DENSITÉ series

SCO-1421 Intelligent ASI Change-Over with Probing Guide to Installation and Operation

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A BELDEN BRAND

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Electromagnetic Compatibility



This equipment has been tested for verification of compliance with FCC Part 15, Subpart B requirements for Class A digital devices.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This equipment has been tested and found to comply with the requirements of the EMC directive **CE** 2004/108/CE:

- EN 55022 Class A radiated and conducted emissions •
- EN 61000-3-2 Harmonic current injection •
- EN 61000-3-3 Limitation of voltage changes, voltage fluctuations and flicker •
- EN 61000-4-2 Electrostatic discharge immunity •
- EN 61000-4-3 Radiated electromagnetic field immunity radio frequencies •
- EN 61000-4-4 Electrical fast transient immunity •
- EN 61000-4-5 Surge immunity •
- EN 61000-4-6 Conducted emissions immunity •
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GUIDE TO INSTALLATION AND OPERATION

1 SCO-1421 Intelligent ASI Change-Over with Probing

1.1 Introduction

The SCO-1421 is a 2x1 intelligent ASI change-over with built-in MPEG-TS probing. Changeovers are performed electronically by the SCO-1421's internal router. In the event of a power failure, the signal is protected by relays fitted on the rear module, maintaining the integrity of the selected signal at the output.

Input selection can be performed automatically or manually. In automatic mode, the card will perform smart input selection based on rules related to signal quality. In manual input selection mode, channel selection can be made from the Densité controller, the iControl software, or simply by using a GPI. A GPI can be connected to an automation system or any simple GPI control panel. The GPI outputs give status of the selected source, allowing tallies to be triggered.

The card comes with sync-loss-free switching that prevents sync loss or sync drop errors upon switching.

MPEG-TS signal probing monitors PID presence of up to 12 services per input simultaneously. In the event of a loss of data on any service PID, the SCO can be configured to automatically switch to the other input provided it is error-free.

The optional advanced probing option enables full level 1 & 2 TR 101 290 probing and alarming. Combined with the optional advanced probing, the SCO-1421 is not only the perfect ASI change-over but also a handy TS probe.

1.2 Features

- Two DVB-ASI source inputs and two DVB-ASI outputs (program and preview)
- Electronic switching with relay back up (on rear module) maintains selected input in the event of a power failure
- Automatic switch mode ruled by internal TS probes
- Manual changeover by local frame controller, iControl, iControl Solo or GPI
- GPI in for control & out for status monitoring (IN1, IN2, AUTO, BYPASS)
- Switching without TS sync loss errors
- Alarm reporting to iControl monitoring and control system

MPEG-TS signal Analysis

- Probing of up to 12 services
- SI Table structure display
- PID presence alarming
- Total bit rate monitoring & alarming
- Service PID bit rates measurements
- Basic TR 101 290 probing and alarming:
 - o ts_sync_loss
 - countinuity_count_error
 - o sync_byte_error
 - transport_error

Optional advanced probing

- PSIP Table PID presence alarming
- Individual PID bit rate monitoring and alarming
- Teletext/subtitling PID presence alarming
- Probing for complete TR 101 290 L1 & L2 probing:
 - o CAT_Error
 - o CRC_Error
 - o PAT_Error
 - o PMT_Error
 - PCR_Accuracy
 - o PCR_Error
 - o PTS_Error
 - o PID_Error

1.3 Block Diagram

The following block diagram shows the functionality of the SCO-1421.



Advanced Probing Option (SCO-1421-OPT-ADVP)

Figure.1.1 Functional block diagram SCO-1421

1.4 Front Card-edge Interface

The front card-edge of the SCO-1421 incorporates two elements:

- Status LED (see section 3.3)
- Select Button (see section 3.4)



Figure 1.2 Front Card-edge Layout

2 Installation

2.1 Unpacking

Make sure the following items have been shipped with your SCO-1421. If any of the following items are missing, contact your distributor or Miranda Technologies Inc.

- SCO-1421 Intelligent ASI Change Over with Probing
- SCO-1421-DRP-R Rear Panel (see figure 2.1)

2.2 Installation in the Densité frame

The SCO-1421 and its associated rear connector panel must be mounted in a DENSITÉ frame. It is not necessary to switch off the frame's power when installing or removing the card. See the DENSITÉ Frame manual for detailed instructions for installing cards and their associated rear panels.

2.3 Rear Panel Connectors

The SCO-1421 has multiple inputs and outputs, and making space for all the necessary connectors at the rear of the frame requires a double-width rear panel.

With the double-width rear panel installed, the SCO-1421 must be installed in the right-most of the two slots covered by the panel in order to mate with the panel's connectors.

If it is placed in the wrong slot, the front panel LED will flash red. Move the card to other slot for correct operation. No damage will result to the card should this occur.



Figure 2.1 SCO-1421-DRP-R Rear Panel

The rear panel connections are as follows:

ASI IN 1 and ASI IN 2- serial digital ASI input

Connect two DVB-ASI video signals, conforming to EN 50083-9, to the BNCs labeled ASI IN 1 and 2.

ASI OUT - serial digital video outputs

The SCO-1421 provides two ASI video outputs on BNC connectors, labeled **PGM** (program) and **PVW** (preview). The ASI video signals conform to EN 50083-9.

GPI IN and GPI OUT connectors

The rear panel of the SCO-1421 includes a GPI interface that allows control of the switch process.

When constructing and using an external GPI box, be aware of the following:

- 1. The SCO-1421 card monitors the external power supply voltage on the GPI input. If the voltage is less than 4V (per relay datasheet), an alarm will be raised.
- 2. When a GPI INPUT is triggered while the card is operating in auto mode, the card changes to manual mode and switches to the input selected by the GPI.
- 3. DO NOT TRIGGER BOTH GPI INPUTS AT THE SAME TIME OR ALLOW THE TRIGGER PULSES TO OVERLAP, AS DAMAGE TO THE RELAY MAY RESULT.
- 4. A GPI trigger pulse should have a duration of at least 40 ms.



Figure 2.2 GPI trigger pulse timing

Using the GPI interface

- Trigger the GPI-IN-1 or GPI-IN-2 pin to select that input.
- Trigger the AUTO-IN or BYPASS-IN pin to select that mode
- Read the GPI-OUT-1 and GPI-OUT-2 pins to identify which output is selected
- Read the AUTO-OUT and BYPASS-OUT pins to determine whether either of these modes is in operation.

WECO connector	Pin number	GPI direction	GPI name
	1	IN	GPI-IN-1
P1	2	GND	
	3	IN	GPI-IN-2
	1	IN	AUTO-IN
P3	2	External +5V	
	3	IN	BYPASS-IN
	1	OUT	GPI-OUT-1
P4	2	GND	
	3	OUT	GPI-OUT-2
	1	OUT	AUTO-OUT
P5	2	GND	
	3	OUT	BYPASS-OUT

The four GPI connectors are laid out as shown:

	— GPI IN		GPI	OUT—
	0000		0 0	0 0 0
Label 🔶	2 G 1 Byp Pv	vr Auto 2	G 1	Byp G Auto
Pin #	321 32	21 3	21	321
Connector ID	P1 F	P3	P4	P5

Figure 2.3 GPI Connectors

3 Operation

3.1 Getting Started

- The switch mode is set to AUTO by default which means the card will automatically switch to the input with the less errors based on the error configuration that has to be done in the ALARM tab. Don't forget to change this setting if you don't want the card to switch by itself.
- When in AUTO mode, the switch conditions must be set by the user as desired as most of them are set to OFF by default. The LEVEL parameter of the measures that should cause a switch when error occurs must be set to 1 or 2 according to the priority (1 being the most critical) or the card will never switch by itself.
- If the preview output of the card is connected, do not forget to set it's behavior as desired on the preview output tab.
- As it is NOT possible to probe every program present in the stream, many of the TR 101 290 measures are only done on the *programs* selected for probing. It is <u>very</u> important to select the programs that you wish to probe (up to 12) under the "Service Presence X" item in the ALARM – TS tab. Without doing so, many measures indicators will always be green and won't work as expected. The Pie Chart and PID Presence display reporting depend also on this Service Presence setting.
- Once configured and fed with a valid signal, it is a good idea to reset the error count under the PROBING TR101290 tab if you want to clear the errors that might have occurred during configuration.

3.2 Control options

The SCO-1421 can be controlled in two different ways:

- The local control panel and its push-buttons can be used to move through a menu of parameters and to adjust parameter values (see section 3.4).
- Miranda's iControl system can be used to access the card's operating parameters from a remote computer, using a convenient graphical user interface (GUI). (see section 3.5)

3.3 Card-Edge Status LED

The status monitor LED is located on the front card-edge of the SCO-1421, and is visible through the front access door of the DENSITÉ frame. This multi-color LED indicates the status of the SCO-1421 by color, and by flashing/steady illumination.

The chart shows how the various error conditions that can be flagged on the SCO-1421 affect the LED status.

- If a cell is gray, the error condition cannot cause the LED to assume that status
- If more than one LED status is possible for a particular error condition, the status is configurable. See Section 3.5.8 for details.
- The factory default status is shown by a O

The LED will always show the most severe detected error status that it is configured to display, and in the chart error severity increases from left to right, with green representing no error/disabled, and flashing red the most severe error.

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		LED S	Status	
Error Condition	Green	Yellow	Red	Flashing Red
No errors	0			
TS Presence Input 1			0	
TS Presence Input 2			0	
Transport ID Mismatch Input 1			٩	
Transport ID Mismatch Input 2			٩	
Total Bit Rate Input 1			٩	
Total Bit Rate Input 2			٩	
Bypass Enabled			\$	
Backup Used			0	
Global Level 1 for Input 1			٩	
Global Level 2 for Input 1			\$	
Global Level 1 for Input 2			\$	
Global Level 2 for Input 2			\$	
Limitation Alarm			\$	
GPI Power Alarm			٩	
Hardware Failure				٥
Rear Presence				0

If the LED is Flashing Yellow, it means that the card is selected for local control using the Densité frame's control panel. See Section 3.4 for details.

3.4 Local control using the Densité frame control panel

3.4.1 Overview

Push the SELECT button on the SCO-1421 card edge (see Section 1.4) to assign the local control panel to operate the SCO-1421. Use the control panel buttons to navigate through the menu, as described below.

All of the cards installed in a Densité frame are connected to the frame's controller card, which handles all interaction between the cards and the outside world. There are no operating controls located on the cards themselves. The controller supports remote operation via its Ethernet ports, and local operation using its integrated control panel.

The local control panel is fastened to the front of the CPU-ETH2 controller card, and when installed can be accessed by opening the front door of the frame. The panel consists of a display unit capable of displaying two lines of text, each 16 characters in length, and five pushbuttons.

The panel is assigned to operate any card in the frame by pushing the SELECT button on the front edge of that card.

- Pushing the CONTROLLER button on the control panel selects the Controller card itself.
- The STATUS LED on the selected card flashes yellow



Figure 3.1 Densité Frame local control panel

The local control panel displays a menu that can be navigated using the four pushbuttons located beside the display. The functionality of the pushbuttons is as follows:

- [+] [–] Used for menu navigation and value modification
- [SELECT] Gives access to the next menu level. When a parameter value is shown, pushing this button once enables modification of the value using the [+] and [–] buttons; a second push confirms the new value
- [ESC] Cancels the effect of parameter value changes that have not been confirmed; pushing [ESC] causes the parameter to revert to its former value.

Pushing [ESC] moves the user back up to the previous menu level. At the main menu, [ESC] does *not* exit the menu system. To exit, re-push the [SELECT] button for the card being controlled.

If no controls are operated for 30 seconds, the controller reverts to its normal standby status, and the selected card's STATUS LED reverts to its normal operating mode.

3.4.2 Menu for local control

The SCO-1421 has operating parameters which may be adjusted locally at the controller card interface.

- Press the SELECT button on the SCO-1421 front card edge to assign the Densité frame's local control panel to the SCO-1421
- Use the keys on the local control panel to step through the displayed menu to configure and adjust the SCO-1421.

The complete menu structure is shown in the Annex to this document, beginning on page 37.

3.5 Remote control using iControl

The operation of the SCO-1421 may be controlled using Miranda's iControl system.

- This manual describes the control panels associated with the SCO-1421 and their use.
- Please consult the iControl User's Guide for information about setting up and operating iControl.

In iControl Navigator or iControl Websites, double-click on the SCO-1421 icon to open the control panel.

3.5.1 The iControl graphic interface window

The basic window structure for the SCO-1421 is shown in figure 3.2. The window identification line gives the card type (SCO-1421) and the slot number where the card installed in its Densité frame.

	Switch Preview Outp Alarms	A Stranda] 1 \
	Probing	Input 2 ATSC 19.393Mbps Level 1 ATSC 19.393Mbps Level 1 Output ATSC 19.393Mbps Level 2 Output ATSC 19.393Mbps	
2	Options	GPI IN 1 GPI Auto GPI Power Box GPI Power Box GPI IN 2 GPI Bypass GPI Switch Operating Mode	3
	Factory / Pres	Auto Manual Bypass sets Manual Switch Config Switch Config Image: Switch and Return Switch and Return Image: Switch Return Duration (0 sec - 10 mn) Toggle Image: Switch Return Duration (0 sec - 10 mn) Image: Switch Return Duration (0 sec - 10 mn)	

Figure 3.2 SCO-1421 iControl graphic interface window

There are three main sections in the window itself, identified in figure 3.2:

1. The Status Icon area shows a series of nine icons that report the status of some card parameters. Figure 3.3 shows the various forms that may appear; their meaning is described below.

Icon 1 – Control status

- A: Green Remote Control via iControl
- B: Yellow Local control using the menu

Icon 2 – ASI 1 Presence

- A: Green ASI IN locked
- B: Red No ASI IN detected



Figure 3.3 Status icons

Icon 3 – ASI 2 presence

- A: Green ASI IN locked
- B: Red No ASI IN detected

Icon 4 – Bypass Mode Status

- A: Bypass not active SCO-1421 in operation
- B: Bypass activated

Icon 5 – Global Alarm for Input 1 status

- A: Green no alarm
- B: Yellow Level 2 alarm
- C: Red Level 1 alarm

Icon 6 – Global Alarm for Input 1 status

- A: Green no alarm
- B: Yellow Level 2 alarm
- C: Red Level 1 alarm

Icon 7 – Backup status

- A: Green Other input is backup in AUTO mode
- B: Red Current input is backup in AUTO mode

Icon 8 – Probing Resources

- A: Green Probing resources available
- B: Red Probing limits reached The number of PIDs in the stream exceeds 127
 - The number of different programs in the stream exceeds 32
 - The number of PIDs in a single program exceeds 15
 - The number of different tables to collect in the stream exceeds 34

Icon 9 – Card Heath status

- A: Green Hardware OK
- B: Red Major hardware failure requiring factory repair

When an icon shows an error state, a message describing the error in more detail will appear beneath the icons. If there is more than one error, they will cycle through the display.

- If there are multiple errors, the error messages cycle so all can be seen
- The icon whose status or error message is shown is highlighted with a mauve background

In all cases, mousing over an icon will cause a more detailed description of its current status to appear in the message area. Error message cycling will resume when the cursor is no longer over an icon.

- The left-hand side of the panel contains a series of buttons that control the contents of the main window (section 3). Click on one to access the indicated controls. The selected button is highlighted (darker) and the main panel heading matches the button name.
- **3.** This section contains the main operating controls and displays for managing the SCO-1421's feature set. The contents are selected by clicking a button on the left-hand side of the screen.

The left side of the window, containing section 2, can be hidden or revealed by clicking the arrow icon at the center of the left side border. Each of the panels associated with the groups accessed from the buttons in Section 2, and shown in Section 3, is described individually in the following sections.

3.5.2 The Switch panel

The graphic at the top of the panel identifies the input that is currently selected, and indicates the validity of both inputs by the color of their icons.

The status of the four GPI inputs is shown below the graphic. These inputs select the operating mode when activated. The status of GPI power from the external GPI box is also shown. If this icon is *not* green, the GPI Power Box alarm will be raised. See section 2.3 for information about GPI usage in the SCO-1421.

The SCO-1421 has three mo des of switch operation, selected by clicking the appropriate button in the Switch Operating Mode section of the control panel.

- You will be asked to confirm that you want to change the switch operating mode when you click a button
- 1. Manual Switch

Manually switches the SCO-1421 program output between the two possible sources: input 1 and input 2.

• Click the *Manual* button. The two sources are shown on the left. Look at the graphic at the top of the panel to see which one is currently selected.

-	SCO-1421 [SLOT : :	[3]	
	Switch		Miranda
	Preview Output Alarms	Switch	
	Probing	Input 1 ATSC 19.393Mbps Level 1	Output ATSC 19.393Mbps
•		ATSC 19.393Mbps Level 2 GPI IN 1 GPI Auto GPI IN 2 GPI Bypass GPI Bypass GPI Bypass	GPI Power Box
	Options	Auto Manual	Bypass
	Factory / Presets	Manual Switch Config	Auto Switch Config Switch To Switch and Return
	Alarm config. Info	Switch Return Durstion (0 sec - 10 mn)	O Toggle

Figure 3.4 The Switch panel

- Click on the other source, which will then show in green. The Take button is now activated, appearing red (see figure 3.5).
- A countdown (from 10 seconds) underneath the Take button shows how long the Take button will remain active before it times out.
- Click the Take button while it is active to switch the SCO-1421 output over to the other source.



Figure 3.5 Manual Switch Controls

2. Auto Switch

The SCO-1421 uses its probing feature to determine a global alarm level for each of the two inputs (see section 3.5.4 for more information). Auto Switch uses this information to determine whether a changeover is required.

- Generally speaking, the SCO-1421 will switch to the input with the lowest global alarm level, even if it is not error-free
- The specific switching pattern is determined by the Auto Switch Configuration that has been selected

Click the *Auto* button in the *Switch Operating Mode* area to activate the Auto mode.

• When Auto mode is turned on, Input 1 is always selected as the source, so be aware that if you have selected input 2 manually and then switch ON the Auto mode, the selection will switch to Input 1.

Switch Operating Mode		
Auto	Manual	Bypass
Manual Switch Config	ake	uto Switch Config) Switch To) Switch and Return) Toggle
-Switch Return Duration (0 se	c - 10 mn)	D 1m25s

Figure 3.6 Auto Switch Mode

In the Auto Switch Config area, select the Auto Switch mode of operation:

- Switch To: switches to input 2 when the alarm conditions trigger a switch. NOTE that a return to input 1 can only be made in the Manual mode.
- Switch and Return: switches to input 2 when the alarm conditions trigger a switch, and then switches back after a predetermined interval, counted from the time the input 1 global alarm becomes and remains equal to or lower than the input 2 global alarm. Use the Switch Return Duration slider at the bottom of the tab to set the interval (0 to 59 seconds, 1 to 10 minutes)
- *Toggle:* switches to the input that has the lowest global alarm level, with no delay. In this mode, neither input is favored, although it will start on input 1 when Auto mode is selected.
- 3. Bypass

Bypass triggers relays located on the rear panel to connect the inputs directly to the outputs. The bypassed SCO-1421 card is electrically disconnected from the Densité signal system, and can be removed from the frame with no discontinuity in the signal path.

When the SCO-1421 is in Bypass:

- There is no ASI probing
- The PVW (preview) output is disabled

NOTE: Miranda recommends that you set the SCO-1421 in BYPASS before removing it from the Densité frame to ensure no disruption in the signal when the card is removed and reinserted.

3.5.3 The Preview Output panel

Use this panel to select the source for the preview output

- Auto Opposite input from that selected for the Program
- output
- Input 1 Input 1
- Input 2
 Input 2
- Follow Program Output: Same input as selected for the Program output

	SCO-1421 [SLOT : 1	[3]
	Switch	
	Preview Output Alarms	Preview Output
Þ	Probing	Input 1 ATSC 19.393Mbps Unput 2 ATSC 19.393Mbps Unput 2 ATSC 19.393Mbps
	Options Factory / Presets	Preview Output Selection Auto Input 1 Input 2 Follow Program Output
	Alarm config.	

Figure 3.7 Preview output source selection

3.5.4 The Alarms panel

The SCO-1401 continuously monitors the condition and status of the input signals it is processing. The information is used to decide whether the input must be switched in Auto mode. It is also used to flag the status of the card in the iControl system.

In general:

- A number of parameter values are continuously tested against user-defined thresholds or for presence/absence.
- Each parameter test is assigned a Level, to determine the extent to which it contributes to the changeover decision.

Many alarms can be enabled or disabled using the *Enable* checkbox in their control panel (see below).

An alarm that is enabled:

- contributes to the switch decision process based on its LEVEL.
- Is reflected in the device status as reported to iControl (LEVEL has no bearing on this)

Each alarm is assigned a LEVEL that determines its contribution to the switch decision process. Possible levels are:

- 1 highest significance
- 2 lower significance
- OFF not used in the switch decision process

Some alarms are arbitrarily assigned as Level 1 and cannot be changed by the user (e.g. no signal present is always a Level 1 alarm). Their Enable checkbox is ticked, and greyedout.

Other alarms have a pulldown in their control panel that allows the user to set the level.

The SCO-1421 uses the most significant alarm detected for an input as the global alarm level for that input, and then uses the truth table on the right to decide whether to switch from input 1 to input 2 and back. The switch pattern is determined by the Auto Switch mode that is selected; see section 3.5.2.

The Alarms section of the iControl panel gives access to all alarmrelated settings.

- The *TS*, *Bit Rate* and *TR 101 290* tabs at the top of the panel give access to lists of the alarms that exist in that category
- All available alarms in the selected category are shown under Alarm Name, and the configuration and status of each alarm for Inputs 1 and 2 is shown to the right.
- Click on an alarm in the *Alarm Name* column to select it, and the configuration panel for that alarm appears at the bottom of the screen.

Switch		60	Miranda
Preview Output		Alarms	
Alarms	TS Bit Pate TP 101 290	INI S INP	
Probing	Dir Rate TR 101 200	INFLIT 4	INDUT 2
	Parameter	Alarm Level Status	Alarm Lavel Status
	TS Signal Presence	ON 1	ON 1
	TS ID Mismatch	OFF OFF	OFF OFF
	PAT Presence	OFF 1	ON OFF
	Service 1 Presence	OFF OFF	OFF OFF
	Service 2 Presence	OFF OFF	OFF OFF
	Service 3 Presence	OFF OFF	OFF OFF
	Service 4 Presence	OFF OFF	OFF OFF
	Service 5 Presence	OFF OFF	OFF OFF
	Service 6 Presence	OFF OFF	OFF OFF
	Service 7 Presence	OFF OFF	OFF OFF
	Service 8 Presence	OFF OFF	OFF OFF
	Service 9 Presence	OFF OFF	OFF OFF
	Service 10 Presence	OFF OFF	OFF OFF
Options	Service 11 Presence	OFF OFF	OFF OFF
	Service 12 Presence	OFF OFF	OFF OFF
	SI Tables Presence	OFF OFF	OFF OFF
Factory / Presets	TS	Signal Presence	
Alarm config. Info	Input 1 Duration (sec) 0 0 0 0 0 0	Input 2 Enable Duration (se	Level 1 •

Figure 3.8 Alarms panel

INPU	JT 1		INPUT 2		OUTPUT:
Alarm	ı level		Alarm level		SELECT
1	2		1	2	INPUT #
0	0		Х	х	1
0	•		0	0	2
0	•		0	•	1 or last
0	•		•	х	1
•	х		0	0	2
•	х		0	•	2
•	х		•	х	1 or last
• = • = x =	Alarm No Ala Don't c	at t irm care	his leve at this le	l evel	

TS – TS signal presence

This error is always ENABLED and the level set to 1, 2 or OFF. The factory default value is level 1.

Use the slider to set the duration for which the error must continuously exist before the alarm is flagged. The nominal range of durations is 1 to 30 seconds.



Figure 3.9 TS Signal Presence alarm

TS – TS ID Mismatch

The Transport Stream ID for each of the two inputs, as detected by the on-board probing feature, is shown in the **Current** data box.

The user sets an expected or preferred Transport Stream ID for each input in the **Desired** data box:

- The data may be entered by clicking and typing in the data box
- The data in the Current data box may be copied over into the Desired data box by clicking on the arrow button between the two data boxes.

The SCO-1421 compares the Current and Desired TS IDs and flags an error if they do not match.

This error can be Enabled using the checkbox, and the level set to 1, 2 or OFF.



Figure 3.10 TS_ID Mismatch alarm

TS – PAT Presence

This error is generated if the PAT (Program Association Table) of the input transport stream is continuously absent for a period greater than the time set in the Duration data box.

- The duration value may be entered by clicking and typing in the data box
- The duration data may be changed using the slider and control buttons on either end of it
- Duration range is 1 to 60 seconds

This error is Enabled using the checkbox, and the level set to 1, 2 or OFF.

			Alarm	S				
TS	Bit Rate	TR 101 290	IN1 ->	IN2				
	Dorom	ator	1	NPUT 1			NPUT 2	2
	Falain	eter	Alarm	Level	Status	Alarm	Level	Status
TS Sig	nal Presence	•	ON	1		ON	1	
TS_ID	Mismatch		OFF	OFF		OFF	OFF	
PAT P	resence		OFF	1		ON	OFF	
Servic	e 1 Presence		OFF			OFF		
Service 2 Presence			OFF			OFF		
Service 3 Presence			OFF			OFF		
Service 4 Presence			OFF			OFF		
Servic	e 5 Presence		OFF		_	OFF		_
Servic	e 6 Presence		OFF	OFF	_	OFF		_
Servic	e 7 Presence		OFF			OFF		
Servic	e 8 Presence		OFF		_	OFF		
Servic	e 9 Presence		OFF		_	OFF		_
Servic	e 10 Presenci	e	OFF	OFF	_	OFF		_
Servic	Service 11 Presence			OFF		OFF		
Servic	e 12 Presenci	e	OFF			OFF		
	1 Enable Lev ation (sec)	P/	AT Pres	ence nput 2- P Ens Durati	ible լ on (sec	.evel)	OFF	•

Figure 3.11 TS – PAT Presence alarm

TS - Service N Presence (N = 1 to 12)

This error is generated if a PID (PMT, PCR, audio, video) in the service in the input transport stream that has been selected for probing is continuously absent for a period greater than the time set in the Duration data box.

- The duration value may be entered by clicking and typing in the data box
- The duration data may be changed using the slider and control buttons on either end of it
- Duration range is 1 to 60 seconds

This error is Enabled using the checkbox, and the level set to 1, 2 or OFF.

Select the service to be probed using the Browse button at the bottom of the panel. Clicking the button opens a list of all services detected in the incoming data stream. Each can be assigned to only one of the 12 available slots.

1				`		M	iran	da	
REMA								ga	
			AldTHIS						
TS Bit Rate TR 101 290 IN1 -> IN2									
	Param	eter		INPUT	1		INPUT 2		
	- aram	otor	Alarm	Level	Status	Alarm	Level	Status	
TS Signal Presence			ON	1		ON	1		
TS_ID Mismatch			OFF			OFF			
PAT Presence			OFF	1		ON	OFF		
Servic	e 1 Presence		OFF			OFF			
Servic	e 2 Presence		OFF			OFF			
Servic	e 3 Presence		OFF			OFF			
Servic	e 4 Presence		OFF			OFF			
Servic	e 5 Presence		OFF			OFF			
Servic	e 6 Presence		OFF			OFF			
Servic	e 7 Presence		OFF			OFF			
Servic	e 8 Presence		OFF			OFF			
Servic	e 9 Presence		OFF			OFF			
Servic	e 10 Presenc	e	OFF			OFF			
Servic	e 11 Preseno	e	OFF			OFF			
Servic	e 12 Presenc	e	OFF			OFF			
SI Tal	bles Presence		OFF			OFF			
Inpu	t 1	Serv	ice 1 P	Input 2	e				
	Linable Lev	OFF			able [.evel	OFF	•	
Du	ration (sec)	00 1		Durati	ion (sec		0 1		
		Browse					Brow		

Figure 3.12 TS – Service Presence alarm

TS – SI Tables Presence

(Only available when the Advanced Probing option is enabled)

This error is generated if the Service Information tables in the input transport stream service that has been selected for probing are continuously absent for a period greater than the time set in the Duration data box.

- The duration value may be entered by clicking and typing in the data box
- The duration data may be changed using the slider and control buttons on either end of it
- Duration range is 5 to 60 seconds

This error is Enabled using the checkbox, and the level set to 1, 2 or OFF.

Select the stream type using the pulldown at the bottom of the panel. Options are:

- ISO13838 (use when no specific tables are present)
- ATSC (use when searching for VCT and MGT)
- DVB (use when searching for SDT, NIT and TDT)

			Alarms					
TS	Bit Rate	TR 101 290	IN1 -> IN2					
	Derem	atar	1	NPUT 1		1	NPUT 2	
	Faram	eter	Alarm	Level	Status	Alarm	Level	Status
TS Si	TS Signal Presence			1		ON	1	
TS_I	0 Mismatch		OFF	OFF		OFF		
PATI	Presence		OFF	1		ON	OFF	
Servi	ce 1 Presence		OFF	OFF		OFF		
Servi	ce 2 Presence		OFF	OFF		OFF		
Service 3 Presence			OFF	OFF		OFF		
Service 4 Presence			OFF	OFF		OFF		
Servi	Service 5 Presence			OFF		OFF		
Servi	Service 6 Presence			OFF		OFF		
Service 7 Presence			OFF	OFF		OFF		
Servi	Service 8 Presence			OFF		OFF		
Servi	ce 9 Presence		OFF	OFF		OFF		
Servi	ce 10 Presenc	e	OFF	OFF		OFF		
Servi	Service 11 Presence			OFF		OFF		
Servi	Service 12 Presence			OFF		OFF		
SI Ta	bles Presence		ON	2		OFF		
	SI Tables Presence							
Inpu	it 1 Enable Lev	vel 2	•	nput 2 Ena	ible L	_evel	OFF	•
E Du	ration (sec)		Durati	on (sec)			

Figure 3.13 SI Tables Presence

Bit Rate – Total TS Bit Rate

This error is generated if the total bit rate of the input transport stream is continuously outside a specified range of values for a period greater than the time set in the Duration data box.

The **Current** value is detected by the on-board probing of the SCO-1421 and displayed in the Current data box.

The **Min** and **Max** values are determined by the user, and entered into the data boxes by clicking and typing.

The Duration is determined by the user:

- The duration value may be entered by clicking and typing in the data box
- The duration data may be changed using the slider and control buttons on either end of it
- Duration range is 0 to 60 seconds

This error is Enabled using the checkbox, and the level set to 1, 2 or OFF.

-	SCO-1421 [SLOT : 9]	
		Miranda
		Alarms
	TS Bit Rate TR 101 290	IN1 -> IN2
	Parameter	INPUT 1 INPUT 2
	Total TS Bit Bata	Alarm Level Status Alarm Level Status
	PID 1 Bit Pate	
	PID 2 Bit Pate	
	PID 2 Bit Rate	
	PID 4 Bit Rate	
	NULL PID Rate	ON OFF ON OFF
•		
	Tota	ITS Bit Rate
	Input 1	Input 2
	Enable Level OFF	Enable Level OFF
	Current: 19,392,797 bps	s Current: 19,392,797 bps
	Min: 0 Mb	ps Min: 0 Mbps
	Max: 213 Mb	ps Max: 213 Mbps
	Duration (sec)	
التصر	1.	

Figure 3.14 Total TS Bit Rate alarm

Bit Rate - PID n Bit Rate

(Only available when the Advanced Probing option is enabled)

This error is generated if the bit rate for a specific PID in the input transport stream is continuously outside a specified range of values for a period greater than the duration set in the data box.

- Up to 4 PIDs can be probed on each input, labeled PID 1, 2, 3, and 4 in this panel. The user specifies the actual PID in the data box at the bottom of the panel.
- Only the PIDs of the services selected for probing in the Alarm-TS panel are available for PID-bitrate probing here; other PIDs in the service cannot be seen.
- If the probing of a service is de-selected in the Alarm-TS panel, but PIDs from that service are still selected here, erroneous MIN Bitrate results will be displayed

The **Current** bitrate value is detected by the on-board probing of the SCO-1421 and displayed in the Current data box.

The **Min** and **Max** bitrate values are determined by the user, and entered into the data boxes by clicking and typing.

The **Duration** is determined by the user:

- The duration value may be entered by clicking and typing in the data box
- The duration data may be changed using the slider and control buttons on either end of it.
- Duration range is 0 to 60 seconds

Enable the error using the checkbox, and set the level to 1, 2 or OFF.

Bit Rate – NULL PID Rate

This error is generated if the bit rate for the NULL PIDs (8191) in the input transport stream is continuously outside a specified range of values for a period greater than the duration set in the data box.

The **Current** bitrate value is detected by the on-board probing of the SCO-1421 and displayed in the Current data box.

The **Min** and **Max** bitrate values are determined by the user, and entered into the data boxes by clicking and typing.

The **Duration** is determined by the user:

- The duration value may be entered by clicking and typing in the data box
- The duration data may be changed using the slider and control buttons on either end of it
- Duration range is 0 to 60 seconds

This error is Enabled using the checkbox, and the level set to 1, 2 or OFF.



Figure 3.15 PID n Bit Rate

			0	9		M	irar	ndja
			Ala	rms				
TS Bit R	ate T	R 101 29	0 IN1	I -> IN2				
Pa	arametei	r		INPUT			INPUT 2	2
Total TS Bit R	ate		Alar OFF	m <u>Level</u> OFF	Status	Alarm OFF	Level OFF	Status
PID 1 Bit Rate			ON	OFF		OFF	OFF	
PID 2 Bit Rate			OFF			OFF		
PID 3 Bit Rate			OFF			OFF		
PID 4 Bit Rate			OFF			OFF	OFF	
NULL PID Rate	2		ON	1		OFF		
			NULL F	PID Rate				
Input 1			NULL F	PID Rate				
Input 1	Level	1	NULL F	PID Rate	able L	.evel	OFF	•
Input 1	Level	1	NULL F	PID Rate	able L urrent: 5	.evel	OFF	Þps
Input 1 Enable Current Min:	Level :: 633,18	4	NULL F	PID Rate	able L urrent: 5 in: 0	.evel	OFF	
Input 1 Enable Current Min: Max:	Level :: 633,18 0 213000	4	NULL F	PID Rate	able L urrent: 5 in: 0 ax: 2	.evel i79,040	OFF	
Input 1 Enable Current Min: Max: Duration (Level = 633,18 0 213000 sec) 	4	bps bps	VID Rate	able L urrent: 5 in: 0 ax: 2 ion (sec	.evel	0FF 00 30	bps bps bps



TR 101 290 - 1.1 TS_sync_loss

This alarm is set if the transport stream synchronization is lost.

This is the same as the Transport Stream Presence error in the TS tab, and the Level is fixed to the value set there. It is shown here because it is included in the TR 101 290 set. Use the Enable checkbox to display the results of the test in this panel.

Note: When the Advanced Probing option is NOT enabled, some of these parameters are not measured, and they are grayed out in this display. These are noted individually in the discussions below.

SCO -1	421 [SLOT :	17]					-	. 🗆 🗙
)		M	irar	da
	1011 1012	1011 11012	Alarn	200				
	1	TD 404 000	AIdi I	115				
TS	Bit Rate	TK 101 290	IN1 -:	> IN2				
	Param	eter		INPUT 1			INPUT 2	
	0		Alarm	Level	Status	Alarm	Level	Status
1.1 1	S_SYNC_IOSS		ON	055		ON	066	
1.2 5	ync_byte_errol	r	ON	055		ON	055	
1.30	PAT_scrambili	ng_error	ON	055		ON	066	
1.30	PAI_tableId_e	ittot	ON	055		ON	055	
1.38	PAI_error_2		ON	066		ON	066	
1.4 0	ontinuity_cour	t_error	ON	055		ON	055	
1.54	PMI_error_2		ON	066		ON	066	
1.50	PMT_scrambli	ng_error	ON	055		ON	055	
1.0 P	ID_error		ON	011			055	
2.1 1	ransport_error		ON	055		ON	066	
2.2 0	RC_error		ON	055		ON	055	
2.38	PCR_Repetitio	n_error	ON	011		ON	066	
2.30	PCK_discontin	uity_indicator	UN	011		UN	011	
2.4 P	CR_accuracy_	error	UN	055		UN	055	
2.5 P	IS_Error		ON	011		UN	011	
2.6a	CAT_missing		UN	011		UN	011	
2.66	CAI_error		UN	066		UN	UFF	
		IS_syr	IC_loss					
Inp	Enable :			Input 2	blo -		0.00	
	Chable Lev	CEI UFF		Ena	Die [_evel	UFF	

Figure 3.17 1.1 TS_sync_loss

TR 101 290 - 1.2 Sync_byte_error

This alarm is set if the detected sync byte is not equal to 0x47.

The error will only be flagged if the error rate exceeds the tolerance set using the slider, over the range 0 to 100 errors/sec.

	SCO-14	21 [SLO T	: 17]						. 🗆 🗙	
				9)		M	irar	da	
				Alar	ms					
	TS	Bit Rate	TR 101 290	IN1	-> IN2					
		Param	otor		INPUT 1			INPUT 2		
		Falali	ietei	Alarm	Level	Status	Alarm	Level	Status	
	1.1 TS	_sync_loss		ON	OFF		ON	OFF		
	1.2 Syr	nc_byte_erro)r	ON	OFF		ON	OFF		
	1.3c P/	AT_scrambli	ing_error	ON	OFF		ON	OFF		
	1.3b P/	AT_tableId_	error	ON	OFF		ON	OFF		
	1.3a P/	AT_error_2		ON	OFF		ON	OFF		
	1.4 Co	ntinuity_cou	nt_error	ON	OFF		ON	OFF		
	1.5a PI	MT_error_2	ON	OFF		ON	OFF			
	1.5b PI	MT_scrambl	ON	OFF		ON	OFF			
_	1.6 PID	_error		ON	OFF		ON	OFF		
	2.1 Tra	nsport_error	ON	OFF		ON	OFF			
	2.2 CR	C_error	ON	OFF		ON	OFF			
	2.3a PI	CR_Repetiti	ON	OFF		ON	OFF			
	2.3b P	CR_disconti	nuity_indicator	ON	OFF		ON	OFF		
	2.4 PC	R_accuracy	_error	ON	OFF		ON	OFF		
	2.5 PT	S_Error		ON	OFF		ON	OFF		
	2.6a C)	AT_missing		ON	OFF		ON	OFF		
	2.6b C	AT_error		ON	OFF		ON	OFF		
			1.2 S	ync_b	yte_erro	л				
	Input	1 in able in the		_	Input 2	blo i		0.55		
		Le Le	-	e cha		Level	OFF	-		
	_ Tole	erance (erro	or/sec)	Tolerance (error/sec)						
	0 100						00			

Figure 3.18 1.2 Sync_byte_error

TR 101 290 – 1.3c PAT_scrambling_error

(Only available when the Advanced Probing option is enabled)

An error occurs if the scrambling_control_field is not 00 for the PAT PID (0x0000). An error is reported at the first scrambling error and the error will remain for few seconds... (2-3 sec.).

This error is Enabled using the checkbox, and the level set to 1, 2 or OFF using the pulldown.

	SCO-1421 [SLOT : 17]				_ 🗆 🗵
		90		Mir	anda
		Alarms			
	TS Bit Rate TR 101 290	IN1 -> II	N2		
	Parameter	Alarm I	PUT 1	INPL	JT 2
	1.1 TS sync loss	ON	OFF	ON C	FF
	1.2 Sync_byte_error	ON	OFF	ON C	IFF
	1.3c PAT_scrambling_error	ON	OFF	ON C	IFF
	1.3b PAT_tableId_error	ON	OFF	ON C	IFF
	1.3a PAT_error_2	ON	OFF	ON C	IFF
	1.4 Continuity_count_error	ON	OFF	ON C	IFF
	1.5a PMT_error_2	ON	OFF	ON C	IFF
	1.5b PMT_scrambling_error	ON	OFF	ON C	IFF
	1.6 PID_error	ON	OFF	ON C	IFF
Υ.	2.1 Transport_error	ON	OFF	ON C	IFF
	2.2 CRC_error	ON	OFF	ON C	FF
	2.3a PCR_Repetition_error	ON	OFF	ON C	IFF
	2.3b PCR_discontinuity_indicator	ON	OFF	ON C	FF
	2.4 PCR_accuracy_error	ON	OFF	ON C	IFF
	2.5 PTS_Error	ON	OFF	ON C	FF
	2.6a CAT_missing	ON	OFF	ON C	IFF
	2.6b CAT_error	ON	OFF	ON C	IFF
	1.3c PAT	_scramb	ling_error		
	Input 1 Enable Level OFF	• Int	out2 ⊈Enable [_evel OF	F V

Figure 3.19 1.3c PAT_scrambling_error

TR 101 290 – 1.3b PAT_tableId_error

(Only available when the Advanced Probing option is enabled)

An error occurs if a PID 0x0000 does not contain a table_id = 0x00 (i.e. a PAT). The error will be reported at the first wrong table_type and will remain for 2-3 sec.

 SCO-14	21 [SLOT :	: 17]						. 🗆 🗙
			9)		M	irar	da
			Alar	ms				
TS	Bit Rate	TR 101 290	IN1	> IN2				
	Param	otor		INPUT 1			INPUT 2	
	Falain	etei	Alarm	Level	Status	Alarm	Level	Status
1.1 TS	_sync_loss		ON	OFF		ON	OFF	
1.2 Syr	nc_byte_erro	r	ON	OFF		ON	OFF	
1.3¢ P/	AT_scrambli	ng_error	ON	OFF		ON	OFF	
1.35 P/	AT_tableId_	error	ON	OFF		ON	OFF	
1.3a P/	AT_error_2		ON	OFF		ON	OFF	
1.4 Cor	ntinuity_cou	nt_error	ON	OFF		ON	OFF	
1.5a Pl	MT_error_2		ON	OFF		ON	OFF	
1.55 PI	MT_scrambl	ON	OFF		ON	OFF		
1.6 PID	_error		ON	OFF		ON	OFF	
2.1 Tra	nsport_error		ON	OFF		ON	OFF	
2.2 CR	C_error		ON	OFF		ON	OFF	
2.3a P(CR_Repetitio	n_error	ON	OFF		ON	OFF	
2.35 P(CR_discontir	ON	OFF		ON	OFF		
2.4 PC	R_accuracy_	ON	OFF		ON	OFF		
2.5 PT	S_Error		ON	OFF		ON	OFF	
2.6a C/	AT_missing	ON	OFF		ON	OFF		
2.6b C/	AT_error	ON	OFF		ON	OFF		
		1.3b P.	AT_tal	bleid_er	гог			
∣⊓nput	1			Input 2				
E E	nable Le	•	🖌 Ena	ble j	Level	OFF	-	

Figure 3.20 1.3b PAT_tableId_error

TR 101 290 - 1.3a PAT_error_2

(Only available when the Advanced Probing option is enabled)

An error occurs if the PAT PID (0x0000) does not occur for at least the time specified by Repetition Rate slider. The error will remain for few seconds after the PAT returns.

This error is Enabled using the checkbox, and the level set to 1, 2 or OFF using the pulldown.

	SCO-1421 [SLOT : 17]					_	. 🗆 🗙
		9	0		M	irar	da
		Ala	rms				
	TS Bit Rate TR 101	290 IN	1 -> IN2				
	Parameter		INPUT 1	I		INPUT 2	
	i alameter	Ala	rm Level	Status	Alarm	Level	Status
	1.1 TS_sync_loss	ON	OFF		ON	OFF	
	1.2 Sync_byte_error	ON	OFF		ON	OFF	
	1.3c PAT_scrambling_error	ON	OFF		ON	OFF	
	1.3b PAT_tableId_error	ON	OFF		ON	OFF	
	1.3a PAT_error_2	ON	OFF		ON	OFF	
	1.4 Continuity_count_error	ON	OFF		ON	OFF	
	1.5a PMT_error_2	ON	OFF		ON	OFF	
	1.5b PMT_scrambling_error	ON	OFF		ON	OFF	
_	1.6 PID_error	ON	OFF		ON	OFF	
	2.1 Transport_error	ON	OFF		ON	OFF	
	2.2 CRC_error	ON	OFF		ON	OFF	
	2.3a PCR_Repetition_error	ON	OFF		ON	OFF	
	2.3b PCR_discontinuity_indic	ator ON	OFF		ON	OFF	
	2.4 PCR_acouracy_error	ON	OFF		ON	OFF	
	2.5 PTS_Error	ON	OFF		ON	OFF	
	2.6a CAT_missing	ON	OFF		ON	OFF	
	2.6b CAT_error	ON	OFF		ON	OFF	
		1.3a PA1	[_error_2	2			
	Input 1		Input 2-				
	Enable Level Of	F 🔻	Ena	ible [.evel	OFF	-
	- PAT Repetition Rate (mse	ec) —	E PAT R	epetitio	n Rate	(msec)	
		500		000 000 50		500	
	·						

Figure 3.21 1.3a PAT_error_2

TR 101 290 – 1.4 Continuity_count_error

This parameter combines three separate checks – incorrect packet order; lost packet; and multiple packet occurrences.

• Note that only PIDs that are part of the services selected for probing will be verified. Other PIDs in the stream will not be checked.

An error will only be flagged if the error rate exceeds the tolerance set using the slider, over the range 0 to 100 errors/sec.



Figure 3.22 1.4 Continuity_count_error

TR 101 290 - 1.5a PMT_error_2

(Only available when the Advanced Probing option is enabled)

This error occurs if a PMT that is part of a service selected for probing (see TS tab...) is not present for the time specified by the Repetition Rate slider.

This error is Enabled using the checkbox, and the level set to 1, 2 or OFF using the pulldown.

Mirrordo Mirrordo Asin Asiz Alarms INPUT 1 INPUT 2 INPUT 1 INPUT 2 Alarm Level Status Alarm Level Status 1.1 TS_syno_loss ON OFF ON OFF 1.2 Syno_byte_error ON OFF ON OFF 1.3 o PAT_sotambling_error ON OFF ON OFF 1.3 o PAT_sotambling_error ON OFF ON OFF 1.4 Continuity_count_error ON OFF ON OFF 1.5 D PMT_sotambling_error ON OFF ON OFF 1.5 D PMT_error_2 ON OFF ON OFF 1.6 PID_error ON OFF ON OFF 2.2 C RCQ_error ON OFF ON OFF 2.3 PCR_Repetition_error ON OFF ON OFF 2.4 PCR_acouracy_error ON OFF ON OFF 2.5 PCR_discontinuity_indicator ON OFF		SCO-1421 [SLOT : 17]						. 🗆 🗵
Alarms TS Bit Rate TR 101 290 INPUT 1 INPUT 2 Alarm Level Status Alarm Level Status Parameter INPUT 1 INPUT 2 Alarm Level Status Alarm Level Status 1.1 TS_sync_loss ON OFF ON OFF 1.2 Sync_byte_error ON OFF ON OFF 1.3 PAT_sotambling_error ON OFF ON OFF 1.3 PAT_error_2 ON OFF ON OFF 1.4 Continuity_count_error ON OFF ON OFF 1.5 PMT_sorambling_error ON OFF ON OFF 1.5 PMT_sorambling_error ON OFF ON OFF 2.1 Transport_error ON OFF ON OFF 2.3 PCR_Repetition_error ON OFF ON OFF 2.4 PCR_acouracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF ON OFF <			9)		M	irar	d)a
TS Bit Rate TR 101 290 IN1→ IN2 Parameter INPUT 1 INPUT 2 Alarm Level Status Alarm Level Status 1.1 TS_syno_loss ON OFF ON OFF 1.2 Syno_byte_error ON OFF ON OFF 1.3 PAT_sorambling_error ON OFF ON OFF 1.3 PAT_sorambling_error ON OFF ON OFF 1.3 PAT_sorambling_error ON OFF ON OFF 1.4 Continuity_count_error ON OFF ON OFF 1.5 PMT_error_2 ON OFF ON OFF 1.6 PID_error ON OFF ON OFF 2.1 Transport_error ON OFF ON OFF 2.3 PCR_depetition_error ON OFF ON OFF 2.4 PCR_acouracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6 CAT_missing ON OFF ON OFF 2.8 DCA_terror ON OFF ON OFF 2.8 DCA_terror ON OFF ON OFF 2.8 DCA_terror ON			Alar	ms				
Parameter INPUT 1 INPUT 2 Alarm Level Status Alarm Level Status 1.1 TS_sync_loss ON OFF ON OFF ON OFF 1.2 Sync_byte_error ON OFF ON OFF ON OFF 1.3 PAT_sorambling_error ON OFF ON OFF ON OFF 1.3 PAT_sorambling_error ON OFF ON OFF ON OFF 1.4 Continuity_count_error ON OFF ON OFF ON OFF 1.5 PMT_error_2 ON OFF ON OFF ON OFF 1.5 PMT_sorambling_error ON OFF ON OFF 1.5 PID_error ON OFF ON OFF 2.1 Transport_error ON OFF ON OFF 2.3 PCR_depetition_error ON OFF ON OFF 2.4 PCR_accuracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6 CAT_missing ON OFF ON OFF 2.6 CAT_error ON OFF ON OFF 2.8 DAT_error		TS Bit Rate TR 101 290	IN1	> IN2				
1.1 TS_syno_loss ON OFF ON OFF 1.2 Syno_byte_error ON OFF ON OFF 1.3 o PAT_sotambling_error ON OFF ON OFF 1.3 b PAT_tableld_error ON OFF ON OFF 1.3 b PAT_sotambling_error ON OFF ON OFF 1.3 b PAT_tableld_error ON OFF ON OFF 1.3 b PAT_start Ont OFF ON OFF 1.4 Continuity_count_error ON OFF ON OFF 1.6 b PMT_sorambling_error ON OFF ON OFF 1.6 b PMT_sorambling_error ON OFF ON OFF 2.1 Transport_error ON OFF ON OFF 2.2 CRC_error ON OFF ON OFF 2.3 PCR_depetition_error ON OFF ON OFF 2.4 PCR_ascouracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6 CAT_missing ON OFF ON OFF 2.6 CAT_error ON OFF ON OFF 2.6 DAT_error ON OFF ON <td></td> <td>Parameter</td> <td>A1</td> <td>INPUT 1</td> <td>Chatura</td> <td>Alarm</td> <td>INPUT 2</td> <td>Chatura</td>		Parameter	A1	INPUT 1	Chatura	Alarm	INPUT 2	Chatura
1.2 Syno_byte_error ON OFF ON OFF 1.3 o PAT_sorambling_error ON OFF ON OFF 1.3 b PAT_tableId_error ON OFF ON OFF 1.3 b PAT_sorambling_error ON OFF ON OFF 1.3 b PAT_sorambling_error ON OFF ON OFF 1.4 Continuity_count_error ON OFF ON OFF 1.5 D PMT_error_2 ON OFF ON OFF 1.5 PID_error ON OFF ON OFF 2.1 Transport_error ON OFF ON OFF 2.2 CRC_error ON OFF ON OFF 2.3 PCR_Repetition_error ON OFF ON OFF 2.4 PCR_accuracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6 CAT_missing ON OFF ON OFF 2.8 CAT_error ON OFF ON OFF Input 1 Input 2 Input 2 Input 4 Input 4		1.1 TS sync loss	ON	OFF	Status	ON	OFF	Status
1.30 PAT_sorambling_error DN OFF DN OFF 1.30 PAT_sorambling_error DN OFF DN OFF 1.30 PAT_sorambling_error DN OFF DN OFF 1.3a PAT_error_2 ON OFF ON OFF 1.4C continuity_count_error ON OFF ON OFF 1.5a PMT_sorambling_error ON OFF ON OFF 1.6 PID_error ON OFF ON OFF 2.2 CRC_error ON OFF ON OFF 2.3a PCR_Repetition_error ON OFF ON OFF 2.3a PCR_depetition_error ON OFF ON OFF 2.3a PCR_depetition_error ON OFF ON OFF 2.3a PCR_depetition_error ON OFF ON OFF 2.3b PCR_discontinuity_indicator ON OFF ON OFF 2.5b CAT_error ON OFF ON OFF 2.6b CAT_error ON OFF ON OFF 1.fmut 1 Input 1 Input 2 Input 2 Input 2 Input 1 Enable Level OFF OFF <td></td> <td>1.2 Svnc byte error</td> <td>ON</td> <td>OFF</td> <td></td> <td>ON</td> <td>OFF</td> <td></td>		1.2 Svnc byte error	ON	OFF		ON	OFF	
1.3b PAT_tableId_error DN OFF ON OFF 1.3a PAT_error_2 ON OFF ON OFF 1.4 Continuity_count_error ON OFF ON OFF 1.4 Continuity_count_error ON OFF ON OFF 1.5b PMT_error_2 ON OFF ON OFF 1.5b PMT_strambling_error ON OFF ON OFF 1.5 PID_error ON OFF ON OFF 2.1 Transport_error ON OFF ON OFF 2.1 Transport_error ON OFF ON OFF 2.3a PCR_Repetition_error ON OFF ON OFF 2.3b PCR_apetition_error ON OFF ON OFF 2.4 PCR_acouracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6b CAT_error ON OFF ON OFF 1.bable Level OFF ON OFF Input1 Input2 PAT_Benetition_Bate (mset) PMT_Benetition_Bate (mset)		1.3c PAT_scrambling_error	ON	OFF		ON	OFF	
1.3a PAT_error_2 DN OFF DN OFF 1.4 Continuity_count_error DN OFF DN OFF 1.5a PMT_error_2 ON OFF DN OFF 1.5b PMT_scrambling_error ON OFF ON OFF 1.5b PMT_scrambling_error ON OFF ON OFF 1.5b PMT_scrambling_error ON OFF ON OFF 2.1 Transport_error ON OFF ON OFF 2.3 PCR_Repetition_error ON OFF ON OFF 2.4 PCR_acouracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6b CAT_missing ON OFF ON OFF 1.fout 1 Input 2 Input 2 Input 2 Input 4 Input 1 PMT Repetition Pate (meet) PMT Repetition Pate (meet) PMT Repetition Pate (meet)		1.3b PAT_tableId_error	ON	OFF		ON	OFF	
1.4 Continuity_count_error DN OFF ON OFF 1.5a PMT_error_2 ON OFF ON OFF 1.5b PMT_scrambling_error ON OFF ON OFF 1.5b PMT_scrambling_error ON OFF ON OFF 2.1 Transport_error ON OFF ON OFF 2.2 CRC_error ON OFF ON OFF 2.3a PCR_Repetition_error ON OFF ON OFF 2.3b PCR_discontinuity_indicator ON OFF ON OFF 2.4 PCR_acouracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6b CAT_error ON OFF ON OFF Input 1 Input 2 Input 2 Input 2 PMT Repetition Pate (meet) OFF OFF OFF		1.3a PAT_error_2	ON	OFF		ON	OFF	
1.5a PMT_error_2 ON OFF ON OFF 1.5b PMT_sorambling_error ON OFF ON OFF 1.5b PMT_sorambling_error ON OFF ON OFF 2.1 Transport_error ON OFF ON OFF 2.2 CRC_error ON OFF ON OFF 2.3a PCR_Repetition_error ON OFF ON OFF 2.3b PCR_discontinuity_indicator ON OFF ON OFF 2.4 PCR_accuracy_error ON OFF ON OFF 2.5b PCR_fiscontinuity_indicator ON OFF ON OFF 2.6b CAT_error ON OFF ON OFF 1.5a PMT_error_2 Input 1 Input 1 Input 2 Input 1 OFF OFF OFF PMT Repetition Pate (meet) OFF PMT Repetition Pate (meet)		1.4 Continuity_count_error	ON	OFF		ON	OFF	
1.5b PMT_scrambling_error ON OFF ON OFF 1.6 PID_error ON OFF ON OFF 2.1 Transport_error ON OFF ON OFF 2.2 CRC_error ON OFF ON OFF 2.3a PCR_Repetition_error ON OFF ON OFF 2.3a PCR_Repetition_error ON OFF ON OFF 2.3b PCR_discontinuity_indicator ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6a CAT_missing ON OFF ON OFF 2.6b CAT_error ON OFF ON OFF Input 1 Input 1 Input 2 Input 2 Input 4 PMI Repetition Pate (mser) OFF OFF OFF		1.5a PMT_error_2	ON	OFF		ON	OFF	
1.6 PID_error ON OFF ON OFF 2.1 Transport_error ON OFF ON OFF 2.2 CRC_error ON OFF ON OFF 2.3a PCR_Repetition_error ON OFF ON OFF 2.3b PCR_discontinuity_indicator ON OFF ON OFF 2.4 PCR_acouracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6a CAT_missing ON OFF ON OFF 2.6b CAT_error ON OFF ON OFF 1.5a PMT_error_2 Input 1 Input 2 Input 2 Input 1 Input 2 Input 2 Input 2		1.5b PMT_scrambling_error	ON	OFF		ON	OFF	
▼ 2.1 Transport_error ON OFF ON OFF 2.2 CRC_error ON OFF ON OFF 2.3a PCR_Repetition_error ON OFF ON OFF 2.3b PCR_discontinuity_indicator ON OFF ON OFF 2.4 PCR_acouracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6a CAT_missing ON OFF ON OFF 2.6b CAT_error ON OFF ON OFF Input1 Input2 Input2 Input2 Input2 PMT Repetition Pate (mser)		1.6 PID_error	ON	OFF		ON	OFF	
2.2 CRC_error ON OFF ON OFF 2.3a PCR_Repetition_error ON OFF ON OFF 2.3b PCR_discontinuity_indicator ON OFF ON OFF 2.4 PCR_acouracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6a CAT_missing ON OFF ON OFF 2.6b CAT_error ON OFF ON OFF Input 1 Input 2 Input 2 Input 2 Input 1 OFF OFF OFF PMT Repetition Rate (mser) PMT Repetition Rate (mser)	Υ	2.1 Transport_error	ON	OFF		ON	OFF	
2.3a PCR_Repetition_error ON OFF ON OFF 2.3b PCR_discontinuity_indicator ON OFF ON OFF 2.4 PCR_accuracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6a CAT_missing ON OFF ON OFF 2.6b CAT_error ON OFF ON OFF Input 1 Input 2 Input 2 Input 2 PMT Repetition Pate (meet) OFF OFF OFF		2.2 CRC_error	ON	OFF		ON	OFF	
2.3b PCR_discontinuity_indicator ON OFF ON OFF 2.4 PCR_acouracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6a CAT_missing ON OFF ON OFF 2.6b CAT_error ON OFF ON OFF 1.5a PMT_error_2 Input 1 Input 2 Input 2 PMT Repetition Rate (mser) - PMT Repetition Rate (mser) - PMT Repetition Rate (mser)		2.3a PCR_Repetition_error	ON	OFF		ON	OFF	
2.4 PCR_acouracy_error ON OFF ON OFF 2.5 PTS_Error ON OFF ON OFF 2.6 a CAT_missing ON OFF ON OFF 2.6 b CAT_error ON OFF ON OFF 2.6 b CAT_error ON OFF ON OFF 1.5a PMT_error_2 Input 1 Input 2 PMT Repetition Rate (mser) PMT Repetition Rate (mser)		2.3b PCR_discontinuity_indicator	ON	OFF		ON	OFF	
2.5 PTS_Error ON OFF ON OFF 2.6 a CAT_missing ON OFF ON OFF 2.6 b CAT_error ON OFF ON OFF 1.5a PMT_error_2 Input 1 Imput 2 Imput 2 Imput 3 Imput 4 Imput 4 Imput 4 Imput 5 Imput 6 Imput 7 Imput 7 Imput 8 Imput 9 <		2.4 PCR_accuracy_error	ON	OFF		ON	OFF	
2.6a CAT_missing ON OFF ON OFF 2.6b CAT_error ON OFF ON OFF 1.5a PMT_error_2 Input 1 Imput 2 PhtT Renetition Rate (mser)		2.5 PTS_Error	ON	OFF		ON	OFF	
2.6b CAT_error ON OFF ON OFF Input 1 Input 1 Input 2 Photo Photo Pho		2.6a CAT_missing	ON	OFF		ON	OFF	
I.5a PMT_error_2 Input 1 Imput 2 Imp		2.6b CAT_error	ON	OFF		ON	OFF	
Input 1 Pable Level OFF PMT Renetition Rate (msec) PMT Renetition Rate (msec)		1.5a	PMT_	_error_2	2			
PMT Repetition Rate (msec)		Input 1		Input 2				
- PMT Repetition Rate (msec) - PMT Repetition Rate (msec)		Enable Level OFF	•	🖌 Ena	ible L	.evel	OFF	-
		- PMT Repetition Rate (msec) -		- PMT R	epetitio	n Rate	(msec)	
		800 500		00.	ė.	-04	500	
		20 5000 500			ນ ັ 50	00 00	500	
		<u>L</u>						

Figure 3.23 1.5a PMT_error_2

TR 101 290 – 1.5b PMT_scrambling_error

(Only available when the Advanced Probing option is enabled)

An error occurs if the scrambling_control_field is not equal to 00 for all PIDs containing sections with table_id 0x02 (i.e. a PMT). Applies only to services selected for probing.

	SCO-14	21 [SLO T	: 17]						. 🗆 🗙
				9)			lirar	n d a
				Alar	ms				
	TS	Bit Rate	TR 101 290	IN1	-> IN2				
		Param	otor		INPUT 1			INPUT 2	
		Falali	letei	Alam	n Level	Status	Alarm	h Level	Status
	1.1 TS	_sync_loss		ON	OFF		ON	OFF	
	1.2 Syr	nc_byte_erro	r	ON	OFF		ON	OFF	
	1.3¢ P/	AT_scrambli	ng_error	ON	OFF		ON	OFF	
	1.3b P/	AT_tableId_	error	ON	OFF		ON	OFF	
	1.3a P/	AT_error_2		ON	OFF		ON	OFF	
	1.4 Co	ntinuity_cou	nt_error	ON	OFF		ON	OFF	
	1.5a PI	MT_error_2	ON	OFF		ON	OFF		
	1.5b PI	MT_scrambl	ing_error	ON	OFF		ON	OFF	
	1.6 PID_error 2.1 Transport_error			ON	OFF		ON	OFF	
				ON	OFF		ON	OFF	
	2.2 CR	2.2 CRC_error			OFF		ON	OFF	
	2.3a PI	CR_Repetiti	on_error	ON	OFF		ON	OFF	
	2.3b PI	2.3b PCR_discontinuity_indicator 2.4 PCR_accuracy_error			OFF		ON	OFF	
	2.4 PC				OFF		ON	OFF	
	2.5 PT	S_Error		ON	OFF		ON	OFF	
	2.6a C)	2.6a CAT_missing			OFF		ON	OFF	
	2.6b CAT_error			ON	OFF		ON	OFF	
	1.5b PM			_scra	mbling_	error			
	Input	1		Input 2					
	E E	inable Le	vel OFF	•	🖌 Ena	ble [_evel	OFF	-

Figure 3.24 1.5b PMT_scrambling_error

TR 101 290 - 1.6 PID_error

(Only available when the Advanced Probing option is enabled)

This error occurs when there are PIDs with no associated datastream

This is the same as the Service Presence error in the TS tab, and the Level is fixed to the value set there. It is shown here because it is included in the TR 101 290 set. Use the Enable checkbox to display the results of the test in this panel. Enabling the error here will update the status reporting and error counting

	SCO-1421 [SLO	T:17]						. 🗆 🗙
			90)		M	irar	da
			Alarr	ns				
	TS Bit Rate	TR 101 290	IN1 -	> IN2				
	Para	meter		INPUT 1			INPUT 2	
			Alarm	Level	Status	Alarm	Level	Status
	1.1 IS_sync_loss		UN	055		UN	011	
	1.2 Sync_byte_e	101	ON	055		ON	066	
	1.30 PAT_scram	oling_error	ON	055		ON	066	
	1.30 PAT_tablelo	_error	ON	055		ON	011	
	1.3a PAT_error_2	: 	ON	055		ON	066	
	1.4 Continuity_co	ount_error	ON	055		ON	055	
	1.5a Plot _enor_	ON	055		ON	055		
	1.6 PID_error		OFF		ON	OFF		
-	2.1 Transport err	07	ON	OFF		ON	OFF	
	2.2 CBC_error		ON	OFF		ON	OFF	
	2.3a PCR_Reneti	tion error	ON	OFF		ON	OFF	
	2.3b PCR discon	tinuity indicator	ON	OFF		ON	OFF	
	2.4 PCR accurac	v error	ON	OFF		ON	OFF	
	2.5 PTS Error	/	ON	OFF		ON	OFF	
	2.6a CAT_missing	9	ON	OFF		ON	OFF	
	2.6b CAT_error	-	ON	OFF		ON	OFF	
		1.	6 PID_	error				
	_Input 1			Input 2—				
	🖌 Enable L	evel OFF	-	🖌 Ena	ble [.evel	OFF	-

Figure 3.25 1.6 PID_error

TR 101 290 – 2.1 Transport_error

This parameter indicates that the transport error indicator in the TS header is set to "1"

An error will only be flagged if the error rate exceeds the tolerance set using the slider, over the range 0 to 100 errors/sec.

	500-14	21 [SLOT :	17]	~ ~				_	. 🗆 ×	
)		M	irar	da	
				A1						
		·1		Alarms						
	TS	Bit Rate	TR 101 290	IN1 -	> IN2					
		Param	eter		INPUT 1			INPUT 2		
	11 TS provider			Alarm	Level	Status	Alarm ON	Level	Status	
	1.2 Sync byte error			ON	OFF		ON	OFF		
	1.3c PAT scrambling error			ON	OFF		ON	OFF		
	1.3b PAT_tableId_error			ON	OFF		ON	OFF		
	1.3a P.	AT error 2		ON	OFF		ON	OFF		
	1.4 Continuity_count_error			ON	OFF		ON	OFF		
	1.5a PMT_error_2			ON	OFF		ON	OFF		
	1.5b PMT_scrambling_error			ON	OFF		ON	OFF		
	1.6 PID_error			ON	OFF		ON	OFF		
•	2.1 Transport_error			ON	OFF		ON	OFF		
	2.2 CRC_error			ON	OFF		ON	OFF		
	2.3a PCR_Repetition_error			ON	OFF		ON	OFF		
	2.3b P	CR_discontir	uity_indicator	ON	OFF		ON	OFF		
	2.4 PC	R_accuracy_	_error	ON	OFF		ON	OFF		
	2.5 PT	S_Error		ON	OFF		ON	OFF		
	2.6a C.	AT_missing		ON	OFF		ON	OFF		
	2.6b C	AT_error		ON	OFF		ON	OFF		
			2.1 T	ranspo	ort_erra	Л				
	Input	1			Input 2-					
		enable Lev	rel OFF	-	Ena	idle [.evel	OFF	-	
	_ Tole	erance (erro	r/sec) ———		- Tolera	nce (er	ror/sec) ——		
	00		0			20) 	-00	0		
		0 100			0	1	00			

Figure 3.26 2.1 Transport_error

TR 101 290 - 2.2 CRC_error

(Only available when the Advanced Probing option is enabled)

The CRC check for the CAT, PAT, PMT, NIT, EIT, SDT and TOT indicates whether the content of the corresponding table is corrupted. In this case no further error indication should be derived from the content of the corresponding table.

• Only PMTs belonging to probed services are checked.

An error will only be flagged if the error rate exceeds the tolerance set using the slider, over the range 0 to 100 errors/sec.

This error is Enabled using the checkbox, and the level set to 1, 2 or OFF using the pulldown.

	SCO-1421 [SLOT : 17]					_	. 🗆 🗙
		9	Ð		M	irar	da
		Alar	ms				
	TS Bit Rate TR 101 290	IN1	-> IN2				
	Parameter		INPUT 1			INPUT 2	
	i arameter	Alarr	n Level	Status	Alarm	Level	Status
	1.1 TS_sync_loss	ON	OFF		ON	OFF	
	1.2 Sync_byte_error	ON	OFF		ON	OFF	
	1.3c PAT_scrambling_error	ON	OFF		ON	OFF	
	1.3b PAT_tableId_error	ON	OFF		ON	OFF	
	1.3a PAT_error_2	ON	OFF		ON	OFF	
	1.4 Continuity_count_error	ON	OFF		ON	OFF	
	1.5a PMT_error_2	ON	OFF		ON	OFF	
	1.5b PMT_scrambling_error	ON	OFF		ON	OFF	
	1.6 PID_error	ON	OFF		ON	OFF	
Υ.	2.1 Transport_error	ON	OFF		ON	OFF	
	2.2 CRC_error	ON	OFF		ON	OFF	
	2.3a PCR_Repetition_error	ON	OFF		ON	OFF	
	2.3b PCR_discontinuity_indicator	ON	OFF		ON	OFF	
	2.4 PCR_accuracy_error	ON	OFF		ON	OFF	
	2.5 PTS_Error	ON	OFF		ON	OFF	
	2.6a CAT_missing	ON	OFF		ON	OFF	
	2.6b CAT_error	ON	OFF		ON	OFF	
	2.	2 CRC	_error				
	Input 1		_ Input 2 -				
	🖌 Enable Level OFF	-	🖌 Ena	ble L	.evel	OFF	-
	- Tolerance (error/sec)		- Tolera	nce í er	ror/sec	·)	
			00	ه) 1			
	8				_		

Figure 3.27 2.2 CRC_error

TR 101 290 – 2.3a PCR_Repetition_error

(Only available when the Advanced Probing option is enabled)

The PCRs are used to re-generate the local 27 MHz system clock. If the PCR do not arrive with sufficient regularity then this clock may jitter or drift. The receiver/decoder may even go out of lock. In DVB a repetition period of not more than 40 ms is recommended.

An error will only be flagged if the repetition rate exceeds the tolerance set using the slider, over the range 20 to 5000 msec.

	SCO-14	421 [SLOT	: 17]						. 🗆 🗡
				90)		M	irar	n d/a
				Alarn	ns				
	TS	Bit Rate	TR 101 290	IN1 -:	> IN2				
		Parameter			INPUT 1			INPUT 2	
	4 4 TC			Alarm	Level	Status	Alarm	Level	Status
	1.113	no hyto orro		ON	055		ON	055	
	1.2 Sy	AT corambli	-	ON	055		ON	055	
	1.3b PAT_tableId_error			ON	055		ON	055	
	1.30 P	AT_arror 2	enor	ON	OFF		ON	OFF	
	1.54 F	AT_enor_z	nt arrar	ON	055		ON	055	
	1.4 C0	MT error 2	nt_enor	ON	OFF		ON	OFF	
	1.5a T	1.5b PMT scrambling error			OFF		ON	OFF	
	1.6 PI	D error		ON	OFF		ON	OFF	
-	2.1 Tr	ansport error		ON	OFF		ON	OFF	
	2.2 CBC error			ON	OFF		ON	OFF	
	2.3a P	2.3a PCR Repetition error			OFF		ON	OFF	
	2.3b P	CR discontir	uity indicator	ON	OFF		ON	OFF	
	2.4 PC	R_accuracy	error	ON	OFF		ON	OFF	
	2.5 PT	S_Error	_	ON	OFF		ON	OFF	
	2.6a C	AT_missing		ON	OFF		ON	OFF	
	2.6b C	AT_error		ON	OFF		ON	OFF	
			2.3a PCF	R_Repe	tition_e	error			
	∣∏Input	t 1			Input 2-				
		Enable Lei	vel OFF	•	🖌 Ena	ble L	.evel	OFF	-
	- Rer	netition Rate	(msec)		Renetit	tion Rat	e (mse	<u>ر</u> ا	
		EX 500	100		00	<mark>500</mark>		100	_
	9	20 5000				50		100	

Figure 3.28 2.3a PCR_Repetition_error

TR 101 290 – 2.3b PCR_discontinuity_indicator

(Only available when the Advanced Probing option is enabled)

The PCR_discontinuity_indicator_error is set in the case that a discontinuity of the PCR values occurs that has not been signaled appropriately by the discontinuity indicator.

An error will only be flagged if the error rate exceeds the tolerance set using the slider, over the range 0 to 10 errors/sec.

This error is Enabled using the checkbox, and the level set to 1, 2 or OFF using the pulldown.

	SCO-1421 [SLOT : 17]						. 🗆 🗙	
		9)		M	irar	da	
		Alar	ms					
	TS Bit Rate TR 101 290	IN1	IN1 -> IN2					
	Parameter	Alarm	INPUT 1	Status	Alarm	INPUT 2	Status	
	1.1 TS sync loss	ON	OFF	Status	ON	OFF	Status	
	1.2 Svnc byte error	ON	OFF		ON	OFF	—	
	1.3c PAT_scrambling_error	ON	OFF		ON	OFF		
	1.3b PAT tableld error	ON	OFF		ON	OFF		
	1.3a PAT_error_2	ON	OFF		ON	OFF		
	1.4 Continuity_count_error	ON	OFF		ON	OFF		
	1.5a PMT_error_2	ON	OFF		ON	OFF		
	1.5b PMT_scrambling_error	ON	OFF		ON	OFF		
	1.6 PID_error	ON	OFF		ON	OFF		
-	2.1 Transport_error	ON	OFF		ON	OFF		
	2.2 CRC_error	ON	OFF		ON	OFF		
	2.3a PCR_Repetition_error	ON	OFF		ON	OFF		
	2.3b PCR_discontinuity_indicator	ON	OFF		ON	OFF		
	2.4 PCR_accuracy_error	ON	OFF		ON	OFF		
	2.5 PTS_Error	ON	OFF		ON	OFF		
	2.6a CAT_missing	ON	OFF		ON	OFF		
	2.6b CAT_error	ON	OFF		ON	OFF		
	2.3b PCR_d	liscon	tinuity_i	ndicat	DF			
	Input 1		Input 2					
	Enable Level OFF	•	🖌 Ena	ble [.evel	OFF	-	
	- Tolerance (error/sec)		– Tolera	nceíer	rorisec	i		
			00	S. 5	10	D		

Figure 3.29 2.3b PCR_discontinuity_indicator

TR 101 290 – 2.4 PCR_accuracy_error

(Only available when the Advanced Probing option is enabled)

The accuracy of ± 500 ns is intended to be sufficient for the color subcarrier to be synthesized from system clock.

This test should only be performed on a constant bitrate TS as defined in ISO/IEC 13818-1 [1] clause 2.1.7.

Further information on PCR jitter measurements is given in clause 5.3.2. and annex I of that document.

	SCO-14	421 [SLOT :	:17]						. 🗆 🗙
				90)		M	irar	da
				Alarr	ns				
	TS	Bit Rate	TR 101 290	IN1 -	> IN2				
		Param	otor		INPUT 1			INPUT 2	
		Falain	etei	Alarm	Level	Status	Alarm	Level	Status
	1.1 TS	_sync_loss		ON	OFF		ON	OFF	
	1.2 Sy	nc_byte_erro	r	ON	OFF		ON	OFF	
	1.3c P	AT_scrambli	ng_error	ON	OFF		ON	OFF	
	1.3b P	AT_tableId_e	error	ON	OFF		ON	OFF	
	1.3a P	AT_error_2		ON	OFF		ON	OFF	
	1.4 Co	ntinuity_cour	nt_error	ON	OFF		ON	OFF	
	1.5a P	MT_error_2		ON	OFF		ON	OFF	
	1.5b P	1.5b PMT_scrambling_error			OFF		ON	OFF	
	1.6 PI	D_error		ON	OFF		ON	OFF	
×	2.1 Tra	ansport_error		ON	OFF		ON	OFF	
	2.2 CR	C_error		ON	OFF		ON	OFF	
	2.3a P	CR_Repetitio	n_error	ON	OFF		ON	OFF	
	2.3b P	CR_discontin	uity_indicator	ON	OFF		ON	OFF	
	2.4 PC	R_accuracy_	error	ON	OFF		ON	OFF	
	2.5 PT	S_Error		ON	OFF		ON	OFF	
	2.6a C	AT_missing		ON	OFF		ON	OFF	
	2.6b C	AT_error		ON	OFF		ON	OFF	
	-		2.4 PCF	t_accu	racy_e	ггог			
	Input	:1			Input 2				
	1	Enable Lev	/el OFF	•	🖌 Ena	ble [.evel	OFF	-
	- PCF	RACCINSI			- PCR A	CC (ns	۱ —		
			00 500					600	
	90	20 1000	500			0 10	00	000	

Figure 3.30 2.4 PCR_accuracy_error

TR 101 290 - 2.5 PTS_Error

(Only available when the Advanced Probing option is enabled)

The Presentation Time Stamps (PTS) should occur at least every 700 ms. They are only accessible if the TS is not scrambled.

An error will only be flagged if the timeout period of the PTS exceeds the tolerance set using the slider, over the range 20 to 5000 msec.

This error is Enabled using the checkbox, and the level set to 1, 2 or OFF using the pulldown.

	500-14	21 [S LOT	17]		2		-		
	REM AS			90				Trar	i dja
				Alar	ms				
	TS	Bit Rate	TR 101 290	IN1	-> IN2				
		Param	otor		INPUT 1			INPUT 2	
		raram	etei	Alam	n Level	Status	Alarn	h Level	Status
	1.1 TS	_sync_loss		ON	OFF		ON	OFF	
	1.2 Syr	no_byte_erro	r	ON	OFF		ON	OFF	
	1.3c P/	AT_scrambli	ng_error	ON	OFF		ON	OFF	
	1.3b PAT_tableId_error			ON	OFF		ON	OFF	
	1.3a PAT_error_2			ON	OFF		ON	OFF	
	1.4 Co	ntinuity_cou	nt_error	ON	OFF		ON	OFF	
	1.5a PMT_error_2			ON	OFF		ON	OFF	
	1.5b PMT_scrambling_error			ON	OFF		ON	OFF	
_	1.6 PID	_enor		ON	OFF		ON	OFF	
	2.1 Tra	insport_error		UN	011		UN	011	
	2.2 CR	C_error		ON	OFF		ON	OFF	
	2.3a Pi	CR_Repetitio	on_error	UN	011		UN	011	
	2.36 P	CR_discontii	uity_indicator	UN	011		UN	066	
	2.4 PC	R_accuracy	_error	UN	011		UN	011	
	2.5 FT	5_Enor		ON	000		ON	077	
	2.03 0	AT		ON	000		ON	000	
	2.00 C)	AI_enor	2		C		UN	OFF	
	-lesut	4	Ζ.	SPIS	_Error				
	E E	nable Le	vel OFF	-	Ena	ible L	.evel	OFF	•
	Repetition Rate (msec)				Repeti	tion Rat	te (ms	ec) 🥥 700	

Figure 3.31 2.5 PTS_Error

TR 101 290 – 2.6a CAT_missing

(Only available when the Advanced Probing option is enabled)

The CAT is the pointer to enable the IRD to find the EMMs associated with the CA system(s) that it uses. If the CAT is not present while there's at least one scrambled service present for the time specified by the Repetition Rate slider, an error will be reported. The error counter will increment every time NO CAT table is recognized for the repetition time specified by the slider.

	SCO-1421 [SLOT : 17]				_	
		00	9	M	iran	da
		Alar	ms			
	TS Bit Rate TR 101 29	90 IN1	-> IN2			
	Parameter	Alam	INPUT 1	Alarm	INPUT 2	tatus
	1.1 TS_sync_loss	ON	OFF	ON	OFF	
	1.2 Sync_byte_error	ON	OFF	ON	OFF	
	1.3c PAT_scrambling_error	ON	OFF	ON	OFF	
	1.3b PAT_tableId_error	ON	OFF	ON	OFF	
	1.3a PAT_error_2	ON	OFF	ON	OFF	
	1.4 Continuity_count_error	ON	OFF	ON	OFF	
	1.5a PMT_error_2	ON	OFF	ON	OFF	
	1.5b PMT_scrambling_error	ON	OFF	ON	OFF	
	1.6 PID_error	ON	OFF	ON	OFF	
•	2.1 Transport_error	ON	OFF	ON	OFF	
	2.2 CRC_error	ON	OFF	ON	OFF	
	2.3a PCR_Repetition_error	ON	OFF	ON	OFF	
	2.3b PCR_discontinuity_indicat	tor ON	OFF	ON	OFF	
	2.4 PCR_accuracy_error	ON	OFF	ON	OFF	
	2.5 PTS_Error	ON	OFF	ON	OFF	
	2.6a CAT_missing	ON	OFF	ON	OFF	
	2.6b CAT_error	ON	OFF	ON	OFF	
	2	.6a CAT_	_missing			
	Input 1 Pable Level OFF Repetition Rate (msec) 20 5000 20 10	•	Repetition R	Level ate (mse	OFF () 1000	 Image: A state of the state of

Figure 3.32 2.6a CAT_missing

TR 101 290 - 2.6b CAT_error

(Only available when the Advanced Probing option is enabled)

This alarm is triggered when a section with table_id other than 0x01 (i.e. not a CAT) is found on PID 0x0001, which is reserved for CAT tables. The LED turns RED each time this condition is encountered and remains RED for few seconds.

This error is Enabled using the checkbox, and the level set to 1, 2 or OFF using the pulldown.

	SCO-1421 [SLOT : 12]					_	
		96)		M	iran	da
	ASI input 2: Input presence not activ	/e. Ölarm					
		Alam	15				
	TS Bit Rate TR 101 290	IN1->	IN2				1
	Parameter		NPUT 1			INPUT 2	
	1 1 TS some loss	Alarm ON	OFF	Status	Alarm ON	Level St	tatus
	12 Sync byte error	ON	OFF		ON	OFF	
	1.3c PAT scrambling error	ON	OFF		ON	OFF	
	1.3b PAT tableld error	ON	OFF		ON	OFF	
	1.3a PAT_error_2	ON	OFF		ON	OFF	
	1.4 Continuity_count_error	ON	OFF		ON	OFF	
	1.5a PMT_error_2	ON	OFF		ON	OFF	
	1.5b PMT_scrambling_error	ON	OFF		ON	OFF	
	1.6 PID_error	ON	OFF		ON	OFF	
Υ.	2.1 Transport_error	ON	OFF		ON	OFF	
	2.2 CRC_error	ON	OFF		ON	OFF	
	2.3a PCR_Repetition_error	ON	OFF		ON	OFF	
	2.3b PCR_discontinuity_indicator	ON	OFF		ON	OFF	
	2.4 PCR_accuracy_error	ON	OFF		ON	OFF	
	2.5 PTS_Error	ON	OFF		ON	OFF	
	2.6a CAT_missing	OFF	OFF		OFF	OFF	
	2.6b CAT_error	ON	1		OFF	OFF	
	2.6	ib CAT_	error				
	Input 1 Enable Level 1	-	nput 2 Ena	ble L	.evel	OFF	•
	p						

Figure 3.33 2.6b CAT_error

In1->In2

Click the checkbox to force all alarm parameters for input 2 to match those set for input 1.

- When this is selected, only one set of alarm parameters is displayed for both inputs.
- When the checkbox is deselected, the alarm parameters for input 2 revert to their previous values, i.e. as they were before the checkbox was selected.
- When the checkbox is clicked, a confirmation dialog appears.

🚥 SCO-1421 [SLOT :	17]	_
Switch	999 30 0960	Miranda
Preview Output	KEM ASH ASIZ ASH ASIZ	
Alarms	Alarms	
	TS Bit Rate TR 101 290 IN1 -> IN2	
Probing		
	Input 1 settings apply on Input 2	

Figure 3.34 IN1 → IN2 alarm configuration

3.5.5 The Probing panel

3.5.5.1 TS tab

In this panel, view the status of the transport stream on each of the two inputs, and a list of all 12 services available to probe on each input.

Input Status: The status of the transport stream on each input is indicated by these parameters:

- TS Presence: Status icon Green if a valid service TS is present at the input
- TS Packet Size: equal to 188 or 204 bytes, depending on the transport stream
- TS Total Bit Rate: in Mbps
- System Type: ATSC, DVB, ISO13818-1
- Transport_ID: Any ID value from 0x0000 to 0xFFFF

Probed Services: Shows a list of all 12 services that have been probed from among the many that may be available in the transport stream

SCO-1421 [SLOT	: 17]			
Switch			0	Miranda
Preview Output		Pro	obing	
Alarms	TS Tables	PID Pie Chart	TR 101 290	
Probing				
	Inp	out 1	Inp	ut 2
	Input Status		Input Status	
	TS Presence	O	TS Presence	•
	TS Packet Size	188	TS Packet Size	188
	TS Total Bit Rate	19.393Mbps	TS Total Bit Rate	19.393Mbps
	System Type	DVB	System Type	ATSC
	Transport ID	3089 (0C11H)	Transport ID	17509 (4465H)
	Probed Services		Probed Services	
	Service 1:		Service 1:	
	Service 2:		Service 2:	
Options	Service 3:		Service 3:	
	Service 4:		Service 4:	
	Service 5:		Service 5:	
Factory / Presets	Service 6:		Service 6:	
	Service 7:		Service 7:	
Alarm config	Service 8:		Service 8:	
riann config.	Service 9:		Service 9:	
Info	Service 10:		Service 10:	
	Service 11:		Service 11:	
	Service 12:		Service 12:	

Figure 3.35 Probing – TS panel

3.5.5.2 Tables tab

Sub-tabs give access to tree diagrams of the transport stream for each input

Click on the + and – boxes to expand or contract the display, in order to view the information of interest.



Figure 3.36 Probing - Tables panel

3.5.5.3 PID tab

The panel displays a list of all PIDs in the services selected for probing within the transport stream. A status icon is shown for the service itself, to the right of the service name, and an icon is shown for each PID.

• Green if present, red if absent

	SCO-1421 [SLOT :	4]	
	Switch	<u>ଲ୍ଲ୍ର୍ର୍</u> କୁକ୍ଟ୍ର୍ କୁକ୍ର୍ର୍ର୍ର୍ର୍ର୍ର୍ର୍ର୍ର୍ର୍ର୍ର୍ର୍ର୍ର୍ର୍ର୍	🔂 Miranda
	Preview Output		
	Alarms	Pro	bing
	Probing	TS Tables Piv Pie Chart	TR 101 290
		Presence	
		Input 1	Input 2
		FID KETR-DT (3)	KFTR-DT (3)
		-[0030H] (PMT)	
		-[0031H] (MPEG-2 Video)	-[0031H] (MPEG-2 Video)
		-[0034H] (AC3 Audio)	F[0034H] (AC3 Audio)
ľ			
	Uptions		
	Factory / Presets		
	Alarm config.		
	Info		
		P	

Figure 3.37 Probing – PID panel

3.5.5.4 Pie Chart tab

(Only available when the Advanced Probing option is enabled)

This tab displays the incoming service in the form of a pie chart, with color-coded segments representing the various elements in the service.

- This representation illustrates the bandwidth distribution within the probed services.
- The bitrate of other, non-probed PIDs, as well as the total bitrate, is shown at the bottom of the panel.

The table below the chart shows all of the elements, identifying each by name, PID and bandwidth.

Click on a name in the table, and the corresponding slice of the pie will slide out from the chart

Mouse-over a slice and the associated Program Name will pop up.



3.38 Probing - Pie Chart panel

3.5.5.5 TR 101 290 tab

This tab shows the current status of each of the tests against the TR 101 290 standard (green or red status indicator, plus error message), plus the number of errors that have occurred since the counter was last reset.

Use the tabs to view the results for inputs 1 and 2.

Click the Reset button to reset the counters to zero and clear the error messages.

Note: When the Advanced Probing option is NOT enabled, some of these parameters are not measured, and they are grayed out in this display.

Switch)ĐS	🔂 Miran	g			
Preview Outp	t	۷					
		Pro	bing				
Alarms	TS Tables PID	Pie Chart	TR 101 290				
Probing		ine ondie	1				
-	Input 1 Input 2						
		Pric	prity1				
	Name	Count	Error Message	Ala			
	1.1 TS_sync_loss	1	No 0x47 detected for 5 consecut				
	1.2 Sync_byte_error	1	Packet start not 0×47				
	1.3c PAT_scrambling_error	4568	PAT Scrambling Error				
	1.3b PAT_tableId_error	9137	PAT Table ID Error				
	1.3a PAT_error_2	13706	PAT Timeout Error				
	1.4 Continuity_count_error	7993665	Missing packets on PID [0031H]				
	1.5a PMT_error_2	2284	PMT Timeout Error PID (0030H)				
>	1.5b PMT_scrambling_error	5710	PMT Scrambling Error PID [003				
	1.6 PID_error	0					
		Priority2					
	Name	Count	Error Message	Ala			
Uptions	2.1 Transport_error	19995	Packets with transport errors on P				
	2.2 CRC_error	0					
	2.3a PCR_Repetition_error	598528	PCR Rep. Error PID: [0031H]				
Factory / Pre	ts 2.3b PCR_discontinuity_ind	i 244409	PCR Disc. Error PID: [0031H]				
	2.4 PCR_accuracy_error	25994	500 ns on PCR PID [0031H]				
	2.5 PTS_Error	11422	No PTS for 700 ms on PID [0031				
Alarm config	2.6a CAT_missing	82248	CAT Missing				
	2.6b CAT_error	7994	CAT Error				
Info	III I		·				
		Reset Counters					

3.39 Probing - TR 101 290 panel

3.5.6 The Options panel

Advanced Probing Option

This option activates the advanced probing feature of the SCO-1421, to supplement the standard transport stream probing included with the card.

To activate this option, you must

- Obtain a license key from Miranda Technologies Inc.
- Type the license key in the Enter Key box
- Click on ENABLE OPTION to enable the option's features.

The information window beneath the key entry box indicates whether the option is activated (green) or not (gray).

	SCO-1421 [SLOT :	17]
	Switch	
	Preview Output	REM ASH ASIZ ASH ASIZ
	Alarms	Options Advanced Probing Option
	Probing	SCO-1421-OPT-ADVP (Advanced Probing Option).
		This option is an add-on to the TS probing feature For additional details, please consult our Web site at http://www.miranda.com.
		To activate the option on this card, please contact Miranda Technologies Customer Service at +1-514-333-1772, and specify card serial number: 093701-00001001
Þ		Advanced Probing activation
		Enter key: Enable option
	Options	Advanced Probing is Activated
	Factory / Presets	
	Alarm config. Info	

Figure 3.40 Options panel

3.5.7 The Factory / Presets panel

The SCO-1421 maintains "Factory Default" settings in its memory, to which it can be restored at any time.

Click the *Load Factory* button to restore the card to its Factory default settings.

User Presets

The SCO-1421 has memory registers which can hold up to 5 sets of user-defined parameter settings.

• IP parameters are not included in the saved data

Select any one of the five presets using the pulldown list. The name of the currently-selected User Preset is shown on the pulldown icon (e.g. *User1*, *User2*,... *User5*)

- Click Load to load the contents of the selected User Preset into the SCO-1421. All parameter settings and values will be replaced by the contents of the selected User Preset.
- Click Save to store the current parameter settings and values from the SCO-1421 into the selected User Preset. The existing contents of the preset will be overwritten.

-	SCO-1421 [SLOT :	17]	
	Switch	⋑⋺⋺⋾⊙⊙⋺⋸⋳	Miranda
	Preview Output	REM ASH ASIZ ASH ASIZ	
	Alarms	Factory / Presets	
	Probing		
		Load Factory	
		User Presets	
		User1 🗨	
		Load Save	
Þ			
	Options		
	Eastany (Propote		
	ractory rieses	Profiles	
	Alarm config.		
	Info		

Figure 3.41 Factory / Presets panel

3.5.7.1 Profiles

This section provides the option to save and recover the entire card configuration (including user presets if desired) on an external disk, or to copy it to another SCO-1421 card.

site rame 2	Slot SC Save profile t	Card CO-1421 o disk	Firmware 100 Restore profile	Profile Current	Select	Transfer status
site rame 2	Slot Save profile t	Card CO-1421 o disk	Firmware 100 Restore profile	Profile Current	Select	Transfer status
rame 2	Save profile t	0-1421	100 Restore profile	Current		
	Save profile t	o disk	Restore profile			
				from disk		
site	Slot	Card	Firmware	Profile	Select 🗌 all	Transfer status
C_Tab7 2	sc	0-1421	100	Current		
18	SC	0-1421	100	Current		
2	SC	0-1421	100	Current		
2	SC	0-1421	100	Current		
2	su	20-1421	100	Current		
		Copy	Exit			
	C_Tab7 2 18 7 2 2	C_Tab7 2 SC 18 SC 7 2 SC 2 SC	C_Tab7 2 SCO-1421 18 SCO-1421 7 2 SCO-1421 2 SCO-1421 2 SCO-1421 Copy	C_Tab7 2 SCO-1421 100 18 SCO-1421 100 7 2 SCO-1421 100 2 SCO-1421 100 2 SCO-1421 100 Copy Exit	C_Tab7 2 SCO-1421 100 Current 18 SCO-1421 100 Current 7 2 SCO-1421 100 Current 2 SCO-1421 100 Current 2 SCO-1421 100 Current	C_Tab7 2 SCO-1421 100 Current

Click on the *Profiles* button at the bottom left corner of the control panel to open the Profile Copy window.

Figure 3.42 Profile Copy window

Copy Profile From:

This line shows this SCO-1421 card, and identifies it by App server, Densité frame and slot number, card type and firmware version.

The *Profile* column has a pulldown that allows you to select which profiles you will work with, and gives these choices:

• Current, User1, User2, User3, User4, User5

The *Select* column includes a checkbox, preselected as checked, to confirm that you want to work with the current card.

Save Profile to Disk ...

Click this button to open a Save dialog allowing you to specify a file name and location to which the selected profiles for this card will be saved.

Hint - It is a good idea to create a folder for these files, because they are not explicitly identified as SCO-1421 profiles, and will be difficult to find and identify if not clearly named and conveniently located.

- Click the save button once the name and location have been identified in the Save box
- If the file is saved correctly, the Transfer Status box on the right of the *Copy profile from* line will indicate *Succeeded* against a green background
- If the file was not saved for some reason, the Transfer Status box to the right of the *Copy profile from* line will indicate *Failed* against a red background

Restore profile from disk ...

Click this button to open an *Open* dialog box within which you can locate and select a valid SCO-1421 profile file.

- Click Open to read the contents of the file and to reconfigure this SCO-1421's profiles according to its contents
- While the reconfiguration is in progress, the Transfer Status box on the right of the *Copy profile from* line will indicate *Working* against a yellow background
- When the reconfiguration is complete, the Transfer Status box on the right of the Copy profile from line will indicate Succeeded against a green background

Note: There is no need to select a profile using the Profile pulldown (e.g. current, User1, etc.) when restoring a profile from disk. The profile selection is stored within the file.

Copy profile to section

This line shows other SCO-1421 cards that are available on the iControl network, each identified by App server, Densité frame and slot number, card type and firmware version.

The Profile column shows the same information as is shown for the current card in the Copy profile from line, i.e.

• Current, User1, User2, User3, User4, User5

Firmware	Profile	Select T
102	Current	
	Current User1	
Firmware	User2	Select 🗌 All
102	User3 V User4	Ľ
102	User5	

Figure 3.43 Select Profile to Copy

🕌 Save		X
Save In: 📑 Infrastructure		
🗂 Network Resources		ADX-3981-MCR feed 3 HMP-1801-ST_5.
Servers		🗋 AMX-1881-Studio 17_rack4 🗋 IRD-3802-STD-42
📑 Troublesha	ooting	DCO-1781-MCR_rack_7 🛛 IRD-3811-Studio
Video essences ADC-1101-63c.csv		DEC-1003-studio 24.csv 🛛 REF-1801-27a.csv
		FRS-1103-MCR_rack_4 SME-3131_MCR_
ADC-1721-	booth3.csv	SFRS-1801- MCR_rack_15
File Name: SCO-1421-Ra		ck102-MC
Files of Type: All Files		-
		Save Cancel

Figure 3.44 Save Profile to disk

🛓 Open		X
Look <u>i</u> n:	Infrastructure	
Network Resources Servers Troubleshooting		ADX-3981-MCR feed 3 HMP-1801-ST_5.0
		🗋 AMX-1881-Studio 17_rack4 🗋 IRD-3802-STD-42
		🗋 DCO-1781-MCR_rack_7 🛛 🗋 IRD-3811-Studio 7
📑 Video ess	ences	🗋 DEC-1003-studio 24.csv 🛛 🗋 REF-1801-27a.csv
ADC-1101	-63c.csv	🗋 FRS-1103-MCR_rack_4 🛛 🗋 SCO-1421-Rack1
ADC-1721	-booth3.csv	🗋 FRS-1801- MCR_rack_15 🛛 SME-3131_MCR_
•	0000000	
File <u>N</u> ame:	SCO-1421-Ra	ack102-MC
Files of <u>T</u> ype:	All Files	•
		Open Cancel

Figure 3.45 Open a profile file to restore profiles

The Select column includes a checkbox to identify which SCO-1421 cards you wish to copy profiles into from the current card.

• For convenience, a Select all checkbox is provided in the column header

Click Copy to copy the selected profiles from this card into the selected other SCO-1421 cards

- While the profile copy operation is in progress, the Transfer Status box on the right of the Copy profile to line will indicate Working against a yellow background
- When the profile copy operation is complete, the Transfer Status box on the right of the Copy profile to line will indicate Succeeded against a green background

3.5.8 The Alarm Config panel



This panel allows the alarm reporting of the SCO-1421 to be configured. The panel opens in a new window when the button is clicked, and can be resized if needed.

The panel is organized in columns.

Status/Name

This contains an expandable tree listing all the alarms reported by this SCO-1421 card.

Each alarm name includes an icon that shows its current status

The **Card LED**, **Overall alarm** and **GSM contribution** columns contain pulldown lists that allow the level of contribution of each individual alarm to the alarm named in the column heading to be set.

 Click on the icon to reveal the associated pulldown list of levels

Card LED

This column indicates the contribution of each individual alarm to the color indicated on the front-card-edge status LED.

Overall Alarm

This column allows configuration of the contribution of each individual alarm to the Overall Alarm associated with this card. The Overall Alarm is shown in the upper left corner of the iControl panel, and also appears at the bottom of the Status/Name column.

GSM Contribution

This column allows configuration of the contribution of each individual alarm to the GSM Alarm Status associated with this card. GSM is a dynamic register of all iControl system alarms, and is also an alarm provider for external applications. The possible values for this contribution are related to the Overall alarm contribution:

Status / Name	Card LEC	O Overall alarm	GSM contribution	Log ev
SC01421-127	Set all	Set all	Set all	r
General Alarms	Set all	Set all	Set all	r
- Manual Switch Mode	Critical	Disabled	Disabled	V
 Bypass Mode 	Critical	Disabled	Disabled	r
 Backup Input Used 	Critical	Disabled	Disabled	r
Probing Limits	Critical	Disabled	Disabled	r
Input 1 Alarms	Set all	Set all	Set all	r
- Onput 1 Global Level 1	I 🥥 Critical	Disabled	Disabled	r
Input 1 Global Level 2	2 🔵 Critical	Disabled	Disabled	r
Input 1 TS Signal Pre	sence 🔘 Critical	Disabled	Disabled	r
Input 1 TS_ID Mismat	tch 🔵 Critical	Disabled	Disabled	r
Input 1 PAT Presence	e N/A	Disabled	Disabled	r
Input 1 Service 1 Pres	sence N/A	Disabled	Disabled	Ľ
Input 1 Service 2 Pres	sence N/A	Disabled	Disabled	
Input 1 Service 3 Pres	sence N/A	Disabled	Disabled	Ľ
Input 1 Service 4 Pres	sence N/A	Disabled	Disabled	
Input 1 Service 5 Pres	sence N/A	Disabled	Disabled	
Input 1 Service 6 Pres	sence N/A	Disabled	Disabled	
Input 1 Service / Pres	conce IV/A	Disabled	Disabled Disabled	V
Input 1 Service 8 Pres	sence IWA	Disabled	Disabled	
Input 1 Service 3 Pres	sence N/A	Disabled	Disabled	
Input 1 Service 10 Pre	asence N/A	Disabled	Disabled	
Input 1 Service 12 Pro	sence N/A	Disabled	Disabled	
Input 1 1 1 TS sync (loss N/A	Disabled	Disabled Disabled	
Input 1 12 Sync, hyte	error N/A	Disabled	Disabled	
Input 1 1.2 Oyne_byte	ambling (N/A	Disabled	Disabled Disabled	
Input 1 1.3b PAT_tabl	eld_error N/A	Disabled	Disabled	ľ
Input 1 1 3a PAT_erro	or 2 N/A	Disabled	Disabled	ľ
Input 1 1 4 Continuity	count eiN/A	Disabled	Disabled	V
Input 1 1 5a PMT_err	or 2 N/A	Disabled	Disabled	ľ
Input 1 1.5b PMT_scr	ambling N/A	Disabled	Disabled	V
Input 1 1.6 PID error	N/A	Disabled	Disabled	V
Input 1 2.1 Transport	error N/A	Disabled	Disabled	V
Input 1 2.2 CRC_erro	r N/A	Disabled	Disabled	V
Input 1 2.3a PCR_Re	petition_{N/A	Disabled	Disabled	V
Input 1 2.3b PCR_dis	continuityN/A	Disabled	Disabled	r
 Input 1 2.4 PCR_acci 	uracy_errcN/A	Disabled	Disabled	V
 Input 1 2.5 PTS_Error 	r N/A	Disabled	Disabled	V
 Input 1 2.6a CAT_mis 	sing N/A	Disabled	Disabled	r
Input 1 2.6b CAT_erro	or N/A	Disabled	Disabled	V
 Input 1 SI Tables Pres 	sence N/A	Disabled	Disabled	V
 Input 1 Total TS Bit R: 	ate 🕘 Critical	Disabled	Disabled	r
Input 1 PID 1 Bit Rate	N/A	Disabled	Disabled	r
Input 1 PID 2 Bit Rate	N/A	Disabled	Disabled	r
 Input 1 PID 3 Bit Rate 	N/A	Disabled	Disabled	r
Input 1 Pid 4 Bit Rate	N/A	Disabled	Disabled	r
Input 1 Null PID Bit R	ate N/A	Disabled	Disabled	r
Input 2 Alarms	Set all	Set all	Set all	r
GPI Alarms	Set all	Set all	Set all	r
- GPI IN 1	N/A	Disabled	Disabled	r
GPLIN 2	N/A	Disabled	Disabled	
GPI Auto	N/A	Disabled	Disabled	
GPI Bypass	N/A	Disabled	Disabled	2
GPI Power Box	Critical	Disabled	Disabled	
Rear	N/A	Disabled	Disabled	
mput 1 Selected	IN/A	Disabled	Disabled	
Input 2 Selected Output (logut 1)	IN/A	Disabled	Disabled	2
Output (Input 1) Output (Input 1)	IN/A	IN/A	Disabled	
Switch Mode (Manual) Draview Output (1:15)	N/A	N/A	Disabled	2
Cord LED	N/A	Pacethrough	Disabled Disabled	V
	NVA	rassurough N/A	Pasetbrough	P
Uverall	IWA	INIA	- rassurough	Ľ

Figure 3.46 Alarm Configuration Panel

- If the Overall alarm contribution is selected as Disabled, the GSM alarm contribution can be set to any available value
- If the Overall alarm contribution is selected as any level other than disabled, the GSM contribution is forced to follow the Overall Alarm.

Levels associated with these alarms: The pulldown lists may contain some or all of the following options: Ŧ Disabled The alarm makes no contribution (black icon) Ŧ Minor The alarm is of minor importance (yellow icon) Ŧ Major The alarm is of major importance (orange icon) Critical • The alarm is of critical importance (red icon) Passthrough 🔻 The alarm exists but has no effect (used for text and composite alarms)

Shortcut: if you click in one of the Set All boxes beside a section heading, you will open a pulldown that lets you assign a level to all alarms in that section of the column simultaneously.

Log Events

iControl maintains a log of alarm events associated with the card. The log is useful for troubleshooting and identifying event sequences. Click in the checkbox to enable logging of alarm events for each individual alarm.

At the bottom of the window are several other controls

Overall alarm and GSM contribution follow card LED

Click in the checkbox to force the Overall alarm and GSM contribution to be identical to the Card LED status

- All Overall alarms and GSM contributions for which there is a Card LED alarm will be forced to match the Card LED alarm
- All Overall Alarms and GSM contributions for which there is no Card LED alarm will be forced to Disabled

A warning box will open allowing you to confirm the action, since it will result in changes to the configuration and there is no *undo* function.



Figure 3.47 Warning for Follow LED change

Copy to other cards

Click this button to open a panel that allows the alarm configuration set for this card to be copied into another SCO-1421 card.

- Select one or more destination cards from the list in the window by clicking in the checkboxes, or all of them by clicking in the *All* checkbox
- Note that when you do a Copy Profile for this card (see Sect. 3.5.7.1), the alarm configuration is copied along with all the other settings.

Label	App. Server	Frame	Slot		Transfer s.	
3CO-1421	m200	Seb_labC	2			
3CO-1421	AppServer	Steph	18			
3CO-1421	AppServer	Seb_tab7	2			
3CO-1421	10.0.6.206	chantal	2			
Copy Stop Copy						



Get alarm keys

Click this button to open a save dialog where you can save a file containing a list of all alarms on this card and their current values, along with an Alarm Key for each. The alarm keys are useful for system integration and troubleshooting.

• The file is saved in .csv format

Save <u>i</u> n: 📑 Infra	astructure	
rk Resources	ADX-3981-MCR feed 3	HMP-1801-ST_5.csv
s	🗋 AMX-1881-Studio 17_rack	4 🗋 IRD-3802-STD-42 profiles
eshooting	DCO-1781-MCR_rack_7	🗋 IRD-3811-Studio 7_rack_2
essences	DEC-1003-studio 24.csv	REF-1801-27a.csv
101-63c.csv	FRS-1103-MCR_rack_4	SCO-1421-Rack102-MC
721-booth3.csv	SFRS-1801- MCR_rack_15	SME-3131_MCR_RK017
4		
File <u>N</u> ame: SC	O-1421-Rack102-MC-keys	
Files of Type: Al	Files	-

Figure 3.49 Get Alarm Keys save dialog

OK, Apply, Cancel

- **OK** accepts the settings and closes the window once the card confirms that there are no errors.
- Apply accepts the settings, but leaves the window open
- Cancel closes the window without applying any changes, and leaves the previous settings intact.

3.5.9 The Info panel

When the SCO-1421 is included in an iControl environment, certain information about the card should be available to the iControl system. The user can enter labels and comments that will make this card easy to identify in a complex setup. This information is entered via the Info control panel. This panel also shows other information about the card.

Label:	type the label that appear for this SCO-1421 when it appears in iControl applications			

Short Label type the short-form label that iControl uses in some cases (8 characters) Source ID type a descriptive name for this SCO-1421

Comments: type any desired text

 SCO-1421 [SLOT :	17]				
Preview Output	REM ASI1 ASI2 ASI1 ASI2				
Alarms		Info			
Probing					
	Rear Type:	SCO-1421-DRP-R			
	Label:	SC0-1421			
	Short label:	SC0-1421			
	Source ID:				
	Device type:	SCO-1421			
	Comments:	ASI change over with built-in MPEG_TS probing.			
	Manufacturer:	Miranda Technologies Inc.			
	Vendor:	Miranda Technologies Inc.			
	Service version:	3.00			
Ontines		Details			
Options	Advanced	Remote system administration			
Factory / Presets					
Alarm config.					
Info					
]				

Figure 3.50 Info Panel

The remaining data boxes show manufacturing information about this card.

• Details...: Reports the Firmware version, service version, and panel version for this card



Figure 3.51 Details window

 Advanced...: Shows the Miranda LongID for this card. The Miranda LongID is the address of this SCO-1421 in the iControl network.

Advance	d 🛛
	Long ID: AppServer_LabC_1_labb_seb_Densite_SLOT_12_74
	ок

Figure 3.52 Advanced window

• Remote System Administration – opens the Joining Locators data box, which lists remote lookup services to which this SCO-1421 is registered.

Add: Force the iControl service for this SCO-1421 to register itself on a user-specified Jini lookup service, using the following syntax:

jini://<ip_address>

where <ip_address> is the ip address of the server running the lookup service

Enter the address in the Input data box. e.g.

Input		×
9	Enter a new locator's URL	
	jini://162.8.23.102	
	OK Cancel	

Joining Locators : SCO-1421	X
jini://162.8.23.102/	
Add Remove	

Figure 3.53 Joining Locators window

Remove: select one of the services listed in the window by clicking on it, and click *Remove* to delete it from the window. A Query window will open asking you to confirm the action.

Query	×
3	Remove a locator: jini://162.8.23.102/
	Yes <u>N</u> o

4 Specifications

ASI INPUTS (2)

SIGNAL DATA BIT RATE CABLE LENGTH TS PACKET LENGTH RETURN LOSS CONNECTORS

ASI OUTPUTS (2)

SIGNAL

RETURN LOSS JITTER CONNECTORS

GPI

GPI IN (4) GPI OUT (4)

ELECTRICAL

POWER

EN50083-9 (V2:3/98) DVB ASI 213 Mbps 300 m (985') Belden 1694A at 270Mbps 188/204 byte packets > 15dB up to 270Mbps BNC

Program and Preview outputs EN50083-9 (V2:3/98) DVB ASI > 15dB up to 270Mbps < 0.2 UI (0.74ns) pp BNC

Opto-isolated, contact closure to GND 75mA max, 28V max

8W



Global Level 2 for Input 2 Limitation Alarm GPI Power Alarm

ANNEX – SCO-1421 User Interface