Urocheck 120 Urine Analyzer
Data Transfer Package Insert

For data transfer to personal computer (PC) or Laboratory Information System (LIS.)

For professional in vitro diagnostic use only.

INTENDED USE

This communication protocol defines the format and timing for data transmission from the Clarity Urocheck 120 Urine Analyzer. Data available from the analyzer includes specimen ID, date, time and urine analysis results. This package insert provides information required to develop a suitable computer interface to transfer the analyzer data to an external computer with suitable PC or a laboratory LIS system.

SUMMARY

Data is sent to the analyzer communication ports only when data is being printed to either the internal or external printer. The Clarity Urocheck 120 analyzer has a USB port, the USB port may be used for data download also, using software which is compatible with this port.
If a report is printed manually, the test data for that report is sent to the available communication ports at the time of printing. Communication software residing on the LIS or local connected Personal Computer must look for and recognize data present at the communications port and capture it at the time of transmission.

MATERIALS

MATERIALS PROVIDED

- RS232-C Cable (Null) or USB Cable
- Package Insert

MATERIALS REQUIRED BUT NOT PROVIDED

- Applicable PC or LIS software

RS 232 CABLE

A null modem cable is required for connection to a personal computer (PC).The pin configuration for the cable is as follows:

RS232 Cable Pin Assignment	
Analyzer	**Computer**
2	3
3	2
5	5

DIRECTIONS FOR USE

DOWNLOAD TO PC

1. Connect the RS232C port on the analyzer to the COM port of the computer or connect the USB port on the analyzer to the USB port of the computer.
2. Turn on the analyzer
3. Open the communication software in the PC, such as HyperTerminal.
4. Enter the following PC data interface
5. Begin Urine strip testing according to the Clarity Urocheck 120 Users manual

#	COM1 Port Settings
1	9600 Baud
2	8 Data Bits
3	No Parity
4	1 Stop Bit
5	Flow Control Hand-shake off

DOWNLOAD TO LIS

Connect the RS232C port on the analyzer to the COM port of the computer or connect the USB port on the analyzer to the USB port of the computer.

DATA AND FORMAT

The following data and formats are used for printing and transmission to the communication interface.

```
ID :0058164578
DATE:11-17-2008      08:40
Operator:01
No. 002000
GLU   -      neg
BIL    -      neg
KET   -      neg
SG   1.030
BLO   -      neg
pH    6.0
PRO   -     neg
URO   -   0.2 EU/dl
*NIT  1+    pos
*LEU 1+    70 Leu/µL
*ASC    2+  20 mg/dl
```

All data transmitted are ASCII characters, codes below are hexadecimal.

Each record begins with	02 (Start of Text)
Each line of data ends with	0D (Carriage return)
	0A (Line Feed)
Each Record ends with	03 (End of Text)

If there is no strip on the holder, no data is sent to the computer.

HEADER DATA STRUCTURE

The following data structures indicate the testing information provided after data transfer.

1. **Header Data Structure with Barcode Reader:**
   First Line: ID
   Second Line: Date & Time
   Third Line: Operator ID
   Fourth Line: No.

2. **Header Data Structure without Barcode Reader:**
   First Line: Date & Time
   Second Line: Operator ID
   Third Line: No.

RESULTS DATA STRUCTURE

The following data structures indicate the testing results depending on the number of parameters tested. Result lines are buffered with spaces to 29 characters total.

1) ASC/GLU/KET/BIL/PRO/BLO/URO/NIT/LEU Data Structure:

Character 1: Abnormal flag "*" (Blank means Normal)
Characters 2 to 4: Test parameter
Characters 5 to10: Blank (space)
Characters 11 to 12: Arbitrary Results
Characters 13 to 19: Blank (space)
Characters 20 to 23: Concentration (Blank means No data)
Characters 24 to 29: Units (neg means Negative, pos means Positive

2) pH/SG Data Structure:

Character 1: Blank (space)
Characters 2 to 4: Test parameter
Characters 5 to11: Blank (space)
Characters 12 to16: Concentration
Characters17 to 29: Blank (space)

3) Invalid Test Strip Data Structure:

Characters 1-29 are blank (space)

Diagnostic Test Group LLC
PH: 561-347-5760 FAX: 561-750-0432
Tech Support: 1-877-485-7877