REGNECENTRALEN
(UK) LTD

8/16 BIT RC855 MULTI-FUNCTION WORKSTATION

RC (UK) LTD 8/16 BIT OPERATING SYSTEM

USER GUIDE

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INDEX TO SECTIONS

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SECTION 1   INTRODUCTION

1.1   Associated Documents

This User Guide is intended to be used in conjunction with
the User Guide to your RC855 MFWS System which covers the
basic operation of the Workstation in the 8 Bit CP/M 2.2
Mode.

This User Guide covers the extension to the facilities of
your Workstation which the Hardware and Software Upgrade
provides.

1.2   Contents of this User Guide

This User Guide describes the way in which your RC855
MFWS has been upgraded both in hardware and software terms
and explains how to use both the much more powerful system
and the new Utility Programs introduced by RC (UK) Ltd.

1.3   Application of the System

The RC855 MFWS System will continue to function in its
CP/M 2.2 and RC 3270 Terminal Modes in exactly the same way
as before. The Intel 8088 Processor and its Associated
Memory are only brought into operation when the simple
instructions in this User Guide are followed. The Co-
Processor can be switched off equally easily. All the
Application Software which already operates on your
Workstation continues to Function. RC (UK) Software Support
is confined to Application Software Packages supplied by
this company to operate in either 8 Bit or 16 Bit
configuration with CP/M Operating System Software supplied
or approved by RC (UK) Ltd.

1.4   The Hardware Upgrade

An Intel 8088 16 Bit Co-Processor with 256 K Bytes of Random
Access Memory and the Logical Components to interface to the
Zylog Z80A 8 Bit Processor has been added to your RC855
MFWS System. The Co-Processor uses the Z80A Processor to
operate the Workstation so that almost all (240 K Bytes) of
the new Memory and Processing Power is available to execute
your application program when you are operating in 16 Bit
Mode.

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1.5 The Software Upgrade

RC (UK) Ltd. have provided a Software Regime for the RC855 MFWS designed to avoid the need to learn a whole new Operating System. The Workstation's Housekeeping Utility Programs, which you already know, continue to operate in exactly the same way. We have taken the opportunity to introduce some new Utility Programs which will help your personal productivity and these are fully explained in this User guide.

If you wish to move fully into the CP/M 86 Operating System RC (UK) Ltd. can supply the full DRI Documentation and the CP/M 86 regime will run in a completely DRI Standardised way when your Co-Processor is on line.

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SECTION 2 THE RC (UK) LTD 8/16 BIT RC855 OPERATING SYSTEM

2.1 Contents of the Distribution Package

The RC (UK) Ltd. Distribution Package for the 8/16 Bit
RC855 MFWS contains the following items:

This User Guide

The DRI CP/M 86 Master Reference Disc

This Disc contains the full DRI CP/M 86 Program Set and will
normally only be required if you decide to move your
Workstation wholly into the CP/M 86 Operating System. A list
of the Files and Programs supplied is included with the
Disc. It is advisable to Purchase and Study the full DRI
CP/M 86 Documentation before taking that step.

The RC (UK) 8/16 Bit RC855 MFWS System Conversion Disc

This Disc contains everything that is needed to establish
the RC (UK) Ltd. 8/16 Bit RC855 Operating System on your
Dual Processor System using the simple instructions in this
User Guide. A list of the Files and programs supplied is
included with the Disc.

8/16 Bit Master Disc Labels

These will be used to LABEL your 8/16 Bit RC855 Operating
System Master Discs when you have created them using the
instructions which appear in Section 2.2 below.

The RC (UK) Ltd. User Registration Card

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2.2 Create New 8/16 Bit Operating System Master Disc

STEP 1

Create a New RC855 MFWS CP/M 2.2 Workdisc in the usual way (e.g Use the BACKUP or COPYSYS Utilities to transfer the System Tracks and the your preferred Utility Programs onto a Newly Formatted and Verified Double Sided Double Density Disc).

STEP 2

Load your newly created Disc into Drive A:

Type:<CTRL>C   To reset the Workstation

Type:ERA A:*.*<RETURN> Key

This will eliminate everything except the Data on the System Tracks from your Disc after you answer **Y** to the confirmation message which your Workstation displays.

STEP 3

Load into Drive B: the:

The RC (UK) 8/16 Bit ITT 3290 ITWS System Conversion Disc

Type:<CTRL>C   To reset the Workstation

Type:**B:**<RETURN> Key To make B the logged on Drive.

Type:**PIP A:=B:*.*[V]**<RETURN> Key

This will tranfer all the Files and Programs on your Distribution Disc to the Newly Created Disc in Drive A:

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STEP 4

Remove the:

The RC (UK) 8/16 Bit RC855 MFWST System Conversion Disc

from Drive B: and store it in a safe place together with the:

The DRI CP/M 86 Master Reference Disc

These will not normally be required for 8/16 Bit RC855 MFWS Sytem Operations.

Complete the User Registration Card Included with the Distribution Package and mail it to RC (UK) Ltd. This will ensure that you receive Operating System Support, news of Further Productivity Upgrades and news of the availability of Pre-Configured Applications Software Packages from RC (UK) Ltd.

STEP 5

Use your Standard CP/M Utility (e.g. DIR or STAT) to inspect the Directory of the Disc in Drive A: and if you feel the need for additional Utility Programs add them to the Disc in the usual way (e.g. use CP/M 2.2 PIP.COM).

STEP 6

Remove the Disc from Drive A: fix one of the MASTER LABELS from the Distribution Package Label Set to it. Enter the Serial Number of your Licensed Copy of your RC855 MFWS CP/M 2.2 Operating System and the Serial Number of your Licensed Copy of CP/M 86 onto the Label.

The Process of Creating your 8/16 Bit RC855 Operating System Master Disc is now complete.

Section 3 of this User Guide explains the use the High Productivity Utility Programs Supplied by RC (UK) Ltd. to create Workdiscs for use with your 8/16 Bit RC855 MFWS.

SECTION 3 CREATE 8/16 BIT RC855 MFWS WORKDISCS

This Section of the User Guide Introduces the RC (UK) Ltd.
High Productivity Utility Programs by using them to create
8/16 Bit Operating System Workdiscs for you RC855 MFWS
Workstation. You may, if you prefer, use the Utility
Programs you already know to achieve the same results
(albeit more slowly).

3.1 Format/Verify New Discs

Start up your Workstation with the 8/16 Bit Operating System
Master Disc in Drive A:

Type:**<CTRL>C**   To reset the Workstation

Type:**CDFV<RETURN>** Key

The FORMAT/VERIFY Utility will be loaded and the message
displayed will be:

RC (UK) DISK FORMAT/VERIFY UTILITY Ver CD X:1

This Utility will FORMAT and VERIFY a disk in the specified drive

*** ALL PREVIOUS DATA ON THAT DISK WILL BE LOST ***

FORMAT DISK IN DRIVE ? <A or B>

or

<CTRL-C> TO RETURN TO CP/M

OPEN THE DOOR OF DRIVE A: TO PROTECT AGAINST ACCIDENTAL
ERASURE OF THE DATA ON YOUR MASTER DISC

Type:**B**

The Workstation will display the message:

Type <RETURN> to start FORMAT/VERIFY, or <CTRL-C> to ABORT

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Type:<RETURN> Key

The Workstation will display the message:

*** DRIVE NOT READY, DRIVE B: INSERT DISK NOW ***

Load a new Double Sided Double Density Disc (equipped with a Write Permit Tab if necessary) into Drive B: and close the door of Drive B:.

The FORMAT/VERIFY process will start automatically as soon as the door is closed. The message displayed will be:

FORMAT/VERIFY STARTED, CURRENT TRACK NN

The CURRENT TRACK COUNTER will advance as the process proceeds. When it has been successfully completed the message displayed will be:

*** FORMAT/VERIFY COMPLETE ***

To REPEAT Format/Verify type <R>
To RETURN to CP/M Type <RETURN>

IF ANY OTHER MESSAGE APPEARS IT NORMALLY MEANS THAT THE DISK HAS A FAULT ON ITS SURFACE AND MUST BE DISCARDED

Repeat the Format/Verify Procedure until you have a sufficient number of Formatted and Verified Discs for your purposes.

When you have finished with the Format/Verify Program and the message displayed is:

*** FORMAT/VERIFY COMPLETE ***

To REPEAT Format/Verify type <R>
To RETURN to CP/M Type <RETURN>

Re-Load your Master Disc in Drive A:, Close the Door and:

Type:<RETURN> Key   To return to CP/M.

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3.2 Create 8/16 Bit Operating System Work Discs

With your Master Disc in Drive A: and one of your Formatted
and Verified Discs in Drive B:

Type:**CDCOPY\<RETURN\>** Key

The RC (UK) Ltd. High Productivity DISC COPY Utility will be
loaded and the message displayed will be:

RC (UK) DISK COPY UTILITY Ver CD 2:0

TYPE IN:

\<A\> TO COPY THE WHOLE DISC

\<S\> TO COPY THE SYSTEM TRACKS

\<D\> TO COPY THE DATA TRACKS

          *** OR ***

\<CTRL-C\> TO RETURN TO CP/M. :_

The Workstation will display the message:

COPY ALL DISK \<A\> TO DISK \<B\>.

Type:\<RETURN\> to start copy, or \<CTRL-C\> to ABORT

Type:**\<RETURN\>** Key

The Workstation will display the message:

COPY STARTED, CURRENT TRACK NN

An exact copy of the Disc in Drive A: will be made on the
Disc in Drive B:. The CURRENT TRACK Counter will advance as
the process proceeds and when it is completed the message
displayed will be:

*** COPY COMPLETE ***

To REPEAT copy, type \<R\>
To RETURN to CP/M type \<RETURN\>

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Remove the MASTER DISC from Drive A: and store it with the Distribution Package Discs.

Remove the Disc from Drive B: and attach one of the Labels from your Label Set to it.

The First 8/16 Bit Operating System Disc for your 8/16 Bit RC855 MFWS is now completed. This may be used to create further 8/16 Bit Operating System Discs by following the procedure described in this Section of the User Guide.

Load the disc you have just labeled into Drive A: and proceed to create more 8/16 Bit Operating System Discs (see Section 3.2 above) or Applications Program Workdiscs as described in Section 3.3 below.

3.3 Create 8/16 Bit Application Program Workdiscs

Application Program Workdiscs are created by simply tranferring the Application Program (e.g WORDSTAR$_{tm}$ or SUPERCALC$_{tm}$ 2 etc.), together with its Help and Overlay Files to^{tm}one of your 8/16 Bit Operating System Workdiscs (using the DRI PIP.COM Utility Program) and labeling it.

There are a few simple rules:

If your Application Program worked correctly before the Upgrade it will continue to operate correctly now.

If your Application Program is supplied by RC (UK) Ltd. to operate on your 8/16 Bit RC855 MFWS it will operate correctly when the Application Program Work Disc is created in this way.

All Workstation Housekeeping Utility Programs work best, and fastest in CP/M 2.2 Mode.

Only Programs whose File Names have the suffix **.CMD** operate under CP/M 86.

Turn to Section 4 of this User Guide to learn how simple it is to Operate your 8/16 Bit RC855 MFWS Workstation under the RC (UK) Software Regime.

SECTION 4 WORKING WITH THE RC (UK) 8/16 BIT SOFTWARE SYSTEM

4.1 Start Up

Start up your 8/16 Bit RC855 MFWS with an Applications Program Workdisc in Drive A:

The CP/M 2.2 System Prompt will be displayed which looks like this:

A >

You may now operate the Workstation in the normal way with your 8 Bit Applications Software Packages and your Utility Programs.

You may also use the **M DRIVE FACILITY** as described in Section 4 of this User Guide to increase the Productivity and Throughput of your Workstation dramatically. Normally 8 Bit Software using the M Drive Facility will operate faster than the same Application running in its 16 Bit format.

4.2 Switch to 16 Bit Operation

To switch your Workstation to 16 Bit Operation you must:

Type: **Z88E<RETURN>** Key

Control will be passed to the Intel 8088 Co-Processor and the RC (UK) 8/16 Bit Operating System Prompt will be displayed, which looks like this:

A ⊐

You may now run Applications Programs and Utilities which have the Suffix **.CMD** together with the DRI CP/M 86 Built-In Utilities.

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4.3 Switch to 8 Bit Operation

With the RC (UK) 8/16 System Prompt displayed:

A]_

Type:**Z80<RETURN>** Key

Control of the Workstation will be passed back to the Z80A
Processor under CP/M 2.2 and the CP/M 2.2 Prompt will be
displayed:

A>_

to indicate that the Workstation is ready for 8 Bit
operation.

4.4 The M DRIVE Feature

4.4.1   Introduction

When you are Operating in the 8 Bit Mode the Intel 8088
Co-Processor and its Memory can be used by the Z80A
Processor as a Virtual High-Speed Disc Drive of capacity
240 K Bytes.

Data Files and Programs (e.g. for a DBASE$_{tm}$ 2 multiple file
report generation job) can be moved to the^{m}M Drive and the
Workstation logged on to Drive M: to execute the task much
more quickly.

4.4.2   Starting Up the M DRIVE Feature

To use the M DRIVE Facility you must first ensure that the
Workstation is Switched to 8 Bit Mode then:

Type:**MD<RETURN>** Key

The M DRIVE will be initialised by the Operating System and
you may use it in the same way as any other Drive:

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4.4.3   Using the M DRIVE Feature

You may Transfer Programs and Data Files to DRIVE M: using DRI PIP.COM or RC (UK) SIMPLIFILE$_{tm}$.

You may use STAT.COM, CAT.COM, DIR, ERA etc to deal with Files and Programs on Drive M: in the Normal way.

You may make Drive M: the logged on Drive.

There are a few Simple Rules:

Always make sure that there is enough space on Drive M: to accommodate the Programs and Files you intend to Transfer to it.

It is not a good idea to assign the Drive M: Identity to Data Files being created under your Application Program because it is too easy to forget to transfer the Data to a real Disc. **If you forget you will lose your work.** Always assign a real Disc Identity Pre-Fix (A:, B: etc) to a Data File.

The most sensible way to use Drive M: is as the basis of repetitive tasks which you leave the Workstation to get on with while you do something else.

4.4.4   Moving From M DRIVE Mode to 16 Bit Mode

Because the M DRIVE Feature occupies the Intel 8088 Co-Processor a General Hardware Reset of the Workstation is needed to return to normal CP/M 2.2 Operation and thence to 16 Bit Mode.

CHECK CAREFULLY THAT ALL VITAL DATA FILES HAVE BEEN SAVED ON A REAL DRIVE BEFORE PROCEEDING

Press the small Button Marked RESET on the rear of the Workstation Pedestal. This button is located between the Keyboard Connector and the LINE 2 (Printer) Port.

This will cause a General Hardware Reset of the Workstation followed by a Re-Load of the CP/M 2.2 Operating System from Drive A:

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SECTION 5   SUPPORT

RC (UK) Ltd. supplies Fully Supported Software and Systems
and as the Registered License Holder of an RC (UK) Ltd. 8/16
Bit Operating System you are entitled to our best attention.
Please contact us by telephone, telex or mail using the
information which appears on the front cover of this User
Guide if you have any problems.