EXHIBIT 5

User's Manual

User's Manual

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PCS64i

PC Scope

SPECIAL REMARK FOR FCC MEASUREMENTS:

- USE FERRITE CORE IN 9VDC LINE
- FOR HIGHEST SAMPLE FREQUENCY, RUN THE SCOPE IN 5us/DIV. OR HIGHER

GENERAL

The PCS64i is a digital storage oscilloscope whose display and operation uses an IBM compatible computer. All standard oscilloscope functions are available in the DOS or Windows program supplied. Its operation is just like a normal oscilloscope with the difference that most operations can be done using the mouse. The markers for indicating voltage and frequency also provide considerable ease of use and can be operated without difficulty using the mouse. Apart from being used as an oscilloscope, the unit can also be used as a spectrum analyzer up to 16 MHz, and as a transient signal recorder, for recording voltage variations or for comparing two voltages over a longer period (up to more than 1 year!).
Connection is through the computer's parallel port, the scope is completely optically isolated from the computer port.
The oscilloscope and transient recorder have two completely separated channels with a sampling frequency up to 32 MHz in real time, oversampling of 64MHz is possible in the Windows software. Any waveform displayed on the screen can be stored for later use in documents or for comparing waveforms.

TECHNICAL DATA

General

- Two separate channels
- Input impedance: 1 MOhm/30pF
- Maximum input voltage: 100V (AC + DC)
- Input coupling: DC, AC and GND
- Vertical resolution: 8 bit
- Sampling frequency: 32MHz
- Oversampling: 64MHz (only in Windows)
- Memory: 4Kb/channel
- Supply voltage: 9 - 10VDC / 800mA
- Charger circuit for rechargeable batteries: 90mA
- Dimensions: 225 x 165 x 40mm

Minimum system requirements

- IBM compatible PC
- Windows 95 or 3.11 or MSDOS
- VGA display card (min. 800x600 for Windows)
- Mouse
- Free printer port LPT1
- 480Kb free conventional memory (Dos software)
- Arithmetic coprocessor needed for RMS readout and spectrum analyzer

Optional accessories

- Mains voltage adapter.
- Parallel PC cable: PARCBLSH
- Oscilloscope probes: PROBE60S (isolated)
- Carrier case: BAG21X19

Oscilloscope

- Timebase: 100ns to 100ms per division
- Trigger source: CH1, CH2 or free run
- Trigger edge: rising or falling
- Trigger level: adjustable in steps of ½ division
- Step interpolation: linear or smoothed
- Markers for voltage and frequency
- Input sensitivity: 10mV to 5V/division
- Pre-trigger function (not in 64MHz mode)
- True RMS readout (only AC component)

Spectrum analyzer

- Frequency range: 0 .. 800Hz to 16MHz
- Linear or logarithmic timescale
- Operating principle: FFT (Fast Fourier Transform)
- FFT resolution: 2048 lines
- FFT input channel: CH1 or CH2
- Zoom function
- Markers for amplitude and frequency

Transient recorder

- Timescale: 50ms/Div to 2000s/Div
- Max record time: 9.4hour/screen
- Automatic storage of data
- Automatic recording for more than 1 year
- Max. number of samples: 500/s
- Min. number of samples: 1 sample/20s
- Markers for time and amplitude
- Zoom function
- Record and display of screens
- Data format: ASCII

CONNECTION

- The unit is connected to the printer port LPT1 of the computer, using a parallel cable.
- Connect the mains voltage DC adapter to the unit : 9VDC / 800mA.

ATTENTION: Only use adapter with correct voltage otherwise the unit could be damaged.

Rechargeable batteries (option):

- The unit can be run with a rechargeable battery pack.
- Open the housing by loosening the screws underneath, mount the battery pack at the appropreate place, and plug in the connector.

ATTENTION: Make sure that the battery holder leads are not caught between the housing when tightening the screws.

- When the equipment is switched off, the charging time will be around 22 hours, the autonomy of the unit is around 1 hour.
- The LED at the back of the unit will come on while the batteries are charging. It is recommended to discharge the batteries before charging, also do not overcharge the batteries.

SOFTWARE INSTALLATION

Two types of software are supplied with the unit:

- Software to run the unit under MS_DOS.
- Software to run the unit under MS_Windows 3.11 or Windows 95

UNDER MS DOS

Insert the diskette into the disk drive.
Type A:setup.
The setup program will make a directory; PCS64 on the C: hard disk, where the program is then copied to.

UNDER MS WINDOWS

Open the File Manager and run the "Install" program on the diskette.
A directory, WinDSO will be made on the hard disk. A program group will be made in Windows.

Running the program

- Under MS DOS:
  Type C:\PCS64\PCS64. At the top a selection can be made for Spectrum analyser (**FFT**) or recorder (**REC**)

- Under MS Windows:
  Open the program group WinDSO Double click the **Oscilloscope** icon for the scope or spectrum analyser, or double click the **Transient Recoder** icon for the recorder software.
  See also the Help file for more information.

NOTE:

- A DATA sub directory is also made where the subsequent graphic files and data files will be stored that are produced by the program. Do NOT remove this directory.
- If after leaving the program the stored pictures and/or ASCII text are not to be lost, then they have to be transferred from the DATA directory to another directory. If this is not done the next set of measurements will overwrite these files.

FCC ID: NKO-PC3641

FEDERAL COMMUNICATIONS COMMISSION
INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ❖ Reorient or relocate the receiving antenna.
- ❖ Increase the separation between the equipment and receiver.
- ❖ Connect the euipment into an outlet on a circuir different from that to which the receiver isconnected.
- ❖ Consult the dealer or an experienced radio/TV technician for help.

CAUTION:

(1) Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the euipment.

(2) The user must use shielded interface cables when connecting to any external peripheral devices.