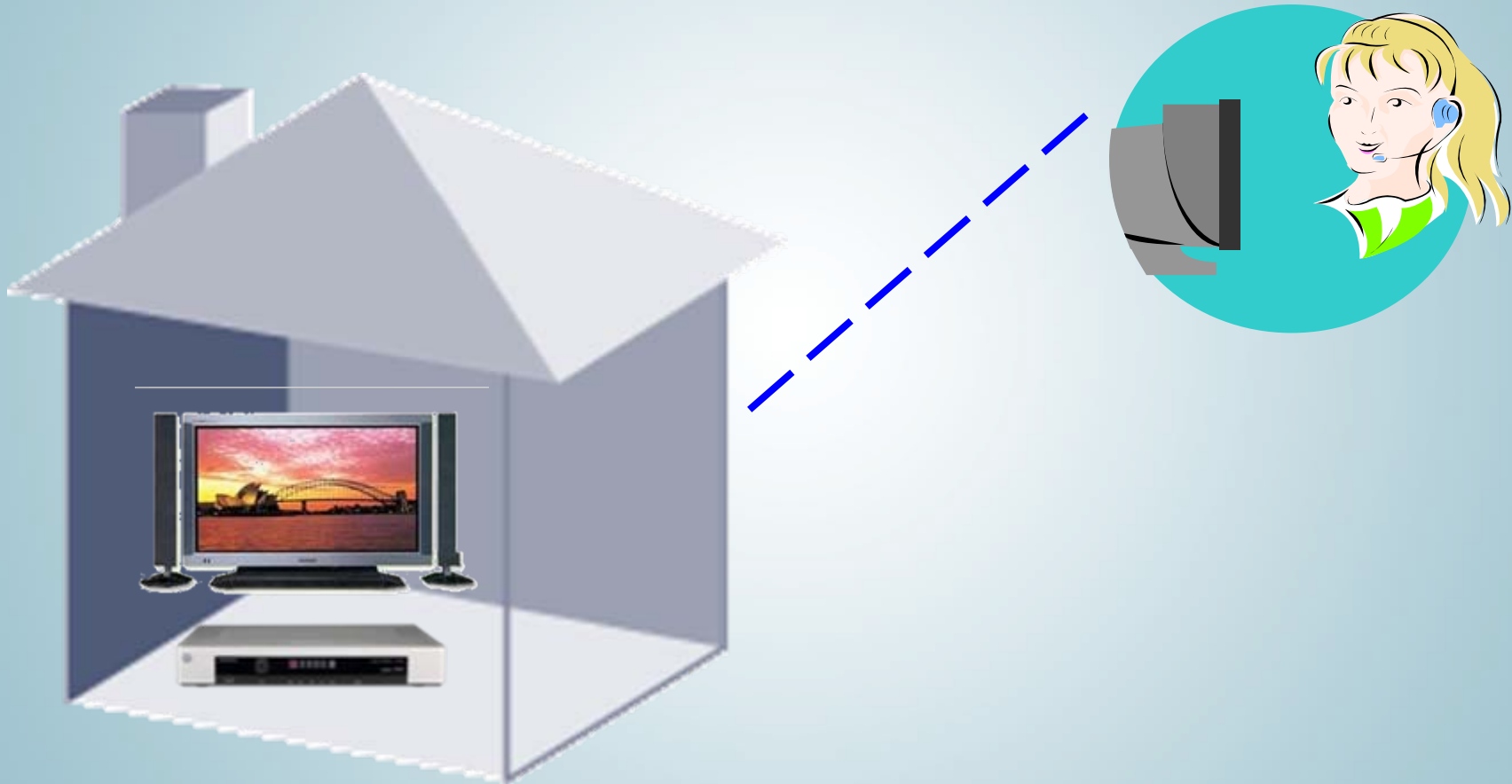


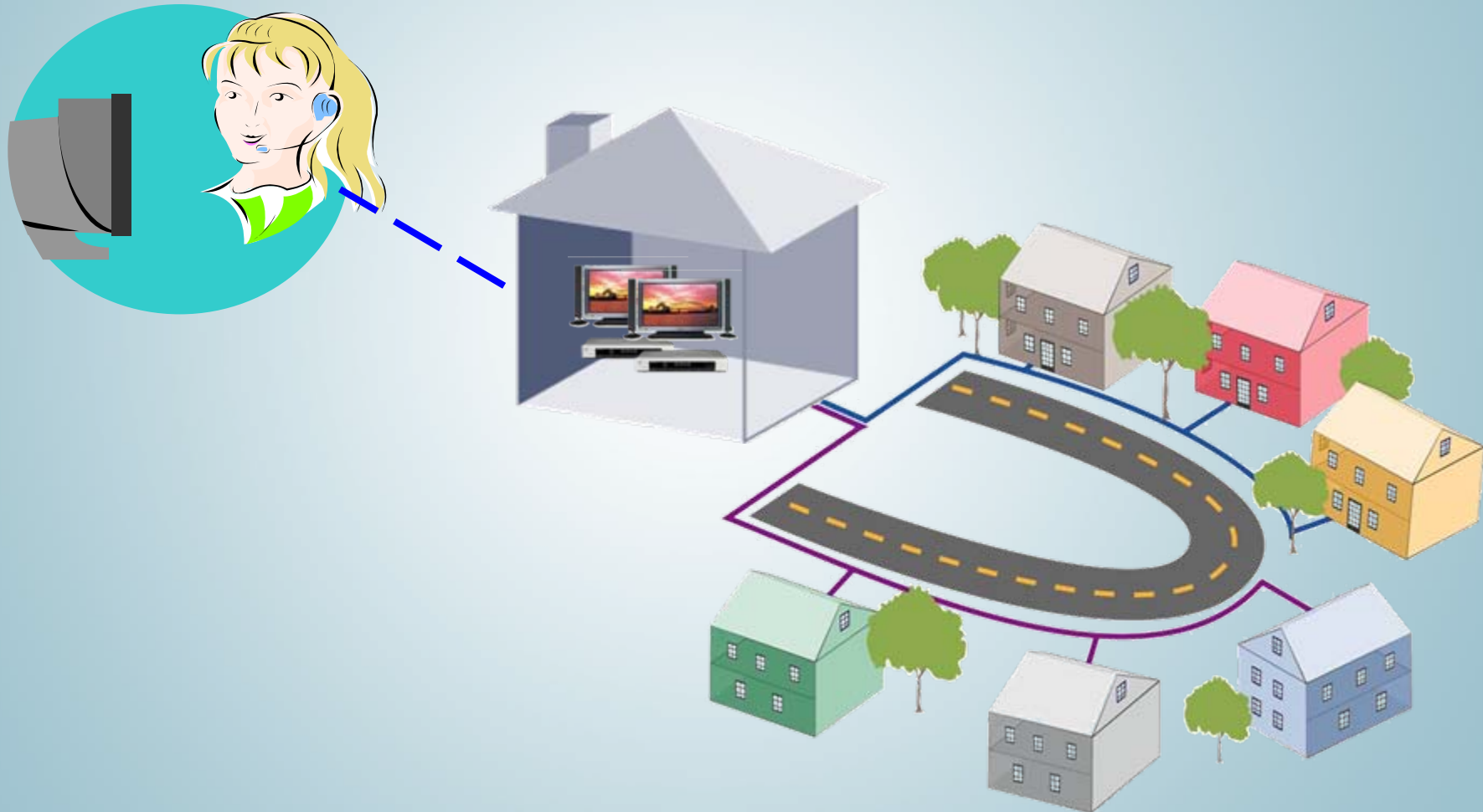


Remote STB Diagnostics

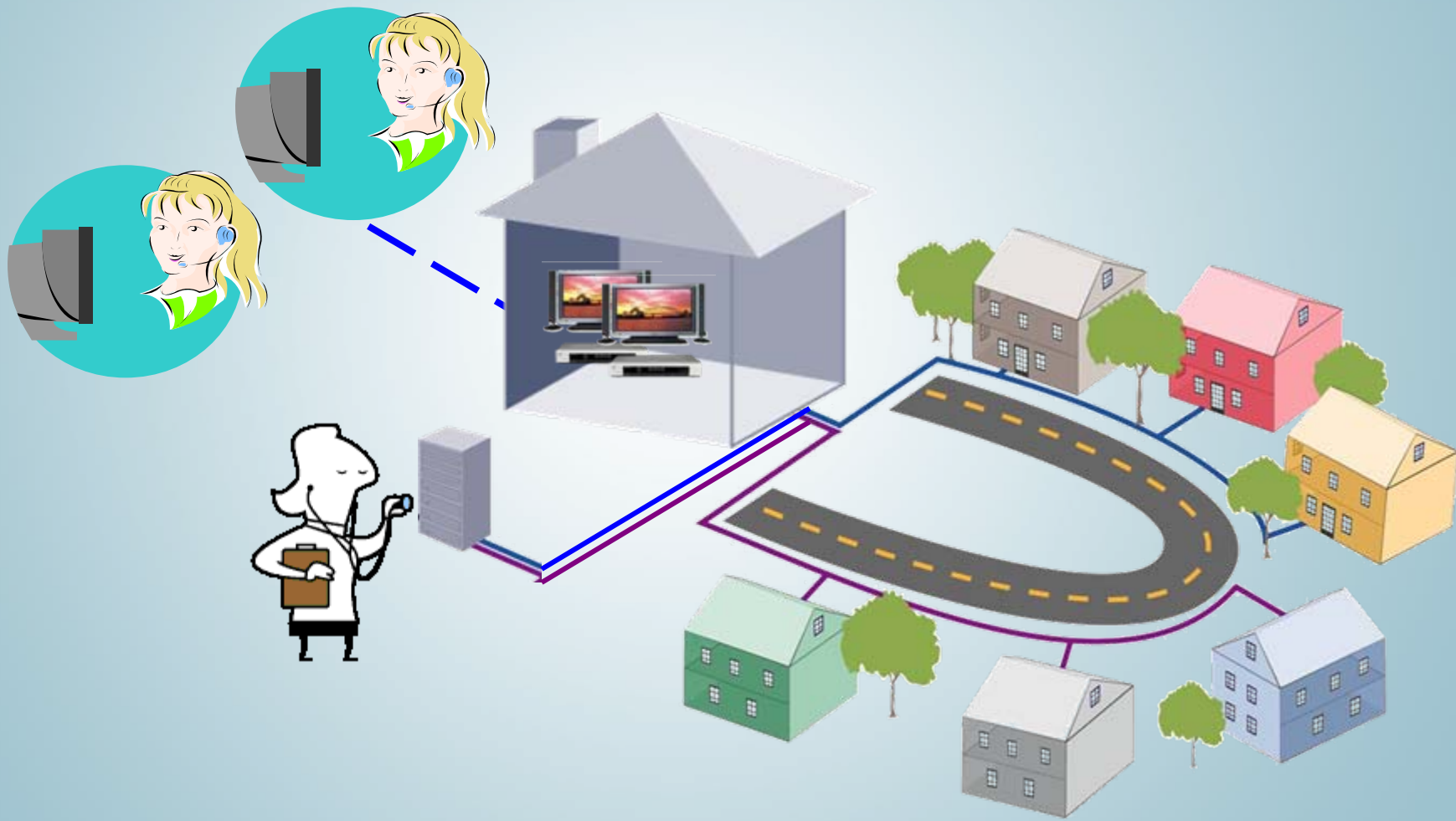
Remote Collection of Diagnostic Information



Scalable Collection of Diagnostic Information



Scalable Presentation of Diagnostic Information





- ✓ STDC Server - 1 RU chassis
- ✓ Remote data collection to a centralized server
 - ✓ Periodic reporting of STB population
 - ✓ On Demand querying of targeted STBs
- ✓ Data collection to support:
 - ✓ CSRs, Tech Supervisors, System Health
- ✓ User Interfaces
 - ✓ Interactive GUI (downloadable browser-applet)
 - ✓ Northbound Interface using WebServices protocol



Available Data Sets

Core Diagnostic

General set-top state/status

In-band Diagnostic

Tuner, MPEG, signal quality info

Decryptor Tier Report

Set-top authorization info

Download Object Diagnostic*

Set-top code info

Aloha Diagnostic*

Path ID, network traffic info

Service Information Diagnostic*

MPEG (PAT/ PMT/PID) info

* Not available via NBI in initial release

STDC Data Display



Immediate Setup Data Request Reports

Core Data	Core Data	
Inband Data		
CodeObject		
Aloha Data		
Decryptor Tier		
Decryptor Unit		
Decryptor Diag		
Decryptor Resp		
Memory Usage		
Time Data		
Control Chans		
Message Type		
Service Data		
Operating Sys		
Home Status		
Home Link		
DOCSIS Gateway		
MAC Address		
Harddrive Usage		
DOCSIS System		

Setup State			
OOB Capable	: YES	Download Errors	: NO
OOB Hunting	: NO	APP Sockets Active	: NO
OOB SNR Quality	: GOOD	APP Services Active	: NO
OOB Sig Quality	: N/S	Chan Map Fully Loaded	: YES
Ctrl Chan Locked	: YES	Stack Limit Reached	: NO
Connect State	: YES	Low Credit Limit	: NO
DVB Setup	: NO	PPV Enabled	: NO
Unackd Purchases	: NO	Encryption Mode	: DES
Timeout Armed	: NO	DST Active	: YES
Timed Out	: NO	Interactive Type	: ALOHA
Remodulation	: 38	Configuration Type	: Broadcast
N/S - Not Specified			
Setup Parameters			
EMM Refresh	: 1/6/80 ...	OOB Lock Lost Cnt	: 0
DCT Config	: 1/6/80 ...	Int HD Space (mb)	: 0
CSNs Loaded	: 0x201	Ext HD Space (mb)	: 0
Suite List ID	: 0	IP Network Entries	: 0
Suite Version	: 0	Aborted UStream Msgs	: 0
Code Version	: 0x000501	ALOHA D-Stream ID	: 1
Objects Loaded	: 1	ALOHA U-Stream ID	: 11
Peak Temp	: 0	Service Power (dBmV)	: 24
Current Temp	: 0	Polling Power (dBmV)	: 24
OOB Frequency	: 125.00	DVB Network ID	: 0
OOB SNR (dB)	: 24	Fatal Errors	: 0
OOB Signal (dBmV)	: 0	System Up Time	: 0

Feature Sets				
Set #1				
		Inst	Auth	Fail
1394	-	N	N	N
USB	-	N	N	N
DVI	-	N	N	N
ENet	-	Y	Y	N
HSI	-	N	N	N
DOCSIS	-	N	N	N
AIP	-	N	N	N
SPDIF	-	Y	Y	N
Set #2				
		Inst	Auth	Fail
Int HD	-	N	N	N
Ext HD	-	N	N	N
DVR	-	N	N	N
HD Dec	-	N	N	N
RF Byp	-	N	N	N
RB Svr	-	N	N	N
Smart	-	N	N	N
TV Pass	-	Y	Y	N
Set #3				
		Inst	Auth	Fail
IR	-	Y	Y	N
Telco	-	N	N	N
HMA Bas	-	N	N	N
HMA Ad	-	N	N	N
HDMG	-	N	N	N
MoCA	-	N	N	N
Resrv	-	N	N	N

Verify STB Code Version

Verify STB State & Status

Check PPV Purchase Info

Check DVR Temp & HD Space

- Core Data
- Inband Data
- CodeObject
- Aloha Data
- Decryptor Tier
- Decryptor Unit
- Decryptor Diag
- Decryptor Resp
- Memory Usage
- Time Data
- Control Chans
- Message Type
- Service Data
- Operating Sys
- Home Status
- Home Link
- DOCSIS Gateway
- MAC Address
- Harddrive Usage
- DOCSIS System

Inband Data

STDC Client - MOT000000116

Tuner #1

Frequency	: 711000	Carrier Lock	: LOCKED
Transport ID	: 2	PCR Lock	: LOCKED
Signal Lvl	: 0	Signal Quality	: N/S
SNR	: 37	SNR Quality	: GOOD
Short Errors	: 0	Modulation	: 256QAM
Long Errors	: 139765	Tuner Number	: 1

No Short term Errors

GOOD SNR



- Core Data
- Inband Data
- CodeObject
- Aloha Data
- Decryptor Tier
- Decryptor Unit
- Decryptor Diag
- Decryptor Resp
- Memory Usage
- Time Data
- Control Chans
- Message Type
- Service Data
- Operating Sys
- Home Status
- Home Link
- DOCSIS Gateway
- MAC Address
- Harddrive Usage
- DOCSIS System

Inband Data

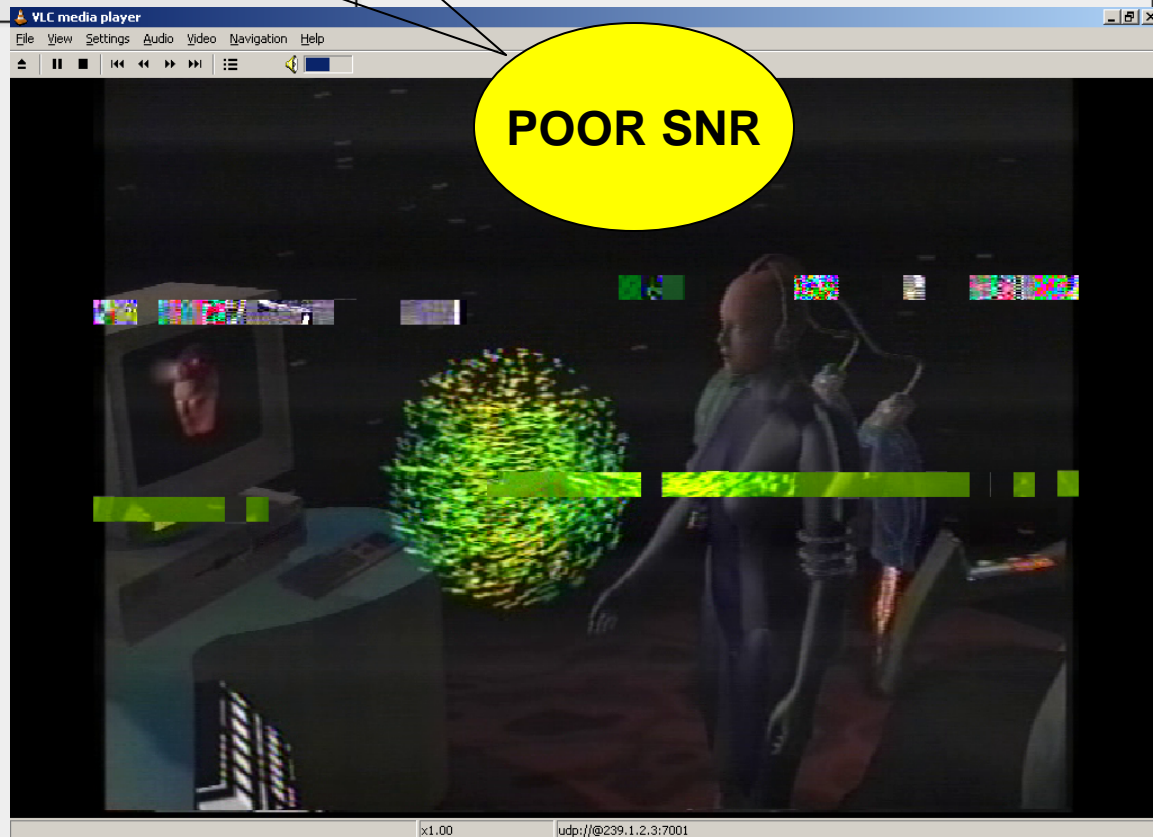
STDC Client - MOT000000239

Tuner #1

Frequency	: 711000	Carrier Lock	: LOCKED
Transport ID	: 2	PCR Lock	: LOCKED
Signal Lvl	: 0	Signal Quality	: N/S
SNR	: 27	SNR Quality	: POOR
Short Errors	: 37539	Modulation	: 256QAM
Long Errors	: 240115	Tuner Number	: 1

High Short term Errors

POOR SNR





Immediate Setup Data Request Reports

Core Data
Inband Data
CodeObject
Aloha Data
Decryptor Tier
Decryptor Unit
Decryptor Diag
Decryptor Resp
Memory Usage
Time Data
Control Chans
Message Type
Service Data
Operating Sys
Home Status
Home Link
DOCSIS Gateway
MAC Address
Harddrive Usage
DOCSIS System
DCT 2000 Core

DCT 2000 Core

Diagnostics

Control

ACK Only : NO	Inband AGC Quality : N/S
Analog Service : YES	Inband Carrier Lock : N/S
App Service Tuned : N/S	Inband PCR Lock : N/S
Chan Map Loaded : N/S	Unack'd Purchases : NO
Connect State : YES	IPPV Enabled : NO
Ctrl Chan Locked : YES	Stack Limit Reached : YES
OOB SNR Quality : GOOD	Low Credit Limit : N/S
OOB AGC Quality : N/S	DST Active : NO
Inband SNR Quality : N/S	

Data

Service Chan Pwr Lvl : 0	Inband Modulation Mode : ANALOG
MPEG Service # : 0	Inband SNR : 0
Fatal Error Cnt : 23	Short Term Err Count : 0
Aborted Msg Count : 0	Long Term Err Count : 0
Net Reentry Count : 0	Code Suite List ID : 0
OOB Frequency : 75.25	Code Suite Version : 0
OOB SNR : 22	Category Sequence # : 2
Poll Chan Pwr Lvl : 51	Number Download Errors : 0
OOB Carrier Lock Count : 1	Inband AGC Level : 0
Inband Frequency : 63000	OOB AGC Level : 0

Upstream Channels

1	Frequency : 8096000
	Power : 50
	Cells Sent : 0
	Cells Rcked : 0

Code Objects

1	Name : DCT_ROM
	Version : 05.41
	Status : Disabled

GRAY - Indicates an unreliable field value

Close



- ✓ **Server**

- ✓ STDC 1.1.2

- ✓ **Client**

- ✓ Glenside 7.0/Hanover 3.0 (Advanced STB)

- ✓ 3.2/4.2 (Core STB)

- ✓ 8.x (Core – DCT2000)

- ✓ **DAC Interface**

- ✓ DAC 3.1.1-7 Patch Release CD 8

- ✓ **NC1500**

- ✓ 1.7.1