



Centaur II Cube ASE USER MANUAL

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AMENDMENT LOG

31/07/09	Issue 1.0	First Release.
18/08/09	Issue 1.1	Changes for V1.00 test software. <ul style="list-style-type: none"> - Section 2.2.2 power up in alarm can be isolated. - Section 2.3.2 RSSI display includes Input LED indications. - Section 2.3.6 includes automatic re-isolation if insert key during 15 second alarm warning. - Section 4.1 includes V100 test information.
08/10/09	Issue 2.0	Changes for V2.00 and V3.00 software. Support the Slave ASE and CMS Test Mode.

CHAPTER 1 INTRODUCTION

1.1

CENTAUR II CUBE

The Centaur II Cube is fire alarm signalling equipment (ASE) used to transmit the fire alarm information from a building or group of buildings to a monitoring service provider and usually on to a fire brigade.

It can support up to 16 fire panels (or sprinkler systems) that are connected to its FAS inputs or through Slave ASEs.

The ASE communicates with the control and monitoring system (CMS) using up to 3 different communication links: a radio modem based link (GPRS 2G or 3G supported), Ethernet, or a dialup PSTN line. The priority for each link can be programmed to suit the particular installation. For example, one site might have 3G radio as the primary link and PSTN as the backup, whereas another might have just Ethernet (using available ADSL or similar technology to communicate to the CMS) as the only communication link.

The Centaur II Cube can support two different CMS connections – a primary one generally radio modem, PSTN and Ethernet, and a secondary one on Ethernet. This allows the ASE to be monitored locally on Ethernet and centrally using a full CMS on radio and PSTN, for example. Each CMS connection operates independently with separate event queues and processing.

The ASE has front panel LEDs to display the status of many of its functions: power supply/battery, FAS inputs status and modes, communication links, etc., as well as a RS232 port for more detailed information and to allow configuration of some local setup options. Note most of the configuration information for the ASE is provided over one of the communication links from the monitoring centre.

The (master) ASE can support up to 12 Slave ASEs on an RS485 bus. The setup and operation of the Slave ASEs is very similar to the ASE, except there is not radio modem, PSTN connection, or CMS connection via Ethernet. The Slave ASE installation is covered in document LT0518 and its operation is in Chapter 4 of this manual.

This manual describes:

- The front panel LED operation.
- The front button operation.
- Using the RS232 diagnostic port for local status indication and configuration.
- How to download a new software version into the ASE.
- Setup and diagnostics for a slave ASE.
- The different software versions released for the ASE.

1.2

ASSOCIATED DOCUMENTATION

The following documents are generally available for the Centaur II Cube.

LT0506	Centaur II Cube Installation Instruction
LT0507	Centaur II Cube Operator Card
LT0518	Centaur II Cube Slave ASE Installation Guide

These should be referred to for additional information about the Centaur II Cube. Further detailed technical information is retained by Tyco Safety Products.

1.3**TERMINOLOGY**

ADSL	Asynchronous Digital Subscriber Line
ASE	Alarm Signalling Equipment
ASE-Net	TSP site monitoring system for ASEs
CMS	Control & Monitoring System
DOS	Disk Operating System
DTE	Data Terminal Equipment
EEPROM	Electrically Erasable Programmable Read Only Memory
GPRS	General Packet Radio Service
LDU	Local Display Unit
LED	Light Emitting Diode
MAC	Media Access Controller
PC	Personal Computer or Laptop
PSTN	Public Switched Telephone Network
RAM	Random Access Memory
R&D	Research and Development
ROM	Read Only Memory
SGD	Signal Generating Device

1.4**ACKNOWLEDGMENT**

This product includes software developed by Viola Systems (<http://www.violasystems.com/>).

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CHAPTER 2

CONTROLS & INDICATORS

2.1 SUMMARY

The Centaur II Cube has 16 front indicators (LEDs). These are described in Section 2.2.

The Centaur II Cube has the following controls:

INPUT pushbutton.
MODE pushbutton.
Key socket

These are described in Section 2.3.

2.2 INDICATORS

2.2.1 SUMMARY

The Centaur II Cube has 16 front LED indicators that are arranged in 3 groups.

- 6 LEDs indicate the ASE STATUS. Refer Section 2.2.4.
- 4 LEDs indicate the selection of INPUTs.
- 3 LEDs indicate the ALARM SYSTEM STATUS. Refer Section 2.2.5.
- 3 LEDs indicate the ASE INPUT STATUS. Refer Section 2.2.5.

The Centaur II Cube has 3 internal LED indicators.

- 1 POWER ON LED (LD1) indicates there is internal voltage (+3V3) available for the ASE's microprocessor. This should be on whenever power is applied and indicates the ASE should be working.
- 2 LEDs beside the Ethernet connector J2 indicate the Ethernet Link Status. Refer Section 2.2.3.

The Centaur II Cube also has an internal buzzer that sounds for various warnings.

2.2.2 ON POWER-UP

On power up the following LED indications should occur:

- LED self-test - all front panel LEDs and the buzzer turn on for approx 3 secs then turn off.
- The POWER LED will turn on and remain on (except during the software version display).
- After about 10 seconds the POWER LED is turned off and a software version code is shown on the INPUT LEDs for 2 seconds. Refer to Section 4.1 for details of the software versions.

- Next if the ASE is configured one of the three communication link LEDs (RADIO/PHONE/ETHERNET) will flash rapidly indicating that the ASE is trying to contact the monitoring service using that link, and then turn on steady once it has established communication.
- The other enabled communication link LEDs turn on steady, unless there is a fault with the link.
- If a valid key is fitted all enabled inputs are automatically put into Isolate mode.
- If no key is fitted the ASE starts as if the key has just been removed. Therefore, if an input is in alarm then the ALARM and ISOLATE MODE LEDs will flash and the buzzer will beep for 15 seconds. Simply inserting the key during this period will restore Isolate mode and stop the alarm being transmitted.

2.2.3 ETHERNET INDICATORS

There are two LED indicators beside the Ethernet connector J2.

Table 2.1
Ethernet Indicators

LED	LABEL	COLOUR	LED STATE	DESCRIPTION
LD17	Link OK	Green	Off	Cable unplugged or not wired correctly.
			On	Cable plugged in and wired correctly to a router/hub or another device.
LD18	Activity	Yellow	Flashes	Blinks on when data is transmitted or received on the Ethernet cable.

2.2.4 ASE STATUS INDICATORS

The ASE has 6 ASE Status LEDs. Table 2.2 details each LED's indication.

Table 2.2
Status LED Operation

LABEL	COLOUR	LED STATE	DESCRIPTION
RADIO	Green	Off	Radio Link not used.
		Rapid Flash	Attempting to contact CMS (after power up), if the radio link is configured to the highest priority link.
		1 Flash	No reply from CMS.
		2 Flashes	Cannot log on to radio network, insufficient signal strength, no aerial, network problem.
		3 Flashes	Radio Modem fault (ASE cannot communicate with internal radio modem).
		On	Communications ok.
PHONE	Green	Off	PSTN Link not used.
		Rapid Flash	Attempting to contact CMS (after power up), if the PSTN link is configured to the highest priority link.
		1 Flash	No reply from CMS.
		2 Flashes	Line Voltage fault, e.g. cable unplugged, broken (open or shorted) connection to exchange or PABX.
		3 Flashes	PSTN Modem fault (ASE cannot communicate with internal PSTN modem).
		On	Communications ok.

ETHERNET	Green	Off	Ethernet port not used.
		Rapid Flash	Attempting to contact CMS (after power up), if the Ethernet link is configured to the highest priority link.
		1 Flash	No reply from CMS.
		2 Flashes	No local IP Address, Ethernet line fail.
		3 Flashes	Ethernet chip fault (CP2200 fail).
		On	Communications ok.
SBUS	Green	Off	Link not used.
		On	Link OK. All programmed slave ASEs are responding.
		Flashing	Link Fault. A programmed Slave ASE is not replying (wiring fault).
POWER	Green	On	OK. (Refer Note 1).
		1 Flash	Power Fault input is activated.
		2 Flashes	Battery low (Power Supply Voltage).
		3 Flashes	Battery fail (Power Supply Voltage).
FAULT	Yellow	On	No ASE firmware or CRC error. Download new firmware or ASE faulty.

Note 1. The Master ASE transmits the combined Power Fault status of itself and all its connected Slave ASEs to the CMS. Thus it is possible for the CMS to indicate a power fault for the ASE, yet the ASE indicates Power is ok. In this case the Power Fault is at one or more of the connected Slave ASEs.

The communication link LED indications (RADIO, PHONE, ETHERNET) are for the primary CMS connection only. The secondary CMS connection status is not shown on the LEDs.

The Rapid Flashing is shown as 0.1 seconds on, 0.1 seconds off, repeating, and continues until a response is received from the CMS, or the ASE decides an error has occurred, or it times out waiting for a response.

The 1, 2 or 3 flashes are shown as a sequence of 1, 2 or 3 x 0.2 second flashes, separated by 0.3 seconds, repeating every 2 seconds.

Note that when the RSSI mode is selected these status LEDs turn into a bar graph indicating the received radio signal strength. Refer Section 2.3.2.

2.2.5 ALARM SYSTEM STATUS INDICATORS

The ASE can monitor the alarm, fault and isolate states from relay outputs on a fire alarm system, and also monitor the circuit to the FAS Interface module at the fire alarm system for wiring faults – open or short circuit.

Each input can be put into test and isolate modes by using a plug-in key and the front panel buttons. Additionally the CMS can put inputs into or out of Isolate mode by sending specific commands to the ASE.

Tables 2.3 and 2.4 detail the meaning of the ALARM SYSTEM STATUS and ASE INPUT STATUS LED indicators. In both cases, an Input LED is lit to show which input has its status displayed. If only one input is off-normal, then its status will be displayed continuously. If more inputs are off-normal, then the ASE will cycle through each off-normal input, displaying its status in turn.

Table 2.3
ASE System Status LED Indicators

LABEL	COLOUR	LED STATE	DESCRIPTION
ALARM	Red	Off	Displayed input not in alarm or no inputs configured.
		Rapid Flash	In Test Mode only: Test Alarm was acknowledged by monitoring system and input is not in alarm.
		Slow Flash	Displayed Input has changed alarm state (in to or out of alarm), which is being sent to the monitoring system and awaiting acknowledgement.
		On	Displayed input is in alarm and has been acknowledged by monitoring system. (Check ASE Input Status to see if input is also in Isolate mode or Test mode)
FAULT	Yellow	Off	Displayed input not in fault or no inputs configured.
		Rapid Flash	In Test Mode only: Test Fault was acknowledged by monitoring system and input is not in fault.
		Slow Flash	Displayed Input has changed fault state (in to or out of fault), which is being sent to the monitoring system and awaiting acknowledgement.
		On	Displayed input is in fault and has been acknowledged by monitoring system. (Check ASE Input Status to see if input is also in Isolate mode or Test mode)
ISOLATE	Yellow	Off	Displayed input not in isolate or no inputs configured.
		Rapid Flash	In Test Mode only: Test Isolate was acknowledged by monitoring system and input is not in Isolate.
		Slow Flash	Displayed Input has changed isolate state (in or out of isolate), which is being sent to the monitoring system and awaiting acknowledgement.
		On	Displayed input is in isolate and has been acknowledged by monitoring system. (Check ASE Input Status to see if input is also in Isolate mode or Test mode)

Table 2.4
ASE Input Status LED Indicators

LABEL	COLOUR	LED STATE	DESCRIPTION
WIRING FAULT	Yellow	Off	Displayed input is not in Wiring Fault.
		On	Displayed input is in Wiring Fault (short or open circuit).
ISOLATE MODE	Yellow	Off	Displayed input is not in Isolate Mode.
		Flash	Isolate Mode has been chosen for the selected inputs; LED will go steady if no further button presses are made.
		On	Displayed input is in Isolate Mode or has been isolated by the CMS.
TEST MODE	Yellow	Off	Displayed input is not in Test Mode.
		Flash	Test Mode has been chosen for the selected inputs; LED will go steady if no further button presses are made.
		On	Displayed input is in Test Mode.

2.3

CONTROLS

2.3.1 SUMMARY

The ASE has the following external controls:

Table 2.5
ASE Controls

LABEL	FUNCTION
INPUT	Select input(s) when ASE key is inserted
MODE	Set mode for the selected input(s).
Key Socket	For enabling buttons and diagnostic cable

2.3.2 RSSI DISPLAY

With no ASE key inserted, pressing both INPUT and MODE buttons simultaneously for at least 1 second will start the RSSI Display. The ASE will change the column of 6 LEDs of ALARM SYSTEM STATUS and FAS INPUT STATUS from displaying their usual status into a bar graph that displays the Received Signal Strength Indication (RSSI) from the radio modem. This continues for 10 minutes, or until any button is pressed again, or a valid ASE key is inserted, or an new alarm event is generated.

Additional information about the frequency band and mode (2G/3G) being used by the radio modem is shown on Input 1-3 LEDs. This is described in Table 2.7.

The radio modem produces an RSSI value in the range 0-31, with a higher number better. This indicates how strong the signal from the control channel of the current cell site is. The value can vary depending on a number of factors including:

- Cell site in use.
- Distance from cell site.
- Outside interference – buildings, trucks, hills, etc.
- Local interference – walls, people, etc.
- Aerial choice.
- Aerial location – distance above ground, clearance from obstructions such as the wall, roof, etc.

The factor most likely to result in a better RSSI is the aerial location, and it is critical a good choice be made at installation time.

The external factors can change and so it is essential the highest reading be obtained on installation, so that there is sufficient fade margin should the internal and external influences change (worsen).

The RSSI is shown on the LEDs as a bar graph, with (almost) each LED flashing representing a weighting of 2 and each LED on steady a weighting of 4. The full range of RSSI values is shown in Table 2.6. If the radio modem is not logged on to the cellular network, has no signal at all, or is faulty the RSSI is shown as no (ALARM SYSTEM STATUS or ASE INPUT STATUS) LEDs on at all.

Note that it may take 5 seconds for the RSSI reading to update after moving the aerial and up to 10 seconds for the change to fully settle.

Table 2.6
RSSI Display

LEDs	RSSI												
	None	0-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-31
ALARM												F	S
FAULT										F	S	S	S
ISOLATE								F	S	S	S	S	S
WIRING FAULT						F	S	S	S	S	S	S	S
ISOLATE MODE				F	S	S	S	S	S	S	S	S	S
TEST MODE		F	S	S	S	S	S	S	S	S	S	S	S

Status: S = Steady On, F = Flashing, Blank = Off,
None = Modem fail, not registered on cellular network, no signal.

Table 2.7
RSSI Frequency & Band Displays

Input 1	ON	850MHz band in use in 3G Mode
Input 1	OFF	Other frequency band (e.g., 2100MHz) in use
Input 2	ON	"2G" mode being used
Input 3	ON	"3G" mode being used

2.3.3 ASE KEY

The Centaur II Cube ASE uses a key that must be inserted to enable test or isolate modes. After inserting a key, select the inputs to be tested or isolated with the Input button. All enabled inputs are selected when the key is first inserted; each subsequent press of the Input button will step through the individual inputs and back to All.

While the selected Input LEDs are flashing use the Mode button to select test mode (1 press) or isolate mode (2 presses). After 5 seconds, the selected (flashing) state will be activated by the ASE and the LEDs will go steady.

Note: The CMS isolated inputs cannot be selected by pressing the input button.

2.3.4 ISOLATE MODE

When the ASE is in Isolate Mode any input conditions sent to the CMS are marked as being Isolated. This stops the CMS acting on them.

Isolate Mode can be activated by inserting an ASE key, selecting the inputs to isolate and pressing the Mode button twice so the ISOLATE MODE LED flashes. In Isolate Mode, the Input indicators will cycle round all enabled inputs and show the status of each input, even if the input is normal.

The ASE will remain in Isolate Mode until the key is removed, or it times out after 12 hours. If Isolate Mode times out, or a FAS input is in alarm when Isolate Mode is about to exit (e.g., if the key is removed), the ASE will beep and flash the ISOLATE MODE LED for 15 seconds. Reinserting the key during the 15 second period will restart Isolate Mode with a new 12 hour timeout and prevent the alarm from being sent to the CMS. The alarm should be cleared at the fire alarm panel before attempting to exit again.

Additionally the inputs can be put into or taken out of Isolate mode by the CMS operator sending specific commands to the ASE.

2.3.5 TEST MODE

When the ASE is in Test Mode any input conditions sent to the CMS are marked as being a Test. This stops the CMS acting on them. The CMS still sends an acknowledgement of the new condition back to the ASE. This allows tested conditions to be checked that they can be successfully received by the CMS.

To enter Test Mode insert a valid ASE key, select the inputs to be tested and press the Mode button once so the TEST MODE LED flashes. The ASE will cycle around all enabled inputs and show the status of each, even if the input is normal.

The ASE will remain in Test Mode until the key is removed, or it times out after 2 hours. If Test Mode times out, or a FAS input is in alarm when Test Mode is about to exit (e.g., if the key is removed), the ASE will beep and flash the TEST MODE LED for 15 seconds. Reinserting the key during the 15 second period will restart Test Mode with a new 2 hour timeout and prevent the alarm from being sent to the CMS. The alarm should be cleared at the fire alarm panel before attempting to exit again.

2.3.6 KEY REMOVAL AND TIME OUT

When the key is removed or there is a timeout of Isolate or Test Mode, all input conditions will be sent to the CMS. However, when removing the key there is a 5 second period when the key may be re-inserted to stop the input conditions being sent to the CMS. During this period, the relevant TEST MODE or ISOLATE MODE indicator will flash rapidly. If any of the inputs are in alarm or a mode is timing out then the exit warning period will be 15 seconds and the buzzer will beep throughout. If the key is re-inserted during this period Isolate mode will automatically be restored (no need to select via the mode button).

On power up if a valid key is fitted Isolate mode will automatically be started.

CHAPTER 3 DIAGNOSTIC OPERATION

3.1 INTRODUCTION

The Centaur II Cube provides diagnostic functions via its diagnostic port to a connected terminal or PC running a terminal emulator program. There are two types of diagnostics. On initial power up the monitor mode starts and waits for 5 seconds for a password. If there is no, or an invalid, password entered the monitor terminates and starts the ASE program. The ASE diagnostics can then be used (refer 3.4 ASE Diagnostics). If a valid password is entered, monitor command mode is started (refer 3.3 Monitor Commands) and the ASE program is not started.

The Centaur II Cube diagnostic serial port operates at 38400 baud, 8 data bits, no parity, 1 stop bit with Xon/Xoff flow control. A special diagnostic cable (part number FP0976) is needed.

Hyperterm, Wincomms and Accuterm are suitable terminal emulator programs for Windows and Procomm is suitable for DOS.

When connecting a laptop or computer to the diagnostic port this may connect the ASE's 0V terminal and any connected equipment (e.g., the fire panel or PSU) to earth via the laptop/computer power lead. To avoid earth faults or damage to the ASE or computer, always operate the computer on batteries when connecting to the ASE diagnostic port, or use an isolated RS232 connection or power supply.

3.2 STARTUP

On the start up of the Centaur II Cube, lines similar to the following will be displayed on the terminal.

```
>>>>>>> Centaur II Monitor Program Version 1.20 <<<<<<<<
COPYRIGHT TSP CHCH   Jul 01 2009
ASE DTE Number:    00123456 (0001E240)
```

These display the Centaur II Cube monitor program software version (not the actual ASE software version) and the unique DTE number of the ASE.

The Centaur II Cube will display the following lines rather than the above information if the CRC check of the monitor program in Flash ROM fails.

```
***** Centaur II Monitor Program Version 1.20 *****
COPYRIGHT TSP CHCH   Jul 01 2009
CRC Fail
ASE DTE Number:    00123456 (0001E240)
```

The ASE then waits 5 seconds for a valid password. If the password VIGILANT (i.e., uppercase, 8 letters only) is entered, the ASE enters limited monitor command mode (refer 3.3 Monitor Commands).

If a special password is entered the ASE enters full monitor command mode, which enables the extra command to allow the DTE number to be programmed.

If no password, or an invalid password is entered the ASE program is started (refer 3.4 ASE Diagnostics). Firstly though, the monitor displays the information about the two firmware spaces, the active space and the inactive space (refer Section 3.3.1).

3.3 MONITOR COMMANDS

Monitor mode has commands that may be entered to:

- Download a new ASE program.
- Erase program space
- Check the program space
- Display Flash memory contents
- Display RAM memory contents
- Display operating parameters
- Load operating parameters
- Connect to radio modem
- Connect to PSTN modem
- Connect to RS422 port
- Display help.
- Exit monitor and reboot ASE.

When Monitor mode is started or the HE command is entered, it displays a menu as follows.

```
>>>>>>> Centaur II Monitor Program Version 1.20 <<<<<<<<
COPYRIGHT TSP CHCH   Jul 24 2009

HE ----- Display Help
FC ----- ASE Firmware Check
EA ----- Erase Active Firmware
EI ----- Erase Inactive Firmware
DR XXXX XXXX(Hex) -- Display RAM
DF XXXX XXXX(Hex) -- Display Flash
DT ----- Display DTE
LA ----- Load Active Firmware
LI ----- Load Inactive Firmware
LO ----- Load Operating Parameters
CR ----- Connect to Radio Modem
CP ----- Connect to PSTN Modem
CS ----- Connect to RS442 Port
PD XXXX (Hex)----- Program DTE Number
EX ----- Exit Monitor (Reboot)
Ctrl-r ----- Repeat Last Command
Ctrl-n ----- Repeat Last Command(Next Memory Block)
```

To distinguish from the ASE diagnostic facilities, the monitor program uses the prompt “@”, while the ASE diagnostic uses the prompt “>”.

All commands are not case sensitive and should be completed with a carriage return (Enter key), except CTRL-R and CTRL-N, which work as soon as these keys are pressed. A space should be used to separate the command from any parameter values entered.

These commands must be used only by, or under the guidance of, Tyco Safety Products R&D or Product Support staff.

3.3.1 CHECK THE FIRMWARE SPACE - FC

This command will cause the monitor to perform a check of the two firmware spaces and display the details for any ASE programs it finds.

If both firmware spaces have valid ASE firmware, the displayed message will be like

```
Active ASE Firmware Head CRC OK
Active ASE Firmware CRC OK
    Firmware Version: 0x4802
    Start Address: 0x00e00020
    Length: 0x000257b2 (153522)
    Firmware CRC: 0x7a31
Inactive ASE Firmware Head CRC OK
Inactive ASE Firmware CRC OK
    Firmware Version: 0x4802
    Start Address: 0x00e00020
    Length: 0x000257b2 (153522)
    Firmware CRC: 0x7a31
```

If only one program space contains valid ASE firmware, the displayed message could be

```
Active ASE Firmware Head CRC OK
Active ASE Firmware CRC OK
    Firmware Version: 0x4802
    Start Address: 0x00e00020
    Length: 0x000257b2 (153522)
    Firmware CRC: 0x7a31
No Firmware or Head CRC Fail on The Inactive space
```

If both firmware spaces are empty, the following message will be displayed.

```
No valid ASE firmware head ID on both space!
```

3.3.2 ERASE FIRMWARE SPACE – EA, EI

Use the command “EA” to erase the active firmware space and “EI” to erase the inactive firmware area.

3.3.3 DISPLAY MEMORY – DR, DF

Command “DR” is used to display the RAM.

Command “DF” is used to display the Flash ROM (Program and Monitor).

These two commands have the same format as follows.

```
DF XXXX YYYY
```

XXXX --- The start address to be displayed (included)

YYYY --- The end address to be displayed (excluded)

Note the maximum block size that can be displayed is 256. If YYYY – XXXX is greater than 256, a block size of 256 will be used.

The monitor will perform the address range checking. If the entered address is out of range, no memory contents will be displayed.

For example, the following command will display the program space from 0xF00000 to 0xF000FF but not the address 0xF00100.

```
@DF F00000 F00100
F0 00 00 : 66 14 04 00 00 00 F0 00 20 00 01 8C 2C 8F DC 10
F0 00 10 : A5 FF FF
F0 00 20 : 96 AF 00 40 20 0F 03 F9 E0 F9 20 F9 60 B0 91 00
F0 00 30 : B0 91 00 D5 2F 00 23 00 F6 E2 0A 00 F6 E3 04 00
F0 00 40 : F6 E1 05 00 F6 EF 08 00 14 0B 00 0F 14 0C 00 12
F0 00 50 : 12 0A 00 D5 AA 80 00 D5 29 00 1F 00 D5 2A 00 16
F0 00 60 : 00 D1 EC D5 2A 00 16 00 D3 EC 02 B0 F1 00 16 00
F0 00 70 : 00 99 6F 00 00 B8 03 02 B0 F1 00 16 00 00 99 6F
F0 00 80 : 00 00 B8 03 02 B0 F1 06 16 00 00 99 6F 00 00 B8
F0 00 90 : 03 02 B0 F1 06 16 00 00 99 6F 00 00 B8 03 B0 B1
F0 00 A0 : 56 85 F1 00 BD 00 16 00 99 6F 00 00 B0 83 B0 B1
F0 00 B0 : 56 85 F1 00 B0 F1 00 16 00 00 99 6F 00 00 B0 83
F0 00 C0 : B0 B1 56 85 F1 00 B0 F1 00 16 00 00 99 6F 06 00
F0 00 D0 : B0 83 B0 B1 5C 85 F1 00 B0 F1 06 16 00 00 99 6F
F0 00 E0 : 00 00 B0 83 02 B0 F1 00 16 00 00 99 6F 00 00 B8
F0 00 F0 : 03 02 B0 F1 00 16 00 00 99 6F 00 00 B8 03 02 B0
```

3.3.4 REPEAT COMMAND – CTRL-R, CTRL-N

Command “CTRL-R” will simply repeat the last command.

Command “CTRL-N” will not only repeat the last command, but for memory commands with an address range entered, will beforehand increase the address range to the next block. For example, entering the command “CTRL-N” after the “DF” command in 3.3.3 above, the flash contents from address 0xF00100 to 0xF001FF will be displayed.

3.3.5 DOWNLOAD FIRMWARE – LA, LI

Command “LA” is used to download the ASE firmware into the active firmware space. Command “LI” is used to download the ASE firmware into the inactive firmware space.

There is no need to erase the flash before entering the download command. The monitor will automatically erase the area then wait for the new program to be downloaded. This will then be stored in the flash memory. The following text will be displayed on the terminal if the ASE is ready to accept the firmware.

```
@LA
Download Firmware To Active Area
Erase Blocks .....
Ready To Download
```

The ASE firmware is coded in Motorola S19 format, but has been converted to a format that has all lines starting with an even address and has an even number of bytes per line. The converted S file has the extension .e19. To download the file, use the menu command “Transfer->Send File” from Wincomms or “Transfer -> Send Text File” from Hyperterm. If the downloading is finished and successful the following message will be displayed.

```
Download Firmware Successful!  
Locking Blocks ...  
All Done
```

Note: On Startup the monitor will always run the ASE program from the active firmware space. If there is valid ASE firmware in only the inactive space, or the inactive firmware has a higher version number than the active copy, then the monitor will first automatically copy this firmware to the active space and then run it.

Therefore, it is generally safe to download a new firmware version to the inactive space and use the ASE to copy it to the active space on the next power up. This way both spaces will have the same version of firmware.

3.3.6 DOWNLOAD OPERATING PARAMETERS – LO

Command “LO” is used to download the operating parameters to the ASE operating parameter flash block.

The parameters to be downloaded should be coded in the e19 format file. After entering the command “LO”, send the file containing the operating parameters. The monitor will then decode these parameters and store them to the flash memory.

```
@LO  
Download Operating Parameters!  
Ready To Download
```

To download the file, use the menu command “Transfer->Send File” from Wincomm or “Transfer -> Send Text File” from Hyperterm. If the downloading is finished and successful the following message will be displayed.

```
Download Successful!  
All Done
```

3.3.7 DISPLAY DTE – DT

Command “DT” is used to display the ASE’s DTE number. The message will be displayed as follows:

```
@dt  
ASE DTE Number: 10006 (00002716)
```

3.3.8 CONNECT TO RADIO MODEM – CR

The command “CR” will build a communication channel between the RS232 diagnostic port and the internal radio modem, so the user can control the radio modem through the diagnostic port using AT commands or other software. The ASE has, in effect, become a radio modem emulation board.

The “CR” command has the format: CR X

Where the X is used to set the radio modem port baud rate:

1	115200
2	57600
3	38400
4	19200

If the baud rate option is not entered or is set to other values the radio modem port baud rate will be set to 38400.

The diagnostic port will not change its configuration.

To check these baud rate changes and connectivity to the radio modem enter AT<Enter> and check an OK message is generated. Refer to the appropriate radio modem AT command manual for details on how to use the radio modem.

To exit from the connection, send an Escape character (0x1B) to the ASE, or power down or reset the ASE.

3.3.9 CONNECT TO PSTN MODEM – CP

The command “CP” will build a communication channel between the RS232 diagnostic port and the internal PSTN modem, so the user can control the PSTN modem through the diagnostic port. The ASE has, in effect, become a PSTN modem.

After entering the command the diagnostic port will be configured to 2400 baud rate, 8 data bits, no parity, 1 stop bit to match the PSTN modem. The user should change the terminal program settings to this before operating the PSTN modem.

To check these baud rate changes and connectivity enter AT I1<Enter> and check a message of SI2401_B is generated. Refer to the appropriate PSTN modem AT command manual for details on how to use the PSTN modem.

To exit from the connection, send an Escape character (0x1B) to the ASE, power down or reset the ASE.

3.3.10 EXIT AND RESTART ASE – EX

The command “EX” will exit from the monitor mode and restart the ASE.

3.3.11 PROGRAM DTE NUMBER - PD

Command “PD” is used to program the ASE’s DTE number. A special password needs to be entered on startup to enable this command.

The “PD” command has the format: PD XXXX

Where XXXX is the new DTE number (Hex value) to be programmed. For example, the following command will program the DTE number 12345 (decimal) into the ASE.

```
PD 3039
```

3.4 ASE DIAGNOSTICS

3.4.1 INTRODUCTION

When the ASE software is running it provides diagnostic information via its front panel diagnostic port.

This port operates at 38400, 8 data bits, no parity, 1 stop bit, with Xon/Xoff flow control. A special diagnostic cable (part number FP0976) is needed.

When connecting a laptop or computer to the diagnostic port this may connect the ASEs 0V terminal and any connected equipment (e.g., the fire panel or PSU) to earth via the laptop/computer power lead. To avoid earth faults or damage to the ASE or computer, always operate the computer on batteries, or use an isolated power supply or RS232 connection.

Hyperterm, Wincomms or Accuterm are suitable terminal emulator programs to use under Windows.

Additionally the ASE can support remote diagnostics via the radio and/or Ethernet connections using Telnet if these are enabled.

On Start up, a message similar to the following will be displayed.

```
---- ASE Starting ----  
Centaur II QFRS V200 Nov 02 2009  
ASE H/W V12 Mon V0120 S/W V02  
Cold Start  
ASE DTE Number:10003  
  
CP2200 Oscillator and Self Initialization Complete  
Auto-Negotiation Passed  
Ethernet MAC Address: 000B3C 007F86  
Initialisation Finished  
HE ----- Display Help  
AS ----- Basic ASE Status  
CM ----- Comms Link Status  
FS ----- Master ASE FAS Input Status  
ZS ----- Zone Status  
CR ----- Radio Configuration  
CE ----- Ethernet Configuration  
CO ----- OC Outputs Configuration  
RA ----- Remote Panel Access Configuration  
SP ----- Secondary Message Processor Configuration  
DH ----- Display History Info  
DR XXXX XXXX(Hex) -- Display RAM  
DF XXXX XXXX(Hex) -- Display Flash  
SL XX (Dec) ----- Slave ASE Status  
DG XX(Dec) ----- Display Generic Params  
DB XX(Dec) ----- Switch Debug Output  
DS XX(Dec) ----- Display Debug Information  
PR X.X.X.X(Dec) ---- Ping Radio  
PE X.X.X.X(Dec) ---- Ping Ethernet  
Ctrl-R ----- Repeat  
Ctrl-N ----- Repeat & Increase
```

This message consists of two parts, the initialisation message which details a number of properties of the ASE and the main menu that lists all of the valid commands.

Most commands are entered as two characters, followed by a space then any parameters, and completed with a carriage return <Enter> key. Two commands CTRL-N and CTRL-R require just the keystroke. These are the same as the Monitor commands described in Section 3.3.4.

The HE command (no parameters) can be used to display the menu as shown above.

Each command is described in detail in the following sections.

3.4.2 ASE STATUS - AS COMMAND

The AS command - ASE Status - shows general information about the ASE, including its DTE number, Ethernet MAC address, software version details, key number if plugged in, Power Fault input and voltage status, daily test configuration, and local time and date. An example display is as follows:

```
>as
```

```
<<ASE Basic Status>>
```

```
DTE Number: 10002 (0x00002712)
MAC Address: 00 0B 3C 00 7F 86
Centaur II QFRS V200 Nov 02 2009
ASE H/W V12 Mon V0120 S/W V02
Active Firmware CRC: FB08
```

```
ASE Key: 9500000132EE3514
```

	Low	Fail	Value	Status
Power Fault:	---	---	67	NORMAL
Battery:	121	96	131	NORMAL

```
Daily Test: Test Time = 22:0 Link: Primary
```

```
ASE Current Date/Time: 02/11/2009 14:33:24 Run Time: 249257
```

This first section shows the ASE's DTE number (10002), Ethernet MAC number, software version string, and software/hardware details.

If an ASE key or Diagnostic cable is plugged in, the ASE key code will be displayed. In this example, the unique ASE Key code is: 9500000132EE3514.

The next section shows the Power Fault (PF) input status and ASE +V (power supply) status. The Power Fault status is FAIL if the Power Fault (PF) input is less than 2.0V, and NORMAL if the input is greater than 3.0 V.

The row labelled Battery: shows the battery low and fail voltage thresholds and the +V power supply voltage (value) and status.

The numbers are the voltages x 10, so you need to divide the numbers shown by 10 to give the real voltage. In this example (from left to right) the battery low threshold is 12.1V, the battery fail threshold is 9.6V, and the current voltage is 13.1V. But note with the current ASE

configuration the battery low and battery fail faults are disabled (threshold = 0). Other statuses that can be displayed are:

BT LOW The battery voltage is below the battery low threshold.

FAIL The battery voltage is below the battery fail threshold.

The next line displays the programmed daily test time, which communications link the daily test message will be sent on, then the ASE's current date and time, and then the ASE run time in seconds since powered up or restarted.

3.4.3 COMMS STATUS - CM COMMAND

The CM command - Comms Status - displays the radio modem, PSTN and Ethernet port details and status.

An example display is:

```
>cm

<<Comms Status>>

----Radio----
Radio Port: RPM
Radio Modem Type: 3G H24
Status: OK
Local IP: 10.9.125.23
CMS IP1: 10.45.248.76 Port1: 2001
CMS IP2: 0.0.0.0 Port2: 0
SW Rev= "H24_U_OC.32.71R"
IMSI= 505013432992846
IMEI= 354626030010470
Mode=3G
Band=850MHz
Channel No=1062
Cell ID=1427967
RSSI=12

----PSTN----
PSTN Port: PSTN DIALUP
Status: NOT USED
Alarm Number: 5
General Number: 5

----Ethernet----
Status: OK
Local IP: 10.45.248.63
Default Gateway: 10.45.248.1
Subnet Mask: 255.255.255.0
CMS IP1: 0.0.0.0 Port1: 0
CMS IP2: 10.45.248.93 Port2: 2004
```

----ASE Message Link Configuration----

Pri Link: Ethernet
 Sec Link: Radio
 Ter Link: Not Used

----Polling Configuration----

Poll IP: 10.45.248.93 Port: 2004
 Link: Not Used

This shows the following radio information:

Radio Port	RPM if enabled, NOT USED if not enabled, or RAW 4418 for special applications.
Radio Modem Type	H24 for 3G modem installations. GPRS G24 for GPRS modem installations. NONE if the ASE cannot determine the radio modem type, or none is fitted.
Status	The status of the radio modem connection to MasterMind. Can be one of the following: <ul style="list-style-type: none"> OK On start up, or when the ASE can successfully log onto the radio network and communicate with the server correctly. FAIL The ASE cannot talk to the radio modem at all. NO CMS REPLY The ASE can log onto the radio network and send messages, but cannot receive the reply message from the CMS. LOG OFF The ASE is logged off the radio network for some reason, e.g., cannot log on. This could be due to insufficient signal strength (aerial removed), no coverage, no SIM card, SIM card incorrect, or ASE details not programmed into the radio network.
Local IP	The IP address of the radio modem port. The ASE can be contacted using this IP address on the radio network.
CMS IP1	IP address and port number of the primary CMS that the ASE is programmed to send events to.
CMS IP2	IP address and port number of the secondary CMS that the ASE is programmed to send events to.
SW Rev	The software version information of the radio modem.
IMSI	The International Mobile Subscriber Identity number.
IMEI	The International Mobile station Equipment Identity (Radio module serial number).
Mode	The mode the radio modem is currently using (2G/3G).
Band	The current radio frequency band being used.

Channel No	The current radio channel number being used.
Cell ID	The current radio base station cell ID the modem is logged on to.
RSSI	The most recent Received Signal Strength Indication (RSSI) from the Radio modem. This is a number 0-31, with higher numbers better. But a value of 99 indicates the modem is not registered on the network or has no receive signal at all.

This shows the following PSTN information:

PSTN Port	Programmed mode of operation for the PSTN port. Can be PSTN DIALUP or NOT USED.
Status	Status of the PSTN port. Can be one of the following: OK PSTN cable plugged in, voltage ok and test message transmission to the server on the PSTN connection worked correctly. NOT USED PSTN link is not used. CMS NO REPLY The ASE can send its message through the PSTN modem, but it cannot receive the reply message from the server. MODEM FAIL The ASE cannot talk to the PSTN modem at all. LINE VOLTAGE FAIL The phone line is not connected or the line voltage is too low.
Alarm Number	Phone number the ASE is programmed to ring for the CMS when it has a fire alarm event to send over the PSTN link.
General Number	Phone number the ASE is programmed to ring for the CMS when it has a fault or other message (not a fire alarm) to send over the PSTN link.

The Ethernet section details information about the Ethernet port as follows:

Status	Displays OK if the Ethernet cable is plugged in and signals are valid. Displays LINE FAIL if not OK.
Local IP	The IP address of the ASE on the Ethernet port. It can be communicated with using this address.
Default Gateway	The local network default gateway IP address.
Subnet Mask	The local network subnet mask.
CMS IP1	The IP address and port number of the primary server should the ASE be programmed to send events over the Ethernet connection.
CMS IP2	The IP address and port number of the secondary server should the ASE be programmed to send events over the Ethernet connection.

The ASE Link Configuration section shows the priority of the communication links that the ASE will attempt to use. Each of the primary, secondary or test links could be one of these:

- ETHERNET
- RADIO
- PSTN
- NOT USED

The Polling Configuration section displays the information about the polling configuration as follows:

Poll IP The IP address and port number of the remote polling server should the ASE be programmed to send poll messages.

Link Which communication link the poll message should be sent over.

3.4.4 **MASTER FAS STATUS – FS COMMAND**

The FS command can be used to display programmed configurations and current status of the ASE's four FAS inputs.

>FS

<<Master ASE FAS Inputs Status>>

	Input	Mode	Timer	Status	Type	Min	Max	Value
Z1	1:	KT	120	A	ANO	< 76		0
	2:	--	---	---	FNO	> 76		255
Z3	3:	KI	720	F	ANO	> 76		255
	4:	--	---	---	FNO	< 76		0

For each FAS input, it displays:

Zone Map For direct relay connections, more than one input may be mapped to one zone. In this example, input one and two are mapped to the zone 1 (Z1); input three and four are mapped to the zone 3 (Z3), as each input monitors one relay directly.

Mode The FAS input (Zone) mode. It could be set to one of these:
 - -: Normal mode – not Isolate or Test modes.
 KI: The input is set to Isolated Mode by inserting ASE key and pressing buttons.
 KT: The input is set to Test Mode by inserting ASE key and pressing buttons.
 CI: The input is set to Isolate Mode by a CMS command.
 CT: The input is set to Test Mode by a CMS command.

Timer The count down timer in minutes for KI and KT mode time out.

Status FAS status.
 N Normal – none of Alarm, Fault or Isolate are present.
 WF Wiring fault – the connection is open or short circuited between the FAS input and the FAS Interface Module.
 A Alarm present.
 F Fault present.

	I	Isolate present.
		Note, A, F & I can be simultaneously present.
Type		The configured FAS input type. It could be set to one of these:
	NONE:	The input is disabled
	NO:	The input is configured to be connected to a Normally Open FAS Interface Module and relay contacts.
	NC:	The input is configured to be connected to a Normally Closed FAS Interface Module and relay contacts.
	ANO:	The input is configured to be direct connected to a FAS Normally Open Alarm relay.
	ANC:	The input is configured to be direct connected to a FAS Normally Closed Alarm relay.
	FNO:	The input is configured to be direct connected to a FAS Normally Open Fault relay.
	FNC:	The input is configured to be direct connected to a FAS Normally Closed Fault relay.
	INO:	The input is configured to be direct connected to a FAS Normally Open Isolate relay.
	INC:	The input is configured to be direct connected to a FAS Normally Closed Isolate relay.
Min/Max		The input analogue value range that the ASE uses to determine the FAS status. For direct relay connection, there is only one threshold value so the greater (>) and less than (<) symbols are used.
Value		The actual reading of each FAS input.

In this example, inputs 1 and 2 are configured to directly connect to the alarm and fault relays of the fire alarm system and combine this status for zone 1. Inputs 3 and 4 are configured to directly connect to the alarm and fault relays of the second fire alarm system and combine this status for zone 3. Zone 1 is currently in Test mode and will time out in 120 minutes; Zone 3 is set to Isolate mode and will time out in 720 minutes. The input 1 and input 4 relays are activated as their analogue values are 0. The input 2 and 3 input relays are deactivated, as their analogue values are 255. For the direct relay Normal Open connection, a threshold 76 is used to determine the relay activations. Overall, Zone 1 is in Alarm status and Zone 3 is in Fault status.

3.4.5 ZONE STATUS – ZS COMMAND

The ZS command displays the programmed configurations and current status of all possible FAS inputs which are mapped to zones 1-16. Zones 1-4 are on the ASE itself and zones 5-16 are on slave ASEs if enabled.

```
>zS
```

```
<<Zone Status>>
```

	Type	Address	Mode	Delay	Status
Z1	ANO	Master1	KI	2	A
	FNO	Master2	--	2	N
Z3	ANO	Master3	KI	2	N
	FNO	Master4	--	2	N
Z5	NO	1-1	--	2	W
Z6	NO	1-2	--	2	W
Z7	NO	12-1	KI	2	A

Z8	NO	12-2	KI	2	A
Z9	NC	3-1	--	2	W
Z10	NC	3-2	--	2	W
Z11	NO	5-1	--	2	W
Z12	NO	5-2	--	2	W
Z13	NO	14-1	--	2	N
Z14	NO	14-2	--	2	N
Z15	NO	12-3	KI	2	A
Z16	NO	12-4	KI	2	A

For each zone, it displays:

Type	The programmed input type - refer to section 3.4.4.
Address	ASE slave address and Input number. The master ASE has no address. For Slave ASEs this shows the Slave address and input number. The input number is assigned automatically, based on how many times this Address has been used. If first, then input 1, if second time then input 2, etc.
Mode	The current mode (Normal, Isolate, Test) - refer to section 3.4.4.
Delay	Input delay in seconds. In this example, all four master ASE inputs are set to 2 seconds. This delay sets how long each new input condition must be present before the ASE (or slave) recognises it and sends it to the CMS.
Status	Input status - refer to section 3.4.4.

3.4.6 SLAVE ASE STATUS – SL COMMAND

The SL command displays the configured slave ASEs FAS input to zone mapping and the slave bus communication status.

>SL

<<Slave ASE Configuration>>

Address	Link	FAS 1	FAS 2	FAS 3	FAS 4
1	OK	NO-Z5	NO-Z6		
3	Fail	NC-Z9	NC-Z10		
5	Fail	NO-Z11	NO-Z12		
12	OK	NO-Z7	NO-Z8	NO-Z15	NO-Z16
14	OK	NO-Z13	NO-Z14		

For each configured slave ASE, it displays:

Address	Slave ASE address. If the address is not present it is not ebaled.
Link	Slave bus communication link status. OK Communication link is OK for the slave ASE. Fail No reply from the slave ASE for more than 10 seconds.
FAS 1 to 4	Slave ASE FAS input type and the zone it maps to. NO Normal Open NC Normal Close

The SL command can also be given a signal parameter to display the relevant slave ASE status summary. For example using a slave address of 12 the following is shown.

```
>SL 12
```

```
<<Slave ASE Status>>
```

```
Address: 12  
Link:    OK  
Replies: 11111111  
  
Power:   OK  
O/C1:   Off  
O/C2:   On  
Key:    9500000132EE3514
```

Input	Type	Mode	Delay	Status
FAS 1-Z7	NO	KI	2	A
FAS 2-Z8	NO	CI	2	A
FAS 3-Z15	NO	KT	2	A
FAS 4-Z16	NO		2	A

This shows following information:

Address	The slave ASE address.
Link	The slave BUS link status.
Replies	Present the replies of the slave ASE for last 8 polls. 1 Get reply. 0 No reply
Power	The slave ASE Power Fault signal status. OK Power Fault signal inactivated. Fail Power Fault signal activated.
O/C1, O/C2	The slave ASE O/C output status. On O/C output activated. Off O/C output inactivated.
Key	The slave ASE key status. Not inserted No ASE key is inserted. Hex number The ASE key code.
Input	Configured FAS input to zone mapping and status.

For the input type, mode, delay and status, refer to section 3.4.4 FS command.

3.4.7 RADIO CONFIGURATION – CR COMMAND

The CR command can be used to display or configure the parameters that are relevant to the radio network. Configuration of these parameters is permitted only if the ASE firmware build is the WORMALD version and the user is using the RS232 diagnostic port of the ASE (i.e., remote configuration of these parameters is not permitted).

An example is:

```
>cr  
  
Radio Network Configuration (ADT QFRS)  
1 - APN: qfrs.tyco.com.au  
2 - Realm: qfrs.tyco.com.au  
3 - Radio Network Password: *****  
4 - Radio Link Listen Port: 2000  
  
>
```

This shows following information:

Radio Network Configuration (Build) Currently there are four build versions: ADT NZ, ADT AU, ADT QFRS and WORMALD.

APN	The GPRS radio network Access Point Name.
Realm	The network realm name of the fire monitoring service provider.
Radio Network Password	The password for logging on to the network.
Radio Link Listen Port	The UDP port number the ASE uses to send and receive messages on the radio link.

For the WORMALD version if the CR command is issued through the RS232 diagnostic port this will enter a submenu with a prompt of ">>". At this menu, entry of the number key 1 – 4 will allow each of these parameters to be entered. For example:

```
>>1  
>>Enter APN: "adtfireservice.co.nz","0.0.0.0",0,0  
>>2  
>> Enter Realm: tycoint.com  
>>4  
>>Enter Radio Link Listen Port: 8745  
>>
```

Contact your ASE supplier, monitoring service provider, and/or communication network provider for the appropriate values to use for these parameters.

When finished press the Esc key to return to the main menu.

3.4.8 ETHERNET CONFIGURATION – CE COMMAND

The CE command can be used to display or configure the parameters that are relevant to the Ethernet port. However only the local diagnostic RS232 port will allow these parameters to be configured (i.e., it cannot be done remotely). The information displayed on the screen will be different depending on what the configuration was when the CE command was last entered.

An example of the Ethernet configuration entered manually is:

```
>ce
  Ethernet Configuration

  IP Entered Manually (DHCP Disabled)
    Local IP: 192.168.1.11
    Default Gateway: 192.168.1.1
    Subnet Mask: 255.255.255.0

    UDP Port: 8744

    ASE Message Enabled
    Remote Panel Access Enabled
    ASE Diagnostic Enabled

    LDU Message Disabled
    LDU IP: 10.45.248.93  Port: 8744

  0 - Disable Ethernet Interface
  1 - Obtain IP Automatically
  2 - Re-enter IP Manually
  3 - Set UDP Port
  4 - Disable ASE Message
  5 - Disable Remote Panel Access
  6 - Disable ASE Diagnostic
  7 - Enable LDU Message
  8 - Configure LDU Message IP
  9 - Configure LDU Message Port
  SPACE - Refresh Information
  Esc - Escape Sub Menu
```

>>

An example of the Ethernet configuration obtained automatically (using DHCP) is:

```
>ce
  Ethernet Configuration

  IP Acquired Automatically (DHCP Enabled)
    Local IP: 192.168.1.11
    Default Gateway: 192.168.1.1
    Subnet Mask: 255.255.255.0

    UDP Port: 8744

    ASE Message Enabled
    Remote Panel Access Enabled
```

```
ASE Diagnostic Enabled
```

```
LDU Message Disabled
```

```
LDU IP: 10.45.248.93 Port: 8744
```

- 0 - Disable Ethernet Interface
 - 1 - Renew IP Automatically
 - 2 - Enter IP Manually
 - 3 - Set UDP Port
 - 4 - Disable ASE Message
 - 5 - Disable Remote Panel Access
 - 6 - Disable ASE Diagnostic
 - 7 - Enable LDU Message
 - 8 - Configure LDU Message IP
 - 9 - Configure LDU Message Port
- SPACE - Refresh Information
Esc - Escape Sub Menu

```
>>
```

An example of where DHCP is enabled and the ASE is still trying to obtain its IP address from the DHCP server is:

```
>ce
```

```
Ethernet Configuration
```

```
Acquiring IP Automatically (DHCP Enabled)
```

```
Waiting DHCP Server Reply...
```

```
UDP Port: 8744
```

```
ASE Message Enabled
```

```
Remote Panel Access Enabled
```

```
ASE Diagnostic Enabled
```

```
LDU Message Disabled
```

```
LDU IP: 10.45.248.93 Port: 8744
```

- 0 - Disable Ethernet Interface
 - 1 - Renew IP Automatically
 - 2 - Enter IP Manually
 - 3 - Set UDP Port
 - 4 - Disable ASE Message
 - 5 - Disable Remote Panel Access
 - 6 - Disable ASE Diagnostic
 - 7 - Enable LDU Message
 - 8 - Configure LDU Message IP
 - 9 - Configure LDU Message Port
- SPACE - Refresh Information
Esc - Escape Sub Menu

```
>>
```

If manually entering the IP address it is necessary to enter the IP address, default gateway IP address and the net mask to be used.

The UDP Port is the port number that the ASE uses to send and receive ASE messages on the Ethernet link to the primary CMS (if enabled).

ASE Message Enabled (/Disabled) indicates that ASE messages to the primary CMS are enabled/disabled on the Ethernet port.

Remote Panel Access Enabled (/Disabled) indicates if remote panel access is enabled on the Ethernet port (refer Section 3.4.9).

ASE Diagnostic Enabled (/Disabled) indicates if remote ASE diagnostics is enabled/disabled over the Ethernet port.

LDU Message Disabled (/Enabled) indicates if the ASE will transmit LDU messages over Ethernet to the programmed destination. The LDU IP and Port is the destination IP address and UDP port number that the ASE will send LDU UDP messages to if this is enabled.

If the submenu is entered, the ASE will accept single keys to change the configuration, refresh the information or exit the submenu.

Press:

- 0 To enable/disable the Ethernet Interface. When the Ethernet Interface is disabled, the Ethernet chip will be forced to sleep mode and the ASE current consumption will be reduced about 30 mA.
- 1 To enable DHCP, clear the current IP address, and obtain or renew it from the DHCP server.
- 2 To disable DHCP. The local IP, Default Gateway and Subnet Mask must be entered manually. Refer to your network administrator for the IP address, Net mask and Gateway value to use.
- 3 To change the local Ethernet UDP port used for communicating with the primary CMS.
- 4 To enable/disable ASE message reception/transmission over the Ethernet link to the primary CMS.
- 5 To enable/disable remote panel access through the Ethernet link.
- 6 To enable/disable telnet diagnostics through the Ethernet link.
- 7 To enable/disable sending LDU messages over the Ethernet link.
- 8 To change the destination IP address of the LDU UDP message.
- 9 To change the destination port number of the LDU UDP message.
- SPACE To refresh the information. This will be useful when the ASE is still acquiring its IP address from the DHCP server.
- ESC To return to the main menu.

3.4.9 REMOTE PANEL ACCESS CONFIGURATION – RA COMMAND

The ASE's RS232 port can be used for remote panel access. This allows a remote user to connect to the fire panel connected to the ASE's RS232 port.

Remote panel access is always available through the radio connection, but must be enabled for use on the Ethernet connection (refer to the CE command).

The RS232 port's baud rate will be changed to the configured baud rate when the remote panel access connection is established. The port's baud rate will be set back to 38400 when the remote panel access is terminated allowing the diagnostic functions to be used again. The RA command is used to configure the baud rate for remote panel access.

An example is:

>ra

Remote Panel Access Configuration

Baud Rate: 9600

- 1 - Set Baud Rate to 2400
- 2 - Set Baud Rate to 4800
- 3 - Set Baud Rate to 9600
- 4 - Set Baud Rate to 19200
- 5 - Set Baud Rate to 38400
- SPACE - Refresh Information
- Esc - Escape Sub Menu

>>

The example shows that the current RS232 port baud rate for remote panel access is configured to 9600.

If the submenu is entered, the ASE will accept single key commands to change the configuration, refresh the information, or exit the submenu.

Press:

- 1 To set the baud rate to 2400.
- 2 To set the baud rate to 4800.
- 3 To set the baud rate to 9600.
- 4 To set the baud rate to 19200.
- 5 To set the baud rate to 38400.

Contact TSP for the IP port number to use for remote panel access.

3.4.10 OPEN COLLECTOR OUTPUT CONFIGURATION – CO COMMAND

The CO command can be used to configure the two open collector outputs.

>CO

OC Outputs Configuration

OC1 is configured to indicate communication fail
OC2 is configured to indicate FAS alarm
Current OC output status: OC1-Active OC2-Inactive

- 1 - Set OC1 to be controlled by the CMS
- 2 - Set OC1 to indicate the communication fail
- 3 - Set OC1 to restart ADSL Modem automatically
- 4 - Set OC2 to be controlled by the CMS
- 5 - Set OC2 to indicate the FAS alarm
- 6 - Set OC2 to restart ADSL Modem automatically
- SPACE - Refresh Information
- Esc - Escape Sub Menu

>>

OC1 is configured to indicate communication fail by default. In this case, if the ASE has at least one communication link OK, then OC1 is activated. If all links are failed, the ASE is faulty, or there is no power or an ASE fault (FAULT LED on) then OC1 is off.

OC2 is configured to indicate FAS alarm by default. In this case, if there is any FAS in alarm (and not in isolate or test mode), then OC2 will be activated.

OC1 or OC 2 can be configured to be controlled by the CMS. Contact the monitoring provider for what use the OC outputs will be used in this case.

It has been found that when using ADSL as the communication link it is sometimes necessary to power the ADSL modem down and up again so that it can re-establish communication with the ADSL exchange equipment. The ASE can be programmed to do this automatically when it detects a failure of the Ethernet communication link to the server. On communication failure the ASE activates OC1 or OC2 as programmed, which must be wired to disconnect power to the ADSL modem, and then waits 2 minutes before attempting to communicate with the monitoring server. It will repeat this process until a connection is made.

The CO command also displays the current OC outputs status. In the example OC1 is activated and OC2 is deactivated.

If the submenu is entered, the ASE will accept single key commands to change the configuration, refresh the information or exit the submenu.

Press:

- 1 To set OC1 to be controlled by the CMS.
- 2 To set OC1 to indicate the communication link status.
- 3 To set OC1 to control the ADSL modem restart.
- 4 To set OC2 to be controlled by the CMS.
- 5 To set OC2 to indicate FAS alarm.
- 6 To set OC2 to control the ADSL modem restart.
- SPACE To refresh information.
- ESC To return to the main menu.

3.4.11 SMP CONFIGURATION – SP COMMAND

The ASE includes a secondary event queue and message processor (SMP) to support a secondary CMS connection (on Ethernet), for example to use with a local ASE-Net system. The SP command can be used to display and set up the SMP configuration parameters.

An example is:

```
>sp
Secondary Message Processor Configuration

SMP Enabled
SMP Primary IP: 10.45.248.100 Port: 8744
SMP Secondary IP: 0.0.0.0 Port: 0
Listen Port for the SMP: 8745

1 - Disable SMP
2 - Configure SMP Primary IP
3 - Configure SMP Primary Port
4 - Configure SMP Secondary IP
5 - Configure SMP Secondary Port
6 - Configure Listen Port for the SMP
```

SPACE - Refresh Information
Esc - Escape Sub Menu

>>

The example shows that the SMP has been enabled. The primary SMP server IP address is set to 10.45.248.100 and the server port number is set to 8744, while the secondary SMP server is not used. The information also shows that the ASE will use port 8745 to listen for and send the SMP messages.

If the submenu is entered, the ASE will accept single key commands to change the configuration, refresh the information or exit the submenu.

Press:

- 1 To enable/disable the SMP connection on Ethernet
- 2 To change the SMP primary Server IP address
- 3 To change the SMP primary Server UDP port
- 4 To change the SMP secondary Server IP address
- 5 To change the SMP secondary Server UDP port
- 6 To change the ASE listen port for SMP

SPACE To refresh information.
ESC To return to the main menu.

3.4.12 PING THROUGH RADIO – PR COMMAND

The PR command can be used to ping a remote computer (e.g., Server) using the radio link. This sends 4 ping messages and displays the IP address and round trip time in milliseconds or “No reply” if there is no response. The timeout for no reply is 5 seconds.

An example is:

```
>pr 10.45.248.93
Pinging 10.45.248.93 via Radio
Reply from 10.45.248.93 time<311ms Radio
Reply from 10.45.248.93 time<309ms Radio
Reply from 10.45.248.93 time<287ms Radio
Reply from 10.45.248.93 time<326ms Radio
```

>

3.4.13 PING THROUGH ETHERNET – PE COMMAND

The PE command can be used to ping a remote computer (e.g., server) using the Ethernet link. This sends 4 ping messages and displays the IP address and round trip time in milliseconds or “No reply” if there is no response. The timeout for no reply is 3 seconds.

An example is:

```
>pe 10.45.248.93

Pinging 10.45.248.93 via Ethernet
No reply
Reply from 10.45.248.93 time<7ms Ethernet
Reply from 10.45.248.93 time<7ms Ethernet
```

```
Reply from 10.45.248.93 time<7ms Ethernet
```

```
>
```

3.4.14 GENERIC PARAMETERS – DG COMMAND

The DG command can be used to display the current generic parameters that are downloaded by the CMS. The command displays the selected and the following 9 generic parameters.

An example is:

```
>dg 9
```

```
<<Generic Parameters>>
```

```
GP9 = 5  
GP10 = 0  
GP11 = 2  
GP12 = 2  
GP13 = 30000  
GP14 = 60  
GP15 = 5  
GP16 = 60  
GP17 = 60  
GP18 = 120
```

```
Ctrl-n
```

```
GP19 = 120  
GP20 = 30  
GP21 = 17  
GP22 = 0  
GP23 = 0  
GP24 = 7200  
GP25 = 60  
GP26 = 300  
GP27 = 60  
GP28 = 120
```

3.4.15 DEBUG DISPLAY – DB COMMAND

The debug display DB command can be used to turn on and off various debugging options. When turned on various messages are displayed to indicate the internal working of the ASE. These can be used to help identify software or setup issues in difficult situations.

A command of DB 0 turns off all debugging.

The other valid parameters and the area of ASE operation that each option enables debugging messages for is shown in Table 3.2.

For example:

```
>db 1  
PPP Debug Output Enabled  
>db 1  
PPP Debug Output Disabled
```

```
>Ctrl-r
PPP Debug Output Enabled
>db 0
All Debug Output Disabled
>
```

Note, not all options are implemented and a description of the displayed information is beyond the scope of this manual.

Table 3.2
DB Command Options

Option	Title	Area of operation debug is enabled/disabled
0	DB NULL	All off.
1	DB PPP	PPP messages transmitted or received over radio modem.
2	DB TCP	Indicates TCP internal states.
3	DB UDP	Indicates transmitted & received UDP packets.
4	DB IP	Indicates transmitted & received IP packets header.
5	DB ICMP	Not implemented.
6	DB RPM	Messages indicating status & actions on radio modem connection.
7	DB PSTN	Messages indicating status & actions on PSTN connection.
8	DB ETHERNET	Displays messages transmitted or received on the Ethernet port.
9	DB ARP	Indicates ARP internal states.
10	DB DHCP	Indicates DHCP operation.
11	DB POP3	Not implemented.
12	DB SMTP	Not implemented.
13	DB TELNET	Displays connection status.
14	DB SLAVE	Displays TX/RX packets in the slave bus.
15	DB MESSAGE	Displays information indicating status & actions in ASE message process.
16	DB EVENT	Not implemented.
17	DB EQUUEUE	Not implemented.
18	DB IIC	Not implemented.
19	DB FLX	Not implemented.
20	DB_PSTN_TXRX	Displays PSTN messages sent & received.

3.4.16 DEBUG DISPLAY – DS COMMAND

The DS debug display command can be used to display 9 specific debug information pages. Enter the parameter of 1 to 9 to display debug information for:

- 1 : Event Queue
- 2 : ARP Table
- 3 : Telnet & Remote Access Status
- 4 : Link Recovery Timer Status
- 5 : ASE Message Retry Status
- 6 : SMP Event Queue
- 7 : SMP Link Status
- 8 : Button Status

9: FAS Input Analogue Values

For Example:

```
>ds 1
```

```
<<PMP Events Queue>>
```

```
1  INITIALISED    2008-8-8  12:0:0
2  ASE STATUS    2008-8-8  12:0:8  ()
3  FAS STATUS    2008-8-8  12:0:8  (FAS1: N FI)
4  FAS STATUS    2008-8-8  12:0:8  (FAS2: N)
5  FAS STATUS    2008-8-8  12:0:8  (FAS3: N FI)
6  FAS STATUS    2008-8-8  12:0:8  (FAS4: N)
>
```

This shows the ASE events in the event queue that are waiting to be sent to the CMS.

```
>ds 2
```

```
<<ARP Table>>
```

```
RESOLVED  FIXED  5  228  FF FF FF FF FF FF  255 255 255 255
RESOLVED  FIXED  5  214  00 16 E3 F4 A8 57  192 168 1 1
FREE      TEMP  0  0    00 00 00 00 00 00  0 0 0 0
FREE      TEMP  0  0    00 00 00 00 00 00  0 0 0 0
FREE      TEMP  0  0    00 00 00 00 00 00  0 0 0 0
FREE      TEMP  0  0    00 00 00 00 00 00  0 0 0 0
FREE      TEMP  0  0    00 00 00 00 00 00  0 0 0 0
FREE      TEMP  0  0    00 00 00 00 00 00  0 0 0 0
FREE      TEMP  0  0    00 00 00 00 00 00  0 0 0 0
FREE      TEMP  0  0    00 00 00 00 00 00  0 0 0 0
FREE      TEMP  0  0    00 00 00 00 00 00  0 0 0 0
```

```
>
```

This example shows two entries are in the ARP table. The first is a broadcast address (IP address is 255.255.255.255) and the second is for an IP address 192.16.8.1.1 assigned to the device with a MAC address of 0016E3 F4A857.

```
>ds 3
```

```
<<TCP Socket Status>>
```

```
Telnet Not Connected
```

```
Tunnelling Remote IP: 10.45.248.93  Link: Ethernet
```

```
>
```

This shows the device with IP address 10.45.248.93 on the Ethernet port currently has the connection to the ASE serial port open from remote access.

```
>ds 4
```

```
<<Radio/Ethernet Link Recovery>>
```

	STATUS	MIN	MAX	NEXT	TIMER
Radio Ping	OK	50	70	68	39 m

Ethernet Ping	OK	20	30	29	14	m
Radio Link	Normal					
Ethernet Link	Normal					
Poll Server	Primary	510	540	528	256	s
Request Time	-----	14400	16200	15645	2456	s

>

This table shows the minimum and maximum values for a number of retry timers, along with the current timeout value and the counter value. For example, the Radio ping timer is 39 minutes through a 68 minute delay before it will send the next ping to the CMS on the radio link.

>ds 5

<<ASE Message Process>>

Number of Events: 7 Alarm Events: N

		MAX	RETRY		NUM	
		TRIES	DELAY		SENT	TIMER
Primary Link	--- Ethernet					
10.45.248.241	Port: 8744	3	6	*	1	4
Secondary Link	--- Radio					
10.45.248.241	Port: 8744	4	20			
Tertiary Link	---					

>

This shows the number of events sent by the ASE waiting for acknowledgment by the CMS and all configured links and ports. In this example 7 events are waiting to be sent on the Ethernet connection, 1 attempt has been sent, and the retry counter (timer) is up to 4 seconds out of a 6 second retry delay.

Four special characters are used to indicate the link algorithm and status:

- The ASE is checking this link.
- @ The ASE has selected this link
- * The ASE is currently trying this link
- ? The link is in failure

>ds 6

<<SMP Events Queue>>

1	INITIALISED	2008-8-8	12:0:0
2	ASE STATUS	2008-8-8	12:0:8 ()
3	FAS STATUS	2008-8-8	12:0:8 (FAS1: N FI)
4	FAS STATUS	2008-8-8	12:0:8 (FAS2: N)
5	FAS STATUS	2008-8-8	12:0:8 (FAS3: N FI)
6	FAS STATUS	2008-8-8	12:0:8 (FAS4: N)
7	FAS STATUS	2008-8-8	12:0:8 (FAS5: N)
8	FAS STATUS	2008-8-8	12:0:8 (FAS6: N)

>

This shows the ASE events in the secondary CMS event queue that are waiting to be sent to the SMP server. In this example, the ASE has just powered up so has a number of events waiting to be sent.

```
>ds 7
```

```
<<SMP Link Status>>
```

```
Number of Events: 30
```

```
Link1: 10.45.248.241 Port 3000: Fail, Next DelayMsg: 66 Timer: 9 S
```

```
Link2: N/C
```

```
Poll Server:      Next Poll: 59 Timer 30 S
```

```
>
```

This shows the number of events sent or waiting to be sent to the secondary CMS that have not been acknowledged. In this example 30 events are waiting to be sent on link 1, and the link is failed. The link recovery delay message retry counter (timer) is up to 9 seconds out of a 66 seconds retry delay. The information also shows that the next poll counter (timer) is up to 30 seconds out of a 59 seconds resend poll delay.

```
>ds 8
```

```
INPUT Button Status: ON
```

```
MODE Button Status: OFF
```

```
>
```

This shows the current INPUT button and MODE button status.

```
>ds 9
```

```
Analogue Values
```

```
VMON = 398
```

```
PF = 141
```

```
INPUT = 1000
```

```
MODE = 1016
```

```
FAS1 = 0
```

```
FAS2 = 1023
```

```
FAS3 = 1023
```

```
FAS4 = 1023
```

```
>
```

This shows the current AD values (10-bit) for ASE's 8 analogue inputs.

3.4.17 DR, DF COMMANDS

These commands operate the same as the monitor commands of the same name. Refer to Section 3.3.4 for details.

3.4.18 DISPLAY ASE EVENT HISTORY – DH COMMAND

The DH – Display History command displays the stored ASE event records. Each line consists of one record in the event queue and starts with the time the event occurred, followed by the ASE status byte and then the 16 SGD status bytes.

>dh

<<ASE Event History Records>>

```
1 12:00:04 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
2 12:00:13 01 01 04 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
3 11:11:27 00 01 04 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
4 11:11:30 01 01 04 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
5 11:12:11 21 01 04 01 01 01 01 01 01 01 01 01 01 01 01 01 01 01
```

The maximum event history records stored in the ASE is 100. The event history records are displayed in a group of 5. Ctrl-N will display the next 5 records and so on until the last record.

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CHAPTER 4 SLAVE ASE

4.1 SUMMARY

The Slave ASE uses the same hardware platform as the Centaur II Cube (master ASE), except it has no radio modem and cannot make use of its PSTN and Ethernet ports for CMS connections. It connects to the Master ASE via an RS485 connection.

The Slave ASE has 16 front panel indicators (LEDs) and the following controls:

- INPUT pushbutton.
- MODE pushbutton.
- Key socket

The Slave ASE indicators and controls have similar functionality to the master ASE and are explained in the following sections.

4.2 INDICATORS

Indicator operation at a Slave ASE is the same as a master ASE (refer Section 2.2) except as follows.

Instead of showing the local link status, the communication link LEDs (RADIO, PHONE, ETHERNET) of the Slave ASE repeat the master ASE's link status.

The SBUS indicator shows the Slave Bus status at the Slave. It is off if the Slave is disabled (Slave Address is set to 0), on if the Master ASE is polling the Slave, and flashing if the Slave is not receiving poll messages from the Master ASE.

The POWER and FAULT LEDs show the local status at the Slave ASE.

4.3 CONTROLS

The Slave supports the Input and Mode buttons and key socket as per Section 2.3, except the Slave ASE does not support the RSSI display.

4.4 DIAGNOSTICS

Similar to the master ASE, the slave ASE provides diagnostic functions via its diagnostic port to a connected terminal or PC running a terminal emulator program. There are two types of diagnostics: Monitor Command mode and ASE diagnostics. For the Monitor Command mode refer to section 3.3 Monitor Commands. The following describes the Slave ASE diagnostics.

4.4.1 INTRODUCTION

When the slave ASE software is running it provides diagnostic information via its front panel diagnostic port.

This port operates at 38400, 8 data bits, no parity, 1 stop bit, with Xon/Xoff flow control. A special diagnostic cable (part number FP0976) is needed.

When connecting a laptop or computer to the diagnostic port this may connect the Slave's 0V terminal and any connected equipment (e.g., the fire panel or PSU) to earth via the laptop/ computer power lead. To avoid earth faults or damage to the Slave or computer, always operate the computer on batteries, or use an isolated power supply or RS232 connection.

Hyperterm, Wincomms or Accuterm are suitable terminal emulator programs to use under Windows.

Note the slave ASE does not support remote diagnostics.

On Start up, a message similar to the following will be displayed.

```

---- Slave ASE Starting ----
TSP Slave ASE V100 Oct 08 2009
ASE H/W V12 Mon V0120 S/W V01
Cold Start
ASE DTE Number:1064874

CP2200 Oscillator and Self Initialization Complete
Auto-Negotiation Failed -- Check Network Cable
Ethernet MAC Address: 000B3C 007F20
Initialisation Finished

HE ----- Display Help
AS ----- Basic ASE Status
CM ----- Comms Link Status
FS ----- FAS Input Status
CO ----- OC Outputs Configuration
DR XXXX XXXX(Hex) -- Display RAM
DF XXXX XXXX(Hex) -- Display Flash
DG XX(Dec) ----- Display Generic Params
DB XX(Dec) ----- Switch Debug Output
DS XX(Dec) ----- Display Debug Information
Ctrl-R ----- Repeat
Ctrl-N ----- Repeat & Increase

```

This message consists of two parts, the initialisation message which details a number of properties of the Slave and the main menu that lists all of the valid commands.

The Slave ASE commands are a subset of the master ASE commands. Most commands are the same as the master commands described in section 3.4. Commands that are different from the master ASE are described in detail in the following sections.

4.4.2 SLAVE ASE STATUS – AS COMMAND

The AS command - ASE Status - shows general information about the Slave ASE, including its Slave address, DTE number, Ethernet MAC address, software version details, key

number if plugged in, Power Fault input and voltage status, and local time and date. An example display is as follows:

```
>as
```

```
<<Slave ASE Basic Status>>
```

```
Slave Address: 12  
DTE Number: 1064874 (0x00103FAA)  
MAC Address: 00 0B 3C 00 7F 20  
TSP Slave ASE V100T Sep 18 2009  
ASE H/W V14 Mon V0100 S/W V01 T  
Active Firmware CRC: 16AB
```

```
ASE Key: 9500000132EE3514
```

	Low	Fail	Value	Status
Power Fault:	---	---	67	NORMAL
Battery:	0	0	132	NORMAL

```
ASE Current Date/Time: 9/10/2009 9:27:1 Run Time: 390
```

This first section shows the slave ASE's address, DTE number (1064874), Ethernet MAC number, software version string, and software/hardware details.

If an ASE key or Diagnostic cable is plugged in, the ASE key code will be displayed. In this example, the unique ASE Key code is: 9500000132EE3514.

The next section shows the Power Fault (PF) input status and +V (power supply) status. The Power Fault status is FAIL if the Power Fault (PF) input is less than 2.0V, and NORMAL if the input is greater than 3.0 V.

The row labelled Battery: shows the battery low and fail voltage thresholds and the +V power supply voltage (value) and status.

The numbers are the voltages x 10, so you need to divide the numbers shown by 10 to give the real voltage. By default, the battery low threshold and the battery fail threshold are set to 0V (disabled), the battery status will be always Normal. In this example, the current voltage is 13.2V and the status Normal.

The next line displays the Slave ASE's current date and time that is synchronized to the master ASE, and then the ASE run time in seconds since powered up or restarted.

4.4.3 COMMS STATUS – CM COMMAND

The CM command displays the slave bus, the master radio modem, PSTN and Ethernet port status.

An example display is:

```
>cm
```

```
<<Comms Status>>
```

```
Slave Address: 12  
Slave Bus Status: OK
```

Master Radio Status: FAIL
 Master PSTN Status: NOT USED
 Master Ethernet Status: OK

Slave Ethernet Status: Disabled

This shows the following information:

Slave Address	The slave ASE address which is set by the onboard address DIP switches.
Slave Bus Status	Communication link status between slave and master. Can be one of follows: OK Both TX and RX link is OK. RX Fail Cannot receive the poll message from the master. TX Fail Poll message received from the master, but the master has not received the last reply from the slave.
Master Radio Status Master PSTN Status Master Ethernet Status	Repeated from master. Refer to section 3.4.3 for details.
Slave Ethernet Status	The Slave ASE Ethernet port status. It is disabled by default.

4.4.4 SLAVE FAS STATUS – FS COMMAND

The FS command can be used to show the programmed configuration and current status of the Slave's inputs. This is a similar format to the FS command in Section 3.4.4, but displays details for the Slave's inputs and includes the programmed input delay setting for each input.

4.4.5 OPEN COLLECTOR OUTPUT CONFIGURATION – CO COMMAND

The CO command can be used to configure the two open collector outputs.

>co

OC Outputs Configuration

OC1 is configured to indicate communication fail
 OC2 is configured to indicate FAS alarm
 Current OC output status: OC1-Inactive OC2-Inactive

1 - Set OC1 to be controlled by the CMS
 2 - Set OC1 to indicate communication fail
 3 - Set OC2 to be controlled by the CMS
 4 - Set OC2 to indicate FAS alarm
 SPACE - Refresh Information
 Esc - Escape Sub Menu

>>

OC1 is configured to indicate communication fail by default. In this case, OC1 is normally energised (active) and turns off if the Slave bus fails or the master ASE indicates it is not able to communicate with the CMS at all (all programmed links are in fault).

OC2 is configured to indicate FAS alarm by default. In this case, if there is any FAS on the Slave in alarm (and not in isolate or test mode), then OC2 will be activated.

OC1 or OC 2 can be configured to be controlled by the CMS (via master ASE). Contact the monitoring provider for what use the OC outputs will be used in this case.

The CO command also displays the current OC outputs' status. In the example both OC1 and OC2 are deactivated.

If the submenu is entered, the ASE will accept single key commands to change the configuration, refresh the information or exit the submenu.

Press:

- 1 To set OC1 to be controlled by the CMS.
- 2 To set OC1 to indicate communication fail.
- 3 To set OC2 to be controlled by the CMS.
- 4 To set OC2 to indicate the FAS alarm.
- SPACE To refresh information.
- ESC To return to the main menu.

4.4.6 GENERIC PARAMETERS – DG COMMAND

The DG command displays up to 10 of the generic parameters in the Slave ASE. Many of these are not used in the Slave, and all are fixed by the Slave software and cannot be changed.

4.4.7 DISPLAY DEBUG – DB COMMAND

The Display Debug – DB command can be used to show the Slave Bus communications received and transmitted by the Slave ASE.

Messages received by the Slave are prefixed with RX: and messages transmitted by the Slave as prefixed with TX:. Note a Slave will show all Master ASE and other Slave ASE messages as RX:, and only its own transmission as TX:.

A number of messages should be shown each second if the Slave is communicating with the Master ASE.

```
RX: 7E 01 0C 01 01 02 01 00 00 05 05 05 05 23 7E
RX: 7E 10 09 02 00 02 01 01 01 01 8C 7E
RX: 7E 05 0C 01 01 02 01 00 00 05 05 00 00 24 7E
RX: 7E 50 09 02 00 02 01 10 01 01 99 7E
RX: 7E 0C 0C 01 01 02 01 00 00 05 09 0D 11 5D 7E
TX: 7E C0 11 02 01 02 01 01 01 01 FB 00 00 01 32 EE 37 14 45 7E
RX: 7E 0E 12 01 03 02 01 00 00 05 05 00 00 09 0B 19 09 22 31 C8 7E
```

To stop the scrolling output use the CTRL-R key.

CHAPTER 5 SOFTWARE VERSIONS

5.1 SOFTWARE VERSIONS

The following software versions have been released for general use.

Table 5.1
Centaur II Cube Monitor Software Version

CENTAUR II MONITOR	FEATURES
V100	Original release
V110	Add CR command options to allow change radio port baud rate.
V120	Production release. Add CRC check across the monitor code on start up.

Table 5.2
Centaur II Cube Software Version

CENTAUR II CUBE ASE	STARTUP INPUT LED CODE 1 2 3 4	TEST MODE	FEATURES
V100	* o o o	o	Original test release.
V100 Test	* o o o	*	<ul style="list-style-type: none"> - RSSI Display includes frequency and band information. - Startup in alarm changed – now indicates this and insertion of key automatically re-isolates input to avoid false alarm.
V200	o * o o	o	<ul style="list-style-type: none"> - Support slave ASEs. - The CMS Isolated FAS inputs cannot be changed locally. - Remote panel access port number changed to 2100. - Default radio parameters: APN: qfrs.tyco.com.au Realm: qfrs.tyco.com.au Pri-IP: 10.45.17.70 Sec-IP: 10.45.78.70
V300	* * o o	o	<ul style="list-style-type: none"> - Support CMS Test mode. - The ASE now transmits the combined Slave ASE power fault status to the CMS.

* = LED On.

Table 5.3
Centaur II Cube Slave ASE Software Version

CENTAUR II CUBE ASE	STARTUP INPUT LED CODE 1 2 3 4	TEST MODE	FEATURES
V100	* o o o	o	Original release.

* = LED On.

Note: for detail of the ASE software version features refer to Tyco Safety Products.