OPERATOR'S MANUAL

EXPMT 2000

Atrial - Ventricular -Transcutaneous - Pacemaker Analyzer

PN: 960-2000

Serving Biomedical Industry Worldwide Since 1987

110 Toledo Street | Farmingdale, New York 11735 | United States of America
www.NetechBiomedical.com

Table of Contents

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General Contact Information

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Warnings

Symbol	Description
⚠	Caution Important Safety Information
⚡	Hazardous Voltage
CE	Conforms to European Union Directive
CAT I	IEC Measurement Category –CAT I equipment designed to protect against transients in equipment not directly connected to mains.

Introduction

The EXPMT 2000 Analyzer, hereafter referred to as "Analyzer" is the latest, improved version of Netech's most popular Pacemaker analyzer in the market. It is a precision, compact, handheld, battery operated instrument for testing Atrial, Ventricular, and transcutaneous pacemakers. This Analyzer is designed to test a comprehensive range of functions on a wide verity of temporary external pacemakers including:

- Transcutaneous / Transthoracic pacemaker
- AV sequential pacemaker
- Dual Chamber pacemaker
- Non- Invasive pacemaker

Note:

⚠️	The Analyzer is not designed to test programmable internal pacemakers such as implantable, internal or permanent pacemakers.
⚠️	The Analyzer is intended to be used only by a trained technician.
⚠️	The Analyzer is intended for testing and verifying the performance specification of various External Pacemakers only.
⚠️ ⚠️	The Analyzer is intended to be used within the published specifications. Any unauthorized alteration or modifications will result in improper operation.
	Read the user manual before operating the Analyzer.

EXPMT 2000 Features

- Tests external transcutaneous, transvenous and dual chamber (AV) pacemakers.
- Graphic display with back lighting.
- Simple and easy to use with menu driven and user interactive key functions.
- Full range of user selectable measurement functions.
- User selectable test loads for Transcutaneous Pacemakers.
- Interactive pacemaker with 5 lead ECG simulation.
- Compact and rugged built.
- 1MB internal flash memory for storing test records.
- Test results can be stored into the internal nonvolatile memory for printing test data to a PC.
- User can input the Equipment ID (asset ID).
- USB/RS 232 interface for uploading test data.
- 7.4 Volt Li-ion polymer battery (provides 10 hours continuous operation).

Preparation for Use

The EXPMT 2000 External Pacemaker Analyzer is shipped with the following items included in the customized hard case:

- Li Ion Battery Charger (110/220 V input)
- Transcutaneous Input test load.
- Transcutaneous Pacer Interface cables
- AV pacer interface cables
- User manual / Procom Print software CD/USB

Instrument Familiarization

Before getting started it is important to get familiar with the control and operation of the unit.
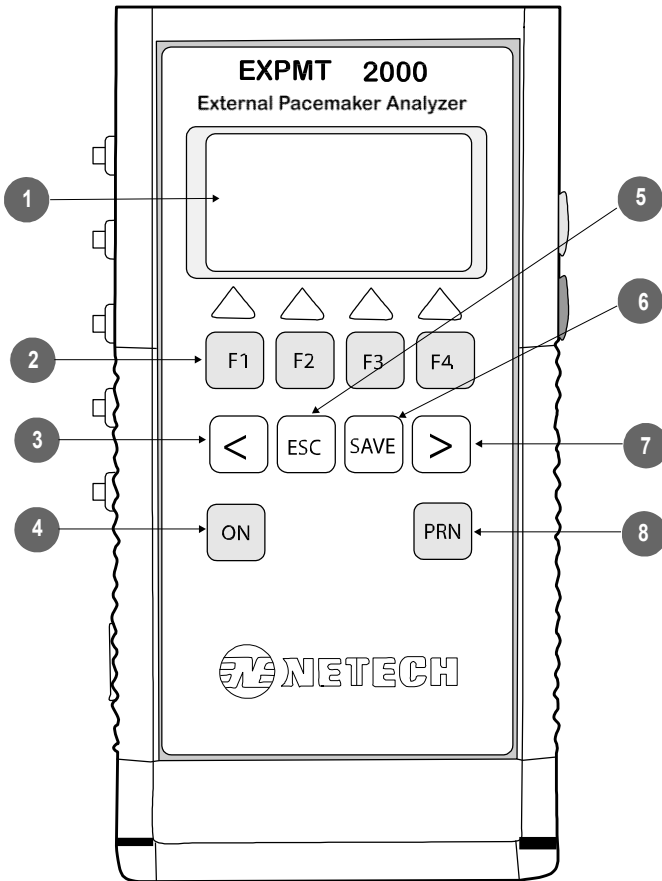
Figure 1. Analyzer Features and Controls

Analyzer Features and Controls

Number	Description
1	Graphics LCD Window
2	Function Keys, F1, F2, F3, F4
3	Arrow Key < (Left)
4	Power ON/OFF Momentary Switch
5	ESC Key
6	Save Key
7	Arrow Key > (Right)
8	Print Function Key

Description of Key Functions

The following are the description of the key functions.

- **F1, F2, F3, F4, <, and >**
  These soft keys are interactive with respect to the desired menu selections.

- **"ESC"** - when pressed, brings back the previous menu.

- "**SAVE**" – Saves the displayed test result into the internal memory under the Equipment ID that the user enabled.

- **"PRN"** – Prints the saved test result to a PC using the Procom Print software, supplied with the unit.

Instrument Interface Identification
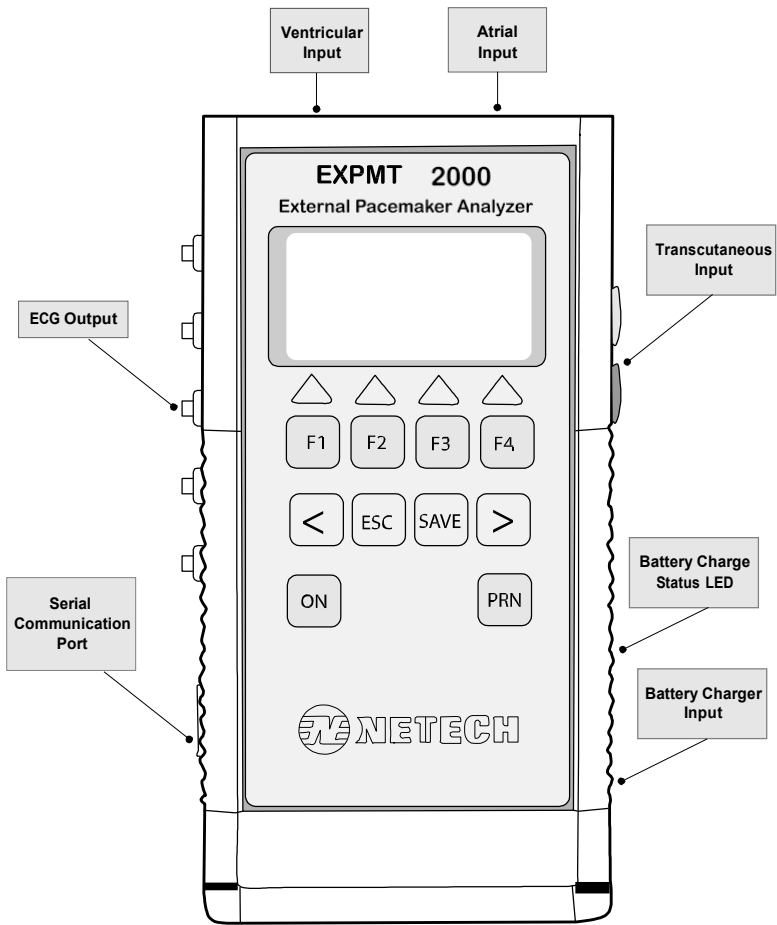
Figure 2. Analyzer Input and Output Connections

Test Setup

Introduction

Prior to the initial operation, make sure to charge the built-in Li-ion battery by plugging in the Charger to the battery input Jack. The battery charging status is indicated by the yellow LED next to the input jack. It takes 3-4 hours to fully charge the battery. When the battery is fully charged the Red LED on the Charger will turn Green.

The Analyzer can be turned ON by momentarily pressing the "ON" key. Pressing and holding the ON key for a few moments will turn the unit OFF.

When the unit is first powered, the screen momentarily shows the software version and the build number. It will then will display the Main Menu as shown below.
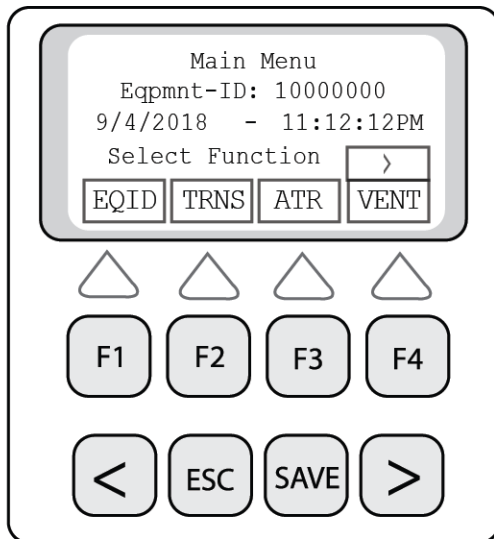
In this menu the active keys are F1, F2, F3, F4 and ">"

Date and Time Setup

1. From the main menu select ">" Key.

2. The following Menu will be displayed.

```
        Main Menu
    Eqpmnt-ID: 10000000
   02/22/2021 -  3:49:30PM
     Select Function   >
   AVD                CONF
```

```
   F1    F2    F3    F4

   <    ESC  SAVE   >
```
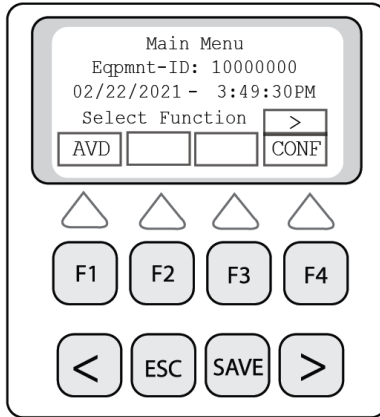
3. Select "CONF" using F4 key.

4. The Configuration Menu will be displayed as shown below.

```
     Configuration Menu
   Change Time ?-Press F1
   Change Date ?-Press F2

   TIME  DATE       FSET
```

```
   F1    F2    F3    F4

   <    ESC  SAVE   >
```
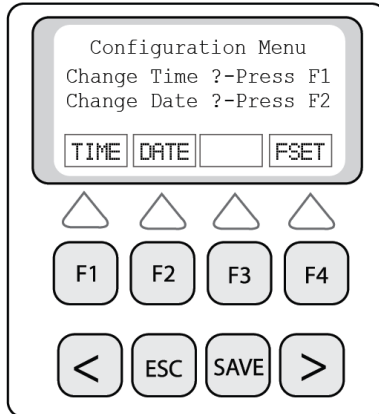
5. To set the time, press the F1 Key. To set the date, press F2 Key.

6. Follow the screen prompt and when done press "ESC".

Equipment ID

In this menu the user can input an 8-digit Equipment ID of the unit under test (DUT). The test results that are saved will be designated- ed under this unique ID and available for uploading to a PC and printing. Therefore, it is very important to change the ID when a new unit is being tested.

To change or enter a new Equipment ID, press F1 from the main menu. The Equipment ID menu will appear as shown below.

```
 ┌──────────────────────────────┐
 │   Enter Equipment ID         │
 │  Equipment ID: 10000000      │
 │     1     0     0     0      │
 │  ┌────┐ ┌────┐ ┌────┐ ┌────┐ │
 │  │ D1 │ │ D2 │ │ D3 │ │ D4 │ │
 │  └────┘ └────┘ └────┘ └────┘ │
 └──────────────────────────────┘
       △     △     △     △
    ( F1 ) ( F2 ) ( F3 ) ( F4 )

    ( < ) ( ESC ) ( SAVE ) ( > )
```
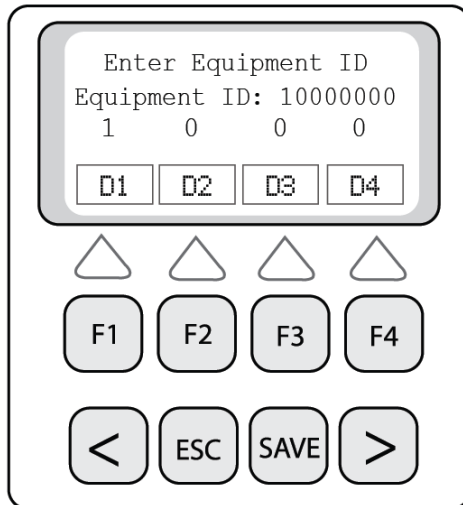
7. Use F1, F2, F3, F4 to set the first 4 digits (D1, D2, D3, D4) And ">" for the next 4 digits (D5, D6, D7, D8)

8. When done press the "SAVE" key.

9. The Equipment ID is now saved and will be displayed in the main menu.

Transcutaneous Pacemaker Test

The Analyzer tests various types of transcutaneous pacemakers. Most transcutaneous pacemakers are built into cardiac resuscitation equipment along with defibrillators.

Defibrillators deliver high voltageshocks to a patient with certain

heart conditions.

CAUTION

To avoid possible shock hazard and damage to the Analyzer, do not

discharge defibrillator into the unit.

Follow the manufacturer's user manual for recommended test procedures and observe safety precautions.

Getting Started

All pacer test functions are menu driven. It is simple and easy to use by selecting the desired functions from the menu.

50 Ohms built in load is set as default. However, various manufacturers recommendspecific loads for performing the test.A user selectable load box is included with the unit (as shown below).
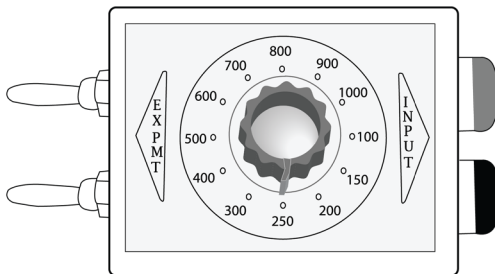
For tests that requireECG simulation,five lead low level ECG

outputs are provided.

The low-level ECG leads are marked RL, RA, LA, LL, and V/C.

Attach the user selectable test load (supplied with the analyzer) to the "Trans" Input of the analyzer as shown below.

Connect the ECG leads to the transcutaneous pacemaker.

A typical test setup for the transcutaneous pacer is shown below.
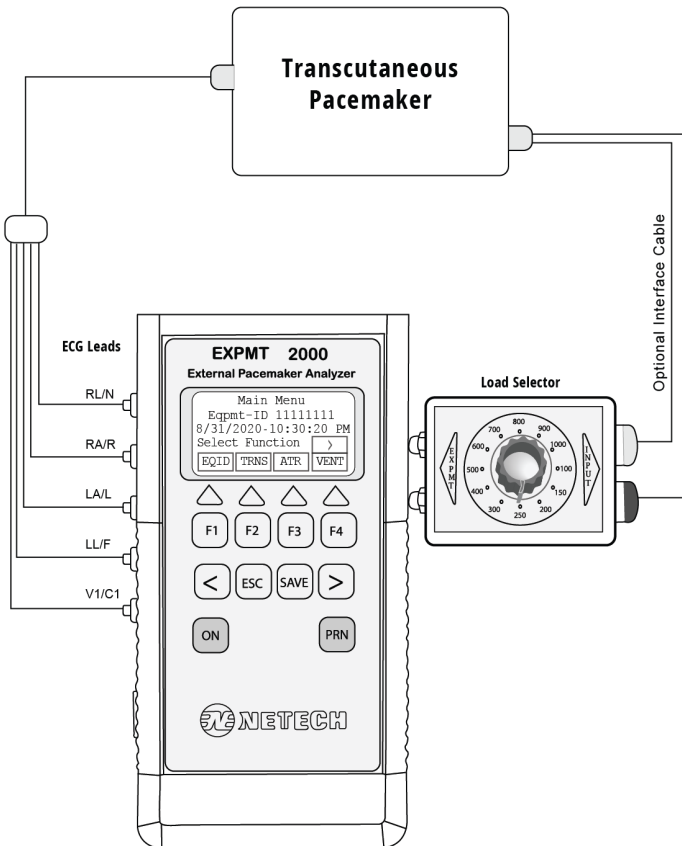
Figure 3. Transcutaneous pacemaker test setup

The Analyzer measures and displays a pacer pulse's amplitude (current), peak voltage, rate, width, and energy.

It also conducts pacemaker demand sensitivity tests, measuring and displaying refractory periods, and immunity tests, which determine the pacemaker's susceptibility to 50/60 Hz interference.

Pacer Pulse Measurement

1. From the Main Menu press F2 ("TRNS").

2. The following transcutaneous menu will be displayed as below.

```
Transcutanious Menu
Select Desired Load
Connect 'Trans' Pacer
Press 'ESC' when done
```

F1   F2   F3   F4

<   ESC   SAVE   >
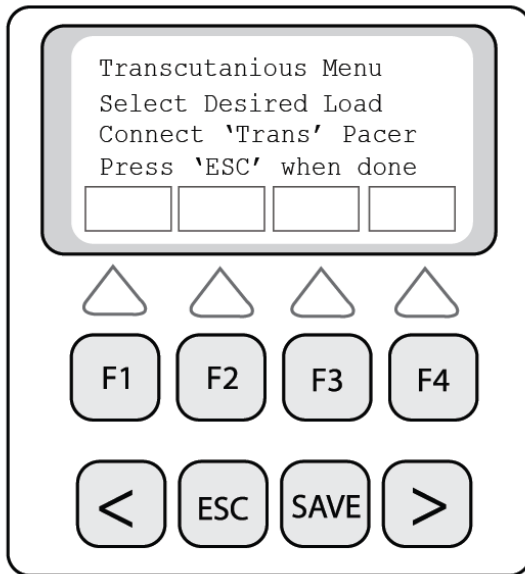
3. Connect the transcutaneous pacer output cables to the "Trans" input of the analyzer directly (50 Ohms Load) or through the load box as shown in Figure 3.

4. Select the desired load and press "ESC".

5. Set the desired rate width and amplitude (current) on the Transcutaneous pacer.

6. The display will flash "????" until the pulse is detected and the rate, width and the current will be displayed.

7. Use right arrow (' >') key to display the secondary menu. Then press the F1, F3 or F4 for selecting 'current", 'energy' and 'volt' respectively.

8. The measurement cycle continues and the display is updated.

9. To save the test result press the "SAVE" key.

10. The test result displayed will be saved with the Equipment ID set in the beginning. The display will return to the main Menu.

Pace Refractory period Test

The refractory period of a demand pacemaker is the time interval during which a pacemaker is insensitive to ECG signal. If an ECG signal is detected during this period, the pacemaker ignores it. However, if an ECG signal is detected outside the refractory interval, then the pacemaker resets its internal timer and the next pacer pulse is generated after a delay of one time from this ECG wave.

Measurement of the pace refractory takes a few cycles of the pacemaker output. EXPMT 2000 measures the pacer pulse interval and puts out a QRS wave at 40 milliseconds wide, delayed by a time determined initially by checking the pacer rate. The pacemaker senses this QRS wave. The delay time is gradually decremented until the QRS waveform is not sensed by the pacemaker. The maximum value of the delay time for which the pacemaker does not sense the square wave, is the pace refractory period.

Test Procedure

1. Press F1 in the Transcutaneous measurement menu to select "Refr" (refractory) test menu.

2. The following Refractory selection (Pace /Sense) Menu will be displayed.

```
         Refractory Menu
         Select Function

   Pace              Sens
```

   △   △   △   △
   F1   F2   F3   F4

   <   ESC SAVE >
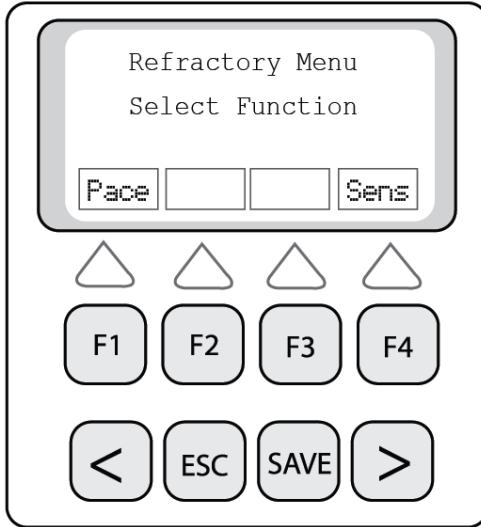
3. Set the pacemaker in demand mode.

4. Select "Pace" (F1). The pace refractory and the pulse rate will be displayed after a few seconds.

5. The measurement cycle continues and the display is updated.

6. To interrupt the measurement press the "ESC" key.

7. To save the test result press save. The result will be saved to the Equipment ID set earlier.

Sense Refractory Test

The sense refractory time is the interval after a QRS wave is sensed by the pacemaker during which time the presence of a second QRS wave is not sensed.

The sensed refractory period is measured similar to the pace refractory, except that EXPMT 2000 now generates a QRS outside of the paced refractory period. The pacemaker senses the QRS. The QRS time is slightly increased each time with the pacer pulse until the pacer senses the QRS and resets. The delay time from the first QRS to the sensed QRS is the sensed refractory period. The measurement takes a few cycles. When the' ????' on the screen stops, the result is displayed.

1. Select "Sens" (F4) from the Refractory selection menu.

2. The Sense refractory and the pulse rate will be displayed after a few pacer pulse cycles and the flashing of '????' stops.

3. The measurement cycle continues and the result is updated. To interrupt the cycle, press the "ESC" key.

4. To save the test result press "Save". The result will be saved to the Equipment ID set earlier.

Sensitivity Test

Pacer sensitivity period is the minimum QRS amplitude (mV) required to cause the pacemaker to operate in the demand mode. During the sensitivity measurement test, four different user selectable waveforms are available, with widths varying in steps from 10 to 400 mS. The selected waveform is delayed from the pacer pulse so that it is outside the pacing refractory period.

The amplitude of the QRS is gradually increased from 0.5 mV steps until the Analyzer detects pacer pulse. The amplitude at which the pacer pulse is sensed is the sensitivity in mV.

Test Procedure

```
Rate:      80 PPM
Width:    1.0 mSec
Current: 10.0 mAmp

Refr   Sens   Sync   Imun
```

△ △ △ △

F1   F2   F3   F4

<   ESC   SAVE   >
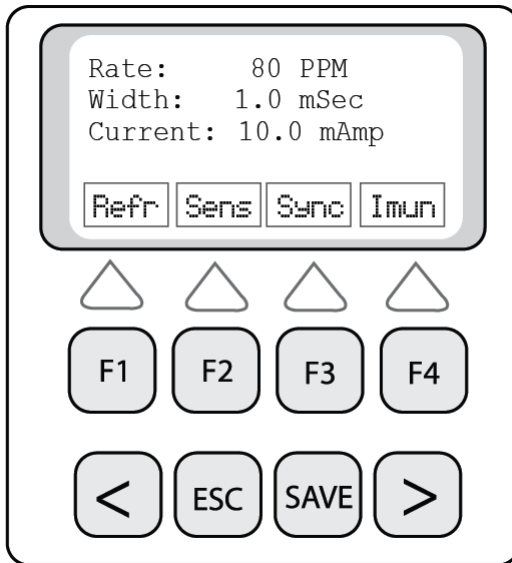
1.Select "Sens" (F2) from the Pacer Measurement Menu (as above). The sensitivity menu will be displayed.

2.Set the Pacer to AAI mode, the rate to 80BPM, and the current to 10mA.

3.The default waveform is ECG and the default width, is 40 mS.

4.To change the waveform press F1 and to change the width press F2.

5.To start the test press F4 ('Done').

6.Press F4 when the unit displays "Sensty" ready.

7.The Display will show Sensty: "Wait" for a few seconds, then the rate and sensitivity in mv will be displayed.

8.To save the test result press "Save".

Noise Immunity Test

The immunity test determines the pacemaker's susceptibility to 50/60 Hz interference signals. The test can be performed with or without ECG waveform.

1. From the Pacer Test Menu select "Imun" (F4). The noise immunity test menu will be displayed.

2. Select the desired frequency, 50Hz (F1) or 60 Hz (F4).

3. To change the amplitude of the sine wave use the F4 key.

4. To enable or disable ECG use the F1 key.

5. Press "ESC" to get back to the previous menu.

Transvenous Pacemaker Test

The Analyzer tests both Atrial and Ventricular transvenous pacemakers.

Most transvenous pacemaker measurements are specified with a test load of 500 ohms.

The Analyzer measures the following output parameters of the transvenous pacemakers:

• Pulse Amplitude - milliamps

• Pulse width – milliseconds

• Pulse Rate – per minute

• Volts – volts

• Energy – joules

• AV delay – milliseconds

The Analyzer also performs the following tests:

• Amplitude sensitivity

• Refractory period in both Pace and Sense Mode.

• Immunity tests, which determine the pacemaker's susceptibility to 50/60 Hz interference.

The following is the typical setup for testing transvenous pacemakers.
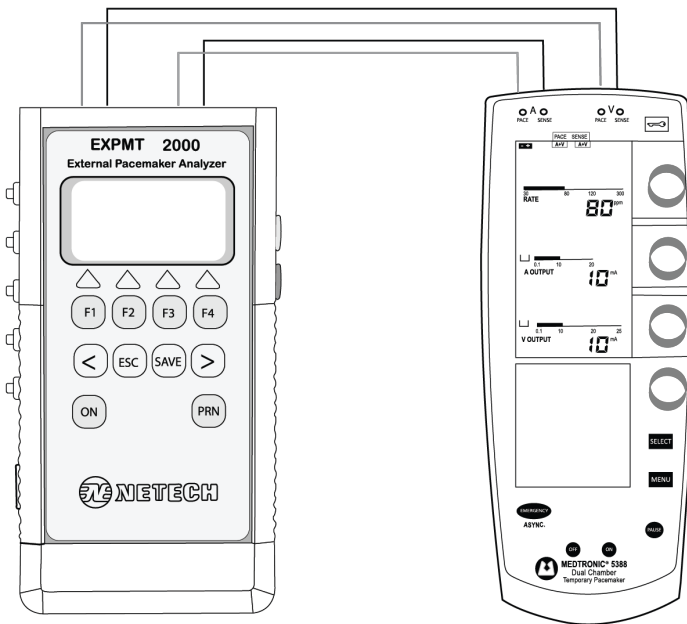
Figure 4. Transvenous pacemaker test setup

Setup
Atrial Pacer Output Measurement

1. Connect the Atrial and Ventricular outputs of the Transvenous Pacemaker to the respective inputs of the Analyzer as shown above.

2. From the main menu select "ATR" (F3) for the Atrial Menu.

3. Turn ON the Pacemaker and set desired Rate and Amp.

4. To begin the measurement press, "ESC".

5. The analyzer will measure the rate, width, and the current and display the result.

6. To save the test result press "SAVE" key. The results are saved into the memory under the device ID set in the beginning of the test.

7. To display the energy press ">" key for the secondary menu as shown below.
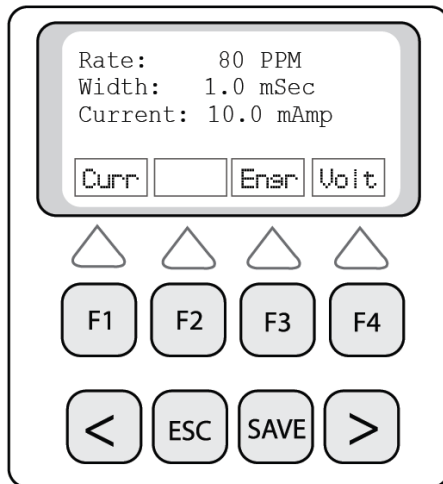
8. To display energy or "Volt" press F3 or F4 respectively.

9. Press "ESC" to go back to the Atrial measurement menu.

Atrial Pacer Refractory Test

1. From the Atrial measurement menu select "Refr" (F1) for the pace and sense refractory selection menu as shown below.
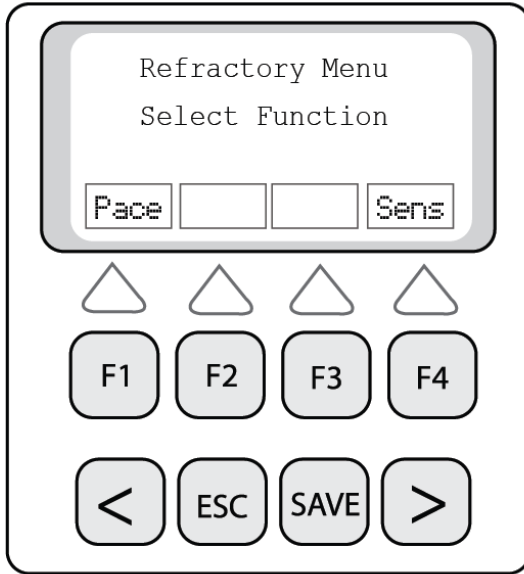
2. Press F1 "Pace" to begin the pace refractory test.

3. The display will flash "???" during computation of the refractory period. Once the refractory period is determined the "???" flashing will stop and the refractory period and pulse rate will be displayed.

4. To repeat the test press F1 gain.

5. To save the test result press "Save".

Atrial Sense Refractory Test

1. From the refractory menu, select "Sens" (F4).

2. The sense refractory period and the pulse rate will be displayed.

3. To save the test result press "Save".

Atrial Pacer Sensitivity Test

1. From the Atrial Measurement menu select "Sens" (F2).

2. Set the pacemaker to AAI mode.

3. Set the rate to 80 BPM and output current to 10 mA.

4. Disable the Ventricular output (set current to 0 mA).

```
Set Pacer to AAI Mode
Set Rate @80
Set Atrial Outout 10mA
Vent Output 0mA (Off)
```
TRI   50ms   Done

F1   F2   F3   F4

<   ESC   SAVE   >
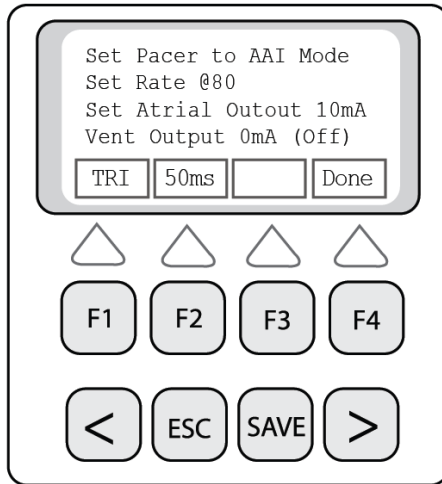
5. The waveform type and width can be changed with the F1 and F2 keys. (The default waveform is set to ECG and the default width to 40 mS).

6. To start the test press F4('Done').

7. Press F4, when the display shows: Scentsy: "Ready".

8. The Display will show Sensty: "Wait" for a few seconds, then the rate and sensitivity in mv will be displayed.

9. To save the test result press "Save".

Synchronization Test

From the Atrial (or Ventricular) menu select "Sync" by pressing 'F3' key. The pacer Sync Test Menu will be displayed.

In this Menu there are two mode selections – Asynchronous (F1) and Demand (F4).

Both tests are performed simultaneously for both atrial and ventricular channels.

Asynchronous Mode

Press F1 to start the test. The Analyzer first measures the pacemaker's pulse rate and then calculates the "underdrive" and "overdrive" rates for the simulated ECG.

The initial underdrive rate is 90% of the applied pacemaker rate and the overdrive is 110% of the applied pacemaker rate.

The pacer output should be active (ON) when either the underdrive ECG or the overdrive ECG is selected.

The underdrive and overdrive rates can be adjusted for a wide range.

Demand Mode

Press F4 to start the test. The Analyzer first measures the pacemaker's pulse rate and then calculates the "underdrive" and "overdrive" rates for the simulated ECG.

The initial underdrive rate is 90% of the applied pacemaker rate and the overdrive is 110% of the applied pacemaker rate.

The pacer output should be active (ON) with the underdrive ECG signal and then (OFF) with the overdrive ECG selected.

The underdrive and overdrive rates can be adjusted for a wide range.

Noise Immunity Test

The immunity test determines the pacemaker's susceptibility to 50/60 Hz interference signals. The test can be performed with or without ECG waveform.

1. From the Pacer Test Menu select "Imun" (F4). The noise immunity test menu will be displayed.

2. Select the desired frequency, 50Hz (F1) or 60 Hz (F4).

3. To change the amplitude of the sine wave, use the F4 key.

4. To enable ECG, select F1.

5. To change the amplitude, press F4.

Press "ESC" to get back to the previous menu

Ventricular Pacer Output Testing

Ventricular pacer output testing is identical to the Atrial pacer output testing.

1. From the main menu select "VENT" (F4) for the Ventricular Menu.

2. Turn ON the Pacemaker and set desired Rate and Amp.

3. To begin measurement press "ESC".

4. The analyzer will measure the rate, width, and the current and display the result.

5. To save the test result, press "SAVE". The results are saved into the memory under the equipment ID set in the beginning of the test.

6. To display the pulse energy or volt, press ">" key. To display the secondary menu, select the F1 or F3 keys respectively.

7. To save the test result press 'SAVE'.

Ventricular Pacer Refractory Test

Ventricular pacer refractory tests for the sense and pace mode are identical to Atrial refractory tests.

Ventricular Pacer Sensitivity Test

1. From the Ventricular measurement menu select "Sens" (F2).

2. Set the pacemaker to VVII mode.

3. Set the rate to 80 BPM, and the output current to 10 mA.

4. Disable the Atrial output (set current to 0 mA)

5. The waveform type and width can be changed with F1 and F2 keys. (The default waveform is set to ECG and the default width to 40 mS).

6. To start the test press F4 (Done).

7. The display will show Sensty: "Ready".

8. Press F4 to start the test. (Sensty): "Wait" will be displayed) for a moment.

9. The rate and sensitivity in mV will be displayed in a few seconds.

10. To save the test result press 'Save'

Specifications

Transcutaneous

Test Load: Fixed 50 Ohms & 12 user selectable loads
from 100 to   1000 Ohms. (with load selector)

Current: 10 to 200 mA.

Accuracy: ±5% +0. 5 mA

Pulse Width: 0.5 to 80 mS.

Accuracy: ± 1% +0.2 mS.

Refractory: 25 – 500 mS.

Accuracy: ± 2 % or ± 25ms.

Transvenous (Atrial and Ventricular)

Test Load: 500 Ohms ± 1%

Current: 1 to 40 mA.

Accuracy: ± 5% +0. 5 mA.

Pulse Rate: 20 to 200 ppm. (Rapid Pace: 805)

Pulse Width: 0.5 to 80 mS.

Accuracy: ± 1% +0.2 mS.

Refractory: 25 – 500 mS.

Accuracy: ± 2 % or ± 25ms.

Sensitivity: 1-10 mv (Atrial), 1-20 mV (Ventricular)

Accuracy: 1 mV

Immunity Test: 50 / 60 Hz.

RS 232 Output

A computer interface is available to print test results or to save them on a PC. The test results can be saved directly to a PC.

Power Requirements

The unit is powered by a Li-ion rechargeable battery (7.4V/ 850mA). The full charge time is approximately 3-4 hours when the battery is fully discharged (Low Battery Condition).

Physical Characteristics

Dimensions

7.75 x 4 x 1.5 in. (19.7 x 10.2 x 3.8 cm)

Weight

1 lb (0.45 Kg) with the battery.

Environmental Operating Specifications

Storage Temperature:	-25 to 50o C
Operating temperature:	15 to 40o C
Maximum Humidity:	95% Relative Humidity

Part Numbers and Ordering Information

Part No: **960-2000:** EXPMT2000
                      (All Standard Accessories are included).

Standard Accessories:

960-CD / USB: User and Service Manual EXPMT2000

660-HHS-002:   Li-ion Battery Charger (8.4V)

960-HARD-CASE: Hard Carrying Case

960-LOAD-BOX: New EXPMT 2000 Load Box

960-ProComPrint: Procom Print Software

908:   Medtronic Interface Cable (2 sets)

610-6383-TRANS: Transcutaneous Interface Cable

Note: Various manufactures model specific interface cables are available. Please call for the part number or visit https://www.netechbiomedical.com/

Save and Print Test Results

Introduction

As mentioned earlier, test results can be stored into the memory under the user specific "ID" and available to be uploaded to a PC using the serial to USB cable.

Saving Test Results

When the test results are displayed in any of the test functions, press "Save" key.

The results will be saved under the Equipment ID set earlier in the non-volatile internal memory. However, when the memory is full it will flash an error message, indicating that `no more` records can be saved.

The test results saved are ready to be uploaded to a PC using the Procom Print software supplied with unit. The Procom Print is compatible with Windows 7 and Windows 10.

ProComPrint Software Setup

Procom Print included in the CD is a basic version of the Procom Print software for quickly configuring a HyperTerminal communication protocol and uploading of the test data to a word format file for printing and saving the test results to a file in the PC.

Note: The advanced Procom Print is a database version and customizable to meet individual requirements.

- To setup the software follow the instructions below.

- Insert the ProComPrint Software CD in the PC.

- Double click on the Setup.Exe

- The following welcome screen will appear.

- Click Next.

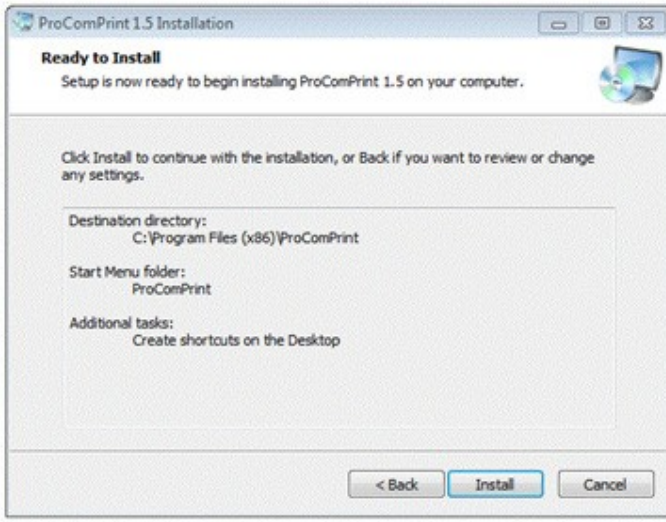The "Select Application Folder" screen appears as shown below.

The destination folder to which the results are to be saved need to be set. The default folder is set to C:\Program Files\x86\Procom Print. To change the folder, click, on "Browse" and set the folder in the desired directory.
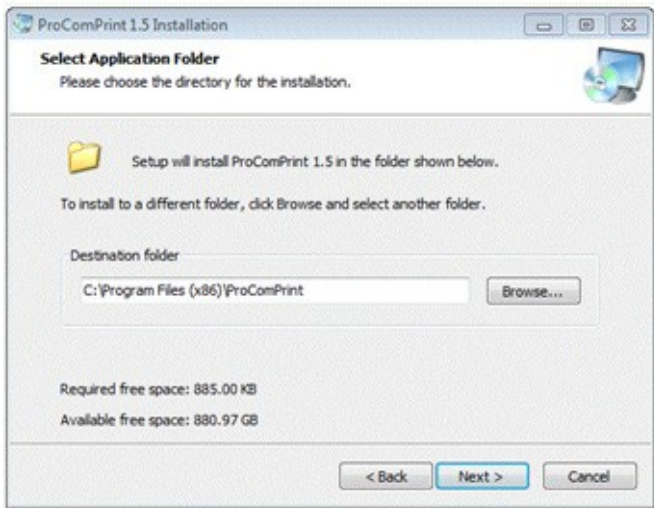
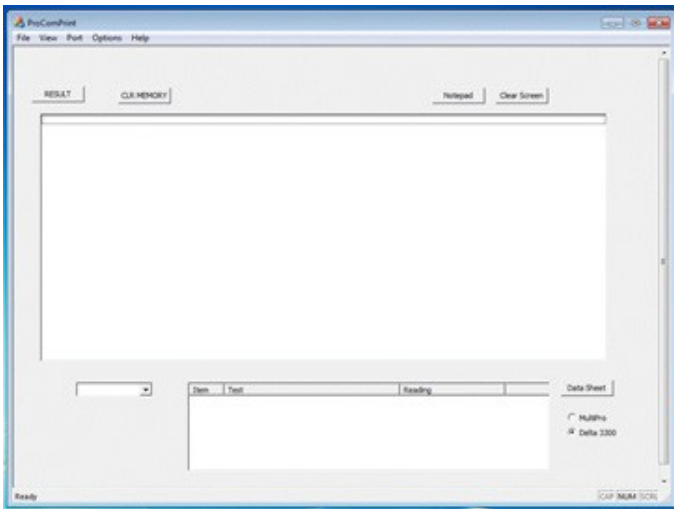- Click Next. The following screen will appear.

- Click Next. The following screen will appear.

- Click Install

- Click "Finish" in the next screen.

The following ProComPrint Main screen will appear.

Uploading Test Results to PC

Once the Procom Print software installation is completed, follow the procedure to upload the test results to the PC.

- Connect the EXPMT 2000 to the PC using the RS232 or (RS232/USB) cable.

- Turn the EXPMT 2000 Power ON.

- A message "STM32 Boot loader" will appear on the screen confirming that a communication is established between the PC and the EXPMT 2000.

- The installation of the software is now complete and ready for uploading the test results.

ProComPrint Software Features

Following are some of the main features of the software.

- Standard Pull Down Menu (File, Edit, Port, Help, Options). Only the relevant menus are enabled in the basic Procom Print Version 1.0.

In addition to pull down menu there are six individual selections as highlighted in the Screen Shot below.

"Result": – Clicking on this will download all the saved test results from the EXPMT 2000 memory into the top screen.

"Select Equipment ID":-If multiple units are being tested, the results of the individual units can be downloaded by selecting the Equipment ID using the "v" arrow.

"CLR MEMORY" :- ⚠ This will clear all the saved records from the EXPMT 2000 Memory.

"Notepad": - The downloaded test results can be opened in the notepad for filling in necessary Device information. They can then be saved in the PC and printed as needed.

"Clear Screen":- This will clear the test results displayed on the screen.

"Data Sheet":- A sample "Word" template of the printout (as shown below) is included in the "Procom Print Ver 3.4

Note: Sample Data Sheet can be opened and printed only if a licensed copy of the word is installed in the PC.
The test results that are saved will be automatically filled in the appropriate fields as shown below.

Uploading Test Results

To upload all the test results, select "PRN" (F2) from the "MAIN MENU". The "Print MENU" will be displayed.

The following are the Print menu options:

"**HEAD**" – Select F1 for uploading a blank header with user editable fields.

"**RESULT**"- Select F3 for uploading all saved test results.

"**CLR**" – Select F6 for clearing all the records saved in the memory.

The test records that are uploaded to the PC can be saved into a text file. As mentioned earlier, the file can be opened on notepad to fill in all relevant DUT information, and saved to the PC for printing and record keeping.

Note:

• At the right bottom corner of the Procom Print Window select "EXPMT".

• This selection will be memorized by the software whenever the Procom Print opened in the future.

Warranty

Netech warrants this instrument to the original purchaser, as purchased from a Netech distributor or dealer, will conform to the written specification as of the date of its manufacture, for a period of two years from the date of purchase. The second-year warranty is contingent upon returning the unit to the factory for the annual recalibration at the end of the first-year warranty. Netech warrants this instrument against defects in materials and workmanship. If it fails to conform to these warranties, Netech will repair or replace the unit and/or its components within a reasonable period of time if the EXPMT 2000 is returned, shipping prepaid, to Netech's facility at Farmingdale, NY, USA within the warranty period as expressed above.

These warranties are made upon the expressed condition that:

1. The purchaser promptly **notifie**s Netech in writing of any non-conformity with the above warranty including a detailed explanation of the alleged deficiencies.
2. The EXPMT 2000 is returned to Netech at the buyer's expenses only after obtaining the proper RMA authorization from Netech.
3. Netech will not be liable for any incidental or consequential damages.
4. In the opinion of Netech upon inspection, the EXPMT 2000 has not been misused, altered, or damaged due to the abnormal handling and/ or operation.
5. Repairs to the EXPMT 2000 and/or its components have not been made by anyone other than Netech or one of its authorized repair agents.
6. The EXPMT 2000 has not been modified, altered, or changed in any manner by anyone other than Netech or one of its authorized repair agents.
7. All shipping and handling charges will be billed to the purchaser.

THIS WARRANTY EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, ORAL OR WRITTEN, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY AND / OR FITNESS FOR A PARTICULAR PURPOSE. NETECH IS NOT LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES FROM ANY MISUSE OF THE INSTRUMENT.

To receive free software and firmware updates, please fill out and send the warranty registration card or fill out on line warranty registration: - http://www.NetechBiomedical.com/warranties

Appendix: A

Current Revision: R5   11/16/2023

EXPMT 2000 User Manual R5

This update is only applicable for the current release
Of the EXPMT 2000. PN: 960-200

The following are updates are included in this Revision.

- Firmware /Software Updates for extending the
  Sensitivity ranges for Atrial and Ventricular settings.
- Atrial and Ventricular Sensitivity Measurement range expanded.
- Atrial Sensitivity test 1-10mV
- Ventricular Sensitivity Test 1-20 mV

Note:

Please note that the earlier model of EXPMT 2000 (PN:960) cannot be upgraded (software) for the new functions (sensitivity) as the hardware and software is not compatible.

The earlier models (Ver1-Build 194) can be trade in for the new version

(ver1-Build 199). Netech offers trade-in price for the newer model.

New upgraded Part Number PN: 960-2000

Contact sales@NetechBiomedical.com

https://www.netechbiomedical.com/