



Powerful DSL Solutions
The Strength of *Two* Telecom Leaders



The GoDigital XCel-12 GS™ by CTDI

CTDI & GoDigital Service Advantages

Combining the technical and service expertise of CTDI and GoDigital, the XCel-12 GS System is now supported by the most comprehensive access service solution in the telecom industry. Now, GoDigital customers not only have high-quality access products, but an expanded service solution that includes network planning, sales and technical support, web-based ordering, system monitoring and world-class maintenance services. CTDI and GoDigital, two leaders in the telecom service arena, will take our commitment to service excellence to the highest level.

Provide life-line voice service, CLASS and V.90 modem access over one copper pair to twelve subscribers located as far as 100,000 feet from the central office.

The XCel-12GS replaces the XCel-12 system, supports the XCel-8 system and offers the following new features:

- The XCel-12GS uses spectrum-friendly g.SHDSL transport
- Advanced Diagnostics software provides remote performance monitoring of all active elements including central office and outside plant
- The XCel-12GS remote terminal electronics module can be unplugged and removed for quick and easy maintenance, eliminating the need to remove and replace drop wires

Go Farther: The XCel-12 GS systems transport twelve digital POTS lines used for voice, CLASS services, and V.90 access on a single copper pair up to 50,000 feet or more from the central office. The XCel-12 GS distributes multiple services along a copper loop and carries all services the full distance.

Go Faster: Line powering and easy installation allow network access providers to deploy services as fast as subscribers request them. The XCel-12 GS system's patented V.90 modem technology delivers faster Internet access speeds and reduces customer complaints.

GoDigital: XCel systems are the most cost-effective alternative to deploying more fiber, copper wire, or expensive network equipment. By breaking the local loop bottleneck, GoDigital Networks is pioneering new territory with the XCel line powered access platform.

XCel-12 GS Features

- Compliant with ANSI T1.417 spectrum management
- High pair gain of 12:1
- Voltage selectable at ± 130 or ± 190 volts DC
- Single pair line powered
- Remote Advanced Diagnostics
- V.90 modem support
- CLASS features supported
- Mechanized testing to subscriber handset
- Easy installation
- Flexible configurations
- High-density CO shelf
- NEBS level 3 certified

Get These Benefits Now

- Most cost effective alternative for achieving pair relief
- Provide faster Internet access speeds and reduce customer modem speed complaints
- Reach customers up to 50,000 feet or more away
- Deliver distributed or grouped applications
- Conserve valuable CO space

The GoDigital XCel-12 GS™ by CTDI

with Selectable Voltage and Mechanized Drop Testing



Specifications

Line Rate	784 kb/s
Line Code	TC-PAM 16
Transport	G.shdsl
Bandwidth Allocation	12 x 64 kb/s - POTS + 16 kb/s overhead
Max Loop Resistance	~2500-3000 ohm system total [~1000 ohm per span]
Line Attenuation	<41.5 dB per span @ 136 kHz
Line Power Feed	A2 class for ±130V, A3 class for ±190V
Voltage Selectable	±130 or ±190 volts DC, tip/ring to ground
Max Current	98 mA
Safety	± 130V systems - 5 mA tip/ring to ground, GFI ± 190V systems - 10 mA tip/ring to ground, GFI

All OSP elements can be powered from the central office.
No local power is required. Local power option extends range by 3X.

XCel-12 GS Central Office

Terminal Shelf and CTU Line Cards

Powering	-48 Vdc battery
DSL Power Supply	On each CTU card
Common Cards	Alarm and Control Unit (ACU) Common Mechanized Drop Test (CMDT)
Modularity	16 cards per 19" shelf, 20 per 23" shelf
Fusing	20 Amp, two per shelf
Card Insertion	Hot-loadable
NEBS	Meets GR-63 and GR-1089
NEBS Certification	Level 3 by Independent Certification Lab

Mechanical Data

COT- Multi-Service Shelf	19" W (or 23"W) x 11.5" H x 12"D
STR/STRLP	7" W x 15" H x 5" D, 3 lb. Weight
ADR	8" W x 16.5" H x 5" D, 3.5 lb. Weight
STRM	2.5" H x 0.75" W x 6.5" D Plug-in for 239-Type Housing
RTU	8" W x 16.5" H x 5" D, 4 lb. Weight

Environmental

Central Office Equipment	-40°C to 65°C, 95% RH non-condensing
Outside Plant Elements	-40°C to 65° C, 95% RH non-condensing
OSP Element Protection	3-element Protectors, Field Replaceable

Mechanized Loop Test

Testing	GoDigital Standard Loop Test 4Tel or MLT Signatures Mechanized Loop and Drop Test TR-398 or GR-909 Signatures CMDT card required for metallic testing Loop pair or optional bypass pair
Physical	

OSP: STR, STRLP, ADR, RTU

Powering	From the DSL pair
Package	Pole/Wall mountable enclosure
Visual LED Indications	Power, Sync Upstream, Sync Downstream, Busy Downstream

XCel-12 GS - OSP Element POTS Interface

Number of Lines	Varies by unit type (ADR, RTU) 12 Total per XCel-12 GS Loop
On Hook Voltage	48 Vdc nominal
Off Hook Current	23 mA
Active Lines	All 12 off hook, or 9 off hook and 3 ringing
Ringers	3 x 5 REN at >40V RMS or 15 REN total
Ring Frequency	20Hz regardless of CO frequency
Subscriber Drop Reach	560 ohm total w/phone
Insertion Loss	-4 dB
Transmission/Signal Impedance	Meets TR-57, SS7 600ohm +2µF

XCel-12 GS System Equipment List

Multi-Service Shelf and Common Equipment

19" Multi-Service Shelf, TR-057	990117	16 CTU card capacity for 19" racks
23" Multi-Service Shelf, TR-057	990118	20 CTU card capacity for 23" racks
Alarm and Test Card, TR-057, ACU	990249	One ACU per Multi-Service Shelf
Common Mechanized Drop Test (CMDT)	990329	One CMDT per Multi-Service Shelf for metallic test only
XCel-Advanced Diagnostics	990355	Compact Disc, PC Software, Advanced Diagnostics Application

XCel-12 GS Shelf Line Units

Central Terminal Unit, CTU12 GS	990315	Line Card for XCel-12 GS, 12 lines per pair, selectable voltage
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XCel-12 GS Remote Terminals and Repeaters

Straight Through Repeater, Outdoor STR GS	990322	Line powered repeater
Straight Through Repeater, Outdoor STRLP GS	990324	Locally powered repeater with selectable voltage
Straight Through Repeater Module, Outdoor, STRM GS	990323	Repeater plug in for 239-type housing
Add-Drop Repeater, Outdoor, ADR4 GS	990320	4 line add/drop repeater
Remote Terminal Unit, Outdoor, RTU12 GS	990318	12 line remote terminal

Cable Stub Kits for XCel-12 GS

Cable Stub Kit, 14 Pair, STB14	990183	Stub Kit, 20 feet, for RTU12
Cable Stub Kit, 6 Pair, STB6	990093	Stub Kit, 20 feet, for STR, ADR



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