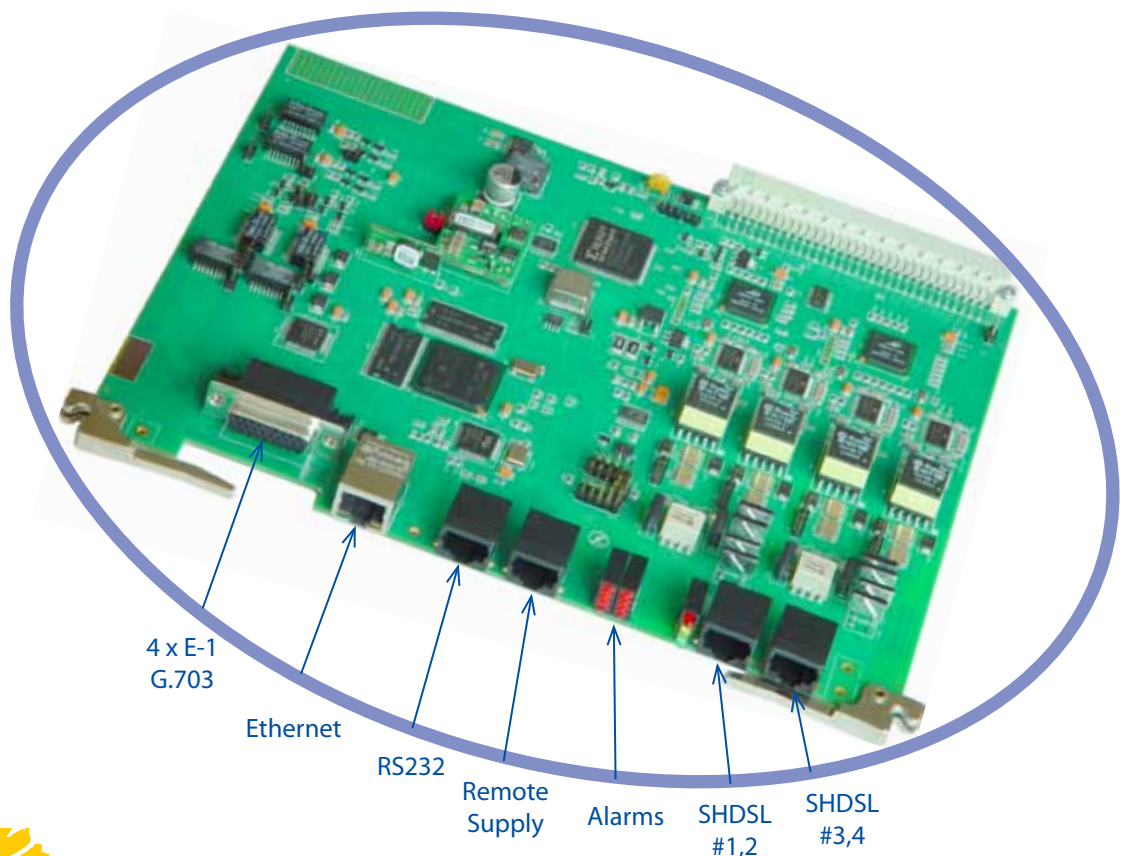# PSH - SHDSL modem
4 x SHDSL, 4 x E1, 1 x Ethernet

- **G.shdsl interface: fractional n x 64 kbit/s from cross-connect field or 2 Mbit/s G.703 – G.shdsl interface converter**
- **G.703 interface: unframed transparent mode or E1 framer mode**
- **Ethernet over 1 to 4 SHDSL**
- **Non-blocking 336 channels cross-connect field**
- **LTU or NTU mode of G.shdsl operation**
- **1 or 2 pairs G.shdsl operation**
- **Multiplexers subscriber unit or standalone unit**

4 x E-1 G.703

Ethernet

RS232

Remote Supply

Alarms

SHDSL #1,2

SHDSL #3,4

IRITEL
bright connections

Application

Each G.shdsl interface has two modes of operation.

First mode is n x 64 kbit/s fractional operation, with bit-rate in range from 144 to 2312 kbit/s (G.shdsl subscriber application). In this mode some number of 64kbit/s channels can be assigned to Ethernet (Ethernet-over-G.shdsl application).

Second mode is 2.048 Mbit G.703 (without E1 framer/de-framer) to G.shdsl transparent interface converter, with fixed line rate of 2.056 Mbit/s (G.703 range extension application), when paired with one of four G.703 interfaces.

G.shdsl interfaces can be paired to operate in 4-wire mode with maximum total data rate of 2.320 Mbit/s (shared between two copper pairs, 1160 Mbit/s each), if longer loop is needed.

PSH unit can operate as separate unit without FM-MSAN if all four G.703 – G.shdsl pairs operate as interface converters.

Basic characteristics

- Four G.shdsl interfaces on board (ETSI SHDSL: ETSI TS 101 524, ITU-T G.shdsl: ITU-T G.991.2)

- High symmetric line rate of maximum 2320 kbit/s utilizes 16-level TC-PAM modulation, with near-end echo-cancellation

- LTU and NTU modes of G.shdsl

- Line rates from 152 to 2320 kbit/s (144 to 2312 kbit/s subscriber data rate)

- Flexible synchronization options

- Connector for external remote power feed

- LED alarm indication

Monitoring and management

PSH unit management is integrated in IRITEL network management system SUNCE-M, which incorporates:

- Configuration
- Alarm monitoring
- Performance monitoring

TECHNICAL DATA

G.703 (2 Mbit/s)	ITU-T G.703/G.704
Input	
Signal	2048 kbit/s ±50 ppm (HDB3)
Impedance	75 Ω/120 Ω
Loss	0 to 6 dB at 1024 kbit/s
Jitter	according to ITU-T G.823
Return loss	according to ITU-T G.703/9.3
Output	
Signal	2048 kbit/s ±50 ppm (HDB3)
Impedance	75 Ω/120 Ω
Impulse level	2.37 V ±0.237 V, 75 Ω
	3 V ±0.3 V, 120 Ω
Impulse width	244 ns
Impulse shape	according to ITU-T 15/G.703
Jitter	according to ITU-T G.823
G.shdsl interface	ETSI TS 101 524, ITU-T G.991.2
Transmission	symmetrical duplex
Transmission medium	one or two (4-wire mode) twisted pairs
Modulation	TC-PAM
Line rate	152 kbit/sto 2320 kbit/s
Maximum loop length	
- 0.4 mm copper wire	
152 kbit/s	6000 m
2320 kbit/s	2200 m
- 0.8mm copper wire	
152 kbit/s	17000 m
2320 kbit/s	6300 m