



## OVERVIEW

Paradise pioneered the very first satellite modem redundancy systems in the industry many years ago. Now fully re-engineered for our **Q-NET** satellite network solution, the **PDQS 1:N Redundancy Switch** protects up to 16 traffic modems that can all be running completely different services (IF, L-band, different terrestrial interfaces, different waveforms, etc.). It keeps the backup modem separate from the redundancy switch, allowing hot-swapping in the event of either a redundancy switch or backup modem failure. The backup modem can be any **QFlex-400**, **QMultiFlex-400** or **Q-Lite** modem's

The redundancy switch can be used to protect both point-to-point and point-to-multipoint services. In the case of the **QMultiFlex-400**, it can protect up to 16 shared outbound services and up to 128 inbound services at the same time, ensuring extremely high system availability for very little extra expenditure.

It requires a P3717 1:N interface card to be fitted inside the backup modem, plus an umbilical cable that attaches between the modem 1:N card and the redundancy switch for control purposes. When fitted with the 1:N card, any production modem will automatically function not only as a normal traffic modem but also as a controller for the redundancy switch.

## FEATURES

- ▶ Modular 3U low-cost chassis (optionally provided as a full turnkey solution consisting of fully wired, modem rack systems)
- ▶ Supports IP (10/100 Base T only) , G.703 E1/T1 and E2/T2 rates and EIA-530 traffic
- ▶ Scalable up to 1 for 16 traffic protection
- ▶ Backup modem and Switch can each be replaced without affecting traffic
- ▶ Traffic modem prioritisation
- ▶ Redundant power supplies for maximum Reliability
- ▶ Configuration via backup modem web or local user interface
- ▶ Supports data rates up to 200Mbps
- ▶ IF transponder switching option (not required for L-band)
- ▶ L-band polarisation switching option
- ▶ Supports all **QFlex-400**, **QMultiFlex-400** and **Q-Lite** modems

**Instructions for selection of your Redundancy Switch options:**

Select the Redundancy Switch module options for interface positions A, B, C & D in accordance with the number of traffic modems to be protected and whether ESC overhead protection is required. Each Switch module caters for up to 4 modems. Note that all PDQS Redundancy Switches come with an umbilical cable to connect to the backup modem.

A P3717 1:N card for the backup modem (to communicate over the umbilical cable to the switch) *must* be ordered as an interface option when placing the backup modem order.



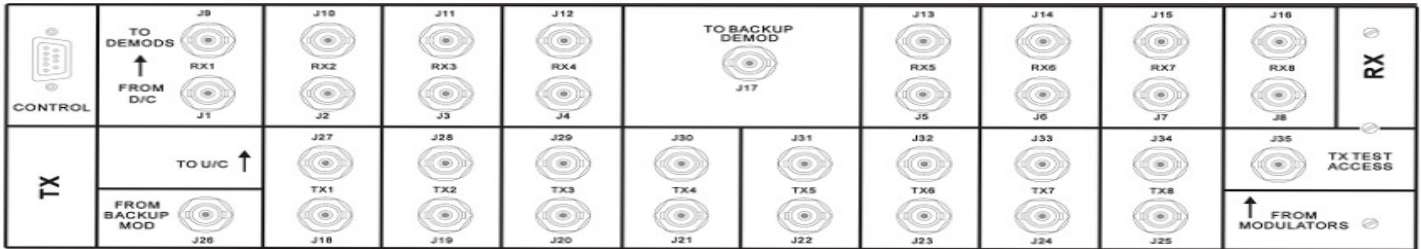
Rear view of PDQS 1:N Redundancy Switch

Please select your Backup Interface options.

|                                      |                 |   |  |
|--------------------------------------|-----------------|---|--|
| Interface Position A hardware option | Select 1 Option | N | 4 x Ethernet on RJ45 (supports 10/100BaseT Ethernet)   |
|                                      |                 |   | 4 x EIA-530 on D25 female (supports serial RS232, RS422, X.21, V.35)                                       |
|                                      |                 |   | 4 x G.703 on BNC and RJ45 (supports G.703 unbalanced and balanced, T1/E1 & T2/E2)                          |
| Interface Position B hardware option | Select 1 Option | O | 4 x Ethernet on RJ45 (supports 10/100BaseT Ethernet)   |
|                                      |                 |   | 4 x EIA-530 on D25 female (supports serial RS232, RS422, X.21, V.35)                                       |
|                                      |                 |   | 4 x G.703 on BNC and RJ45 (supports G.703 unbalanced and balanced, T1/E1 & T2/E2)                          |
|                                      |                 |   | Blanking plate (position not used)   |
| Interface Position C hardware option | Select 1 Option | T | 4 x Ethernet on RJ45 (supports 10/100BaseT Ethernet)   |
|                                      |                 |   | 4 x EIA-530 on D25 female (supports serial RS232, RS422, X.21, V.35)                                       |
|                                      |                 |   | 4 x G.703 on BNC and RJ45 (supports G.703 unbalanced and balanced, T1/E1 & T2/E2)                          |
|                                      |                 |   | 4 x Serial overhead protection (including IDR audio channels) for modems connected to Interface Position A |
|                                      |                 |   | Blanking plate (position not used)   |
| Interface Position D hardware option | Select 1 Option | S | 4 x Ethernet on RJ45 (supports 10/100BaseT Ethernet)   |
|                                      |                 |   | 4 x EIA-530 on D25 female (supports serial RS232, RS422, X.21, V.35)                                       |
|                                      |                 |   | 4 x G.703 on BNC and RJ45 (supports G.703 unbalanced and balanced, T1/E1 & T2/E2)                          |
|                                      |                 |   | 4 x Serial overhead protection (including IDR audio channels) for modems connected to Interface Position B |
|                                      |                 |   | Blanking plate (position not used)   |

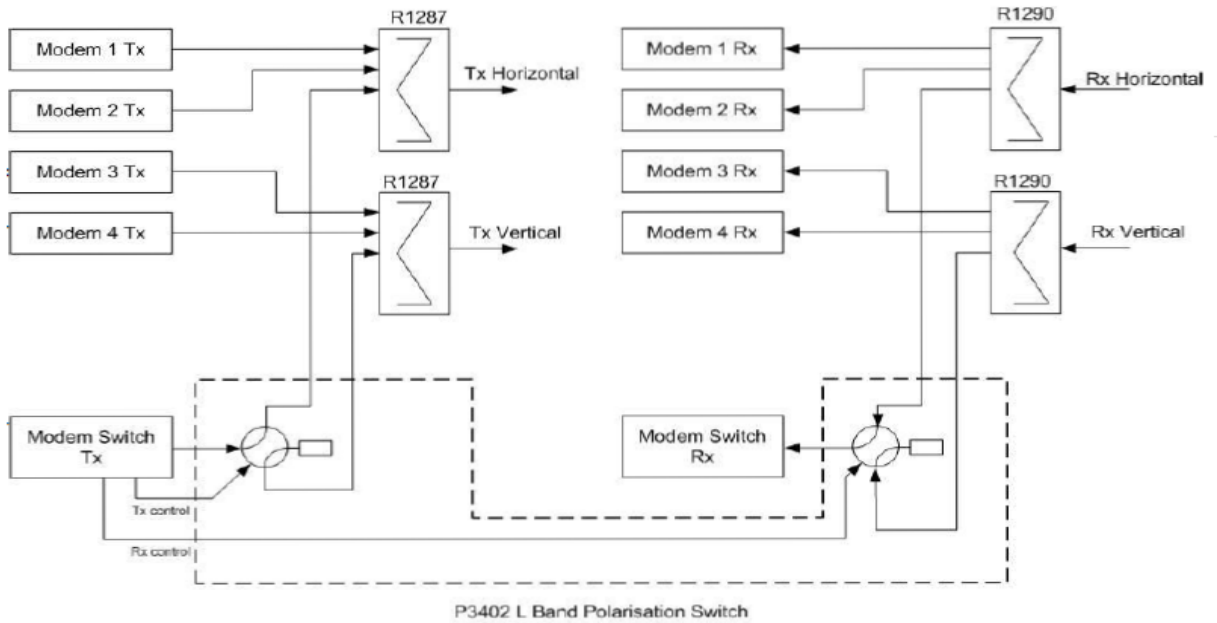
**Transponder Switch option:**

Where the IF inputs and outputs are connected to more than one up/downconverter, the P525 Transponder Switch can be used. This will route IF inputs and outputs to up to eight different converters (sixteen when two are used in series). The Transponder Switch is controlled via the redundancy switch backup modem. The P525 is a 3U high rack-mount unit, approximately 40mm deep and is available in 50Ω or 75Ω versions.



**Polarisation Switch option:**

If the L-Band traffic modems within the redundancy system need to operate on two polarities then a further selection system is required to direct the backup modem to the correct polarity combiner or splitter and the P3402 Polarisation Switch provides this facility.



Please select any other options required:

|                               |                                   |  |
|-------------------------------|-----------------------------------|--|
| <b>DC Input</b>               | 48V DC Input                      | 48V DC Prime power input in place of the 100—240V AC power supply.   |
| <b>Transponder Switching</b>  | Transponder Switch (IF Only)      | D9 Control Cable to connect the Switch to the Transponder Switch—1 required per P525 Transponder Switch.                   |
|                               | Transponder Switch 1:16 (IF Only) | IF Transponder switching up to 1:16 — 2 x P525 Transponder Switches. Please specify 70MHz or 140MHz band at time of order. |
|                               | Transponder Switch 1:8 (IF Only)  | IF Transponder switching up to 1:8 — 1 x P525 Transponder Switch. Please specify 70MHz or 140MHz band at time of order.    |
| <b>Polarisation Switching</b> | P3092 L-Band Polarisation Switch  | D9 Control Cable to connect the Redundancy Switch to the Polarisation Switch —1 required per P3402 Polarisation Switch.    |
|                               | P3402 L-Band Polarisation Switch  | Can be used as a Polarisation or Antenna Switch  |