



# Technical Specification

## RBR2600 Series Recorders

### Overview

The RBR2600 Series is a mission critical recording platform utilising the Microsoft Windows 2000 Professional or Windows 2003 Server operating system, providing high performance simultaneous recording and replay of VoIP, TDM and Analogue devices. Access is provided using Web based interfaces, enabling worldwide access to replay, configuration and maintenance.

Recordings are stored locally to HDD prior to being archived on removable media and Networked Storage. All normal recording and replay functionality requires just one server containing the call storage, archiving sub-system, database and Web Server.

### Recording

The recording process guarantees high performance and minimal data loss in the event of power failure. Recordings are stored locally to HDD in a proprietary format and the Call Details are held in a high performance embedded database.

All recordings are given a timestamp by the recorder. The timestamp may be increased in accuracy by the use of the Network Time Protocol, which can be licensed for use on the recorder.

Calls can optionally be deleted off the recorder after a configurable period otherwise they remain accessible until the recorder needs to re-use the space on the local HDD using a first-in-first-out method.

Recording can be controlled using the Record on Demand feature.

**Inputs** 4 to 512 recording channels per recorder, with mixed inputs from traditional telephony or VoIP.

The number of recording channels is limited by licensing. Using our unique 'Roving' licence mode, it is possible to select any number of devices to be recorded but only the licensed number of devices will be actually recorded. This means, for example, that a site with 60 trunk lines but 200 extensions need only buy 60 licences (*VoIP only*).

### Input Connectivity

Analogue Telephony / Radio	VoIP 3Com NBX (Layer 2 and 3)
Digital Extensions	VoIP Cisco
ISDN Basic Rate	VoIP Siemens
ISDN Primary Rate	VoIP Avaya
T1 (DS1)	VoIP Mitel
PCM30	VoIP Alcatel
PCM32	VoIP Splicecom
VoIP (SIP)	



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#### Digital extension connectivity table:

##### With D-channel:

Alcatel 4200,4400 [4000 series phones]  
 Aspect ACD System [Teleset series]  
 Avaya (Lucent) DEFINITY (2-wire) [64xx series, 8410, 8434, CallMaster III, IV, V & VI]  
 Avaya (Lucent) DEFINITY (4-wire) [7406, 8410, CallMaster I, II, III, IV]  
 Avaya INDeX (4-wire with RTS Box) [DT3, 2030, 2050]  
 Avaya Magix [44xx series phones]  
 Avaya IP Office [24xx & 54xx phones]  
 Avaya S8300 [2410 & 2420]  
 Bosch Integral 5D [T3 phones]  
 Bosch Integral 3 (4-wire) [TB13, TE13, TH13, TM13 & TS13]  
 Bosch Integral 55D [T3 Classic phones]  
 EADS Intecom E [ITEseries - no D for ITE 760]  
 EADS Matra Connexity M6501-L [MC401, MC520, MC430E, M700 Series & M760]  
 Ericsson MD110, Business Phone [Dialog 2600, 3200 and 4200 series, DBA706, Dialogs 2501 & 2563]  
 Fujitsu F9600 [F10B]  
 InterTel Axxess [KTS Executive w/LCD part # 550.4500 & KTS Standard w/LCD part# 520.4300]  
 LG Starex [LGP-30D]  
 Mitel SX200 & SX2000 (4-wire with RTS Box) [401+, 430, 4001, 4025, 4150]  
 NEC Electra Elite, Professional [DTU-32D-2, DTU-16D-2, DTP-x (DtermSeriesE), DCU60 (add on)]  
 NEC NEAX 2000, 2400 [NOT Dterm series 3 or 75]  
 NEC NEAX 1000 [DTP 8D & DCU 60 (add on)]  
 Nortel Meridian 1 & SL100 [2006, 2008, 2216, 2616, 3820, 390x]  
 Nortel Norstar [7100, 7208, 7310, 7316, 7324]  
 Panasonic TDA-50 [KXT-7431, KXT-7453, KX-T7630]  
 Philips ISO3010 [2-wire: D310/2, D320/2, D325/2 4-wire: D325/4, D330/4, D340/4]  
 Siemens Hicom 100E, 150E [Optiset series & OptiPoint 500 series]  
 Siemens Hicom 300E [Optiset series, OptiPoint 500 series, 4-wire (with RTS Box): Rolm 240E, 312L, 400, 240, 624SL]  
 Siemens Hicom 330E [Optiset series, OptiPoint 500 series, Advanced Conference DE, Standard DE]  
 Siemens HiPath 3000 & 3750 [Optiset series, OptiSet E, OptiPoint 500 series]  
 Siemens HiPath 4000 [Optiset series, OptiSet E, OptiPoint 500 series, Advanced Conference DE, Standard DE]  
 Siemens Rolm 9751 CBX [4-wire (with RTS Box): Rolm 120, 240E, 312L, 400, 240, 624SL]  
 Samsung DCS-828 [DS-24SE-KTS]  
 Samsung Inforex [DS-24SE-KTS]  
 Toshiba DK280 [DKT2010 & DKT2020]  
 Toshiba CTX670 [DKT3010-SD & DKT3020-S]

##### No D-channel

Avaya Magix [MLX Phones]  
 Nortel Meridian 1 & SL100 [2250, 2317]

Recording capacity for one recorder – any of:  
 200 channels of VoIP (simultaneous recordings)  
 480 channels of E1 ISDN  
 192 channels of Digital or Analogue connectivity  
 For mixed configurations, contact Red Box Recorders.



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#### Recording Compression

For line card recording (non-VoIP):

Uncompressed	64kbit/s
GSM	13.2kbit/s
G729a	8kbit/s

VoIP is recorded natively with no further compression.

#### Archive

The RBR2600 provides a choice of archive options both locally and via network attached storage devices (NAS/SAN).

**Local archive** By default, call data is written to the local archives within seconds of it being recorded for resilience in the event of Hard Disk Drive failure.

Archive media recorded on one recorder can be replayed on any other recorder (subject to security permissions). Each recorder can have up to two devices per server; both devices must be of the same type. The options available are:

DVD-RAM / DVD+RW – 9.4GB  
Exabyte VXA-2 Tape – 80GB

Local archiving can be used in the following modes:

- Single drive – a single drive is used for archiving – the other is either not fitted, used as a standby replacement or used solely for replay purposes.
- Sequential – When the media in one drive fills, if suitable media is loaded in the other drive this takes over. Ideal for maximising unattended operation.
- Parallel – Two identical copies are made. Suitable for resilience or court/work operations.
- An optional Label Printer may be used to print labels to clearly identify media.

**Remote archive.** Using Network Attached Storage devices the call store on the recorder can be increased in size to a maximum limited only by the available size of the attached device.

It is possible to schedule times when the transfer takes place to minimise network impact.

A recorder can be rebuilt from the Networked Storage as part of a disaster recovery strategy.



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Calls on the Networked Storage can be searched for from the recorder and easily replayed. This effectively increases the online capacity of the recorder to the size of the Networked Storage i.e. practically infinite online capacity.

#### Storage Capacity

- Up to 28,000 Channel Hours to local Hard Drive (standard)
- Up to 120,000 Channel Hours to local Hard Drive (optional)
- Up to 20,750 Channel Hours to removable archives
- No practical limit to Networked Storage.
- No practical limit on number calls recorded and stored in database.

For more information see **White Paper - Recorder capacities.pdf** available from Red Box Recorders.

#### Replay

Up to 32 replay sessions can be active at any one time per chassis, and is provided by a simple to use WEB based replay application.

Calls can be replayed from recordings held on the call store, the online archive devices, or any offline media that is inserted into the recorder.

Calls can be found using a combination of search criteria including extension, other party, CLI, data and time and duration (*criteria may change depending upon recording capabilities*).

Replay can also be provided directly to a phone using the optional Replay-to-Phone server solution. Calls can be monitored whilst in progress using the Live Acquire™ feature. A simple-to-use interface allows the last calls recorded on an extension to be easily found and replayed.

The Web replay Application has the following features:

- Call Details display
- VCR-style controls
- Pitch corrected variable speed replay
- Loop replay
- Stereo replay
- Spoken time
- Export as WAV file
- Export as email
- Annotate call
- Voice Stress Analysis (optional – not for sale in USA)



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## API

Fully featured API for third party integration. Using API control is possible of most recorder features.

## Redundancy and Resilience

Recorders can be configured as parallel pairs when one acts as a slave (standby) in case the master fails.

Recorders can be fitted with optional dual PSU's and mirrored storage systems to improve resistance to failure.

Calls can be archived to removable media with an archive life of 30 years.

Calls can be written to a Network Attached Storage (NAS) device if there is a requirement to have more near-line storage or keep near-line data off-site.

## Alarms and Monitoring

The recorder can be monitored by use of a Monitoring application provided with the recording system or by use of SNMP.

Alarms trigger the Monitoring application to display messages to the user and can also generate SNMP Traps.

All Alarms and warning events are logged.

All changes to configuration are logged.

All replay operations are logged.

## Security

All access to the recorder requires a login by username and password and all such accesses and failed attempts to access are logged.

The call data written to disk and archive media is written in a secure proprietary format.



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Microsoft Windows 2000 Professional operating system or  
Microsoft Windows 2003 Server  
Intel Pentium 4 processor  
512MB RAM  
120GB HDD (standard)  
500GB HDD (optional)  
AC PSU 110/230V (50 to 60Hz)  
10/100MHz Network Interfaces (5 off)



RBR2630:  
Dimensions - 267 x 470 x 450 mm (HxDxW)  
6U Rack mount  
Weight - 32Kg approx (fully populated)  
Colour - Grey

RBR2620:  
Dimensions - 90 x 470 x 460 mm (HxDxW)  
2U Rack mount  
Weight - 16Kg approx (fully populated)  
Colour - Black

#### Options:

DVD-RAM Archive  
Exabyte VXA-2 Archive  
48V DC PSU  
Dual Redundant PSU  
RAID-1 Mirrored disks

Red Box Recorders Limited  
The Coach House  
Tollerton Hall  
Tollerton,  
Nottingham  
NG12 4GQ, UK

 +44 (0) 115 937 7100  
 +44 (0) 115 937 7494  
 [info@redboxrecorders.com](mailto:info@redboxrecorders.com)  
 [www.redboxrecorders.com](http://www.redboxrecorders.com)

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