



CASE STUDY:

INAIL PROSTHESIS CENTRE AND AETHRA® VIDEO COMMUNICATION SYSTEMS

Customer interviewed: INAIL Prosthesis Centre, Budrio (Italy)

Video Communication Systems Used: Pleiadi, Maia®

The INAIL Prosthesis Centre manufactures prostheses and trains patients how to use them. With headquarters in Budrio, INAIL has centres throughout Italy. INAIL uses Aethra's video communication products to provide teleassistance to wearers of upper-limb prostheses (using OttoBock's myoelectrically-controlled hand) equipped with a sophisticated computerized control circuit called MCA (Microprocessor Controlled Arm). The prosthesis wearer can use Aethra videoconferencing equipment combined with MCA Auto Tuning Software to carry out various operations at the closest INAIL centre instead of having to travel to the main Prosthesis Centre every time.

Pleiadi, Aethra's multimedia rollabout, is used at the Prosthesis centre and Aethra's videophone Maia is installed at various centres. There is also a Maia at OttoBock's Italian site and at its research centre in Vienna. Using Aethra equipment the operations that can be carried out without having to go the Prosthesis Centre range from periodic check-ups (such as the status of the batteries, sensor control) to more complex services like calibration, the diagnosis of possible malfunctions and modifications of the function of the prosthesis.

The use of videoconferencing is beneficial for prosthesis wearers because it enables them to perform various tasks from a centre near their home with the guidance of qualified technician. The prosthesis wearer does not need to go to the Prosthesis Centre and so saves time and money and avoids possible discomfort caused by travelling long distances. Even the analysis of the electromyographic signal can be carried out remotely. In this way the technician can evaluate different solutions before asking the patient to come to the Prosthesis Centre.

In the future teleassistance may be developed to service wheelchairs where a serial communication is needed to set and control the parameters that ensure smooth operation. This would make it possible to solve some of the problems directly at the patient's home and offer him some additional services to simplify its use and management.



Maia connected to a prosthesis

Pleiadi Technical Notes

- rollabout system with two monitors
- perfect for conference and meeting rooms
- DICOM3 compatibility
- supports ISDN and IP networks
- echo suppressor
- connection with up to 5 remote sites with audio, video and data sharing
- compliance with international standards (H.320/H.323)

Pleiadi delivers high-quality multimedia video communication sessions over ISDN, leased or packet networks, such as IP networks, Intranet. The system architecture with two monitors allows the simultaneous display of both the local and remote sites or alternatively, the local site with still images for application sharing.

The new camera with 9 preset positions, zoom, autofocus, voice tracking and high-speed pan&tilt can be managed either locally or remotely with the infrared control. The user interface has been designed in a 3-D menu to ensure easy, intuitive operation even for less experienced users.

Maia Technical Notes

- compact videoconference system for individual meetings
- 6" video screen with active matrix display
- supports ISDN
- echo suppressor
- compliance with international standards (H.320)

With its simple, elegant design, Maia is the individual videoconference system that allows the simultaneous transmission of images, audio and full motion video over standard ISDN, leased lines or satellite networks.

Easiness of installation and use are the main characteristics of Maia, the perfect solution for all offices thanks to its small footprint size. Two versions with 6" monitor are available: MaiaS and Maia384. Maia 384 allows data exchange with Microsoft NetMeeting by simply connecting to a PC. The active matrix display guarantees top-quality images for perfect visibility regardless of the visual angle.

The management of the audio signal has been developed in order to completely eliminate echo and guarantee excellent sound reproduction even when using the hands-free feature. The unit can be expanded to accommodate larger groups by simply connecting a microphone and a large monitor.

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