

# IPQ1000 Media Stream Analyzer

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IPQ1000 Handheld MPEG analyzer optimized for ease of use

The IPQ1000 is a handheld MPEG transport stream analyzer focused on making video over IP more intuitive and easier to diagnose. Quick touchscreen selection of source data from ASI or IP can

be decoded and displayed on the LCD screen. Data is also available as MPEG tables in a tree view. Bandwidth is measured by PID, program, and stream. The IPQ1000 contains a comprehensive alarm engine based on the ETSI TR-101-290 and ATSC-A/78 standards.

An MPEG2 / H.264 decoder and Dolby D decoder provide audio and video to the internal LCD touchscreen and speakers for quick verification of your audio / video source.

Dual Ethernet ports for video over IP allows the device to be inserted in line with a suspected problem device. The IPQ1000 will identify all IP traffic by source IP address, destination IP address and destination port number.

### **Features:**

- Portable / Handheld design for easy troubleshooting in the field
- ASI ind IP inputs
- DVB, ATSC, DigiCipher II
- MPEG2 / H.264 Video decoder to verify contents on the LCD screen
- CEA-608 CEA-708 Closed Captioning
- PTP IEEE1588 display with network scan
- Alarms on all streams simultaneously
- can monitor both ASI and IP streams at the same time
- Auto discovery of all transport streams on both ASI and IP interfaces (no specific IP setup necessary)
- The device utilizes a 5" touch screen for its graphical interface to make setup and configuration more recognizable to video professionals.
- Unique hardware accelerated design allows for multi-stream alarm evaluation ATSC A/78 and ETSI TR-101-290.
- Internal rechargeable battery provides a runtime of over 5 hours under typical use.
- Updatable via the USB port
- NTP client to determine STT accuracy
- Dolby AC3 decoder
- AAC decoder
- Internal solid state data storage (256GB) for capture and playback
- Carrying Case

# Warranty

• Standard 2 year Tresent Technologies™ warranty, parts and labor



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1000 (1000 (1000 (1000)))	Details	Tables	Status	Alarms	Setup
Sour	ce	De	stinatio	n	Port
30.0.0		0.0	0.0.0		
3 10.5.	5.1	23	9.255.0.	17	1235
	_	Sta	tus	_	
_	IP Ba	Sta andwidth	tus n: 19.04	Mb/s	
	IP Ba ASI Ba	Sta andwidth andwidth	tus 1: 19.04 1: 19.79	Mb/s Mb/s	
	IP Ba ASI Ba	Sta andwidth andwidth	tus 1: 19.04 1: 19.79	Mb/s Mb/s	Setup
	IP Ba ASI Ba	Sta andwidth andwidth	tus 1: 19.04 1: 19.75	Mb/s Mb/s IGMP S	Setup
	IP Ba ASI Ba Sour	Sta andwidth andwidth rce Setup	tus h: 19.04 h: 19.79	Hb/s Mb/s IGMP S	Setup

#### irces Details Tables Status Alarms Setup PAT on PID 0 (0x0) @ MGT on PID 8187 (0x1ffb) PMT on PID 48 (0x30) PMT on PID 64 (0x40) STT on PID 8187 (0x1ffb) TVCT on PID 8187 (0x1ffb) O EITO Tables on PID 5000 (0x1388) EIT1 Tables on PID 5001 (0x1389) G EIT2 Tables on PID 5002 (0x138a) O EIT3 Tables on PID 5003 (0x138b) EIT4 Tables on PID 5004 (0x138c) O EIT5 Tables on PID 5005 (0x138d) O EIT6 Tables on PID 5006 (0x138e) O EIT7 Tables on PID 5007 (0x138f) ETTO Tables on PID 5128 (0x1408) ETT1 Tables on PID 5129 (0x1409) ETT2 Tables on PID 5130 (0x140a) ETT3 Tables on PID 5131 (0x140b) ETT4 Tables on PID 5132 (0x140c) ETT5 Tables on PID 5133 (0x140d) ETT6 Tables on PID 5134 (0x140e).

# Sources Tab:

Tables Tab:

The Tables Display lists all

selected transport stream.

Each table is expandable to list

the contents of each table. Just

of interest to expand the table.

touch anywhere on the table

The color of the table will

change to indicate that an

particular table.

alarm has triggered for that

tables contained in the

The Source Display lists all sources discovered by the IPQ1000. Select the source you want to view on the other tabs by touching the line item you are interested in. When selected, the source will be highlighted as seen here. The bandwidth for the interface (ASI or IP) can be seen at the bottom of the screen. Each source represents a separate transport stream that can be evaluated in the following tabs.

Drogt	DID		Tur	20		
	18 (0	-20)	DM	pe T		
<b>9</b> 1	40 (0	(30)	TTI	LT Pee	H 262	150/11
	49 (0x31) 52 (0x24)		ATCC AC 2 Audia			
	52 (0.	.25)	ATSC AC-3 Audio			
•	53 (0.	x35)	DM	SC AC-3	Audio	
<b>9</b> 2	65 (0	x40)	PIVI	I T Pee	11 262	100 /11
	69 (0	X41)	AT	SC AC 2	H.202	150/11
7:00 p	m	Toni	oht	8:00 p	m	-
Enterta	unment	loni	ght	NCIS	_	_
DECAL	DES			DECAE	DES	
Frank p	ushes to	have		op killer	brought	to
	but Erin		t dro	op the cl		

#### Guide Picture Setup

Sources	Det	ails		oles		Alarms	Setup
Prog#	PII	)		Ty	ре		
<b>B</b> 1	48	(0x	30)	PM	П		
	49	(0x	31)	ITU	J-T Rec.	H.262	ISO/IEC
	52	(0x	34)	AT	SC AC-3	Audio	
	53	(0x	35)	AT	SC AC-3	Audio	
8 2	64	(0x	40)	PM	Т		
	65	(0x	41)	ITU	J-T Rec.	H.262	ISO/IE0
	68	(0x	44)	AT	SC AC-3	Audio	

I MEAN I REALLY EMBRACE THE FACT THAT WE HAVE A PLATFORM, YOU KNOW, AS

Guide Picture Setur

PROFESSIONAL ATHLETE

# Details Tab:

The Details Display lists all available programs in the source selected in the sources tab. The bottom part of this display contains a second tab bar where you can choose to display an electronic program guide or the picture of the selected program.

# Guide Tab:

The IPQ1000 can show a guide generated from the tables. This display will show the channel name, events for each channel in their respective time slot, and the details of each event can be displayed by selecting the event of interest. The details will be displayed under the guide in the info box.

#### Picture Tab:

The picture can be display by selecting the program you want to view in the program list above the picture.

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Source	es D	etails	Table	s Sta	tus /	Marms	Setup
Table	PID	i.		BW(N	1b/s)	Update	eRate(1
PAT	0 (	0x0)		0.015	1	95	
MGT	818	7 (0x	1ffb)	0.040		90	
PMT1	48	(0x30)	)	0.005		380	
PMT2	64	(0x40)	)	0.003		379	
STT	818	7 (0x	1ffb)	0.040		864	
TVCT	818	7 (0x	1ffb)	0.040		289	
EITO	500	0 (0x	1388)	0.012		89	
EIT1	500	1 (0x)	1389)	0.000		504	
EIT2	500	2 (0x	138a)	0.006		2005	
EIT3	500	3 (0x	138b)	0.000		2004	
EIT4	500	4 (0x)	138c)	0.006		2004	
EIT5	500	5 (0x)	138d)	0.000		2005	
EIT6	500	6 (0x	138e)	0.006		2004	
EIT7	500	7 (0x	138f)	0.000		3003	
ETTO	512	8 (0x)	1408)	0.000		4664	
ETT1	512	9 (0x	1409)	0.000		2998	
ETT2	513	0 (0x	140a)	0.000		2998	
ETT3	513	1 (0x	140b)	0.000		2398	
ETT4	513	2 (0x	140c)	0.000		2665	
ETT5	513	3 (0x	140d)	0.000		2398	
ETT6	513	4 (0x	140e)	0.000		2398	
		BV	V	PCR	PTP		

## Bw Tab:

The Bw (bandwidth) Display lists all tables as well as PIDs found in the transport stream. Each item listed contains a bandwidth measurement. In addition, all tables list an update rate. This is an average of the last 10 times the table has been received. The bandwidth is displayed in units of Mb/s (megabits per second) and the Update Rate is in units of ms (milliseconds)

PID	Туре	Value	Max
48 (0x30)	Prog# 1 PMT		
49 (0x31)	PCR PID		
	PCR jitter(ns)	13	13
	PCR accuracy(ns)	-1	-1
	PCR Freq Err(Hz)	-12	-12
	PCR rep(ms)	33	34
54 (0x40)	Prog# 2 PMT		
55 (0x41)	PCR PID		
	PCR jitter(ns)	13	13
	PCR accuracy(ns)	-1	-1
	PCR Freq Err(Hz)	-12	-12
	PCR rep(ms)	33	36
✓ 10 mł	Iz 🗌 100 mHz 🗍	1 Hz R	eset

# PCR Tab:

The PCR Display shows jitter, accuracy, frequency error, and repetition rate for all PCR PIDs in the stream. Filters can be selected between 10mHz, 100mHz, and 1Hz. All measurements are based on TR101-290 specification

# Sources Details Tables Status Alarms Setup PTP Tab:

PTP Status
gm Present: true
gm ID: b4b52f.fffe.632201
gm IP Address: 10.5.5.2
gm MAC Address: b4:b5:2f:63:22:01
Offset: 1389.0
Path Delay: 59369.0
Current Time: 16 Nov 2015 16:58:44
PTP Network
Master Slave All
ID: 70b30d.fffe.503002 IP Address: 10.5.2.36 MAC Address: 70:b3:0d:50:30:02 Master Capable: False Version: 2 ID: 70b3d5.fffe.03000b IP Address: 10.5.5.198 MAC Address: 70:b3:d5:03:00:0b Master Capable: False Version: 2 ID: 70b3d5.fffe.030012 IP Address: 10.5.5.230

BW PCR PTP

The PTP Display shows all pertinant information on PTP contained on the network. Shows the grandmaster presence, ID and it's IP and MAC address. In addition the IPQ1000 scans the network to display all PTP masters and slaves including IP and MAC address.



ources De	tails Tab	les Status	Afarms	Setup
	Bat	ttery Status		
Capacity Time to C	harge: 0H	97% rs Omin		
		Status		
Board Ter CPU Tem Run Time SN:19011 MAC: 70: IP: 10.5.5 Options In IP Setup	nperature perature: ( : 18:38:18 50001 B3:D5:03: .96 astalled: C NTP Set	: 51°C 123 61°C 141°f 3 :00:0B Opt1 .up Abou	it Up	odate
		Storage		
Used:		5%		
	LC	D Backlight		
	C	PU Usage		
		and the second state of the second state		_

### Setup Tab:

The Status Display lists general status of the IPQ1000.

#### Battery Status:

The Battery Status bar indicates an estimate for the time to charge or discharge the battery depending on the presence of the external power supply. System Status:

The Status section displays some unit setting and also contains the setup for IP address, NTP server settings, an about box for version numbers,

and the update dialog for software updates.

#### Storage / LCD Status:

The Storage section displays the amount of internal storage that has been consumed. The LCD backlight brightness can be adjusted using the LCD Backlight slide bar.

### CPU Status:

The CPU Usage indicator gives a general idea of how much of the CPU capacity is being used.

Sources	Details	Tables Status Alarm	is Setur
Table	PID	Alarm	Coun
PAT	0	CRC Error	0
PAT	0	Table Error	0
PAT	0	Scramble Error	0
PAT	0	Multi Source PSI	0
PAT	0	Missing Error	0
PAT	0	Repetition >100ms	0
PAT	0	Repetition >200ms	0
STT	8187	CRC Error	0
STT	8187	Missing Error	0
STT	8187	Repetition >1000ms	0
STT	8187	Repetition >2000ms	0
MGT	8187	CRC Error	0
MGT	8187	Scramble Error	0
MGT	8187	Multi Source PSI	0
MGT	8187	Missing Error	0
MGT	8187	Repetition >150ms	0
MGT	8187	Repetition >300ms	0
TVCT	8187	CRC Error	0
	Sho	w Alarms	
Acti	ve 🗹 En	abled Show All	Reset
	1	Current Course	

Sources Det	ails Ta	bles Status Alarms Setup				
Ena Table	PID	Alarm				
PAT	-	CRC Error				
PAT		Table Error				
<b>PAT</b>		- Scramble Error				
✓ PAT		Multi Source PSI				
<b>PAT</b>	120	Missing Error				
PAT		Repetition >100ms				
<b>PAT</b>	-	Repetition >200ms				
PAT	-	PCR PID Missing				
CAT 🖉	-	CRC Error				
CAT	-	Table Error				
CAT		Scramble Error				
CAT		Multi Source PSI				
CAT		Missing Error				
TSDT		CRC Error				
TSDT	-	Table Error				
TSDT	-	Scramble Error				
TCDT		Multi Source DSI				
Clear All	Set A	All ATSC-78 TR101290 Recall Save				

# Alarms Tab:

The Alarms Display allows setup of the alarms as well as displays the active alarms. The alarms are based on the ATSC-A78 specification. Alarms are available for tables as well as the overall transport stream.
Alarms include checks for syntax and repetition of tables, CRC, continuity, and inter table consistency errors.

# Current Tab:

The Current Tab displays all active alarms (alarms that have exceeded their limits since the last time the alarm reset button was pressed)

# Setup Tab:

The Setup Tab lists all alarms and allows them to be enabled.

Clear All:

the Clear All button will disable all alarms.

### Set All:

the Set All button will enable all alarms.

ATSC-78:

The ATSC-78 button will set all

alarms to the ATSC-A78 specification. In addition, individual alarms can be selected by pressing the Ena (enable) checkbox.