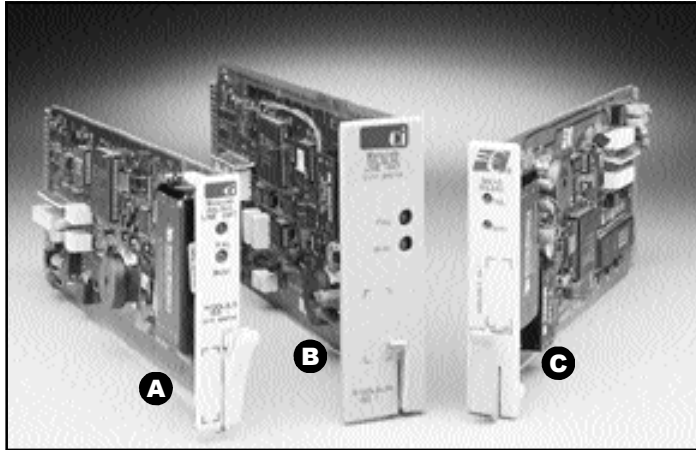


# DuaLine Plus™ (2:1) Plug-Compatible Channel Units

**Add revenue, not copper! DuaLine Plus™ Plug-Compatible Channel Units provide two-for-one digital pair gain on existing copper pairs.**



Achieve the maximum potential of your digital loop carrier (DLC) system with the addition of DuaLine Plus™ Plug-Compatible Channel Units. Customized for today's most popular channel bank types, these versatile units double service capacity by multiplexing two POTS lines onto a single twisted pair. Drop-side distribution relief is achieved without the cost of installing additional copper pairs! Each of the three channel unit types is compatible with Charles' DuaLine Plus™ Remote Terminals (RT).

**A SL5 Channel Unit**

Compatible with Lucent SLC® Series 5 or SLC® 2000 remote terminal (RT) shelves



**B SL96 Channel Unit**

Compatible with SLC®-96 remote terminal (RT) shelves

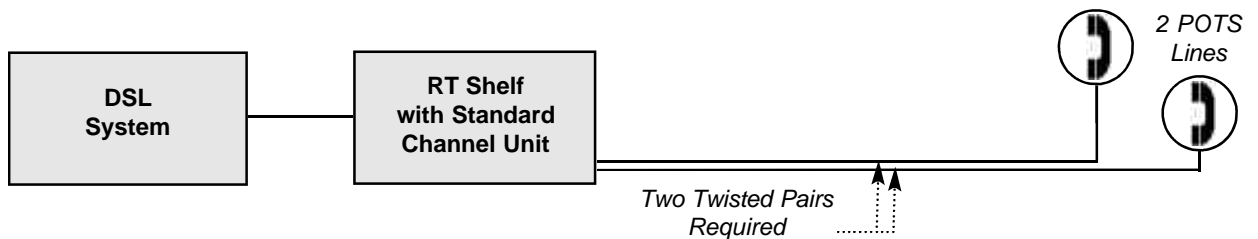
**C DISC★S® Channel Unit**

Compatible with Marconi (formerly RELTEC) DISC★S® remote terminal (RT) shelves

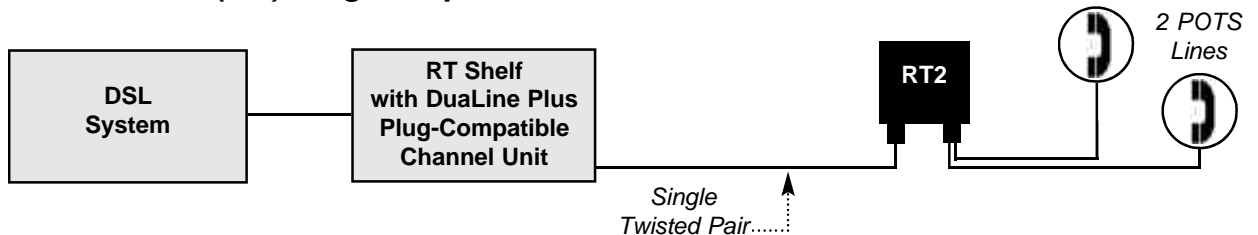


## Configuration

### Standard Channel Unit



### DuaLine Plus™ (2:1) Plug-Compatible Channel Unit



# SL5 Channel Unit Features and Benefits



- Developed in cooperation with Lucent Technologies
- Supports 56K (V.90) when in integrated mode
- Plugs directly into Lucent SLC® Series 5 or SLC® 2000 shelves
- Multiplexes two POTS lines onto a single digital subscriber loop (DSL)
- Interfaces with existing DualLine™ Plus RTs, providing “on-demand” line power
- NEBS Level 3 certified
- 18,000 ft. typical range on single twisted pair (buried, 26 AWG line)
- Provides DC signatures for MLT or 4TEL testing systems
- Enhanced Pre-Provisioning (EPREP) for easy one person turn-up of additional lines
- Temperature hardened for use in harsh environments (-40° to +65°C)
- Fail-to-POTS when used with Fail-to-POTS compatible DualLine Plus™ RTs
- LED indicators for alarms, ringing and off-hook conditions

## Electrical Specifications

### System loss in each transmission direction

2.2 ± 0.5 dB nominal (off hook)

### Frequency response

The loss relative to 1004 Hz with 0 dBm0 is 0.0 dBm to -2.0 dBm at 300 Hz, +0.5 dBm to -2.0 dBm in the 400 to 3200 Hz range, and 0.0 dBm to -3.0 dBm at 3400 Hz

### Channel crosstalk

With 0 dBm0 single frequency input signals between 200 and 3400 Hz applied to any line, the C-message weighted total output of the adjacent line at the channel unit in the 200 and 3400 Hz frequency band is less than -65 dBm0

### Idle channel noise at the output of channel unit

20 dBmC maximum

### Range of the digital subscriber line

Line length equal to or less than 1300 ohms or 42 dB loss at 40 kHz with no load coils

### Digital subscriber line impedance

135 ohms

### Ringing capacity

5 REN

### Return loss (Ref: 900 ohms +2.16 mF)

ERL >18 dB, SRL >10 dB

### Voltage and current limitations

A2 limitations (+80 VDC tip to ground/ring to ground)

### Power requirement

60 MA at 52.2 VDC (typical)

## Physical Specifications

| Height            | Width              | Depth               | Temperature                     | Humidity                    |
|-------------------|--------------------|---------------------|---------------------------------|-----------------------------|
| 3.5"<br>(8.89 cm) | 0.46"<br>(1.17 cm) | 9.81"<br>(24.92 cm) | -40° to +65°C<br>-40° to +149°F | to 95%<br>(no condensation) |

## Ordering Information

### Model Number

DDL5LC5  
DDL5LC5F

### Product Description

SL5 SLC® Series 5 Plug-Compatible Channel Unit — MLT Signatures  
SL5 SLC® Series 5 Plug-Compatible Channel Unit — 4TEL Signatures

## DuaLine Plus™ (2:1) Remote Terminal (RT)

Compatible with all DuaLine Plus™ Plug-Compatible Channel Units for customer premise line drops



### RT2

- Drops up to two POTS lines
- Line powered
- Electronics mount in enclosure base
- Wallmount and polemount models available
- Enhanced Pre-Provisioning (EPREP) for easy one person turn-up of additional lines
- Rugged design for use at -40° to +65°C (-40° to +149°F) available

**Call For Model Numbers**

## SL96 Channel Unit Features and Benefits



- Mounts directly into a SLC®-96 digital loop carrier (DLC) remote terminal (RT)
  - Multiplexes two POTS lines onto a single digital subscriber loop (DSL)
  - Interfaces with existing DualLine Plus™ RTs, providing “on-demand” line power
  - NEBS Level 3 certified
  - Provides DC signatures for MLT or 4TEL testing systems
  - Enhanced Pre-Provisioning (EPREP) for easy one person turn-up of additional lines
  - Temperature hardened for use in harsh environments (-40° to +65°C)
  - Fail-to-POTS when used with Fail-to-POTS compatible DualLine Plus™ RTs
  - LED indicators for alarms, ringing and off-hook conditions
- 18,000 ft. typical range on single twisted pair (buried, 26 AWG line)

## Electrical Specifications

**System loss in each transmission direction**  
2.0 ± 0.5 dB nominal (off hook)

### Frequency response

The loss relative to 1004 Hz with 0 dBm0 is 0.0 dBm to -2.0 dBm at 300 Hz and 3400 Hz, +0.5 dBm to -2.0 dBm in the 400 to 3000 Hz range and +0.5 dBm to -2.0 dBm at 3200 Hz

### Channel crosstalk

With 0 dBm0 single frequency input signals between 300 and 3400 Hz applied to any line, the C-message weighted total output of the adjacent line at the channel unit in the 300 and 3400 Hz frequency band is -65 dBm0

**Idle channel noise at the output of channel unit**  
20 dBnC maximum

### Range of the digital subscriber line

Line length equal to or less than 1300 ohms or 42 dB loss at 40 kHz with no load coils

### Digital subscriber line impedance

135 ohms

### Ringing capacity

5 REN per line, 10 REN simultaneously

### Return loss (Ref: 900 ohms +2.16 mF)

ERL >18 dB, SRL >10 dB

### Voltage and current limitations

A2 limitations (+80 VDC tip to ground/ring to ground)

### Power requirement

60 MA at 52.2 VDC (typical)

## Physical Specifications

| Height    | Width     | Depth      | Temperature    | Humidity          |
|-----------|-----------|------------|----------------|-------------------|
| 4.29"     | 1.36"     | 9.70"      | -40° to +65°C  | to 95%            |
| (10.9 cm) | (3.45 cm) | (24.64 cm) | -40° to +149°F | (no condensation) |

## Ordering Information

### Model Number

DDL96  
DDL96F

### Product Description

SL96 SLC®-96 Plug-Compatible Channel Unit — MLT Signatures  
SL96 SLC®-96 Plug-Compatible Channel Unit — 4TEL Signatures

## DuaLine Plus™ (2:1) Universal Remote Terminal (RT)

Compatible with all DuaLine Plus™ Plug-Compatible Channel Units for customer premise line drops



### Universal RT

- Drops up to two POTS lines
- Line powered
- Enhanced Pre-Provisioning (EPREP) for easy one person turn-up of additional lines

- Mounts inside a variety of Network Interface Devices (NIDs)
- Rugged design for use at -40° to +65°C (-40° to +149°F)

**Order Model Number DDL2000**

# DISC★S® Channel Unit Features and Benefits



- Developed in cooperation with RELTEC
- Supports 56K (V.90) when in integrated mode
- Interfaces with existing DualLine Plus™ RTs, providing "on-demand" line power
- Interfaces two PCM channels to a 2 wire DSL
- 18,000 ft. typical range on single twisted pair (buried, 26 AWG line)
- NEBS Level 3 certified
- Provides DC signatures for MLT or 4TEL testing systems
- Enhanced Pre-Provisioning (EPREP) for easy one person turn-up of additional lines
- Temperature hardened for use in harsh environments (-40° to +65°C)
- Fail-to-POTS when used with Fail-to-POTS compatible DualLine Plus™ RTs
- LED indicators for alarms, ringing and off-hook conditions

## Electrical Specifications

### System loss in each transmission direction

2.0 ± 0.5 dB nominal (off hook)

### Frequency response

The loss relative to 1004 Hz with 0 dBm0 is 0.0 dBm to -2.0 dBm at 300 Hz and 3400 Hz, +0.5 dBm to -2.0 dBm in the 400 to 3000 Hz range and +0.5 dBm to -2.0 dBm at 3200 Hz

### Channel crosstalk

With 0 dBm0 single frequency input signals between 300 and 3400 Hz applied to any line, the C-message weighted total output of the adjacent line at the channel unit in the 300 and 3400 Hz frequency band is less than -65 dBm0

### Idle channel noise at the output of channel unit

20 dBmC maximum

### Range of the digital subscriber line

Line length equal to or less than 1300 ohms or 42 dB loss at 40 kHz with no load coils

### Digital subscriber line impedance

135 ohms

### Ringing capacity

5 REN per line, 10 REN simultaneously

### Return loss (Ref: 900 ohms +2.16 mF)

ERL >18 dB, SRL >10 dB

### Voltage and current limitations

A2 limitations (+80 VDC tip to ground/ring to ground)

### Power requirement

60 MA at 52.2 VDC (typical)

## Physical Specifications

| Height             | Width              | Depth               | Temperature                       | Humidity                    |
|--------------------|--------------------|---------------------|-----------------------------------|-----------------------------|
| 3.81"<br>(9.67 cm) | 0.55"<br>(1.40 cm) | 9.79"<br>(24.87 cm) | -40° to +65° C<br>-40° to +149° F | to 95%<br>(no condensation) |

## Ordering Information

### Model Number

DDLDISC  
DDLDISCF

### Product Description

DISC★S Plug-Compatible Channel Unit — MLT Signatures  
DISC★S Plug-Compatible Channel Unit — 4TEL Signatures

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