

Allengers

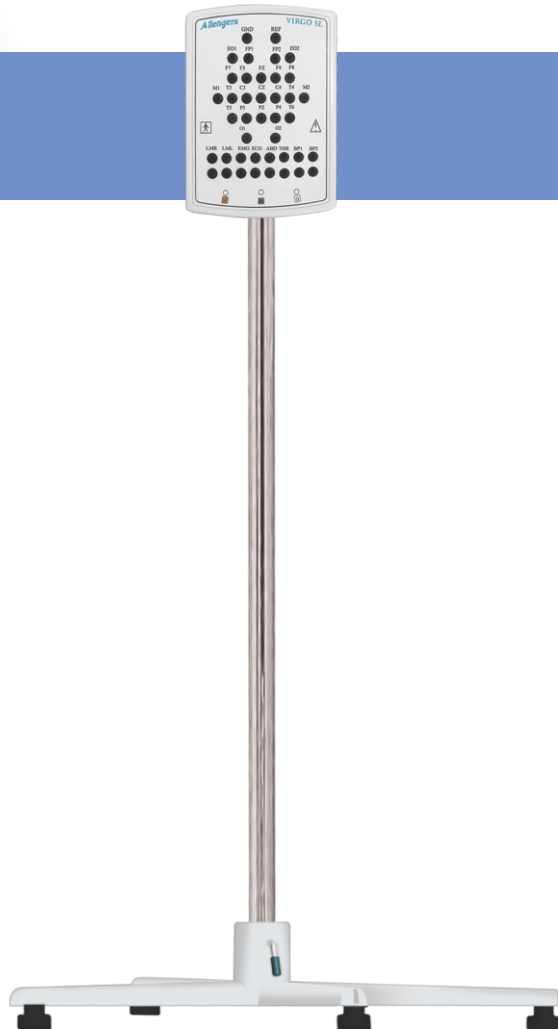
Passion for excellence



VIRGO-SL

Advanced Sleep Lab (Polysomnography)

Better Sleep Can
Make Better Day ...



Virgo-SL

Allengers Virgo-SL Series of PSG/EEG test systems are designed using state of the art technology and more than 30 years experience in design and manufacturing of medical equipments. Sturdy and robust in house designed both Hardware and software highlights of Allengers Virgo-SL.

In addition to the routine application, the system provides digital video recording, long term monitoring with the assistance of our light-weight PSG/EEG recorder, besides monitoring with our sleep analysis Software. In all cases, for routine application standard EEG reviews software with special analysis, automatic sleep analysis with manual override, respiratory analysis, neurological events are available. User friendly and intuitive handling of the recording and review software combined with the outstanding improvement of the functionality are trademarks of the Allengers Virgo-SL family, providing you with more time that you can then focus on your patient rather than your machine.

The Allengers Virgo SL-Series Sleep Study system has more to offer to meet your need for sleep and neurological diagnostic recordings. It is designed for quick installation, online data transmission through ethernet cable to remote location or through USB cable to computer. The system offers the feature needed for efficient and flexible operation in PSG or EEG environment, so flexible that one system can record study during the night and EEG study during the day.

EXTENDED SUPPORT COVERAGE

Extended warranty coverage on hardware, we are continually improving our sleep systems to ensure you can get the latest tools for maximum effectiveness and efficiency. When you invest in the ALLENGERS Sleep Study System and extended support coverage, you'll be eligible for regular software updates.

VIDEO CAPTURE MODULE

We provide high resolution MPEG-4 video with infrared camera to record patient activities during the night recording , control the frame and sample size during the record and automatically save video file with sleep recording for easy archiving.

REMOTE MONITORING

Using only a computer mouse and keyboard in the patient room by LAN or internet, users can assess signal quality to remote location and have full system control during study set-up.

C-PAP AND Bi-PAP INTERFACING

The flexibility of software allows you to control C-PAP or Bi-PAP by software or auto mode and get C-PAP/Bi-PAP report with PSG report.

STANDARD ACCESSORIES



Virgo-SL

TECHNICAL SPECIFICATIONS

DATA ACQUISITION

Number of Channels	32/40
Input Impedance	>100M Ω
Internal Noise Level	<1 μ V P-P (0.53 Hz to 120 Hz)
CMRR	> 100 db
Sampling Rate	256 storage / 1024 acquisition
ADC	16 bit
High-Cut Filter	100 Hz
Low-Cut Filter	0.05 Hz
Interface	USB 2.0 / Ethernet
Power Supply	220V / 50 Hz or 110V / 60 Hz

TYPE OF SENSORS /ELECTRODES

EEG Electrodes	Full referential
ECG / EMG / EOG	Bipolar
Effort Sensors	Piezo or RIP
Airflow/ Snoring	Pressure / Thermistor
Oximeter	Integrated in main system

DATA PROCESSING

Sensitivity	1,2,3,5,7.5,10,15,20,30,50,75,100,150,200,300,500,750,1000 μ V/mm
Low-Cut Filter	1.6(0.1), 0.53(0.3), 0.32(0.5), 0.16(1.0), 0.053(3.0), 0.032(5.0) Hz
High-Cut Filter	10, 15, 35, 70 Hz
Notch Filter	50 / 60 Hz
Calibration Waveform	
a. Calibration Level	2-1000 μ V
b. Calibration Rate	1 to 10 Hz
Impedance Check	Indication on Screen : All electrodes are displayed on the screen in electrode position layout. Electrodes with impedance higher than the preset impedance threshold are highlighted automatically
Photic Stimulation	2 Modes having stimulation rate and period 1 to 60Hz / Sec. respectively with high intensity white LED's
Montages	Unlimited
Marking Signals	Photic Stimulation, Hyperventilation, External event marker
Sweep Speed	1.8, 3.75, 7.5, 15, 30, 60mm / Sec.
Hyperventilation	Stimulation period 1, 2, 3, 4 or 5 minutes

DISPLAY

Graphic Signal Resolution	Any resolution $\geq 1024 \times 768$
No. of Display Channels	Upto 40-Ch
Display Mode	Overwrite and page-by-page
Waveform Display Colour	Any colour
Waveform Display ON / OFF	Yes
Waveform Freeze	Yes
Video	Optional
Sweep Speed	5, 10, 20, 40, 80, 160 Sec. data / page
Event Marking	Yes

OPERATIVE ENVIROMENT

Temperature	- 5° to 45°C
Storage Temperature	-10 to 55°C
Humidity	5 to 90%
Atmospheric Pressure	70 to 106 K Pa

Virgo-SL

PATIENT DATABASE

Easy to fill subject details, allows to start test quickly. Data obtained can be edited at any stage of recording.

ALLIERS VIRGO SL :: SUBJECT INFORMATION

Patient Information

Patient ID: 117 Auto ID Case No

Name: UNA subramanian

Age: 51 Y 6 M 1 D Date: 21-Oct-2013

Date of birth: 21-Oct-1962 Sex: Female

Height [cm]: 165 95° Weight [kg]: 101

BMI: 18.5

Handedness: Right Epileptic: No

Remarks: Snoring, Night breathing Trouble

Other Information

Doctor Name: Dr. POONAM SUBRAMANIA

Technician: PRAVIN

Referred by: nefrons hospital

Address:

Diagnosis:

Medication:

Notes:

Front

Back

For better results place electrodes at the positions shown above after rubbing the site with alcohol

OK Cancel

ALLIERS VIRGO SL :: CONFIGURATION

General Frequency Range Sleep Study (PSG) Storage Rate Display Names

Master

Sensitivity (50) 7.5 μ V

Low Filter (L) 1.0 Hz

High Filter (H) 70 Hz

Definition (D) 10 min

Scroll Mode: Page Walk Scrolling

Default Screen Color

Calibration Mode: Save Tooth

Calibration Rate: Hz (1 - 10)

Calibration Level: μ V (2 - 2000)

User Defined

User LF 10 Hz User Sens 25 μ V

User HF 100 Hz User Sweep 2 Sec/Chan

Default Montage: PSG

Post HV Period: 1

View

Major Grid

Minor Grid

Calibration Mark

Montage Image

Montage Bar/P: Fixed

Times

Events

Comments

CRAP

Software

PSG

PSG & EEG

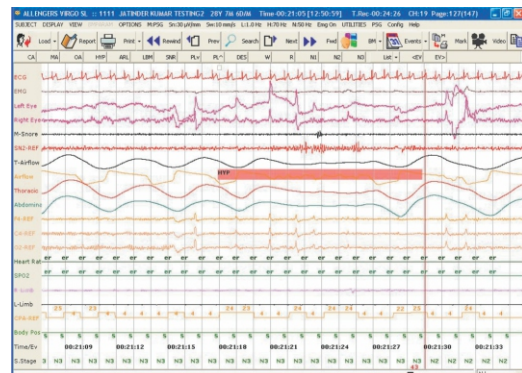
Save Cancel

CONFIGURATIONS

All the setting can be done easily for general settings, printing, event marking etc. from a single configuration mode screen.

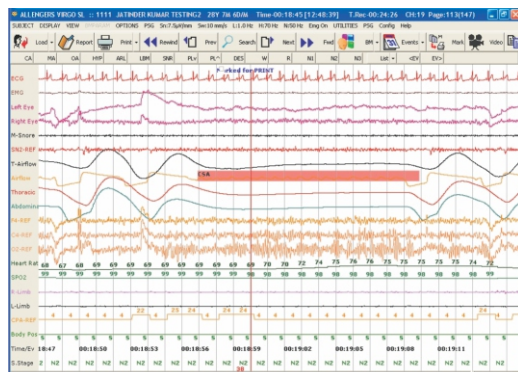
AUTOMATIC DETECTION OF EVENTS BY SINGLE BUTTON CLICK

Automatic reporting for apnea, hypopnea, desaturation, arrhythmias, sleep stages with manual override by single button click. Different sweep speeds to easily analyze respiratory and neurological events.



SINGLE - CLICK SCORING

The software can displays data in two or three separate windows, each with its own user-defined epoch size and montage. Users can simultaneously view and store EEG, respiratory and other data while using different time bases.



Allengers Virgo-SL PSG system has been designed to meet American Academy of Sleep Medicine (AASM) accreditation requirement and features a simplified design with this streamlined dual component system minimize cabling and increase study reliability.

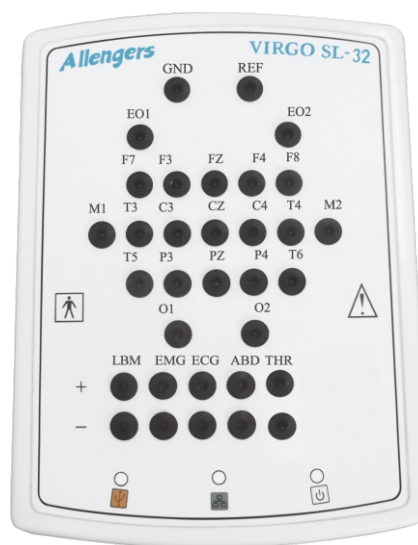


VIRGO-SL40 AMPLIFIER

- 21 referential channels for EEG
- 2 referential channels for EOG
- 2 channels for ECG and chin EMG
- 2 channels for limb movement
- 2 effort channels for thoracic and abdominal
- 1 channel for airflow respiration
- 1 channel for air pressure sensor
- 1 channel for snoring
- 1 channel for body position
- 4 high level DC inputs for ETCO₂, Temperature, NIBP, event marker (optional)
- 2 bipolar channel
- CPAP and Bi-PAP interface for titration
- Light weight Li-ion rechargeable battery in built (optional)

VIRGO-SL32 AMPLIFIER

- 19 referential channels for EEG
- 2 referential channels for EOG
- 2 channels for ECG, chin EMG
- 1 channel for limb movement
- 2 channels for SpO₂ and heart rate
- 2 effort channels for thoracic and abdominal
- 1 channel for airflow respiration
- 1 channel for snoring
- 1 channel for body position
- 1 DC input or event marker (optional)
- 1 CPAP and Bi-PAP interface (optional)



SALIENT FEATURES

- Light weight and compact amplifier comfortable for adult and children.
- Ethernet enabled i.e monitor & record data remotely over the LAN or any TCP / IP network.
- USB 2.0 / ethernet enables desktop or laptop based acquisition stations.
- Synchronized high-resolution MPEG-4 video.
- Sleep staging option for adult and pediatrics.

- Re-referencing, re-mortgaging and re-filtering at any time during acquisition or review / analysis.
- Facility to send data through e-mail.
- Automatic detection of Apnea & Hypoapneas.
- Automatic sleep staging with manual override, respiratory analysis, neurological events.
- Calibration, impedance check for EXG channels.
- Detailed report of oximeter, heart rate, snoring limb movements etc.
- The Microsoft Excel export to export data directly to Microsoft Excel.
- Oximetry histogram.
- Video recording.
- Integration of foreign analysis software through European Data Format (EDF) export and import facility.
- Facility to export data to PDF.
- FFT view which display user configuration range of FFT histogram for EEG analysis.
- Facility to record video EEG in media player format for presentation.
- Dynamic amplitude mapping, frequency analysis and power map for segments that you can select.
- Compressed spectral array, density spectral array and amplitude integrated EEG.

STANDARD ACCESSORIES

■ Acquisition adapter	1 No.
■ Power supply box / charger	1 No.
■ EXG electrode leads	1 No.
■ EEG disk electrodes	40 No.
■ EEG past 10-20	1 No.
■ Effort sensor (thoracic, abdominal)	1 No.
■ Nasal cannula pipe	1 No.
■ Body position sensor	1 No.
■ Limb movement sensor	1 No.
■ SpO2 finger sensor	1 No.
■ Event marker	1 No.

■ Patient ground cable	1 No.
■ USB cable	1 No.
■ Fuse 1.5 amp. S/Bsmall	2 No.
■ User manual	1 No.
■ Virgo trolley	1 No.

OPTIONAL ACCESSORIES

■ Pan / Tilt / Zoom video camera	1 No.
■ ETCO2 monitor	1 No.
■ Photic flash	1 No.
■ Ethernet cable	1 No.
■ C-PAP or Bi-PAP	1 No.

ALLENGERS OTHER PRODUCTS

- **CARDIOLOGY** : - Tread Mill Test (TMT) - Multipara Monitor (MPM) - Electrocardiogram (ECG 12 CH)
- Cathlab Fixed/Mobile
- **NEUROLOGY** : - Electroencephalograph (EEG) - Electromyograph (EMG)
- **UROLOGY** : - Holmium Laser System - Lithotripter (E.S.W.L.)
- **RADIOLOGY** ■ **ORTHO & GASTRO** ■ **HEALTHCARE IT SOLUTIONS**

MANUFACTURED & MARKETED DOMESTICALLY BY :

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For detailed technical specifications, please refer to the respective product data sheets / quotation.

Due to continuous product improvements, specifications and appearance are subject to change without prior notice.