

# 21CN Update

You are probably aware that British Telecom are making changes to the telephone network. This change will transfer all voice calls as a digital signal using an internet protocol (IP). BT are marketing this as the introduction of their 21<sup>st</sup> Century Network and it is commonly abbreviated to 21CN.

## Will this change affect you?

If you have installed digital communicators then this change may well affect you and your customers.

The introduction of 21CN causes an increase in the delay between the communicator sending a message and the ARC receiving the message. It is likely that this delay will be 20 times greater than that currently experienced with the existing telephone network.

As a consequence of this increased delay, it is possible that the communicator will not be able to reliably transfer its message to the ARC.

There are three main message transfer protocols used within the UK, and all may be affected albeit in different ways. The majority of signals use the BSIA Fast Format protocol, and this will not operate if the maximum delay being quoted by BT (300ms round trip) is encountered.

RISCO Group has been working with the BSIA in order to produce an amended version of the Fast Format Protocol which will operate reliably over a 21CN network, and a comprehensive test plan. These have been developed using the information provided by BT.

## The solution

RISCO Group, in conjunction with the BSIA and British Telecom, has conducted a series of tests on all RISCO Group products with digital communicator capabilities.

These tests have been conducted in two stages. Initially the tests were conducted in RISCO's own development lab with an added 300ms delay using our standard ARC receivers.

Once these results were satisfactory, we arranged to test our products on a real 21CN network at BT's live test facility in Swansea. The tests were carried out in accordance with the BSIA test plan, with a minimum delay of 300ms, and using a live 21CN network.

## Results

The results are detailed below:

	<b>Contact ID</b>	<b>SIA</b>	<b>Fast Format</b>
ProSYS 128 V6.07	Full Pass	Full Pass	n/a
ProSYS 40 V6.07	Full Pass	Full Pass	n/a
WisDom V4.16	Full Pass	Full Pass	n/a
Gardtec 490 V2.4	Full Pass	Full Pass	Full Pass
Gardtec CPX V2.4	Full Pass	Full Pass	Full Pass
Gardtec 595 V5.7	Full Pass	Full Pass	Full Pass
Gardtec 816 V8.4 c/w Digi Modem v2.4	Full Pass	n/a	Full Pass
Gardtec 872 V8.5 c/w Digi Modem v2.4	Full Pass	n/a	Full Pass

All communication protocols were tested to the following receivers.  
Bold RX 2000/Bold RX 3000/Bocsh D6600/Surgard DLR2E/Surgard System 3

## **The future**

These are the best tests available to manufacturers at the moment. However, BT has not fully implemented their 21CN changes. There is another change which they believe is essential in order to manage the effective throughput of data (calls in effect) on their network. This is called an adaptive jitter buffer, and may result in small gaps during a call. BSIA members are due to meet with BT in January when it is hoped that details of this implementation will be released. Until such time as this information is available, and a network exists on which products can be tested against jitter problems, no digital communicator manufacturer can be certain that they will be immune to the effects of jitter.

RISCO Group will be at the January meeting, and will endeavour to be the first manufacturer to have fully compliant, fully tested equipment suitable for both current and future telecommunication networks.

## **Equipment already installed**

Due the possibility of an increased round trip delay, the communicator may not be able to reliably transfer its message to the ARC.

Some products can be updated with new firmware to allow the communications to function correctly with the delays introduced by the 21CN network.

The following products are eligible for a firmware update.

Gardtec 490X all versions  
Gardtec CPX all versions  
Gardtec 595 V 5.0 onwards Release date January 2006  
Gardtec 816 V 8.0 onwards Release date January 2007  
Gardtec 872 V 8.0 onwards Release date January 2007

ProSYS and WisDom panels in the market do not need any updates.

Ordering information for upgrade chips:

Part Number:	Description:
97490	Gardtec 490X 21CN Upgrade Chip V 2.4
97CPX	Gardtec CPX 21CN Upgrade Chip V 2.4
97595	Gardtec 595 V 5.0 21CN Upgrade Chip V5.7
97816	Gardtec 816 V 8.0 21CN Upgrade Chip V8.4
97872	Gardtec 872 V 8.0 21CN Upgrade Chip V8.5

Price per chip is £4.95

## **Please note**

RISCO Group UK Ltd recommends using Gardtec Remote V2.20 to transfer all programming data from an older version panel to the new updated firmware.