

# Telemetry Products & Applications

Handbook Index No. 63

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## Foreword

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Prepared by: C.M. Cole

Authorised by: JF

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*Please report any errors or omissions in this manual to BISS Tech Pty Ltd so that they may be corrected in later issues.*

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# Overview

## Telemetry

This document takes a look at BISS Tech' range of Telemetry products. Products that provide effective front-end solutions for straightforward applications in remote control; site monitoring, process control and simple protocol conversion. BISS Tech has been designing and developing telemetry systems for a multitude of applications since 1981. Products in this section include the BISS Tech Argus MaxIO and the Argus Field Unit telemetry systems.

BISS Tech range of telemetry products is a popular choice of SCADA package providers such as CITECT. BISS Tech telemetry products are utilised to provide the systems I/O accumulation and the communication networking requirements of the SCADA package.

BISS Tech and telemetry go back to the very early eighties when BISS Tech pioneered the development of radio telemetry and computer aided dispatch (CAD) systems for other companies. Today we have hundreds of operating systems in diverse applications throughout Europe and overseas. Telemetry is continuing to have major focus within BISS Tech and the development of the Argus range is another step reflecting our support and direction with this line.

### Argus Telemetry

Argus is the New Family of Telemetry Units from BISS Tech that build on the highly effective and reliable Argus Series Remote Terminal Units (RTU's). Argus represents a natural progression to a more sophisticated range of products, drawing on BISS Tech' experience over many years of broad applications.

### Argus Field Unit

The Argus Field Unit series is the current top seller of our telemetry product line and is efficient, flexible and cost effective with unique features. Its versatility enables gradual integration of the product to replace old equipment building to a stand-alone control system. Software and communications are identical to the MaxIO Series.

### MaxIO Unit

This eye-catching rack mounted telemetry equipment is well known as a popular alarm and Input/Output reporting medium. It introduces new firmware for event driven SCADA Systems allowing remote sites to initiate communications when a change of status occurs. Packages such as CITECT, WIZCON etc can also be utilised allowing existing systems to broaden their monitoring and control. The interface can easily be fed via a Programmable Logic Controller (PLC).

### Site Monitor Series II

Site Monitor Series II assists communication network owners and operators in detecting and preventing failures before they happen. This system is ideal for service critical communications networks and provides remote control, monitoring and performance of trending of remote site equipment.

FEATURE	Argus Field Unit	Argus Max I/O
CPU	16 Bit	16 Bit
Flash Rom	512kb	512kb
Serial Port	RS232/485	RS232/485
On Board Modem	Yes	Yes
Eeprom	Yes	Yes
Real Time Clock	Yes	Yes
User Configurable SoftWare	Yes	Yes
SCADA Compatible	Yes	Yes
Expandable	Yes	Yes
Activity Indicators	Yes	Yes
L/L Port	Yes	Yes
Radio Port	Yes	Yes
PSTN Access	Yes	Yes
Battery B/U Ram	128kb	256kb
Vertical Panel Mounting	Yes	No
Rack Mounted	No	Yes

**Telemetry Applications & Installations**

Outlined below are a number of diagrams illustrating some of the many application examples and combinations available from the telemetry range.

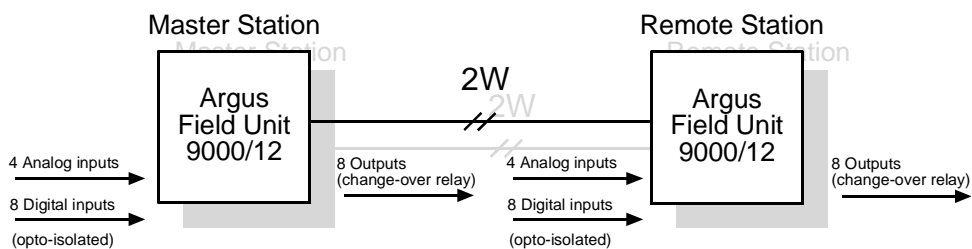
**Argus Point-to-Point Systems**

The examples on this page are of simple Point-to-Point (PTP) systems connected via a two-wire landline. The first example shows the connection via a private landline (not Austel). The second example shows the connection via an Austel landline.

**Parts list using Argus Telemetry**

*Note that an Argus Field unit comes standard with 4 analog and 8 digital inputs and 8 relay outputs.*

9000/12 Series Argus Field Units                      Two

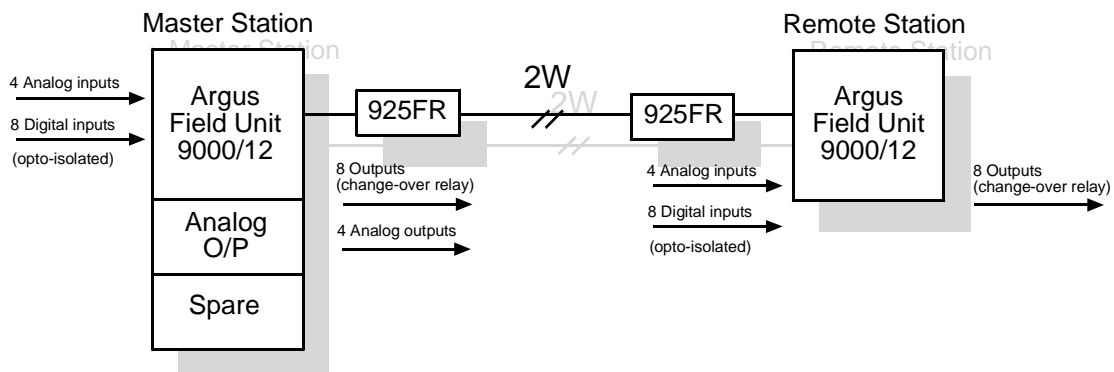


**Figure 1: Argus Series Point-to-Point System (not Austel line)**

**Parts list using Argus Telemetry**

*Note that the Argus Field Unit comes standard with 4 analog inputs and 8 digital inputs and 8 relay outputs. Each Field Unit Height Extender is capable of holding two expansion cards.*

9000/12 Argus Field Unit                                      Two  
 9000/54 Argus Analog Output Card                      One  
 9000/03 Field Unit Height Extender                      One  
 925FR Extended Line Interface                              Two



**Figure 2: Argus Series Point-to-Point System on Austel line**



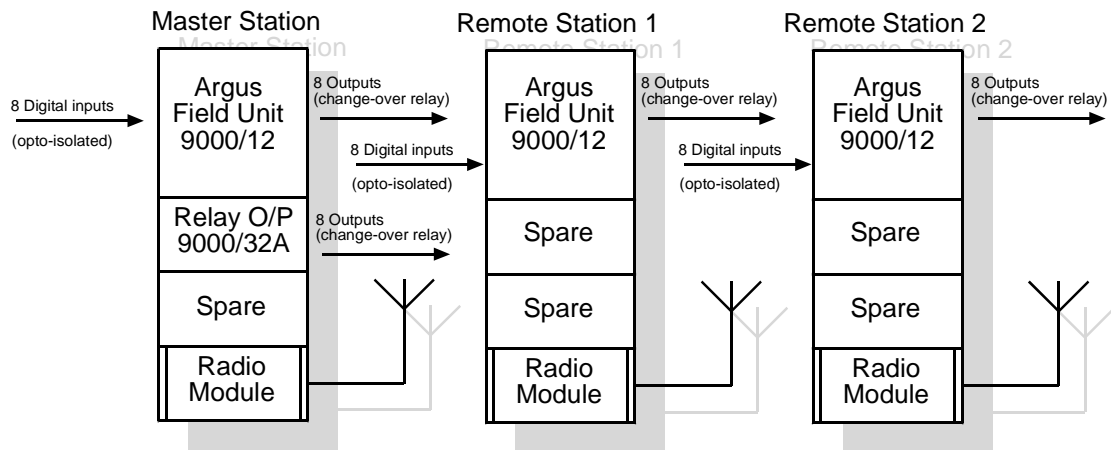
**Argus Point-to-Multi-Point System (Argus Field Unit)**

This example is of a simple Point-to-Multi Point (PTMP) system connected via radios. The system has been configured to reflect 8 inputs from each remote site to the master. The 8 inputs at the master are output at each remote site.

**Parts list for Argus Field Unit Telemetry**

*Note – The Field Unit Extender can accommodate two expansion cards and a radio module. If external radios are to be used then the Extenders would not be required at the remote sites. The 8 inputs at the master site can be mapped to provide various combinations of data transmission for each remote site.*

9000/12 Argus Field Unit	Three
9000/03 Field Unit Height Extender	Three
9000/32 Relay Output Card	One
9000/04 Field Unit Radio Module Kit	Three



**Figure 3: Argus Series Point-to-Multi-Point System via radio**

## Telemetry Products & Applications

### Argus Point-to-Multi-Point System (Argus MaxIO & Argus Field Unit)

This example is of a MaxIO and Argus Field Unit simple Point-to-Multi-Point (PTMP) system connected via radios. The system has been configured for the reflection of 8 inputs and 8 outputs in each direction from each remote site. At this input/output density, the Argus MaxIO has been proven to be one of the most cost-effective solutions on the market today.

#### Parts List

9200/01M 7-Card 3RU 19 inch Rack (half back-plane)	One
9200/11M Argus Max IO Processor	One
9200/21MA Digital Input Module	Two
9200/31MA Digital Output Module	Two
9000/12 Argus Field Unit	Six
9000/03 Field Unit Height Extender	Six
9000/04 Argus field Unit Radio Module	Six
Master Radio	One

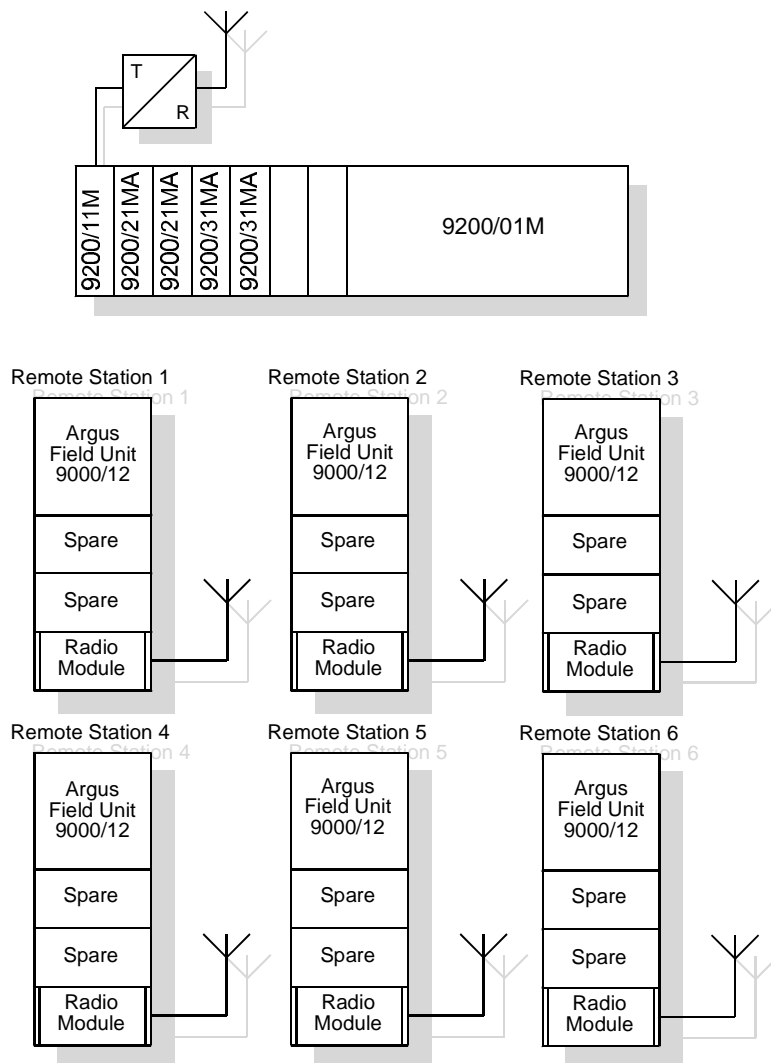
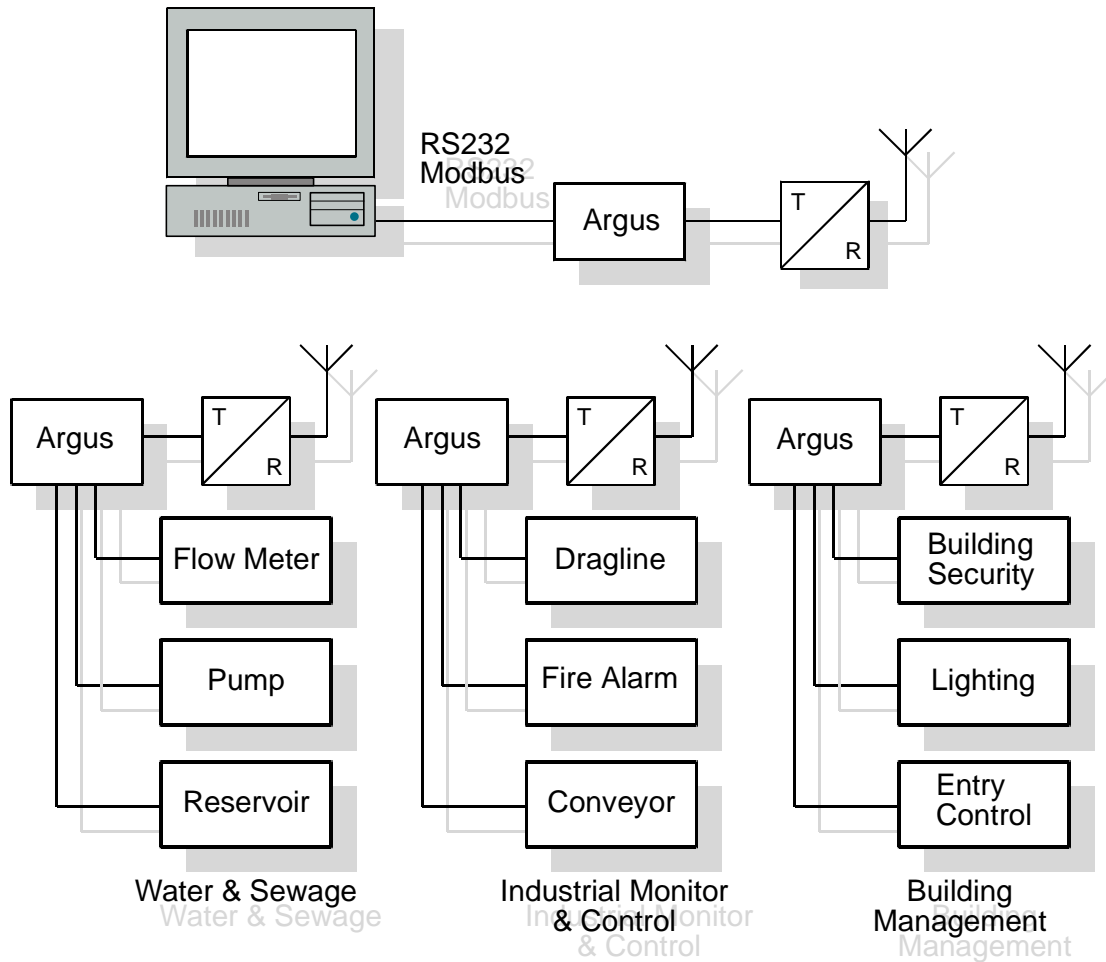


Figure 4: MaxIO and Argus Field Unit Simple Point to Multi Point System

**Argus Series Telemetry (industrial application)**

The following diagram shows a typical industrial application of BISS Tech telemetry products. The system detailed below shows how flexible the BISS Tech telemetry range of products is. Whether your application is monitoring flow rates of pumps, manufacturing equipment monitoring, industrial and mining to remote site monitoring, BISS Tech telemetry products can offer a cost-effective solution to most applications. The usage of industry standard protocols enables the system to be easily integrated with third party SCADA package providers.



**Figure 5: Argus Series Telemetry Industrial application**

## Telemetry Products & Applications

### Argus MaxIO Point-to-Point System

This example is of an Argus MaxIO simple Point-to-Point (PTP) system, connected via a two-wire leased landline. The system has been configured for the reflection of 32 inputs and 32 outputs in each direction.

#### Parts List

9200/01M 7 Card 3U 19in Rack (half back-plane)	Two
9200/11MA Argus Max IO Processor	Two
9200/21MA 24 Opto Digital Input Card	Four
9200/31MA 24 Digital Output Card	Four
925FR Extended Line Interface Units	Two

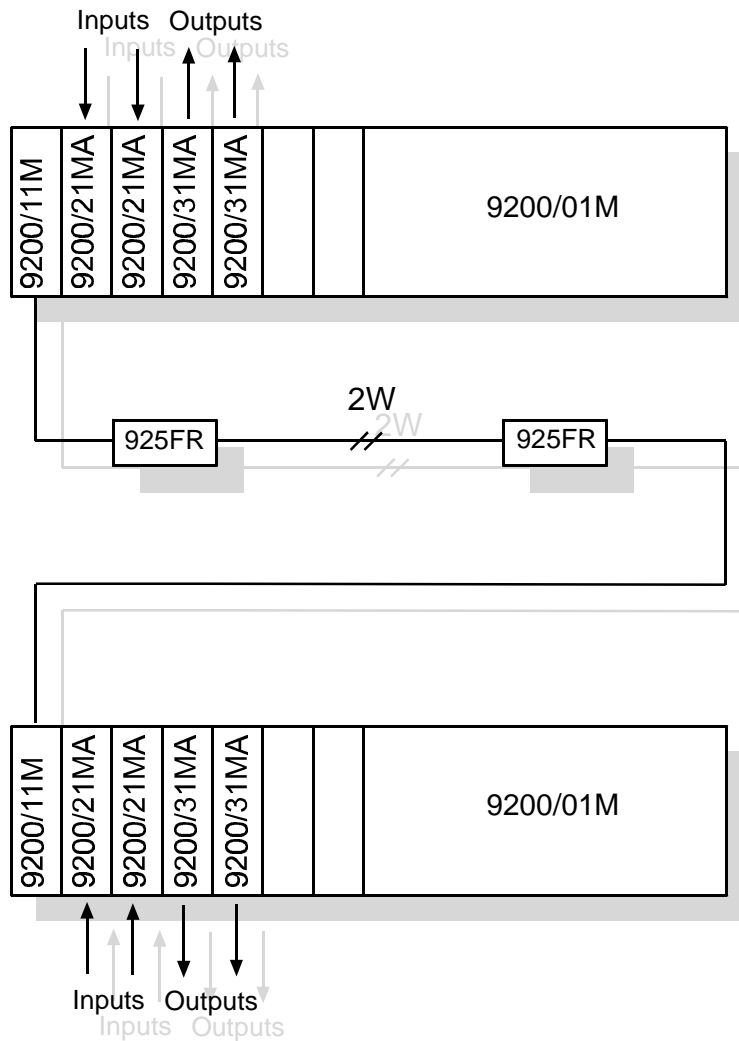
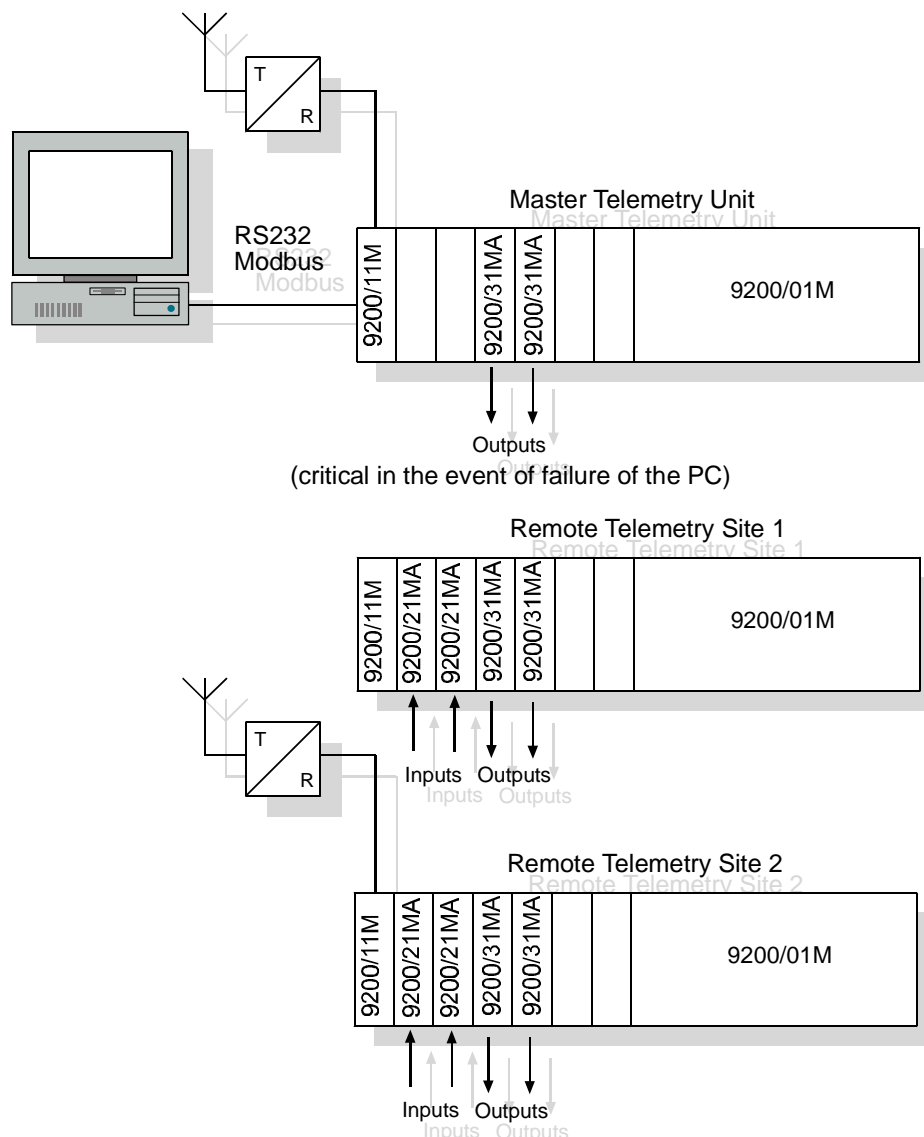


Figure 6: Argus MaxIO Point to Point System

**Argus MaxIO and SCADA**

The Argus MaxIO Series equipment can be configured to provide SCADA Event Communications. The multiple communications ports enable the unit to perform both processor and pre-processor requirements. The MaxIO processor card communicates with the remote RTU's via event driven communications. The collected information is then sent to the SCADA package via the RS232 port, which provides the high-speed SCADA package link.

The BISS Tech firmware allows remote sites to initiate communications to a SCADA package when change of state occurs (commonly referred to as "Event Driven Communications"). This is particularly beneficial when the telephone network (PSTN) is to be used, or a radio frequency is to be shared between data and voice. Communications formats can be mixed within the one system. In this system we have both landline and radio configurations communicating with various RTU's.



**Figure 7: Argus MaxIO Series providing SCADA Event Communications**

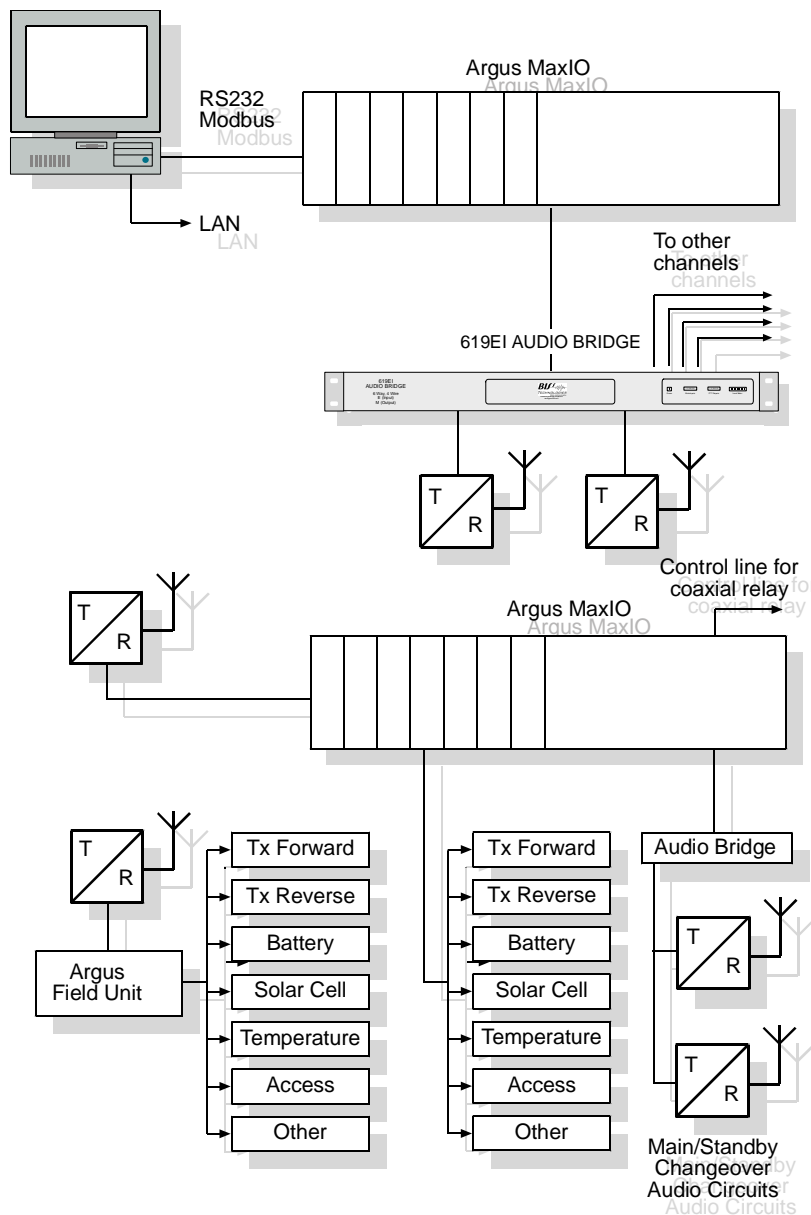
## Site Monitoring

### *Argus SCADA and CITECT*

A Pentium based SCADA PC terminal running the Windows NT/2000 operating system and the CITECT Industrial Automation package provides the hub of the SMS II system. The BISS Tech Argus family of telemetry products provides the I/O accumulation and the communications networking for the system.

Dual Argus MaxIO Processors operate as a pre-processor stage. One processor performs the RTU event communications and is bus-linked to the other processor, which provides the high-speed SCADA package link.

The 619E Audio Bridge provides remote site audio switching to support TTR redundancy and can be controlled from the pre-processor to reduce network airtime of the SCADA system.



**Figure 8: Site Monitoring System Configuration**