



MATRIX AAC

COMMUNICATION SOFTWARE





***Each person, regardless
of the degree of
disability, has the right
to influence, through
communication, the
conditions of its own life.***

**National Joint Committee for the Communication Needs of Persons with Severe Disabilities, 1992.*

INTRODUCTION AND INTENDED USE

Matrix AAC is an innovative, intuitive, simple, and functional software for Augmentative and Alternative Communication (AAC). It is a real development environment designed to support individuals with complex communication needs and speech or writing disorders.

It is particularly recommended for people with neurodegenerative diseases that temporarily or permanently affect expressive language and/or mobility, such as ALS, SMA, and tetraplegia.

The software is also suitable for individuals with verbal communication difficulties, including people with Autism Spectrum Disorders (ASD).

Matrix AAC enables the creation of communication boards, grids, and books for AAC. In addition to facilitated communication, it also includes features for home automation and PC management within the Microsoft Windows environment.



MAIN FEATURES

Communication Tools

- Keyboards: QWERTY simple and plus; alphabetic simple, plus, and simple enlargement.
- Phrasebooks: Organized into four categories: room, positions, pain, and conversation.
- E-mail: Read, write, and send emails via a simplified interface; download and view attachments using the simplified attachment manager.
- Phone: Find, edit, and add contacts to make and receive phone calls and/or send messages.

Internet

- Simplified Mode: Access and navigate a simplified version of a pre-selected search engine within Matrix AAC.
- Advanced Mode: Access and use the main browser directly on the device, supported by Matrix AAC tools and commands.

Social media

Access and navigate simplified versions of the following platforms within Matrix AAC:

- Facebook
- Instagram
- YouTube

- WhatsApp
- X (formerly Twitter)
- Telegram
- TikTok

Advanced Control

Directly control the device with the support of Matrix AAC tools and commands.

Media and Documents

- Listen to music
- Watch videos
- Take photos and view image galleries
- Read, edit, and create .docx documents
- Read PDFs

Home Automation

Matrix AAC enables interaction with the user's environment by controlling lights, TVs, media players, air conditioners, and other home devices compatible with infrared (IR), radio frequency (RF), Wi-Fi, or Bluetooth connections.

Tools

Eye tracker calibration, device zoom, and volume control.

Voice Synthesis

Matrix AAC features both male and female voice options.

AAC MODULE

An advanced symbol-based communication module that introduces real-time text-to-symbol association and automatically suggests symbols while typing. Leveraging context-aware semantic recognition, it enables the association of words and phrases not only with pictograms but also with real images, resulting in more natural and effective communication.

Grammar Module

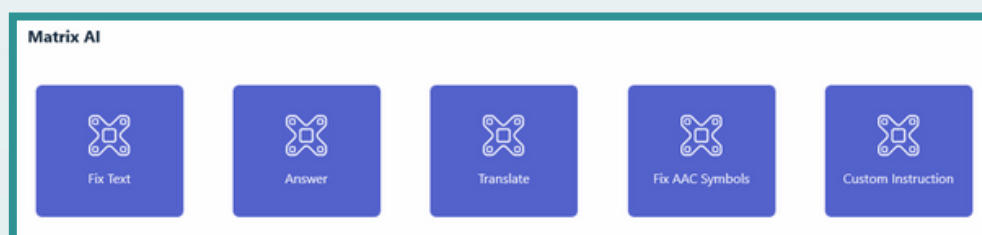
Matrix AAC includes a grammar module that automatically manages verb conjugation based on the selected subject and tense. It supports all verbs, including irregular forms, across all tenses, ensuring that generated sentences are always grammatically accurate.

MATRIX AI

Matrix AAC includes Matrix AI, an integrated artificial intelligence tool designed to offer linguistic support along with advanced correction and prediction features. It works both online and offline, ensuring user privacy and uninterrupted access without the need for an internet connection.

Matrix AI offers the following functions:

- **Fix Text:** analyzes written content and reformulates it by correcting spelling, grammar, and syntax to ensure clear and accurate communication.
- **Answer:** allows users to ask questions in natural language and receive concise, relevant responses.
- **Translate:** instantly translates text or selected symbols into Italian, English, Spanish, French, German, and Russian.
- **Fix AAC Symbols:** reviews sequences of selected symbols and reformulates them into grammatically correct and coherent sentences.
- **Custom Instruction:** enables the creation of personalized commands and actions tailored to the user's cognitive and communicative needs.



CUSTOMIZATION

The administrator interface of Matrix AAC allows for the creation or import of user profiles and communication structures. These structures, composed of one or more grids, can be deeply customized quickly, easily, and intuitively.

Cells and folders of cells can be customized in numerous ways. Beyond editing the content and commands, users can modify the shape and style of both individual cells and entire folders.

Image creation and editing is supported via an integrated image editor, providing a user-friendly tool for visual customization.



IMAGES

Matrix AAC has been designed to be used with any image libraries or pictograms of different format (png, jpg, bmp, pcs, gif).

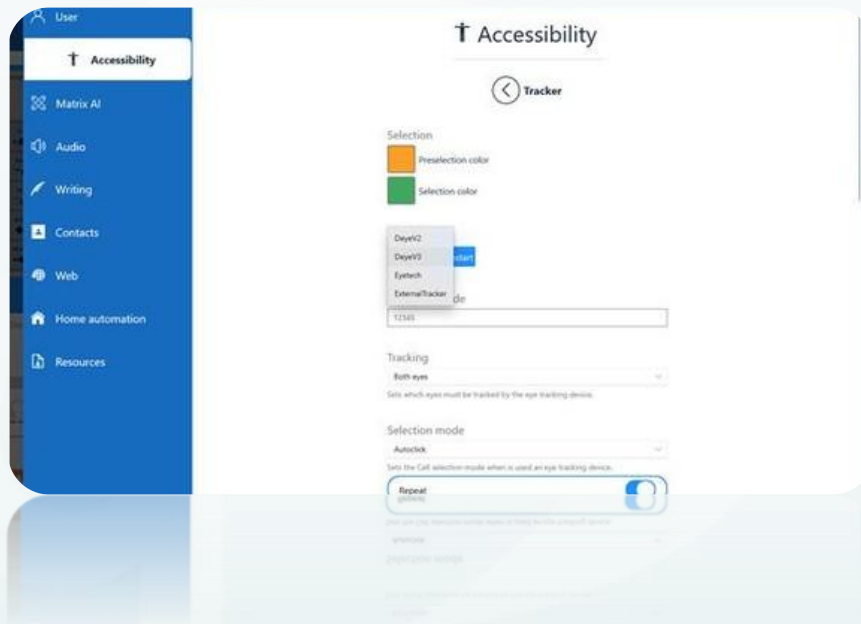
Once the software is installed, the PACS image library (created by our team) will be installed and the user can also download, in automated manner and for free, the Arasaac pictograms (upon acceptance of the licence of use) and SymbolStix.

Additionally, users may download images from the web, select them from the device's local memory, or take photos directly using the device's camera.



ACCESSIBILITY

Matrix AAC is built to ensure maximum accessibility and adaptability to a wide range of motor and cognitive needs.



The system supports three access methods, each tailored to specific disability conditions:

- Touch and Mouse: For users with good motor control, direct access can be configured as single or double tap, depending on the user's precision and ability.
- Scanning: Matrix AAC supports scanning as an alternative input method for users with limited limb mobility, offering two modes:
 - Manual scanning: the user manually navigates through selectable elements using a sensor click. Up to five sensors can be used for more precise control.

- Automatic scanning: the software automatically scans cells, rows, or columns, highlighting selectable areas. The user activates a cell by pressing the sensor when it is highlighted.
- Eye-Tracking: For users with almost no mobility but with preserved eye control, Matrix AAC supports eye-tracking input, especially using the Dialog Deye hardware. This access method enables users to navigate and make selections using only their gaze.

Digital
MEDICAL AI

TECHNICAL SPECIFICATIONS

Matrix AAC can be used on device with Windows operating system.

Operating system:	Microsoft Windows® 10, version 10.0.18362.0 a 64 bit, or higher
Processor:	10th-generation Intel Core i5
RAM:	8 GB
Hard Disk:	5 GB
Internet connection:	Yes



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