

Technical Specification

Wordnet Series 2

Renaissance™ Component

■ BASIC PARAMETERS

Description:

Multi-channel digital voice recorder.

Communications logger:

Simultaneous record and replay of messages.

Instant access to recent messages.

Archives messages on to removable media.

Physical:

Stand-alone desktop or rack-mounted (6U of rack height).

Control:

Front panel or remote workstation.

Full graphical display.

Security:

Wordnet can be configured to allow full or partial control by user account.

User accounts can be set up to allow access to only selected channels and functions using a programmable key or a PIN number.

No. of inputs:

Analogue	8 to 128
Digital Extension Taps	8 to 128
ISDN Basic Rate	8 to 128
ISDN Primary Rate E1	30 to 120
T1 (DS1)	24 to 96
PCM30	16 to 120
PCM32	16 to 128
ISDN PRI	23 to 92

Timecode:

Internal accuracy ±25 seconds per week (temperature range 15C to 25C).

External sources: MSF, DCF77, IRIG B, IRIG E, NENA, (100 Hz and 1 kHz).

Recording:

Incoming messages are stored on to both hard disk and archive media.

The hard disk can store up to 1200 or 2500 channel hours for instant recall.

■ LOCAL CONTROL OPTIONS

Display type:

Electroluminescent (320 x 256 pixels).

Keypad:

Rotary selector, cursor control, replay control, soft keys, volume controls, tape eject.

Functions:

Record control, replay and search configuration.

■ WORDNET WORKSTATION

This allows users to control the recorder and replay messages on the Wordnet from their own PC via a network connection.

The software provides full recorder functionality – configuration, record and replay.

Host PC requirements:

P133 Processor

2 speed CDROM

16 MB RAM

Sound Card and speakers (LAN replay)

SVGA monitor

10 MB free hard disk space

Windows 95, 98, NT4 (requires 32 MB RAM minimum)

Network card - Ethernet TCP/IP, 10base T (LAN control and replay)

1 free RS232 port

Replay over LAN:

Messages can be replayed via a remote PC.

The PC stores the messages as WAV files which can be replayed with a 16-bit sound card.

Variable speed replay is available at the PC from 0.5 to 2 x real speed.

■ MULTI-MACHINE SYSTEMS

Wordnets can be configured with a network card and connected together as a single recording system.

This allows centralised control, synchronised time and additional redundancy when using bus acquisition and standby recorder or a master slave configuration.

Bus Acquisition (Option):

Allows 2 or more recording units to provide redundancy.

Network type:

Ethernet TCP/IP

Token Ring

Maximum no. of recording units: 253

■ RECORDING

Record process:

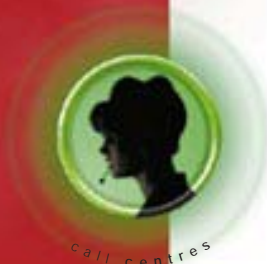
Information is recorded on to either hard disk and DDS3 tapes or DVD RAM.

Incoming messages are digitised by Wordnet and compressed for storage.

Speech compression:

Wordnet offers a choice of algorithms and data rates.

The benefit of using a lower data rate is that it allows more information to be stored on each tape or disk.



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Racal Recorders

<i>Compression algorithm</i>	<i>Rate kbit/s</i>	<i>Replay quality (subjective)</i>
GSM	13.2	High
ADPCM	16	Good
ADPCM	32	High

Uncompressed recording:

All channels can have compression disabled. Recording is at 64 kbit/s up to 25% utilisation of channels is acceptable.

Recording confidence:

Wordnet monitors all areas vital to record process and flags an audible or visual alarm if a fault is detected.

The archive drives perform read-after-write checks to ensure the integrity of the recorded information.

Record enable:

Ring detect
Off hook detect
Continuous record
Line activity detection
Fax
Switch event
Optional CTI input

Activity hold time:

1 to 14 seconds.

Automatic gain control:

Available during replay as Automatic Replay Level Control (ARLC).

■ ARCHIVING

Long term archive:

	<i>GSM</i>	<i>16 kbit/s ADPCM</i>	<i>32 kbit/s ADPCM</i>	<i>Maximum number of messages</i>
DAT DDS3 Autochanger	9,900 ch. hrs.	8,170 ch. hrs.	4,086 ch. hrs.	1,200,000
DAT DDS3	1,980 ch. hrs.	1,640 ch. hrs.	820 ch. hrs.	240,000
DVD RAM	860 ch. hrs.	712 ch. hrs.	356 ch. hrs.	50,000

Number of drives:

1 or 2.

Dual drive recording modes:

Parallel drive recording.
Sequential drive recording.
Single drive record with standby.

The drives are always available for replay.

■ REPLAY

Messages can be replayed using the front panel controls, a remote PC, a remote audio unit, desk top console or via a telephone network.

Replay sessions:

Up to 4 operators may replay messages simultaneously.

Multi channel replay:

An operator may replay up to 4 messages simultaneously.

Message search parameters:

Start time/date
Channel Number
Channel Name
Dialled Digits
Calling Number
Ring Time
User Flags
Called Number
Transaction Reference
Message Description

Search times:

Instant access: 2 seconds.
Loaded archive: typically 60 seconds.

Clipboard:

Once the hard disk becomes full, the oldest message is over-written by the next incoming message.

To keep important messages for instant access, the operator can copy them to the clipboard. Messages from archive can also be copied to clipboard.

Internal loudspeaker:

For local replay and alarms.

Headphone output:

3mm (1/8 inch) jack socket.
3mW into 20Ω.

Transcription:

Selected messages can be copied from Wordnet on to audio compact cassette.

Messages transferred over LAN can be copied to any computer media.

Transcription output:

1 V rms (800 Hz into 50 kΩ).
Mini 5-pin DIN connector.

Audio output:

4 line outputs.
1 V peak into 600 Ω.
Rear panel D-type connector.

Dial in Replay (option):

Provides 2 ports for remote replay via DTMF telephones.

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Remote Audio Unit (option):

Provides amplified audio output.

Auto Answer (option):

Allows access of messages over the telephone.

Wordnet Workstation (option):

Allows remote control of Wordnet.

PC Reproducer (option):

Allows off line replay of messages.

■ INPUTS

Input channels:

There are 128 input channels available.
Various input types can be mixed.

Analogue inputs:

The analogue inputs may be connected to a telephone line or any communications device meeting the input level requirements.

Bandwidth:

300 Hz to 3.4 kHz.

Sensitivity:

Two ranges selectable per channel:
-35 to +6 dBV suitable for telephones and most other communications systems.
-20 to +15 dBV suitable for direct connection to high level line inputs.

Input impedance:

>50 k Ω over the range.
300 Hz to 3.4 kHz, 600 Ω optional.

Isolation:

>1.5 kvrms AC 50 Hz Common Mode.

Digital inputs:

Optional digital interfaces can be installed in place of the analogue input cards.

Digital interfaces:

ISDN Primary Rate

E1 (30 Channels)

CCITT recommendation: I.431.
Channel coding: G.711 A-Law or μ -Law encoded.
Physical: G.703 (interface at 2048 kbit/s).
Signalling: Q.931 only associated signalling is supported. (one D-Channel per primary line)
DASS2
DPNSS

Frame format: FAS

ISDN PRI (23 Channels)

CCITT recommendation: I.431.
Channel coding: G.711 A-Law or μ -Law encoded.
Physical: G.703 (interface at 1544 kbit/s).

Signalling: Q.931 only associated signalling is supported. (one D-Channel per primary line)
DASS2
DPNSS

Frame formats: SF (Super Frame)
ESF (Extracted Super Frame)
TIDM (TI Data Multiplex)
SLC 96 (SLIC 96)

T1 (DS1) (24 Channels)

Line code: B8ZS

PCM30

The link specification is derived from CCITT G.703 and G.704.

Channel coding: G.711 A-Law or μ -Law encoded.

Symbol rate: 2048 kbit/s.

Line code: HDB3.

Connection: 120 Ω twisted pair.

Nominal mark: 3 V pk.

Max Attenuation: 6 dB from nominal @ 1024 KHz (at receiver).

ISDN Basic Rate

Channel coding: G.711 A-Law or μ -Law encoded.

CCITT recommendation: I.430.

Signalling: Q.931.

PCM 32

Symbol rate: 2048 kbit/s.

Connection: RJ45 Jack Socket.

Frame length: 256 bits.

Frame rate: 8 kHz.

Timeslots per frame: 32

Bits per slot: 8

Channel coding: G.711 A-Law or μ -Law encoded.

Digital Extension Taps:

Ericsson MD110

Ericsson ACP1000

Ericsson BP250

Ericsson Consono

Nortel Meridian

Nortel Norstar

Siemens Bealtis Optiset E

Siemens ISAX ISDT

Siemens Optiset E

NEC NEAX

Bosch 33/33XE

Aspect Telset

Alcatel 4200

Lucent Definity

Refer to Racal for updates and separate technical specifications.

■ ELECTRICAL

Single AC PSU:

115/230 V nominal, 50 to 60 Hz

Power consumption:

<110 W (Typ) 150 W Peak

Max. in-rush current:

45 A at 115 V; 70 A at 230 V

Other PSUs:

Dual Hotswap AC 115/230 V

■ ENVIRONMENTAL**Temperature:**

Storage: -20C to +60C

Operating: +5C to +35C

Humidity:

Storage: 5% to 80% rel. humidity.

Operating: 20% to 80% rel. humidity.

Vibration:

IEC 68-2-6: Test Fc 0.075 mm pk displacement
(10 Hz to 57 Hz).

1g peak (57 Hz to 200 Hz).

Non-operational.

Shock and bump (In transit pack):

IEC 68-2-29 : Test Eb 10 g peak 16 ms duration,
1000 bumps.

Non-operational.

Drop (In transit pack):

0.4m on to concrete in freight pack.

Non-operational.

EMC emission:

EN55022 Class A

FCC 15 Class A

EMC susceptibility:

EN55024

ESD:

EN50082/1

EN55024

Electrical safety:

EN60950

Approvals:

BABT

FCC

CSA

AUSTEL

UL

■ PHYSICAL**Dimensions:**

267 x 470 x 450 mm (h x d x w).

Weight:

32 kg (fully populated with 128 ch and dual autochangers).

Colour:

Light grey.

■ ACCESSORIES**Remote Audio Unit:**

Power requirements: +10 V DC to 14 V DC.

Dimensions: 160 x 120 x 260 mm (h x w x d).

Remote Monitor Unit:

Displays the alarm status of up to 4 Wordnet recorders as an audible and visual alarm.

Dimensions: 58 x 180 x 180 mm (h x w x d).

Label Printer:

Prints labels for archive media.

Modem:

Provides access to remote diagnostics.

Allows remote control using Serial Workstation.

Dealer Stamp

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