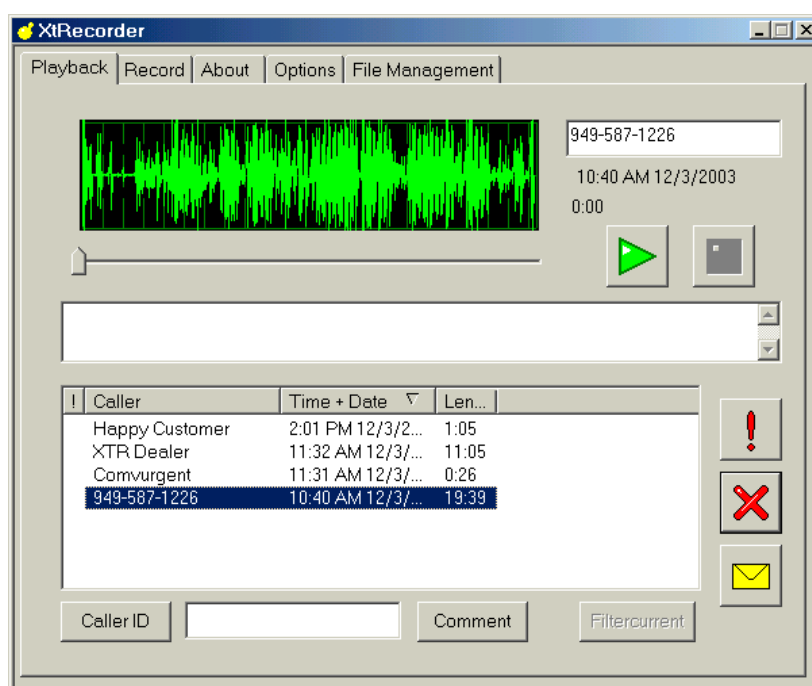# Xtension Recorder
General Description

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Introduction

This document describes the features and capabilities of the Comvurgent Desktop Digital 01 hardware and XTR Desktop software solutions.

The Xtension Recorder consists of a low-cost USB device that taps across the digital extension pair of a proprietary PBX telephone (such as Nortel Meridian or Avaya Definity).

PBX extension recording has traditionally been limited to:

❑ Expensive multi port devices installed at the PBX equipment
❑ Expensive single port digital devices (very few are available)
❑ Low cost analog 'handset tap' devices

Comvurgent's '*PBX-2-USB*' technology elegantly address's the problems associated with low-cost desktop recording. The USB device developed by Comvurgent will provide all of the advantages of the expensive digital recording solutions currently available, at a price performance to seriously compete with the analog 'handset tap' solutions readily available.

## Advantages Of Digital Recording

The advantages of Digital Recording over analog 'handset tap' devices are clear:

• Higher quality recording
• Separate channel recording (send/receive) is possible
• Automatic start/stop of recording when phone is in use
• Association of caller ID or other call related information
• Doesn't tie up a PC sound card
• Easy plug n' play installation (via USB)
• Speakerphone conversations can be recorded
• Users cannot easily disconnect the recording device with a disconnect warning being given.

It is no wonder that a product, which has so many advantages over traditional handset tap devices, and is available at a small premium over handset tap devices, has been so successful around the world with thousands of users installed.

Connectivity

The diagram below shows the connection configuration of the Desktop Digital 01USB device and the local desktop PC.
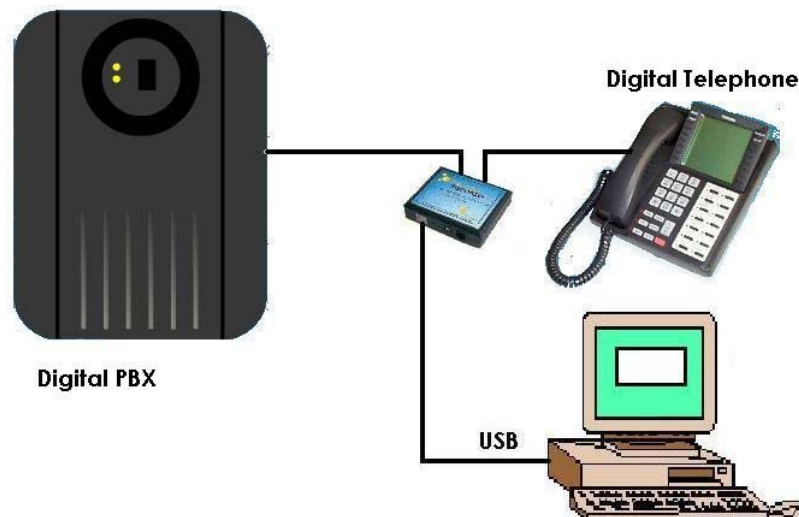
The Xtension Recorder hardware simply connects in-line at the telephone users desktop. No power is required and because the in-line connection is simply a metallic wiring of the 'in' and 'out' connections, Xtension Recorder does not affect in any way the telephone operation with or without connection of the host PC via USB.

The USB Device

This section describes the Comvurgent low-cost USB device hardware specification.

The device is constructed in a UL94 V-0 black polymer and measures 84mm x 72mm x 25mm (or 3⅓" x 2 3/4 " x 1").

Device Connections

The USB recording device has 3 connectors:

- ❑ One PC USB connector, from which the device derives its power and streams all speech and control channel information up to the host PC and the Xtension Recorder application.
- ❑ Two Digital Phone line connectors that passively 'tap' across the PBX/Keyset digital connection and 'listen' in high impedance mode to the signalling on the line.

The device is labelled as indicated above, however specific customer branding is available upon request.

Device Performance

The device does not interfere with the communication between the PBX and the Digital telephone. The device does not require USB power or a connection to the PC to maintain the functionality of the telephone in its normal manner.

The device meets the appropriate FCC and UL requirements required for this type of communications device.

Device Firmware

The device is 'soft up-loadable' i.e., its firmware and FPGA low-level protocol decryption is uploaded from the PC driver and Xtension Recorder application at runtime. This allows easy upgrade and enhancement of the product in the field as required.

Device Contents & Packaging

Xtension Recorder is supplied in suitable packaging including:

- ❑ Xtension Recorder hardware device
- ❑ Software CD
- ❑ USB cable
- ❑ Telephone connection lead
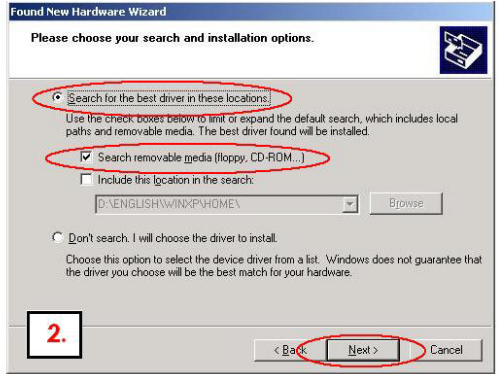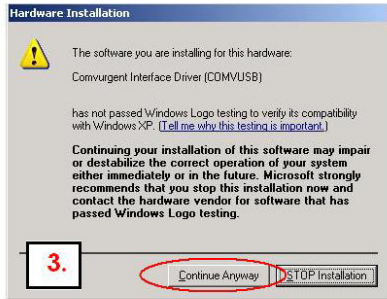- ❑ Quick-start installation manual.

PBX Compatibility

The device is compatible with the following PBX's and digital telephones:

- Avaya Definity
- Avaya Magix
- Avaya IP office
- Toshiba DK & CTX
- Nortel Norstar & BCM
- Nortel Meridian
- Vodavi/LG (April 2004)

- Siemens Hicom/HiPath
- Inter-tel (future)
- NEC Electra Elite/IPK
- NEC NEAX 2000/2400
- Panasonic KXTD/KXTD-A/DBS
- Samsung DCS (April 2004)

Other protocols will be provided as and when Comvurgent complete developments. For specific requests, please contact Comvurgent.

Basic Installation

It is critical that the following instructions are followed when installing the Xtension recorder. The diagram below describes the procedure according to the Windows Operating system. The diagram below is included with the Xtension recorder shipment:

Very Important! – Read This First - The installation procedure varies according to your operating system	
Windows 98 or ME	**Windows 2000 or XP**
1.**Insert the CD** into your CD drive. 2.Select **setup.exe** from the CD and run through the install. 3. Connect the Xtension Recorder device to your PC and telephone (see below). **You are now ready to begin recording your calls.**	**Connect the Xtension Recorder device** to your PC and telephone (see below). Windows will detect the new USB device. Select as follows: **Finally** Select **setup.exe** from the CD and run through the software install.
Connecting the Xtension Recorder Device **1.** Plug the USB cable into the device and into a spare USB port on your PC. **2.** Unplug the line cord from your telephone and connect into the Line Cord In. **3.** Connect the line cord provided between Line cord out and your telephone.	 USB to PC Line cord in Line cord out

Xtension Recorder Application Software

This section describes the detailed requirements for the Xtension Recorder Applications software.

Xtension Recorder Software

The Comvurgent Xtension Recorder software is delivered on a Compact Disk using a self-starting Install shield.

The CD contains all the appropriate files and installation procedures to operate to this specification, including USB device drivers, software application and help files.

A quick-start instruction sheet accompanies the Xtension Recording software as well as a pre-recorded user guide that steps the user through the various options of the Xtension Recorder.

PC Compatibility

The Xtension Recorder application supports Microsoft operating systems that support USB devices. The list of existing operating systems, which meet this requirement, are:
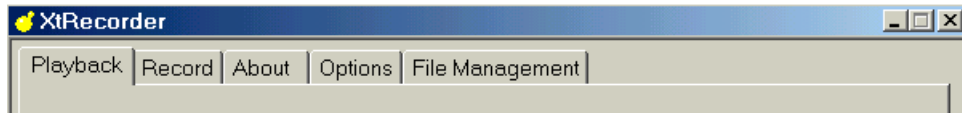
- WIN 98SE
- WIN Millennium Edition (ME)
- WIN 2000
- WIN XP (all variants)

Important Note – Xtension Recorder will not support WIN 95 and below, or WIN NT.

Xtension Recorder User Interface

Tab Options

The Xtension Recorder application software has 5 'tabs' that allow the user to select features and options.

The tabs are as follows:

❑ Playback – allows various playback features of recorded conversations
❑ Record – allows control of call recording
❑ About – provides version type and web link for updates
❑ Options – set-up controls such as recording format
❑ File management – allows the user to manage the disk space used by Xtension Recorder to meet their requirements.

The Playback Tab
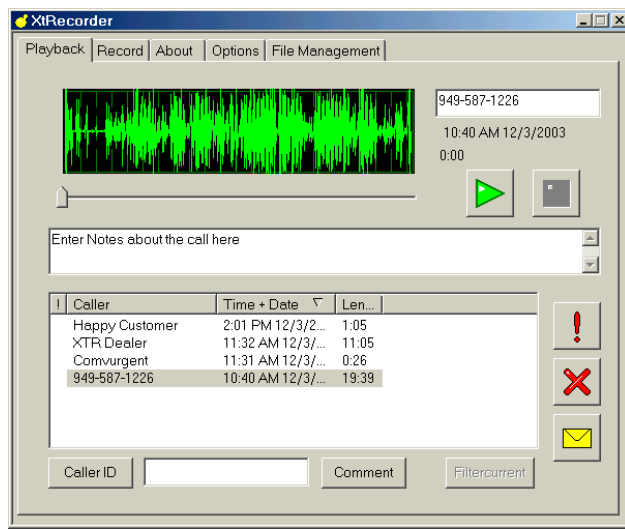
The playback tab allows the user to list and play recorded conversations.

The playback tab shows a graphical representation of the volume level of the call with a cursor that indicates the current position of playback. The cursor can be dragged forwards or backwards to allow rapid selection of the appropriate section to playback.

Xtension recorder makes note of the Caller ID, time, date and duration of the call.*

The user can edit the Caller ID or the comments field when viewing an existing recording.

* Caller ID, Number dialled not available on all PBXs , check with Comvurgent

The list box allows the user to list recordings by importance (exclamation mark), Caller ID, time & date or duration.

The Caller ID and Comments button allows the user to filter out all recordings with the required Caller ID or text in the comments field.

Playback, pause and stop buttons allow playback control.

The important '!' button allows a user to identify a call as important for future listing purposes or to ensure the recording is never overwritten (see file management).

The 'X' button allows recordings to be manually deleted. (Note: this option can be disabled at the user level)

The e-mail button generates an e-mail with the recording inserted for e-mailing to a colleague.

Record Tab
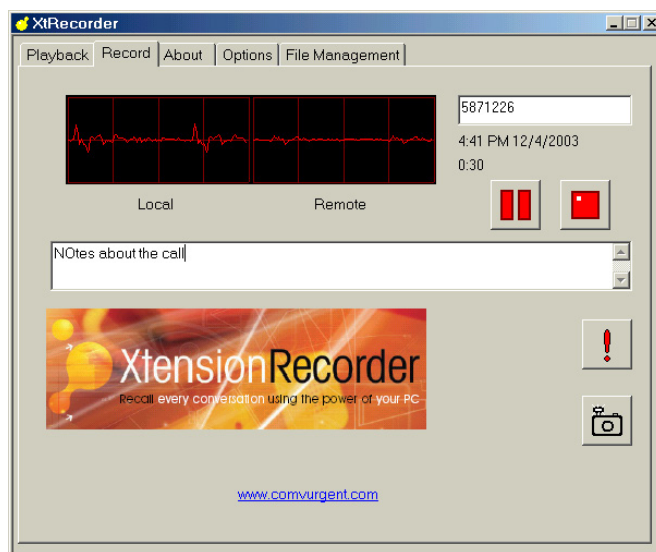
The Record tab allows the user to view recording levels and to control the recording.

The 'Oscilloscope' shows the levels on the line separately (Microphone being the users level and Speaker being the distant party level.)

The Caller ID is listed but may be over-written by the user.

Manual start, stop & pause buttons control the recording status.

The date, time & duration of the call is listed.

The user may add any comments into the comment field and also mark a call as important (the '!' button). Marking a call as important allows the user to list important calls and for the file maintenance functions of Xtension Recorder to avoid deleting the conversation.

The button with the Camera picture allows a user to 'snapshot record' the current conversation to that point, while continuing to record the entire conversation. This feature is useful in emergency centers where an operator wishes to replay part of a conversation but continue to record.

The logo is defaulted to the Comvurgent logo and web site address, however it will be possible for major dealers and OEM's to change the logo and contact details.

Options Tab
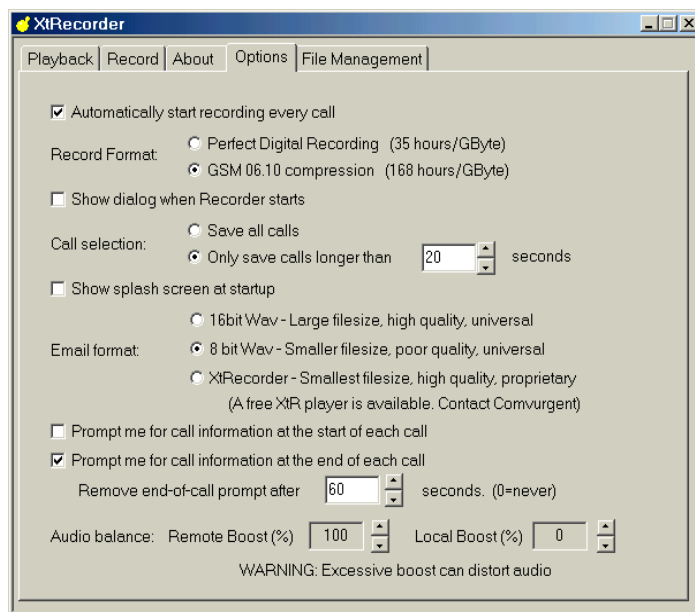
The options tab allows the user to select the various set-up items of Xtension Recorder.

The following options are available:

Automatically start recording every call – starts the recording whenever a call is made, including internal extension calls.

Recorder Format - allows the user to select the recording format.

'Perfect Digital Recording' stores the recording in the PCM format taken directly from the digital line. This is the highest quality possible but can use a significant amount of space on the PC disk (35 Hours per GByte).

'GSM 06.10' uses a compression technique to store the recording more efficiently (168 Hours per GByte). In practice, the difference in discernable quality is negligible so the default is for this format to be the used.

Show dialog when Recorder starts – brings the Record Tab to the front of the user screen whenever record is activated (default on)

Show Splash Screen at start up – shows the suppliers (default Comvurgent) logo for 5 seconds whenever the Xtension Recorder application is started.
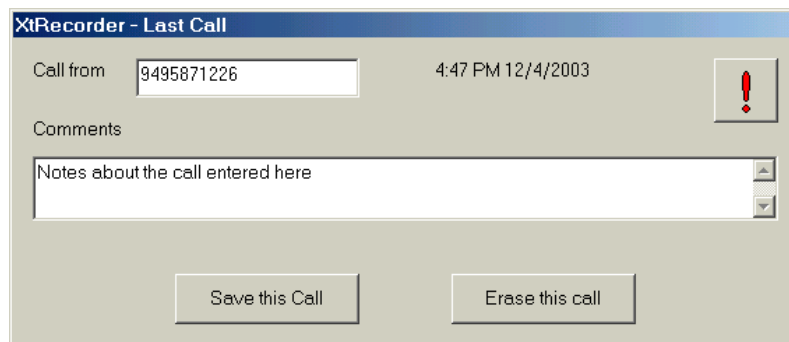
Email format - allows the user to select the type of file inserted in e-mail when the user clicks on the e-mail button on the Playback tab. This option allows sending of the Xtension Recorder format to other users who have the Xtension Recorder application, or converts to a .wav format for replay by any PC.

Xtension Recorder automatically adds the Caller ID, time, date and comments to any e-mail.

Audio Balance – allows the user to adjust the recording levels for each side of the conversation. This feature cannot work on playback, only set in advance for record.

Prompt for Information at the Start of a Call- Simply pops forward the Record screen whenever a call is made, prompting the user or agent to enter information.

**Prompt for Information At End of Call** – Pops a small screen as shown below on the users' desktop:

This gives the user the ability to manage the calls at the point of completion. Immediately delete (can be disabled) , add notes or mark the call as Important.

File Management Tab

File management is important when users are making large numbers of telephone calls and storing every conversation.

Store Calls at – allows the user to select the location where conversations will be recorded. It is possible to select a remote server location for centralized storage.
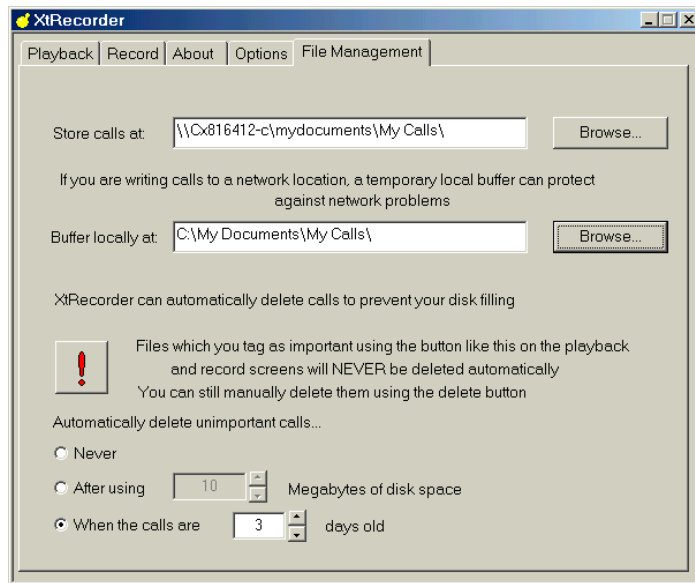
Xtension Recorder allows the user to automatically delete non-important calls when the allocated disk space becomes used, or when conversations are over a certain number of days old.
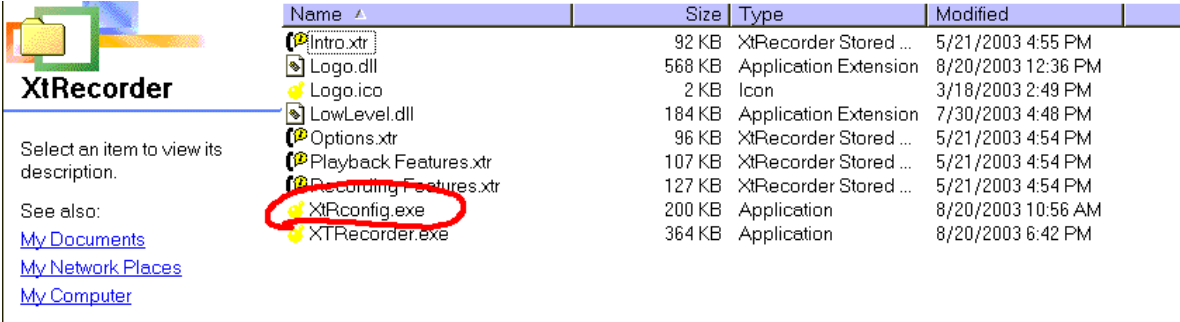
Conversations are permanently stored by pressing the '!' (important) button during recording or playback.

Custom Program Settings

Comvurgent has also provided the dealer or user the option of making additional adjustments to the use and functionality of the user interface.

This special configuration program can only be accessed by browsing to the installation location (default C:\Program Files\Comvurgent\XtRecorder) and then clicking on the file circled below:

Note: The customer takes all responsibility to ensure they are meeting legal requirements. Comvurgent provides the user option settings in order to meet customer demands and cannot be responsible for the miss-application of the product.

XtRecorder

Select an item to view its description.

See also:

My Documents
My Network Places
My Computer

Name ▲	Size	Type	Modified
Intro.xtr	92 KB	XtRecorder Stored ...	5/21/2003 4:55 PM
Logo.dll	568 KB	Application Extension	8/20/2003 12:36 PM
Logo.ico	2 KB	Icon	3/18/2003 2:49 PM
LowLevel.dll	184 KB	Application Extension	7/30/2003 4:48 PM
Options.xtr	96 KB	XtRecorder Stored ...	5/21/2003 4:54 PM
Playback Features.xtr	107 KB	XtRecorder Stored ...	5/21/2003 4:54 PM
Recording Features.xtr	127 KB	XtRecorder Stored ...	5/21/2003 4:54 PM
XtRconfig.exe	200 KB	Application	8/20/2003 10:56 AM
XTRecorder.exe	364 KB	Application	8/20/2003 6:42 PM

There are several settings that can be customized to meet the requirements of the application:
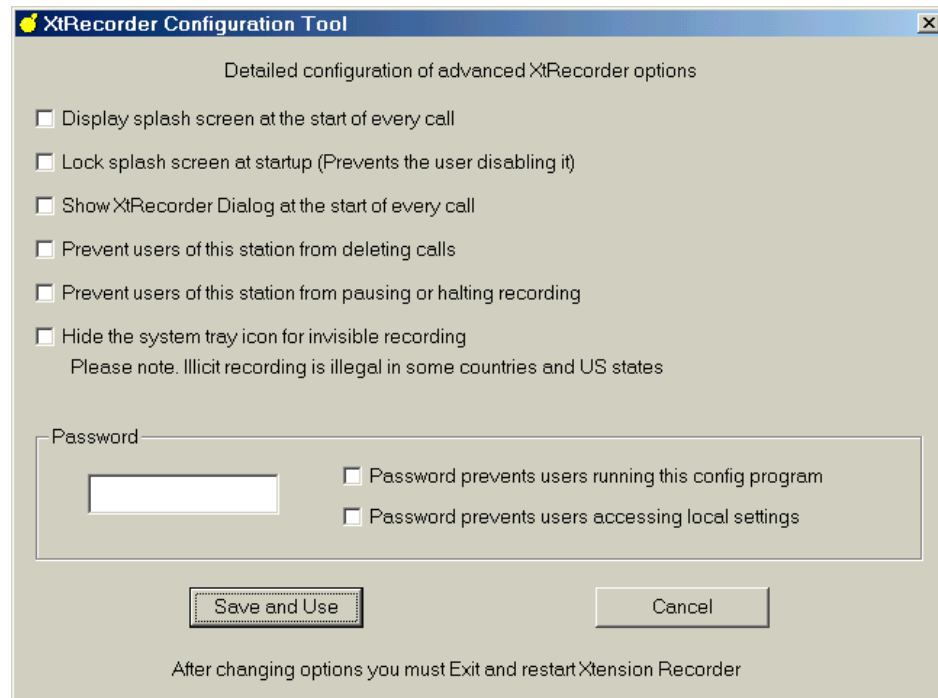
Display Splash screen at the start of every call – this selection is primarily for dealers that have a customized installation CD. It will pop a screen with the dealer contact information for the user to see briefly when a call is being recorded. (Contact Comvurgent for details)

Show XtRecorder Dialog at the start of every call- this option brings forward the XT recorder application record screen every time a call is being recorded.

Prevent Users from Deleting Calls- disables the Delete Key

Prevent users from pausing or halting recording- disables Pause and Stop Recording Keys

Hide the system tray icon- in default a small icon appears in the system tray and flashes red when recording- this eliminates that indication.

Password- locks access to both these settings and or those at the user level.

Note: When making changes to using this program area, it is necessary to close the application and restart it for the changes to take effect.

Some Application Ideas:

In most cases, the customer will already know the key reason why they need to record their call. Because Xtension Recorder is so cost effective, we've added a few application ideas that are applicable to most businesses:

❑ **Message Taking** – Many businesses don't like putting callers through to Voice Mail. Xtension Recorder is the perfect mini unified messaging solution. Simply ask the caller what message detail they would like to leave and instead of writing it down, record the call and e-mail it to the recipient.

❑ **Supervisor Monitoring** – Many PBX systems have a Silent Monitor feature. Use this feature in conjunction with Xtension Recorder to listen in and record agent activity.

❑ **Shared Use In A Call Center** – Many companies want to occasionally record an Agent's calls, especially new employees or for new campaigns. Xtension Recorder's plug n' play compatibility is ideal to move around different extensions when required.

❑ **Attendant Monitoring** – Place an Xtension Recorder on the customer's main answering position to see how callers are being answered and transferred.

❑ **Conference Calls** – Xtension Recorder is the perfect way to record conference calls, especially where a speakerphone is used.

❑ **Dictation** – Xtension Recorder is a great way to use the telephone handset to dictate letters or notes for retrieval later or for an assistant to type. Simply allocate a spare trunk port (not connected) to allow distant end silence.

❑ **Order Placement & Credit Control**– Use Xtension Recorder in a procurement department or credit control to ensure verbal transactions or commitments and promises are recorded.

We'd be happy to hear any new practical examples of applications that have been implemented so we can share the knowledge with others. Please email us on ideas@comvurgent.com.

Vertical Market Applications:

The need for call recording can be found in virtually any business. Any business that deals with customers over the phone or takes orders over the phone could benefit from Xtension recorder and the increased customer service and quality control it provides. However, below are a few key vertical markets to keep in mind when launching this product to your customer base:

Brokers – legally required to record all transactions, many small brokers cannot afford high-end Call Logger solutions, now rely upon tape recorders etc. Xtension Recorder offers a solution to a known problem. The problem is that they don't know about our solution! Propose on new sales and go back to your existing base for add-on opportunities.

Legal – the ability to track and monitor all correspondence related to proceedings is critical to the legal profession. Xtension recorder provides a cost-effective solution that works whether utilizing the handset of a telephone or in a conference room on a speakerphone. Conversations can be immediately e-mailed to associates for review as well.

Leasing Agencies – the accuracy of communication can be critical when it comes to lease terms and the many options available today. Recording calls with the Xtension Recorder ensures accuracy of transactions and can be used to clear up miss-understandings after the fact.

Insurance Agencies – timing and accuracy is critical in the insurance field. Additionally, many insurance agencies are now diversifying and providing financial services as well. This need for accuracy and the diversification into the financial field may place a requirement of call recording to meet regulations. The traditional problem has been the expense associated with these implementations, Xtension Recorder fits the small and large agencies needs.

Schools – security is a growing concern in all areas of industry, but no more so than in our schools. By placing an Xtension Recorder in a few key answering points within the school, calls of a security nature can immediately be forwarded to alert security via e-mail, even before the conversation is complete (using our snapshot feature). If caller-id is delivered we can also capture that information (check version for support) and deliver the recorded conversation with important notes about the call or the circumstances.

Public Safety – 911 Centers are all equipped with very sophisticated Call Logging equipment, however, often local police and fire department offices are poorly equipped to record incoming calls. Xtension recorder solves this and has added the important ability to listen back to a live call, while still recording (snapshot) - often critical to verify name/address of caller.

Installation Limitations

While Xtension Recorder is a groundbreaking product, it cannot be used in every single application. Here are a few rules to help you decide if Xtension Recorder is suitable:

- ❑ **Compatible Versions Of Windows:** Xtension Recorder is compatible with Microsoft 98SE, Millenium (ME), 2000 and XP.
- ❑ **Non-Compatible Operating Systems:** Xtension Recorder cannot be used on Microsoft 95 or NT desktops (these operating systems do not support USB). Xtension Recorder cannot be installed on Apple Macintosh.
- ❑ **PC Requirements:** Xtension Recorder requires each extension user to have a PC (note our XR4-96 released in December 2003 is designed for multi-seat recording without a PC at the extension).
- ❑ **PC Specification:** An IBM compatible machine with a Pentium 233MHz or above and 64Mb of RAM(Win 98 & ME) 128Mb RAM (Win2000/XP) is required and suitable hard disk space to store recordings. It is not necessary for the PC to be networked. The PC must have at least one spare USB connector.
- ❑ **Telephone System Compatibility:** Check our compatibility matrix to be sure the telephone system phones are supported. Note that Xtension Recorder is designed to work with the most popular Digital telephones.