

# Dataplex

## DPX-596-01 (standard) and DPX-596-02 (SCATS®) Router

Wireless 4G/5G, Bluetooth (AddInsight®) and Wi-Fi optional (future)  
Dual SFP Fibre (NBN compatible - Australia) Managed Router (in development)

Overview - Rev 1.7 Aug 2023



The Dataplex DPX-596 is a reliable high-quality, high-speed LAN/WAN router for SCATS® and/or non- SCATS® industrial applications. The compact multi-application design gives diverse data connectivity.

- **DPX-596-01** Intended for standard (non-SCATS®) applications, e.g., CCTV, VMS/VLSL etc.
- **DPX-596-02** has the male DE-9 connection and SCATS® serial protocol interface code, SD card configuration and DPX\_Configure interface for console operation.

DPX-596 delivers high-speed wireless 4G LTE / 5G (4G – potentially supporting several module brands and types) with Wi-Fi and Bluetooth sensing optional. Fast connectivity provides low latency and high- performance for applications such as live streaming traffic flow and motorway CCTV cameras etc.

Optional Dual SIM\* for 4G LTE or 5G modem capability allows connectivity redundancy. Multiple networks can operate simultaneously. Redundancy can be supported via timeout and switchover or dual-homed IP paths.

Dual SFP slots facilitate connection to NBN FTTP links; alternatively support single or multiple-ring topologies/applications for e.g., motorways or rail corridors.

Supports ADSL2+/VDSL2 via SFP or M.2 modem module. DPX-596-02 supports SCATS® serial to Ethernet conversion.

### Features

- 4G/5G dual SIM capable operation with optional dual SIM cards (\* depends on Mobile Broadband module used, if dual SIM is supported).
- Provision for eSIM.
- 2 x SFP for Fibre modules e.g., NBN FTTP (Fibre) GPON interface or OT Fibre network
- SD card for configuration and storage (single SIM version)
- 4 x Gigabit Ethernet LAN/WAN ports
- Dedicated 1 x TIA-232 DE-9 DTE male for serial connections available.
- DPX-596-02 offers serial Traffic Signal Controller (TSC) SCATS® communications.
- 1 x USB-A (compatible with serial converters) and 1x USB-C (console)
- 4G/5G wireless can provide backup to NBN FTTP or OT Fibre network communications.
- Optional M.2 internal ADSL/VDSL Option (ADSL/2/2+ Annex A/M, VDSL2, Vectoring & Profiles 8,12,17a,35b)
- Optional (future development) Wi-Fi/Bluetooth (AddInsight® compatible) module for traffic monitoring.
- CLI console interface via OpenWRT
- Intelligent network monitoring allows DPX-596 to re-connect automatically or failover to an alternative path. SNMP v3 supported. (DPX-596-02 will have DPX\_Configure available Q3 2023).

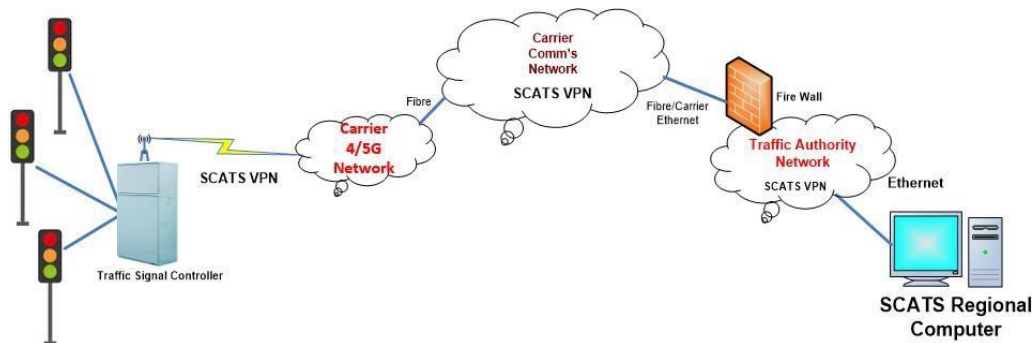
## DPX-596-02 SCATS® Functional/Operational Overview

### General

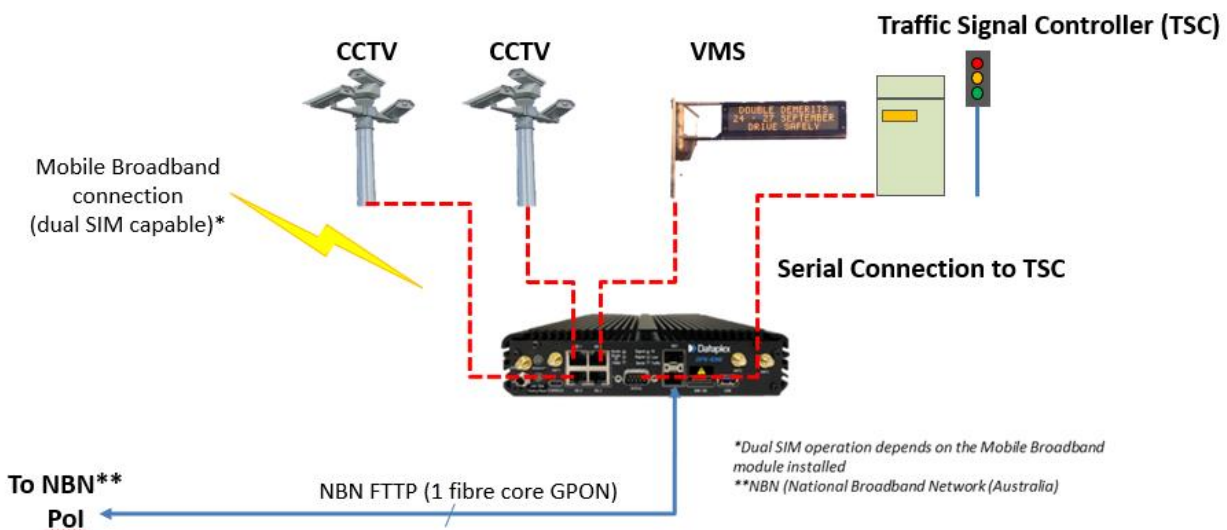
The DPX-596-02 wireless 4/5G router can be used by traffic signal controllers (TSC) for communication between SCATS® Regional Computer and the serial port of the TSC via Mobile broadband (4G/5G) and/or Optical Fibre SFP modules. The DPX-596-02 is designed to operate in accordance with (TSI-SP-018) TfNSW Specification.

*\* Future Development - Ethernet TSC connection can be directly connected and SCATS® protocol can be monitored for SCATS® ID and Authentication servers in use which could be relayed to SNMP, SCATS® or other monitoring systems.*

### Typical Mobile Broadband SCATS® Application Network Diagram (examples)



### DPX-596 NBN\*\* FTTP with 4G/5G backup (SCATS® operation supporting TSC comms)



#### Notes:

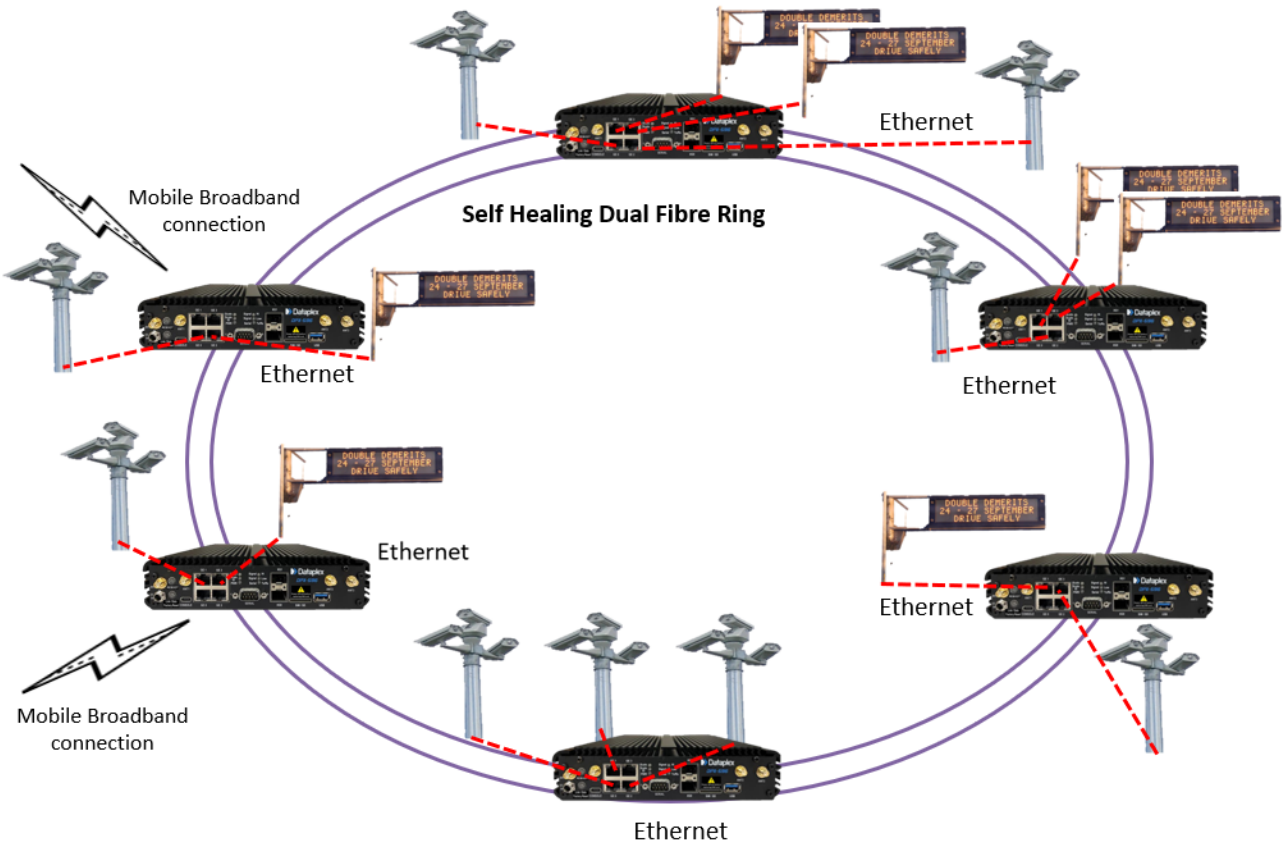
1. Dual SIM capable operation\*
2. 4 x Ethernet LAN ports
3. 2 x SFP for Fibre incl. NBN\*\*FTTP (Fibre) GPON interface
4. 4G/5G can provide backup to NBN\*\* FTTP comms
5. TSC comms via Serial Connection

The DPX-596 4G/5G modem comprises device server with optional web/CLI/DPX\_Configure console control interface and can be controlled locally or remotely via serial or IP protocols.

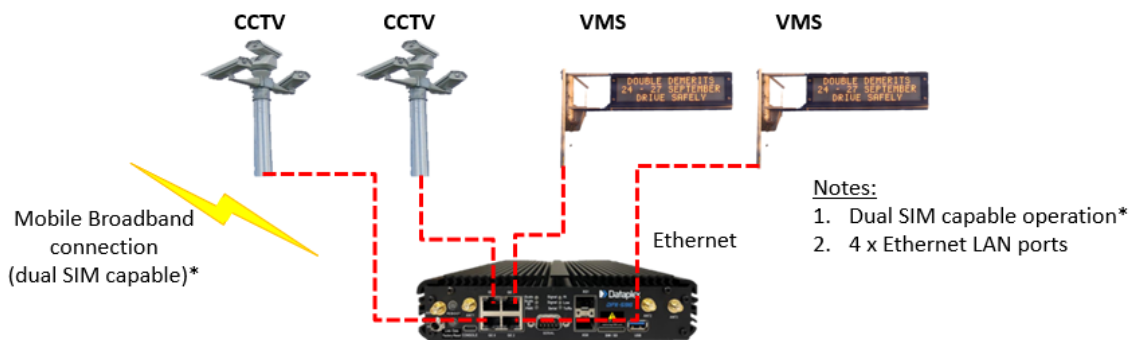
## DPX-596 (NBN-FTTP) SCATS® and non-SCATS® Functional/operational applications

The DPX-596-01/02 can provide communications using NBN FTTP (Fibre) GPON interface and OT Fibre network for ITS applications such as live streaming CCTV traffic flow cameras and VMS information. Application examples are as follows:

### DPX-596 OT fibre (dual-ring) with 4G/5G backup



### DPX-596 4G/5G comms (Dual SIM capable\* – dependent on MB module)

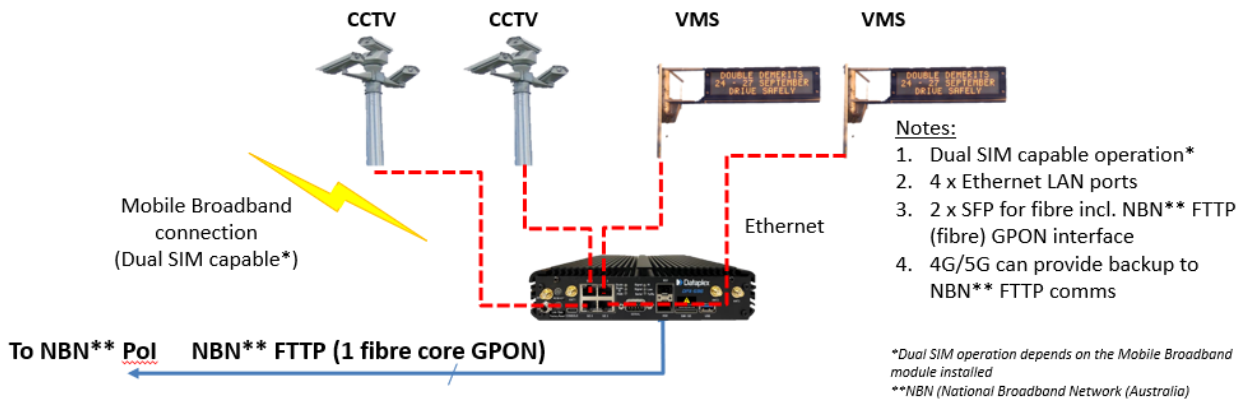


**Notes:**

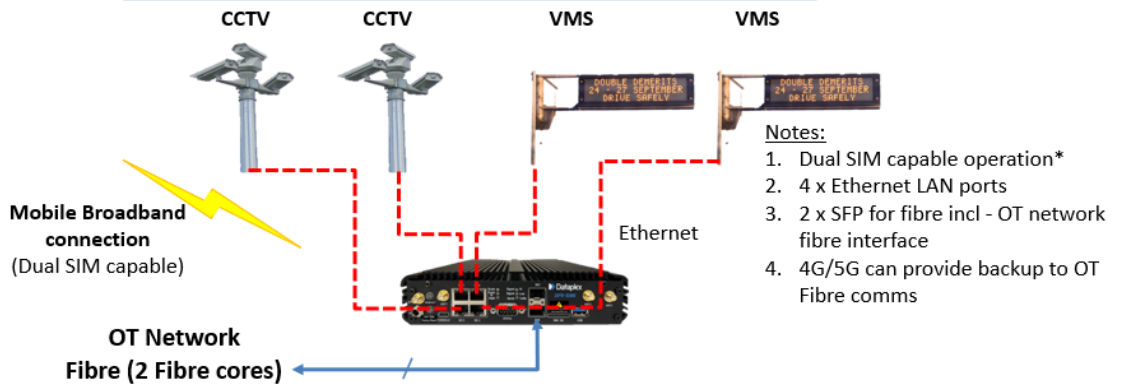
1. Dual SIM capable operation\*
2. 4 x Ethernet LAN ports

\*Dual SIM operation depends on the Mobile Broadband module installed  
 \*\*NBN (National Broadband Network (Australia))

**DPX-596 NBN\*\* 1 x (Fibre core) FTTP with 4G/5G backup**



**DPX-596 OT 2 x Fibre core with 4G/5G backup**



- SCATS® is a registered trademark of Transport for New South Wales
- Dual SIM capability depends on Mobile Broadband module used.

## SPECIFICATIONS

### External Interfaces

Ethernet 10/100/1000 Mbps	4
Ethernet 10Gbps (SFP+)	2
USB 3.0 type A	1
RS232 Serial port for TSC (for SCATS® Communications)	1
USB Console port	1
Combo SD/SIM card	1 x (Mini SIM) & 1 x SD &/or 1 x std SIM
Carrier slot	(*Future eSIM may be supported)
Antennas	4G and 5G

### LTE Modem Options *(specifications depend on MB module used):*

#### LTE CAT 4

2G Category	Class12
3G Category	R7 (21Mbps Downlinks, 5.76Mbps Uplink)
LTE Category	(150Mbps Downlink, 50Mbps Uplink)
LTE Category	6 (300Mbit/s Downlink, 50Mbit/s Uplink)
LTE FDD bands	B1 / B2 /B3 / B7 / B8 / B20 / B5 / B12/ B17 / B25 / B26 / B28
LTE TDD bands	B38 / B40 / B39 / B41n

#### LTE CAT 6

2G Category	Class12
2G Bands	B2 / B3 / B5 / B8
3G Category	R7 (21Mbps Downlinks, 5.76Mbps Uplink) / R8 (42.2Mbps Downlink, 5.76Mbps Uplink)
3G Bands	B1 / B2 / B5 / B8
LTE Category	6 (300Mbit/s Downlink, 50Mbit/s Uplink)
LTE FDD bands	B1 / B2 /B3 / B7 / B8 / B20 / B5 / B12 / B17 / B25 / B26 / B28
LTE TDD bands	B38 / B40 / B39 / B41n

#### LTE CAT 12

LTE FD	B1 / B2 / B3 / B4 / B5 / B7 / B8 / B9 / B12 / B13 / B14 / B17 / B18 / B19 / B20 / B21 / B25 / B26 / B28 / B29 / B30 / B32 / B66
LTE TDD:	B38 / B39 / B40 / B41
DL 2 × CA:	Inter-band CA/Intra-band CA
DL 3 × CA:	Inter-band CA/Intra-band CA
WCDMA:	B1 / B2 / B3 / B4 / B5 / B8 / B 9/ B19
GNSS:	GPS / GLONAS S/ BeiDou / Galileo / QZSS

### 5G module option *(specifications depend on MB module used):*

5G	NR: n1 / n2 / n3 / n5 / n7 / n8 / n12 / n20 / n25 / n28/ n38 / n40 / n41 / n48 / n66 / n71 / n77 / n78 / n79
LTE -FDD	B1 / B2 / B3 / B4 / B5 / B7 / B8 / B12 / B13 / B14/ B17 / B18 / B19/ B20 / B25 / B26/ B28 / B29 / B30 / B32/ B66 / B71
LTE-TDD:	B34 / B38 /39 / B40 / B41 / B42 / B43 / B48;
LAA:	B46
WCDMA:	B1 / B2 / B3 / B4 / B5 / B6 / B8 / B19

## Approvals

EMC CISPR	AS/NZS CISPR 32:2015 AMD 1:2020, Class B
RCM Safety	AS/NZS 62368.1:2018 (PSU)

## Environmental

Operating temperature	-40°C to 70°C
Storage temperature	-40°C to 85°C
Humidity	10% ~ 95% (non-condensing)

## Dimensions

Dimensions	200 mm x 210mm x 45mm
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## Power Requirements

12V DC 1500mA  
230V AC (Plug pack)

## Additional Modules

Bluetooth AddInsight compatible (future development/option)  
Wi-Fi 802.11ac

**END**

*Note: \* some future changes to the product may not reflect information in this brochure & some changes to device without notice.*