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MAS HD RECORDING SYSTEM Installation & Operation Instructions



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MAS Medical Ltd - Recording Systems

MAS Medical Ltd are principle suppliers of:
Fluoroscopy Video Recording Systems in Medicine

We Technically Advise and Contractually Support:
Hardware, Operation, Video Control and Video System Applications

Technical Support is Conveniently Available:
Telephone / Fax / Email / On-Site Service
OEM Trained, Service Engineer Attendance

High Quality Recordings allow High Quality replay with
PC, Laptop, Blu-ray

Recording Media is Inexpensive and Compact

Unique features of the System are:
Auto control of recording linked X-Ray System
Annotation of patient details to the Recording

System Applications Include:
Speech Therapy, Barium Swallow
Paediatric Urography Study
Cardiac Study
Ultrasound

Principle components of the MAS HD Recording System:
Sony HVO-1000MD Medical Grade Recorder
Sony LMD-2110MD Medical Grade Monitor
VCS2-Lite Video Control System

Options:
Sound System
Opto-Isolation between System and X-Ray



Installation

The Sony HVO-1000MD and Video Control System (VCS-2) are supplied with comprehensive interface cabling. Care should be taken when removing the equipment from the packaging.

Installation should only be carried out by a competent person and will normally require an Appropriate X-Ray Engineer for connection of the Video Signal from X-Ray or Ultrasound.

System Connections

Mains Power:

13 Amp Socket Outlets

Video In:

X-Ray 625 Line 50Hz Video Signal
(VCS-2 Lite Video Input is Opto-isolated)

Video Out:

Monitor Line Video Signal

Audio In:

Pre-Amp Line Audio Signal

Audio Out:

Monitor Line Audio Signal

Keyboard:

Recorder USB 3

Control Signal – VCS-2 Lite / Recorder Interface:

VCS-2 Recorder Control Cable interfaces Recorder Remote 1

Control Signal - VCS-2 Lite / X-Ray Interface:

VCS-2 video control system requires a Fluoroscopic and a Radiographic 'Active On' signal from the X-Ray equipment to control Recorder Functions

VCS-2 Active or Passive X-Ray Interface Cable

Active Interface connection requires high level +24v signal from X-Ray equipment

Passive Interface connection requires isolated, normally open, relay or switch contact from X-Ray equipment

BS-AA25 & BS-AP25 Cables are pre-wired to comply with IEC 601 part 1



Connection of X-Ray Interface

Either an active or passive connection is made between X-Ray unit and the VCS-2 video control system.

Please Note

**Active / Passive Connection Cables are Incompatible
Damage to VCS-2 Lite results through improper use**

DAMAGE INVALIDATES WARRANTY

Active Interface (BS-AA25)

A high level +24v signal from the X-Ray triggers both Fluoroscopic and Radiographic acquisition 'Start' An Opto-isolator provides Electrical Isolation between X-Ray and VCS-2 Lite

Cable BS-AA25 provides an active interface connection

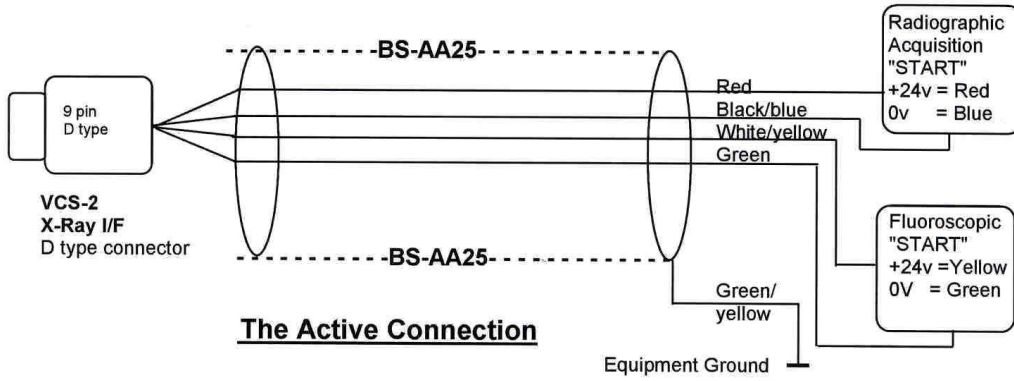
Passive Interface (BS-AP25)

X-Ray Systems outwith a high level +24v Fluoroscopic and Radiographic acquisition 'Start' Signal, a passive interface is utilised

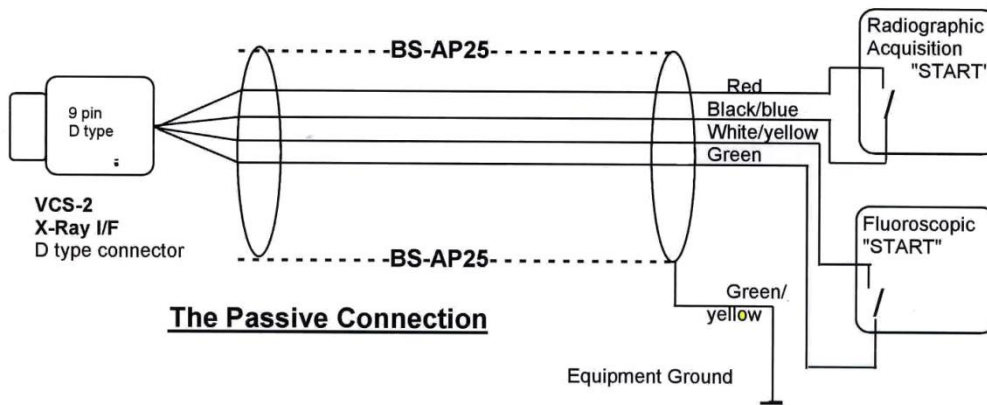
Isolated 'NO' (Normally Open) Relay or Switch Contact triggers both Fluoroscopic and Radiographic Acquisition 'Start'

Cable BS-AP25 provides a passive interface connection

BS-AA 25 Active Interface Cable / 25Metre



BS-AP25 Passive Interface Cable / 25 Metre





Test of VCS-2 Lite

1. Depress the VCS-2 video control unit FLUORO and ACQ buttons
VCS-2 video control unit is enabled to record both Fluoroscopic and Radiographic acquisition events
2. From the X-Ray Equipment, make a Fluoroscopic test
Select HVO-1000MD PLAY to confirm HVO-1000MD records to Internal HDD
From the X-Ray Equipment make a Radiographic Acquisition test
Select HVO-1000MD PLAY to confirm HVO-1000MD records to Internal HDD
Configure an X-Ray Video Signal to VCS-2
Select VCS-2 MANUAL - Start Recording
Release VCS-2 MANUAL - Stops Recording
Select HVO-1000MD PLAY to confirm HVO-1000MD records to Internal HDD
3. Deselecting VCS-2 Lite FLUORO disables auto Fluoroscopic Start function
Deselecting VCS-2 Lite ACQ button disables auto Acquisition Start function
Deselecting VCS-2 Lite FLUORO and ACQ, disables MANUAL function



Operation / Recording

Please Note:

Sony HVO-1000MD is a Multifunctional / Multimedia Recorder. The following is a basic guide to recording Video / Audio Events, and intended as an introduction to the M.A.S. Medical HD Recording System

Reference to the HVO-1000MD Manual details comprehensive Recorder options.

Quick Start Guide:

Connect mains power and confirm:

Sony Recorder is on

VCS-2 Lite is on

VCS-2 performs a 5 second System Test when power is applied

To disable the audible alert test, initially deselect Fluoro, Acq and Manual Buttons

Sony Monitor is on

Phono Pre Amp on (Sound Systems)

Select VCS-2 Lite 'Fluoro' or 'Acq' (Note: Most installs are 'Fluoro')

X-Ray Image is displayed

Activation from X-Ray 'Fluoro' or 'Acq' – Start Recording

Deactivation from X-Ray 'Fluoro' or 'Acq' - Pause Recording

Select Stop to End Recording

Recording Patient Information:

Either

Pre-Recording

Select HVO-1000MD Menu (Hint – Keyboard enter key)

Select Recording Preparation

Input Data either by the On Screen or Attached Keyboard

Navigate to *Execute*

Or

Post-Recording

Select Menu

Select *Patient List*

Navigate to *Image List*

Navigate to *Change*

Highlight the relevant Recording

Navigate and amend Fields as required

Navigate to *Execute*

Save Recording to Multimedia (Blu-ray, DVD, Optical Flash Disc)

Insert Media

Select Menu

Navigate to *Recording List*

Enter

Navigate to *Image List*

Enter

Navigate to *Save To*



Check Recordings for Save
Navigate to *Execute*

Playback from HDD

Navigate to *Recording List*
Enter

Highlight recording to *Playback*
Select *Play*

Playback from Multimedia

Recordings are replayed from PC or Blu-ray Player

Note - HVO-1000MD does not have the functionality to replay from Multimedia



Specification

Video Recorder

Model:	Sony HVO-1000MD
Recording Media:	DVD-R Blu-ray USB Flash Drive
Recording Format:	MP4

Video Monitor

Model:	Sony LMD-2110MD
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Video Control System

Model:	VCS-2 Lite
X-Ray Interface:	Fluoroscopy / Acquisition <i>Either:</i> +24V Active Interface <i>Or:</i> NO Contact Passive Interface

Power Supplies

230 V AC / 50 Hz

Mains Plug Fuse Rating

Recorder	10 A
Monitor	3 A
VCS-2Lite	3 A
Opto-Isolator	5 A



Frequently Asked Questions

Sound Recording?

Sound can be recorded with a Microphone and Pre-amp
Sound Systems are available from MAS Medical Ltd

Delete Recordings?

Individual or Complete Recordings can be deleted from the Internal HDD. Please note that due to limitations of the format, this will not always free up disc space

Disc Formatting?

Recorded media can be PC reformatted

Edit Recordings?

Use of Video Editing Software enables Edit of Recordings

Power Point Presentation?

Use of Power Point Software, enables addition of Video Clips to Presentation

Recording Media?

The SONY HVO-1000MD records to Blu-ray, DVD-R and USB Flash Drive
We recommend that good quality discs from a reputable manufacturer are used.
Appropriate discs can be supplied by MAS Medical Ltd

Video Play Back?

HVO-1000MD (From Internal HDD Only)
Blu-ray Player
PC with compatible Play Back Software

Dubbing?

Recordings are saved to a hard disc within the Recorder
Dubbing will record Video to Media

For further Information and Support
Please contact MAS Medical Ltd