

Aprisa SE and the Customer Interface Card (CIC) plug-in module are designed to enable network operators to configure a wireless link with the interface option best suited to their specific application.

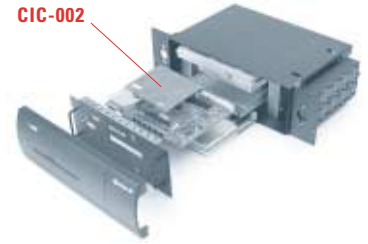
Designed for utility and energy company network applications, CIC-002 provides interconnectivity between mixtures of differently interfaced equipment. It can deliver voice circuits from a PABX or multiplexer to a remote site, as well as provide asynchronous data connectivity for direct connection to telemetry, SCADA, teleprotection, and signaling monitoring and control equipment. An Ethernet port gives LAN/WAN interconnection with a simple migration path to IP-based network monitoring for product longevity.

**PRODUCT OVERVIEW**

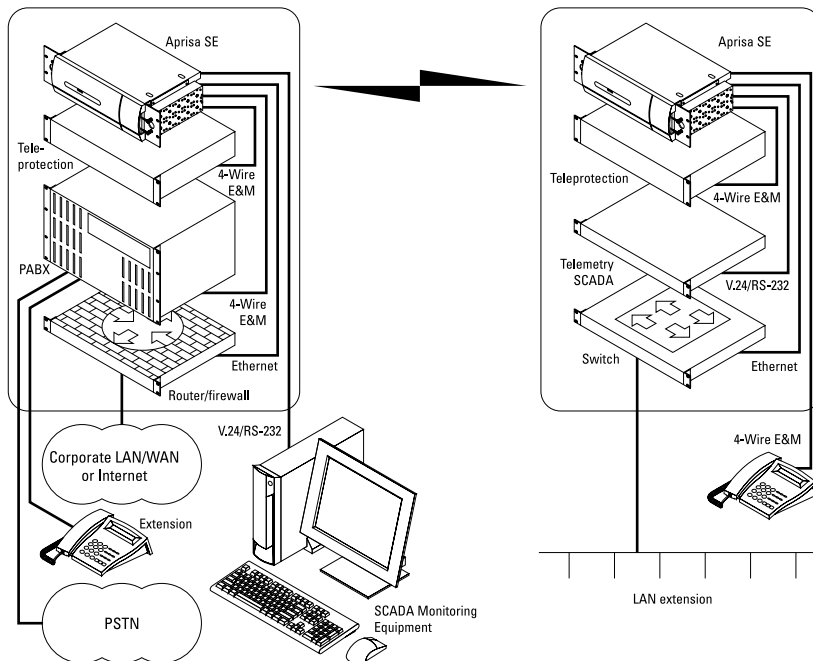
CIC-002 provides two 4-Wire circuits each capable of supporting E&M signaling, one asynchronous V.24/RS-232 and one 10Base-T Ethernet interface. Each 4-Wire circuit digitizes the analog signals at either 64 kbps PCM or 32 kbps ADPCM. The E&M signals have no internal voltage or earthing connections, allowing them to be externally strapped to meet EIA-464 types I, II, IV, or V. The M signal is transmitted end-to-end across the link with minimal added delay to the remote E Signal. Each 4-Wire circuit is set independently of the other.

The asynchronous V.24/RS-232 port supports data rates from 300 bps to 115.2 kbps selected via software. Two control lines are used for handshaking. The CTS signal is transported across the link and will appear as RTS at the remote terminal. DSR will appear as DTR at the remote terminal.

The IEEE 802.3 compatible 10Base-T interface acts as a LAN/WAN Ethernet learning bridge allowing users to connect two sections of a LAN/WAN together over the radio link. Bandwidth can be allocated to the Ethernet interface in 8 kbps steps up to the maximum available on the link. Filtering and forwarding traffic from its 10,000 MAC address LAN table ensures that only packets destined for devices at the remote end will be passed across the link thereby conserving radio bandwidth. It can be operated in half or full duplex transparent mode with filtering and Tinygram compression enabled.



- 2 x 4-WIRE E&M PORTS EACH SUPPORTING 64 KBPS PCM AND 32 KBPS ADPCM AUDIO
- 1 x V.24/RS-232 ASYNCHRONOUS DATA PORT SUPPORTING RATES FROM 300 BPS UP TO 115.2 KBPS
- 1 x IEEE 802.3 10BASE-T ETHERNET BRIDGE PORT.
- CONFIGURED USING WINDOWS® BASED APRISA SETUP™ SOFTWARE
- COMPLIANT WITH INTERNATIONALLY RECOGNIZED STANDARDS



**APRISA SE DIGITAL ACCESS RADIO**

Aprisa SE is the simple, cost-effective solution to a wide range of low capacity point-to-point digital radio applications.

Compact and simple to install at any site, Aprisa SE is also easy to use, reducing user expertise requirements, and minimizing the need for additional equipment.

Aprisa SE incorporates a single customer interface card (CIC), with a specific mix of interfaces optimized for the application needs, such as simple fractional E1 and Ethernet, or a complex combination of analog voice and digital data circuits.

# CIC-002 SPECIFICATIONS

# ABOUT 4RF

## PORT 1 & 2: 4-WIRE E&M

Bandwidth	Audio E&M signaling Maximum line length	64 kbps (PCM A-Law as per ITU-T G.711) 32 kbps (ADPCM as per ITU-T G.726 and ANSI T1.303) 8 kbps per port 400 m
Analog parameters	Standard Nominal level Maximum level Dynamic range Normal impedance Return loss Transformer isolation End-to-end gain  Signal line protection Signal to total distortion Idle channel noise	ITU-T G.712 -10 dBm -7 dBm 50 dB 600 Ω Better than 25 dB 2000 Vrms 0 dB ± 0.6 dB (300 to 3000 Hz) 0 dB ± 1.5 dB (250 to 3400 Hz) 62 V, 0.5 A fuse > 30 dB (0 to -30 dBm0), > 22 dB (-45 dBm0) < -70 dBm
Signalling	E&M Pulse distortion M loop current M detection voltage M maximum voltage E circuit impedance E maximum current E maximum voltage E&M circuit protection	Mode independent (external power supply required) Better than 150 μs 6.5 mA maximum (constant current) 12 V 60 V 45 Ω closed, > 100 kΩ open 100 mA 60 V 100 V, 0.5 A fuse
Diagnostics	Software  Hardware interface port	Local and remote alarm logging Local and remote software set loopbacks Green LED: M circuit active Yellow LED: E circuit active

## PORT 3: V.24/RS-232

General	Interface Bandwidth allocation Control line allocation Maximum line length Data clamp Control line clamp Clock	ITU-T V.24/EIA RS-232E 8 to 120 kbps in 8 kbps steps (dependant on rate selected) 8 kbps 10 m Mark hold when out of sync Off when loss of sync Internally generated
Asynchronous parameters	Transparent mode Standard mode data bits Standard mode parity Standard mode stop bits Data rates	Operation is completely transparent up to 600 bps (select 300 bps) 5, 6, 7, 8 Transparent (enable/disable) 1, 2 300 bps, 1.2, 2.4, 4.8, 9.6, 14.4, 19.2, 28.8, 38.4, 57.6, 115.2 kbps
Control signals	End-to-end	CTS-RTS, DSR-DTS
Diagnostics	Software  Hardware interface port	Local and remote alarm logging Local and remote software set loopbacks Green LED: Receive data Yellow LED: Transmit data

## PORT 4: 10Base-T

General	Standard Interface Cabling Maximum line length Bandwidth allocation Data buffer size Address table size Protocol	IEEE 802.3 UTP (10Base-T) Crossover and straight through 100 m (on standard CAT 5 Ethernet cabling) N x 8 kbps up to max available 256 frames 10,000 IP addresses HDLC
Configuration options	Ethernet mode Tinygram compression	Half duplex & transparent (default) or full duplex & filtered Enabled (default) or disabled
Diagnostics	Software Hardware interface port	Local and remote alarm logging Green LED: Link OK Yellow LED: Link data traffic

### SOLUTION LEADERSHIP

To ensure 4RF systems remain at the forefront of point-to-point wireless solutions, we're committed to substantial ongoing investment in engineering expertise and R&D.

### QUALITY ASSURANCE

To ensure our products' performance is second to none, we invest in high-quality manufacturing and testing resources, leveraging New Zealand's engineering expertise and low cost-base.

### COMPREHENSIVE SUPPORT

To assure your success, our internationally recognized engineering and technical expertise is available to support you via consultancy, business case advice, network design and path planning. Our worldwide distributor and support infrastructure provides prompt communication, technical support and training.

### BUSINESS INTEGRITY

New Zealand, our home base, has a safe political and financial environment from where we manage our company based on international best practice.

### JUST CALL US

We invite you to tell us about your network and what you would like to achieve. We'd be pleased to visit and present our credentials, table our reference sites and testimonials, help you prepare a network design plan, and demonstrate our solutions.



### 4RF COMMUNICATIONS LTD

26 GLOVER ST, NGAURANGA  
PO BOX 13-506  
WELLINGTON 6032  
NEW ZEALAND

TELEPHONE: +64 4 499 6000

FACSIMILE: +64 4 473 4447

EMAIL: sales@4rf.com

URL: 4rf.com



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