BLACK BOX
NETWORK SERVICES
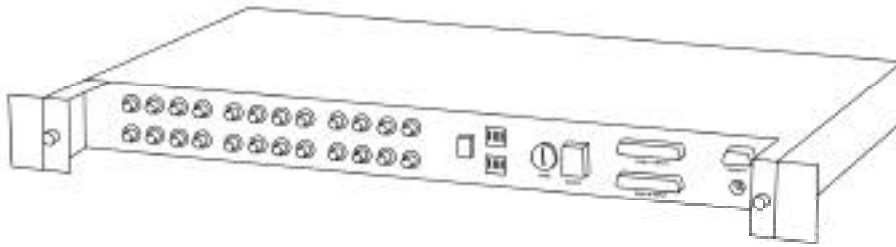
E1 Fallback Switch (4-Way)

Back up your mission-critical E1 links with this robust 4-port fallback switch

Key Features

▶ Switches up to four G.703 unbalanced 2Mbit/s circuits

▶ Solid state switching

▶ Weighted alarm inputs enables configuration of priority and switching criteria

▶ Hysteresis delay prevents switch chattering

▶ Compact 1U rack mount case

▶ DC power (+/- 24 to 48Vdc)

▶ Manual or automatic switching

Overview

The E1 Fallback Switch is a universal solid-state used to select between two banks of up to four 2Mbit/s tributaries. The switch is technology independent and can be used for route selection or to provide diversity between two different types of transmission links.

The unit is very compact, utilising a single 19″ rack mounting, and the front access eases installation and maintenance. The switch provides international standard G.703 traffic interfaces and can therefore be used with a wide range of equipment for a wide range of applications. Each 2-Mbps channel on the switch has three ports attached to it, connecting to the users′ terminal equipment and two transmission paths.

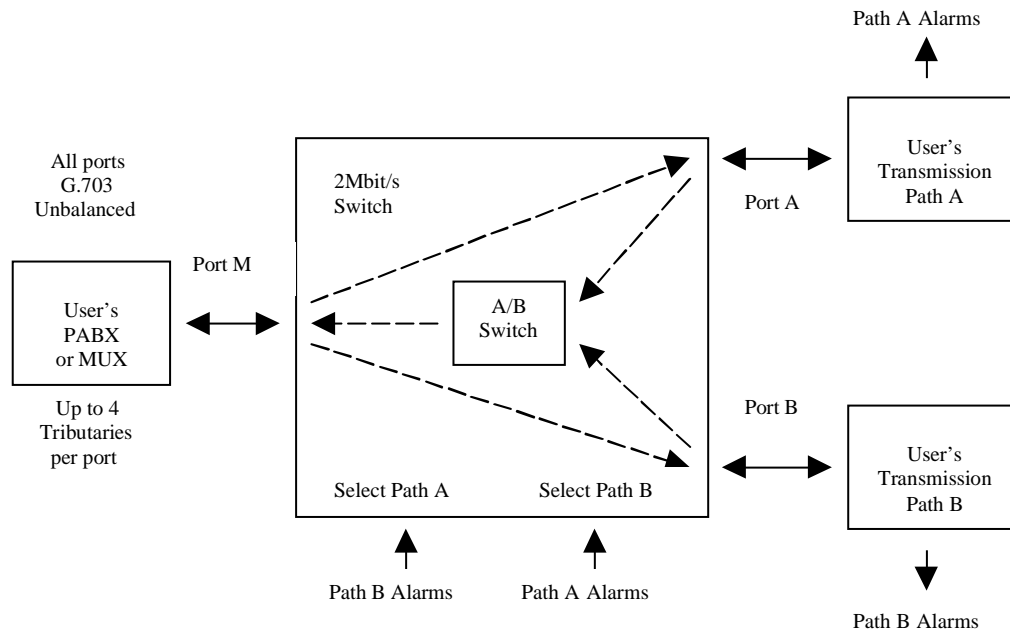Switching occurs between the two transmission paths automically via weighted external inputs, or through manual operation. Opto-isolated external alarm inputs can be used to activate the switch.

Typical Applications

Provision of a backup E1 link for companies (such as call-centres) that rely heavily on a mission-critical PABX to provide the phones throughout the building in case the first fails.

Technically Speaking:

There are three sets of ports on the switch; Port M which is connected to the terminal equipment, Port A which is connected to Path A of the transmission equipment and Port B which is connected to Path B of the transmission equipment. The Switching criteria between the ports A and B can be manual or automatic operation and this is achieved in two ways. Manual operation is achieved by using the selection switch on the front of the unit. Automatic operation is based on internally generated alarms (i.e. AIS or LOS - Alarm Indication Signal or Loss of Signal) and/or a set of external inputs to select either Port A or B (see diagram below).

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                                                              Path A Alarms
                                                                   ↑
                                                          ┌──────────────┐
          ┌─────────────────────────────────┐            │    User's     │
          │                                  │◄──────────►│ Transmission  │
  All ports│  2Mbit/s              ↗         │   Port A   │    Path A     │
  G.703    │  Switch          ╱              │            └──────────────┘
  Unbalanced│              ╱     ┌────────┐  │
          │           ◄─ ─ ─ ─ ─│  A/B   │  │
  Port M  │              ╲       │ Switch │  │
 ┌──────┐ │                ╲     └────────┘  │
 │User's│◄┼►                  ╲       ↖      │            ┌──────────────┐
 │PABX  │ │                     ╲            │   Port B   │    User's     │
 │or MUX│ │                       ╲          │◄──────────►│ Transmission  │
 └──────┘ │                                  │            │    Path B     │
  Up to 4 │  Select Path A   Select Path B   │            └──────────────┘
 Tributaries                                 │                   ↓
 per port └──────────┬────────────┬──────────┘             Path B Alarms
                     ↑            ↑
              Path B Alarms   Path A Alarms
```

The switch is powered from either a 24 or 48 Volt nominal DC supply of either polarity. Each port has four inputs and four outputs. Each traffic interface is G.703 unbalanced 75 ,Type 43 connectors. The inputs at port M feed the A and B ports via a buffer. The output at Port M is either from Port A or Port B depending on the position of the internal A/B switch - which in turn is driven by the external inputs (i.e. the occurrence of an alarm event - AIS/LOS etc).

The Complete Package:

- •User Manual
- •E1 Fallback Switch (4-Way)
- •3 Way Power Connector
- •(4) M6 Pan Head Bolts and Plastic Washers
- •(4) Cage Nuts

Specifications:

Alarms: (8) Alarm inputs per port, opto-isolated +/- 5V activation;
                (1) Alarm output per port, normally open relay
Protocols: Any HDB3-encoded G.703 data
Connectors: (24) Type 43 F 75- ; (2) DB25 F (alarm input); (1) DB9 F (alarm output)
Indicators: (3) LEDs: A, B, Auto
Power: +/-24 to 48 VDC
Size: 4.5H x 48.3W x 30D cm
Weight: 5kg
Operating Temperature: -10˚C to +50˚C
Relative Humidity: 5% to 85% (non-condensing)

▶

Product Name	Order Code

E1 Fallback Switch (4-Way) (48 VDC) ………………………SWU2048

You may also need:
75   Type 43 to BNC Adaptor Cables (Simplex)
       1.8m (6.5ft) ………………………………………   EVUT43-0006
       3.0m (10.0ft) ……………………………………   EVUT43-0010

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