Telstra

Argent

Terminal Adaptor

USER GUIDE

Version 1.3

The information contained in this document was correct at the time of printing. However, in order to improve its products, Telstra reserves the right to modify the details in this document at any time and without warning.

Table of Contents

1 INTRODUCTION

This document is provided as a guide describing the procedures for installation, usage and maintenance of Telstra's Argent Terminal Adaptor (ATA).

It is highly recommended that a Telstra qualified technician install this product. However, if you choose to install the ATA yourself, you will need knowledge of the operation of Telstra's Argent service and be familiar with the installation process of digital terminal adaptors.

The ATA can be used as a normal Terminal Adaptor (TA) or modem, plus it has ports for an Analogue phone connection (also called POTS -–Plain Old Telephone System). This user guide describes these services which do not require a specialised knowledge for installation. An understanding of PC and modem configuration will be an advantage.

Most operating systems such as Microsoft Windows, Unix and Linux are able to connect to the Serial (V.24) port of the ATA like a modem. Braintree Communications developed the ATA for Telstra's Argent network. The ATA continues to improve and the latest user guide and installation software can be downloaded from Braintree's Internet Address at www.braintree.com.au.

2 SCOPE

The instructions in this document should be followed when installing the Argent Terminal Adaptor.

IMPORTANT NOTE:

1) You must ensure that OnRamp®2 D-Channel service has been installed, tested and is operational prior to attempting Argent TA installation.

2) The ATA can share the S-bus of the OnRamp® 2 D-channel with other devices, but only if they are configurable for point-to-multipoint operation.

3) Warranty will be void if the ATA is proved to have been incorrectly installed.

3 DESCRIPTION

3.1 Application

The ATA is an ISDN terminal adaptor that provides a network access for EFTPOS terminals to communicate with the Financial Host Service Providers via Telstra OnRamp® 2 D-Channel and Argent services.

It also provides data access for connection to an Internet Service provider (ISP) and asynchronous data transfer using V.120. The POTS port allows an analogue phone that would exist on the Public Switched Telephone Network (PSTN) to use the ISDN. The ATA enables the POTS telephone to be able to take advantage of Telstra supplementary services like Call Waiting, Call Forward, and others.

3.2 Definitions

The following words, acronyms and abbreviations are referred to in this document.

Term	Definition
ATA	**A**rgent **T**erminal **A**daptor
EFTPOS	**E**lectronic **F**unds **T**ransfer at **P**oint **O**f **S**ale
CPE	**C**ustomer **P**remises **E**quipment
FFS	**F**ee **F**or **S**ervice
MFFS	**M**aintenance **F**ee **F**or **S**ervice
NMS	**N**etwork **M**anagement **S**ystem
POTS	**P**lain **O**ld **T**elephone **S**ervice
PPP	**P**oint-to-**P**oint **P**rotocol
TEI	**T**erminal **E**ndpoint **I**dentifier

3.3 Package Contents

The ATA package (Telstra Material Number 577/00116)
ATA unit
Power plugpack
Mounting template
Two (2) screws
Category 5 cable fitted with one standard and one keyed RJ45 connector
User Guide (this document)
Warranty card

Table 1: ATA Package Contents

Description	Material Number
Power Plugpack	577/00117
Cat-5 data cable with standard and keyed RJ45 connectors (2 metres)	577/00118

Table 2: ATA Spare Parts

3.4   Back Panel

The ATA contains one analogue EFTPOS port (611 data phone socket), one V.24 (Serial/RS232) data port (DB25 connector), one standard analogue telephone port (RJ45 connector) and one ISDN port (RJ45 keyed connector).
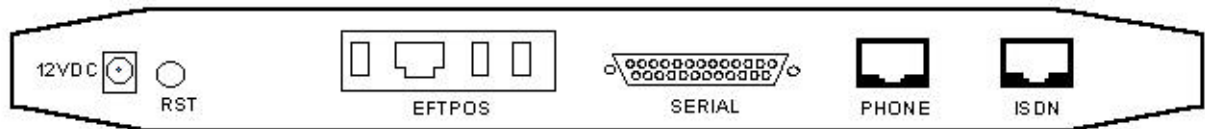
Figure 1: ATA Back Panel

The function for each of the ports is listed below.

Port	Functions
EFTPOS Modem port	Connects to modem enabled EFTPOS Terminal
V.24 / Serial port (RS232)	PPP access to Internet, from Windows, Unix, Mac

V.120 for Asynchronous data, for Cash Registers, Terminals

EFTPOS synchronous access (like the Modem Port) |
| POTS phone port | Analogue telephone connection to ISDN network |
| ISDN port | Carries telephone and data from all other ports |

3.5 Top Panel Seven Segment Display

The Seven-Segment display consists of lighted segments to display numbers 0-9 plus a dot. This shows the startup state of the ATA and on-going status of the EFTPOS connection. Displays do not relate to calls on the POTS port or the V.24 serial port (except for EFTPOS).

When starting up the ATA, the Seven-Segment display lights up and moves through a sequence of patterns and numbers. The numbers displayed are steady when the call is progressing and the configuration downloading normally on the D-channel during startup. The display flashes a number continuously if call progress encounters an error condition during startup.

Table 3 provides a list of "startup status codes" that the ATA displays in order of sequence when the power is being applied, the call is being set up, and the configuration is being downloaded by the Argent Network Management System (NMS).

Table 4 provides a list of "fault codes" displayed when a fault occurs.

Display	Interpretation
Building Bars	Program decompressing into memory
Steady 1	Power-on test executing. Dot will pulse on/off.
Steady 2	D-channel interface active for EFTPOS
Steady 3	Pre-Configuration in progress, learning identity.
Steady 4	Remote management in progress, configuration.
Steady 5	Software download in progress
Steady 6	Reserved
Steady 7	Reserved
Steady 8	Reserved
Steady 9	Reserved
Steady 0	Reserved
Steady **dot**	Normal Operation (no fault)

Table 3: ATA Seven Segment Display Start-up Status Codes

Display	Interpretation
Flashing 1	Power up self test fails
Flashing 2	ISDN connection down
Flashing 3	No carrier on EFTPOS modem port
Flashing 4	Data overrun/underrun on Serial V.24 port
Flashing 5	No stations responding to polls on EFTPOS port
Flashing 6	Last call attempt failed, D-Channel. (X.25 fault or Argent server or NMS unavailable.)
Flashing 7	Not applicable
Flashing 8	NMS has no pre-configuration to download
Flashing 9	NMS main configuration failure
Flashing 0	Not applicable

Table 4: ATA Seven Segment Display Fault Codes

Only the decimal point on the Seven Segment Display is illuminated when the configuration has been downloaded successfully by the Argent NMS, and the ATA is functioning correctly with connected EFTPOS terminals responding normally.   No other codes will be displayed on the Seven Segment Display in this mode and the unit can be assumed to be correctly configured and operational.

If the ATA is commissioned before it is connected to an EFTPOS machine then it will display a flashing 3 until the EFTPOS machine is connected.

3.6 ATA Activation Instructions

Telstra should supply the following information after the OnRamp® 2 D-Channel service has been installed and tested.

*   Argent EFTPOS service FNN:

    FNN   =   FxxxxxxxxxxY (Argent Dedicated Service)
                  FxxxxxxxxxxT   (Argent Test Service)
    where xxxxxxxxxx is the 10 digit number of the OnRamp® 2 service.

*   TEI number (S-Bus D channel address for the ATA. Factory default OnRamp® 2 is 63, Microlink® requires 1. See section 3.6.6)

*   Whether this is a migration from Transend to Argent service.

The steps following can then be followed:

3.6.1   Prepare position

The ATA can be installed either horizontally or vertically.   Make sure that it is close to the OnRamp® 2 NT1 (2 metres) and a 240V outlet and within reach of the EFTPOS terminal. Avoid placing the unit in direct sunlight or near hot surfaces.

3.6.2   Connect ATA to NT1

Connect the ATA ISDN Port to the OnRamp® 2 NT1 S-Bus using only the supplied cable. The end marked "Terminal" is keyed to fit into the ATA's ISDN port. The end marked "Network" is plugged into the NT1.

3.6.3   Connect the EFTPOS terminal to ATA

Connect the cord from the EFTPOS terminal into the EFTPOS 611 connector on the ATA back panel. In some cases it may be possible to bypass an existing EFTPOS modem and go directly into the V.24 modem. Telstra will be able to advise if this is possible, and set up the ATA from the Management system to accommodate this connection.

3.6.4 Power-up the ATA

Insert the Plugpack connector into the 12VDC socket on the ATA back panel.

Whilst pressing and holding the RST button at the back of the ATA, turn the 240V power on at the power point. Release the RST button when the display changes to a "C".

3.6.5 Adjust the Display Orientation of the ATA

The ATA starts with a "C" displayed (for "cold boot") then progresses to the "Display Orientation Mode" and you have 3 seconds to press the RST button to change the display orientation if the unit is wall mounted. An upright "U" symbol indicates correct display orientation. Mounted on a wall the display should be inverted so the numbers appear in the correct orientation.

3.6.6 Select the Required TEI Number

After the "Display Orientation Mode" the ATA goes into the "TEI Setting Mode". The default TEI is 63 when an ATA is installed for the first time. First, the current TEI is displayed. Then you have the opportunity to change the TEI if needed. "H" will be initially displayed indicating the 'most significant digit' (MSD) followed by the current MSD with a decimal point. This is displayed for three seconds during which time the number can be changed. Then an "L" is displayed followed by the 'least significant digit' (LSD) with no decimal point for the next three seconds.

If the TEI number needs to be changed, use the RST button to step through the numbers to set the required MSD, while the MSD is displayed. Similarly, step through the numbers for the LSD until the required number is selected. The ATA will then flash the new TEI and exit the TEI mode.

Another method of setting the TEI is to use a phone on the POTS port and enter #6#<TEI>#, where <TEI> is the number required (e.g. to program a TEI of 63 press #6#63#).

3.6.7 Observe D-Channel X.25 Call Progress For the First Call

After exiting the "TEI Numbering Mode" the ATA performs self-test and other internal functions which take about 90 seconds to complete. Activity during this phase is indicated by a display of three rising bars. It then automatically makes a D-Channel X.25 call to the factory programmed Argent Pre-configuration NMS number to obtain its IP address and the X.121 and IP addresses of the main NMS application hosts. During this process the Seven-Segment Display shows a 3, "Pre-Configuration in Progress". If for some reason the ATA is unable to establish an X.25 connection or the connection is terminated with a non-zero error code (Cause/Diagnostic code), the display will show a flashing 6 (Last call attempt failed, D-Channel).

3.6.8 Observe D-Channel X.25 call Progress For the Second Call

Next, the ATA makes a new D-Channel X.25 call to the main Argent NMS, to automatically download its configuration. "Remote Management in Progress" (Display 4) will be displayed during this process.

3.6.9 Observe the Software Download

The Argent NMS will then make a decision if the ATA requires a new version of software. If this decision is made the NMS will start downloading the new software which will take between 3 to 10 minutes. "Software Download in Progress" (Display 5) will be displayed for the duration of the download. If there is no need to download a new version of software the NMS will only download the configuration information for the site.

Do not turn off the ATA or break the connection during a software download.

3.6.10 Observe for Configuration File Errors

During the previous two steps when the ATA makes a call to the NMS to get its configuration, the ATA may show a flashing 8 ("NMS has no configuration to download") or flashing 9 (NMS main configuration failure) on the Seven Segment Display. This error condition indicates that the configuration files for this specific ATA are not available. This is probably due to the provisioning cycle not being completed for the software components. Contact your Service Provider for further information.

3.6.11 Observe for Failure to Connect

During the previous steps when the ATA makes a call to the NMS to get its configuration the ATA may show a flashing 6 ("Last call attempt failed, D-Channel either X.25 fault or NMS unavailable.") on the Seven Segment Display. This indicates that the ATA is having trouble connecting to the NMS service. Check the ISDN service is currently active and there are not problems with cable connections. One method of checking is to use a normal analog telephone to listen for dial tone through the POTS port of the ATA. If the dial tone exists, the D channel connection should be checked with Austpac Support Services.

3.6.12 Observe that the ATA is ready and record the service details

When the above steps have completed successfully, and the configuration is downloaded. There may be a 1-2 minute delay while the ATA activates software, after which the decimal point on the Seven-Segment Display will be illuminated indicating that the unit is now ready for EFTPOS transactions. (NOTE: If the EFTPOS terminal is not yet connected the final display will be a flashing 3 - "No carrier from EFTPOS modem"). After observing this write the following information onto the sticker at the bottom of the unit:

* Argent EFTPOS service FNN:

    FNN =   FxxxxxxxxxxY (Argent Dedicated Service)
                FxxxxxxxxxxT   (Argent Test Service)
    where xxxxxxxxxx is the 10 digit number of the OnRamp® 2 service.

* TEI = xx

* ATA Fault Reporting Number = Service Provider Helpdesk number

* Date of Purchase = dd/mm/yy

You must call your own Help Desk fault reporting number for any difficulties. This number is supplied with the EFTPOS terminal.

3.6.13 Replace the ATA if Faulty on Arrival

If the ATA is faulty on arrival, see section 3.8 for warranty instructions.

3.6.14 Point-to-Point Protocol (PPP) Installation

PPP is used to connect to Internet or other ISDN TAs using the common Windows, Unix, Macintosh interfaces. Most commonly, it is used for Internet access.

PPP over a OnRamp® 2 B-channel can be invoked via the V.24 Serial port, from a Windows 95 PC or similar, by setting up Dial-up networking similar to the configuration of a standard modem.

To use PPP, set up your computer as you would for connecting a standard modem - with no parity, 8 data bits and one stop bit, (ie N, 8,1).

The Argent Terminal adaptor connects to a terminal or computer with a standard modem cable. Plug the D25 male connector into the V.24 / RS232 Serial port on the ATA using a standard straight through modem cable.

Connecting communications equipment, like a modem or router, to the ATA's V.24 port would require a crossover cable.

Follow the steps below to install the ATA as a Standard Modem

Check Braintree's website (www.braintree.com.au) for the latest information on installation.

1. Click on **START**
2. Click on **Settings**
3. Click on **Control Panel**
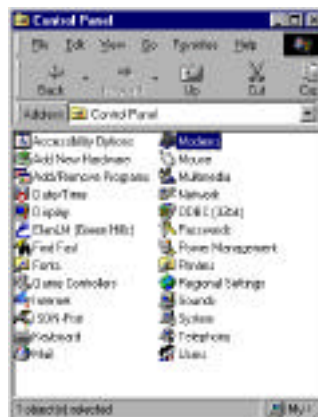
4. Double Click on **Modem**

5. Click on **Add**
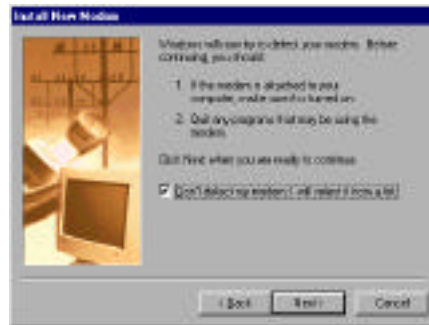
6. Tick **Don't detect my modem; I will select from list**

7. Click on **Next**

8. Select **Standard Modem Types – Standard 33600 bps Modem**

9. Click on **Next**
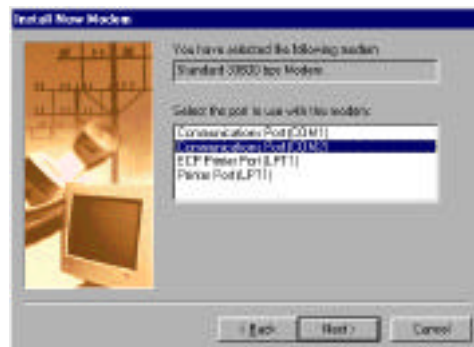
10. Select the Communications port to which the ATA Modem is attached
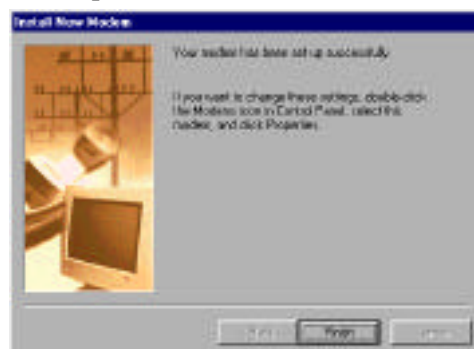
11. Click on **Finish**

12. Click on **Properties**

13. Set Maximum speed to 115200

14. Click on **Close**

Your ATA Modem is now installed

3.6.15 Installing Dial-Up Network

To Install Dial-Up Networking (DUN) and TCP/IP please refer to your Microsoft Installation Guide or your Internet Service Provider (ISP) for the latest configuration information.

3.6.16 Configuring Dial-Up Networking (DUN)

1. Open **My Computer** from your Desktop
2. Open **Dial-Up Networking**
3. Double click on **Make New Connection**

4. Type in the name of your ISP

5. Select a device (Standard 33600 bps Modem)
6. Click **Next**
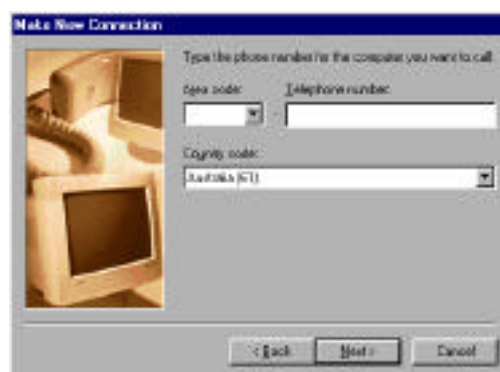
7. Type in the area code and telephone number of ISP dial-up number

8. Click **Next**
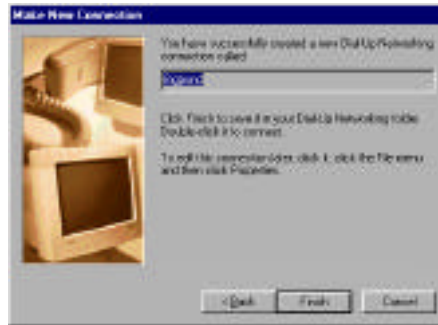
10. Click **Finish**

3.6.17 V.120 Setup

V.120 allows a device using a serial port to connect to another remote device using a serial port. The V.120 carries the data transparently like a cable. V.120 handles transport mechanisms without involving the end devices or terminals.

This protocol is ideal for legacy equipment that previously required a modem, or leased line for connection. Some applications would be connection to Cash Registers, monitoring equipment, Bar Code readers, serial printers, Unix, Macintosh, Windows and DOS based PCs.

V.120 requires the devices on the local and remote ends of the ISDN connection to be set up exactly the same. Both ends must use the same number of data bits, parity, speed and stop bits. Currently the most popular setting for asynchronous serial connections are no parity, 8 data bits and one stop bit, (ie N, 8,1).

To set up V.120, use a Terminal Communications program (e.g. Microsoft ™ Hyperterminal) and connect to the V.24 Port of the ATA. Use the following command to change to V.120.

ATS71=2

Any AT command will cause the ATA to autobaud changing the speed or baud rate to match the speed of the AT command.

### 3.6.18   Connect the EFTPOS terminal

After observing that the ATA is operational, test the service using your CPE. If not already done, connect the EFTPOS terminal. The Display should change to a flashing 5 (carrier detected but no terminal responding) then to just the decimal point when the terminal begins responding normally.

Important Note: When the V.24 port is set up by Telstra remote management system to run EFTPOS, it can not be used for PPP or V.120.

3.6.19 End to end test

Contact your Service Provider to arrange for an end to end test.

3.7 ATA Maintenance

In the case where the Argent TA fails to operate, contact your Service Provider for assistance.

3.7.1 Check the Seven Segment display

Check the ATA Seven Segment Display for indication of possible fault conditions. The normal running state is Decimal point only illuminated.

3.7.2 Check that the Power is On

Check to see that the power is "on" and that all the physical connections are in place and correctly located.

3.7.3 Restart the ATA

Switching off the power supply for 5 seconds then switching it on again will reboot the ATA. The reboot takes about 90 seconds. Do NOT press the RST button as this has other functions.

3.7.4 Perform a Cold Reboot on the ATA

If performing a restart (described in section 3.6.3) does not restore the service, perform a cold reboot. To do this, turn off the power supply, then press and hold the RST button at the back of the ATA and turn power back on. Check the display orientation and that the correct TEI is displayed. The configuration info and, if necessary, the software will reload into the ATA as in the activation instructions. Display orientation and the TEI number will be preserved during the cold reboot.

3.7.5 Test the OnRamp® 2 D-channel X.25 facility

If for some reason the ATA is unable to establish an X.25 connection, the display will show a flashing 6 (Last call attempt failed, D-Channel). If this happens contact the Service Provider for assistance on testing the OnRamp® 2 D-Channel X.25 facility.

3.7.6 Contact the Service Provider and Replace the ATA

If the fault cannot be rectified, contact the Service Provider and inform them of the outcome of the test. The ATA may need to be replaced.

If the ATA is still under warranty, return it to the place of purchase for a replacement. If the product is out of warranty then a new ATA will need to be purchased.

3.7.7   Maintenance by Telstra

Telstra Service Assurance contracts are available for the ATA which can cover labour and parts for maintenance activity during contracted hours (please note that some exclusions do apply eg unfair wear & tear). The customer should contact their Service Provider to apply for a Telstra Service Assurance contract.

Telstra can provide maintenance to uncontracted customers however "Maintenance Fee For Service" charges will apply.

Contact your Service Provider for assistance if they suspect the ATA is faulty.

3.7.8   Customer Network Management (CNM)

In future the Customer Network Management (CNM) facility will be able to control and monitor the ATA. Contact Telstra for further details on CNM.

3.8 Warranty

The ATA is covered by a one-year warranty period from the date of purchase. The date of purchase is the date that the customer receives the ATA from Telstra.

If the ATA fault is found to be external and visible, such as a broken connection cable or a faulty power plugpack, the customer is required to replace them with the Telstra approved components (refer to section 3.3).

Refer to the warranty card for details on the Warranty Conditions.

The general warranty procedures are described in the sections below.

3.8.1   ATA faulty on arrival

If the ATA is found to be faulty on installation it is your responsibility to return the complete package to the place of purchase for replacement.

3.8.2   ATA under Warranty - with Telstra Service Assurance

If the ATA is found to be faulty and the customer has Service Assurance, the ATA will be replaced by Telstra.

3.8.3   ATA under Warranty - without Telstra Service Assurance

If the ATA, under normal use, fails to operate during the warranty period then it is your responsibility to return the complete package to the place of purchase for replacement. Table 1 shows contents of an ATA complete package.

If the ATA was purchased through a Service Provider, you should contact that service provider for replacement procedures.

If the ATA was purchased directly from Telstra, then Telstra can replace the faulty ATA package with an ATA package from Telstra stores, however Maintenance Fee-For-Service charges will apply for the site visit and labour.

3.8.4   ATA out of Warranty - with Telstra Service Assurance

If an ATA, which is out of warranty, is found to be faulty and you have a Service Assurance contract, Telstra will replace the complete ATA package free of charge (if it cannot be repaired on site).

4 V.24 SERIAL PORT 'AT' COMMANDS

4.1 Introduction

The Argent Terminal Adaptor (ATA) is an ISDN device with powerful features for interconnection. While the primary purpose of Argent is the delivery of transactions to centralised hosts, the ATA extends the functionality of the ISDN line to carry this service.

'AT' commands refer to a set of instructions, which can be sent to the ATA to control local features. The POTS (Plain Old Telephone System) port and V.24 (RS232) serial port can be controlled with a simple set of 'Attention' (AT) commands.

4.2 'AT' Commands

AT	Description
A	Answers an incoming call on the B channel
&C	Carrier Detect (CD) control AT&C0 forces carrier on at all times AT&C1 (default) follows the state of carrier on the remote host system. Is raised after connection. AT&C2 carrier drops temporarily after a disconnect, but remains on at all other times.
D	Dial a remote device. eg ATD6173344 5566 Allows characters {T P 0-9 * # <space> ,} ATDT<number>, ATDP<number>, ATD<number>
&D	Data Terminal Ready (DTR) Control AT&D0 Ignore DTR from the Terminal. AT&D1 ATA will enter command state whenever DTR goes high to low. AT&D2 (default) Hang up any current call and prepare to accept commands from the terminal.
E	Echo ATE0 Echo off, disables reflecting AT command character back to the terminal. ATE1 (default) Echo on. Any received AT command character is sent back to the terminal.
&F	Factory Default AT&F Restore all settings back to factory default.
H	Hang Up ATH Hang up on the current data call.
I	Information ATI return the identification information of the ATA ATI9 returns the plug and play identifier
O	Go On-Line ATO return from command state to the on-line data transfer state.
Q	Quiet Mode

AT	Description
	ATQ0 (default) Enable result codes output to the terminal. ATQ1 Disables result codes to the terminal. ATQ2 Disable result code in answer mode only.
\Q	Flow Control AT\Q0 disables flow control AT\Q1 enables XON/XOFF software flow control AT\Q3 (default) enables RTS/CTS hardware flow control
%R	Read all S registers AT%R Read all the S registers
%S	Serial Number AT%S Read the ATA serial number
Sn?	Read S register value eg ATS51? Retrieves the telephone number
Sn=	Write S register value eg ATS51=6173344 5566
\T	Idle Timeout Time before the link will hang up the line if no data on the connection. AT\T2 sets up the timer to hang up after 2 minutes idle time AT\T0 disables the idle timer so it will not cause a hang up Idle Timeout can be set in minutes with valid values of 0 to 255.
V	Result code format ATV0 All results returned in short form ATV1 (default) results returned in long form
%V	ATA version number can only be read. AT%V displays the version number of the software in the ATA
&V	Display current configuration Shows all the current parameters
&W	Save current configuration AT&W This will store the parameters even if the ATA is turned off
Z	Reset ATZ resets the ATA without changing the configuration. Current calls would be lost.
+++	Enter Command Mode +++ must be a half second of no data actvity before and after "+++".

4.3 S register settings

Register	Description
S0	Auto Answer number of rings ATS0=0 (default) disables answering incoming data calls ATS0=n where n is a value 0 to 255 rings
S51	ATA Telephone Number ATS51=6173344 5566 store the phone number to present in calls. The other party on the line will see this number as your number. This number must be one of the numbers issued on this connection by Telstra. MSN

Register	Description
	allows multiple phone numbers on an ISDN service.
S59	ISDN connection status can only be read ATS59? Returns 0 for connection not synchronised to Telstra network ATS59? Returns 1 for connection ready for calls.
S60	B Channel Data Rate ATS60=56 data rate set to 56kbps for international calls ATS60=64 (default) data rate set to 64kbps calls within Australia
S65	Voice telephone number logged for an incoming voice call, can only be read. ATS65?
S67	Data telephone number logged for an incoming data call, can only be read. ATS67?
S71	Protocol on the data port ATS71=1 (default) PPP (Internet) asynchronous to synchronous conversion ATS71=2 V.120
S75	Answer call delay ATS75=0 (default) no delay after answering a call ATS75=1 Two second delay should be enabled for Windows NT.
S92	Subaddress ATS92=n where n is a sub-address value. Allows multiple devices using the same phone number to only recognise calls with a matching subaddress while they are all attached to the same ISDN line.

5   POTS TELEPHONE SUPPLEMENTARY FEATURES

5.1 Introduction

Supplementary services for ISDN control the switching of calls and how you manage calls. Forwarding an incoming call to another phone number is one example of controlling calls through the features of the POTS (Plain Old Telephone System) on the ATA interacting with the OnRamp® 2 service for voice calls. You require an analogue tone phone connected to the POTS port of the ATA to initiate the supplementary services.

Some supplementary services, such as MSN (Multiple Subscriber Number), can be set up with the use of the 'AT' commands described in section 4. This section describes the customer commands to control calls through the telephone port of the ATA.

These features provide the Telstra Easycall® functionality via the ATA on to OnRamp® 2 service. New features may be added from time to time and the Easycall® operation guide describes functionality of services. More information on the Easycall® features can currently found at the Telstra website (http://www.telstra.com.au) or from your Telstra Customer Service centre.

To simplify the instructions to operate each feature abbreviations are shown here for each step of the procedure. These abbreviations are used to describe the actions required from an analogue tone phone to initiate a supplementary service.

5.1.1 Abbreviations used in the POTS feature descriptions

[...]	Square brackets indicate that the enclosed item is optional
DN	Destination number
DT	Dial Tone
OH	Off Hook
RH	Replace Handset when condition detected by ATA
RR	Recall signal from telephone
RSP	Network Responds with confirmation tone

5.2 Telephone Port (POTS) Features

5.2.1 Call Waiting (CW)

Call Waiting is an Easycall ™ feature so the customer can detect the presence of another call, while a call is in progress.

a	Turn Call Waiting on:	OH DT * 43 # RSP RH
b	Turn Call Waiting off:	OH DT # 43 # RSP RH
c	Check if CW is enabled or disabled (double tone indicates that CW is enabled; triple tone indicates that CW is disabled)	OH DT *#43# RSP RH
d	To release the current call and accept the waiting call	RH (Ring telephone) OH or RR DT 1
e	To hold the current call and accept the waiting call	RR DT 2
f	To alternate between the two parties	RR DT 2
g	To release current call and connect to call on hold	RR DT 1
h	To reject the waiting call (Fend Off)	RR DT 0

5.2.2 Malicious Call Identification (MCID / MCT)

Malicious Call Identification allows the customer to request the network to trace malicious calls on a call by call basis.

a	To set Malicious Call Trace during the call	RR DT * 39 # [RH]
b	To set Malicious Call Trace up to 60 seconds after the caller has released the port	RR DT * 39 # RH

5.2.3 Calling Line Identification Restriction (CLIR or Call Blocking)

Calling Line Identification Restriction, also called *Call Blocking*, is a service offered to the calling party to prevent presentation of the calling party's number. The phone number of the ATA can be restricted from being viewed at the remote end. In order for the ATA to present a phone number, it must be entered using the 'AT' Command (section 4.2).

a	To restrict presentation of CLI on a call by call basis *(Note 1)*	OH DT 1831 DN or OH DT ##31# RH
b	To allow presentation of CLI on a call by call basis *(Note 1)*	OH DT 1832 DN or OH DT **31# RH
c	Check if CLIR is enabled or disabled (double tone indicates that CLIR is enabled; triple tone indicates that CLIR is disabled)	OH DT **#31# RH

Note 1: The dial number prefix (i.e. 1831 or 1832) is required for every call that the customer wishes to change (override) the network default status of CLIR.

If you do not have access to a computer, you can enable CLIR on a permanent basis using the following handset commands:

a	Enable CLIR for the port to which the handset is connected	OH DT #8#1# RH
b	Disable CLIR for the port to which the handset is connected	OH DT #8#0# RH
c	Check if CLIR is enabled or disabled (double tone indicates that CLIR is enabled; triple tone indicates that CLIR is disabled)	OH DT #8#*# RH

5.2.4 Call Line Presentation (CLIP)

When CLIR is not in effect, the incoming call's telephone number is stored in register S65 for Voice (telephone) calls and S67 for Data calls (see section 4.3) will be presented by the remote end initiating the call.

5.2.5   Call Forward

Call forward allows calls to be forwarded to any other telephone including mobiles either immediately, when busy or if the call is not answered.

5.2.5.1   *Call Forward Immediate or Unconditional*

Call Forward Immediate also called Call Forward Unconditional (CFU) will direct all incoming phone calls to another phone until the feature is turned off.

a	To turn Call Forward Immediate (Variable Number) ON.	OH * 21 DN # RH
b	To turn Call Forward Immediate (Variable or Fixed Number) OFF.	OH # 21 # RH
c	To check if Call Forward Immediate is ON or OFF	OH * # 21 # RSP RH

5.2.5.2   *Call Forward On Busy*

Call Forward On Busy (CFB) will direct a phone calls to another phone when the line is in use.

a	To turn Call Forward Busy (Variable Number) ON.	OH * 24 DN # RH
b	To turn Call Forward Busy (Variable Number) OFF.	OH # 24 # RH
c	To check if Call Forward (Variable Number) is ON or OFF.	OH * # 24 # RSP RH

5.2.5.3   *Call Forward No Answer*

Call Forward No Answer or Call Forward No Reply (CFNR) will direct a phone calls to another phone when the call rings unanswered.

a	To turn Call Forward No Answer (Variable Number) ON.	OH * 61 DN # RH
b	To turn Call Forward No Answer (Variable Number) OFF.	OH # 61 # RH
c	To check if Call Forward (Variable Number) is ON or OFF.	OH * # 61 # RSP RH

5.2.6   Multiple Subscriber Number (MSN)

Usually two telephone numbers are automatically assigned to an OnRamp service. Before an MSN number is entered into the AT command registers on the ATA, phoning any subscribed number from another phone service will make an attached phone ring. It is possible to have up to eight phone numbers on a single OnRamp service by requesting them from Telstra. The ATA picks up all phone calls unless a specific number is set up for MSN in the ATA for exclusive pick up. Exclusive pick up would be used when the ATA is meant to respond to calls on a different phone number to another device on the same OnRamp service.

All voice phone calls and data calls will be answered if a telephone number is not entered into the AT command registers. Once an MSN telephone number is entered, the ATA will use this number and only receive calls received for this specific telephone number. All data calls and normal voice calls will only be recognised by the ATA if the phone number matches the number stored in the ATA. The ATA can distinguish if the remote device has sent the call as a data call or a voice call (modems / faxes attached to the POTS port are treated like voice calls). Data calls are directed to the V.24 / RS232 port and voice calls are assigned to the POTS port.

Usually calls are charged to the primary number for billing purposes. A different telephone number can be can be used for charging purposes and then calls assigned to this number would usually appear separately on the same bill. The telephone number used must be stored in the ATA and selected using an abbreviated dialling sequence at the time of dialling. This facility could be used to distinguish between business and home calls.

Equipment with Call Line Identification (CLI) capabilities will only see the primary phone number. The exchange will only pass on the primary number regardless of which number is offered to the exchange.

If an invalid phone number is stored in the ATA for the MSN feature then the exchange will assume the primary number for the phone call, but incoming calls **WILL NOT** be recognised by the ATA.

Setting the MSN Telephone Number from Phone Handset on the POTS port can be accomplished with by entering

a	Setting Telephone Number from Phone Handset on the POTS port. *(Note 2)*	OH DT #1# *[telephone number]* # RH

Note 2:   The [telephone number] should be replaced with one of the telephone numbers assigned for your service and is not optional (eg #1#0332551234#).

The ATA's MSN phone number can also be entered using the AT command shown in section4.2 for the register S51.

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