

SmartPatch Intelligent Management System



Real Time Visibility

Ultimate Flexibility

Scalable and Modular

Greater Availability - Lower Service Cost

Better Utilisation of Installed Capacity

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Challenges and Drivers

In today's world of high speed connectivity the importance of 100% availability of Information Communication Technology (ICT) services is business critical. The introduction of best practice standards for this service management and with the dependency on the availability of information continually increasing, businesses are required to proactively react to these ever changing developments.

At the core of any IT Service Management framework are the configuration, change and incident management processes. The accuracy and quality of the information contained within the main configuration is vital in ensuring the effectiveness, efficiency and quality of all associated applications.

Traditionally, configuration management is one of the most difficult disciplines to implement due to the manual effort needed to maintain accurate records of the constant changes to the IT infrastructure. The management of changes is also highly critical, as service delivery managers must know the exact implications of carrying out any changes before they take place.

SmartPatch has been designed with these challenges in mind. It is a solution that is universally recognised for the ultimate levels of flexibility, efficiency and network security it provides.



Infrastructure Choices

The infrastructure of any Data Centre, enterprise or campus environment is an integral and vital element of the network, yet the management of the physical layer is exceptionally challenging. Consistent misuse of the infrastructure can have a negative impact on reliability, efficiency and quality while also resulting in significant associated costs. Creating systems and processes based upon more traditionally managed cabling infrastructures can be an almost impossible task. As a result, Brand-Rex has developed an innovative Intelligent Infrastructure Management Solution that will support this challenging and demanding requirement.

SmartPatch – the Smart Choice

SmartPatch provides an auto-routing capability within its work order management function that automatically designs routes for the required services to the necessary location and via the most efficient and effective cable links available.

The work orders required to execute the activity are systematically created, issued and managed by the SmartPatch system. Any actions that do not adhere 100% to the work order are instantaneously identified and rectified if required.

Utilising SmartPatch to automatically provision services within a standard office environment could improve change efficiency (and hence reduce cost) by 40% or more. Within the Data Centre IIM has been proven to reduce server service provisioning times by up to 80% whilst simultaneously reducing the number of incidents caused by poorly executed change. If incidents occur SmartPatch can dramatically reduce mean time to resolution (MTTR) by up to 40% making it the intelligent choice for your network.

SmartPatch Building Blocks

The migration to intelligent buildings and smart cities requires a logical and flexible upgrade path. SmartPatch Intelligent Management Solution is a modular based system which provides the flexibility and support required to efficiently meet business needs.

The range offers the building blocks for the next generation in Intelligent Management, including Connectivity Management Software (CMS) and an Intelligent Patching System (IPS).

Both the hardware and software have been designed in harmony ensuring physical network connections can be monitored, managed and maintained through their installed life.

System benefits:

- Reduced Cost and Increased Effectiveness of IT Operations
- A Platform for High Availability Network Management Services
- Improved Customer Responsiveness
- Improved Information Quality
- Enhanced Physical Security



Fully modular and scalable design options

SmartPatch is an advanced overlay system allowing network managers the opportunity to have real time visibility of network connectivity and utilisation.

The system provides simple, controlled management and recording of common network changes such as those forced by office moves, changes and terminal additions. SmartPatch also gives multi-site businesses the tools to effectively monitor and manage all sites from a central location.

The range includes Connectivity Management Software (CMS) that can be utilised as a standalone offering to support your End to End infrastructure or combined with the Intelligent Patching System (IPS) to fully support Data Centre, outside plant or the enterprise network management.

The modular and scalable design of SmartPatch supports not only the continually evolving technologies but also the varying user requirements. Intelligent Ready, Software Only and Fully Intelligent options ensure it is the most flexible and competitive offering on the market.

Features and Benefits

Visibility – Real time monitoring, maintenance and control over all Physical Connectivity

Integration – Compatible with most IT Service Management tools & databases

Comprehensive Management - Network, Asset, Helpdesk & Facilities Management Systems

Traceability – Full visibility and history of all moves, adds and changes and a detailed records of all incidents affecting the physical infrastructure

Efficiency - Operates on multiple network/database platforms and supports Change, Configuration & Incident Management Processes

Productivity - Powerful reporting & search capability and better utilisation of the installed capacity

Scalability – The modular build of the software allows the simple migration from a passive to intelligent system

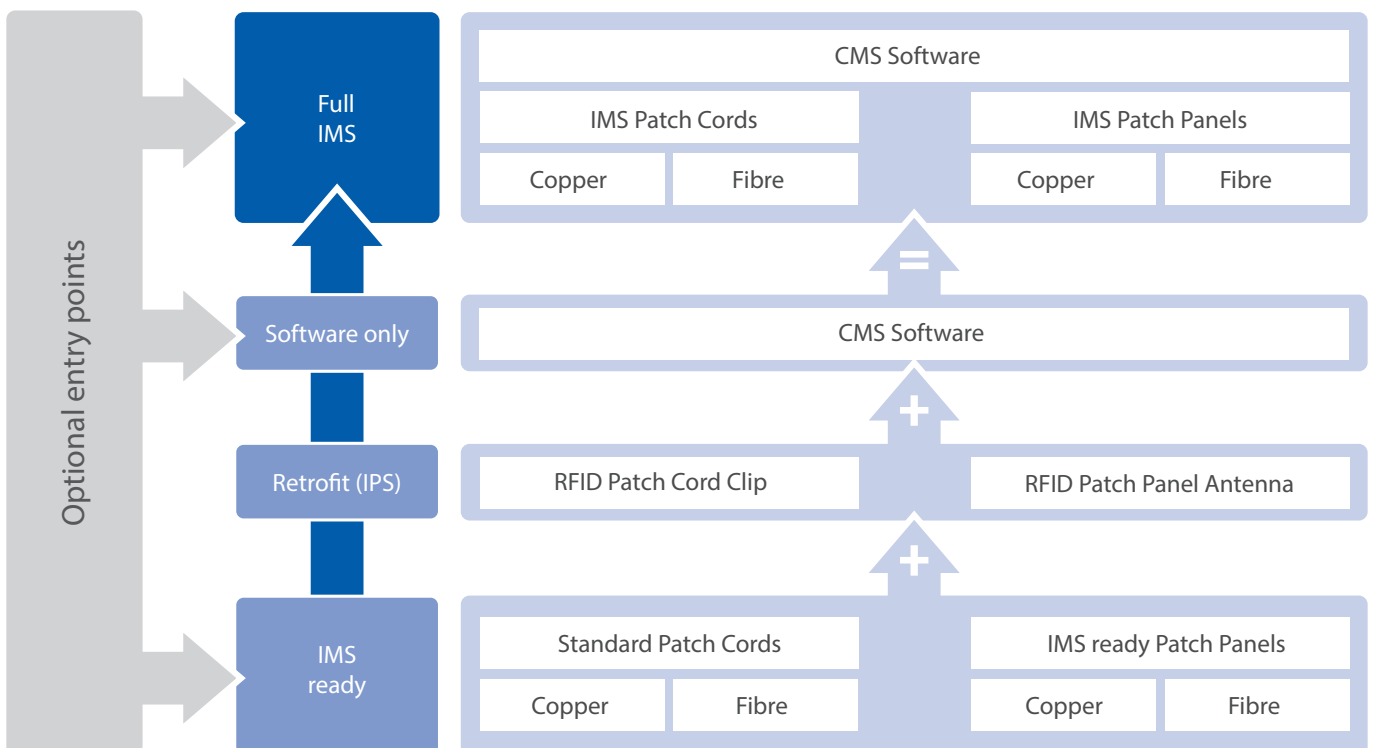
Security – Quick and automated fault identification in addition to minimised patching errors

Connectivity Management Software (CMS)

The connectivity management software can be utilised as a standalone offering to support your End to End infrastructure or combined with the intelligent patching system to fully support Data Centre, outside plant or office network management. The software element of CMS not only allows the monitoring and management of physical connectivity but the availability of a fully transparent API means the benefits of accurate, real time information can also be integrated into the most commonly available networks, facilities, configuration and helpdesk management applications.

Specialised needs - A solution designed for Network and IT Managers

As the size of the network grows from small to medium to large, so too does the complexity of the project. Fully optimising the efficiency of the Enterprise or Data Centre drives the need for a more extensive management tool. SmartPatch provides that level of functionality, clearly defining cable and device usage, locality and rack elevation, all contained in an intuitive hierarchical and graphical view.



In medium to large networks, maintaining that level of information on single or multiple locations can be difficult. The CMS makes it easy to enter, update and understand the connectivity availability of the network. The user friendly interface ensures an effortless and rapid ability to establish and inspect connections within splice enclosures, patch panels, optical network devices and passive optic network (PON) splitters used in FTtx applications.

The flexibility of the software allows IT managers to establish a named cable path from one part of the network to another. Even though it encompasses many elements such as copper, fibre, splices and ports, this named circuit can be managed as a single entity within the network, and can include point-to-point connectivity between the central office, NOC or POP and a customer site. The Connectivity Management Software also allows maps, drawing files or .pdf/images to be imported ensuring the user can customise the network relative to specific area and location requirements.

Applicable to a wide-variety of campus networks such as Education, Healthcare, General office and industrial buildings, the CMS delivers a complete solution for the design and management of the assets and connectivity within the physical layer network.

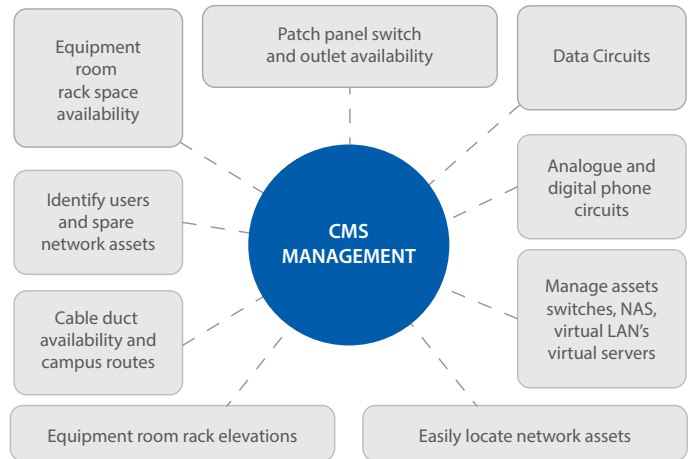
Connectivity Management interface enables the user to:

- Generate and maintain campus map layouts
- Design and manage your campus backbone cabling
- Visualise the paths of cables through a campus
- Easily manage fibre backbone availability
- Manage cabling and assets in manholes
- Manage fibre splicing and air blown fibre
- Generate routes for new cables

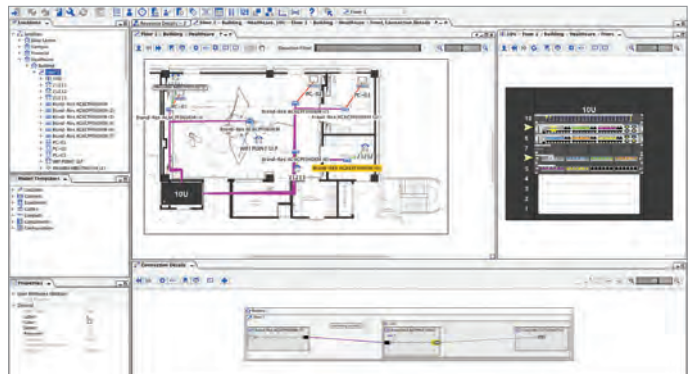
The often daily moves, add's and changes in the enterprise align the network equipment with user needs and ensure they are supporting disciplined process management. The software provides a solution to easily manage assets and connectivity from equipment rooms and Data Centre floors to the workspace environment while also efficiently supporting the physical network.

Providing a powerful solution for the management of Data Centre floors, racks, IT assets, energy resources and end-to-end cabling - assisting the user to:

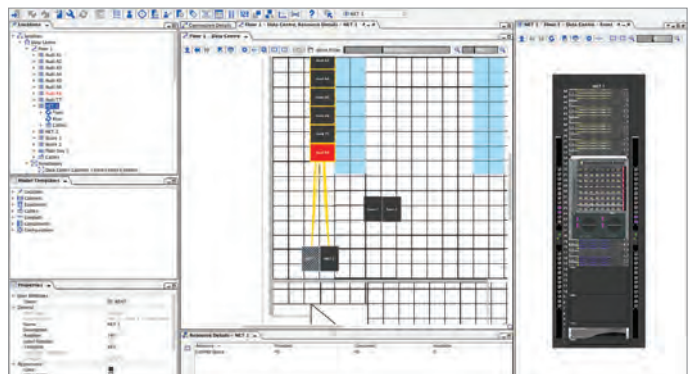
- Manage end user space in collocation Data Centre
- Manage and plan rack space usage and power consumption
- Manage the lifecycle of Data Centre assets
- Manage Data Centre floor space
- Manage the impact of loss of power and network connectivity
- Manage 'Moves', 'Adds' and 'Changes' efficiently
- Data mine assets and connectivity for engineering and management reporting



CMS allows visibility of campus level networking, including detailed management conventional and air-blown fibre.



Detailed floor plans at room level offer the network manager accurate references for moves, adds, changes.



CMS can create a real-time visualisation of server room equipment and patching down to panel and port level.

SMARTPATCH INTELLIGENT PATCHING SYSTEM (IPS)

Intelligent Ready

The Intelligent Patching hardware from Brand-Rex provides support in building a sophisticated intelligent infrastructure management solution.

A topology of scanners and intelligent patch panels, send and receive connectivity updates into the Connectivity Management Software (CMS) application, providing real-time data and automatically updated records.

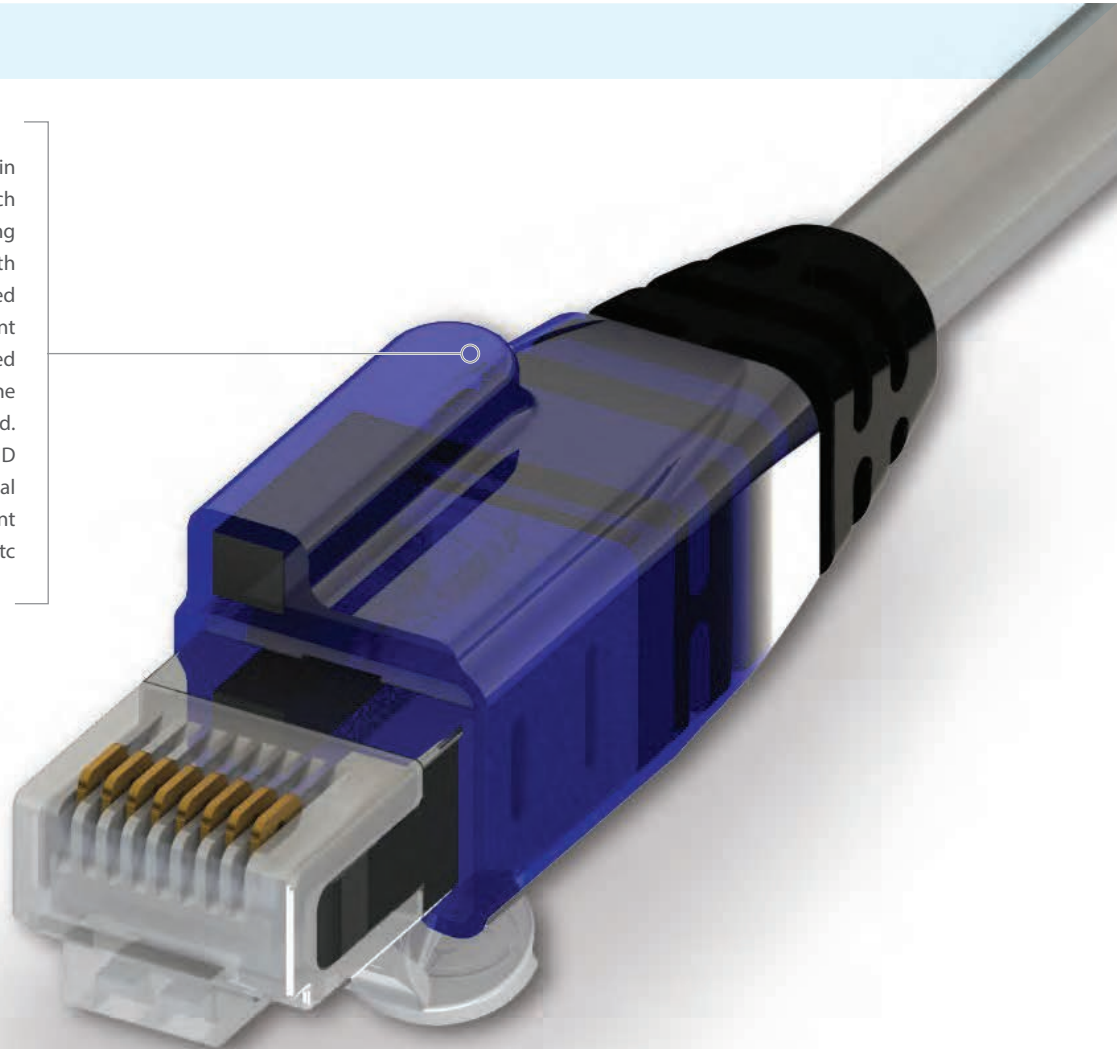
The system supports the full range of Brand-Rex solutions (Cat6Plus, 10GPlus and fibre solutions) based on modular panels that can easily be migrated from intelligent ready to fully supported network management.

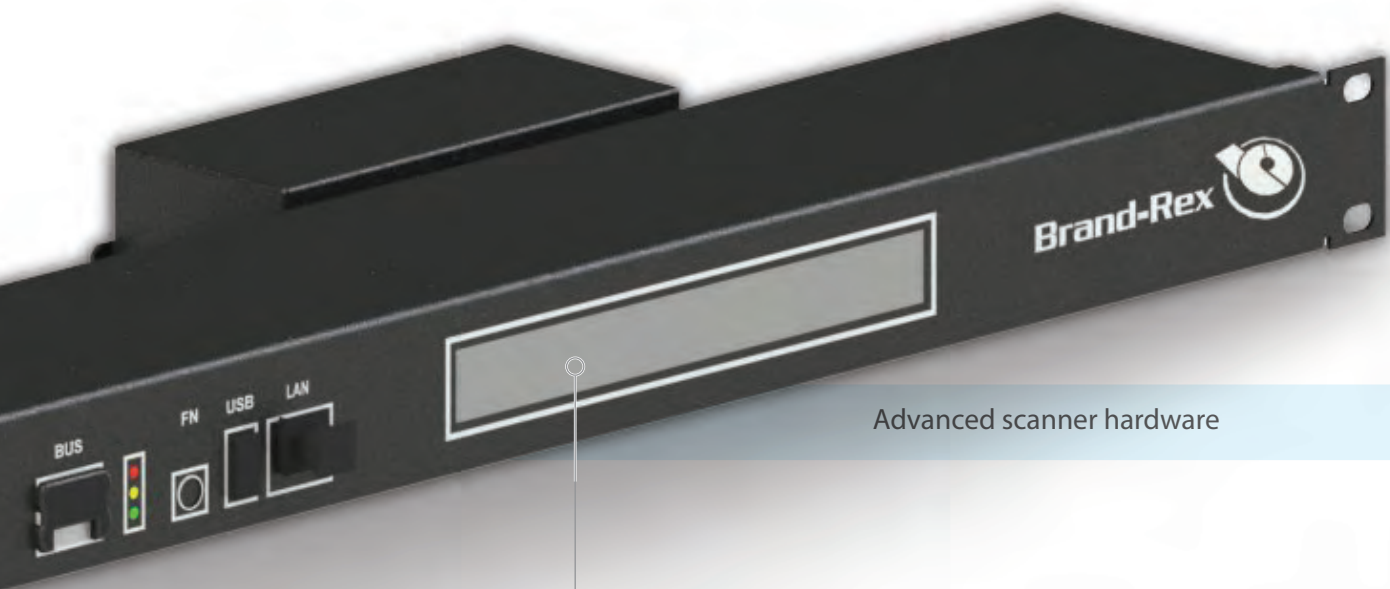
By adding an RFID migration package that contains RFID antenna strips, retrofit clips for both fibre and copper patch leads and a highly sophisticated Network scanner the intelligent ready panels can be migrated to fully support intelligent management without disturbing the current connections.

This offers the perfect return on investment ratio – installing a 'standard' solution today and having the flexibility to migrate to full intelligence as and when required.

Retrofit copper patch cords

The unique retrofit clip forms the key in connecting your standard 8 wire patch leads to the SmartPatch intelligent patching system. This clip is compatible with Brand-Rex Cat6Plus and 10GPlus screened cords providing the system with intelligent information. These clips can be mounted easily at any stage in the process even if the live connections are already established. Within the clip a powerful and unique RFID tag is integrated which can store additional information such as, length, measurement reports, location, etc



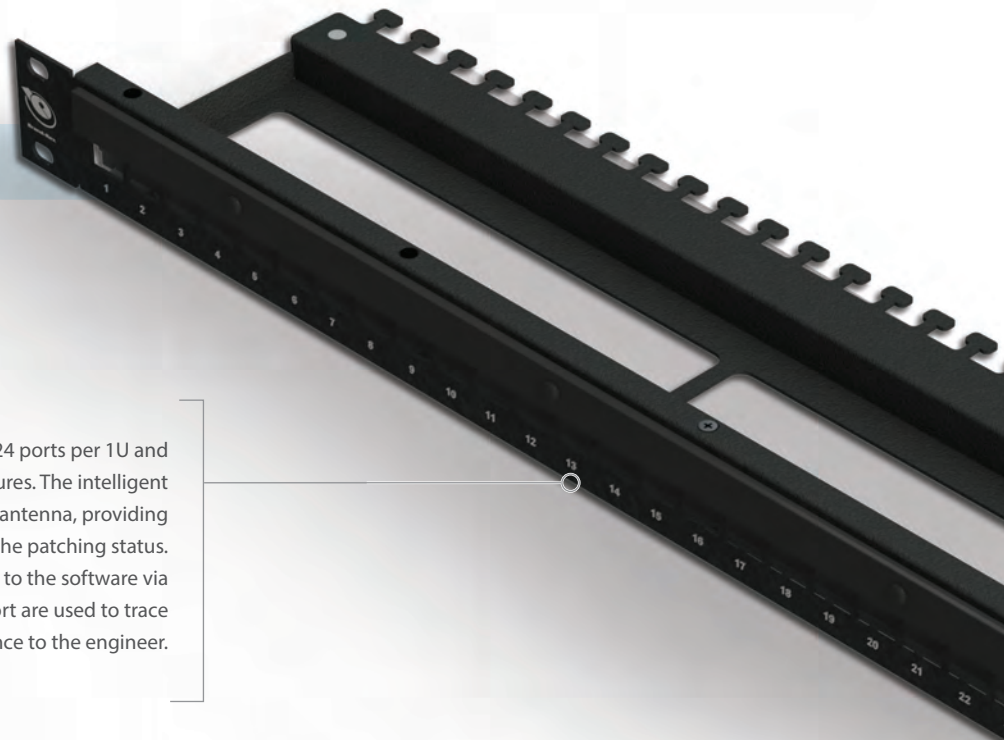


Advanced scanner hardware

The SmartPatch Network Scanner from Brand-Rex connects the Intelligent patching panels to the SmartPatch connectivity management software. The network scanner can be mounted as a 1u device or but also has zero "u" option. The SmartPatch Network Scanner is suitable for installation in equipment racks or cabinets for use with all approved Brand- Rex IPS panels.

Intelligent copper panels

SmartPatch IPS Copper Patch Panels offer 24 ports per 1U and include integrated cable management features. The intelligent ready panel can be loaded with an RFID antenna, providing the ability to monitor and record the patching status. This information is communicated back to the software via network scanner. The LED's above each port are used to trace connectivity or to offer patching guidance to the engineer.



Intelligent fibre panel



The SmartPatch 1U fibre 19" Optic Patch Panels have been designed to optimise both the internal fibre management but also to add greater fibre density. The Patch Panels offers a flexible and highly versatile solution for optical splicing and patching. The integrated design features ensure that even once installed panels can be readily re-configured to accommodate the changing needs of today's high speed networks.

The intelligent ready panel can be loaded with an RFID antenna, providing the ability to monitor and record the patching status. This information is communicated back to the software via network scanner. The LED's above each port are used to trace connectivity or to offer patching guidance to the engineer.

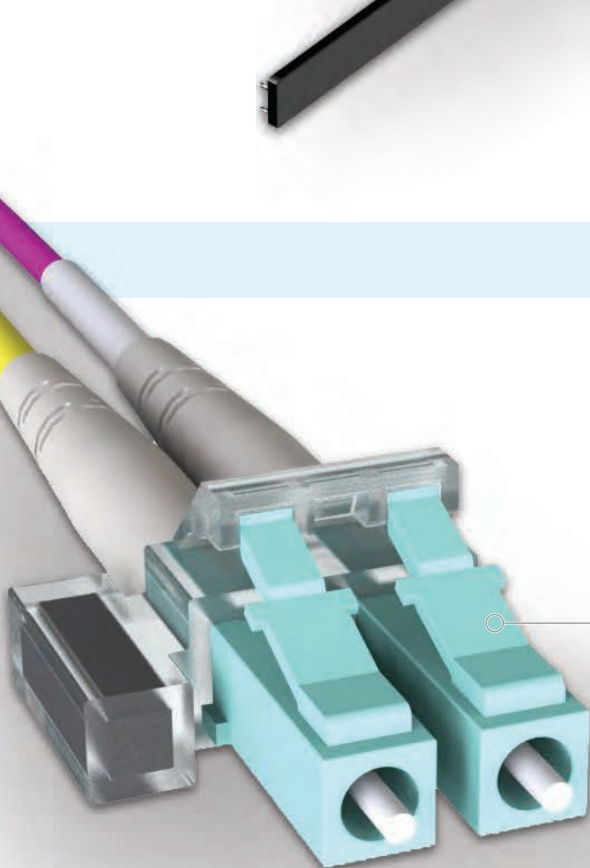
IPS retrofit antenna

The SmartPatch Intelligent Patching System (IPS) RFID antenna kit for Copper and Fibre allows customers to migrate from the Brand-Rex ready solution to fully intelligent panels.



RFID Fibre Clip

A specially designed fibre clip transforms standard Brand-Rex patchcords into intelligent cords fully integrating them into the SmartPatch system. These clips can be mounted easily at any stage in the process even if the live connections are already established. Within the clip a powerful unique RFID tag is integrated which can store additional information including length, measurement reports, location, etc.



IPS hardware

Part Number	Description	Colour
IPSRU1U2	1U Network Scanner	Black
IPSRU0U2	Zero U Network Scanner	Black
IPSATTRFID002	Antenna KIT Fibre with Jump lead	Black
IPSATTRFID001	Copper antenna KIT	Black
IPSC1SXMM48LC2-X	1U 48f LC Duplex Multimode Fibre panel IMS Ready (MM)	Black
IPSC1SXSM48LC2-X	1U 48f LC Duplex Singlemode Fibre panel IMS Ready (SM)	Black
IPSC1SXMM48LC2	1U 48f LC Duplex Multimode Fibre panel IMS (MM)	Black
IPSC1SXSM48LC2	1U 48f LC Duplex Singlemode Fibre panel IMS (SM)	Black
IPSPNLX24SIJ2M-X	1U 24 SIJ Inline Copper panel (IMS Ready)	Black
IPSPNLX24SIJ2M	1U 24 SIJ Inline Copper panel (IMS)	Black
IPSPCCLPLCD	RFID Clip LC Patchcord clip	Transparent
IPSPCCHB004	RFID copper patchcord Clip 10GPlus	Blue
IPSCON6WV90	Crimp Bus cable connectors (Inline Daisy chain)	Black
IPSCON6W180	Crimp Bus cable connectors (Cable end termination x 2)	Black/Red
IPSTCBL6W2	Bus Cable (Tape type 6 x 26awg) (25m coil)	Gray

CMS software (In-house)

Part Number	Description	
IPSSWSVR20R	SmartPatch enhanced software - Server-In-house-20 racks	Basic Requirement*
IPSSWSVRA1RE	SmartPatch enhanced software - Server - In-house - Racks Expansion to 30 racks (10 racks expansion)	Extension package possibilities when using IPSSWSVR20R as the basic requirement
IPSSWSVRA2RE	SmartPatch enhanced software - Server - In-house - Racks Expansion from 31 to 390 racks (10 racks expansion from 31 to 390 racks)	
IPSSWSVRA3RE	SmartPatch enhanced software - Server-In-house - Racks Expansion from 391 racks (10 racks expansion from 391 racks)	
IPSSWSVRA5P	SmartPatch Managed Ports 500 ports	

Feature upgrade CMS software (In-house)

Part Number	Description	
IPSSWSVRA1RFU	SmartPatch enhanced software - Server - In-house - Feature Upgrade to 30 racks	Upgrade package possibilities when using IPSSWSVR20R as the basic requirement
IPSSWSVRA2FU	SmartPatch enhanced software - Server - In-house - Feature Upgrade from 31 to 390 racks (10 racks expansion from 31 to 390 racks)	
IPSSWSVRA3FU	SmartPatch enhanced software - Server - In-house - Feature Upgrade from 391 racks (10 racks expansion from 391 racks)	

CMS bridge software (In-house)

Part Number	Description	
IPSSWSVRGISI	SmartPatch enhanced software - Server - In-house - GIS integration	System integration possibilities when using IPSSWSVR20R as the basic requirement
IPSSWSVRSDIB	SmartPatch enhanced software - In-house - Switch Data Synchronization Bridge	
IPSSWSVRDIB	SmartPatch enhanced software - Server - In-house - Data Integration Bridge	

CMS support

Part Number	Description
IPSSWSVRSAE	SmartPatch enhanced software - Service Agreement

* Restricted to 12 user-defined attributes, 10 reports, 20 work orders, 2 resources and does not include access to the API other than via the standard bridges. Feature upgrade up to 30 racks. Unrestricted user-defined attributes, reports, work orders, resources, 3D visualization and full access to the API.

CMS software (SaaS)

Part Number	Description	
IPSSWSVR20R-CA	SmartPatch enhanced software - Software as a Service - 20 racks annual contract	Basic Requirement*
IPSSWSVRA1RE-CA	SmartPatch enhanced software - Software as a Service - expansion to 30 racks annual contract (10 racks expansion SaaS)	Extension package possibilities when using IPSSWSVR20R-CA as the basic requirement
IPSSWSVRA2RE-CA	SmartPatch enhanced software - Software as a Service - Expansion from 31 to 390 racks (10 racks expansion SaaS)	
IPSSWSVRA3RE-CA	SmartPatch enhanced software - Software as a Service - Expansion from 391 racks (10 racks expansion SaaS)	
IPSSWSVRA5P-CA	SmartPatch Manage Managed Ports software - Software as a Service 500 ports year contract	

Feature upgrade CMS software (SaaS)

Part Number	Description	
IPSSWSVRA1RFU-CA	SmartPatch enhanced software - Software as a Service - Feature Upgrade to 30 racks annual contract	Upgrade package possibilities when using IPSSWSVR20R-CA as the basic requirement
IPSSWSVRA2FU-CA	SmartPatch enhanced software - Software as a Service - Feature Upgrade from 31 to 390 racks annual contract (10 racks expansion SaaS)	
IPSSWSVRA3FU-CA	SmartPatch enhanced software - Software as a Service - Feature Upgrade from 391 racks annual contract (10 racks expansion SaaS)	

Feature Upgrade CMS bridge software (SaaS)

Part Number	Description	
IPSSWSVRGISI-CA	SmartPatch enhanced software - Software as a Service - Manage SaaS GIS integration annual contract	System integration possibilities when using IPSSWSVR20R-CA as the basic requirement
IPSSWSVRSDIB-CA	SmartPatch enhanced software - Software as a Service - Switch Data Synchronisation Bridge annual contract	
IPSSWSVRDIB-CA	SmartPatch enhanced software - Software as a Service - Data Integration Bridge	

* Restricted to 12 user-defined attributes, 10 reports, 20 work orders, 2 resources and does not include access to the API other than via the standard bridges. Feature upgrade up to 30 racks. Unrestricted user-defined attributes, reports, work orders, resources, 3D visualization and full access to the API.

Tools

Part Number	Description
IPSCRT00L2	Bus connector Crimp Tool
IPSRFIDRW2	HF RFID writer / reader

Brand-Rex is a leading technology company who design, develop and manufacture innovative fibre and high-end copper connectivity solutions for the network infrastructure cabling market and high performance cables for extreme environment applications.



operating territories

brand-rex head office
viewfield industrial estate
glenrothes, fife
KY6 2RS
united kingdom

tel: +44 (0) 1592 772124
fax: +44 (0) 1592 775314

brand-rex asia pacific
17/F prosperity centre
77-81 container port road
kwai chung
hong kong

tel: +852 (0) 3620 2602
fax: +852 (0) 3621 0018

brand-rex central and eastern europe

tel: +420 (0) 222 363 657

brand-rex france
120, rue jean jaurès
92 300 levallois perret
france

tel: +33 (0) 1 70 98 78 25
fax: +33 (0) 1 70 98 78 36

brand-rex germany
storkower str.115
10407 berlin
germany

tel: +49 (0) 30-290278-399
fax: +49 (0) 30-290278-397

brand-rex india, middle east & africa
aspect tower - business bay
office No. 2206 zone b
PO Box 123908
dubai
united arab emirates

tel: +971 (0) 4 454 8644
fax: +971 (0) 4 451 8660

brand-rex italy
via giovanni da udine, 34
20156 milano
italy

tel: +39 (0) 02 3809 3711
fax: +39 (0) 02 30412014

brand-rex italy
viale di trastevere, 248
00153 roma
italy

tel: +39 (0) 06 8360 0665

brand-rex nordic
tel: +46 (0) 704 621 950

brand-rex portugal
lagoas park edificio 8 – piso 0
2740-244 porto salvo
portugal

tel: +351 (0) 21 421 4133
fax: +351 (0) 21 421 4135

brand-rex russia
tel: +7 499 7097066

brand-rex spain
avda puente cultural
10 edif a, pt 1 puerta 1
28702 san sebastián de los reyes
spain

tel: +34 (0) 914 905 919
fax: +34 (0) 916 573 331

brand-rex uk
72 cannon street
london
EC4N 6AE
united kingdom

tel: +44 (0) 207 489 7637
fax: +44 (0) 207 113 2239

brand-rex high performance solutions
west bridgewater street
leigh, lancashire
WN7 4HB
united kingdom

tel: +44 (0) 1942 265500
fax: +44 (0) 1942 265576

www.brand-rex.com
marketing@brand-rex.com

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