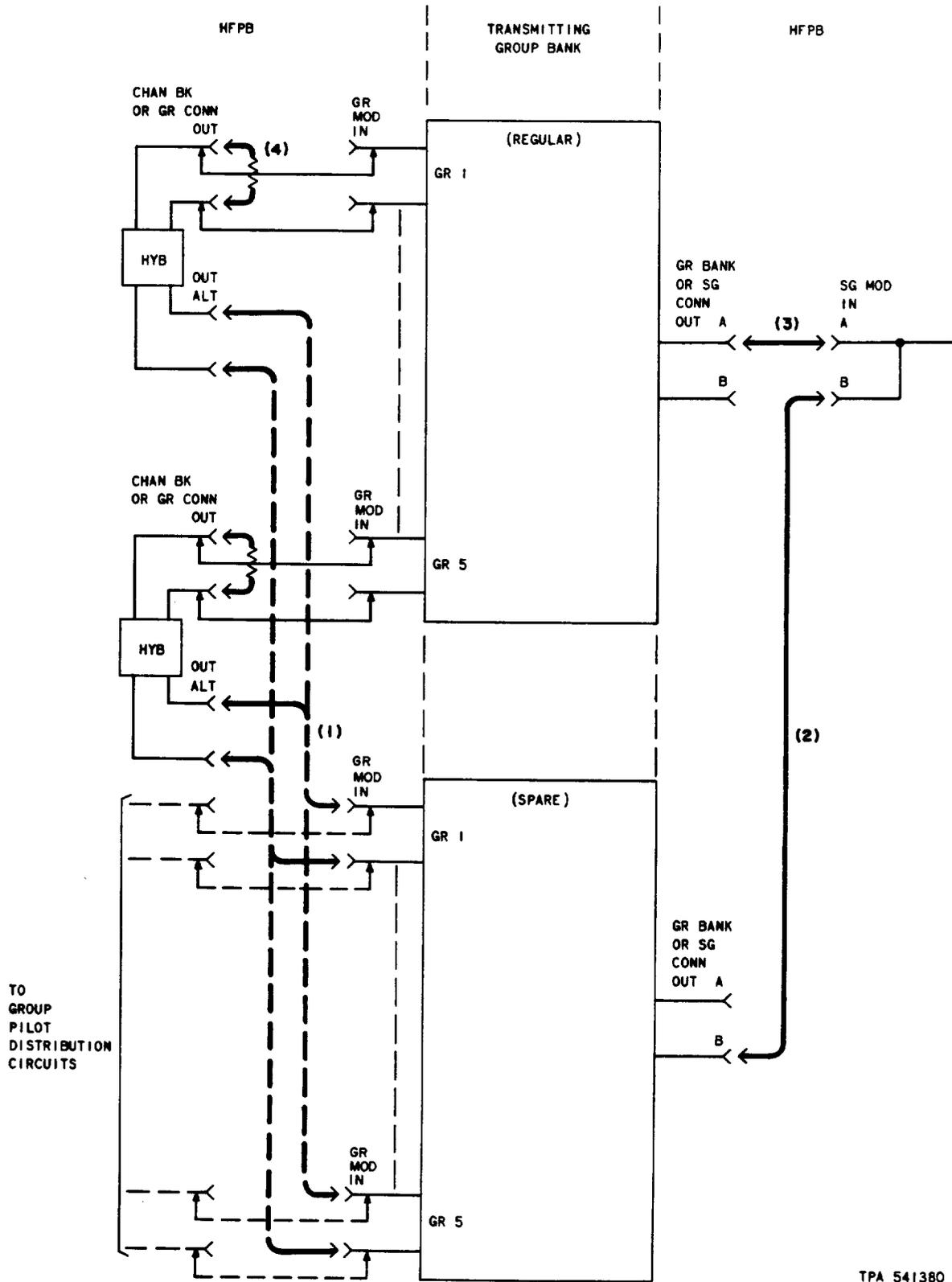
**APPARATUS**

*Receiving Test Equipment* (Section 356-010-500) capable of measuring the signal to be monitored at the correct power

*Test Cords and Plugs* as required

STEP	PROCEDURE
1	<p><b>Caution:</b> <i>Since some patches may affect transmission levels, patching should be kept to a minimum. Before attempting any patches, read and understand the entire procedure.</i></p> <p><b>Note:</b> To prevent service interruptions due to patching errors, the craftsman must have a thorough understanding of the following:</p> <ul style="list-style-type: none"><li>(a) Transmission circuits involved</li><li>(b) Local equipment and jack designations</li><li>(c) Local policy regarding minimum monitoring requirements.</li></ul> <p><b>Monitoring</b> (Fig. 1)</p> <p>Determine, from management personnel, the monitoring procedures to be used.</p>

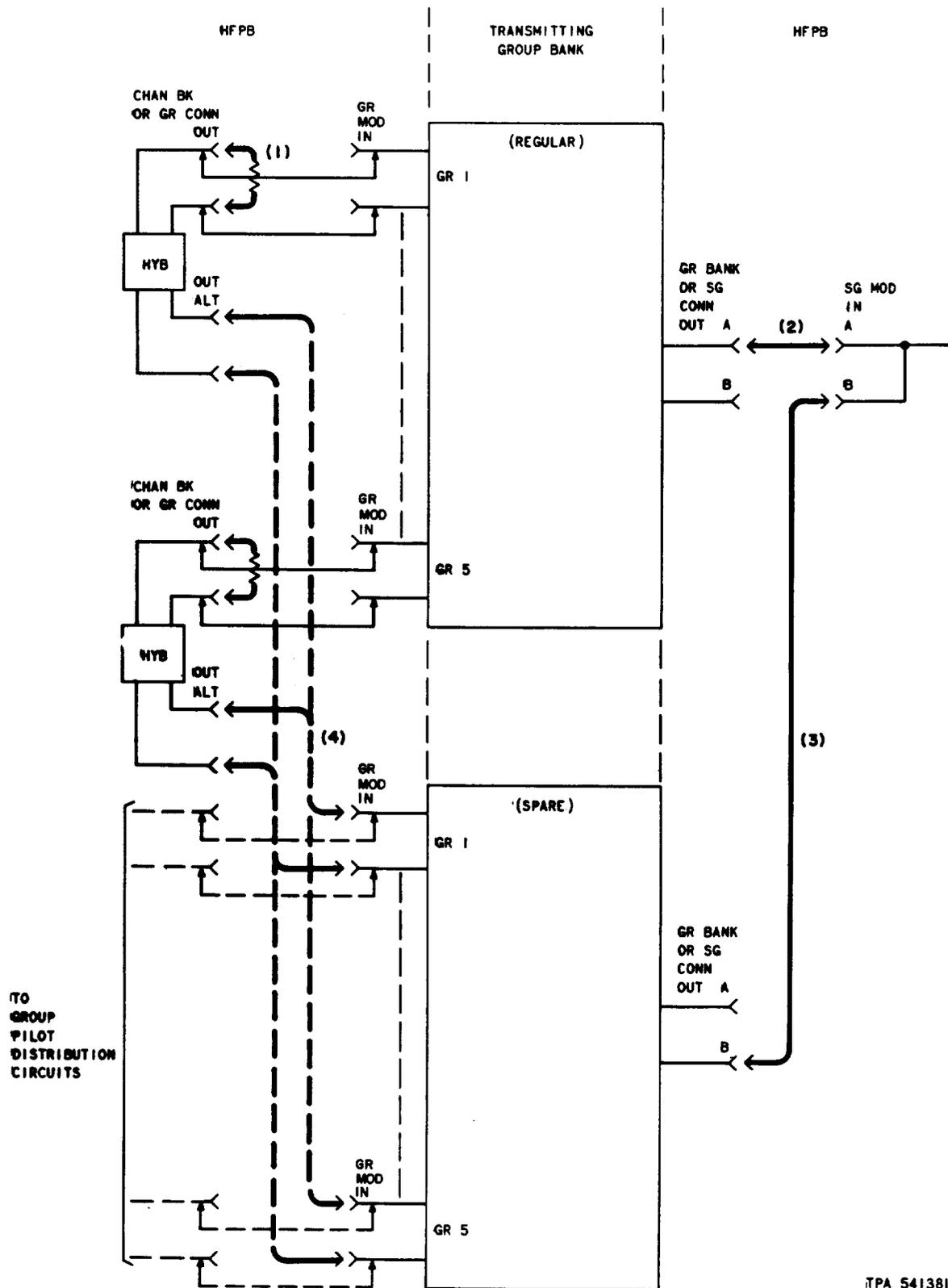
STEP	PROCEDURE
2	<p>Prepare the receiving test equipment (RTE) to measure the signal (determined in Step 1) at the correct power.</p> <p><i>Note:</i> See Section 359-080-501 for level diagrams and frequency charts.</p>
3	<p>Connect the RTE to the monitoring point determined in Step 1 (Fig. 1).</p> <p><i>Note:</i> Always monitor at a point in the circuit path beyond the final patch point.</p> <div data-bbox="442 640 1087 880" style="text-align: center;"> <pre> graph LR     A[SUPERGROUP BANK (D) SG BK OUT TST] --&gt; B[RTE]     B --&gt; A     </pre> <p style="text-align: right;">TPA 541379</p> </div>
<p><b>Fig. 1—Suggested Monitoring Point</b></p>	
<p><b>Patching</b> (Fig. 2 and 3)</p> <p><i>Note:</i> The transmitting group banks in a particular office may or may not be provided with the option for in-service testing and adjusting. These procedures are based on the assumption that <i>the option is provided</i>.</p>	
4	<p>To remove regular equipment from service, proceed to Step 5. To restore regular equipment to service, proceed to Step 7.</p>
<p><b>Removing Regular Equipment From Service</b> (Fig. 2)</p>	
5	<p>At the transmitting HFPB,</p> <ol style="list-style-type: none"> <li>(a) Connect the spare GR MOD IN jacks to the regular CHAN BK or GR CONN OUT ALT jacks for GR 1 [patch (1), Fig. 2].</li> <li>(b) Repeat (a) for groups 2 through 5 [patch (1), Fig. 2].</li> <li>(c) Verify continuity by checking each group pilot at the spare GR BANK or SG CONN OUT B jack.</li> <li>(d) Connect the spare GR BANK or SG CONN OUT B jack to the regular SG MOD IN B jack [patch (2), Fig. 2].</li> </ol> <p><b>Requirement:</b> Approximately a 3-dB increase in power at the monitoring point</p> <ol style="list-style-type: none"> <li>(e) Remove the patch between the regular GR BANK or SG CONN OUT A and SG MOD IN A jacks [patch (3), Fig. 2].</li> </ol> <p><b>Requirement:</b> Normal power indication for the monitoring point</p>



TPA 541380

Fig. 2—Removing Regular Group Bank From Service—Patching Procedure

STEP	PROCEDURE
6	<p>(f) Insert 135-ohm terminating plugs into the CHAN BK or GR CONN OUT jacks associated with the regular groups (1-5) being patched [patch (4), Fig. 2].</p> <p>Disconnect the RTE and identify all patches.</p> <p><b>Restoring Regular Equipment to Service</b> (Fig. 3)</p>
7	<p>At the transmitting HFPB,</p> <p>(a) Remove the 135-ohm terminating plugs from the regular CHAN BK or GR CONN OUT jacks associated with the groups (1-5) to be restored [patch 1), Fig. 3].</p> <p>(b) Verify continuity by checking each group pilot at the regular GR BANK or SG CONN OUT A jack.</p> <p>(c) Connect the regular GR BANK or SG CONN OUT A jack to the regular SG MOD IN A jack [patch (2), Fig. 3].</p> <p><b>Requirement:</b> Approximately a 3-dB increase in power at the monitoring point</p> <p>(d) Remove the patch from the regular SG MOD IN B jack and the spare GR BANK or SG CONN OUT B jack [patch (3), Fig. 3].</p> <p><b>Requirement:</b> Normal power indication for the monitoring point</p> <p>(e) Remove the patches from the CHAN BK or GR CONN OUT and the spare GR MOD IN jacks for each group (1-5) being restored [patch (4), Fig. 3].</p>
8	<p>Disconnect the RTE.</p>



TPA 541381

Fig. 3—Restoring Regular Group Bank to Service—Patching Procedure