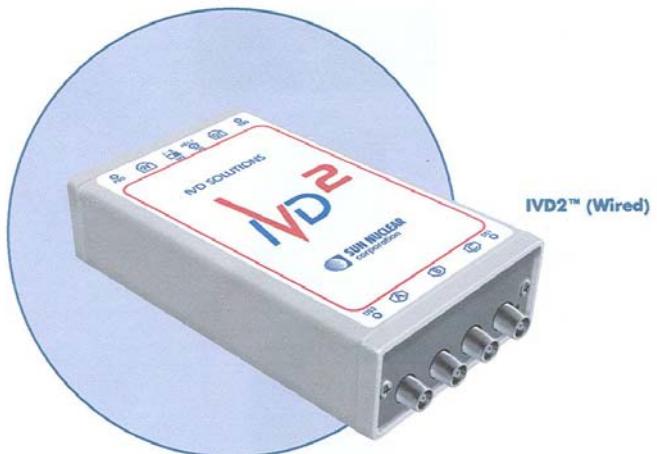


**ATTACHMENT A**

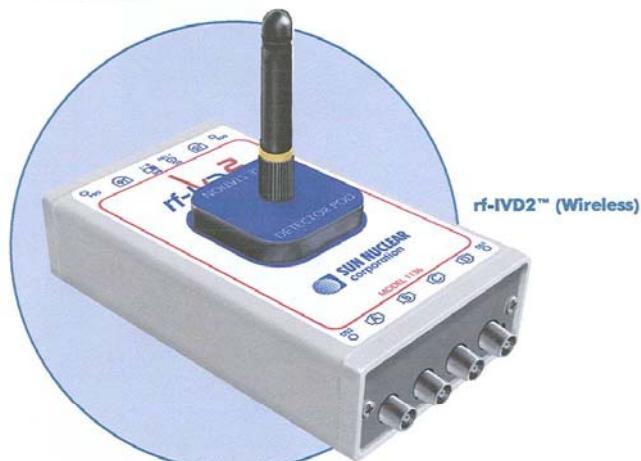
# IVD SOLUTIONS

## IVD™ Solutions

- Real-time, no waiting
- Simple 2 button operation
- Two options: wired or wireless
- Reproducible & accurate every time



IVD2™ (Wired)



rf-IVD2™ (Wireless)

# IVD SOLUTIONS

## Overview of Wired IVD2

The IVD offers value, precision, versatility, and simplicity of operation. Because it uses diode detectors, dose is displayed in real-time and is available immediately after the beam shuts off. Sun Nuclear manufactured diode detectors offer very good stability, reproducibility, and a long lifetime. Unlike other systems which require you to interrupt your routine to read dose, the IVD and rf-IVD systems are preferred for their high accuracy and minimal impact on the treatment process.

### Easy Operation

The Control Module features 12 Energy buttons, each button can be used for a specific diode setup, and can hold calibration factors for all three channels if desired.

#### 1. START

Pressing an Energy button will start the measurement. As dose is delivered, real time dose data (with correction factor applied) is updated on the Control Module Screen.

#### 2. STOP

To stop a measurement, select the STOP button.

#### 3. PRINT

Print the final measured dose on a compact thermal printer for record keeping.

When a new measurement is needed, repeat the process just as before.

### Temperature Correction

All patient diode detectors can be affected by fluctuations in temperature. Although the effect is minor it can alter your reading if the change in temperature is significant enough. Both the IVD and rf-IVD store a temperature coefficient calibration factor to automatically correct for this. Immediately after the beam shuts off, the junction temperature is measured and the dose values are automatically compensated.

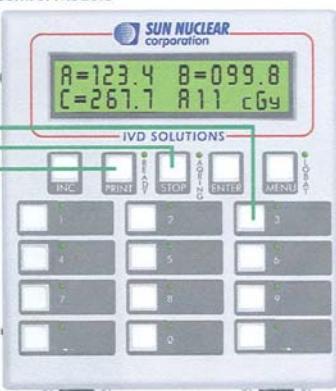
### PC Software

PC-Windows software is included with each IVD and rf-IVD. The PC software offers the same functions as the Control Module, and is also designed for applications where more than three channels are used, such as TBI (the system is expandable to 39 channels).

## What Is Provided:



### Control Module



### TBI Measurement

Pod	A	B	C	Units	Set	E
G1	9.7	3.0	9.5	cGy	6.13d	
G2	3.3	3.3	3.2	cGy	5.57d	
G3	3.7	3.0	3.5	cGy	6.13d	
G4	3.3	3.3	3.2	cGy	5.57d	
G5	3.7	3.0	3.5	cGy	6.13d	
G6	3.3	3.3	3.2	cGy	5.57d	
G7	3.7	3.0	3.5	cGy	6.13d	
G8	3.3	3.3	3.2	cGy	5.57d	
G9	3.0	3.0	3.5	cGy	6.13d	
G10	3.3	3.3	3.2	cGy	5.57d	
G11	3.0	3.0	3.5	cGy	6.13d	
G12	3.3	3.3	3.2	cGy	5.57d	



# IVD SOLUTIONS

## Overview Wireless rf-IVD2

Wireless real-time In-Vivo Dosimetry is now a reality with the rf-IVD. Wireless transmission solves one of the biggest issues facing Patient Dosimetry systems – cables lying across the treatment vault floor. The rf-IVD uses two wireless pods to communicate real-time dose information in the treatment vault. No more cables are left lying on the treatment floor interfering with patients, staff, and the unit itself.

### Hardware

The heart of the wireless system is a measurement pod that uses an rf transceiver to transform the regular IVD's measurement pod into a wireless device. Communication occurs in the treatment room between two identical measurement pods supplied with each rf-IVD. The two measurement pods are interchangeable. The pod that is being used to actually measure the dose is referred to as the Detector Pod. The pod that is being used to receive the wireless dose data is referred to as the Base Station Pod.

The rf-IVD is registered with the FCC and there is no signal interference from rf energy in the vault. Additionally, line of sight does not need to be maintained in order for the rf-IVD™ to effectively communicate.

### System Configuration

Most treatment centers use three diodes for routine patient dose verification: one diode each for Medium Energy, High Energy, and Electron Energy. Assuming this typical system configuration, the rf-IVD would be configured as follows:

#### A. Detector Pod

Diodes connect to the Detector Pod. When in use, the Detector Pod sits on the treatment couch next to the patient, and sends dose data to the Base Station Pod (B).

#### B. Base Station Pod

This module rests in a wall-mounted charging bracket (the charging bracket also holds/charges the Detector Pod when not in use.) The Base Station Pod wirelessly receives dose data from the Detector Pod (A), and relays it (via hardwire) to the Control Module (C).

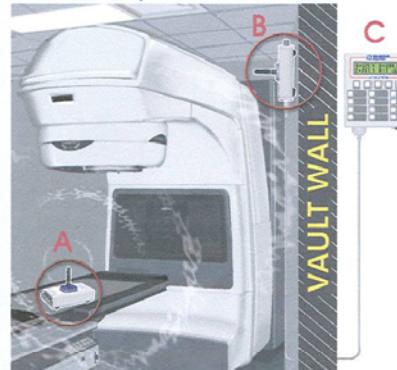
#### C. Control Module

Patient dose data is updated on a compact Control Module located in the control area. The Control Module updates in real time, and is operated using a very simple 2-Button START/STOP method. The Control Module stores up to 12 unique measurement routines. A routine is selected and measurement is started by pressing the desired key. This module also manages password protected physics functions, and can print directly to a compact printer that can be programmed to include facility name in the dose reports.

### What is provided:



rf-IVD Vault Setup



A-Detector Pod

B-Base Station Pod

C-Control Module

### Expandability

When used with the PC Software, the rf-IVD can manage up to 39 individual channels, this translates into as many as 13 Detector Pods. Each Detector Pod communicates with the same base station wirelessly, enabling multi-channel applications with clean and efficient wire management.

