CellGuard Remote Site Status Monitoring System for Cell Extender systems

CellGuard Site Telemetry System for Cell Extender Sites System Overview

1. Introduction

A CellGuard system provides a full overview of the status of a remotely located Cell Extender system, reporting System Locked/Unlocked, System Busy/Not Busy, Channel Busy/Not Busy, and Channel OK/Down status conditions on an event (change) driven basis. The telemetry reports are encoded into a standard MPT13287 status format and then transmitted to the Network Operator's Control Room, using the existing MPT1327 network infrastructure, and a locally installed standard MPT1327 trunked radio.

The Control Room may also send up to 3 different Remote Commands to the Cell Site (the local result is fully programmable to On, Off, or Pulsing with a variable duty cycle). The Control Room can also interrogate a Site to get it to send a Current Status report. In addition to the normal Cell Extender status reports a Site can also transmit a single separate Site Alarm function (On and Off).

CellGuard also includes an on-board "Transponder Radio" Voice Recording/Playback control facility. The Transponder radio is a standard MPT1327 Trunked radio, which is installed at the Cell site. It will automatically return any voice messages that it recorded during a previously received call.

The CellGuard status telemetry reports provide a comprehensive picture of the actual operational status of the system. The Transponder radio function completes the picture by providing the Network Operator with a picture of the System functionality as experienced by actual users.

2. Basic CellGuard System Components

2.1 At the Cell Extender Site:

a) A CellGuard controller unit (which is supplied c/w all necessary interface cables and programming software)

b) A Cell Extender 'RSMI' (Remote Status Monitoring Interface) connection panel.

Note. This item plugs straight into Cell Extender systems supplied since Quarter 3, 2002. An upgrade kit is available for system supplied prior to that date.

c) A standard TAIT T2040 radio (no options required). This item will plug straight in and is normally sourced by the Customer.

2.2 In the Network Control Room

Any standard Trunked radio with a Status Message display (for instance, the TAIT T2040 or Motorola MCX780 radio) is suitable for CellGuard data readout. The operator uses 'Look Up' table, which is a document used to manually translate the received Status numbers into complete Status Reports. For instance, Status = 08 means: System is Locked OK, System is Not Busy, All Channels OK, All Channels Idle'

3. Options

Two options are available:

3.1 PC based Control Room Processing

For PC based data processing (for a more automated and customised presentation and processing of the data) we recommend the "DataBaud" tracking package available from Hascom International in Perth, Australia (www.hascom.com.au).

This is a high performance but yet very cost effective MAP27 Status tracking software package with an extensive range of additional facilities, ideally suited for CellGuard data processing. It also offers a DDE (Dynamic Data Exchange) utility to interface directly to higher level data processors, for more sophisticated data processing, and control and display functions, using high level application software written or sourced directly by the Customer.

When using PC processing of the data, the radio in the Control Room must have a MAP27 interface.

3.2 Local Cell Site Voice Channel Test ('Transponder') Radio (optional plug-in facility)

A secondary task of CellGuard is to provide full Remote Voice Channel testing facilities, using a second radio which is programmed to exclusively register on the local Cell Extender site only. Any trunked radio elsewhere in the System can access the Transponder radio, speak in a Voice message, hang up the call, and CellGuard will get the Transponder radio to return the call, re-playing the audio signal it just received from the caller.

This option provides the same facilities and functionanility as our standard 'SiteCall' product (which is a derivative of the 'full' CellGuard product). Please go to the SiteCall System Overview for further details of this option.

The Transponder function operates independently of the actual CellGuard functionality and as such, is an independent plug-in option. Any standard MPT1327 radio may be plugged straight in, using an appropriate radio interface cable supplied with the product.