OPERATOR MANUAL

SECTION II: ADDITIONAL INFORMATION

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Important Notice: Any modification to the Variable Serial Protocol is restricted to qualified personnel only. The Biotecnica Instruments S.p.A. guaranties the correct performance of the internal serial protocol. The responsibility for any malfunction arising out of any modifications to the scripts of the Variable Serial Protocol rests with the customer.

WARNING This information regards the setting up of the barcode for sample tubes identification. The reading of the sample barcode label has the same progression as patient code. For example: Once a patient code of 15 characters has been entered, then a code of 8 characters followed by 7 empty spaces to reach the 15 characters is sent. The code read on the barcode label must have the same sequence 8 + 7 for correct detection.

IMPORTANT NOTICE ON DATA TRANSMISSION. Any character below the "space" (value 32 decimal or 0x20 hexadecimal) at the beginning or at the end of a patient code will be deleted. In this way it will be possible to have a patient code shorter that 15 characters, without being obliged to use the variable protocol. In case. after eliminating these characters, the resulting patient code is empty, it will automatically be changed into '{0}' Biotecnica Instruments S.p.A. Via Licenza. 18 00156 Rome - ITALY

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Notes regarding Scripts A script is a text document. Each one of the single commands must each reside in a different line and be complete. In other words a single command cannot be divided into more lines.

Stringn 'filarne1510 Stringn 'Name'1510 char 'A Stringn Warne' 1510

•> Vaal hoe -> Invalid hoe -> Invalid Command

An editor for writing, modifications, saving and compiling of one or more scripts is accessible inside the program (setup function). In any case it is possible to write a script with any text editor (DOS or Windows) like Notepad of Windows or the EDITOR of the DOS. It is not possible to import documents written with UNIX as the characters used for going to the next line are different from the ones used by the DOS or Windows.

CAUTION! If one wants to use the script stored in a removable disk (for example floppy disk) then it will be necessary to copy it on the hard disk.

TYPE OF DATA

Character: Identifies a single character, can pass as printable character (enclosed between single apostrophes), as decimal ASCII value (followed by symbol 5) or else hexadecimal ASCII value (followed by Ox). If for example we want to identify the character A (decimal value 65 or hexadecimal value 41) then we can write 'A', 565 or 0x41. String: Identifies a sequence of printable characters enclosed in single apostrophes, for example: 'this is a string'.

Comment: Identifies a portion of test (preceded by a character ; which wil not be compiled but will serve as note only for the programmer.

variables: These are particular sequence of characters preceded by the symbol H. which will be used by the program for storing internal information (patient code, analysis name and etc.). refer to "TABLE 1 - TRANSMISSIOWRECEPTION". There are also variables for direct uses, which allow for identification Of any character below ASCII 32 (space) to facilitate the writing of the script (for example, one can use the variable #EOT to identify the character $4), see "TABLE 2 - INTERNAL VARIABLES".

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4. SOFTWARE - SERIAL COMMUNICATION: BT ANALYZER <-> HOST COMPUTER

4.1. GENERAL The analyzer allows bi-directional communication through RS 232C serial connection with any host computer. The particular feature of the dialog is that it is always the host computer, which initiates the communication for either transmitting patient list or for receiving the results. To initiate any communication the host computer will have to send to analyzer the character STX (0x02) and expect the character ACK (0x06) as a response. At this point the host computer will send data to the analyzer and terminate the communication by sending the character EOT (0x04). It is important to remember that any communication is followed by a response from the analyzer. It must be noted that if the parameter to be transmitted is shorter in length than the length requirement of the communication protocol than a space must be added before or after. For example the analysis have length 4, therefore to send a code GLY one must add a space after to reach the length of 4 characters.

4.2. PATIENT TRANSMISSION TO BT ► Start communication with sequence STX<->ACX ► Send patient code ► Send list type for patient insertion ► Send type of serum ► Send if the patient is a done ► Transmit position of cup ► Send number of tests to be executed ► Send codes of tests to be performed ► Send Check-Sum ► Send end transmission character WT ► Wait for response from the analyzer

ANALYZER

(15 characters) (r- for Routine or 'Re for STAT) ("V for Serum or Urine) ("Y' for Yes or "N' for No) COO' unknovm) (from '01" to vs") (4 characters) (3 charaCters)

(2 characters)

If the communication is successful then the analyzer responds with character "C followed by a byte, which identifies the position where patient has been inserted. In case the communication was unsuccessful, then the analyzer responds with IN" followed by a byte identifying the type of error. The possible errors generated by the analyzer in response to the invalid insertion of patient are as follows:

Ox01 Check-Sian Error 0x02 Unknown Command 0x03 Routine/STAT field Error 0x04 SerunvUme field Error 0x05 Clone Yes/No field Error 0x06 Cup position Error 0x07 Number of Analysis field Error

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