CELL-ACE ATM

ATM Access Adapter

Technical Specifications

Transmission Speed	1.5 Mbits – 155 Mbit/s
ATM WAN Interfaces	155 Mbit/s multimode 155 Mbit/s mono 15 km or 40 km 155 Mbit/s G.703 (coming soon) 155 Mbit/s twisted pair 45 Mbit/s DS3 34 Mbit/s E3 2 Mbit/s E1 1.5 Mbit/s T1
User Network Interfaces	600 Kbit/s – 130 Mbit/s DVB-SPI 600 Kbit/s – 130 Mbit/s DVB-ASI (coming soon) 45 Mbit/s T3 34 Mbit/s E3 2 Mbit/s E1 1.5 Mbit/s T1 0 – 2 Mbit/s transparent with support for X21, V.24 or.V.35 interface AES/EBU (coming soon)
Control Interface	RS232
LED Indicators per Interface	TX active; RX active; status (LOS); loops
Synchronisation	looped Rx clock; central clock (derived from any interface); internal clock; adaptive clock recovery
Signalling	PVCs; S-PVCs
Management	
Local	VT100 terminal via a local RS232 interface
Remote	management via Telnet /SNMP (Ethernet) management via Telnet/SNMP (ATM in-band) updates via TFTP
ATM OAM ITU-T I.610	fault detection; fault location;
HP OpenView	CELL-SCOPE module for centralised management
Supported MIBs	MIB-2 (RFC 1213); SONET-MIB (RFC 1595); DS3-MIB (RFC 1407); DS1-MIB (RFC 1406); ATM-MIB (RFC 1695-traffic management); ATM-TEST-MIB (OAM loop-back); ATM-SOFT-PVC-MIB
Standards Compliance	ITU-T: I.371, I.432, I.610, G.703, G.704, G.804, ATM Forum: UNI 3.0/3.1 (UNI 4.0)
Power Requirements	supply voltage options: either AC: 88 – 265 V, 47 – 63 Hz or DC: 48 V; power consumption: 40 W
Environmental Specs.	ambient temperature range operation: 0° C - 55° C storage: -25° C – 85° C humidity: < 95% emission meets EN 55022 / 1987 class B
Dimensions (H x D x W)	4.4 x 33 x 44 cm
Approvals	VDE, UL, CUL
CE	

Controlware GmbH
International Headquarters
Waldstrasse 92
63128 Dietzenbach
Tel. +49 60 74 8 58-00
Fax +49 60 74 8 58-1 91
e-mail: cwp-info@controlware.de
web: http://www.controlware.de

Australia
Controlware Pty. Ltd.
Suite 23, 1 Gladstone Road
Castle Hill, NSW 2154
Tel. +61 2 9899 6288
Fax +61 2 9899 3699
e-mail: garry.lau@cware.com.au

Belgium
Controlware Benelux S.A./N.V.
Leuvensesteenweg 542-7B
1930 Zaventem
Tel. +32 2 712 0200
Fax +32 2 712 0201
e-mail: csarafid@controlware.de

France
Controlware France S.A.
28–32 rue Berthollet
94110 Arcueil
Tel. +33 1 46 12 77 00
Fax +33 1 46 12 77 11
e-mail: commercial@controlware.fr

Netherlands
Controlware Benelux S.A./N.V.
Netherlands Branch
Alphenseweg 4L
NL 5133 NE Riel
Tel. +31 13 518 6084
Fax +31 13 518 6089
e-mail: rudi@controlware.de

Singapore
Controlware GmbH Asia-Pacific
Singapore Representative Office
Level 36, Hong Leong Building
16 Raffles Quay, Singapore 048581
Tel. +65 3228 594
Fax +65 3220 886
e-mail: mashoff@controlware.com.sg

Switzerland
Controlware AG
Churerstrasse 160A
8808 Pfäffikon/SZ
Tel. +41 55 410 61 16
Fax +41 55 410 62 20
e-mail: info@controlware.ch

United Kingdom
Controlware Ltd.
Gateway House
Newbury Business Park
London Road
Newbury, Berkshire RG14 2PZ
Tel. +44 1635 584 000
Fax +44 1635 584 098
e-mail: info@cware.co.uk

United States
Controlware Inc.
1345 Campus Parkway
Neptune, NJ 07753
Tel. +1 732 919 0400
Fax +1 732 919 7673
e-mail: info@cware.com

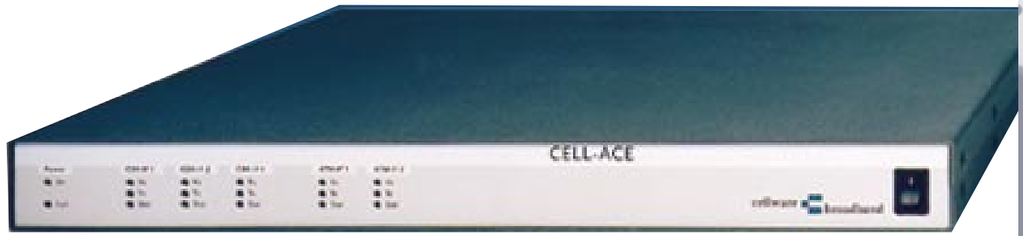
CWP/SGE Rev. 1.0 08/98

controlware
communicationssystems

CELL-ACE

ATM Access Adapter

ATM



Voice and Data over ATM

Digital Video Broadcasting over ATM

CELL-ACE is a slim-line ATM access device designed to meet the needs of users of Wide Area Networks (WANs) based on public ATM. CELL-ACE enables the realisation of real-time (Constant Bit Rate) applications such as telephony and the transmission of high-quality (contribution quality) video or studio quality audio.

The wide range of ATM network interfaces allows users freedom of choice when ordering an ATM connection. Signalling allows you to make the most of ATM, dialling up as much bandwidth as needed, when it is actually needed. Each CELL-ACE can be equipped with a maximum of three network user-side interfaces, emulating up to three circuits over ATM. CELL-ACE's modular design allows easy upgrades and thus migration to more demanding applications, as user requirements change.

The ISDN and ATM
specialist

controlware
communicationssystems

CELL-ACE

ATM Access Adapter

Features

The Concept

CELL-ACE is based on circuit emulation via AAL1 or constant bit-rate AAL5. This means that, although ATM transmission is used, the network equipment connected to CELL-ACE thinks that it is connected to a leased line or transparent circuit. This makes configuration and use of CELL-ACE very easy and any equipment that works with a G.703 leased line will work with CELL-ACE.

CELL-ACE's modular interface design allows user to easily upgrade, for example, an existing single line device to emulate up to three leased lines. Also, an interface version for effective and economical PABX upgrade to ATM traffic is offered.

With CELL-ACE, Constant Bit Rate (CBR) services can be managed via a single box rather than installing different terminating equipment for data, voice and video networks. This results in considerable cost savings.

ATM Interfaces

A wide range of ATM WAN interfaces is available to connect CELL-ACE to the public ATM network. The interfaces meet bandwidth requirements from 1.5 Mbit/s to 155 Mbit/s and can be easily swapped to accommodate changing user requirements. For a detailed list of interfaces, please refer to the Technical Specifications.

User Interfaces

A wide range of user Constant Bit Rate (CBR) network interfaces is available for point-to-point applications such as video-conferencing, interactive audio (e.g. telephony), audio/video distribution (e.g. television, distance learning) or audio/video retrieval. In addition, data communications equipment such as routers and TDM concentrators can also be connected. For a detailed list of interfaces, please refer to the Technical Specifications.

Digital Video Broadcasting (DVB) Interface

For unidirectional or bidirectional video transmission over ATM, CELL-ACE can be equipped with a Digital Video Broadcasting (DVB) user network interface. Video CODECs equipped with such a DVB interface can vary the bit-rate according to the picture quality needed, with a maximum transmission rate of up to 130 Mbit/s. ATM users only pay for the bandwidth actually needed, rather than using a fixed connection with a fixed bandwidth. This allows you to choose the cost to match the value of the picture content and thus benefit from considerable cost savings.

The DVB interface makes CELL-ACE particularly interesting for the broadcasting industry.

Structured and Unstructured Mode

The E1 and T1 interfaces can be configured to support either structured or unstructured traffic. The structured mode is compliant with the I.363.1 standards.

Please note that in either structured or transparent mode, CELL-ACE does not process and cannot process CAS or any other telephone signalling generated by a PABX. The device provides a circuit emulation Service (CES) and whether individual time-slots are active or not, the entire signal will be transported to one destination. Individual 64 Kbit/s timeslots cannot be separately routed through the ATM network.

Signalling

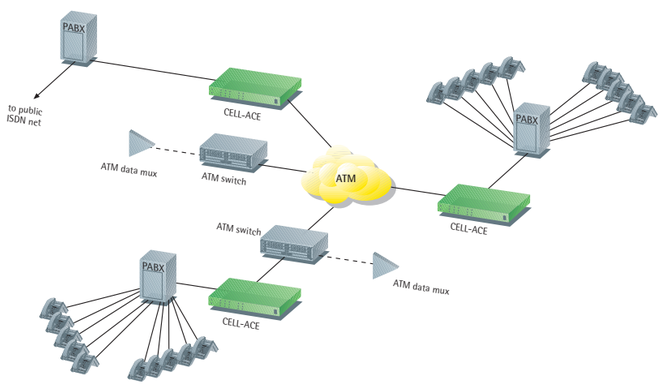
Both PVCs and S-PVCs can be used to create a virtual channel through the public and private ATM network. The S-PVCs establish a signalled ATM connection through the ATM network to the required destination. The signalling is point-to-point and bidirectional.

Operations & Maintenance (OAM)

OAM flows are supported on both ATM interfaces conforming to ITU-T I.610. Statistics are kept for all interfaces and the results are put into SNMP MIBs. This allows rapid detection of performance faults and network problems and thus quick notification to the network manager.

Armed with this information, users can follow trends in long-term network performance.

Telephony via ATM



Corporate telephone exchanges (PABXs) can be easily linked over the ATM WAN enjoying desk-to-desk interconnection that ignores borders. Cost-effective, modern ATM networks can result in significant cost savings. Corporations with their own private ATM network, can integrate their PABXs at different locations into this network, thus reducing administration and maintenance costs.

Configuration Management

CELL-ACE-PLUS can be configured locally using a menu-driven VT100 terminal and remotely via Telnet and/or SNMP.

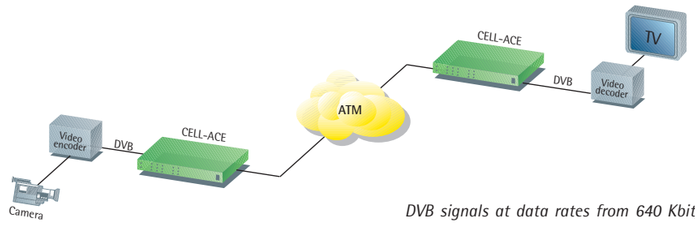
SNMP

For complete configuration and control the Simple Network Management Protocol is supported. The SNMP agent can be accessed via Ethernet, via ATM "in-band" on up to 4 virtual channels. Four SNMP managers with individually defined access rights can access the agent.

Network Management

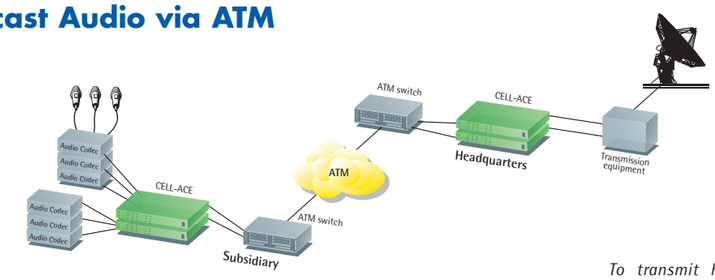
CELL-ACE can be integrated into the HP OpenView umbrella network management platform using the CELL-SCOPE module. This facilitates the management of LAN/WAN environments from a central vantage point. CELL-SCOPE provides fault, configuration and performance management.

Digital Video Broadcasting via ATM



DVB signals at data rates from 640 Kbit/s up to 130 Mbit/s are automatically transmitted over the ATM WAN. This is particularly well suited for the distribution of video to CATV/SMATV head-ends and similar professional equipment.
Of course, video broadcasting can also be supported using other user interfaces such as E3 for ETSI standard CODECs.

Broadcast Audio via ATM



To transmit high-quality audio, an E1 (2 Mbit/s) interface may be sufficient. The use of a signalled ATM connection enables users to reduce costs as the connection can be opened/closed as required.

Features

- Wide range of public ATM network and user network interfaces
- Any combination of up to three user network interfaces possible
- Second, fall-back ATM interface
- Digital Video Broadcasting (DVB) interfaces
- Optimise network utilisation with dynamic bandwidth allocation
- SNMP supported for full configuration and control
- Remote hardware and software update
- Network management
- OAM functions
- Compliant with ITU-T and ATM Forum specifications