

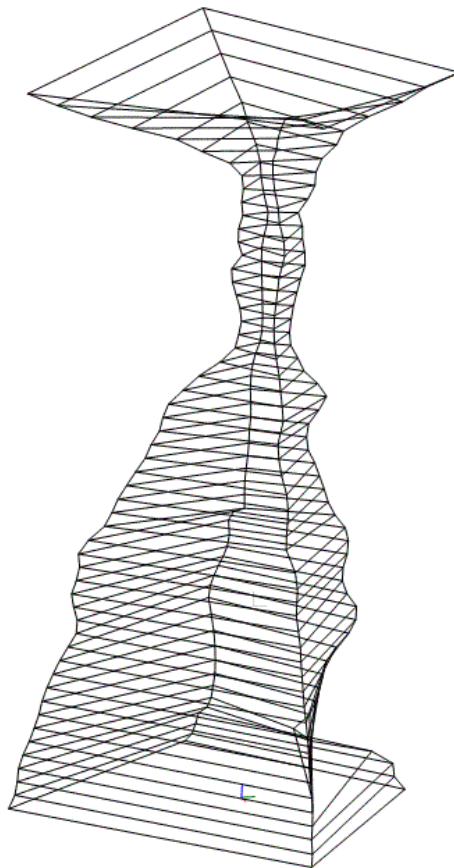


**Medtronic**

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# POLYGRAM NET™

Anorectal Function Testing Application



Reference Manual



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# Contents

<b>CONTENTS .....</b>	<b>3</b>
<b>ANORECTAL MANOMETRY .....</b>	<b>6</b>
INTRODUCTION .....	6
SYSTEM OVERVIEW .....	6
<b>ANORECTAL MANOMETRY CALCULATIONS.....</b>	<b>7</b>
MARKER CONCEPTS .....	7
<i>Analysis markers</i> .....	7
<i>Sub-markers</i> .....	7
<i>Events</i> .....	7
BASELINE .....	8
<i>Baseline Events</i> .....	8
BASELINE ANALYSIS .....	8
<i>Rectal Baseline Analysis</i> .....	8
<i>Autoset Baseline Analysis</i> .....	8
CATHETER INSERTION DEPTH .....	9
<i>Catheter Insertion Depth Event</i> .....	9
<i>Catheter Insertion Depth Analysis</i> .....	9
SENSORY THRESHOLD .....	9
REPORT CALCULATIONS.....	9
RESTING PRESSURE ANALYSIS MARKER.....	10
MARKER CALCULATIONS .....	10
REPORT CALCULATIONS.....	10
RAIR RELAXATION ANALYSIS MARKER .....	11
MARKER CALCULATIONS .....	11
<i>Relaxation Sub-marker</i> .....	12
CONTRACTION IDENTIFICATION ALGORITHM.....	12
<i>Relaxation Sub-marker Calculations</i> .....	12
REPORT CALCULATIONS.....	12
<i>Contraction Analysis Marker</i> .....	13
<i>Marker Calculations</i> .....	13
<i>Contraction Sub-marker</i> .....	13
CONTRACTION IDENTIFICATION ALGORITHM.....	14
<i>Contraction Sub-marker Calculations</i> .....	14
REPORT CALCULATIONS.....	15
CONTINUOUS PULL ANALYSIS MARKER .....	15
MARKER CALCULATIONS .....	16
<i>Sphincter and HPZ Sub-markers</i> .....	16
<i>Vector Volume</i> .....	19
REPORT CALCULATIONS.....	19
USER DEFINED ANALYSIS MARKERS .....	20
<i>Marker Calculations</i> .....	20
<i>Report Calculations</i> .....	20
APPENDIX A .....	21
<i>Contraction Identification Algorithm</i> .....	21
APPENDIX B .....	22

<i>Sphincter and HPZ Identification Algorithm</i> .....	22
<b>HOME PAGE</b> .....	<b>24</b>
GENERAL.....	24
<b>STUDIES</b> .....	<b>26</b>
STUDY MANAGER .....	26
<i>Study Details</i> .....	28
<i>Assign Patient</i> .....	29
<i>Create New Patient</i> .....	29
<i>Create New Study</i> .....	30
<i>Tool Area</i> .....	31
<b>PATIENTS</b> .....	<b>32</b>
PATIENT MANAGER.....	32
<i>Creating New Patient</i> .....	33
<i>Patient Details</i> .....	33
<i>Tool Area</i> .....	34
<b>PROTOCOL</b> .....	<b>35</b>
PROTOCOL MANAGER .....	35
<i>Create New Protocol</i> .....	36
<i>Protocol Details</i> .....	37
<i>Tool Area</i> .....	37
AFT — GENERAL SETTINGS.....	37
<i>Tool Area</i> .....	38
<i>Protocol Settings</i> .....	38
REPORT SETTINGS .....	49
<i>Analysis Tables</i> .....	49
<i>Traces</i> .....	50
<i>Questionnaire</i> .....	50
<i>Generic Elements</i> .....	50
<i>Generic Data Elements</i> .....	50
<i>Paper Settings</i> .....	51
QUESTIONNAIRE SETTINGS.....	52
<i>Generic Element Boxes</i> .....	53
<i>Tool Area</i> .....	53
<b>EQUIPMENT</b> .....	<b>54</b>
EQUIPMENT MANAGER.....	54
<i>Create New Equipment</i> .....	55
EQUIPMENT DETAILS.....	56
<i>Tool Area</i> .....	56
CONFIGURATION .....	56
<i>Tool Area</i> .....	57
PULLER CONFIGURATION .....	58
<i>Tool Area</i> .....	58
<b>PERSONNEL</b> .....	<b>59</b>
PERSONNEL MANAGER.....	59

<i>Creating New Personnel</i> .....	60
<i>Tool Area</i> .....	61
<b>ARCHIVES</b> .....	<b>62</b>
ARCHIVE MANAGER.....	62
<i>Create New Archive</i> .....	62
<i>Register Archive</i> .....	62
<i>Export</i> .....	62
<i>Tool Area</i> .....	63
<b>SETUP</b> .....	<b>64</b>
SETUP MANAGER .....	64
<i>Language</i> .....	64
<i>Extensions</i> .....	65
<b>INDEX</b> .....	<b>71</b>
<i>Service Centers</i> .....	72

# Anorectal Manometry

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## Introduction

The POLYGRAM NET™ Anorectal Function Testing (A.F.T.) Application is used to assess the function of the anorectal canal. Data are collected in the anorectal canal using sensors and a recording device, and then analyzed. The results are used to help diagnose pelvic floor function disorders. Furthermore, this application can be used to assess the function of other areas in the GI tract such as the esophagus, stomach, duodenum, Sphincter of Oddi, small bowel, and the colon.

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**NOTE** For the Intended Use, refer to the AFT User Guide

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**CAUTION** US law restricts this device to sale by or on the order of a physician.

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**CAUTION** Physicians should exercise diligence in their interpretation of results from this system. It is always advisable to check analysis results against the signal tracings when a major consequence such as surgery occurs as a result of an investigation.

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**WARNING** The device is not compatible for use in an MRI magnetic field.

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## System Overview

The POLYGRAM NET™ Application consists of a series of views, which will help you to configure all the necessary information to conduct a study allowing you to review the acquired data, and create study reports.

The following sections of this manual will describe in detail all the Anorectal Manometry analyses that can be made on data measured during Capture, and will guide you step by step through all the POLYGRAM NET™ views.

# *Anorectal Manometry Calculations*

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## **Marker Concepts**

- Markers are used to mark areas of interest in the recorded data either for further analysis or just for highlighting.
- Analysis produces either numeric values or other markers.
- Markers can be:
  - Global ( span several channels)
  - Local ( span only one channel)
- Markers are sub-divided into three categories:
  - Analysis Markers
  - Sub-markers
  - Events.

### *Analysis markers*

An Analysis Marker is a period of time in the recorded data; –i.e. it has a start- and an end time, and a duration.

### *Sub-markers*

A Sub-marker is, like an analysis marker, a period of time in the recorded data. However, a sub-marker exists only within the bounds of an analysis marker. It has a start and an end time, and duration.

### *Events*

An Event is a point in time in the recorded data. Contrary to analysis markers, an event has only a start time and no duration.

---

## Baseline

A *Baseline* is a relative zero level used for reference with a recording (usually with pressure recordings).

### *Baseline Events*

Baseline events are inserted by the user to define which type of baseline analysis is to be applied the recorded data from the event and until the next baseline event or end of recording is met.

Available baseline events:

- Rectal Baseline Event
- Autoset Baseline Event

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By default, the baseline level is set to zero level from the start of the recording until a baseline event is met.

---

Baseline events are local.

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## Baseline Analysis

### *Rectal Baseline Analysis*

Applied to the recorded data after a Rectal Baseline Event until another baseline event is met.

For the entire period, the baseline level is set to a value calculated as the Mode<sup>1</sup> over a time period just after the event. The time period is configurable.

### *Autoset Baseline Analysis*

- Applied to the recorded data after an Autoset Baseline Event until another baseline event is met.
- The entire period is divided into segments of equal duration. The duration is configurable.
- For each segment, the baseline level is calculated as the Mode value over the duration of the segment.
- If a segment overlaps with an analysis marker, the level of the segment is set to the level of the previous segment.

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<sup>1</sup> The most frequently occurring, or repetitive, value

---

## Catheter Insertion Depth

### *Catheter Insertion Depth Event*

The Catheter Insertion Depth Event is an event that, besides stating the time, also states the catheter insertion depth measured from the anal verge for each channel at the given time.

### *Catheter Insertion Depth Analysis*

Catheter insertion depth of an analysis marker is defined as the insertion depth defined by the latest known Catheter Insertion Depth Event, relative to the analysis marker, for the same channel.

---

## Sensory Threshold

Sensory Threshold is an event that states the volume of inflation of a balloon placed in rectum of the patient at a given point in time.

Four system-defined sub-types of sensory threshold events exists:

<b>Sensory Threshold Event</b>	<b>Description</b>
No Sensation	Marks the volume where the patient does not experience any sensation.
First Sensation	Marks the volume where the patient first time experiences a sensation.
Constant Sensation	Marks the volume where the patient experiences a constant sensation.
Maximum Sensation	Marks the maximum tolerable volume experienced by the patient.

The balloon volume is entered manually by the user.

---

## Report Calculations

For all First Sensation events:

- Minimum value of Balloon Volumes.

For all Constant Sensation events:

- Minimum value of Balloon Volumes.

For all Maximum Sensation events:

- Maximum value of Balloon Volumes.

---

## Resting Pressure Analysis Marker

- The Resting Pressure is a measure of the sphincter pressure while it is closed (at rest).
- The Resting Pressure Analysis Marker is local.

---

## Marker Calculations

All pressure values are calculated relative to local baseline unless otherwise stated.

Calculations for each analysis marker:

- Resting Pressure calculated as the mean pressure over the duration of the analysis marker relative to either local baseline or calibrated zero (configurable).
- Median pressure over the duration of the marker.
- Minimum pressure over the duration of the marker.
- Maximum pressure over the duration of the marker.
- Duration, in seconds, of the marker.
- Insertion depth.
- Radial offset (if applicable).

---

The calculated value for Resting Pressure can be overridden by the user.

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## Report Calculations

For analysis markers with same combination of Insertion depth and Radial offset:

- Mean value of Resting Pressures.

For analysis markers with same Insertion depth:

- Mean value of Resting Pressures.
- Median value of Resting Pressures.
- Maximum value of Resting Pressures.
- Minimum value of Resting Pressures.

For analysis markers in the same channel:

- Mean value of Resting Pressures.
- Median value of Resting Pressures.
- Maximum value of Resting Pressures.
- Minimum value of Resting Pressures.
- Mean value of Durations.
- Median value of Durations.
- Maximum value of Durations.
- Minimum value of Durations.

---

## **RAIR Relaxation Analysis Marker**

The RAIR Relaxation Analysis Marker is placed in each channel where a RAIR relaxation is identified –i.e. the marker is local.

---

## **Marker Calculations**

All pressure values are calculated relative to local baseline.

Calculations for each analysis marker:

- Resting Pressure calculated as the mean pressure over a time period before start of the marker. The time period is configurable.
- Residual Pressure calculated in either of following ways (configurable):
  - Minimum pressure over the duration of the marker.
  - 5<sup>th</sup> percentile, defined as the level where 5% of all values, over the duration of the marker, fall below.
  - Moving averages, defined as the minimum value when calculating the mean value for  $X$  seconds of samples at a time, advancing by  $d$  seconds of samples at a time until the entire duration of the marker is covered. Both  $X$  and  $d$  is configurable.
- Percent Relaxation defined as  $(1 - (\text{Residual Pressure} / \text{Resting Pressure})) * 100$ .
- Balloon Volume derived from the event that triggered the analysis marker; if manually inserted set to an undefined value.
- Classification derived from the event that triggered the analysis marker; if manually inserted set to an undefined value.
- Relaxation sub-marker, identified as described in section 0.

The calculated values for Resting Pressure, Residual Pressure, Balloon Volume, Classification and start- and end time for the Relaxation sub-marker can be overridden by the user.

### ***Relaxation Sub-marker***

Relaxation sub-marker is local.

Relaxation sub-marker is identified inside the analysis marker using the following parameters:

- Threshold, defining a level that the pressure must stay below for the duration of the sub-marker.
- Minimum Duration, defining the minimum time the pressure must stay below Threshold.
- Minimum Decrease, defining a level that the pressure must fall below at least once during the duration of the sub-marker.

---

Threshold, Minimum Decrease, and Minimum Duration are configurable.

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A valid Relaxation sub-marker exists when all the above criteria are met.

---

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## **Contraction Identification Algorithm**

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For Identification Algorithm Details see Appendix A

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### ***Relaxation Sub-marker Calculations***

Calculations for the sub-marker:

- Duration in seconds of the relaxation sub-marker.

---

## **Report Calculations**

For analysis markers with same Balloon Volume:

- Mean value of Percent Relaxation.

For all analysis markers:

- Mean value of Resting Pressures.
- Mean value of Residual Pressures.
- Mean value of Percent Relaxations.
- Mean value of Durations of Relaxation sub-markers.

## ***Contraction Analysis Marker***

- Contraction Analysis Marker is local.
- All pressure values are calculated relative to local baseline unless otherwise stated.

## ***Marker Calculations***

Calculations for each analysis marker:

- Resting Pressure calculated as the Mode<sup>2</sup> over a time period before start of the analysis marker. The time period is configurable.
- Contraction sub-marker, identified as described in section 0.
- Duration in seconds of the analysis marker.
- Insertion depth.
- Radial offset (if applicable)

The calculated values for Resting Pressure and start- and end time for the Contraction sub-marker can be overridden by the user.

## ***Contraction Sub-marker***

- Contraction sub-marker is local.
- Contraction sub-marker is identified inside the analysis marker.

Variable Contraction Duration using the following parameters:

- Threshold, defining a level that the pressure must stay above for the Duration of the sub-marker:
  - Duration, defining the minimum time the pressure must stay above Threshold.
  - Minimum Increase, defining a level that the pressure must exceed at least once during the Duration of the sub-marker.
- Fixed Contraction Duration, using the same parameters as follows:
  - Threshold, defining a level that the pressure must exceed to define the start of the sub-marker.
  - Duration, defining the duration that added to the start of the sub-marker gives the end of the sub-marker.
- Minimum Increase, defining a level that the pressure must exceed at least once during the Duration of the sub-marker.
- Threshold, Minimum Increase, and Duration are configurable.

---

<sup>2</sup> The most frequently occurring, or repetitive pressure value.

- Reference level for Threshold and Minimum Increase is either Resting Pressure or local baseline (configurable).
- A valid Contraction sub-marker exists when all the above criteria are met.

---

## **Contraction Identification Algorithm**

For details of the Contraction Identification Algorithm, see Appendix A

### ***Contraction Sub-marker Calculations***

Calculations for the sub-marker:

- Pressure Increase calculated as the maximum pressure over the duration of the sub-marker relative to either Resting Pressure or local baseline (configurable<sup>3</sup>).
- Pressure Amplitude calculated as the maximum pressure over the duration of the sub-marker relative to either local baseline or calibrated zero (configurable<sup>4</sup>).
- Contraction Power calculated as either the mean- or median pressure (configurable) over the duration of the sub-marker relative to either Resting Pressure or local baseline (configurable).
- Contraction identification settings; i.e. Threshold, Maximum Increase and Minimum Duration.
- Duration, in seconds, of the sub-marker.
- Duration, in seconds, at 50% of Pressure Increase over the duration of the sub-marker.

---

<sup>3</sup> Reference level for contraction sub-marker identification follows this setting.

<sup>4</sup> Must correspond to the reference level of Pressure Increase; i.e., Pressure Increase relative to local baseline results in Pressure Amplitude relative to calibrated zero, and Pressure Increase relative to Resting Pressure in Pressure Amplitude relative to local baseline and vice versa.

---

## Report Calculations

**For analysis markers with the same combination of Insertion depth and Radial offset:**

- Mean value of Pressure Increases of Contraction sub-marker.

**For analysis markers with the same Insertion depth:**

- Mean value of Pressure Increases of Contraction sub-marker.
- Median value of Pressure Increases.
- Maximum value of Pressure Increases of Contraction sub-marker.
- Minimum value of Pressure Increases of Contraction sub-marker.

**For analysis markers in the same channel:**

- Mean value of Pressure Increases of Contraction sub-marker.
- Median value of Pressure Increases of Contraction sub-marker.
- Maximum value of Pressure Increases of Contraction sub-marker.
- Minimum value of Pressure Increases of Contraction sub-marker.
- Mean value of Pressure Amplitudes of Contraction sub-marker.
- Median value of Pressure Amplitudes of Contraction sub-marker.
- Maximum value of Pressure Amplitudes of Contraction sub-marker.
- Minimum value of Pressure Amplitudes of Contraction sub-marker.
- Mean value of Contraction Powers of Contraction sub-marker.
- Median value of Contraction Powers of Contraction sub-marker.
- Maximum value of Contraction Powers of Contraction sub-marker.
- Minimum value of Contraction Powers of Contraction sub-marker.
- Mean value of Durations of Contraction sub-marker.
- Median value of Durations of Contraction sub-marker.
- Maximum value of Durations of Contraction sub-marker.
- Minimum value of Durations of Contraction sub-marker.

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## Continuous Pull Analysis Marker

Continuous pull analysis can only be performed on equipment configured as pure radial; i.e. the catheter channels has no distal offsets, and with at least two channels.

---

A Continuous Pull Analysis Marker is global.

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## Marker Calculations

All pressure values are calculated relative to local baseline.

Calculations for each analysis marker:

- Sphincter sub-marker (see section 0).
- High Pressure Zone (HPZ) sub-marker (see section 0).
- Pull End Time (end time of the marker), calculated as Sphincter sub-marker end time + ((Pull Length – Pull Initial Depth) / Pull Speed).
- Pull Start Time (start time of the marker), calculated as Pull end time – (Pull Length / Pull Speed).

---

**NOTE** Pull Start Time must be handled if the start or end time of the marker goes beyond extend of the recorded data.

---

- Calculated start and end time of Sphincter- and HPZ sub-markers can be overridden by the user.
- Pull Length, Pull Speed and Pull Initial Depth are configurable.

### *Sphincter and HPZ Sub-markers.*

Sphincter and HPZ sub-markers are global.

Sphincter and HPZ sub-markers are identified inside the analysis marker using the following parameters:

- Orad Border Threshold, defining the level that the pressure must fall below to define the orad border of the sub-marker. Given in percent of the maximum pressure found inside the analysis marker.
- Caudad Border Threshold, defining the level that the pressure must fall below to define the caudad border of the sub-marker. Given in percent of the maximum pressure found inside the analysis marker.
- Channel Threshold, defining the number of channels that must meet the criterias for orad- and caudad border identification to identify the sub-marker. Given as a percentage.
- Orad Border Threshold, Caudad Border Threshold and Channel Threshold are configurable.
- The Sphincter- and HPZ sub-markers are identified using different sets of thresholds.

---

For details of the Identification Algorithm, see Appendix B - Sphincter and HPZ Identification Algorithm.

---

## Sphincter and HPZ sub-marker Calculations

Calculations for the sub-markers:

- Mean pressure over the duration of the sub-marker.
- Maximum pressure over the duration of the sub-marker.
- Mean asymmetry (see below).
- Vector volume (see below).
- Vector volume graph (see below); only Sphincter sub-marker.
- Anatomical length in centimeters (see below).
- Distance, in centimeters, between the maximum pressure and the anal verge (only for the Sphincter sub-marker), calculated as (Sphincter sub-marker end time – maximum pressure time) \* Pull Speed.

### Mean Asymmetry Calculation

The sub-marker is divided into time segments each representing a slice of 1 mm. The pressure for each channel in the slice, is the mean value of all samples for the given channel over the time segment.

The asymmetry is calculated for each slice as follows:

n = number of channels  
 Ch(k) is the slice value at channel k

$$\text{Asymmetry} = 1 - \frac{\sum_{k=1}^n Ch(k)}{n * \max(Ch(i))} * 100\%, \text{ for } i \in [1, n]$$

Mean asymmetry is calculated as the mean of the asymmetry for all time segments.

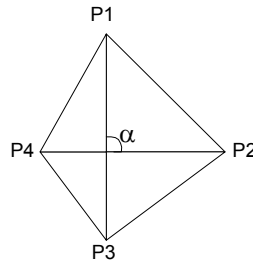
### Anatomical Length Calculation

The anatomical length, represented by the sub-marker, is calculated as: (Sub-marker end time – Sub-marker start time) \* Pull Speed.

### Vector Volume Calculation

The sub-marker is divided into time segments each representing a slice of 1 mm. The pressure vector for each channel in the slice is the mean value of all samples for the given channel over the time segment.

For each slice, the slice's vector volume is calculated as the sum of all sector triangle volumes.



Sketch of the sector triangles for a 4 channel slice

The volume of one sector triangle is calculated as:

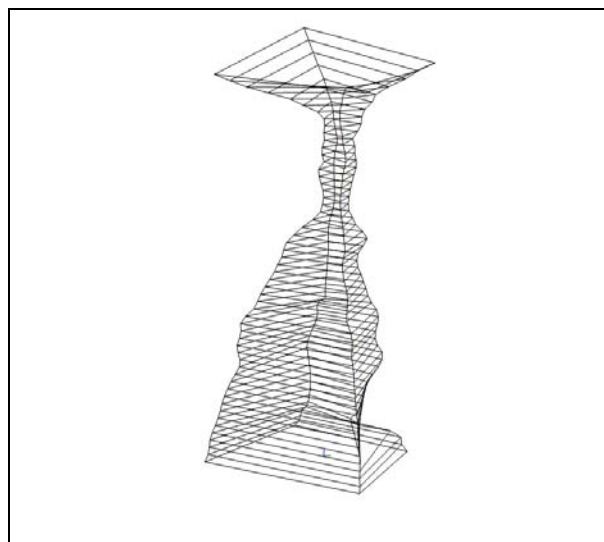
P1 is the pressure vector for one channel  
P2 is the pressure vector for P1's clockwise neighbor channel.  
 $\alpha$  is the angle between the two channels.

$$\text{Slice Vector Volume} = \frac{P1 * P2}{2} * \sin(\alpha) * 1 \text{ Unit}^2 * \text{mm}$$

The Vector Volume is then calculated as the sum of all slice vector volumes.

### Vector Volume Graph

These are the same calculations as for the *Vector Volume*, but the values for each vector in each slice are provided.

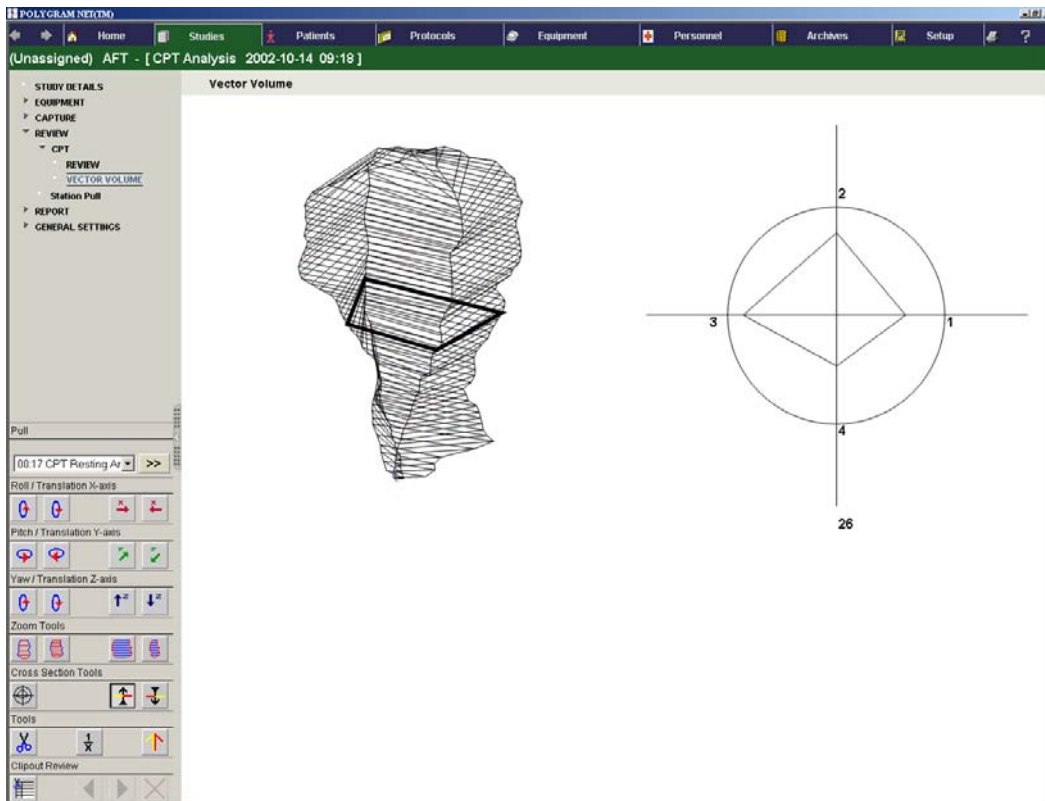


Vector Volume Graph

Vector Volume calculations are available under Review in the View Selection Area.

**NOTE** The visualization of the Vector Volume is only available with a separate license.

## Vector Volume



Review – Vector Volume

## Report Calculations

For all analysis markers:

- Mean value of Mean pressures of Sphincter sub-marker.
- Mean value of Maximum pressures of Sphincter sub-marker.
- Mean value of Mean asymmetries of Sphincter sub-marker.
- Mean value of Vector volumes of Sphincter sub-marker.
- Mean value of Anatomical lengths of Sphincter sub-marker.
- Mean value of distances between the Sphincter maximum pressure and anal verge of Sphincter sub-marker.
- Mean value of Mean pressures of HPZ sub-marker.
- Mean value of Maximum pressures of HPZ sub-marker.

- Mean value of Mean asymmetries of HPZ sub-marker.
- Mean value of Vector volumes of HPZ sub-marker.
- Mean value of Anatomical lengths of HPZ sub-marker.

---

## User Defined Analysis Markers

The User Defined Analysis Marker is local.

### *Marker Calculations*

All values are calculated relative to local baseline unless otherwise stated.

Calculations for each analysis marker:

- Level line value. Initially, when the analysis marker is inserted, set to an undefined value; to be manually set by the user.
- Minimum pressure over the duration of the analysis marker.
- Maximum pressure over the duration of the analysis marker.
- Mean pressure of the duration of the analysis marker.
- Median pressure of the duration of the analysis marker.
- Relaxation, calculated as the minimum pressure over the duration of the analysis marker divided by the pressure value at the start of the marker.
- Area, calculated as the mean pressure over the duration of the analysis marker relative to calibrated zero multiplied by the duration.
- Motility index calculated as the natural logarithm of the positive integral of the tracing over the analysis marker duration, divided by the duration (in minutes) of the analysis marker.
- Duration in seconds of the analysis marker.
- Insertion depth.

### *Report Calculations*

For all analysis markers:

- Mean value of user defined level line values.
- Median value of user defined level line values.
- Maximum value of user defined level line values.
- Minimum value of user defined level line values.
- Mean value of minimum pressures.
- Median value of minimum pressures.
- Maximum value of minimum pressures.
- Minimum value of minimum pressures.
- Mean value of maximum pressures.
- Median value of maximum pressures.
- Maximum value of maximum pressures.
- Minimum value of maximum pressures.

- Mean value of mean value pressures.
- Median value of mean value pressures.
- Maximum value of mean value pressures.
- Minimum value of mean value pressures.
- Mean value of median pressures.
- Median value of median pressures.
- Maximum value of median pressures.
- Minimum value of median pressures.
- Mean value of areas.
- Median value of areas.
- Maximum value of areas.
- Minimum value of areas.
- Mean value of relaxations.
- Median value of relaxations.
- Maximum value of relaxations.
- Minimum value of relaxations.
- Mean value of motility indexes.
- Median value of motility indexes.
- Maximum value of motility indexes.
- Minimum value of motility indexes.
- Mean value of durations.
- Median value of durations.
- Maximum value of durations.
- Minimum value of durations.

---

## **Appendix A**

### ***Contraction Identification Algorithm***

The algorithm for automatically identifying a Contraction sub-marker inside the Contraction Analysis Marker is as follows:

Using the Variable Duration method:

- Sample values inside the analysis marker are scanned starting from the start of the analysis marker.
- When a sample value exceeds the Threshold, the sample is marked as the start of a possible contraction.
- The scan of samples is continued, continuously storing the maximum sample value, until a sample value falls below Threshold or the end of the analysis marker is met. This marks the end of the possible contraction.
- If the stored maximum sample value exceeds Minimum Increase and the time between the marked start and stop of the possible contraction exceeds Duration, a contraction is found and stored.

- If a valid contraction has already been stored, the one with the largest maximum sample value is stored.
- The scan of sample values is continued until the end of the analysis marker is met.

If a possible contraction is found and the end of the analysis marker is reached before the sample values fall below Threshold, this marks the end of the contraction.

Same basic algorithm is used when identifying Relaxation sub-marker inside RAIR analysis markers. However, the pressure must here fall below the Threshold and Minimum Increase.

Using the Fixed Duration method:

- Sample values inside the analysis marker are scanned from the start of the analysis marker.
- When a sample value exceeds the Threshold, the sample is marked as the start of a possible contraction.
- The end of the possible contraction is calculated as start of the possible contraction + Duration.
- Sample values inside the possible contraction are scanned starting from the start of the possible contraction.
- If any sample value exceeds Minimum Increase, a valid contraction is found.

If a contraction candidate exceeds the end of the analysis marker, it will not be identified as a contraction.

---

## **Appendix B**

### ***Sphincter and HPZ Identification Algorithm***

The algorithm for automatically identifying Sphincter- and HPZ sub-markers inside the Continuous Pull Analysis Marker is as follows:

- The maximum pressure over the duration of the analysis marker is found for each channel spanned by the analysis marker.
- The samples of all channels spanned by the analysis marker are now scanned forward starting from the start of the analysis marker.
- The start of the sub-marker is determined as the time where the sample value of at least Channel Threshold of the channels, spanned by the analysis marker, equals or exceeds the Orad Border Threshold of the respective channel.

- The samples of all channels spanned by the analysis marker are now scanned backward starting from the end of the analysis marker.
- The end of the sub-marker is determined as the time where the sample value of at least Channel Threshold of the channels, spanned by the analysis marker, equals or exceeds the Caudad Border Threshold of the respective channel.

# Home Page

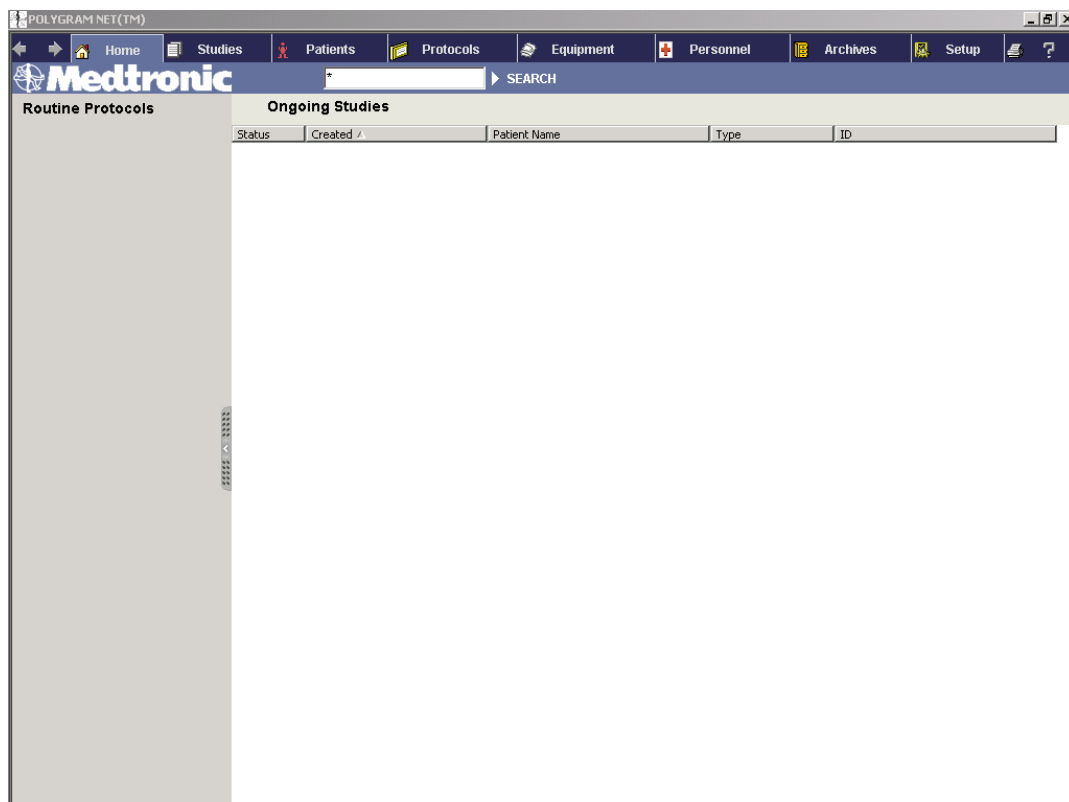
---

## General

From the Home page, you can either create a new study based on the available [Routine Protocols](#) that appear in the View Selection Area, or open a study already in progress from the list of [Ongoing Studies](#) in the View Area.

To find a particular patient or study, a [Search](#) facility is available allowing you to run a search through the entire list of [Ongoing Studies](#).

Through [Filters–Setup Manager](#), you can choose which columns (Created, Patient Name, Study Type, etc.) to be available on the Ongoing Studies view.



Home Page

The list of [Ongoing Studies](#) can be sorted out by:

- Created
- Patient Name
- Study Type
- Study ID

**Ongoing Study:** To access an Ongoing Study, locate its entry and *Double Click*.

**Routine Protocol:** Create a New Study by using a Routine Protocol available from the View Selection Area and *Click*.

Both options will take you to the *Study Details* view. —See [Study Details](#), under the Studies section.

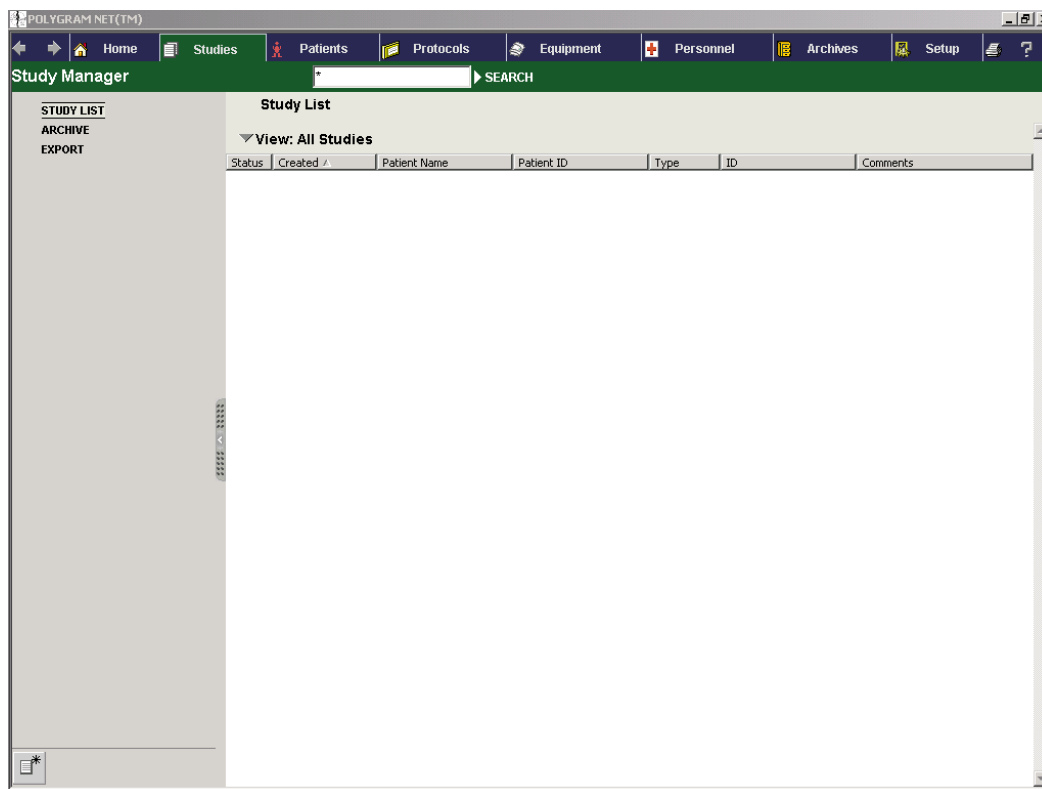
# Studies

## Study Manager

The Study Manager provides an overview of all the studies performed in the system.

To find a particular patient or study, a *Search* facility is available allowing you to run a search through the entire list of *Studies*.

Through [Filters Settings–Setup Manager](#), you can choose which columns (created, patient Name, Study Type, etc..) to be available on the Studies view.



Study Manager

To focus on a particular list of studies, you can filter the View by clicking the *View* header. From the box that appears, choose one of the options and *Click*.

- All Studies
- Completed Studies
- Ongoing Studies

The View can also be sorted out by:

- Created
- Patient Name
- Patient ID
- Study Type
- Study ID
- Comment

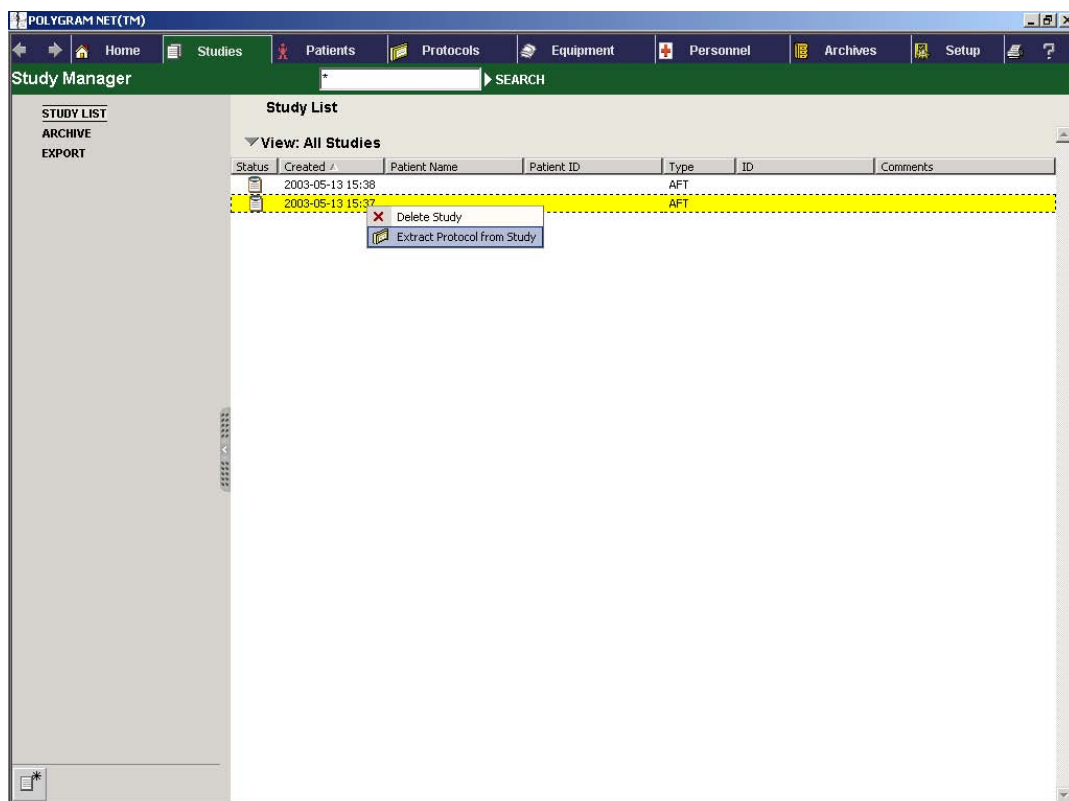
From Studies you can:

- Delete a study directly from the list by right-clicking the selected entry, and then clicking the *Delete Study* option.
- Extract a protocol from a study, by right-clicking the selected entry, and then clicking the *Extract Protocol from Study* option.

---

**NOTE** The *Extract Protocol from Study* feature allows you to extract the local Protocol settings—including the Report Settings—from a study and create a new protocol based on this information.

---



*Delete Study/Extract Protocol from Study Options*

To access a Study, locate its entry and *Double Click*.

## Study Details

The *Study Details* page will be displayed allowing you to edit the details of a Study. The *All Patients* list that appears in the same view will give you an overview of all the patients in the system. The *All Patients* list can be sorted out by:

- Surname
- Name
- Patient ID
- Last Examination Date

The screenshot shows the 'Study Details' page in the POLYGRAM NET (TM) application. The interface includes a menu bar with options like Home, Studies, Patients, Protocols, Equipment, Personnel, Archives, and Setup. The main window displays the Study Details for protocol AFT1, dated 2003-05-13 15:38. The details form includes fields for Study ID, Physician, Technician, Referring Physician, Reasons, and Comments. It also features input fields for Height (cm, feet, inches) and Weight (kg, pounds), along with a Calculated BMI field. A table titled 'View: All Patients' is visible on the right side of the form, with columns for Last name, First Name, Patient ID, and Last Examined.

*Study Details–View All Patients*

The following information will be shown on the Study Details page:

- Protocol Name
- Date of Study

The following information can be entered in the Study Details page:

- Study ID
- Physician
- Technician

- Referring Physician
- Reasons
- Comments
- Height
- Weight

### ***Assign Patient***

From the [All Patients](#) list, you can now assign a patient to the study by clicking the corresponding entry. The Study Details page for that specific patient will be displayed.

### ***Create New Patient***



You can create a New Patient by clicking the [Create New Patient](#) button in the Tool Area. The following Study Details page will be displayed allowing you to enter information on the patient:

- Patient ID
- Surname
- Name
- Date of Birth
- Sex
- Address
- Phone
- Comments

The screenshot shows the 'POLYGRAM NET (TM)' application window. The top menu bar includes Home, Studies, Patients, Protocols, Equipment, Personnel, Archives, and Setup. The current view is 'Study Details' for patient 'Doe, Joan 1234 AFT - [AFT1 2003-05-14 09:19]'. The 'Study Completed' checkbox is unchecked. The form contains the following fields:

- Protocol: AFT1
- Date of Study: 2003-05-14 09:19
- Study ID: AFT
- Physician: None
- Technician: None
- Referring Physician: Smith, H.
- Reasons: (empty text area)
- Comments: (empty text area)
- Height: 0 cm, 0 feet 0 inches
- Weight: 0 kg, 0 pounds
- Calculated BMI: (empty)
- Patient ID: 1234
- Last name: Doe
- First Name: Joan
- Date of Birth: Year 1959, Month 01, Day 03
- Sex: Female
- Address: (empty text area)
- Phone: (empty text area)
- Comments: (empty text area)

*Study Details–Assigned Patient*

**NOTE** If the study has been marked as completed, you will only be able to view its information. Clear the **Study Completed** option box to be able to add/modify existing information in the study.

## Create New Study



To create a new Study, click the **Create New Study** button in the View Selection Area. A list with all the available Protocols will be displayed. Select the appropriate Protocol and **Double Click**.

The Study Details view will be displayed allowing you to enter any relevant information for the study.

From the **All Patients** list on the right, you can now choose an existing patient, or create a new one by clicking the **Create New Patient** button in the Tool Area.

## **Tool Area**



Create New Study



Create New Patient



Un-assign Patient



Undo Changes



Save Changes

---

For Clinical Guidelines and System Preparation, refer to the User Guide.

---

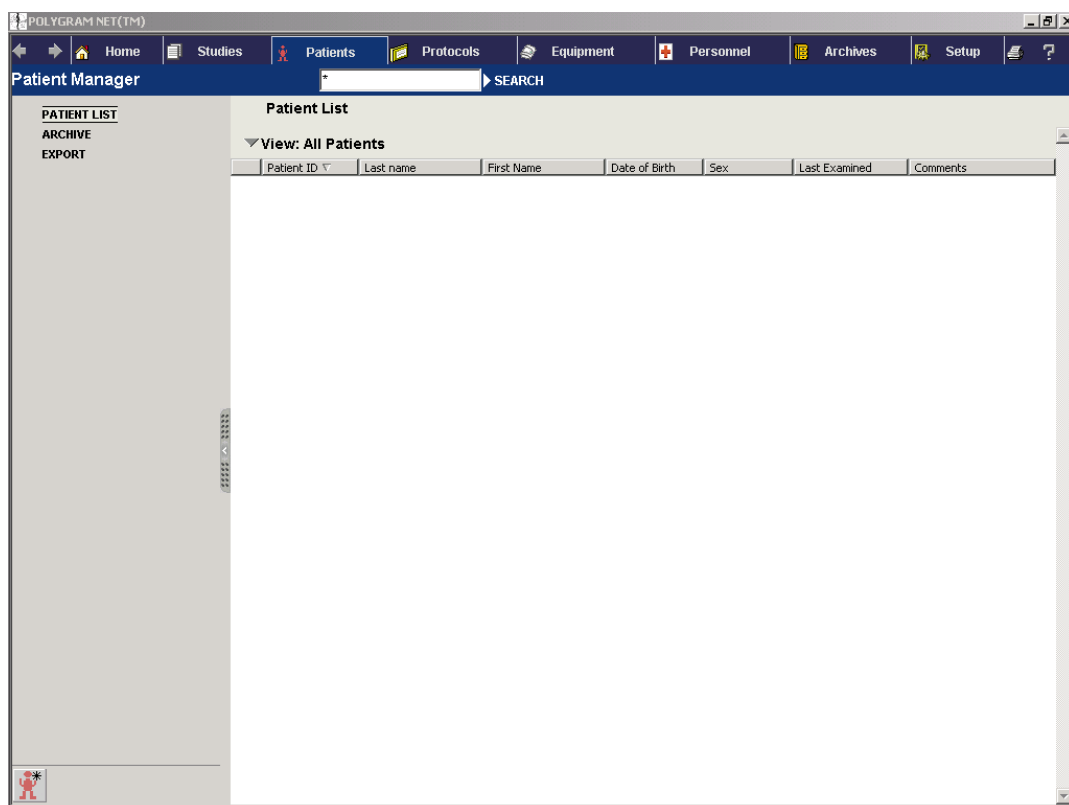
# Patients

## Patient Manager

The *Patient Manager* provides an overview of all the patients registered in the system.

To find a particular patient or study, a *Search* facility is available allowing you to run a search through the entire list of *Patients*.

Through [Filters–Setup Manager](#), you can choose which columns (created, patient Name, Study Type, etc..) to be available on the Patients view.



*Patient Manager*

To focus on a particular list of studies, you can filter the View by clicking on the *View* header. From the box that appears, choose one of the options and *Click*.

- All Patients
- Ongoing Studies
- Male Patients
- Female Patients

- Undefined Patients
- Infants (age 0-1)
- Children (age 1-5)
- Young (age 5-15)
- Adult (age 15-45)
- Middle (age 45-70)
- Elderly (age 70 +)

The View can also be sorted out by:

- Patient ID
- Surname
- Name
- Date of Birth
- Sex
- Last Examined
- Comments

You can create a New Study for a specific patient directly from the list by right-clicking on the desired entry, and then clicking on the box that appears.

To access a *Patient Details* page, locate its entry and *Double Click*.

## ***Creating New Patient***



From the *Patient Manager* view, you can create a new patient by clicking the *New Patient* button in the Tool Area.

## ***Patient Details***

The *Patient Details* page is displayed allowing you to view and modify the following information on a particular patient.

- Patient ID
- Surname
- Name
- Date of Birth
- Sex
- Address
- Phone
- Comments

**PATIENT DETAILS**

**STUDIES**

**Patient Details**

Patient ID:

Surname:

Name:





Birthdate: Year  Month  Day

Sex:

Address:

Phone:

Comments:

Patient Details

The above information is optional. You can leave out any fields that you do not consider relevant for the study. When you type in the date of birth, the fields will turn red until the complete date has been entered. If an invalid date is used, it will not be saved.

## Tool Area



Create New Patients



Delete Patient



Undo Changes



Save Changes

---

**NOTE** Patients assigned to a study *cannot* be deleted.

---

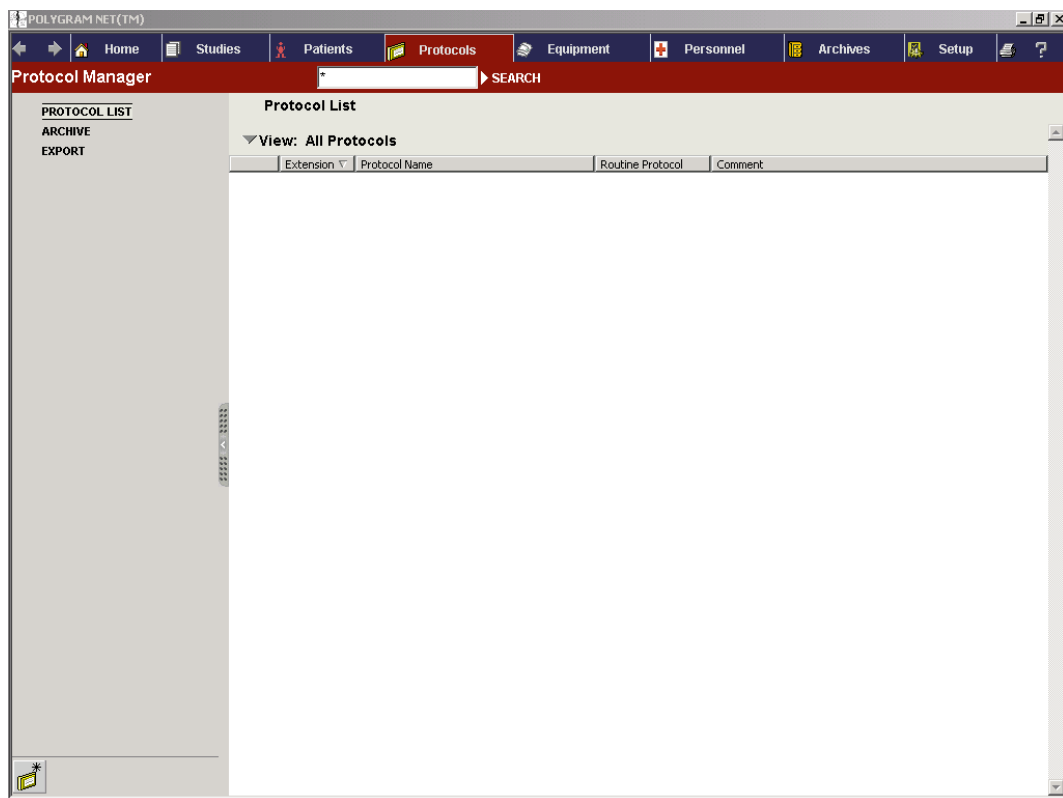
# Protocol

## Protocol Manager

The Protocol Manager provides an overview of all the protocols defined in the system.

To find a particular protocol, a *Search* facility is available allowing you to run a search through the entire list of *Protocols*.

Through [Filters–Setup Manager](#), you can choose which columns (created, patient Name, Study Type, etc..) to be available on the Protocol view.



*Protocol Manager*

To focus on a particular list of protocols, you can filter the View by clicking the *View* header. From the box that appears, choose one of the options and *Click*.

- All Protocols
- Routine Protocols

The View can also be sorted out by:

- Extension
- Protocol Name
- Routine Protocol
- Comment

Protocols can be deleted directly from the list by placing the cursor over the Protocol of your choice, right-clicking it, and then from the box that appears clicking the desired option.

To access the *Protocol*, locate its entry and *Double Click*.

### ***Create New Protocol***



To create a new Protocol, click the *Create New Protocol* button from the Tool Area. The AFT—Protocol Details page will be displayed.

- AFT

The screenshot shows the 'POLYGRAM NET (TM)' application window. The top menu bar includes Home, Studies, Patients, Protocols, Equipment, Personnel, Archives, and Setup. The main window title is 'AFT - [Survey 1]'. On the left, a navigation pane shows 'PROTOCOL DETAILS' expanded, with sub-items for 'GENERAL SETTINGS', 'REPORT SETTINGS', and 'QUESTIONNAIRE SETTINGS'. The main area displays the 'Protocol Details' form with the following fields:

Name:	Survey 1
Type:	AFT
	<input checked="" type="checkbox"/> Routine Protocol
Created:	2002-10-15 14:35
Comments:	Survey 1 description

*Protocol Details*

## Protocol Details

The Protocol Details page is displayed allowing you to:

- Enter the Name of the Protocol
- Check the *Routine Protocol* option box
- Enter comments in the *Comments* box

When the *Routine Protocol* option box is selected, the protocol will appear in the list of Protocols displayed in the View Selection Area from the Home page.

## Tool Area



Create New Protocol



Save Changes



Undo Changes



Delete Protocol

---

## AFT — General Settings

Through the General Settings view, you can configure a new Protocol, or modify an existing one. When a Protocol is assigned to a study, a copy of the Protocol will be made. Subsequent changes to the Protocol made in the Protocol Manager will not affect protocols copied into a study. Protocols assigned to a study can be modified from the Study Manager.

The Recording Template consists of a pre-set of values and definitions of markers and events associated with the examinations.

The following templates are available from the General Settings View:

- Stationary Pull-Through
- RAIR and Sensory Threshold
- Continuous Pull-Through (CPT)
- Fixed Catheter
- Generic


Click the template you would like to use for a specific protocol. The Recording Details page of the selected examination will be displayed.

Note that:

- Each study can have several recordings.
- Each recording has its own protocol settings associated.

## Tool Area

### General Settings Main View

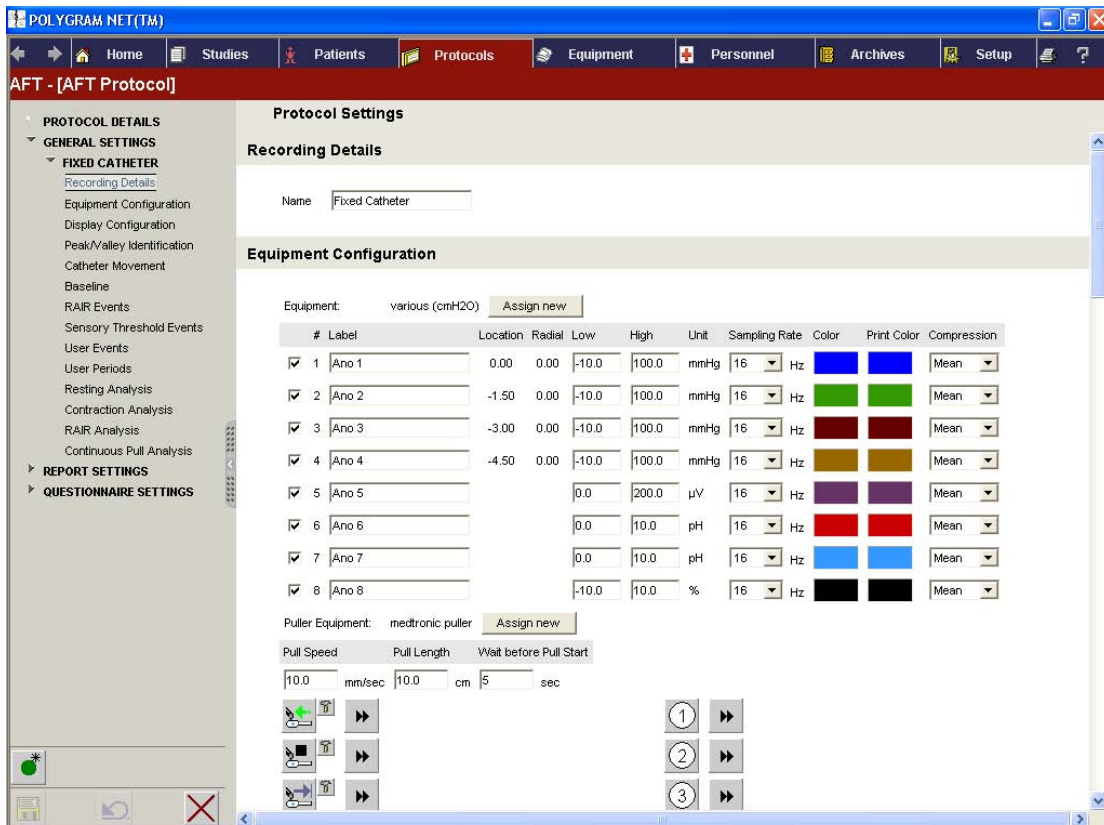
-  Create New Recording
-  Save Changes
-  Undo Changes
-  Delete Recording

## Protocol Settings

### Recording Details

In Recording Details view, you can define the protocol settings for a specific study.

The Recording Details view contains the editable name of the recording.



The screenshot displays the 'POLYGRAM NET (TM)' software interface. The main window is titled 'AFT - [AFT Protocol]'. The left sidebar shows a tree view with 'PROTOCOL DETAILS' expanded to 'GENERAL SETTINGS', which includes 'FIXED CATHETER' and 'Recording Details'. The main area is divided into two sections: 'Recording Details' and 'Equipment Configuration'.

**Recording Details:** The 'Name' field is set to 'Fixed Catheter'.

**Equipment Configuration:** The 'Equipment' is set to 'various (cmH2O)'. Below this is a table with 8 columns: #, Label, Location, Radial, Low, High, Unit, Sampling Rate, Color, Print Color, and Compression. The table contains 8 rows of data for different channels (Ano 1 to Ano 8).

#	Label	Location	Radial	Low	High	Unit	Sampling Rate	Color	Print Color	Compression
<input checked="" type="checkbox"/>	Ano 1	0.00	0.00	-10.0	100.0	mmHg	16 Hz	Blue	Blue	Mean
<input checked="" type="checkbox"/>	Ano 2	-1.50	0.00	-10.0	100.0	mmHg	16 Hz	Green	Green	Mean
<input checked="" type="checkbox"/>	Ano 3	-3.00	0.00	-10.0	100.0	mmHg	16 Hz	Red	Red	Mean
<input checked="" type="checkbox"/>	Ano 4	-4.50	0.00	-10.0	100.0	mmHg	16 Hz	Yellow	Yellow	Mean
<input checked="" type="checkbox"/>	Ano 5			0.0	200.0	µV	16 Hz	Purple	Purple	Mean
<input checked="" type="checkbox"/>	Ano 6			0.0	10.0	pH	16 Hz	Red	Red	Mean
<input checked="" type="checkbox"/>	Ano 7			0.0	10.0	pH	16 Hz	Blue	Blue	Mean
<input checked="" type="checkbox"/>	Ano 8			-10.0	10.0	%	16 Hz	Black	Black	Mean

Below the table, the 'Puller Equipment' is set to 'medtronic puller'. The 'Pull Speed' is 10.0 mm/sec, 'Pull Length' is 10.0 cm, and 'Wait before Pull Start' is 5 sec. There are also three numbered buttons (1, 2, 3) with right-pointing arrows.

General Settings—Recording Details and Equipment Configuration.

## Equipment Configuration

When selecting Equipment from the drop-down box, the channel configuration for the specific equipment will be shown. –See the [Equipment](#) section for details on Equipments.

The Configuration view will provide you with the following information:

- **Label:** shown in trace display
- **Location:** shows the location of the transducer
- **Radial:** shows the radial offset of the transducer
- **Low:** initial setting at low scale for the channel
- **High:** initial setting of high scale for the channel
- **Unit:** unit to be used –mmHg or cm H<sub>2</sub>O
- **Sampling Rate:** from the drop-down list, you can select the sampling rate to be applied to a specific channel.
- **Color:** for ease identification, a color label for each channel can be chosen by clicking the Color box and selecting a color from the pallet displayed.
- **Print Color:** from the pallet displayed, select a color
- **Compression:** select the compression —e.g., Min/Max —for each channel by clicking the drop-down box

## Puller Equipment

When choosing the Puller from the drop-down list, the following features are available:

- Pull Speed
- Pull Length
- Wait before Pull Start



Click the Assign button to access the Assign button selection box.



Click the Arrow button to access the advance settings

---

**NOTE** The Return Puller icon is only available for the Catheter Puller.

---

## Display Configuration

In Display Configuration view the following information is displayed:

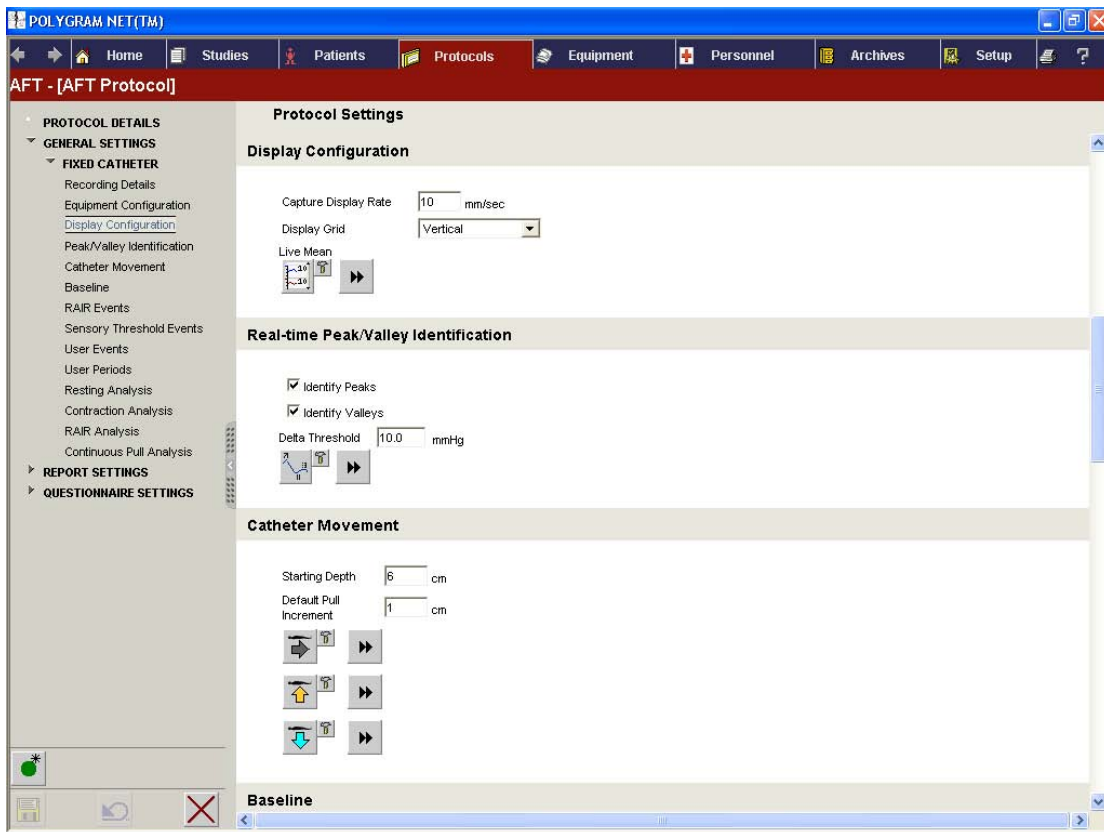
**Capture Display Rate:** set rate of display

**Display Grid:** from the drop-down list, the following options are available:

- Vertical
- Horizontal
- Vertical/Horizontal



Live Mean Value Configuration



General Settings—Display Configuration, Real-Time Peak/Valley Identification, and Catheter Movement.

### Real Time Peak/Valley Identification

Check the corresponding option box for the Real Time Peak and Valley to be identified.

- Identify Peaks
- Identify Valleys

### Delta Threshold



Shows Peak and Valley values in mmHg.

## Catheter Movement

Starting Depth: 6 cm

Default Pull Increment: 1cm



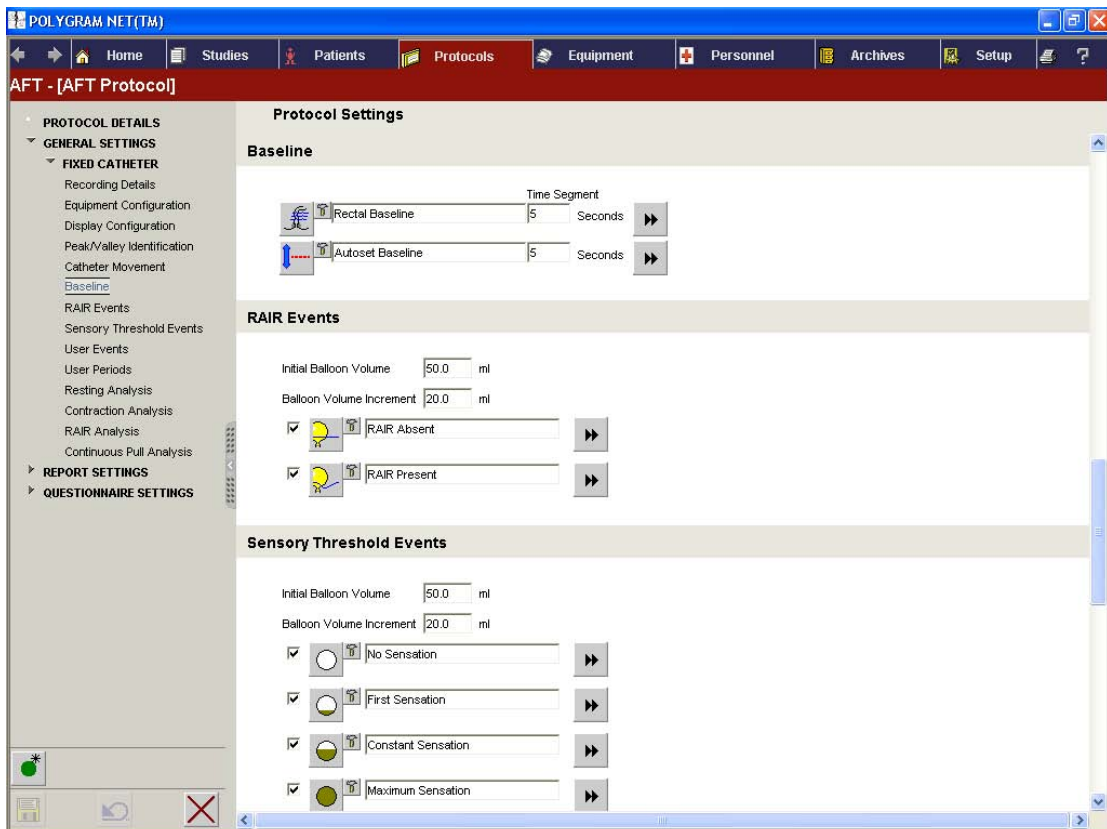
Catheter Down



Catheter Up



Catheter Depth



General Settings—Baseline, RAIR Events and Sensory Threshold Events.

## Baseline

The following options are available for the Baseline:



Rectal Baseline



Autoset Baseline



Click the Arrow button to have access to the following advance settings for the Baseline:

- Auto Enable from beginning of the Recording.
- Enable Period Button.
- Screen Color
- Print Color
- Modify Baseline Keyboard Shortcut

### RAIR Events



RAIR Absent



RAIR Present

### Sensory Threshold Events



No Sensation



First Sensation



Constant Sensation



Maximum Sensation

### User Events

*User Events* are indicators that show special areas of interest in the analysis.



Squeeze



Push



Cough



Click the Arrow button to access the following setting options for each User Event:

- Heading
- Description
- Enable Timer
- Timer Value
- Enable Period Icon
- Screen Color
- Print Color
- Keyboard Shortcut

## User Periods

*User Periods* are periods defined by the user.

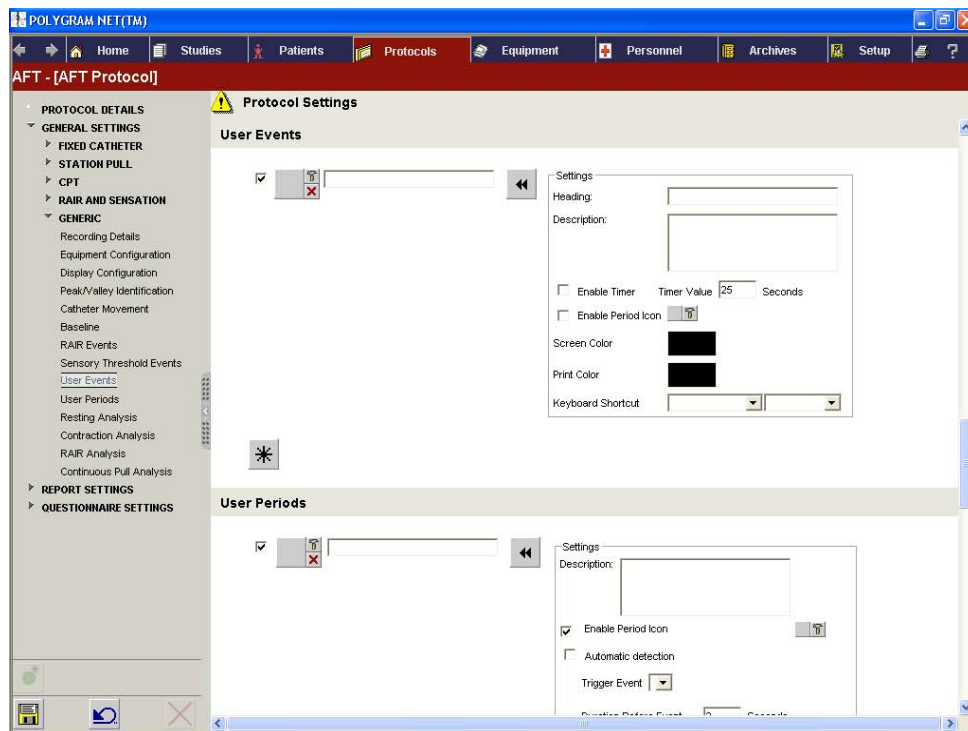


Click the Create New button to add a Period.



Click the Arrow button to access the following setting options for each User Period:

- Heading
- Description
- Enable Timer
- Timer Value
- Enable Period Icon
- Screen Color
- Print Color
- Keyboard Shortcut



*User Events and User Periods*

## Resting Analysis



Rest

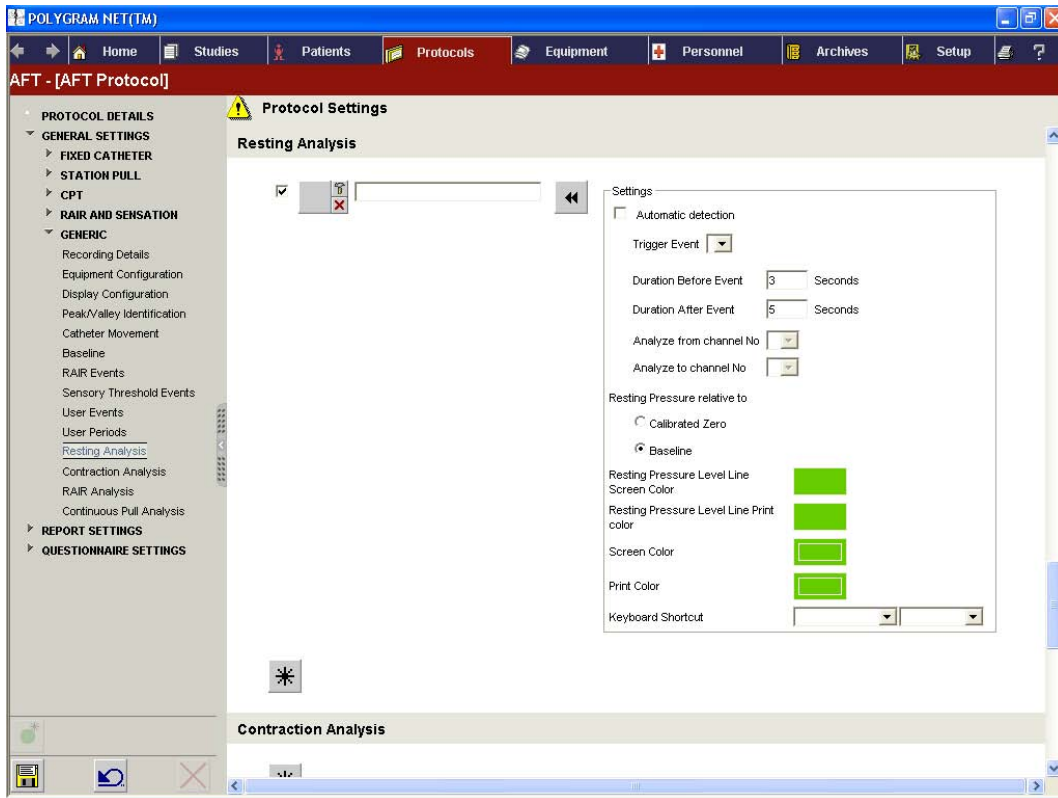


Click the Create New button to add a new Rest Analysis



Click the Arrow button to access the following advance settings for the Rest Analysis:

- Automatic Detention
- Trigger Event
- Duration Before Event
- Duration After Event
- Analyze from Channel No.
- Analyze to Channel No.
- Resting Pressure Relative to:
  - Calibrated Zero
  - Baseline
- Resting Pressure Level Line Screen Color
- Resting Pressure Level Line Print Color
- Print Color, Contraction Power Level Line
- Screen Color
- Print Color
- Keyboard Shortcut



General Settings—Resting Analysis

## Contraction Analysis



Push



Squeeze



Cough



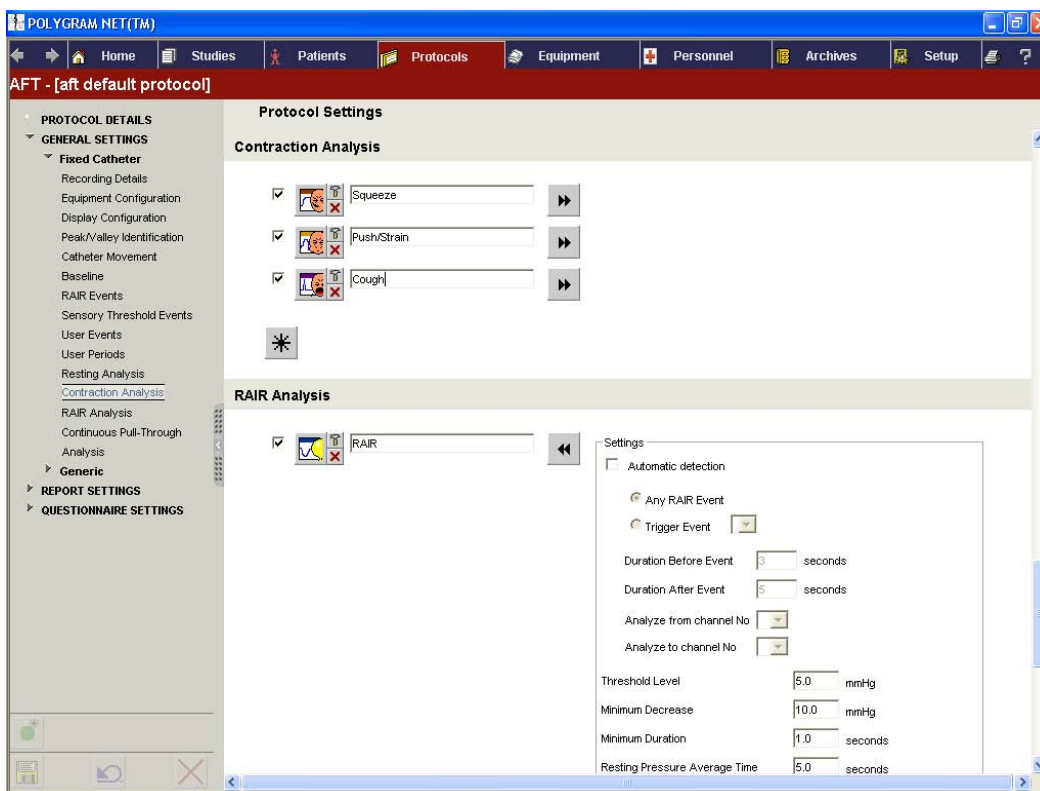
Click the Create New button to add a new Contraction Analysis



Click the Arrow button to access the following advance settings for the Contraction Analysis:

- Automatic Detention
- Trigger Event
- Duration Before Event
- Duration After Event
- Analyze from Channel No.
- Analyze to Channel No.

- Contraction Identification
- Threshold Level
- Minimum Increase
- Minimum Duration
- Contraction Power Calculation
- Resting Pressure Average Time
- Pressure Increase Relative to:
  - Baseline
  - Resting pressure
- Amplitude Relative to:
  - Calibrated Zero
  - Baseline
- Resting Pressure Level Line Screen Color
- Screen Color, Contraction Power Level Line
- Print Color, Contraction Power Level Line
- Contraction Print Color
- Screen Color
- Print Color
- Keyboard Shortcut



Contraction and RAIR Analysis

## RAIR Analysis



RAIR



Click the Create New button to add a new RAIR Analysis



Click the Arrow button to access the following advance settings for the RAIR Analysis:

- Automatic Detection
  - Any RAIR Event
  - Trigger Event

---

You can trigger the insertion of an analysis by assigning an event. Whenever an event is inserted, the analysis will automatically be inserted as well.

---

- Duration Before Event
- Duration After Event
- Analyse from Channel No.
- Analyze to Channel No.
- Threshold Level
- Minimum Decrease
- Minimum Duration
- Resting Pressure Average Time
- Residual Pressure calculation Method
- Resting Pressure Level Line Screen
- Residual Pressure Level Line Print Color
- Relaxation Screen Color
- Relaxation Print Color
- Screen Color
- Keyboard Shortcut

## Continuous Pull-Through (CPT) Analysis



CPT Rest



CPT Squeeze



Click the Arrow button to access the following advanced settings for the CPT Resting Analysis:

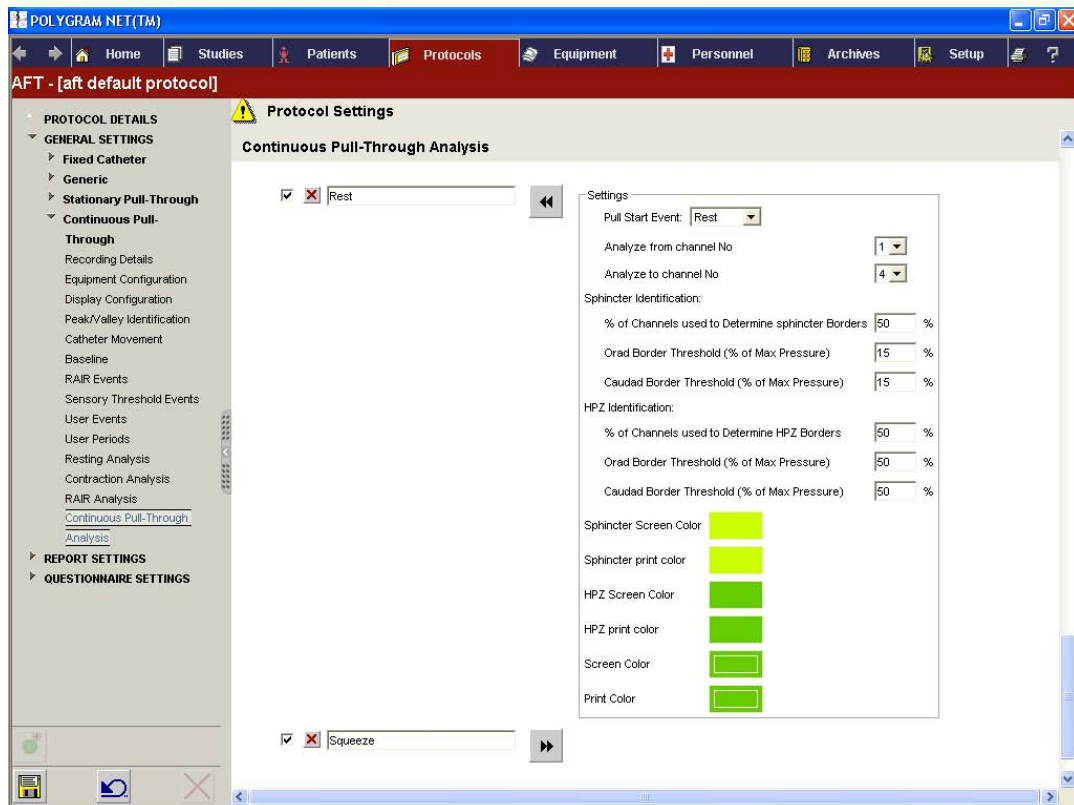
- Puller Start Event

---

Only Available for Pressure Channels

---

- Analyze from Channel No
- Analyze to Channel No.
- Sphincter Identification:
  - % of Channels used to determine HPZ Borders
  - Orad Border Threshold (% of Max Pressure)
  - Caudad Border Threshold (% of Max Pressure)
- HPZ Identification:
  - % of Channels used to determine HPZ Borders
  - Orad Border Threshold (% of
- Analyze from Channel No.
- Analyze to Channel No.
- Residual Pressure Calculation Method
- Screen Color
- Print Color
- Keyboard Shortcut








General Settings–Continuous Pull-Through Analysis

---

## Report Settings

Reports created from Protocol Details can be edited and formatted. Click [Report](#) under Report Settings in the View Selection Area.

From the drop-down list in the Tool Area, you can choose the elements that you want to include in the report. Select the element and click the Arrow button, a menu with the different options for that element will open. Select the option for it to appear in the Report.

The Elements/entries in the report can be moved about by clicking the Free-placement button  in the Tool Area. When the Free-placement is Off, you can edit an entry by clicking its Edit Text  icon. Use the Arrows  icon to select/deselect the order of the items in the table. New columns can be added to a table by clicking the Create New  icon, or entering the number in the Max Number of Columns box. To delete an entry, click its Delete  icon.

**Report Header:** In the report header, the name of the report and hospital can be edited. An icon such as a hospital logo can also be included.

**Report Content:** The main report consists of results generated by the AFT application analysis and of user created content.

---

The user created contents can be moved about as the other items in the report.

---

The following Report Elements are available:

### Analysis Tables

#### RAIR Analysis

- Presence Summary Table – RAIR – Fixed Catheter
- Presence Summary Table – RAIR Analysis – RAIR and Sensory Threshold
- Details Table – RAIR Fixed Catheter
- Details Table – RAIR Analysis and sensory Threshold
- Relaxation Summary Table – RAIR – Fixed Catheter
- Relaxation Summary Table – RAIR Analysis – RAIR and Sensory Threshold

#### Sensory Thresholds

- Sensory Threshold Summary Table – Fixed Catheter
- Sensory Threshold Summary Table – TEST
- Sensory Threshold Summary Table – RAIR and Sensory Threshold

### **Resting Analysis**

- Fixed Catheter Summary Table – Rest – Fixed Catheter
- Resting Pressure Details Table – Rest – Fixed Position Catheter
- Stationary Pull-Through Summary Table – Rest – Fixed Catheter

### **Contraction Analysis**

- Contraction Details Table – Cough Fixed Catheter
- Contraction Details Table – Push/Strain – Fixed Catheter
- Contraction Details Table – Squeeze – Fixed Catheter
- Fixed Catheter Summary Table – Cough Fixed Catheter
- Fixed Catheter Summary Table – Push/Strain – Fixed Catheter
- Fixed Catheter Summary Table – Squeeze – Fixed Catheter
- Stationary Pull-Through Summary Table – Cough – Fixed Catheter
- Stationary Pull-Through Summary Table – Push/Strain – Fixed Catheter
- Stationary Pull-Through Summary Table – Squeeze – Fixed Catheter

### **Traces**

- All Clip Outs
- Vector Volume Clip Out
- Analysis

### **Questionnaire**

- The questionnaire can be included in the Report

### **Generic Elements**

- Custom Table
- Image
- Header
- Page Break
- User Comments
- Free Text
- Colored Background

### **Generic Data Elements**

- Patient Name
- Patient ID
- Date of Birth
- Referring Physician
- Physician
- Technician
- Date of Test
- Reason for Study
- MBI

- Protocol Comments
- Study Comments

## Paper Settings

Example of printing sizes/orientations of papers available:

- Letter
- Legal
- Letter Rotated
- Letter Small
- A4 Sheet
- A3 Rotated Sheet
- B4 Sheet
- B4 (JIS) Sheet
- B6 (JIS) Rotated Sheet

The screenshot shows the Medtronic AFT Report software interface. The window title is 'POLYGRAM.NET(TM)'. The main menu includes Home, Studies, Patients, Protocols, Equipment, Personnel, Archives, and Setup. The current report is titled 'AFT - [Test]'. The left sidebar contains sections for PROTOCOL DETAILS, GENERAL SETTINGS, REPORT SETTINGS (with 'Report' selected), and QUESTIONNAIRE SETTINGS. The main content area displays the Medtronic logo and a 'Header' section with the following information: Patient Name: n/a, Patient ID: n/a, Date of Birth: n/a, Reason for Study: n/a, Date of Test: n/a, Physician: n/a, and Technician: n/a. Below the header is a 'User Comments' field. The 'Report Elements' section includes 'Analysis Tables' (Sensory Thresholds), 'Traces' (Generic), 'Generic Elements' (Custom Table), and 'Generic Data Elements' (Study Comments). The 'Paper Settings' dropdown is set to 'Letter'. Two 'Sensory Threshold Summary Table - Generic' tables are displayed, each with columns for 'Sensation Level' and 'Balloon volume (ml)'. The first table has rows for No Sensation, First Sensation, Constant Sensation, and Max Sensation, all with 'n/a' values. The second table is identical. Below the tables are 'Clipouts - Generic' (Dynamic Height) and 'Vector volume clipout - Generic' (Dynamic Height) sections. The bottom of the interface features a toolbar with various icons for navigation and printing.

Report– General Settings

## Questionnaire Settings


In Questionnaire Settings, a white page is displayed allowing you to create your own questionnaire form.

From the Tool Area, choose the elements you want to include in the questionnaire by clicking their corresponding button. The elements selected from the drop-down list are added to the page after you click the *Double Arrow* button.



Click the *Free Placement* button to be able to move the element boxes around the page. Place the mouse on the edge of the Element Box for a 4-arrow to appear allowing you to drag it to any position on the page.

You can also re-size the Element Box by placing the cursor on the border, then clicking and dragging the borders to the desired size.

 Click the delete button to delete a box.












Click the *Show in Preparation* button for the questionnaire to appear in the *Preparation* view.

*Questionnaire Settings*

## Generic Element Boxes

The following *Generic Element Boxes* are available in the Tool Area, and when selected, they add the following elements to the Questionnaire:

 Header	 Text	 Comment
 Grid On	 Add Paper	 Free Placement
 Check Box	 Table	 Image

## Tool Area



Delete Questionnaire



Create a New Questionnaire



Save Changes



Undo Changes

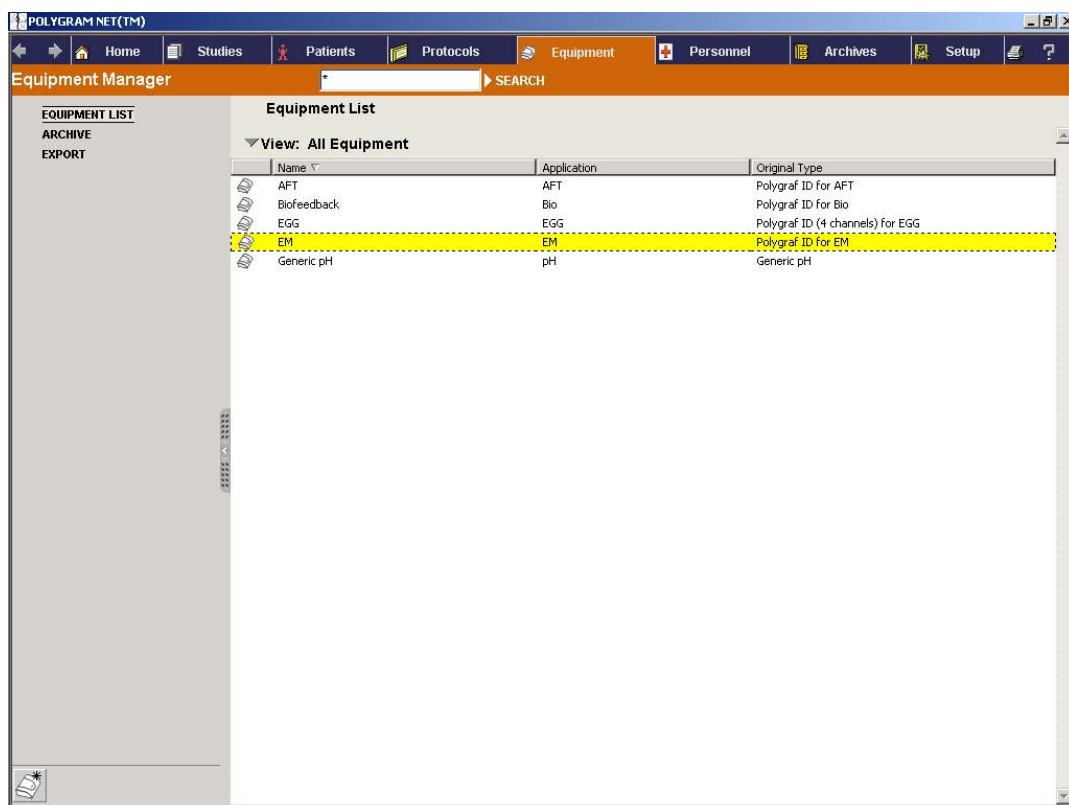
# Equipment

## Equipment Manager

The Equipment Manager displays a list of all the Devices/Equipment registered in the system.

To find a particular type of equipment, a *Search* facility is available allowing you to run a search through the entire list of *Equipment*.

Through [Filters–Setup Manager](#), you can choose which columns (created, patient Name, Study Type, etc..) to be available on the Equipment view.



*Equipment*

To focus on a particular list of equipment, you can filter the View by clicking on the *View* header. From the box that appears, choose one of the following options and *Click*.

- All Equipments
- All Equipments In Use
- Equipment Not In Use

The View can also be sorted out by:

- Name
- Application
- Original Type
- In Use

When the Equipment is in use, the *In Use* is checked and an AFT protocol is available.

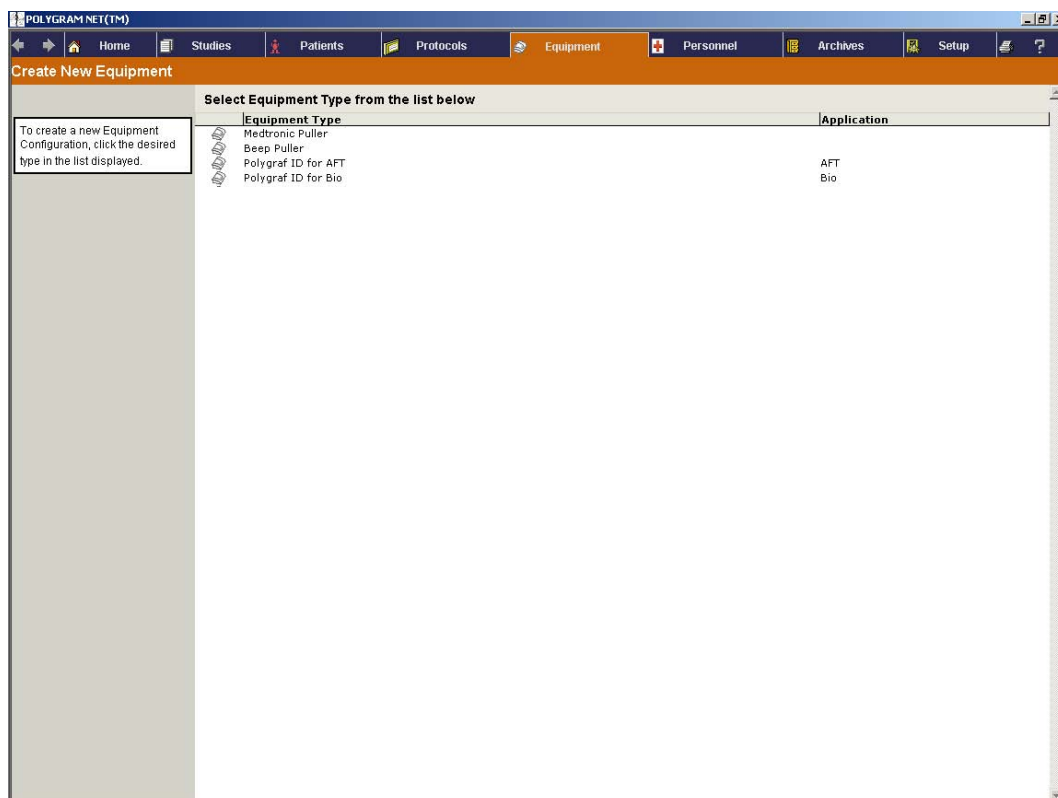
To access the *Equipment Configuration* for specific equipment, locate its entry and *Double Click*.

### Create New Equipment



To create new Equipment, click *New Equipment* in the Tool Area. From the list displayed, select the type of equipment:

- Polygraf ID
- Catheter Puller
- Beep Puller



Equipment—Create New Equipment

## All Equipment

The Catheter Puller and the Beep Puller are universal equipments, and can therefore be used for more than one extension.

---

## Equipment Details

In the Equipment Details view displayed, the name and the original type of the equipment (Polygraf ID AFT) will be shown. Type-in boxes are available allowing you to enter the following information:

- Name
- Comments

## Tool Area



Create New Equipment



Save Changes



Undo Changes



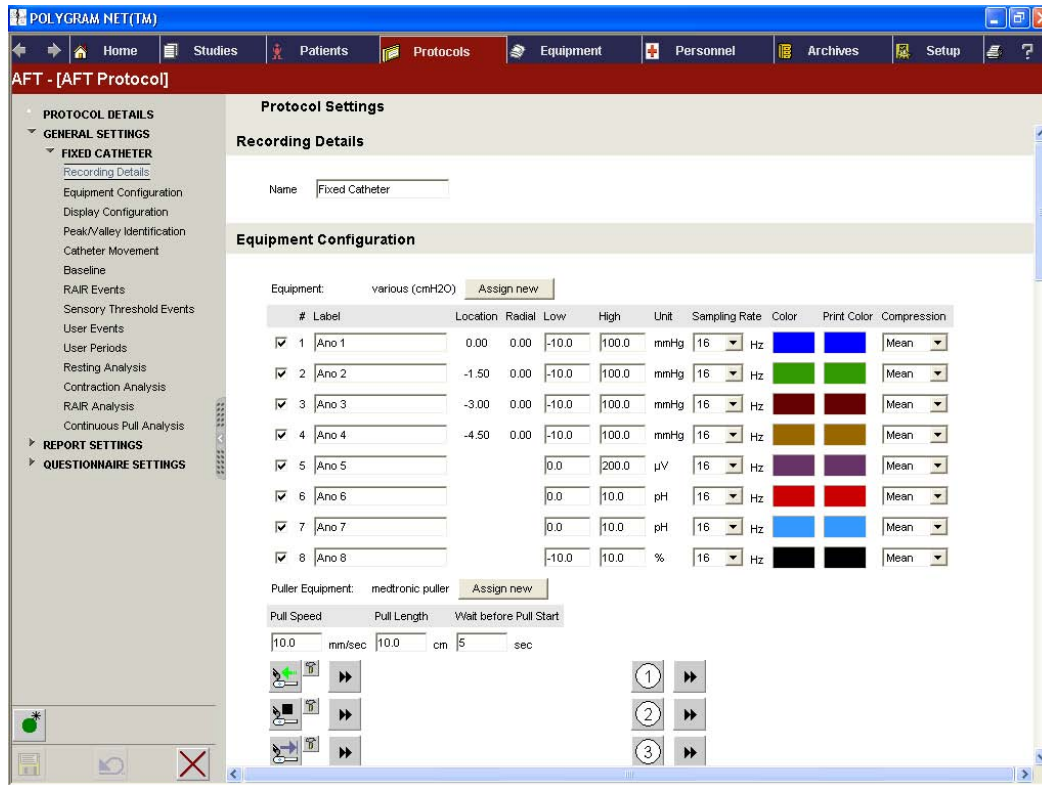
Delete Equipment

---

## Configuration

The Configuration view for the Polygraf ID will provide you with the following information:

- Channel
- Sensor Type
- Unit
- Location
- Radial
- Label
- Low
- High
- Calibration
- Color
- Print Color
- Compression



Equipment Configuration

**NOTE** Only Pressure sensors are configurable with respect to choice of unit. Unit choice is forced for that type of sensors.

- High and Low values can be edited.

Pressure Channels default values:

- High = 50
- Low = 0

## Tool Area



Save Changes



Undo Changes

## Puller Configuration

In the Configuration view displayed for the Catheter/Beep Puller, the following options are available:

- Pull Speed
- Pull Length
- Waiting seconds before Pull Starts

Medtronic Catheter Puller - Configuration	
Pull Speed	10 mm/sec
Pull Length	10 cm
Wait before Pull Start	5 sec

*Puller Configuration*

## Tool Area



Save Changes



Undo Changes

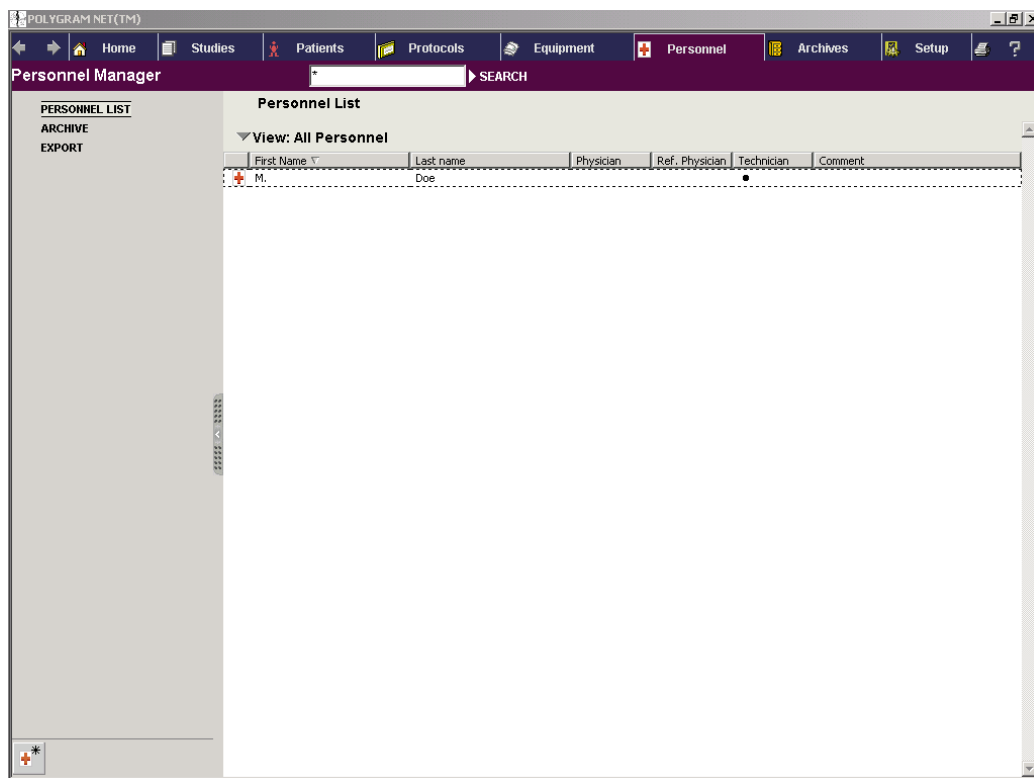
# Personnel

## Personnel Manager

The Personnel Manager provides an overview of all the personnel known to the system—Physicians, Referring Physicians, and Technicians.

To find a particular member of the personnel, a *Search* facility is available allowing you to run a search through the entire list of *Personnel*.

Through [Filters–Setup Manager](#), you can choose which columns (created, patient Name, Study Type, etc..) to be available on the Personnel view.



Personnel

To focus on a particular list of personnel, you can filter the View by clicking on the *View* header. From the box that appears, choose one of the options and *Click*.

- All Personnel
- Physicians
- Technicians
- Referring Physicians

The List can also be sorted out by:

- Name
- Surname
- Physician
- Referring Physician
- Technician
- Comment

Personnel can be deleted directly from the list by placing the cursor over the desired entry, right-click on it, and then click on the *Delete Personnel* box that appears.

To open the *Personnel Details* page, select the desired entry in the list and *Click*.

### ***Creating New Personnel***



To create New Personnel, click the *New Personnel* button in the Tool Area. The Personnel Details page will be displayed allowing you to enter the required information.

### **Personnel Details**

Enter/select the following information:

- Name
- Surname
- Role:
  - Physician
  - Ref. Physician
  - Technician
- Comments

Personnel Details

Personnel Details

## Tool Area



Create New Personnel



Delete Personnel



Undo Changes



Save Changes

---

**NOTE** Personnel Assigned to a study cannot be deleted.

---

# Archives

---

## Archive Manager

The Archive can be used as a regular backup, or to make a safety-copy. The following archives can be created:

- Study
- Patient
- Protocol
- Equipment
- Personnel  
-Technician
- Comments

To review or retrieve an archive, locate its entry and *Double Click*.

### Create New Archive



To create a new Archive, click the *Create New Archive* button in the Tool Area. A list with all the types of archives will be displayed. Click on the type of archive you wish to create, and from the list below select the entries you wish to include. To save the New Archive, click the *Save* button in the Tool Area.

- When creating archives of Patients, Protocols, Equipments, or Personnel a copy will be created and saved in a file. The data will not be removed from POLYGRAM NET™.
- When creating archives of Studies they will be saved in a file and removed from the POLYGRAM NET™. Only *Completed Studies* can be archived.

### Register Archive

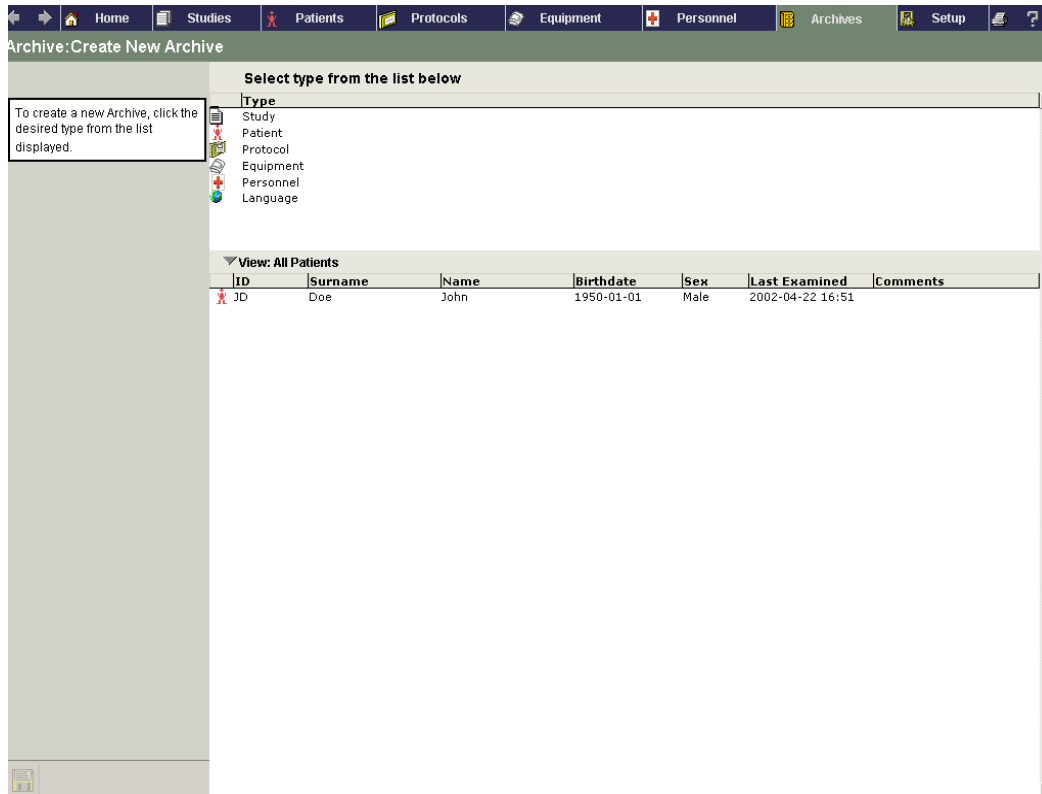


To register an archive, click the *Register* button in the Tool Area. An Open Dialog box will be displayed allowing you to enter the name of the file.

### Export



To export a document, click the *Export* button in the Tool Area. From the list displayed, select the type of export you want, and click. A view will appear allowing you to select one or more entries. Click the *Save* button in the Tool Area to save the export. An Open Dialog box will be displayed where you can enter the name of the file. When exporting —it is just a copy that is being exported; the data remain in the system.



Create New Archives

## Tool Area



Create New Archives



Register Archives



Export Archives



Save Changes

# Setup

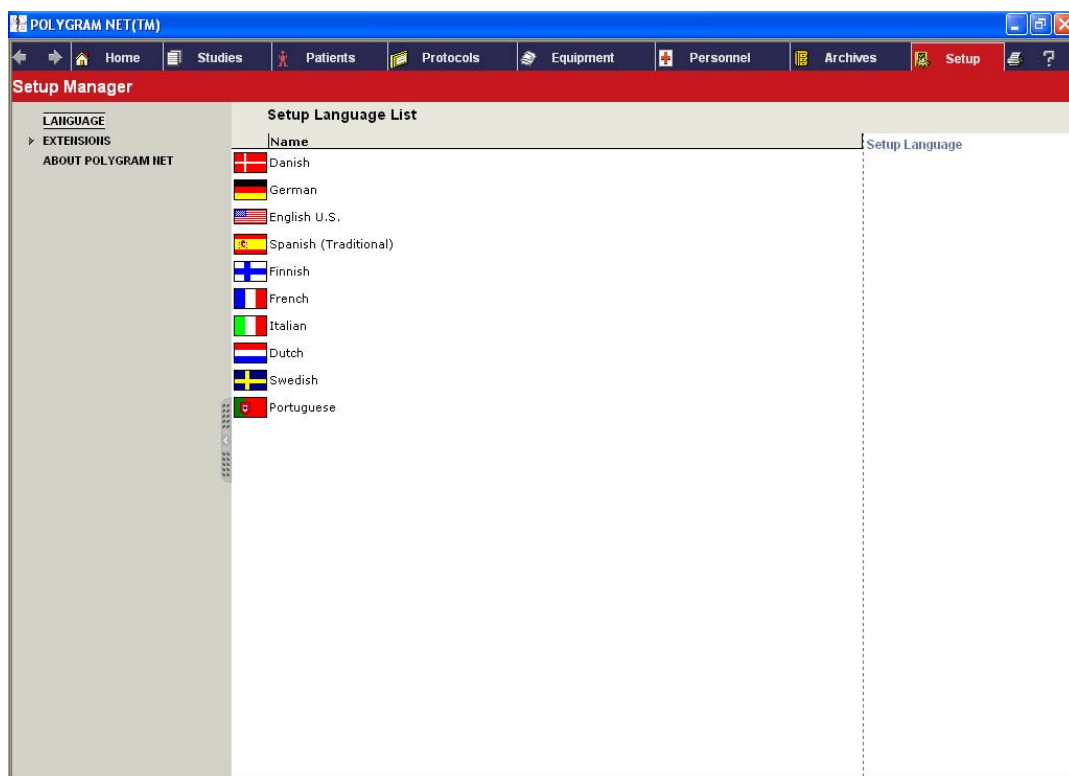
## Setup Manager

From Setup Manager you have access to the [Language](#) and [Extensions](#) configuration pages.

### Language

The Language Manager provides an overview of all the available languages supported by the system.

To modify the language being used by the system, click the [Language](#) of your choice (when available) from the displayed list. The language will then be changed, and you will be taken to the [Home](#) page.



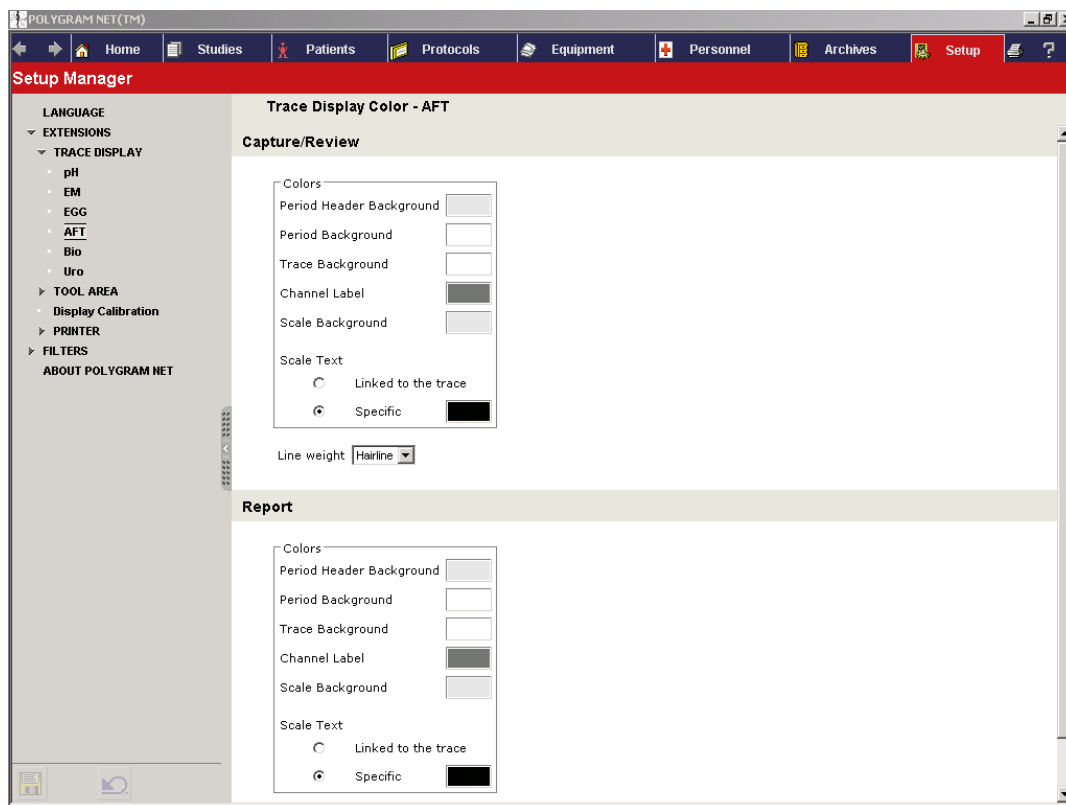
Setup Manager—Setup Language List

## Extensions

From Extensions, you will have access to the configuration of *Trace Display Tool Area*, and *Display Calibration*.

## Trace Display

In Trace Display, you can configure the display of the trace to suit your local needs. Capture, Review, and Report settings can be controlled independently.



*Trace Display Color–Setup Manager*

## Colors

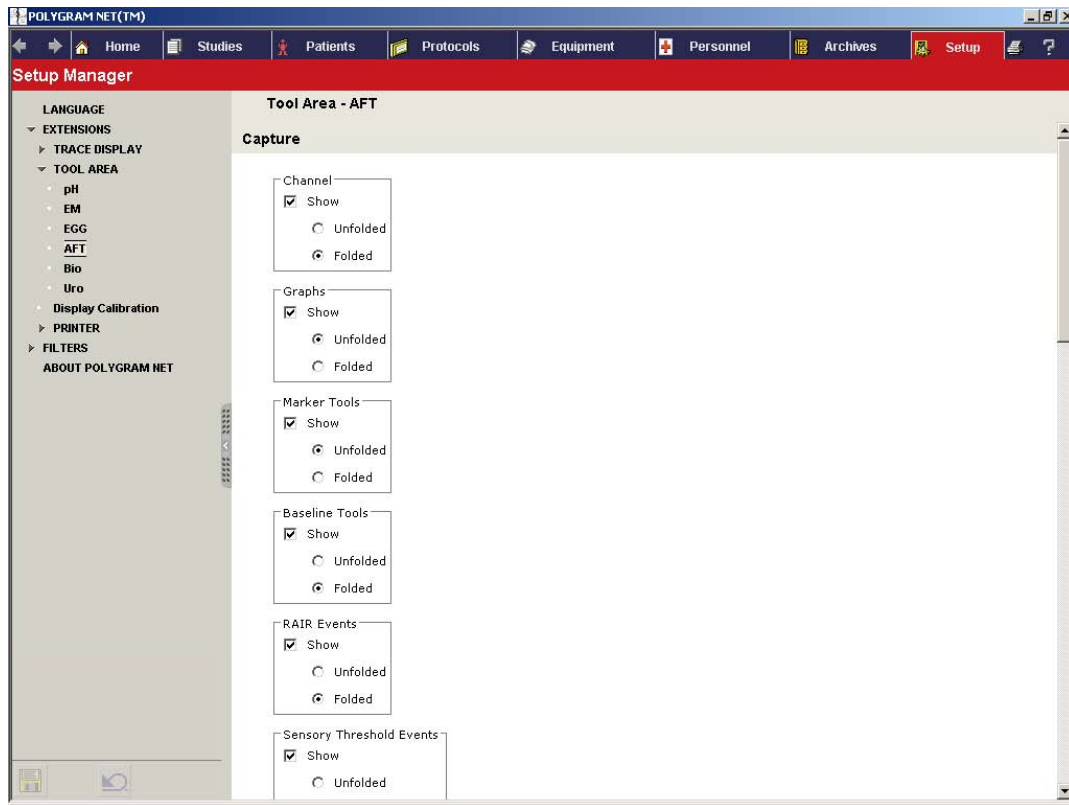
You can control the color used for the period header background, period background, trace background, channel label, and scale background. You can also assign a specific color to the scale text, or link it to the color of the trace.

## Line Weight

You can control the thickness of the traces by setting the line weight. The available options are Hairline, Thin, Medium, Thick, and Heavy.

## Tool Area

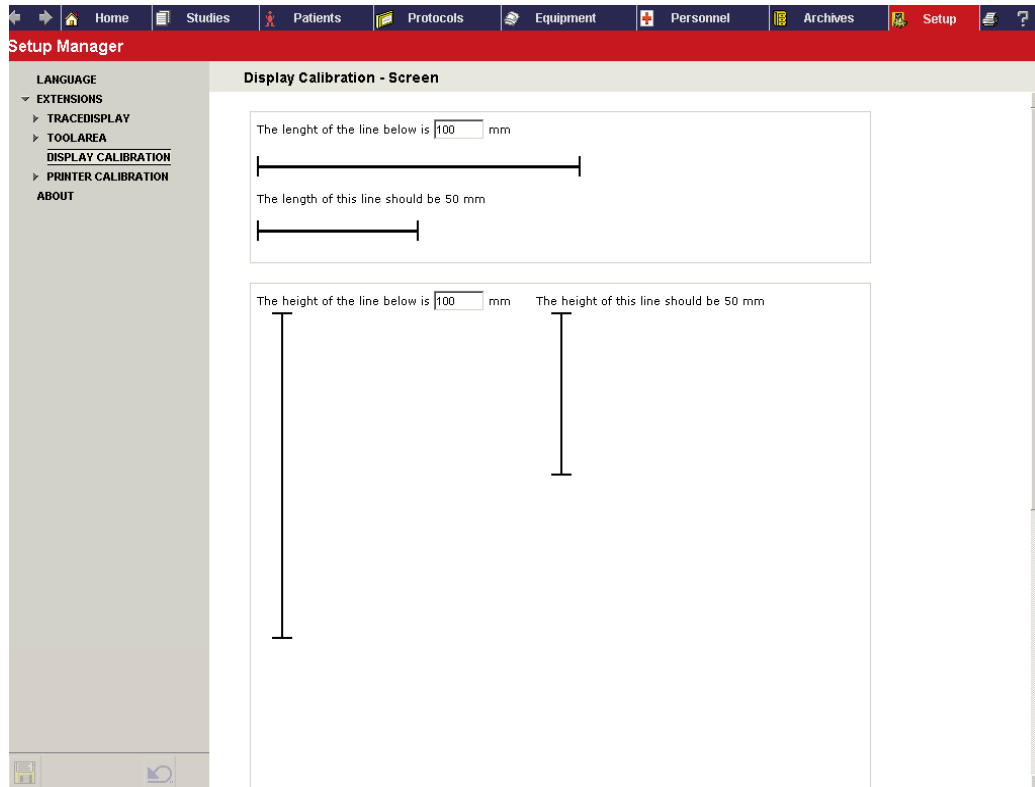
You can choose the tools you want to appear in the Tool Area of Capture and Review views by selecting their corresponding Show box in Extensions–Setup Manager. You can also choose whether the tools should appear folded or unfolded when entering a view.



*Tool Area–Setup Manager*

## Display Calibration

If needed, the screen can be calibrated to reflect a real physical measurement. Using a "ruler" you must measure the first horizontal and vertical lines and update the length where needed. Check your adjustment by measuring the second line.



*Setup Manager—Display Calibration Screen*

## Printer

From the drop-down list boxes that appear in Printer–Setup Manager, the following configuration is available for printing:

---

**NOTE** Printing configuration needs to be set up before starting a study. Type of printer, paper size, and orientation cannot be modified at the time of printout.

---

## Review

- Printer Name
- Paper Type

### NOTE on Printing from Review

When printing from Review, click the Print button. A dialog box will be displayed with the following options:

- **Current View:** Current visible part of the recording in review
- **All:** Whole recording
- **Fit to No. of Pages:** The selection can be fitted to a number of pages (default 1 page)
- **Protocol (10mm/s):** Use the protocol defined Capture Display Rate
- **1.25 (mm/s)–Default:** You can print using a specific value X for paper speed. The value of 1.25 is default identical to the current zoom level shown in the tool area
- **Printed Pages:** The number of pages for the current selection will be shown

**Print Setup**

<b>Pages</b> <input checked="" type="radio"/> Current View <input type="radio"/> All <b>Printed Pages: 2</b>	<b>Paper Speed</b> <input type="radio"/> Fit to 1 page(s) <input type="radio"/> Protocol( 10 mm/s ) <input checked="" type="radio"/> 1.25 ( mm/s)
---	--

Ok Cancel

## Report

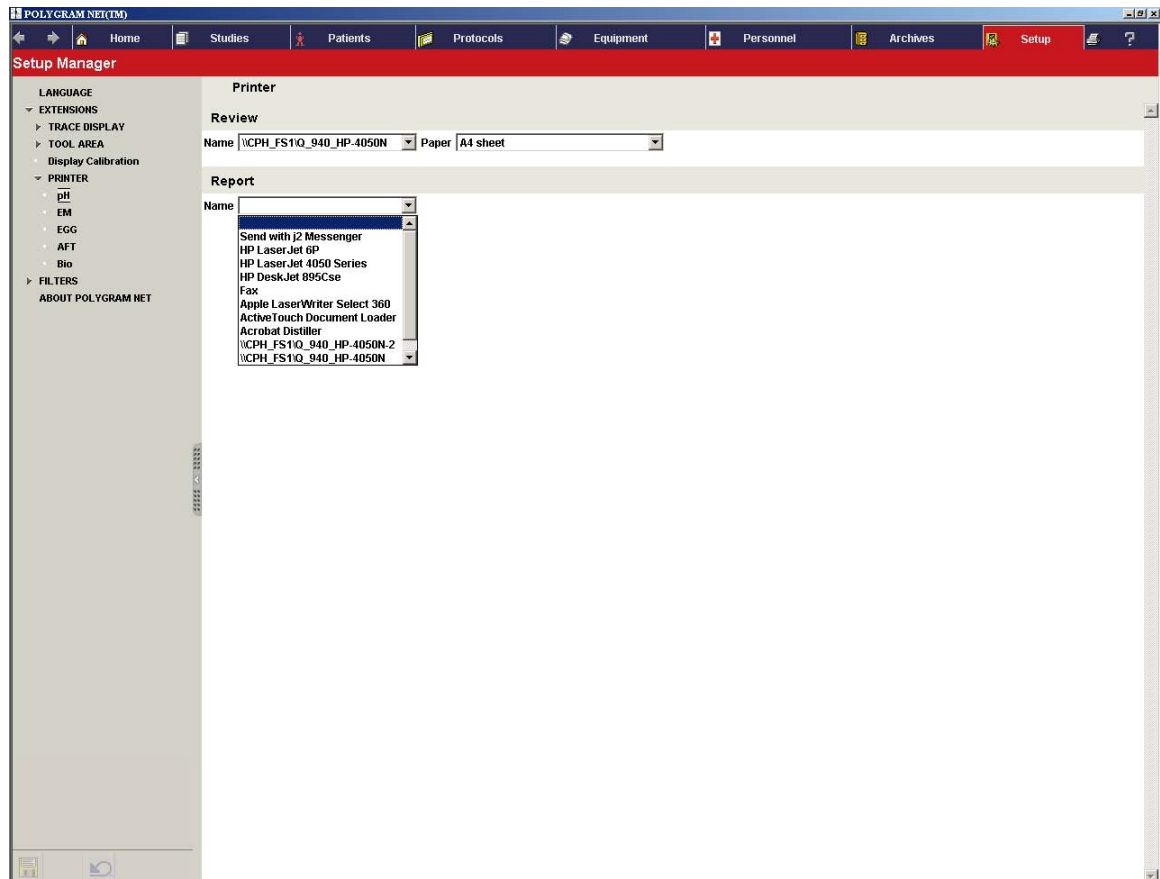
The name of the printer can be chosen from the drop-down list.

- Printer Name

---

**NOTE** Paper size and orientation need to be selected from the Paper Setting drop-down list in [Protocol-Report Settings](#).

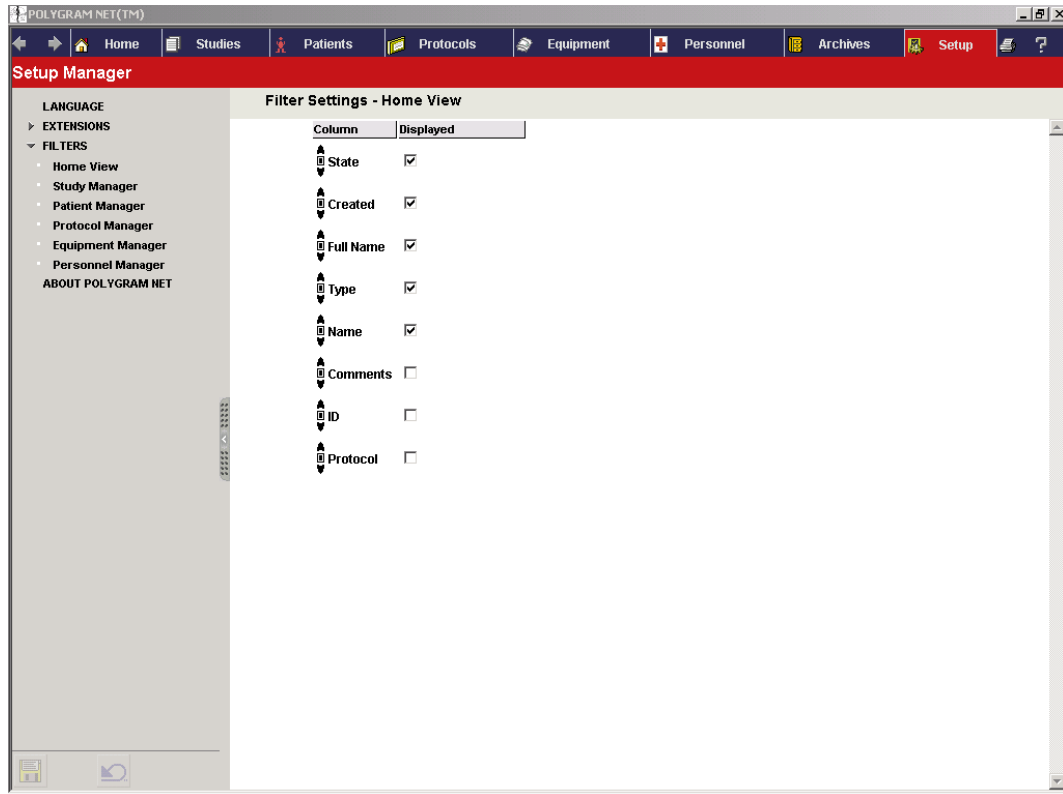
---



*Printer Configuration*

## Filters

You can enable or disable the lists that appear on all the Manager views by selecting or clearing the appropriate check box for a particular list in the Filters–Setup Manager.



# *Index*

## **A**

Archive Manager, 62  
Archive, Creating, 62

## **C**

*Completed Studies*, 62  
Configuration, Equipment, 56  
Creating Personnel, 60

## **E**

Equipment, 54  
Equipment Details, 56

## **L**

Language Manager  
Setup, Language, 64

## **P**

Protocol, 35

## **R**

Report Settings, 49

## **S**

Setup, Language, 64  
Study, Create, 30  
System Overview, 6

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