

GIVING CONTROL BACK TO **SPEECH PATHOLOGISTS** FOR SWALLOW STUDIES



**UPGRADE YOUR VFSS & FEES FROM DVD / USB
TO HIGH DEFINITION WITH SYNCHRONISED AUDIO**



TIMS MVP ADVANTAGE

The TIMS MVP (Medical Video Platform) recording solution has been designed to simplify the video capture and archiving of any medical imaging modality providing high resolution video & audio recording. It will work in conjunction with your fluoroscope footswitch operation, and you have full control over what you send to your PACS archiving system.

With over 5000 systems installed worldwide, TIMS Medical has worked extensively with radiologists and speech pathologists to optimise workflow to make their recording, review, and analysis of modified barium swallow (MBS) studies more efficient. The result is customisable workflows from the extremely simple to the power user.

TIMS MVP is the fourth generation medical imaging product from TIMS Medical. Built for speed and productivity, it is designed to streamline your workflow and result in more studies per day from your imaging suites. Just some of the advanced features include:

High Resolution Video with Synchronised Audio

Automated recording & 4 times more detail than DVD-video

Label Video Clips During Recording

Save at least 5 minutes per study!

Send Studies in DICOM to PACS/VNA

Easy archiving & PACS disk space savings of 75% to 90%

Remote Review & Analysis with TIMS Review

Frees up imaging suite for more studies per day

Windows 10 Pro 64 bit workstation

30 frames per second – frame match at 8 or 15 frames per second for children

Select patients from your worklist for automated input

Triggers with your modality for automated recording

Unlimited video recording length

Work is automatically saved at all times

Custom label lists

Archive to CD/DVD, USB, & network

Eliminate removable media from workflow

– eliminate HIPAA risk

Export studies in MP4 – de-identify patient information from videos as you export

Graphic telestration & annotation

Stopwatch & study timers

Non-destructive video editing

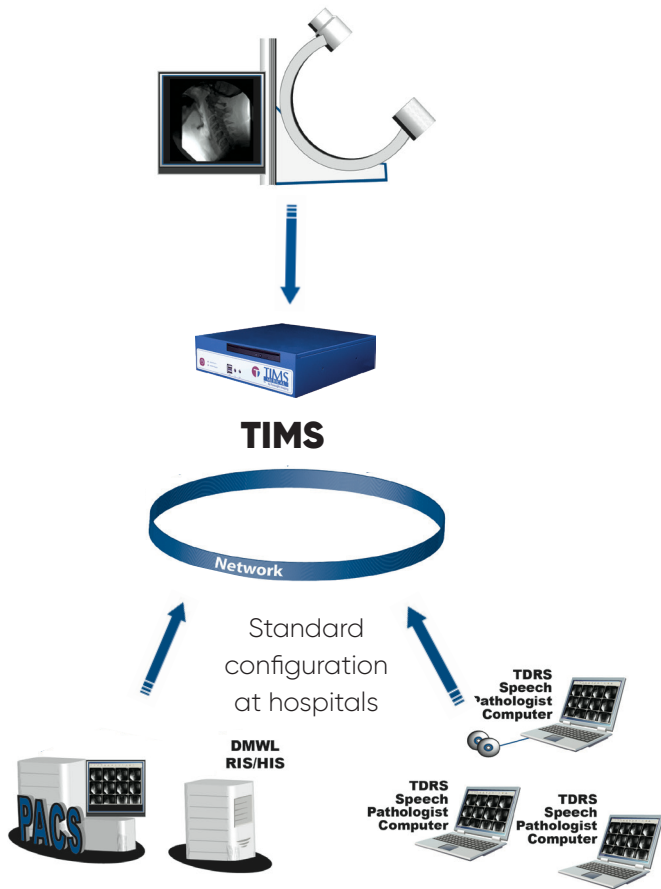
User interface built for speed & productivity

Built-in & online training documents

Comprehensive Support & Maintenance



HIGH PERFORMANCE & PRODUCTIVITY



Once networked Tims MVP can record from your Fluoroscopy (or FEES Stack) and send to either:

1. Tims review station for review and editing (After editing is completed, edited studies can be sent to PACS)
2. Directly to PACS

Tims connects your VFSS and FEES studies allowing you to annotate, review and edit with full audio and send relevant data to PACS.



WHAT BENEFITS DOES Tims MVP PROVIDE?

- Improves patient outcomes by providing speech pathology team with diagnostic quality imagery.
- Improves patient safety by reducing the need to re-radiate patients due to inadequate imagery.
- Better patient outcomes and better patient safety equate to **increased patient satisfaction and retention.**
- Improves fluoro room efficiency with a **significantly streamlined workflow.**
- Reduces the risk of HIPAA violations by eliminating the use of removable media containing patient information.
- Facilitates access to MBS / VFSS studies by archiving to PACS instead of storing on DVD in a filing cabinet.



WHY IS Tims BETTER THAN DVD

Tims records the full 1024 x 1024 HD image from the fluoroscopy unit, so you get the same excellent sharp resolution and crisp image to review in a digital format. DVD or USB records HD at 512 x 512 pixels, instantly losing data quality.

| | Tims MVP | DVD | Fluoro |
|------------|-------------|-----------|-------------|
| Resolution | 1024 x 1024 | 640 x 480 | 1024 x 1024 |
| Frame Rate | 30 fps | 30 fps | 10-15 fps |
| Audio | Yes | Maybe | No |
| File Size | -300MB | N/A | -4GB |



CAPTURE ENTIRE STUDY

Tims MVP can acquire for very long periods of time, enabling the capture of the entire study, including:

- In motion X-ray
- MBS
- FEES
- Interventional radiology / cardiology and echocardiogram

With Tims MVP you can connect any modality to multiple destinations – using Tims connect



STATIC AND STREAMING VIDEO CAPTURE

Tims captures both still and motion video images with synchronised audio. This includes motion video capture and non-standard video signals such as fluoroscopy and endoscopy. Whilst SPA recommends a minimum 30 frames per second, Tims can capture at up to 60 frames per second, as well as frame match the fluoroscopy when examining children at 8-10 frames, therefore maximising the resolution for each patient.

CASE STUDY

PERFORMING DETAILED ANALYSIS OF MBS STUDIES AT SYDNEY'S ROYAL NORTH SHORE HOSPITAL SPEECH PATHOLOGY

Danielle Stone has almost 20 years' experience as a speech pathologist and is Clinical Specialist Speech Pathologist at Sydney's Royal North Shore Hospital (RNSH) where she specialises in head and neck cancer.

Ms Stone had never used the TIMS MVP system before moving to RNSH almost four years ago. Now, she says she could never work without it.

"I love the TIMS system, it has made me a much better clinician," said Ms Stone. "I have a much higher standard of assessment and I understand swallow biomechanics a lot more since using TIMS."

Extremely detailed MBS studies: "Using TIMS, we can assess the structures and biomechanics of the swallow in detail, measuring change in millimetres; we can score it, and measure pre- and post- rehabilitation measures. This allows us to pick up on very subtle improvements, so we're not just relying on patient self-report" says Ms Stone

"The image quality is excellent, and we can slow it down and re-analyse it after the live study and go back again and again."

Targeted treatment: MBSS helps speech pathologists formulate targeted rehabilitation programs, "we have the ability to review in detail so we can appreciate the deficits," said Ms Stone.

Telestration and slow-motion tools: Ms Stone's favourite TIMS Review tools are slow-motion review and telestrations to annotate directly on an image. She can save her annotation query as a small AVI file to send to a doctor, or send a DICOM file to a speech pathology colleague to review the entire MBSS.

TIMS improves workflows: At RNSH, MBS studies are performed in the morning and are automatically saved to the speech pathology department's network, freeing up the fluoroscopy suite for the next patient. Afternoons are set aside to analyse the MBS studies using TIMS Review.

A valuable teaching and research tool: And the TIMS system is used as an education tool at RNSH to train junior speech pathologists in the use of measurement tools, and how to conduct and analyse video fluoroscopy.

Inline service: Inline provides regular staff training and a phone-support service for day-to-day queries.

"Having that close relationship with Inline has been really appreciated because technology is not necessarily a speech pathologist's strength. So, when we have a good relationship with the reps who teach us the 'techy side', it really makes the whole system less intimidating and very user friendly."

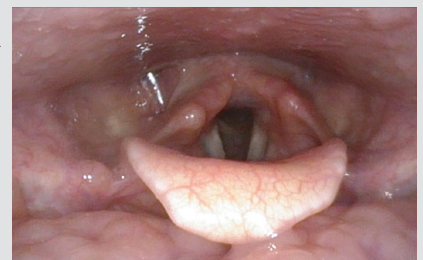
Overall verdict - "What would I say to my colleagues? You won't know yourselves when you get a TIMS. It makes a huge difference."

New Measurement Tools

TIMS MVP 4.5 and above now has advanced measurement tools, allowing for easy measurement of initial bolus volume and percent residual volumes, calibrated line measurements allowing for accurate tracking of Hyoid movement. Hyoid excursion can also track both anterior and superior movement from a single measurement. Easy to use labels can be applied to all measurements and annotations and captured via a still photo image for inclusion in study reports to PACS and or patient reports.

FEES Recording

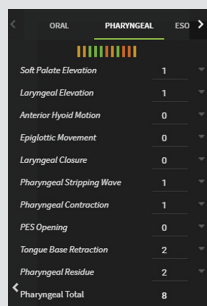
TIMS MVP 4.0 and above has been specifically enhanced to enable extended recording times. TIMS MVP is now the most advanced recording solution for FEES and other long duration interventional radiology / cardiology examinations



Study Scoring

TIMS MVP 4.5 and above is preloaded with popular scoring protocols such as

- MBSImp
- DIGEST
- DIGEST FEES
- PAS & FOIS



| Item | Score |
|---------------------------|-------|
| Soft Palate Elevation | 1 |
| Laryngeal Elevation | 1 |
| Anterior Hyoid Motion | 0 |
| Epiglottic Movement | 0 |
| Laryngeal Closure | 0 |
| Pharyngeal Stripping Wave | 1 |
| Pharyngeal Contraction | 1 |
| PES Opening | 0 |
| Tongue Base Retraction | 2 |
| Pharyngeal Residue | 2 |
| Pharyngeal Total | 8 |

Your own site-specific custom scoring protocol can be manually added to ensure consistent scoring across the whole team. Scoring protocols can be exported into tables for inclusion in patient reports.

Labelling

Labelling within TIMS MVP is easy to use and customisable to your needs. The system allows for studies to be labelled the same via Label Sets, either using preloaded descriptions (e.g. MBSImp and BoP) or customising own descriptions, and in both the Study or Series view.

UPGRADE TO **TIMS MVP**



 **Unlimited recording time**

 **Synchronised audio and video**

 **Real time editing**

 **Study Scoring**

 **Annotate on images**

 **Mobile & fixed installation**

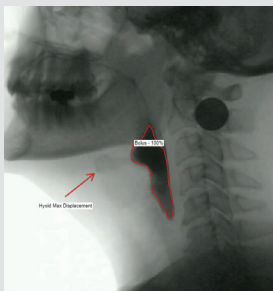
 **Streamlined workflow**

 **Full PACS connectivity**

 **Easy to use editing**

Study Annotation

TIMS MVP allows comments to be added using the Study Description or Series Description fields. These comments are displayed in the status bar of the TIMS window and included in the DICOM file. With Series Description, a pre-defined list can be set up so no need to type each time.



Export for Presentations

Sections of studies can be easily exported and embedded into PowerPoint presentations for teaching or conferences, as video with audio or still images. Patient sensitive information can easily be screened out with a TIMS system.

DICOM and Image Storage VIA USB

TIMS MVP can record to a USB device or a network destination. Multiple studies can be burned to a disk at one time for archiving purposes. A DICOM viewer is included and can be burned along with the patient study.

Convert non-DICOM modality to DICOM

Convert any medical modality to DICOM and send to PACS, record to USB, network and print. Any modality - CT, MR, nuclear medicine, motion X-ray, endoscopy, white light microscopy, angiography, ultrasound, and much more. Our software automatically analyses the video signal and calibrates exactly to the video specifications guaranteeing the very best image quality.

TIMS Review Software (Formerly TDRS)

TIMS Review is a software-only version of the TIMS MVP system. TIMS review can be installed on any Windows 10 computer, in the clinicians consulting rooms or anywhere in the hospital, thus freeing up the fluoroscopy suite for the next patient and improving workflow.

The speech study can be instantly sent over the hospital network from the TIMS MVP system in the

fluoroscopy suite to one or more TDRS systems throughout the hospital. TIMS is the only system that allows the user to review and edit studies prior to sending them to PACS or recording to USB or network.

TIMS review is an essential addition to any TIMS MVP purchase. It is an efficiency driver for the imaging department and workflow optimisation for speech pathology.

TIMS THE PACS CONNECTIVITY SOLUTION

THE TIMS MVP DICOM SYSTEM IS THE PREMIER SOLUTION FOR CONVERTING ANY NON-DICOM MEDICAL MODALITY TO DICOM.

- TIMS allows immediate review of the study to confirm correct patient positioning avoiding the need to re-do the fluoroscopy study if recorded data is ambiguous.
- TIMS allows MBS studies to be integrated into PACS with editing, so only relevant images or short runs are included, as opposed to the entire study. This means significantly less storage space on PACS is required.
- This system allows clinicians to export JPEG and AVI files to imbed MBS studies into PowerPoint presentations for training and conference presentations.
- The review station ability of TIMS means a more effective workflow of patients through a fluoroscopy suite as the annotations, labelling, review and editing of the patients MBS study can be conducted out of the fluoroscopy suite.
- The TIMS system allows the radiographer more time as radiographer labelling will not be necessary.
- The TIMS system can be used to burn a patient study onto USB including TIMS review software for the referring external clinician, thereby opening-up the potential of radiology & speech pathology MBS service to rural and regional surrounding areas.
- The TIMS system will give the department an ability to conduct training of student speech pathologists in MBS diagnosis, with graphic telestration and ability to review studies in high definition. This is not possible with current imaging modalities and capabilities.

AVERAGE STUDY SIZE

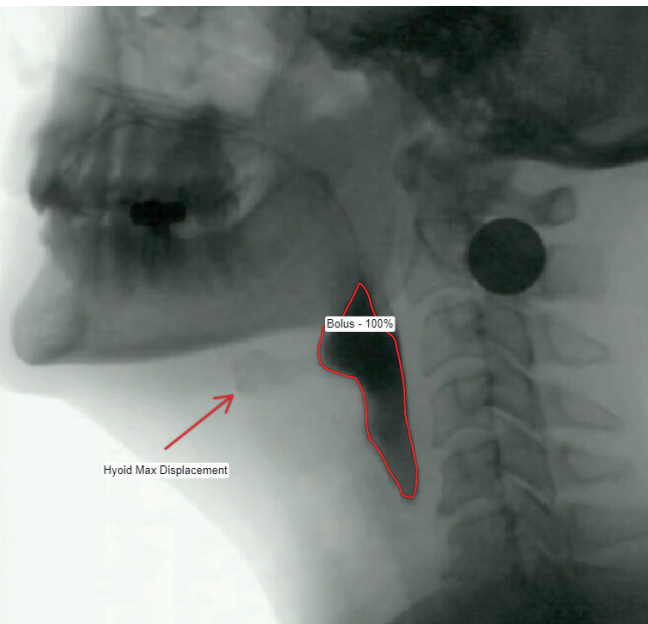
TIMS MVP supports several compression algorithms, with Lossy JPEG being the most prevalent. This option provides the best compression, without compromising image quality. The table below provides estimated

study sizes, based on studies being recorded at the recommended 30 frames per second. The left table should be used for most fluoroscopes which typically output at a resolution of 1024 x 1024.

| Image size = 1024 x 1024 monochrome | | | | |
|-------------------------------------|-------------|--------------|----------|----------------------------|
| # of frames | time@30fps | uncompressed | lossless | lossy at good quality (18) |
| 3000 | 100 seconds | 3000 MB | 1200 MB | 250 MB |
| 1400 | 46 seconds | 1400 MB | 570 MB | 117 MB |
| 1000 | 33 seconds | 1000 MB | 400 MB | 83MB |
| 500 | 17 seconds | 500 MB | 200 MB | 42 MB |
| 100 | 3 seconds | 100 MB | 40 MB | 8 MB |

| Image size = 512 x 512 monochrome | | | | |
|-----------------------------------|-------------|--------------|----------|----------------------------|
| # of frames | time@30fps | uncompressed | lossless | lossy at good quality (18) |
| 3000 | 100 seconds | 750 MB | 300 MB | 62 MB |
| 1400 | 46 seconds | 350 MB | 140 MB | 29 MB |
| 1000 | 33 seconds | 250 MB | 100 MB | 21 MB |
| 500 | 17 seconds | 125 MB | 50 MB | 10 MB |
| 100 | 3 seconds | 25 MB | 10 MB | 2 MB |

TIMS MVP PRODUCTS & ACCESSORIES



MULTIPLE CONFIGURATION SOLUTIONS

ESSENTIAL

- TIMS MVP Recording and Editing system
- TIMS Support & Maintenance (Years 2 – 5)
(Ensures your TIMS unit is upgradeable and supported for all future software releases)

ADDITIONS

- TIMS MVP Review Software (perpetual license)
- TIMS Review Support & Maintenance
- Ergotron Mobile Cart and workstation
- DVI / Video / Trigger cables for specific OEM imaging modality as required

PURCHASE OPTIONS

After establishing your preferred TIMS MVP configuration, choose from the following purchase options:

1. Purchase outright equipment with license
2. INLINE Systems TAAS (TIMS as a Service)
5-year lease agreement
3. Operating lease via Finance partner



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DANIELLE STONE

CLINICAL SPECIALIST SPEECH PATHOLOGIST
AT ROYAL NORTH SHORE HOSPITAL (SYDNEY)

TIMS A SMALL FOOTPRINT COMPUTER

The TIMS DICOM System is a small footprint computer specifically configured to run the TIMS DICOM System.

It is a low-profile PC measuring 7.1cm high by 25.4cm wide by 25.1cm deep, enabling it to easily fit in most medical application environments.

The TIMS DICOM System computer provides the I/O and peripheral connectivity expected in a high end PC. The system is powered by an Intel Core i5 2.4 GHz processor, 4 GB of system memory, a 750 GB SATA hard drive, and Microsoft Windows 7 Professional 64 bit. A small footprint keyboard and mouse are included.



DIMENSIONS AND WEIGHT

- 7.1cm high by 25.4cm wide by 25.1cm deep
- 3kgs

PROCESSOR

Intel Core i5 2.4 GHz (Intel Celeron 1.86 GHz for the TIMS 500)

MEMORY/HDD/CD/PCI

- 4 GB (2 GB for the TIMS 500)
- 750 GB SATA (250 GB for the TIMS 500)
- CD/DVD-RW (none for the TIMS 500)
- One half-size PCIe x4 slot

FRONT PANEL

- Two USB ports
- Audio in/out
- Power switch

BACK PANEL

- Keyboard/mouse PS-2 style port
- Six USB ports
- HDMI, DVI-D, or VGA output
- Audio in/out
- 10/100/1000 Mbit network port
- eSATA port
- Digital audio & S/PDIF
- Foresight Imaging Video Input Board for all video & trigger inputs
- External auto-switching power supply, 100-250 VAC

OPERATING SYSTEM

Microsoft Windows 7 Professional 64 bit

POWER REQUIRED

15A @ 115 V~, 10A @ 240 V~, 50/60 Hz

WARRANTY AND SUPPORT

One year of support and maintenance as well as the factory warranty is provided with each TIMS systems purchase. Technical support is available via telephone, email and online during business hours MON - FRI 9:00am - 5:00pm. Training is provided with each system purchase and software upgrades during the 1st year are also available. Support and maintenance agreements can be purchased for additional years.



For further information and to request a demonstration, contact us at info@inline.com.au



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