

Philips C7420

Philips Videopac C7420 Home Computer Module Programming Manual

For Videopac+ G7400 Console Integration

1. INTRODUCTION TO THE VIDEO PAC C7420 MODULE

This manual provides comprehensive information regarding the programming of the Home Computer system formed by the integration of the **Videopac+ G7400 console** and the **C7420 BASIC module**. Both components were originally produced by Philips, with their introduction dating back to 1983.

Historically, the Videopac+ G7400, launched in 1983, represented the third and final generation of Videopac and Odyssey consoles. It was the most powerful version developed by Philips and Magnavox, based on the unreleased Odyssey3 prototype from Magnavox (1983). Following the G7400's release, Philips developed the C7420 add-on module. This module transformed the original console into a full-fledged home computer, featuring an operating environment powered by the **BASIC-80 interpreter**, which utilized the 8KB version of Microsoft BASIC available at the time.

The primary objective of this manual is to preserve and disseminate historical information and knowledge pertaining to the C7420 machine. Despite its current lack of commercial value, this information is crucial for preventing its loss over time and making it accessible to all retrocomputing enthusiasts.



Figure 1: Front cover of the Philips Videopac C7420 Programming Manual.

2. PROGRAMMING ENVIRONMENT SETUP

To begin programming with the Videopac C7420 module, ensure the C7420 BASIC module is correctly

connected to your Videopac+ G7400 console. The C7420 module provides the necessary hardware and software environment to run the BASIC-80 interpreter.

2.1 Connecting the C7420 Module

1. Power off the Videopac+ G7400 console.
2. Carefully insert the C7420 BASIC module into the designated expansion slot on the G7400 console. Ensure a firm and secure connection.
3. Connect the console to a compatible display unit (e.g., television).
4. Power on the G7400 console. The system should boot into the BASIC-80 interpreter environment.

2.2 Initializing BASIC-80

Upon successful boot, the BASIC-80 prompt will appear on the screen, indicating that the system is ready to accept commands. Familiarize yourself with the keyboard layout for entering commands and programs.

3. BASIC-80 PROGRAMMING GUIDE

This section details the fundamental commands and programming structures available within the BASIC-80 interpreter on the Videopac C7420. The manual includes revised and corrected examples from the original documentation, supplemented with screenshots from system emulators for clarity.

3.1 Basic Commands

- **NEW**: Clears the current program from memory.
- **LIST**: Displays the current program lines.
- **RUN**: Executes the program currently in memory.
- **SAVE "filename"**: Saves the program to storage (if supported by the system configuration).
- **LOAD "filename"**: Loads a program from storage.

3.2 Programming Structures

The BASIC-80 interpreter supports standard programming constructs:

- **Variables**: Use letters and numbers for variable names (e.g., A, X1, NAME\$).
- **Input/Output**: INPUT for user input, PRINT for displaying output.
- **Control Flow**: IF...THEN...ELSE for conditional statements, FOR...NEXT and WHILE...WEND for loops.
- **Subroutines**: GOSUB and RETURN for modular programming.

Example: Simple "Hello World" Program

```
10 PRINT "HELLO WORLD!"  
20 END
```

Type these lines into the interpreter and then type RUN to execute the program.

4. SYSTEM MAINTENANCE AND CARE

While the C7420 module and G7400 console are robust, proper care ensures their longevity, especially given their historical significance. This section outlines general maintenance guidelines.

4.1 Physical Care

- Keep the console and module in a clean, dust-free environment.
- Avoid exposing the devices to extreme temperatures or humidity.
- Handle cartridges and modules carefully to prevent damage to connectors.

4.2 Data Preservation

For programs created on the C7420, consider backing them up using modern methods if possible, especially if the original storage solutions (e.g., cassette tapes) are unreliable or unavailable. Emulators can also serve as a means of preserving program code and execution.

5. TROUBLESHOOTING COMMON ISSUES

This section addresses common problems encountered during the use and programming of the Videopac C7420 system.

5.1 System Not Booting

- **Check Power Connection:** Ensure the G7400 console is properly connected to a power source.
- **Module Seating:** Verify that the C7420 module is securely seated in its expansion slot.
- **Display Connection:** Confirm the console is correctly connected to the display unit.

5.2 BASIC-80 Errors

The BASIC-80 interpreter provides error messages to assist with debugging. Common errors include:

- **Syntax Error:** Incorrect command or statement structure. Review the command syntax.
- **Out of Memory Error:** Program exceeds available memory. Optimize code or reduce program size.
- **Undefined Line Number Error:** A GOTO or GOSUB statement refers to a non-existent line number.

Refer to the detailed programming sections for correct syntax and examples.

6. TECHNICAL SPECIFICATIONS

This section outlines the key technical specifications of the Philips Videopac C7420 module and its associated console.

- **Product Type:** Home Computer BASIC Module
- **Compatibility:** Philips Videopac+ G7400 Console
- **Programming Language:** Microsoft BASIC-80 (8KB version)
- **Year of Introduction:** 1983
- **ISBN-13 (Manual):** [979-8865654346](#)

Il presente volume ha il solo scopo di raccogliere le informazioni disponibili legate alla programmazione del Home Computer frutto dell'unione della console "Videopac+ G7400" con il modulo BASIC "C7420", entrambi prodotti da Philips a partire dal 1983.

Storicamente il Videopac+ G7400 rappresentava la terza ed ultima generazione, nonché la versione più potente, delle console Videopac ed Odyssey prodotte rispettivamente da Philips e Magnavox, ed era basata sul prototipo Odyssey3 (presentato da Magnavox nel 1983) che non vide mai la luce.

Successivamente all'introduzione del G7400, Philips ha sviluppato un modulo addizionale denominato C7420 che consentiva di estendere la macchina originaria facendola diventare un home computer con ambiente operativo costituito dall'interprete BASIC-80, basato sull'allora versione 8K di Microsoft BASIC.

L'obiettivo primario di questo libro è preservare e tramandare informazioni e conoscenze considerate di valore storico relative alla macchina C7420, con l'obiettivo di evitarne l'oblio e la perdita dovute al naturale trascorrere del tempo.

Francesco Ferri, autore del libro, è stato un possessore della console Videopac G7400 con modulo C7420 nel lontano 1983 e, a distanza di circa 40 anni, ha deciso di ricercare e recuperare le poche informazioni disponibili relative alla programmazione di questo Home Computer e di raccoglierle in un volume, con il solo scopo di renderle disponibili a tutti gli appassionati di retrocomputing, rivedendole e correggendole rispetto a quanto riportato sulle documentazioni originarie, ed arricchendo il tutto con alcuni screenshot prodotti tramite un emulatore del sistema.

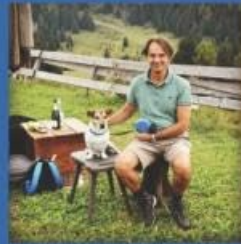


Figure 2: Back cover of the manual, displaying ISBN and author information.

7. ABOUT THE AUTHOR

Francesco Ferri, the author of this manual, is a long-time enthusiast and original owner of the Videopac G7400 console with the C7420 module, acquired in 1983. After approximately 40 years, Mr. Ferri undertook the task of researching and compiling the scarce available information related to the programming of this Home Computer. His work aims to consolidate this knowledge into a single volume, making it accessible to all retrocomputing enthusiasts. The manual reviews and corrects discrepancies found in original documentation and is enriched with numerous screenshots generated via a system emulator to enhance clarity and understanding.

8. WARRANTY AND SUPPORT

This manual is a historical and informational resource. As such, it does not come with a product warranty for the original hardware. For support regarding the content of this manual or retrocomputing discussions, enthusiasts are encouraged to consult online retrocomputing communities and forums dedicated to Philips Videopac systems.

The original Philips Videopac C7420 module and G7400 console are vintage items, and their operational status may vary. This manual serves as a guide for understanding and programming these historical systems.