

Selector Guide for SLIC and PSTN Interfaces from

SILVER TELECOM

This document provides a brief feature guide to Silver Telecom's range of telephony products. These components are SLIC and PSTN interfaces. They are used in PBX and Central Office systems along with the rapidly growing markets of Voice over Internet (VoIP) and Computer Telephony.

The information in this document is a guide. Complete electrical and mechanical data is contained in the relevant product's datasheet. Up-to-date versions of all datasheets are available from the company website. See www.silvertel.com for further details.



CO SLICs

SLIC Feature	Description	Ag1110
Package Availability	Device format	13 pin SIL
Number of SLICs	Number of channels per module	1
Single +5V Supply	No need for other supplies	Yes
2W Impedance	Impedance the SLIC presents to the line.	600R or 900R ¹
Balance Impedance	Fixed echo cancellation	600R or 900R ¹
DC Battery Voltage	Voltage for the telephone	-42V to -72V ⁵
Loop Current (constant)	Constant current supplied to the line when off hook	25mA
Relay Driver	Used for external ringing relay	Yes
2-4W gain	Amplification of signal from Tip/Ring to V _{out}	-1dB
4-2W gain	Amplification of signal from V _{in} to Tip/Ring	-1dB
Meter Pulse Injection	Used for metered calls, eg. Phone boxes.	Yes ²
On-board ringing	SLIC generates ringing – doesn't need separate ringing generator	No
Ringing voltage	Maximum ringing voltage which can be handled by the SLIC	90Vrms
Maximum REN	Number of phones that can be rung at one time	5
Idle Power Consumption	Power consumption when on-hook	22mW
Thermal Cut-off	Power reduction to reduce stress	Yes
Short-circuit Protection	Protects against line faults	Yes
Tip/Ring Reversal	Voltage polarity reversal used for signalling	Yes ³
On Hook Transmission	Used for on-hook signalling (CLID)	Yes ⁴
Max Loop Length	Maximum line the SLIC can drive	12km ⁵

- Note:
1. The 900R variant must be ordered as Ag1110-900.
 2. Meter pulses can be used with the ringing SLICs at low levels. Please contact Silver Telecom for details.
 3. Tip/ring reversals can be achieved using external components. Please contact Silver Telecom for details.
 4. On hook transmission can be achieved using external components. Please contact Silver Telecom for details.
 5. The Ag1110 can be used with -24V battery with a reduced line length capability.

Ringing SLICs

SLIC Feature	Description	Ag1170	Ag1171	Ag1460
Package Availability	Device format	21 pin DIL or 14 pin SIL	14 pin SIL	72 pin SIMM or 56 pin DIL
Number of SLICs	Number of channels per module	1	1	4
Single +5V Supply	No need for other supplies	+5V or +3.3V	+3.3V to +5V	Yes
2W Impedance	Impedance the SLIC presents to the line.	600R (Prog)	600R	600R (Prog)
Balance Impedance	Fixed echo cancellation	600R (Prog)	600R	600R (Prog)
DC Battery Voltage	Voltage for the telephone	Internal ⁵	Internal ⁵	Internal ⁵
Battery Switch	Used for switching between battery and ringing to the line	Auto	Auto	Auto
DC On Hook	Voltage at Tip/Ring when idle	48V	48V	48V
Loop Current (constant)	Constant current supplied to the line when off hook	24mA	30mA	24mA
2-4W gain	Amplification of signal from Tip/Ring to V _{out}	0dB	0dB	0dB
4-2W gain	Amplification of signal from V _{in} to Tip/Ring	0dB	0dB	0dB
Meter Pulse Injection	Used for metered calls, eg. Phone boxes.	Yes ¹	Yes ¹	Yes ¹
On-board ringing	SLIC generates ringing – separate ringing generator isn't required	Yes	Yes	Yes
Ringing voltage	Maximum ringing voltage which can be generated by the SLIC	63Vrms	63Vrms ³	56Vrms
Ringing Capability	Number of telephones that can be rung at one time	5 telephones ⁶	3 telephones ⁴	5 telephones ⁶
Idle Power	Power consumption when on-hook	450mW	450mW	315mW ²
Thermal Cut-off	Power reduction to reduce stress	Yes	Yes	Yes
Short-circuit Protection	Protects against line faults	Yes	Yes	Yes
Tip/Ring Reversal	Voltage polarity reversal used for signalling	Yes	Yes	Yes
On Hook Transmission	Used for on-hook signalling (CLID)	Yes	Yes ⁷	Yes
Max Loop Length	Maximum line the SLIC can drive	3km ³	1km ⁴	3km ³

- Note:
1. Meter pulses can be used with the ringing SLICs at low levels. Please contact Silver Telecom for details.
 2. Power consumption is per SLIC channel, not per module.
 3. Loop length on the Ag1170 and Ag1460 is restricted to 3km because of the requirement to ring the telephone. 3km can be achieved with 3 REN.
 4. Loop length on the Ag1171 is restricted to 1km because of the requirement to ring the telephone. 1km loop length can be achieved with 3 tone ringers.
 5. Battery voltage is generated by the integral DC-DC converter.
 6. Modern telephone ringers are high impedance (approximately 0.6 REN). So, for example, 5 telephones = 3REN.
 7. Ag1171 requires an external resistor for on hook transmission.

PSTN Interfaces (COIC / FXO / DAA)

Interface Feature	Description	Ag2120	Ag2130
Package Availability	Device format	21 pin DIL or 20 pin SIL	20 pin SIL
Number of Trunks	Number of channels per module	1	1
Single +5V Supply	No need for other supplies	+5V or +3.3V	+5V or +3.3V
2W Impedance	Impedance the Trunk presents to the line.	Prog.	Prog.
Balance Impedance	Fixed echo cancellation	Prog.	Prog.
DC Mask	Country Specifications	Prog.	Prog.
Isolation Barrier	To meet regulatory safety requirements	Integral	Integral
Loop Switch	To take the device off-hook and start drawing loop current.	Integral	Integral
2-4W gain	Amplification of signal from Tip/Ring to V_{out}	0dB	0dB
4-2W gain	Amplification of signal from V_{in} to Tip/Ring	0dB	0dB
CMRR	Common mode rejection (minimum)	70dB ¹	70dB ¹
CMOL	Common mode overload (minimum)	250Vrms ¹	250Vrms ¹
Ringling detect	Detects ringing signal on the line	Yes	Yes
Dummy ringer	Ringer load – Country specific	Not Required ³	Not Required ³
Idle Power	Power consumption when on-hook	20mW	20mW
Diode bridge	To handle line polarity reversals	Integral	Integral
Overvoltage protection	Protects against line faults	External ²	External ²
Reversal detect	Detects tip-ring polarity reversal - used for signalling	Yes	No
On Hook Reception	Used for on-hook signalling (CLID)	Yes	Yes
Loop current detect	Confirmation that loop current is flowing.	Yes	No

Note: 1. Minimum, at 50 Hz

2. An Applications Note is available with our recommendations for Overvoltage Protection. Please contact Silver Telecom, if required.

3. A dummy ringer is no longer required within the European or US markets. Further investigation is necessary for other countries.