AUSTRALIAN RAIL TRACK CORPORATION

INFRASTRUCTURE, STRATEGY AND PERFORMANCE

Engineering Standards and Documents

The following recommendation, together with the attached supporting documentation, has been considered at the ARTC Safety Committee Meeting held on 12th December 2005.

Documents:

Ref No:	**08-08-10-022-** Equipment Type Approval
Subject:	'RTUnet' Kingfisher Telemetry Equipment
Dated:	28th November 2005

Prepared By: Arthur Haberlin, Signalling Engineer
Endorsed by: Trevor Moore, Signalling Standards Engineer

Items Considered for Approval:

Manufacturer:	RTUnet (Australia) Pty. Ltd.
Product:	Kingfisher Series 2 RTU
Item Identification:	See item list Ref No: **03-0509-016a**

The items in the form presented at the review date were approved for System & Equipment Approval to be used on all ARTC jurisdictions in accordance with the manufacturers published performance criteria and subject to the following.

Relevant ARTC Specifications:

Ref. No.	Title	Status	Date
SPS 02	Environmental Conditions	Issue 1 Revision 2	May '05
SCP 05	Electrical & Electronic Components (Ratings & Construction Requirements)	Issue 1 Revision 3	May '05

Specific Conditions of Approval:

i.	For use in accordance with standard typical circuits only.	
ii.	Only components from the list **03-0509-016aA** may be utilised.	
iii.	Each RTU which controls route setting or point control functions shall include at least two CP11 and two PS-x1 modules in hot standby configurations.	

Certificate Issued to:

RTUnet
Unit 8 / 3-5 Gilda Court,
Mulgrave Victoria 3170

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.

Approved for use in the ARTC.

APPROVAL No: 08-08-10-022

John Cowie
Manager Standards & Systems

AUSTRALIAN RAIL TRACK CORPORATION LTD

Ref No: 08-0509- 016a

Date: 28th November 2005

System & Equipment Approval
Subject: 'RTUnet' Kingfisher Telemetry Equipment

The following lists the individual types (by catalogue number) of Kingfisher Telemetry Equipment Modules by RTUnet (Australia) Pty. Ltd. which are approved for use in signalling circuits on ARTC infrastructure under System & Equipment Approval Certificate **08-08-10-022** subject only to any conditions shown on that Certificate and the Conditions of Use shown against individual types.

Catalogue No.	Mounting	Description	Conditions of Use
RTU Modules			
PS-11	Backplane	AC Supply	
PS-21	Backplane	DC Supply	
PC-1	Backplane	Power & Processor	Firmware to V1.34 or later.
CP-11	Backplane	Standard Processor	
CP-21	Backplane	Enhanced Processor	
MC-11	Backplane	Multi Communications	
DI-5	Backplane	Digital DC Input, 16 channel	
DI-10	Backplane	Digital AC or DC Input, 16 channel	
DO-1	Backplane	Isolated Relay Output, NO/NC, 8 channel	
DO-5	Backplane	Digital Relay Driver Output	Requires TEL REL 002 Relay Board.
TEL REL 002	DIN 35	SPDT Relay Board	For use with DO-5 Output Module.
Option Boards			Use with CP-11 or MP-11 modules.
SER-S	Plug-in	Standard Serial	RS232C only
SER-I	Plug-in	Isolated Serial	
V34-D	Plug-in	Dial	Boards labelled 'S2-V3420 REV 1.0' only to be used.
LINE-2	Plug-in	Audio Line	
E'NET (T option)	Plug-in	Ethernet	
E'NET (A option)	Plug-in	Ethernet (fibre optic cable)	
Fibre	Plug-in	Fibre Optic Serial	

AUSTRALIAN RAIL TRACK CORPORATION LTD

Catalogue No.	Mounting	Description	Conditions of Use
Backplanes			
BA-40	Surface	4 slot backplane	
BA-6	Surface	6 slot backplane	
BA-12	Surface or 19" Rack	12 slot backplane	19" rack mounting requires additional MBR-3 brackets.