



AUSTRALIAN RAIL TRACK CORPORATION

Certificate No.: **S 02 1224 127**

## NEW EQUIPMENT & SYSTEM APPROVAL CERTIFICATE

**Approval date:** 30/01/2013

**Approved by:** T. Moore

**Report no.:** TAS-02-124-BO127

**Report date:** 14<sup>th</sup> November 2012

This certificate is issued to:

**Supplier:** **Bombardier**

In respect of:

**Manufacturer:** **Bombardier Transportation Australia Pty Ltd**  
35-45 Frankston Dandenong Road  
Dandenong  
Victoria 3175  
Australia

**Product description:** **ML TI21 DIGITAL TRANSMITTER**

**Item identification:** See approved item list

**Application:** ML TI21 Digital Transmitter to be used on the entire ARTC network

**Relevant Standards:** SPS 02 – 'Environmental Conditions';  
SPS 21 – 'Audio Frequency Jointless Track Circuits for Main Line'  
SPS 25 – 'Signals Circuits Design Standards'

**Conditions of Approval:**

1. For use in accordance with ARTC signals construction standards and standard typical circuits only.
2. Only components from the list may be utilised.
3. Any changes to the design or materials are not covered by this approval certificate and are to be submitted to ARTC to be re-approved.

*A general condition of approval is that the supplier remains accredited to ISO 9001 specifically for these products and ARTC is advised on a 12 monthly basis that accreditation is current. ARTC reserves the right to conduct its own audit of the manufacture and supply of these components to AS 19011:2003.*

*Any subsequent change to the design, materials or manufacturing process is not covered by this approval.*

**Note/Comments:** None

**Issue date:** 5/02/2013

**Page:** 1 of 2

**Issued by:**

**Expiry date:**

John Furness  
ARTC Manager Standards

# NEW EQUIPMENT & SYSTEM APPROVAL - APPROVED ITEM LIST

**Reference no.:** **TAS-02-1224-BO127**  
**Date:** **24<sup>th</sup> September 2012**  
**Product description:** **ML TI21 DIGITAL TRANSMITTER**  
**Certificate no.:** **S 02 1224 127**

The following lists the individual types (by catalogue number) of TI21 Digital Transmitter Equipment manufactured by Bombardier which are submitted for type approved use in signalling circuits on ARTC infrastructure under Type Approval Certificate **TAS-02-1224-BO127** subject only to any conditions shown on that Certificates and the Conditions of Use shown against individual types.

Catalogue No.	Revis'n	Item Type	Nominal Frequency	Conditions of Use
Equipment Assemblies				
L520014330	-	Frequency A	1699 Hz	<ul style="list-style-type: none"> <li>For use with TI21 track circuits</li> <li>Standard frequency for use</li> </ul>
L520014331	-	Frequency B	2296 Hz	<ul style="list-style-type: none"> <li>For use with TI21 track circuits</li> <li>Standard frequency for use</li> </ul>
L520014332	-	Frequency C	1996 Hz	<ul style="list-style-type: none"> <li>For use with TI21 track circuits</li> <li>Standard frequency for use</li> </ul>
L520014333	-	Frequency D	2593 Hz	<ul style="list-style-type: none"> <li>For use with TI21 track circuits</li> <li>Standard frequency for use</li> </ul>
L520014334	-	Frequency E	1549 Hz	<ul style="list-style-type: none"> <li>For use with TI21 track circuits</li> <li>Optional frequency for use when design requires</li> </ul>
L520014335	-	Frequency F	2146 Hz	<ul style="list-style-type: none"> <li>For use with TI21 track circuits</li> <li>Optional frequency for use when design requires</li> </ul>
L520014336	-	Frequency G	1848 Hz	<ul style="list-style-type: none"> <li>For use with TI21 track circuits</li> <li>Optional frequency for use when design requires</li> </ul>
L520014337	-	Frequency H	2445 Hz	<ul style="list-style-type: none"> <li>For use with TI21 track circuits</li> <li>Optional frequency for use when design requires</li> </ul>