

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.

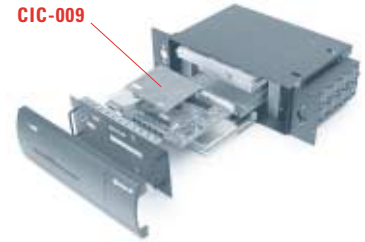
CIC-009 provides an efficient means of interlinking MPT1327, Smart Trunk and other similar analog trunked mobile radio network base stations to the base station controller, along with drop and insert capabilities allowing links to be cascaded. CIC-009 uses 4-Wire VF (no E&M) circuits to deliver analog voice between node and base station, and a V.24/RS-232 circuit for control signals. The E1 interface can be used to link two terminals together to act as a repeater, and to drop and insert traffic channels. Analog traffic and control signals can be dropped into E1 timeslots and carried across the link as E1 traffic.

**PRODUCT OVERVIEW**

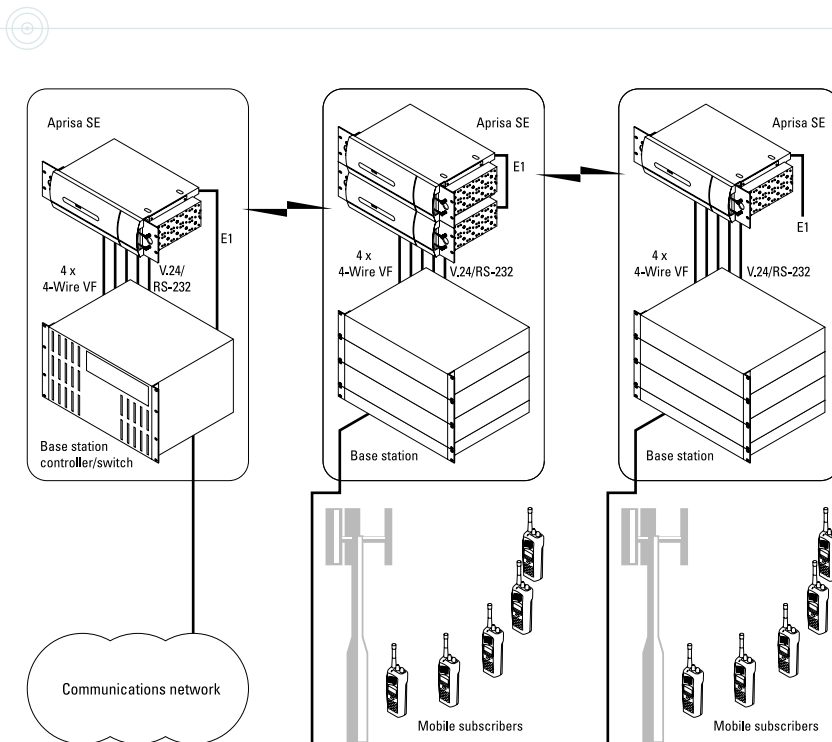
CIC-009 provides one E1 interface compliant to the G.703 and G.704 specifications. It can provide up to a maximum of 18 time slots or 1200 kbps of data, and can pass data across the link transparently. Timeslots 1 to 31 within the E1 data stream can be selected using the setup software and cross-connected with the Aprisa built in cross connect for transmission over the radio link to the remote end. Each timeslot is automatically assigned 64 kbps of bandwidth, and do not have to be set consecutively. Timeslot 0 is used for synchronization and cannot be selected. A visible alarm for LOS is provided on the RJ-45 connector.

Each 4-Wire circuit digitizes the analog signals at 64 kbps PCM, or 32, 24, 16 kbps ADPCM. Each 4-Wire circuit can be set independently of the others. This enables the network provider to offer different grades of service.

The asynchronous V.24/RS-232 port supports data rates from 300 bps to 38.4 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.



- 1 x G.703/4 COMPLIANT FRACTIONAL E1 INTERFACE
- 4 x 4-WIRE VF SUPPORTING 64 KBPS PCM AND 32, 24 AND 16 KBPS ADPCM AUDIO
- 1 x V.24/RS-232 ASYNCHRONOUS DATA PORT SUPPORTS RATES FROM 300 BPS UP TO 38.4 KBPS
- 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-009 SPECIFICATIONS

## PORT 1: E1

General	Standard Interface Cabling Maximum line length Bandwidth allocation Line Code Stability Jitter performance	ITU-T G.703/G.704 120 $\Omega$ balanced RJ-45 Crossover and straight through 1.7 km (typical, with 36 dB of loss in standard cat5 cable) 64 kbps time slots HDB3 $\pm 50$ ppm ITU-T G.823 (sections 2 & 3)
Diagnostics	Software  Hardware interface port	Local and remote alarm logging Local and remote software set loopbacks Green LED: Link OK Yellow LED: Loss of signal

## PORT 2 & 3: 4-WIRE VF (2 INTERFACES / PORT)

Bandwidth	Audio  Maximum line length	64 kbps (PCM A-law as per ITU-T G.711) 32, 24 and 16 kbps (ADPCM as per ITU-T G.726 and ANSI T1.303) 600 m
Analog parameters	Standard Nominal level Maximum level Input gain adjustment Output gain adjustment Dynamic range Normal impedance Return loss End-to-end gain  Signal line protection Signal to total distortion  Idle channel noise	ITU-T G.712 0 dBm +3 dBm 0 or +6 dB -6 or 0 dB 50 dB 600 $\Omega$ Better than 25 dB 0 dB $\pm$ 0.6 dB (300 to 3000 Hz) 0 dB $\pm$ 1.5 dB (250 to 3400 Hz) 18 V clamp > 30 dB (0 dBm to -30 dBm0) > 22 dB (-45 dBm0) < -70 dBm
Diagnostics	Software  Hardware interface port	Local and remote alarm logging Local and remote software set loopbacks Green LED: Circuit 1 transmitting or receiving audio Yellow LED: Circuit 2 transmitting or receiving audio

## 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 48 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 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

# ABOUT 4RF

## 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](mailto:sales@4rf.com)

URL: [4rf.com](http://4rf.com)



VERSION 3-0

