Certificate of Acceptance

PA05/ 04168

Manufacturer:
Westermo

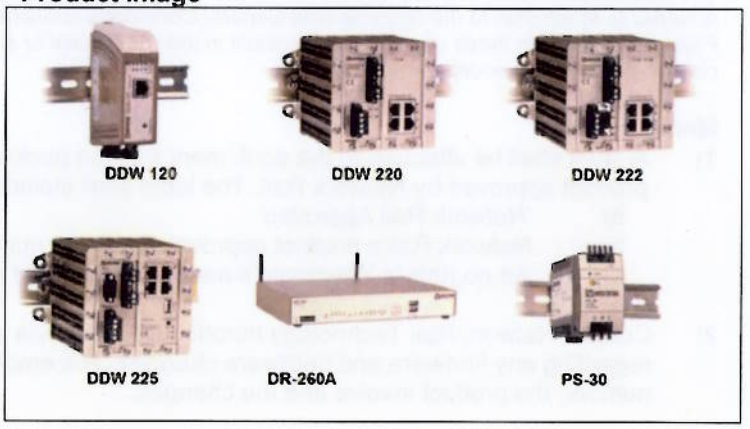
Issue : 6
Valid From : 10/07/14

Ethernet products range and associated parts

Product Description

- LAN extender (Ethernet over DSL)
- ASDL/ ADSL2+ Router
- AC to DC Power Supply. Low current unit for the DDW series.

Product Image



Scope of Acceptance

Full Acceptance

Equipment shall be used within the conditions stated within item "User" in "Specific Conditions" section of this certificate.

Network Rail Acceptance Panel (NRAP) hereby authorises the product above for use and trial use on railway infrastructure for which Network Rail is the Infrastructure Manager under the ROGS regulations.

Reviewed by:

2014.07.14
13:55:37 +01'00'

Steve Rennolds
Technology Introduction Coordinator

Authorised by:

16.07.2014

Dan Mandoc
Professional Head – Telecoms

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Specific Conditions

The following Conditions are specific to the approved product/s contained within this Certificate. These conditions must be adhered to in addition to the Network Rail General Conditions contained within the "General Terms and Conditions" section. Failure to adhere to these conditions may result in the withdrawal or suspension of Acceptance of some, or all of the items contained within the accepted configuration.

Manufacturer

1) A label shall be attached to the equipment and the packaging to indicate the equipment has been product approved by Network Rail. The label shall include;
   a) 'Network Rail Approved'
   b) Network Rail's product approval certificate number. In this case it is ' PA05/ 04168'
   c) Art no (this is Westermo's hardware and build number).

2) Contact Network Rail Technology Introduction group via technologyintroduction@networkrail.co.uk regarding any firmware and hardware changes. The emails shall include the certificate of acceptance number, the product involve and the changes.

User

1) Project shall make sure that the equipments are suitable to be used with the intended copper infrastructure and can support the intended application.
2) Project shall make sure the equipments are used at locations which conform with their EMC compliances. If in doubt, project shall consult an EMC expert to understand likely impacts and risks and take the necessary steps to mitigate these.
3) The project and maintainer shall check that the equipment has a label indicating that it has been product approved by Network Rail. Equipment without this label mean the equipment may be a variant which has not been approved by Network Rail.
4) STP cable shall be used.
5) Where the equipment has a telecom earth connection, this connection shall be connected to the local telecom earth.
6) **DDW-120, DDW-220, DDW-222, DDW 225 & DDW 226**
   a) The DDW-120, 220, 222, 225 and 226 are LAN extenders (Ethernet over DSL) and are suitable to be used in location which is subjected to the **railway EMC environment**. Only DDW-225 and DDW-226 can support VLANs.
   b) DDW-222 and DDW- 226 can provide RS232 pseudo wire over packet SHDSL link. The performance of this pseudo wire is around BER = 1.0 $x10^{-6}$. Only application which can tolerate this level of BER shall be supported by the pseudo wire.
   c) The DDW-225 and DDW-226 should only be used to support Ethernet applications which tolerate the following performance parameters per SHDSL link:
      i) Frame loss percentage 0.002 %
      ii) Jitter (max average) 4.0 mS
      iii) Latency 3.3 mS
   d) The DDW series shall be powered by Network Rail approved DC supply
7) DDW-120, DDW-220, DDW-222, DDW 225 & DDW 226 are loaded with their associated firmware. Where these equipments are used to form networks, the same firmware level shall be used on each type of DDW.

Manufacturer:
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Issue : 6
Valid From : 10/07/14

8) DDW equipment firmware upgrade is service disruptive.

9) **DR-250**

a) The DR-250 is an ADSL2/2+ router and is only suitable to be used at location which is subjected to **light industrial/ residential EMC environment** (more than 10m from the centre of the nearest track). The DR-250 is also End-of-Life.

10) **DR-260A**

a) The DR-260A is an ADSL2/2+ router and may be used in the place of DR-250 for new installation. As a fault replacement for the DR-250, DR-260A is not a direct replacement and setting from the faulty DR-250 can not be copied across to the DR-260A. The functions supported by the faulty DR-250 for the application need to be understood and converted to configuration for the DR-260A.

b) The dimensions of the DR-260A are different to that for DR-250.

c) Use at location which is subjected to **light industrial/ residential EMC environment** (more than 10m from the centre of the nearest track). It shall not be used in location which is subjected to railway EMC environment The DR-260A is also End-of-Life.

11) **DR-270A**

a) The DR-270A is an ADSL2/2+ router and may be used in the place of DR-260A for new installation. As a fault replacement for the DR-250 or DR-260A, the DR-270A is not a direct replacement and setting from the faulty DR-250/ DR-260A can not be copied across to the DR-270A. The functions supported by the faulty unit for the application need to be understood and converted to configuration for the DR-270A. Alternatively refer to Westermo's **"Migration Configurations To a DR-270 and MR-270v" document (AN-0178-ENG Rev1) for details of how configuration can be migrated into a DR-270A**

b) The dimensions of the DR-270A are different to that for DR-250 and DR-260A

c) Use at location which is subjected to **light industrial/ residential EMC environment** (more than 10m from the centre of the nearest track). It shall not be used in location which is subjected to railway EMC environment.

12) **PS-30**
The PS-30 is a DIN mounted DC power supply. The PS-30 is only approved to be used in location which is subjected to **heavy industry EMC environment** (more than 3m from the centre of the nearest track). It shall not be used at location which is subjected to railway EMC environment

Product Configuration

Hardware (Maintenance Spares and Line Replaceable Units)

Part No.	Description	Firmware	Comments	Catalogue No.
3622-0010	DR-250	5081	ADSL2/ 2+ Router. DR-250 is not available any more.	087/038360
3622-0210	DR-260A	5131 5162	ADSL2/ 2+ Router. DR-260A is end of life	087/038361
3622-0310	DR-270A	5202	ADSL2/ 2+ Router.	087/038368
3621-0110	DDW-120	N/ A	Point-to-point Ethernet extender over SHDSL	087/038362

Certificate of Acceptance PA05/ 04168

Manufacturer:
Westermo

Issue : 6
Valid From : 10/07/14

Part No.	Description	Firmware	Comments	Catalogue No.
3642-0200	DDW-220	1.13	Point-to-point Ethernet over SHDSL with 4 ports Ethernet Switch and two SHDSL line interfaces for a linear daisy chain network.	087/038363
3642-0220	DDW-222	1.13	Point-to-point Ethernet over SHDSL with 4 ports Ethernet Switch and two SHDSL line interfaces for a ring network. It also support RS232 over the Ethernet over DSL link..	087/038364
3642-0240	DDW-226	WeOS: 4.6.0, 4.9.0	Point-to-point Ethernet over SHDSL with 4 ports Ethernet Switch and two SHDSL line interfaces for a ring network. It also supports RS232 over the Ethernet over DSL link. Can also support VLANs. It is recommended that all DDW-226 in the same network work off the same firmware level. (WeOS 4.13.1 can not provide stable RS232 over Ethernet, hence not accepted for DDW 226)	087/038365
3642-0250	DDW-225	4.6.0, 4.9.0 4.13.1	Point-to-point Ethernet over SHDSL with 4 ports Ethernet Switch and two SHDSL line interfaces for a ring network. Can also support VLANs. It is recommended that all DDW-225 in the same network work off the same firmware level.	087/038366
3125-0001	PS-30	N/ A	DIN mounted DC supply. 24 VDC, 1.3A.	087/038367

Assessed Documentation

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
DDW-xxx series	NR/L2/TEL/30003 Testing on Westermo DDW120		25/11/09	T1
DDW-xxx series	NR/L2/TEL/30003 Testing on Westermo DDW222		25/11/09	T1
DDW-xxx series	Ray Lock's email to Tak Lam. Subject: DDW series. Regarding the copper line interface for the DDE series.		06/01/10	T1
DDW-xxx series	Network rail Acceptance response for DDW-120, DDW-220 and DDW-221 Reference PA05/04168. A Westermo document by Ray Lock		Undated	T1
DDW-xxx series	Environmental Test report DDW-220		08/04/03	T1
DDW-xxx series	User guides for DDW-120, DDW-220 and DDW-221		Undated	T1

Manufacturer:
Westermo

Issue : 6
Valid From : 10/07/14

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
DR-250	DR-250 user guide.		Undated	T1
-- --	Email from Phil Mounter to Tak Lam on 20/01/10, RE: DR-250 Router-Details. PA05/04168.	-- --	20/10/10	T1
-- --	Trial Report:: Westermo and RAD G.SHDSL.bis and ADSL/ADSL2+ modems (incorporating PA05/04168 and PA05/04166)	-- --	01/05/11	1
-- --	Supporting Note For the Westermo DDW Series and DR250.doc	-- --	21/07/11	1
-- --	Multiple Media Router ADSL DR-260 datasheet	-- --	Undated	1
-- --	Westermo Performance Test Report DDW-120 & DDW-222 Ethernet Extenders	-- --	27/08/10	1
-- --	04168-1 – DDW225, 226 & PS-30 PSU Acceptance Requirements-2 (verified & commented).doc	-- --	06/06/12	2
-- --	Email from Simon Rhodes to Tak Lam. Subject: Lynx & Wolverine WeOS Network Rail PADS		09/01/13	3
089604	Release Notes WeOS 4.9.0		11/06/12	3
TEL-T-0012-TL	Test Report- Westermo DDW 226 Bench Stability Testing: Inter firmware Compatibility Between 4.6.0 and 4.9.0, 4.6.0 and 4.11.0, 4.9.0 and 4.11.0	1	22/04/13	4
Westermo WeOS Firmware Product Approval	Email from Simon Rhodes (project which trial firmware 4.9.0). Stated that during the trial period the DDW 225 with 4.9.0 firmware operated in a stable manner.	-- --	22/04/13	4
	Email subject: PA05/04168 update of DR-260A firmware and new hardware DR-270A		11/11/13	5
AN-0178-ENG	Migration Configurations To a DR-270 and MR-270v	1	-- --	5
6622-2241 29000589	DR-270 User Guide	A	-- --	5
-- --	Declaration of conformity for DR-270A series and DR-270B series	-- --	30/7/13	5
-- --	DR-270 data sheet	-- --	-- --	5
Justification	PA05/ 04168 Up Lift to Issue 5 To Include DR-270A	-- --	03/01/14	5
Email from Vince Collis	amendment to firmware version on PADS PA05/04168 and PA05/05350 to v4.13.0 firmware release	--	22/10/2013	6
089604	Release Notes WeOS 4.13.0	--	12/07/13	6
089604	Release Notes WeOS 4.13.0	--	19/11/13	6

Certificate of Acceptance PA05/ 04168

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Certificate History

Issue	Date	Issue History
1	01/08/2011	First accepted for use
2	25/06/2012	Re-issued to amend scope of acceptance , specific conditions and add new items.
3	14/01/2013	Up issued to include trial of DDW-225 with firmware 4.9.0
4	23/04/2013	Included the firmware 4.9.0 and 4.11.0 for DDW 225 and DDW 226.
5	04/03/14	Included DR-270A and firmware v5162 for DR-260A
6	10/07/14	Include firmware 4.13.1 for DDW 225. Removed firmware 4.11.0 for DDW 225 and DDW 226

Contact Details

Manufacturer

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Manufacturer:
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Valid From : 10/07/14

General Terms & Conditions

1) General
1) This certificate can only be amended by Network Rail Technology Introduction Group. Any alterations made by a different person will invalidate the entire certificate.
2) Failure to abide by the requirements in this Certificate of Acceptance may invalidate the certificate, thereby restricting the right to operate the product and / or limiting the future supply and deployment of the product on the infrastructure.
3) Upon the review date this certificate and the product it relates to is invalid and not accepted for use. Manufacturers are to make an application for a review prior to the review date.

2) Manufacturer
The Manufacturer shall:
1) Ensure that all products supplied comply with the standards defined in the Acceptance Requirements or otherwise documented as part of the assessment, including meeting the reliability requirements included in the Acceptance Requirements and in any deed of warranty for the relevant certificate number.
2) Notify Network Rail Technology Introduction Group:
a. Within 48 hours, of any deficiencies affecting the quality, functionality or safety integrity of the product (including corrective action undertaken or proposed).
b. Of any intended change to the accepted product; changes include:
i. a change to the product configuration (to the actual product or its application);
ii. a variation to or addition of manufacturing locations or processes;
iii. a change in the name or ownership of the manufacturing company;
iv. any changes to the ability or intention to support with technical services, spares or repairs.
3) The Manufacturer shall provide Network Rail Technology Introduction Group at least 12 (twelve) months notice of its intention to discontinue supply or to provide such notice as is reasonable if such discontinuance is outside its control and will offer the opportunity of a Last Time Buy to Network Rail together with date for last order placement and supply of the parts affected. The introduction of proposed alternative products shall be communicated to the Network Rail Technology Introduction Group.
4) Provide further copies of operating and maintenance manuals to purchasers / users of the product as necessary (including certificates of conformance, calibration etc).
5) Provide further copies of training manuals and an appropriate level of training to purchasers or users of the product as necessary.
6) Where applicable, specialist technical support, repairs and servicing of the product shall be carried out by the Original Equipment Manufacturer (OEM) or authorised agent only.
7) Network Rail may request information from the manufacturer to prove product compliance with clauses 1 and 2 above and reserve the right to suspend and/or withdraw any application where information is not forthcoming within a reasonable timeframe.
8) In accordance with Network Rail's Quality Assurance Policy Statement 2011, where the specification and/or Product Acceptance Certificates specify quality assurance classifications (QA1 to QA5) for the products, the manufacturer shall comply with the specified level of quality assurance for each product and allow Network Rail access to carry out its quality assurance checks.
9) The manufacturer shall give Network Rail's representatives access at all reasonable times to its premises and allow them to inspect its quality systems and production methods and, if requested, to inspect, examine and test the products both during and after their manufacture and the materials being used in their manufacture.

3) Conditions of Use
Specifiers, installers, operators, maintainers, etc. using the product shall:
1) Comply with the certificate conditions. If a condition is not understood guidance must be sought from Network Rail Technology Introduction Group.
2) Check that the application of use complies with the relevant certificate's scope of acceptance.
3) Report any defect if it is a design or manufacturing fault likely to affect performance and/or the safe operation of the railway in writing to Network Rail Technology Introduction Group.
4) Inform Network Rail Technology Introduction Group in writing of a change to the product configuration (or to the actual product or its application).
5) Operate, maintain and service the product in accordance with Network Rail standards and Operation and Maintenance manuals as appropriate.
6) Be appropriately trained and authorised for the installation, maintenance and use of the product.
7) Only send products for repair or reconditioning to the Original Equipment Manufacturer (OEM) or authorised agent.
8) Users are to be aware that Product Acceptance is not a substitute for design approval.

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4) Compliance
Railways and Other Guided Systems (ROGS) Regulations
1) Where the product is to be used in areas where Network Rail is not the Infrastructure Manager (e.g. leased stations), the sponsor shall additionally obtain formal consent from the Infrastructure Manager for the locality where the equipment is to be installed. This may include a requirement for additional safety verification. The decision of that Infrastructure Manager is binding, and cannot be overridden by Network Rail except by the escalation processes established in the ROGS regulations
2) As required in Railway Group Standard GE/RT8270, at each use of this product the project or group responsible for installation and commissioning shall be required to demonstrate compatibility with:

a. All rail vehicle types that have access rights over the area affected by the change
b. Infrastructure managed by others
c. Neighbours.
Railway Interoperability Regulations
3) For interoperable constituents of systems the project or group responsible for installation and commissioning shall be required to demonstrate compliance with the relevant Technical Specifications for Interoperability (TSI) where appropriate.
4) An authorisation from the national safety authority (i.e. the Railway Safety Directorate of the Office of Rail Regulation) is required before the equipment is to be used in revenue earning service.

5) Supply Chain Arrangements
1) Certificates of acceptance do not imply any particular quantity of supply nor any exclusivity of supply.
2) Products may be purchased by Network Rail or its agents, suppliers or contractors.
3) Manufacturers should note that it is not necessary to enter into any exclusive supply arrangements with resellers or other suppliers