

## NEW EQUIPMENT AND SYSTEM APPROVAL CERTIFICATE

### Certificate No. S 01-1204-124A

**Approval date** 18 April 2017  
**Approved by** GM Technical Standards  
**Report no.** TAS 01-1004-TR209  
**Report date** 29 March 2017

*This certificate is issued to*

**Supplier** Comnet Solutions Pty Ltd (Tranzeo Distributor)  
 19/9 Hoyle Ave  
 Castle Hill, NSW, 2154

*In respect of*

**Manufacturer** Tranzeo  
**Product description** TR-902 Radio for Vital Signalling  
**Item identification** Refer to Approved Item List in Table 1.  
**Application** ARTC Network Wide  
**Relevant Standards** SPS 02 Environmental Conditions  
 SPS 05 Electrical & Electronic Components (Ratings & Construction Requirements)  
 SCP 17 Computer Based Interlocking Requirements  
 EN 50159:2010 Railway Applications – communication, signalling and processing systems – Safety-related communication in transmission systems  
 SDS 25 Signalling Circuit Design Standard

### Conditions of Approval

<b>General</b>	1. For use in accordance with ARTC specification SDS 25 and standard typical configurations developed and approved specifically for the Microlok Tranzeo Radio System only.
	2. Standard design rules for the Radio terrain design to be documented and applied in all cases.
	3. Only equipment detailed in the referenced list of the Type Approval Certificate may be used for the Tranzeo Vital Radio link with Microlok interlocking. Use with other vital equipment to be separately approved.
	4. The AES encryption shall be used for the radio data communications. The encryption password shall be managed

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	securely by the nominated signalling infrastructure personnel. The processes for management shall be documented.
	5. The configuration settings of the Tranzeo TR-902 shall be documented in a Work Instruction ESW-10-01 as part of the first installation. Further that these are used for all installations and Plug-n-Play configuration set up is prohibited.
	6. The set up for mounting the radio unit and aerial are documented in drawings as part of the first installation. These installation drawings shall be reviewed for adoption as standard drawings.
	7. The design limits for the radio path including the radio path distance and Fresnel Zone are documented in a Work Instruction as an aid for future design projects.
	8. The processes for the use of the maintenance terminal to the radio modem shall be detailed and include appropriate security measures.
	9. Surge protection shall be installed on all incoming cables to protect the signalling installation.
	10. There are no field serviceable components within the units, any failed units shall be replaced. Units shall only be repaired by Comnet Solutions Pty Ltd.
<b>Supplier</b>	11. 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 AS19001:2003.
	12. Any subsequent change to the design, materials or manufacturing process is not covered by this approval. The manufacturer should notify ARTC of any modification or changes in order to obtain a valid updated certificate.

**Note/Comments**

This document superseded **S-01-1204-124**

**Issue date** 18 April 2017

**Expiry date**

**Issued by**



**John Furness**  
**ARTC Manager Standards**

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### *Type Approval Status*

Issue 1 – S-01-1204-124 – TR-902 Radio for Vital Signalling – Superseded

Issue 2 – S-01-1204-124A – TR-902 Radio for Vital Signalling – Current

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**Table 1 - Approved Item List – Tranzeo TR902 Radio for Vital Signalling**

The following lists the individual types of Tranzeo TR902 vital radio components manufactured by Comnet Solutions Pty Ltd which are type approved for use in signalling installations on ARTC infrastructure under Type Approval Certificate **S 01-1204-124A** subject only to any conditions shown on that Certificate and the Conditions of Use shown against individual types.

Cat/Part No.	Item Type	Description	Comments
TR-902-11w	Radio Modem	900MHZ radio modem DSSS with 11dB panel antenna	N/A
TR-902-Nw	Radio Modem	900MHZ radio modem DSSS with external N-female antenna connector	N/A
TR-902-iw	Radio Modem	900MHZ radio modem DSSS for internal use featuring a N-female connector	N/A
EDW-100	Ethernet Converter	Serial to Ethernet converter	An alternative type approved Serial to Ethernet device may be used.
TR-SUR-001	Power unit	Power Over Ethernet adaptor	N/A