

# WorldDSL™ G.S

Double Pair/Line Power

G.SHDSL for CO and Customer Premises

ADC's WorldDSL G.S is a family of high-speed G.shdsl access devices complying with the ITU-T G.991.2 G.shdsl standard. These modems are specifically designed for the diverse telecommunication needs of global markets. Ideal for telco and enterprise networks, WorldDSL G.S products conform to international standards to ensure compatibility, performance and safety within your network environment.



The new G.shdsl modems are part of the broad family of WorldDSL HDSL modems and share common chassis', enclosures, management software and accessories. They are fully G.shdsl compliant including 36/72 timeslot operation and all required performance monitoring statistics. Both G.821 and G.826 statistics are provided for E1 ports giving users maximum flexibility. Each WorldDSL G.S modem is software-selectable as a communication master or communication slave, so any two units can be used for a point-to-point circuit. The modems are part of a fully managed system, interfacing with a VT100 compatible terminal or a PC. The units can be managed via their local craft port or a central management card installed in a CO shelf. ADC's Stargazer, Windows or UNIX-based SNMP management software can be used to provision the system, collect alarm and performance data, and conduct diagnostic tests locally or from a remote management station. In any of these modes, the remote unit can be programmed and managed through the CO, minimizing travel to the outdoor site.

## Features:

- Fiber optic quality (BER 10<sup>-10</sup>)
- Single pair operation or double pair operation to double the bandwidth or extend the reach
  - Single Pair – 2.304 Mbps
  - Double Pair – 4.608 Mbps
- Nx64K rate selectable from 64 kbps to 2.304 Mbps single pair or 64 kbps to 4.608 Mbps double pair
- E1 and FE1 (Fractional E1)
- 10/100 Ethernet bridge
- Automatic protection of TS0 and TS16 for fractional E1 use
- Software programmable data port—V.35/V.36/RS-530/X.21
- E1/FE1 and dataport or E1/FE1 and Ethernet port simultaneous operation sharing the bandwidth
- Intelligent multi-range line power management for 120, 150, and 200 VDC per EN60950
- Complete G.shdsl reach/range coverage including line power
- Support wetting current
- One pair can be set up as 1+1 protection for the other pair, TSP
- Two pairs can also be configured as point to multi-point
- Auto loop crossover management
- 10/100 IEEE 802.3u, layer 2 MAC bridge, wire-speed, auto negotiation or programmable for 10/100, full/half modes
- Centralized software download for easy upgrade
- Jitter meets G.823 requirements

SPEC SHEET



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## Specifications

WorldDSL™ G.S  
12/06 • 100458AE

### SHDSL INTERFACE

Line Code: 16 Level Trellis coded PAM  
Line Data Rate: user selectable from  
1-pair 192 kbps to 2.304 Mbps  
2-pair 384 kbps to 4.608 Mbps  
Range: (see chart on next page)  
Connector: DB9F (adapters available)  
Protection: ITU-T K.20 and K.21 compliant  
Compliance: ITU-T G.991.2

### E1 INTERFACE

Line Code: HDB3  
Data Rate: 64 kbps to 2048 kbps  
Operation: full or fractional  
Blocking: per 64 kbps channel  
Idle Code Insertion: user selectable word  
Impedance: 120  $\Omega$  balanced or 75  $\Omega$  unbalanced  
Framing: structured with or without CRC-4 or unstructured  
Connectors: both D15F (balanced) and BNC (unbalanced)  
Timing: internal, external, G.703  
Compliance: ITU-T G.703, G.704, G.706, G.821, G.823, G.826, CTR12

### 10/100 ETHERNET INTERFACE

802.3U  
Mac bridge  
Auto sensing 10/100  
Half or full duplex  
VLAN pass through

### DATA INTERFACE

User software selectable as: V.35, V.36, RS-530, X.21  
Data Rate: 64 kbps to 2304 kbps or 64 to 4608 kbps (2 pair)  
Connector: D25F (adapters available)  
Timing: internal, external, loop, Nx64  
Compliance: Net 2

### PERFORMANCE MONITORING

DSL PM: ES, SES, UAS, CV, LOSW seconds  
DSL Alarms: noise margin, loop attenuation, errored seconds, loss of synch word  
DSL Alarms Thresholds (user settable): noise margin, loop attenuation, errored seconds  
E1: G.821 and G.826  
Performance Measurements: ES, SES, UAS, BBES, ESR, SESR, BBER  
E1 Alarms: LOS, LFA, RAI, RAIS  
PM History: 96x15 minute increments, 7x24 hour increments for both HDSL and E1 performance. Indefinite resettable alarm log showing first and last occurrence date and time, and number of occurrences for each alarm type  
Alarm Relay: Form C relay contacts NO, NC and COM  
Loopbacks: local or remote towards customer or central office  
Test pattern: PRBS generator and BER meter from the customer premise or CO ends

### POWER

Input Power: DC -36 to -72 VDC or AC 90 to 264VAC 47 to 63 Hz.

### LINE POWER

Cover full reach for G.shdsl standard span. One pair, two pair, 120 VDC, 150 VDC, 200 VDC

### CHASSIS/ENCLOSURE

Chassis: EMS-830 or EMS-832; Enclosure: ERE-811 L5, L6 or L7 single-slot enclosure

### ENVIRONMENTAL

Operating Temperature: -5°C to +50°C; Storage Temperature: -40°C to +85°C  
Humidity: up to 95% RH non-condensing

### SAFETY/EMISSIONS COMPLIANCE

CE Marked  
Safety: EN60950; Emissions, Susceptibility and Immunity: EN 300386-2. CO IN EMS-83x,  
Other Locations in ERE-811 or ETU versions



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## Specifications and Ordering Information

DSL Rate	0.4mm		0.6mm		0.8mm	
	With Noise <sup>1</sup>	No Noise <sup>2</sup>	With Noise <sup>1</sup>	No Noise <sup>2</sup>	With Noise <sup>1</sup>	No Noise <sup>2</sup>
4608	2.2	3.8	4.4	7.6	6.3	9.3
4095	2.4	3.9	4.8	7.8	6.8	11.1
3584	2.5	4.0	5.0	8.0	7.2	11.8
3072	5.7	4.1	5.4	8.4	8.2	12.3
2560	2.9	4.3	5.8	8.6	9.0	12.8
2304	3.0	4.4	6.0	8.8	9.5	13.2
2048	3.2	4.5	6.4	9.0	10.2	13.6
1536	3.7	4.8	7.4	9.6	11.7	14.1
1280	4.0	4.9	8.0	9.8	12.7	14.7
1024	4.2	5.0	8.4	10.0	13.5	15.3
768	4.8	5.5	9.6	11.0	14.7	15.7
512	5.5	5.8	11.0	11.6	16.8	16.8
384	6.0	6.3	12.0	12.6	17.1	17.1

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### Ordering Information

Description	Type	Catalog Number
GS-2P-E1	Plug in card for EMS-830 CO chassis or ERE-811 remote enclosure	WD921GN-XX-01
GS-2P-E1 Wide Temp	Wide Temp Plug in card for EMS-830 CO chassis	WD921GN-XX-02
GS-2P E1 + Serial Nx64	Plug in card for EMS-830 CO chassis or ERE-811 remote enclosure	WD924GN-XX-01
GS-2P eBridge	Plug in card for EMS-830 CO chassis or ERE-811 remote enclosure	WD920GN-1B-01
GS-2P E1 + eBridge	Plug in card for EMS-830 CO chassis or ERE-811 remote enclosure	WD921GN-1B-01
GS-2P E1 + Serial + eBridge	Plug in card for EMS-830 CO chassis or ERE-811 remote enclosure	WD924GN-1B-01
GS-2P LP E1	Plug in card for EMS-830 CO chassis or ERE-811 remote enclosure	WD921GL-XX-01
GS-2P LP E1 + Serial Nx64	Plug in card for EMS-830 CO chassis or ERE-811 remote enclosure	WD924GL-XX-01
GS-2P LP eBridge	Plug in card for EMS-830 CO chassis or ERE-811 remote enclosure	WD920GL-1B-01
GS-2P LP E1 + eBridge	Plug in card for EMS-830 CO chassis or ERE-811 remote enclosure	WD921GL-1B-01
GS-2P LP E1 + Serial + eBridge	Plug in card for EMS-830 CO chassis or ERE-811 remote enclosure	WD924GL-1B-01

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**Web Site: [www.adc.com](http://www.adc.com)**

From North America, Call Toll Free: 1-800-366-3891 • Outside of North America: +1-952-938-8080  
Fax: +1-952-917-3237 • For a listing of ADC's global sales office locations, please refer to our web site.

ADC Telecommunications, Inc., P.O. Box 1101, Minneapolis, Minnesota USA 55440-1101  
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