Welcome to Unibase by DMAC. This text file is a record of changes/enhancements to Unibase by DMAC by VERSION number.

If you have installed Unibase by DMAC on a server that is NOT a standalone pc, then you give other users access to Unibase by creating a shortcut on their desktop to the appropriate folder and executable.

InstallShield, the software program used to install Unibase by DMAC, is licensed software provided by Macrovision, which reserves all copyright protection worldwide. InstallShield is provided to you for the exclusive purpose of installing Unibase by DMAC. Data Management Assistance Corporation is exclusively responsible for the support of Unibase by DMAC, including support during the installation phase. In no event will Macrovision provide any support for Unibase by DMAC.

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VERSION 8.7i, BUILD 13, January 8, 2017

1. Unibase has been enhanced to access data files over 2GB in size in a
   32bit environment by using new proprietary functions from Microsoft. Now the file
   size limit is 4GB.

2. In order to be able to handle full color images without destroying the ability
   to handle large tif images, the screen resolution in the Unibase DMACI environment

variables and in Unibase standard jobs has been expanded. The resolution in the standard jobs ONLY affects image entry. Non-image data entry resolution is controlled by the DMACI environment variable.

DMACI	MENU	WMENU
LOW	1	640 x 480 x 256 colors
HIGH	2	800 x 600 x 256 colors
HIGH1	3	1024 x 768 x 256 colors
SUPER	4	1280 x 1024 x 256 colors
SUPER1	5	1600 x 1200 x 256 colors
FULLCLR	6	1024 x 768 x 16M colors
FULLCLR1	7	1280 x 1024 x 16M colors
FULLCLR2	8	1600 x 1200 x 16M colors

Using the resolutions that have 16 million colors will give full color screen displays for pdf images. However, more memory has to be available for these options to work correctly.

VERSION 8.7i, BUILD 12, March 15, 2016

1. Image entry has been enhanced to recognize different image types in the .img file, not just images. The syntax is

01:FED1HDR.PDF:5: where 01 is the format number, FED1HDR.PDF is the image name, :5: designates a pdf image.

2. Image entry has been enhanced to recognize page numbers from a multi-page image in the .img file. The syntax is:

01:0017744E.tif:2:3: where 01 is the format number, 0017744E.tif is the image name, :2: designates a tif image, and :3: is the page number in the multi-page tif image.

VERSION 8.7i, BUILD 11, July 30, 2015

1. Added 5th resolution of 1600 x 1200 to environment variable DMACI and
standard job. This resolution will be called SUPER1 in DMACI.

VERSION 8.7i, BUILD 10, October 30, 2015

1. Unix only device menu items are now either grayed out or marked reserved.

2. Accept statements in drun will now recognize "enter", "tab", "backspace",
and "delete" keys when running in the cloud.

VERSION 8.7i, BUILD 8 February 11, 2015

1. Image entry will now handle multi page tifs that have over 255 pages.
The limit is now about 4000 pages, but remember that the maximum number
of images in an image entry file is only 1850 images.

VERSION 8.7i, BUILD 7 November 5, 2014

1. Wrfmouse now has larger display area for image name and record size
in lower right of screen.

2. Image entry will now display color tiff, compression 6.

1. The executables menu.exe, de.exe, and dei.exe have been enhanced to
display an error message if the user is assigned to an invalid
security group.

2. Keyboard 029 users may now use embedded numerics in their passwords.

VERSION 8.7i, BUILD 6 July 9, 2014

1. The executables menu.exe, de.exe, and dei.exe have been enhanced to
display an error message if the user is assigned to an invalid
security group.

2. Keyboard 029 users may now use embedded numerics in their passwords.

VERSION 8.7i, BUILD 5 April 7, 2014
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Environment variable OV0 has been enhanced so that when set to lower
case p, the strikeover table for negative 0-9 is populated with lower
case ASCII characters p-y.

VERSION 8.7i, BUILD 4 December 20, 2013

Unibase by DMAC now recognizes Citrix users.

VERSION 8.7i, BUILD 1 September 3, 2012

This version of Unibase by DMAC was created using Visual Studio 2012
and a newer version of InstallShield. Otherwise it remains the same as

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VERSION 8.6i BUILD 30, November 3, 2012

1. Adding an operator id using wmenu has been changed. When you click on Add,
Unibase adds a name at the end of the list. The name is ZZZNONAME. Double
click on this entry to change it to the desired new name. Then modify the
operator settings and save the new entry.

2. Device type MSPRINT is no longer operable. Microsoft solved its print problem.

VERSION 8.6i BUILD 29, August 13, 2012

1. The executables de, dei, and menu have been changed so it is no longer
possible to overwrite their corresponding SET files in the misc folder.
One has to either resume the running version by expanding it from the
tray of running programs, or, if no Unibase version is running, delete
the existing SET file displayed in the error message.

VERSION 8.6i BUILD 28, June 5, 2012

1. DEI has been enhanced so that if an image is zoomed and panned,
successive panning will no longer lose the zoom. Advancing to the
next image always returns to the standard job settings.

2. Environment variable UBFCA (UniBase Format Change Automatic) has
been added for image entry. When set (UBFCA=Y) in the unibase.ini
configuration file, Unibase will no longer display the message
"Selected format # is nn, the image format # is mm. Continue(Y/N)?"
when an operator changes the format with function key 5. Instead,
the format will change without asking the question.

3. Microsoft added more checking on whether or not a string ends
correctly. This caught Unibase in a few places. These items

have been corrected. Mostly it affects you if y
ou use the
environment variable UBDECA.

VERSION 8.6i BUILD 27, January 31, 2012

1. InstallShield 2012 was used to create the insta
ll executable.

2. Output without a standard job will now correctl
y pick up UBDRSZ,
default record size, from the unibase.ini confi
guration file.

3. Image entry will now rotate a .pdf image.

4. The Microsoft error that adds an additional car
riage return on
output of <crlf> on a local drive was fixed by
changing the
type associated with a local drive.

5. Wez_edit will now recognize the
carriagereturn/carriagereturn/linefeed that may
occur as the newline
combination in a plain text file. If you write
the file after opening
it, Unibase will delete one of the carriage ret
urns.

in Unibase. However, wez_edit was changed to re
move the
additional carriage return.

6. Environment variable UBCHWF has been added. Whe
n set equal to Y,
Unibase will recognize the end of data on a cha
nnel that has been
opened on the current workfile.

7. Multiple copies of any Unibase executable may n
ow be opened. However,

multiple instances of de and dei will not record operator statistics
correctly.

8. Unibase image entry will now explode a multi-page .pdf image.

9. Unibase image entry will now allow you to back up a record displaying
a pdf image without giving an image load error.

VERSION 8.6i BUILD 26, September 19, 2011

1. The option "Add Extension .###" that appears when you add or modify a
device has been enhanced to work with type devices, not just output
devices. When set to Yes, the first time the device is used, the
filename in the device path is created with an extension of ".000".
If that filename is not deleted, subsequent usage of that device
will have extensions of ".001", ".002", etc.

2. The option for the path description for devices in the device table
to include the control function <OPID>, any global variable ($var01-
$var99), or any environment variable (%environvar%) has been enhanced
to work with type devices, not just output devices. This allows
for changing the location of a device without using spooler
maintenance. For example, one could use the following path on a
device: /UNIBASE/TMP/<OPID> Then any output would go to a disk
file in the \unibase\tmp directory that had the same name as the

operator who performed the output.

3. Program wrfmouse.exe will now allow zoning a .pdf image.

VERSION 8.6i BUILD 25, May 25, 2011

1. Program READSJH.EXE has been enhanced so you may now read delimited
files from the command line. The syntax is as follows:

readsjh 6 codeset device ASCIIdelimiter ASCIItextqualifier
standardjobname filename

For example, if you wanted to read in a comma delimited file with no
text qualifier, your call would look like:

readsjh 6 default TEMP 044 000 TEST TEST02

Interestingly, the above is useful for reading in a fixed length file
with no commas where the records are SHORTER than the record format
length. Unibase will stop on the <crlf> at the end and blank out the
rest of the record.

2. Keystroke macros have been enhanced with a new op_code of GV. It
stands for Global Variable. The next two characters have to be the
number of the global variable.

This allows you to ask the operator for information to be placed
into a global variable; perhaps the name of a file to be output.
This request would be in the macro procedure that will call the

keystroke macro. The global variable has to be of type alphanumeric,
NOT NUMERIC. Then, when the keystroke macro encounters the GV op_code,
it uses the characters stored in the specified global variable and
executes them as if those characters were stored in the keystroke macro.

When all the characters in the global variable have been executed,
Unibase picks up executing the op_code char combinations in the
remainder of the keystroke macro.

There may be more than one global variable in a keystroke macro.

VERSION 8.6i BUILD 22, February 21, 2011

1. WRFMOUSE will now use .jpg or .pdf files to do zoning. This is
in addition to the standard .tif file it has been using.

2. Device type MSPrint has been added. This device type expects the
name of a MicroSoft printer to be on the device path.

For example, if you choose Start->Devices and Printers on a
Windows 7 computer, you might see a printer named Brother HL-5250DN .
If you put this name EXACTLY as it appears on the path name field of
device BROTHR and choose MSPrint as the device type, then Unibase will
print to that printer.

This device type is expecting records that end with a carriage

return/line feed combination. It expects to pri
nt to 8.5" x 11" paper.
There are margins on all four sides and the fon
t is fixed-width.

It will also recognize a top-of-form character
<hex 0c> that is on
a line by itself and go to a new page.

3. Environment variable UBFCA (UniBaseFormatChange
Automatic) when set to Y,
will no longer give the message "Selected forma
t # is nn, the image
format # is mm. Continue (Y/N)? ".

VERSION 8.6i BUILD 19, October 26, 2010

1, Image movement verbs (pan and rotatei) will now
operate on the
displayed image if iwindow has a value of 0.

VERSION 8.6i BUILD 18, October 12, 2010

1, Unibase now recognizes Microsoft server 2008 an
d server 2008R2 as
servers, not workstations, when you are running
at the server or
using remote desk top to the server.

VERSION 8.6i BUILD 17, August 30, 2010

1. Enhancements to operator passwords and addition
of operator names.

2. The <length fldnum> control function has been e
xpanded. If the three
digit fldnum is preceded by 64, the return will
be the length of the
non-blank character string in the designated fi
eld.

For example, if field 15 is 20 characters long,

then

<length 15> will return 20

If field 15 has the data "UNIBASE BY DMAC", the n

<length 64015> will return 15

VERSION 8.6i BUILD 15, June 23, 2010

1. Color images are now viewed in 32bit full color .

2. Image movement in zoned images has been improve d.

VERSION 8.6i BUILD 13, April 13, 2010

1. PDF images may now be viewed in image entry. Th e file type in the
.idc file should be specified as type 5.

2. The define text file statement has been enhance d.

define text txtnam with filnam (rl;kl;ko;rt).

In the above statement, filnam is the name of a file in the
%ETROOT%/text folder.

if filnam is also declared a variable, a comple te path and
filename may be moved to the variable and Uniba se will open
that file when the text file is opened, provide d the operator
has rights to the specified full path name and file.

Build 11, November 17, 2009

1. The alternate image viewer in image entry has been rewritten to no
longer need a .ocx file registered on the user's local computer.

2. Color tif images may now be viewed in image entry. The file type
in the .idc file should be specified as type 4.

VERSION 8.6i, BUILD 7 October 12, 2009

1. Environment variable UBDSEED has been added. It allows a site to
specify the location of its own default seed for encryption. The
environment variable gives the complete path to a file that holds
the public key chosen by that site. The path must be specified
with a drive letter, not UNC. For example:

UBDSEED=X:\encryption\seedfile.txt

The file specified may hold any combination of characters up to
120 characters in length.

2. The program rawdata.exe, which imports fixed length text files
into a Unibase data file using a specified 1 record standard job,
has been expanded to encrypt any data marked for encryption.

The complete path to the seed/public key may be specified as a
parameter on the rawdata command line. If not present, the
customer's default seed will be used. If the default seed is

not specified, Unibase's default seed will be used.

VERSION 8.6i, BUILD 3 July 27, 2009

Because of calls for increased security by many agencies, this version of Unibase by DMAC has had several structural and procedural changes. The old System Password Security has been changed to System Group Security and its use is required. Every user will now have a unique password between 8 and 10 characters in length and requiring at least one number. The password is chosen by each user and may require a change at designated intervals. Passwords must be unique for the past six changes. How these changes affect Unibase usage is described below.

The person who installs and first logs into version 8.6 has the responsibility for controlling how the changes are implemented.

1. The structure for a new oplog.aid file in the misc folder has been changed. This version of Unibase recognizes a prior oplog.aid and converts it to the new oplog.aid when the first person logs in. The new oplog.aid file is encrypted.

   The new oplog.aid file has entries for the following items:
   - operator id
   - login status
   - System Group Security id
   - operator password

interval before password must be changed
five prior passwords, which may not be used again

2. The old System Password Security has been changed to System Group
Security. If the user never used System Password Security, Unibase
will create a System Group Security file with entries MASTER and GUEST.
Entry MASTER has rights to do anything. Entry GUEST has a limited
number of rights pertaining to data capture.

If a System Password Security file already exists, and MASTER is not
one of the entries, the user should either add MASTER as an entry and
give it all rights or should set environment variable UBDFGP in the
unibase.ini file (UnibaseDefaultGrouP) equal to the name of the
security item that has rights to do everything.

3. The first person to log in, and all other entries in oplog.aid, will
be assigned to the group MASTER or to the group specified by
environment variable UBDFGP. The first person to log in, and all
other entries in oplog.aid, will be assigned an interval of 45 days
or the interval specified with the environment variable UBDFIN
(UniBaseDeFaultINterval).

4. The converted OPLOG.AID file will have a default interval of 45 days
before the individual is required to change his password. The default
interval may be something other than 45 days if

environment variable
UBDFIN (UniBaseDeFaultINterval) is set to another value in the
unibase.ini configuration file. The maximum interval is 9999 days if
UBDFIN=9999 is in the configuration file.

5. Adding a new operator has been expanded so the person adding the
operator may also specify the Security Group and the interval. If
not specified, default values will be entered.

6. The Operator Stats also have a new process to change an
operator's group or interval. In addition, the operator's password
can be blanked out for re-creation at login time. Only the operator
can choose his password.

7. The login process will change for menu, de, dei, and wmenu. If the
operator is logging in for the first time after this version has
been installed, the operator will be required to enter a password,
which may be blank at this time. Then the operator will be required
to key a password of 8-10 characters, at least one of which is a
number, then re-key that password to verify it. The password must be
keyed WITHOUT using the shift key. This means no upper case letter or
punctuation. The only exception is if you are using 029 mode. Then
you may use the shift key for embedded numerics. This password is
then retained for the operator going forward.

An operator will be required to choose a new pa

ssword based on the
interval specified between password changes. The new password cannot
be any of the last six passwords used.

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VERSION 8.5i BUILD 25 January 23, 2010

1. The environment variable UBCL has been expanded so that the second
background color for scrolling records may be specified by the user.
The color choices are for video attributes of
normal;high;underline;blink;reverse;scrollingbackground;
The default color setting is UBCL=112;116;113;114;7;48;
Note that a semi-colon must be the last character. Some color choices
for the scrolling background only:

black	0	black	128
blue	16	bright blue	144
green	32	bright green	160
cyan (aqua)	48	bright cyan	176
red	64	bright red	192
magenta	80	bright magenta	208
yellow	96	bright yellow	224
white	112	bright white	240

2. Environment variable UBWINSZ=LengthInPixelsxDepthInPixels
has been added. This allows the user to set how large the
window is when the operator goes from full screen to a
window by clicking the appropriate icon in the upper right
hand corner of the screen. This only works for the menu
interface. For a monitor resolution of 1024 x 768 and a font

size of big in environment variable DMACI, specifying the following line in the unibase.ini file will give you a window that displays most of the verbiage on the screen.

UBWINSZ=700x500

3. Environment variable UBACCHK has been added. When set = Y, the accumulator values will be checked upon termination of a batch even if this is the first batch keyed/corrected/update upon launching data entry or image entry.

Since some customers use the accumulators to store non-numeric data, this accumulator check was not being done until Unibase was certain that the batch was adding to /subtracting from an accumulator.

VERSION 8.5i BUILD 15 April 15, 2009

1. A new field type, Character Mask, has been added to Unibase by DMAC. The Character Mask field type will allow the user to mask the field with any of the other six field types (Numeric, Lower, Upper, Mostly numeric, Typewriter, Both) by using the characters N,L,U,M,T, or B.

The field type Character Mask may be chosen using the gui record format generator, but not the menu record format generator. However, the menu record format generator will not destroy any Character Mask

field type created with the gui record format g
enerator.

If the field type Character Mask is chosen, the
user should also enter
the desired mask character for each character t
o be keyed. The Mask
Characters field is just below the Fill-If No D
ata entry under Type in
the check box edits. A Character Mask cannot ex
ceed 40 character
fields. If the field is larger, it will default
to the Lower field
type for the rest of the field.

Based on the Mask Characters specified, both da
ta entry and image entry
will give an error message if the operator atte
mpts to key a character
that doesn't match the specified field type for
that character.

This feature is more useful in 029 keyboard mod
e than in typewriter
keyboard mode.

Even though a user can enter Character Masks fo
r other field types,
they will not be operational in any field excep
t the Character mask
field.

VERSION 8.5i, BUILD 11 March 11, 2009

1. This version of Unibase by DMAC has been compil
ed using Microsoft's
Visual Studion 2008 C++ compiler. DMAC feels th
is version will be
more robust and compatible with the newer opera
ting systems.

2. Unibase by DMAC has been enhanced in several wa

ys to allow a user
to encrypt sensitive data stored in a Unibase w
orkfile. This means
the stored encrypted data is unreadable if the
file is stored on
any other media.

3. Both the graphical and menu record format gener
ators have a new
check box edit to indicate that a field is to b
e encrypted.

In the graphical record format generator, this
item is named
"Encrypt" and is under "Constraint Edits" in th
e check box edits
window. The default value is "No". Choose "Yes"
to mark the field
for encryption.

In the menu record format generator, this item
is also named
"Encrypt" and is midway in the third column of
edits for a
field under item D->Check Box Edits. The defaul
t is a space
character. Change it to "Y" to mark the field f
or encryption.

In both generators, a field that will be encryp
ted must have 2
additional characters specified for its length
to allow enough
space to store the 128 bit encryption character
s. This means if
the field to be encrypted is a PAN (Primary Acc
ount Number) of
16 characters, the field length must be specifi
ed as 18.

In both generators, the minimum field length th
at may be given

for an encrypted field is 12, which means the field to be encrypted
is 10 characters long.

4. Both the data entry module (de.exe) and the image entry module (dei.exe)
will perform 128 bit encryption on fields so marked before storing
the data the operator keyed for that field. While inside those modules,
in most modes, (entry, verify, correct, update) the operator will see
unencrypted data in those fields. The fields may be modified just
like unemcrypted fields are modified in the various modes.

5. Several masks have been added to the AID language so the user can
present encrypted fields in whatever format the end customer wishes.

If an encrypted field is designated only by field number, such as
output (1). or pause (1).
then the encrypted characters will be used.

If an encrypted field is masked with pu (PAN Unredacted), such as
output (1)|pu. or pause (1)|pu.
then the decrypted data will be used.

If an encrypted field is masked with pr (PAN Redacted), such as
output (1)|pr. or pause (1)|pr.
then the first 3/8ths and last 1/4 of the characters will be used.
For a 16 character PAN, the display will be the first 6 characters,
6 asterisks, and the last 4 characters.

If an encrypted field is masked with pi (PAN In

termediate), such as
    output (1)|pi.   or   pause (1)|pi.
    then the last 1/4 of the characters will be use
d. For a 16 character
    PAN, the display will be 12 asterisks and the l
ast 4 characters.

6. The public key may be changed by moving up to 1
20 characters to
    the control function <seed>.

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VERSION 8.4i BUILD 39 February 24, 2009

1. Text files may now be placed anywhere on a netw
ork. If a filename
    is used in the define text as shown below, the
file will be in the
    %ETROOT%\text folder.

    define text txtnam with dirnam/filnam (rl;kl;ko
;rt).

    if the complete path to the file is in quotes a
nd used in place of
    the filename, as shown below, the file will be
in the path specified.

    define text txtnam with "o:/custname/tmp/Z021/f
ilnam"(rl;kl;ko;rt).

2. Environment variable UBNRKD=Y has been added. (
No Record Keyed Delete)
    When set in the unibase.ini file, batches that
are opened and closed
    with no records keyed will be deleted upon term
ination or interruption.

VERSION 8.4i BUILD 36 January 15, 2009

1. Environment variable UBZAP has been added. Unibase by DMAC will no
longer allow ZAP~@$ to work from the menu, de, or dei login unless
this environment variable is set.

2. Tiff tag number 37775 has been implemented by DMAC to always return
the number of pages in a multipage tiff. Depending upon the scanner
and software, other tiff tag numbers may do the same thing, but this
number will calculate the number of pages if no other tag number is
available. For example:

pause "number of pages: " <itag 0; 37775>.

will display the number of pages in the current image on channel 0,
which is the workfile.

VERSION 8.4i Build 1 June 21, 2007

1. This version of Unibase by DMAC can install the executables and
the data in different folders. It also will run on a Vista pc.

2. Point of Entry OCR has been changed. Prior to version 8.3,
build 78, point of entry OCR brought OCR data in as the operator
moved through a record. It also stopped at error flags <hex 01>
for the operator to key fields rejected by the OCR engine. This
behavior will still occur if environment variable UBPOEAE=Y is
set.

Without the environment variable, point of entr

y OCR brings ALL
the OCR data into a record, then starts at the beginning of the
record, stopping at non-OCR fields and executing the field edit
even on OCR fields.

3. Control function <refresh> has been added. When used in a show
statement in a field edit, it will refresh the screen display
to show data in fields which have been updated but are prior
to the current field.

If environment variable UBRDSP=Y is set in the unibase.ini file,
then show and pause statements (other than on line 2) which have
been executed will NOT be cleared from the screen.

4. Environment variable CHBKNONB has been added. When set to "Y",
a character back into the prior field will position to the
last non-blank character in the field instead of the last
character in the field.

5. The <length fldnum> control function has been expanded. If the fldnum
is multiplied by 1000, the return will be the length of the non-blank
character string in the designated field. This function is limited to
the first 32 fields.

For example, if field 15 is 20 characters long, then

<length 15> will return 20

If field 15 has the data "UNIBASE BY DMAC", the n

<length 15000> will return 15

6. Control function <environget item_to_get> has been expanded. In addition to retrieving environment variables, it will also retrieve internal information about a batch using a fldedit while the operator is keying.

The item_to_get implemented in this version of Unibase is "CurrentCursorPosition". The following two lines of code will return to the variable cpos which character in the field the cursor position is at when the fldedit is called. Note that the fldedit may only be called in the middle of a field using the HotKey feature of Unibase by DMAC. See the 7.45 version of Unibase in this document for an explanation. It is necessary to use TWO statements as shown below.

```
move "CurrentCursorPosition" to needcpos.
move <environget needcpos> to cpos.
```

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VERSION 8.3i March 17, 2006

1. This version of Unibase by DMAC has been compiled using Microsoft's Visual Studio 2005 C++ compiler. Since the newer compiler required code changes in areas the old compiler had no objections to, DMAC

feels this version will be more robust and compatible with the newer
operating systems.

This version has also been expanded to use the Universal Naming
Convention for any environment variable that requires a full path.
In the unibase.ini configuration file, you will see changes to
environment variables ETROOT, ETBIN, ETBINORG, ETSWAP, ETSPOOL and
UBMANUALS. The original path will have a semi-colon and the UNC path
appended to the end of it. For example:

ETSPOOL=X:\unibase\spooler;\\dc2003\f\unibase\spooler

In addition, %ETSPOOL% will return "\\dc2003\f\unibase\spooler"
for the 32bit version of Unibase by DMAC, but will still return
"X:\unibase\spooler" for the 16bit version of Unibase by DMAC.

2. The 32bit version of image entry can retrieve images using a list of
image names stored in a ".img" file instead of a ".idc" file.
Currently, image entry looks for a file stored in the idc folder,
named the same as the batch, with the extension ".idc". If the file
is found, the image names in that file are displayed as directed
to the keyer.

If that file is NOT found, Unibase looks for a file stored in the
img folder, named the same as the batch, with the extension ".img".

If the file is found, the image names in that file are displayed as directed to the keyer.

This file can only be used for jobs set up as "no manual advance".

3. The layout of the ".img" file is different from the ".idc" file.
The first line of the file is as follows:

```
ipath=\\server\volume\imagefoldername
```

where "imagefoldername" is the name of the folder where the images for this batch are to be found. "imagefoldername" may have sub-folder names in it.

The ipath line is followed by single lines with the format number to be used for the record, followed by a colon(:), followed by the name of the image. An example follows:

```
ipath=\\lsmax02\jdp\images\022606023
01:C005477-1.tif
02:C005477-2.tif
03:C005477-3.tif
04:C005477-4.tif
05:C005477-5.tif
06:C005477-6.tif
07:C005477-7.tif
08:C005477-8.tif
01:C005478-1.tif
02:C005478-2.tif
03:C005478-3.tif
04:C005478-4.tif
05:C005478-5.tif
06:C005478-6.tif
07:C005478-7.tif
08:C005478-8.tif
```

4. The 32bit version of image entry can retrieve data from a flat ASCII
file with the same name as the batch and the extension ".ocr",
provided the job is set up as "no manual advance" and uses a file
with the extension ".img", not ".idc" for the list of image names.

The second line in the ".img" file point to the location of the
file with the ocr data. It has the syntax

opath=\\server\volume\ocrpathname

where ocrpathname may contain subfolders. However, the ocrpathname
is appended with the name of the batch with the extension ".ocr",
and the name of the batch DOES NOT have subfolders. For example:

```
ipath=\\lsmax02\jdp\images\022606023
opath=\\lstms02\unibase2\unibase82\ocr\91360v3
01:C005477-1.tif
02:C005477-2.tif
03:C005477-3.tif
04:C005477-4.tif
05:C005477-5.tif
06:C005477-6.tif
07:C005477-7.tif
08:C005477-8.tif
```

The ocr file itself has one line of data for each record to be keyed.
The first two characters are the format number for the data and must
be the same format numbers as in the .img file. Data following the
format number may be in any order determined by

the user.

The record format needs additional check box ed its set in order to relate the data in the ocr line with the data t o be placed in the record.

For a particular field, the programmer needs to click open the check box edits, click the plus sign on "Image Data", click the plus sign on "OCR Data", select "Point of Entry" from the dr op down menu to the right of OCR Field, key the starting character in the ocr record for this field in the "Context/Start" field, and ke y the length of the data in the ocr record for this field in the "Style/ Length" field.

An example ocr file might contain the following data:

```
01100     00919623
0253331759561608154 34KEN SACHER
SACHER PROPERTIES
02645584725213461337 8
CHARISMAC ENGINEERING INC
0269466110811124626 35
PLACER TITLE CO
0269466110921124626 35WENDY TODHUNTER
 PLACER TITLE CO
0269466110111124626 35WENDY TODHUNTER
PLACER TITLE CO
0273189646821661100 92
```

The data "KEN SACHER" starts in column 22 and h as a lengh of 30 characters.
The "Name" field on format 2 has OCR Field set to "Point of Entry";
"Context/Start" set to 22, and "Style/Length" s

et to 30.

In entry mode, the data "Ken Sacher" is placed into that particular field in format 2. The other data is placed in similarly designated fields in format 2. Still other fields, with no such OCR designations are key entered by the operator.

OCR retrieval operates in two different ways. The standard method retrieves all the OCR data before presenting the record to the keyer to be processed.

If environment variable UBPOEAE=Y is present, the OCR data is retrived as the keyer reaches each field.

Each retrieval method may require different field edit programming techniques.

5. Control function <eipath #> has been added. It holds "ipath" in the ".img" file that has the image list, if an ".idc" file is not used.

6. Control function <eopath #> has been added. It holds "opath" in the ".img" file used for Point of Entry OCR.

7. Read Standard Job Header under the "File Input/Output" menu has been expanded to handle the additional control functions ipath, eipath, and eopath.

8. This version of Unibase by DMAC may be activated for Web licenses. Web licenses allow users to access Unibase by D

MAC via Remote Desk Top
or a browser. Your server must be able to run Terminal Services. This
means you cannot use the web edition of Server 2003. You need CAL's
(Client Access Licenses) for 2003 servers. You also need TSCAL's
(Terminal Services Client Access Licenses). These licenses are obtained
from Microsoft or your VAR for Microsoft.

9. There is an experimental item on the menu version of the standard job
generator. On the screen where output items are specified, the item
"Save File Variables" has been added. When set to "Y", Unibase will create
a file in folder fvar with the same name as the batch. It will store the
value of all fldedit variables for each record in this batch. When an
operator resumes an incomplete batch IN DATA ENTRY ONLY, Unibase will
retrieve the values of the variables.

10. New environment variable UBWSF (UBWhen Start First) has been added. When
set "=Y" in the unibase.ini file, Unibase will execute the fldedit in a
data entry standard job even before the operator has keyed any data. If
you set this environment variable, fldedits that do not have a when start
may need "when start release." added to the program.

11. Key function "ID F" now operates in 32bit Image Entry. If an
image entry job has zones, pressing ctrl-f5 will display the
full image in the image area of the screen. There are both mouse and

keyboard functions for manipulating the image.

12. The "Read Comma Delimited File" under "File Input/Output Functions" menu
or in the "File Import" function in the "Job Processing" Task in the
gui version has been changed and expanded. The item now says "Read
Delimited File" and allows the user to specify BOTH the delimiter and
the text qualifier using the decimal equivalent of the ASCII code.

13. This version of Unibase by DMAC is activated from the "wmenu" (gui)
executable only. The user must select the graphical interface, then
click on "Help" (on the top toolbar), click on "About Wmenu", then
click on Register.

The serial number is displayed, along with a drop down menu to select
the type of server on which Unibase is installed. When you enter
the activation code given to you by DMAC and click OK, you will also
be asked to enter the Master File Permission Password. This password
will be give to you by the person supplying the activation code.

14. Verb "when newfield" has been added. It has no parameters. It executes
instructions based on this being the first time the keyer is in this
field.

It is usually used to prevent another execution of "when prefield"
when the keyer backs up into an already keyed field.

15. The function for changing the gender of the image in image entry has
been changed so that it is now instant. The code is "IP T". This code
is NOT in the default keyboard and must be mapped in order to use it.

16. An alternate viewer has been added to the 32bit version of image entry.
The image is displayed with the alternate view if the user presses
ctrl-f5 and the default mappings for those keys have not
been changed.

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VERSION 8.1i May 11, 2004

1. Dithering of images when zoomed from their original size has been
added to image entry. Dithering, which changes pixels on black/white
boundaries to various shades of gray, improves clarity of the image.

However, it does take a bit more time. If you do not wish to use it,
set environment variable UBNODITH=Y in your unibase.ini file in the
bin folder under your ETROOT.

2. The alt key in combination with the main rectangle on the keyboard
now functions in the 32bit version of Unibase. This allows keyers
who use the 029 embedded keyboard to use the alt key to get numeric
digits when the field type is set to "typewriter".

The alt key in combination with the function keys at the top of the keyboard are now available for additional keyboard control functions. In particular, this allows image entry users to have more key combinations available for keyboard control keys.

3. Because a programmer can now set the panning steps in the standard job as a percent of the image, choosing a much larger panning step, such as 30%, means the keyer sometimes needs to see something on the boundary line of the display. Keyboard control keys IT U, IT D, IT L, and IT R will do small step panning at 10% of whatever is specified in the standard job. If the standard job calls for panning at 30%, the keyboard control keys IU U, IU D, IU L, and IU R will pan 30% of the image each time they are pressed. But keyboard control keys IT U, IT D, IT L, and IT R will pan 3% of the image each time they are pressed.

The default keyboard location for the small step panning keys are the alt key in combination with functions keys F1 - F4.

4. Control function <irflags chnl#> has been added to the AID language. It allows the programmer to view/change the value of flags in the Unibase files interrecord gap. There are eight flags which may be set on or off (1 or zero).

The two rightmost bits are the only ones curren
tly used in Unibase.
The far right bit is "1" if the record is verif
ied, "0" if it is
not verified. The bit one position to the left
of the far right
bit is "1" if the record is the first record of
several records
in a row with the same format and the format ha
s scrolling fields.
This bit is "0" if the format does NOT have scr
olling fields, or
if it is a record with scrolling fields that ap
pears subsequent
to the first record of the same format.

5. Text files may have numeric folder names. Howev
er, the folder/file
name has to be enclosed in double quotes so dpa
rse can recognize
that the numeric string is a name, not a number
. The syntax is
as follows:

```
define text tcomment with "111/comment"(256;0;0
;1).
```

Unibase by DMAC will then expect to find that f
ile at

```
%ETROOT%\text\111\comment
```

6. Since protected fields are not allowed to be ch
anged by a keyer,
there is no reason to stop on a protected field
. Unibase by DMAC
now passes over protected fields when the keyer
uses the field
forward or field back keys.

7. A fileedit attached to a standard job (and exec
uted from data/image

entry when the operator terminates a batch) wil
l now recognize the
verbs "when [not] mode", where mode may be entr
y, verify, resume,
correct, or update.

8. The verb "record" has been added to the 32bit V
ersion of Unibase
by DMAC. It accesses a specific record in a bat
ch by the designated
record number. The record number must be either
a numeric literal
or a variable name. The format for this verb is

```
record [numeric literal] [at end] . . . .
       [variable       ]
```

If the value of the record number is zero, or g
reater than the number
of records in the batch, the "at end" condition
is executed.

If a "position" verb is executed following a "r
ecord" verb,
the record number specified is displayed and be
comes the new current
record. The cursor is positioned accordingly. I
f the "release" verb
is executed following a "record" verb, the curs
or is returned to the
original record before the "record" verb was ex
ecuted.

9. Environment variable UBEC has been added. When
set, the current
record the operator is keying will be written t
o disk if the
operator backs up to a prior record.

This will allow the operator to return to the c
urrent record

using record forward instead of locrtn and stil
l retain the
partially keyed information.

If you set this environment variable your locrt
n will not work correctly.

10. Environment variable UBREPEAT has been added. W
hen UBREPEAT=Y is set
data entry and image entry will remember the la
st job an operator worked
on and recall the information so the operator d
oes not have to rekey it.
For example, the operator starts the standard j
ob TEST, keys batch TEST001,
terminates it, and again chooses item A - Start
a Standard Job. Unibase
will populate the job name with TEST, which was
the last job keyed. If the
operator is still keying batches for standard j
ob TEST, he only needs to
press the field release key to continue.

If the operator is starting a different job, he
backspaces to the
beginning of the job name and rekeys the new jo
b.

For all other modes (resume, verify, examine, c
orrect, and update)
Unibase will populate the Enter File Name field
with the batch
protection from the most recently used batch.

11. Environment variable OPSTSAV has been added. It
is intended to be
used in areas that have problems with losing po
wer, and subsequently
losing the operator statistics for those batche
s being keyed. When
OPSTSAV=1 is set, a one record file, named with
the operator id,

will be written to the %ETROOT%\text\opstsav fo
lder each time the
operator completes a record. If set to 2, the f
ile will be written
each time the operator completes 2 records, etc
.

Then, upon loss of power, or other inadvertent
failure, the data
stored in that file may be added to the opst.ai
d file before the
operator resumes keying. The operator statistic
s in 8.1 has a
menu item that allows a supervisor to add those
files either for
a single operator or for all operators who have
records in the
OPSTSAV folder. That menu item number is 95.

12. Operator statistics have been expanded. Five of
the six reports
may now be obtained using net key strokes inste
ad of gross key strokes.
Statistics may be run using file "opcomb" inste
ad of "opst.aid".

Users who rename the opst.aid file on a regular
basis will often combine
data from several saved files into one file. So
long as the combined
file is named OPCOMB, the user can use that fil
e to obtain statistics
for that period of time.

The "display" version of the operator statistic
s also has an item to
recover operator statistics whenever an operato
r aborts out of data entry,
provided the environment variable OPSTSAV is se
t to a number.

13. A new feature has been added to devices. There

is an option
"Add Extension .###" that appears when you add or modify a
device. When set to Yes, the first time the device is used, the
filename in the device path is created with an extension of ".000".
If that filename is not deleted, subsequent usage of that device
will have extensions of ".001", ".002", etc.

14. The "shade" of white that displays as the background for the menu
version of Unibase by DMAC now has a gray tone to it. As users
have migrated to the 32bit version, some operators found the
background color too bright. This background shade is more like
the background shade for the 16bit version.

However, if you like the bright white background, set environment
variable UBWBG=Y and that's what you'll have.

15. Environment variable SHOWBCE has been added. If environment variable
SHOWBC is set, and the 32bit version of Unibase by DMAC is in use,
then the counts displayed by SHOWBC are lost when drun is complete
and the window closes. When SHOWBCE is set, then when drun is complete,
Unibase displays the message "FinalCount shown; hit [HELP] to continue".
This allows the user time to record the counts.

16. Environment variable UBSVCE (SkipVerifyCallEdit) has been added. When
set, the verify/update mode will call the field edit on a field where

verification is set to skip and the field has e
dit enabled. Usually
this environment variable is set by former Tart
an users.

17. The cursor in 32bit menu, de, and dei has been
improved. It now shows
as a tall thin line just to the left of the cha
racter to be keyed.

Setting CURSOR=hhxww, where hh is the height in
pixels and ww is the
width in pixels, will display a blinking cursor
of the specified height
and width.

18. The Unibase executables menu, de, and dei have
been enhanced so that
if a user clicks on the Red X in the upper righ
t corner or chooses
File/Exit from the upper left corner, Unibase w
ill shut down gracefully.

if the user is in a batch, the batch will be in
terrupted, an entry will
be made to the opst.aid file, and the user will
be logged out of Unibase.

If the user is not in a batch, an entry will be
made to the opstat.aid
file, and the user will be logged out of Unibas
e.

19. A configuration option has been added to comma
nd line Unibase. The
executables menu, de, and dei may be executed f
rom the command line by
entering them as follows:

```
menu -UNICFGCONFIGNAME
de   -UNICFGCONFIGNAME
dei  -UNICFGCONFIGNAME
```

where CONFIGNAME is the name assigned to a grou
p of environment variables.

This also means the named environment configura
tion may be specified in
the desktop shortcut in the "Target:" line.

For example in the "Target:" line the statement
 is entered as follows:

"c:\program files\dmac\unibase\bin32\menu.e
xe" -UNICFGFRED

This means that when menu is executed, the shor
tcut will access first
the [COMMON] configuration group, then the conf
iguration group [FRED]
in the unibase.ini file for setting up the envi
ronment.

20. This version of Unibase by DMAC requires the un
ibase.ini file to be
in the %ETROOT% folder.

21 Environment variable UBLOGC has been added. Whe
n you put UBLOGC=Y in
the unibase.ini configuration file, then filelo
gs are continually
added to and not re-started every time a fileed
it is run.

This is useful for those users who want keyers
to make notes in the
filelog about the batch they are working on.

22. Environment variable UBNOADI has been added. Wh
en you put UBNOADI=Y
in the unibase.ini configuration file, then NO
ONE can add or delete
operators from the oplog.aid file.

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VERSION 8.0i May 11, 2003

1. This release features a graphical user interface for the "menu" side of the 32bit version of Unibase by DMAC. You are given the option of choosing the gui interface or the mui interface when you first execute "wmenu" from bin32.

2. The environment variable UBIFACE has been added. When set to G, the user will always be given the graphics interface when they start up the 32bit version of Unibase by DMAC using the executable "wmenu". When set to M, the user will always be given the menu interface when they start up the 32bit version of Unibase by DMAC using the executable "wmenu".

3. The 32bit menu version of Unibase by DMAC displays a single volume reference manual when you click on Help on the taskbar. A physical copy of this manual is available for purchase from DMAC. Or there is a file on the cdrom which can be used to print a copy of this manual. The file is named ubmanual.pdf and is found under the \manpdf sub-directory on the cdrom. You will need a copy of Adobe Acrobat to print the manual.

4. The 32bit graphical version of Unibase by DMA C displays a howto and reference manual when you click on Help on the taskbar. There are options for printing this manual directly from the Help display.

5. Image Advance has been enhanced to allow completely untethered images in Image Entry. This is specified in the standard job using the item Manual Image Advance (T,U,N) where T means Tethered, U means Untethered, and N means No, the operator cannot control which image is being viewed.

If you specified Manual Image Advance as Y in version 7.49, then this choice is now interpreted as T for Tethered. Tethered image entry means the operator can advance a single image only, and then only when at the beginning of a format. It is useful for jobs that require several formats to be keyed from a single image.

Specifying U for untethered means the operator may view any image in the .idc file for the batch at any time by pressing <ctrl> right arrow to display the next image in the .idc file or <ctrl> left arrow to display the prior image in the .idc file.

6. How far the image moves when panning is done i

n image entry
may now be set in the standard job. The item labeled Pan
Steps (hundrths)(1-99)h,v: ii,jj controls this amount. The
horizontal pan amount is the integer ii and the vertical pan
amount is the integer jj. The comma must be present.
The two numbers do not have to be identical. Hundredths is
the size of the panning step.

The panning step is interpreted differently for zoned
images and unzoned images.

If you set the steps to 33,33 and you are using zoned
images, then each depression of a pan key moves the image
approximately one-third of the size of the ZONE.

If you set the steps to 33,33 and you are using unzoned
images, then each depression of a pan key moves the image
approximately one-third of the size of the IMAGE.

7. The font size for an image entry job may now be specified in
the standard job. The item Imaging Font Size (1-5) may be
set as follows:

1 designates a font size of SMALL
2 designates a font size of MED
3 designates a font size of BIG
4 designates a font size of BIG1
5 designates a font size of BIG2

The font size in DMACI is used for the menu fo
nts.

8. The screen resolution for an image entry job
may now be
specified in the standard job. The item Scre
en Resolution
(1-5) may be set as follows:

1 designates a screen resolution of LOW
2 designates a screen resolution of HIGH
3 designates a screen resolution of HIGH1

4 designates a screen resolution of SUPER

9. The control function <itag chnl#; tag#> has b
een added to
Unibase by DMAC. Tag data from a tif image
may now be
retrieved using this control function. The c
hannel number
for the current workfile is 0. The tag# will b
e supplied by
the customer who gives you the tif images for
image entry.

10. The environment variable UBPLCK has been
added. When
UBPLCK=y is put into the unibase.ini file, the
operator will
have to use the {correct} keys to change a rec
ord other than
the most recently keyed record.

11. The verb "picklist" has been added to the 32b
it version of
Unibase by DMAC. It is used in conjunction wit
h the "get . .
. using" verb and will display a window to th
e user showing

every record that matches a given key. The data displayed for each match is described with "displaylist". The data displayed is usually data from the indexed record, but may also include literals, variables, control functions, as well as fields.

The user can scroll up and down through these records using the up and down arrow keys. The user can also scroll with a mouse if the window has a lot of data. When the user has selected the desired line, pressing the enter key closes the window and returns the user to the field edit for processing to continue. The channel is open to the selected record.

The syntax is as follows:

get &chnl picklist "Title Line" using "Key" with "Displaylist" else "Error Processing".

Where &chnl is the channel # on which an indexed file is opened. "Title Line" is text displayed at the top of the window. "Key" is used to find matching records in the index and may have wild card characters in it. "Displaylist" is a selection of fields, variables, control functions, literals, that is displayed for each record. "Error Processing" is the code performed if the operator chooses "None o

f the Above",
the last entry in the list.

12. A "scrolling record" feature has been added to Unibase by
DMAC. This allows display of prior records on the same
screen as the current record being keyed. This display is
useful when several identical lines are being keyed from the
same form. The operator does not have to back up a record to
see what was keyed for the prior record.

Contiguous fields in a record format may be designated as
scrolling fields. This is done by answering "Y" to the new
check box edit "Scrolling Fld", which is located right after
"Keying Order". Usually, the contiguous fields are on a
single line in the format.

There may be non-scrolling fields at the beginning of the
record. They are treated as duplicating fields. There should
NOT be non-scrolling fields at the end of the record.

In addition, there is an option for the whole record format
to indicate that the format has scrolling fields defined.
This option is "Use Scrolling Fields: " and the default is
"N". Change it to "Y" to show the format has scrolling
fields.

On the data entry screen, the non-scrolling fi
elds are keyed
first. The scrolling fields display wherev
er they were
painted on the record format generation scre
en. When the
operator has keyed the all the scrolling fi
elds for the
record, the record is released and writ
ten to the
appropriate buffers. However, that line remain
s displayed on
the screen and a second line appears below
it to hold
another record. The record indicator in line
1 of the data
entry window increases by 1 to show that Unib
ase is on the
next record.

The operator uses the {record back} key to pos
ition at prior
record and the {record forward} key to
position at
successive records.

The operator terminates keying scrolling fiel
ds by holding
down the shift key and pressing the rele
ase key. The
operator must be positioned on the last scrol
ling field to
terminate scrolling field keying, not on the f
irst scrolling
field.

The keycode for this key is "EN S" for ENd Scr
olling.

13. The gui version of the record format generator
will allocate
different percentages of the screen to the ima

ge, just like
the standard job. The default is 50%. If you want a
different default image screen percent, specify it with
environment variable UBSPLIT=xx where xx is 01 to 99. Put
the environment variable in the unibase.ini file in the bin
sub-directory.

However, specifying the screen % for the image in the record
format does not affect how it will display in image entry.
That is controlled by the specification in the standard job.

14. The gui version of the record format generator will place
the image at the top, bottom, left, or right of the screen,
just like the standard job. The default placement is Top.
You may specify a different default placement by putting
environment variable UBIMGSIDE=x (where x is T, B, L, R) in
the unibase.ini file.

However, specifying the image display location in the record
format does not affect the image display location in image
entry. That is controlled by specifying it in the standard
job.

15. Control function variable <lastkey> has been added. It
operates only in a fldedit. It maintains the last keystroke

the operator pressed while in a batch. The keystroke is maintained as a 3 digit decimal number. A list of some of these numbers follows:

blank 032
punctuation - decimal equivalent of ascii character
0 - 9 048 - 057
A - Z 065 - 090
a - z 097 - 122

FLDCOR	309	FLDDEL	310	FLDFWD	314	FLDBACK	315
RECCOR	311	RCDINS	312	RCDDEL	313	RCDFWD	316
RCDBACK	317	HELPKEY	500	RESET	501	AUTOKEY	547
RCD	503	FLD	504	FMTKEY	505	DUPKEY	506
LOCRET	507	COR	508	INSKEY	509	DELKEY	510
OVERS	511	RELKEY	512	UP	513	DOWN	514
BACKKEY	515	FWDKEY	516	FLDREL	577	BACKSPACE	578
TAB	579						

16. The control function <oprecord> has been added. It is only used in data entry or image entry. It retains the most current operator statistics data for the batch being keyed. A field edit can be written to retrieve and store this data elsewhere. Then, if an operator aborts out of a batch, a program can be written to retrieve this data from wherever it was stored and put it into the opst.aid file. This

process should be performed before the operator begins keying again.

17. Executable "testitp.exe" has been added in both the bin and bin32 sub-directories. Executing it with the name of an idc file in the idc sub-directory will expand multi-page tifs in that idc into all the pages contained in each multi-page tif.

18. Environment variable UTNVIA has been added. When set, Unibase Image Entry will not display the image attached to the record when keying/verifying using untethered images.

19. Environment variable UBKEYR2 has been added. When set, it does the same thing as environment variable UBKEYR1 for the rest of the punctuation keys. This means the punctuation keys operate independently of the data type when the operator is in TYP (non O20) mode.

20. The ability to insert a record AFTER the record the keyer is looking at instead of BEFORE the record has been added. The key combination for this functions is REC, TAB. That is, the operator presses function key 3, followed by the tab key.

The keyboard code for mapping to a different key is "IN A".

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VERSION 7.490i Jan. 31, 2002

1. There are new operator statistics program s with this
version. Instead of using a .bat file to pres ent the menu
and execute fileedit and output programs, this version uses
a fileedit for the display programs and an o utput program
for the print programs. The menu is displayed using Unibase
show statements and the programs are run using systems calls
to drun.

Also, the workfile, opstwf, is a normal reco rd format in
Unibase instead of being created with the "mkd f" executable.

The 16bit version of Unibase by DMAC launches the operator
statistics from the menu by executing either opstds.bat or
opstop.bat, both of which are in the bin sub-d irectory. The
32bit version of Unibase by DMAC launches the operator
statistics from the menu by executing either opstds.exe or
opstop.exe, both of which are in the bin32 sub -directory.

2. The size of the image window in image entry i s now totally
dependent on the percent specified in the stan dard job. (See
item 17 under version 7.48 of this readme file

.)

In 7.48 the size of the image window was only dependent on this percent if "Image Zone Support" in the standard job was No. (See item 13 under version 7.48 of this readme file.) If a job used zones, the the size of the image window was determined by the largest zone in all the record formats of the job. This is no longer true.

3. Environment variable UBSII has been added. When set to y, image entry will give the message "Terminating - No more images" when all the images in the .idc file have been displayed. When the operator presses reset, the batch is terminated. If UBSII is not set, image entry gives the message "No image available for this record" and drops the operator into the record without an image displayed.

4. Unibase imaging will now handle jpeg images. The extension on the images must be ".jpg" and the second item of information on each line of the ".idc" file must be "3". This means a line in an idc file that displays jpeg images might look like the following:

```
sampimg.jpg:3:1:127:1:
```

where samping.jpg is the name of the jpeg imag

e in the image
sub-directory, "3" is the image type, the "1" following the
"3" is the format number, "127" is the imgpath line for
%ETROOT%\image, and the "1" following the "127" is the page
number.

5. The use of queues to control workflow in data entry and
image entry has been expanded. The sample master queue
(named queue.et in the queue sub-directory) has information
on how to put entries in the queue. Also see item 4 under
version 7.42 in this readme file for an explanation of a
queue.

In addition, you may have queues with names other than opid
names or the name "queue". Instead of keying <AUTO> at the
approriate data entry or image entry menu item, an operator
may key a queue name with angle brackets around it. Unibase
by DMAC will access this queue name to determine the next
file to be opened for the particular mode of keying. (Entry,
resume, or verify.) If there are no more entries in the
specified queue, Unibase by DMAC gives an error message and
does NOT go to the default queue.

6. The gui version of record format generation has been
rewritten to use the same graphics package u

sed by image
entry. You will find that this gui version responds slightly
differently from the old one. You will now get this gui
version of the record format generator in 32bit Unibase by
DMAC.

7. The command line calls for menu, de, and dei have been
expanded to include the password if the customer has
implemented security within Unibase by DMAC. The password is
added as a separate item to the end of the command line
call. For example: "de -LOGIN DMAC PASSWORD" will log a
user into Unibase data entry with the user id of DMAC and
security associated with PASSWORD.

8. A format to format duplicate key has been added to the
keymap choices in Unibase by DMAC. The user has to change
the keyboard map as it is not on the default keyboard. Map
keyboard is found on the utilities menu under advanced
processing. The keycode for format to format duplicate is
"DF ".

When the format to format duplicate key is pressed, Unibase
by DMAC will duplicate data from the same field in the prior
occurrence of the same format. The original duplicate key
duplicates data from the same field in the

prior record
regardless of format number.

VERSION 7.480i Feb. 14, 2001

1. Environment variable UBDECA has been added. When set to "Y", variables in a declare statement that have the size parameter appended (for example: "declare Name:25.") will default to type alphanumeric instead of only numeric. Variables declared without the size parameter will default to type numeric as before.

2. Command line drun has been enhanced with an additional, optional parameter. The parameter is -ml where l denotes a sub-directory of Unibase. This optional parameter precedes the name of the program to execute. The Unibase executable drun will change to the specified sub-directory and look there for the name of the program to execute. The choices for the "l" parameter are

o - output sub-directory
f - fileedit sub-directory
s - sort sub-directory

3. The command line executable rawdata, which reads in an ascii text file and creates a Unibase data file using a specified standard job, has been enhanced for speed. Rawdata now assumes that it has exclusive access to the text file and

Unibase data file. Rawdata does NOT process ad
ded fields nor
packed decimal fields. The speed of your works
tation and the
amount of memory on it determines the speed
at which the
data file is created. The 16 bit Unibase can
only use a
maximum of 16 meg of memory. The 32 bit Uniba
se will take
advantage of all available memory.

For example, using an AMD-K6 350 Mhz computer
with 64 megs
of memory, rawdata read in a textfile of 99
,999 records,
with a record length of 176 characters in two
minutes and 18
seconds. A faster machine and/or more memory
would yield
faster times.

4. The "exclusive access" version of rawdata.exe
described in
item 3 above has been added to the File
Input/Output
Functions menu as item [I] Read Flat Ascii One
Format File.

When this item is chosen, the following
entries are
requested:

Enter Device Name: _____ device must be
in device table
Enter Standard Job Name: _____ stdjob for the
file
Enter File Name: _____ name for the Un
ibase file

5. The command line executable rapidix has b
een added to

Unibase by DMAC. It will build an index on a s
ingle Unibase
file with the assumption that it has exclusi
ve access to
both the file and the index. The key has to be
in contiguous
bytes in the record. This means rapidix can b
uild an index
considerably faster than "drun'ing" a sort pro
gram.

The calling sequence for rapidix follows:

```
rapidix -rc:recordsize -rs:recordstart -re:rec
ordend
             -ks:keystartposition -ke:keyendpositio
n
             -ix:indexname -fn:filename
```

where: rc is the record format size for the Un
ibase file
rs is the record number in the Unibase
file at which
to start the build
re is the record number in the Unibase
file at which
to end the build
ks is the starting byte of the key in t
he text file
ke is the ending byte of the key in the
text file
ix is the name of the index to be built

fn is the name of the Unibase file on w
hich the index
is built

Using the same computer described in step 4 a
bove, rapidix
built an index with a key length of 11 on all
99,999 records
in three minutes and 21 seconds.

6. The "exclusive access" version of rapidix.exe described in
item 5 above has been added to the Index Functions menu of
Unibase by DMAC as item [G] Index One Data file.

When this item is chosen, the following entries are
requested:

```
                    Enter File Name: _____
                   Enter Index Name: _____
Adjacent Field Numbers of Index Key: (1)(2:1-3)     example
          Begin Index at Record Number:     1      default
            End Index at Record Number: 999999999 99999 default
```

7. The command line executable mergeix has been added to
Unibase by DMAC. It will merge several indices into a single
index with the assumption that it has exclusive access to
all the files and indices. The key has to be in contiguous
bytes in the record. This means rapidix can build an index
considerably faster than "drun'ing" a sort program.

The calling sequence for mergeix follows:

```
  mergeix newindexname oldindexname1 [oldindexname2] [...]
```

8. The "exclusive access" version of mergei.exe described in
item 7 above has been added to the Index Functions menu of

Unibase by DMAC as Item [H] Merge Indexes.

Enter New Combined Index Name: _____

Enter Current Index Names: _____

The current indices are usually entered as a wild card. Unibase will display all indices that match the pattern given. When you press [REL] to proceed, Unibase will ask "Selective Use? _". If you answer no, Unibase will merge all the indices into one. If you answer yes, Unibase will display each index name and ask "File OK to use? _" to which you will respond yes or no.

9. The following Unibase executables have been enhanced to handle multiple destination operands: dparse, drun, de, dei.

Multiple destination operands may now be used with some of the Unibase verbs. For example, it is now possible to write code like the following:

```
move 'ABC' to var1 var2 var3.
```

and the literal 'ABC' will be moved to all three specified variables.

It is also possible to write code like the following:

```
multiply 5 times var1 var2 var3.
```

and each of the specified variables which have their values multiplied by 5 and the result placed back into the variable.

10. Read Unformatted File under the File Input/Output Menu has had the item "Process Added Fields: N" added to it. The "N" is the default for no. It may be replace with "Y" for yes and Unibase will process added fields anywhere in the record format.

11. Read Standard Job Header has been enhanced so that added fields may be anywhere in a record format, not just at the end.

12. AID Generation of an output program has been modified to create a delimited output at the choice of the user. After specifying the standard job name and the output program name, Unibase asks "Add Output Field Delimiters: ". Default is "N"(o), which generates the original type of output. Choosing "Y" will generate output statements with the following characteristics:

1. Every field is masked with "|ts" to eliminate trailing spaces.
2. Every field is separated by the variable Delim, which is initialized to the string "double-quote comma double-quote".

3. The beginning and ending of each output statement is the variable TxtQual which is initialized to a double-quote.
4. Every output statement is terminated with <crlf> to generate a carriage return/line feed.
5. There is no padding with spaces to the maximum record length.

These "rules" were specified at one of Unibase's advanced classes to cover the most obvious case of "comma delimited output" and to make it easy to change the text qualifier and delimiter to something else. Or to alter the fields that are delimited. Unibase will follow the field order specified in the "output placement" checkbox in the record format. If no output placement is specified, Unibase will output each field sequentially.

13. Image Entry has several enhancements. The programmer can now specify in the standard job whether or not the images will have zones. The parameter "Image Zone Support (Y,N):" appears hear the bottom left of the first standard job screen. "Y", which is the default, means the images are zoned. "N", which means the images are not zoned, means Unibase Image Entry will display the upper left portion of

the image in the available image window. The operator may use the panning control keys, zoom control keys, or rotate control keys to locate the data to be keyed from the image.

As the operator moves from field to field, the portion of the image displayed does not change until the operator changes it using the control keys.

Data entry ignores this item and all other items associated with image entry.

14. The programmer can now specify in the standard job whether image advance is controlled by the IDC file or by the operator. The parameter "Manual Image Advance (Y,N):" appears near the bottom right of the first standard job screen. The default of "N" means image advance is controlled by the IDC file. That is, there is a one-to-one correspondence of the images in the IDC to the records in the batch. Specifying "Y" means the operator advances to the next image in the IDC file (or next page in a multi-page tif) by holding down {ctrl} and pressing {right arrow}.

However, there are some restrictions. The operator may not advance more than one image at a time without keying

something for that image. Should the operator need to advance past a useless image, provision must be made to key something to indicate the record/image should be ignored. This might be a designated field in the record, or it might be a designated format in the job.

The operator has no method of backing up an image. However, backing up a record displays the image used to key that record.

15. The programmer can now specify a zoom factor, plus or minus, in the standard job that applies automatically to all images being keyed using that job. The parameter "Zoom Factor (-9 to +9): " appears near the bottom left of the first standard job screen. Negative zoom factors (zoom out) will display more of the image, but the items on the image will be smaller. Positive zoom factors (zoom in) will display less of the image, but the items on the image will be larger. The default of "00" means the image is unchanged.

16. The programer can now specify in the standard job whether or not Unibase Image Entry has dual screens available to it. The parameter "Dual Screens (Y,N):" appears near the bottom right of the first standard job screen. The default of "N"

means two windows will appear on the screen, one to display the image and one to display the data entry screen/format.

"Y" can only be specified if the computer has two video cards installed with a monitor attached to each and an operating system with the capability of handling dual screens.

17. The programmer can now specify in the standard job what percent of the screen should be used for the image window in image entry. The parameter "Screen % for Image (0 to 99) :" appears near the bottom left of the first standard job screen. Default is 50% which means the operator will have windows of approximately equal size for the image and the data entry screen.

18. The programmer can now specify in the standard job where the image window should be placed. The parameter "Image Location (L,T,R,B) : T" appears near the bottom right of the first standard job screen. The default is "T" for top. The image windows will be above the data entry screen. The other parameter are Left, Right, or Bottom, which means the image will be to the left of the data entry screen, the right of the data entry screen, or below the data

entry screen,
respectively.

Should the image be to the left or right of the data entry
screen, the status line is split in half and displayed on
the two top lines of the data entry screen. Use of a
vertical instead of a horizontal arrangement may mean the
fields on a record format will have to be rearranged on the
left side of the window so they are all visible.

19. In image entry, item "D Display File Info" on the "Image
Entry Help List", has been enhanced to also display the
status line of the current record.

20. Image entry has been enhanced so that the image displayed
may be changed under program control. This is done by
changing the image number stored in <imgcur>, just before
the operator is released to the next record.

21. Displaying a "ruler line" in image entry on the image window
is now under the control of the operator. The ruler line may
be moved up or down as needed. The movement of the ruler
line may also be increased or decreased a pixel at a time.
The ruler line is only available in jobs with zoning.

The default keyboard has been changed so the operator can do the following in image entry:

<ctrl><F12> toggles the ruler line on and off IR T
<ctrl><up arrow> moves the ruler line up IR U
<ctrl><down arrow> moves the ruler line down IR D
<ctrl><F11>, followed by the letter P (plus) IR
increases the movement of the ruler line by 1 pixel
<ctrl><F11>, followed by the letter M (minus)
decreases the movement of the ruler line by 1 pixel

The movement of the ruler line is retained as long as the operator remains in an image entry session.

The keys for these functions may be mapped elsewhere as desired. The "aidutg.hlp" file has the macros for these key actions.

VERSION 7.470i Dec 25, 1999

1. The control function hexa has been added. When <hex> gained the capability of having a variable as a parameter, a conflict arose on how to distinguish between the hex constant df and a variable named df. The control function hex is still limited to hexadecimal constants as a parameter. The control function hexa only takes variables as

a parameter.

2. The indexing algorithms for Unibase by DMAC have been changed in several ways. The node size for indices has always been 512 bytes. A pocket held an 8 byte file name, a 4 byte pointer, and the key - or a pointer to another pocket. DMAC expanded the file name to 31 bytes. If a user had a large key, Unibase could only store a few pockets in the 512 byte node. The node size has been expanded to 4096 bytes so index building could be more efficient.

It is possible to change the node size by using the environment variable UBIXNODE. UBIXNODE is set to 1, 2, 3, etc. and specifies the number of 512 byte blocks in the node.

This version of Unibase by DMAC can operate with indices that have differing node sizes, so it is not necessary to rebuild existing indices.

In addition, Unibase by DMAC will store up to 1700 nodes in memory, if it is available, while building an index. This considerably speeds up the index build process. However, remember that additional memory over 16 megabytes is not accessible with a DOS client.

3. Environment variables UBNOINS and UBNODEL have been added
for IMAGE ENTRY ONLY. When set, an operator will not be able
to insert or delete records in image entry.

4. The verb flush has been added to the Unibase by DMAC
language. Flush forces the data held in memory to be sent to
the operating system for writing to the hard drive.

This verb may be useful in some applications where a program
may modify a record and remain on that record for a long
time.

The syntax is
flush indexname.
or
flush &n.
where n is the channel number of an index.

5. Environment variable UBWINDEF has been added. It defines the
window size if Unibase is being run with a Windows client.
The choices are S - minimum, M - maximum, F - full. Default
is M.

6. Environment variable UBLNAM has been added. When set to Y,
the 32 bit version of Unibase will accept file names up to
14 characters in length on the menu.

7. Rotating an image in image entry is now under

the control of
the operator. The image may be rotated clockwise or
counterclockwise 90 degrees at a time.

The default keyboard has been changed so that <ctrl><F9> is
mapped to IR F (rotate image forward, or c lockwise) and
<ctrl><F10> is mapped to IR R (rotate image reverse, or
counterclockwise).

The keys for rotation may be mapped elsewhere is desired.

8. The verb "rotatei" has been added to field ed its to rotate
an image in a window 90 degrees clockwise or
counterclockwise. Syntax:

```
rotatei window#  cw
     or
rotatei window#  ccw
```

where window# is the number of the window to "rotate"; and
cw or ccw indicate clockwise or counterclockwi se direction.

VERSION 7.460i Mar 31, 1999

1. The File Input/Output Function [E] Read Unform atted File will do
short reads now. That is, a new record will be started whenever a
delimiter is encountered. The delimiter must be entered as a
decimal number, usually "010" for dos-based sy stems.

2. A variable may now be defined to be an array. The syntax is

define array arrayname[numrows][numcols]

where numrows is the number of rows in the array and numcols is the number of columns in the array. Both numrows and numcols are expressed as integers.

Further, the elements of the array each have the default specification as for single Unibase by DMAC variables. Should one need a different size, then ":nnn" may be appended to the numcols item where nnn is the size in bytes of the variable. The maximum length of nnn is 4096.

In particular, an array defined as follows:

define array buffnam[1][1:48]

would replace the definition of a 48 character buffer in the Tartan Data Entry language.

3. The "build . . . using" verb has been added to the Unibase by DMAC language. It is used to put information into arrays using the following syntax:

build (arrayname[rownum][colnum]) using literal.
variable.
control function.
expre

ssion.

where rownum and colnum are numeric literals. Expression is used to mean a statement consisting of a variety of items which will be stored in the array item one right after another.

For example, the statement:

```
build (buffnam[1][1]) using 'X' <all 1-2> (23).
```

will store the literal 'X' followed by the contents of fields 1 and 2, followed by the contents of field 23, into the row 1, column 1 entry of the array buffnam.

Further, array entries may be used in "if" statements as in the following example:

```
if (buffnam[1][1]) = 47' ' perform !buferr.
```

4. For field edits, an asterisk in parentheses (*) denotes the current field.

5. The verb "field" has been expanded. It now allows a variable name to be assigned to a subfield - a range of numbers used in specifying portions of fields, variables, or buffers. The subfields may be either numeric literals, or variables. The variable name MUST be preceded by an "@". Field statements must precede all labels and executable statements

in a program. The
syntax is as follows:

```
field @variable_name num_lit-num_lit
field @variable_name var_nam-var-nam
```

Example: field @zipfour%7-10.

The variable name designated using field may n
ow be used anywhere
the sub-field convention may be used.

Example: move (10:zipfour) to zip4.

6. The control function <record> (not <records>,
which is something
different) returns the current record number.

7. The "get . . using . ." verb has been expande
d. All the data in
the identified record may be placed into an
array using the
extension "into arrayname". This extension is
optional.

Example: get &1 using (2) into zipbuf else got
o !notfound.

8. The verb createidx has been added to create
an index with no
file. The syntax follows:

```
createidx idxnam with keylen idxlen else . .
```

Example: createidx zipix with keylen 10 else .
.

Records (and their associated data file names)
will then be added
to this index using the insert, append, and in
clude verbs.

9. The verb "when [not] auto" has been added. It is used to test the current condition of the auto on/off switch.

10. The environment variable UBRW (UniBase Record Written) has been added. When set to Y, the last record being entered (not verified) is removed from the file if the operator terminates/interrupts the batch before entering a keystroke. This happens even if a field edit has been run on the record.

11. The verb "return" has been added. It is similar to the "exit" verb for a subroutine, but may be used anywhere within the subroutine to return to the calling statement.

12. Unibase by DMAC has implemented reading/writing ascii text files with the AID language. These text files must be in the "text" sub-directory under the ETROOT. They may not have an extension in the name. Sub-directories may exist under the "text" sub-directory. Defining and accessing these files is done with several new verbs described in items 13-18.

13. The verb "define text" has been added. It is used to assign a name to a textfile. The textfile is described with the actual name of the file in the text sub-directory and parameter that give record length, key length, key offset, and whether the

record is fixed or variable length. Variable length records must be terminated with newline (carriage return/line feed for dos based systems). Syntax:

define text txtnam with dirnam/filnam (rl;kl;ko;rt).

where txtnam is the name as it is used in AID language code, dirnam/filnam is the path and text file name under the text sub-directory, and the items in parenthesis are numbers for record length, key length, key offset, and record type. Key offset means how many characters from the beginning of the record does the key start. That means if the key offset is zero, the key starts at character 1; if the key offset is 10, the key starts at character 11. A record type of "0" means the records are fixed length. A record type of "1" means the records are variable length.

The text file does not have to have a key. However, if a key is present, the text file records must be in ascending order based on the key.

14. The verb "open" has been expanded to open text files in the "text" sub-directory under the etroot. The syntax has a variety of ways to open a text file.

open txtnam[|upd] [with delete] [else . . .] .

[with create]

If the text file is opened with no options, it must be present to be opened. If it is opened "with delete", then an existing file of that name is removed and a new file of the same name is opened. If it is opened "with create", then a file of that name is created if none exists. The text file must be opened with "|upd" in order to make changes to it.

15. The verb "close" has been expanded to close text files in the text sub-directory under etroot.

close txtnam [with delete].

If a text file is closed "with delete", the file will be removed.

16. The verb "append" has been expanded to append records to text files from arrays. See items 2 and 3 for how to define an array and put something into it using the build verb.

append txtnam from arraynam.

17. The verb "get" has been expanded to retrieve records from text files into arrays.

```
get [first]    txtnam [using key] into arraynam else . . .
    [last]
    [next]
    [prior]
    [current]
```

18. The verb "put" has been added. It is used to r
eplace the current
data record in a text file with the content
s of a specified
array.

```
put txtnam from arraynam.
```

Text files with keys must not have the key val
ue changed.

19. The verb "concatenate" has been added. It is u
sed to concatenate
one variable holding a string to the end of
another variable
holding a string. The following code demonstra
tes the syntax and
results.

```
declare var1 var2.
move "Hello " to var2.
move "world." to var1.
concatenate var1 to var2.
show <loc 2> var2.
```

The screen will display "Hello world." at line
2.

There is a special case of concatenate where
the second item is
the variable name associated with a text file.
In the define text
statement, the text file associated with the v
ariable name has a
directory name only, followed by a slash. For
example:

```
define text outdata with cust/(100;0;0;0)
.
```

Then, the following code will expand the text

file description to
include a file name, not just a sub-directory name.

```
move "payroll" to filnam.
concatenate filname to outdata|nm.
```

Then, when the text file "outdata" is opened, a complete path to
a file is correctly specified.

20. Because DMAC has been converting customers where programs
accessed fields using their keying order number instead of their
field order number, an option has been added to refer to batch/file
data in keying order sequence instead of field number sequence.
This avoids having to change massive amounts of code where the
field references were different.

The feature is implemented from the record format maintenance
screen. When item "[D] Edit Check Boxes" is chosen, the third
question is "Use Keying Order as Field Number: N". Default is
"N". Change to "Y" to have data in batches referred to in keying
order instead of field number order.

CAUTION: Using this feature means that if you change keying order
on a record format, any batches keyed prior to the change will
not be usable in data entry.

21. DMAC runs on a variety of platforms. Some of those platforms are
more useful than others in providing data ab

out the number of
users of the software. The platforms that do not provide this
information require other solutions. Unibase by DMAC uses a file
called "comname" that resides in the bin directory to track the
users logged into Unibase. The users are tracked by their
computernames, NOT by their Unibase operator id names.

If a user does not exit Unibase by using the exit options on the
menu, then the user's computername is not cleared from the
comname file. To keep comname cleaned up, DMAC has added a new
program: "ntstat2.exe" which should be run on a regular basis
when the fewest operators are logged into the system. Use
"scheduler" for NT systems to automate execution of ntstat2. (Use
"cron" for UNIX systems to automate execution of UNSTAT2.)

NTSTAT2 is a 32-bit application and must be in the sub-directory
"bin32" under your ETROOT directory. It should also be run from
the server. If users are accessing the NT server using dos with
tcp/ip, then they should not execute ntstat2 from their
workstations.

To get more information about NTSTAT2, type "ntstat2 /?" from the
command line in the bin32 sub-directory.

22. More sophisticated scanners will create ".IDC"

files and put them
in the "ETROOT\idc" sub-directory. Unibase Image Entry uses these
files to determine which tiff images to use for a batch of image
entry. Unibase assumes the images are in the "ETROOT\image" sub-
directory unless the fourth parameter of the line entry in the
".IDC" file specifies a line number in the "imgpath.idx" file.
The entry in the "imgpath.idx" file is a path that precedes the
tiff name in the ".IDC" file. (In other words, Unibase is NOT
expecting the tiff name in the ".IDC" file to have a complete
path name, just a partial path from the image sub-directory.)

However, some scanners can only put entries into an ".IDC" file
with a complete path. To accomodate these scanners, put this same
path as an entry in the "imgpath.idx" file. Then put a minus sign
before the parameter in the ".IDC" line that specifies the number
of the entry in the ".IDX" file.

Then Unibase Image Entry will "subtract" the contents of that
line number from the tiff name given in the ".IDC" file before
preceding the tiff name with the path in the "imgpath.idx" file.
(Yes, it sounds reduncant, but Unibase was not consulted before
this particular scanner software was designed to put only
complete path names into a text file.)

For example, the ".IDC" file for a particular batch might contain the line:

i:\custa\joba\tifnam.tif:2:01:-03:1:

and the corresponding entry in the "imgpath.idx" file will have the entry:

i:\custb\jobb

Unibase will look for the tiff as

i:\custb\jobb\tifnam.tif

instead of

i:\custb\jobb\custa\joba\tifnam.tif

which is what Unibase would look for if the imgpath entry were a positive number instead of a negative number.

Note that the directory path may be changed with this technique PROVIDED the new directory path has exactly the same number of characters as the old directory path.

VERSION 7.450i April 4, 1998

1. A "hotkey" to the field edit program has been added to data entry and image entry. If the operator presses the {FLD} key, releases it, then presses the letter "E", both data entry and image entry will execute the field edit program. The "hotkey" can be programmed to one key by using the code "FL E" when mapping the keyboard.

2. The verbs "enable editkey" and "when editkey" have been added to field edit programming. The programmer must set usage of the

editkey with "enable editkey". Then "when ed itkey" may be used to check if the operator has pressed the "hotk ey" combination to access the field edit.

3. An "Unlock File Locks" menu has been added to the Utilities menu as item [J]. It will "zap an operator", unlock datafiles, unlock the tapedrive, unlock spooler maintenance, unlock NT server aborts, and unlock any AID program.

4. The menu item "[H] Edit Unibase.ini File" has been added to the system functions menu.

5. A "New Document Indicator" has been added to record formats. It does nothing at this time but will be implemen ted in the future. The request appears when "[D] Edit Check Box es" is chosen. It shows up after the "Data Entry Full Screen Opt ion:" line. At this time, just press [FLD REL].

6. The ability to "double key" a field in data en try has been added to the record format check box edits. If "U" is chosen under "Rcd/Rcd Auto:", then once the operator has k eyed that field in data entry, the contents of the field are blan ked out, the cursor goes to the beginning of the field, and the operator re-enters the field. The data does not appear while ente ring it the second time until the operator exits the field.

If the field is keyed identically the second time, control goes to the next field to be keyed. If the second keying does not match the first keying, the message "Double Key Verification Error - Enter Original Field Again" appears at the top of the screen and the operator tries again. The field must be keyed identically twice in a row before it is accepted.

7. Unibase by DMAC now supports pre-field edits as well as post-field edits in data entry and image entry. In addition, a field may have both a pre-field edit and a post-field edit. If a field has the pre-field edit enabled, then Unibase by DMAC executes the field edit before the operator is allowed to key in the field.

To enable a pre-field edit, use "S" (for Start of field) on the Fld Edit checkbox in record format creation/change. To enable both a pre-field and post-field edit, use "B" on the Fld Edit checkbox in record format creation/change.

The verb "when prefield" has been added for use in field edits only. It is used to execute instructions based on whether the current field is the specified pre-field. "when prefield" has features of "when field".

8. IDC files, which reside in the IDC sub-directory and are used to

give tif file names to image entry, may now be edited inside Unibase by DMAC. From the main menu, select "[H] Image Processing", then "[A] IDC - Image Data Control". A menu similar to menus for other Unibase by DMAC programs is displayed. This menu allows you to display, create, change, delete, selective delete, rename, copy, and print IDC files.

9. Configuration names in the unibase.ini file may now be referenced by standard jobs. To place a configuration name in a standard job, choose create or change from the standard job menu and key the name of the standard job. Press [FLDREL} twice, then press [REL] to get past the "Record Format Assignment. Press [FLDREL] 5 times to see "Environment Name:". Enter the configuration name in the unibase.ini file that the standard job should reference. This allows environment variables (including DMACI) to be set differently for different standard jobs.

See readme for version 7.41i for more information on configuration names in the unibase.ini file.

Environment variable UBINI, when set to "Y" will edit the unibase.ini file immediately after entering the configuration name in the standard job.

10. Control function <crlf> has been added to Unibase by DMAC. It

sends a carriage return character followed by a line feed character to the output device.

11. Update mode has been expanded in Unibase by DMAC. There is now a choice of options for update mode in data entry and image entry that are identical to the verify options available in verify mode. The default mode is "S".

These options - K,S,E,C,V,R - are set in the "Update" checkbox in the record format generator. They operate as follows:

E (enter) - Entry mode is simulated and the editing checks specified for this field are performed on the data being entered.

S (scan verify) - If the field does not contain an error flag, it is skipped and processing continues to the next field. If an error flag is present, processing stops with the cursor positioned on the error flag. The error flag may be replaced by keying any character. The error flag may be bypassed by pressing the "bypass error" key.

V (visual verify) - The entire field is displayed with the cursor positioned on the first character of the field. Pressing the [FLDREL] key continues processing at the next update field.

K (key verify) - The field must be verified. T

he cursor stops at
the beginning of the field to allow for rekeying.

C (conditional verify) - When file balancing is specified and the
file is out of balance, processing stops on the field and the
field must be verified. If the file is in balance, the field is
skipped.

R (release) - Specifies the end of all update operations for the
current record. All remaining fields are bypassed, regardless of
any update options specified. Processing starts at the first
field of the next record.

12. The "bypass" verb has been extended for use in field edits. When
"bypass" is executed in a field edit, the message "User Program
has interrupted this batch" displays at the top of the screen.
When the operator resets the error message, the batch is
interrupted and the operator sees the Data Entry Menu.

13. Image Entry has been enhanced to process multi-page tif images.
The entry in the .idc file now accepts the page number on the end
of the line. For example, the number 10 in the following example
idc entry indicates that the tenth page in the multi-page tif
v550 will be displayed.

v550.tif:2:1:1:10:

However, the number of pages in a tif does not have to be known in advance. If the .idc file in the idc sub-directory lists a tif that contains several pages, but does NOT include a page number, Unibase by DMAC will expand the idc file so that there is an entry for every page in the multi-page tif. Even if the tifs are NOT multi-page tifs, the page number :1: is automatically added to each line entry in the .idc file. The imgpath entry is :127: if no other is present. This corresponds to the default path of %ETROOT%/image.

14. The verb "open iwindow" has been added to field edits to open a window in image entry to display other images. Its parameters are a number for the window and a string that gives the upper left x and y corner and lower right x and y corner of the window in pixels. The pixel number cannot exceed 9999. If the lower right corner is set 9999,9999 then the window will fill the remainder of the screen. The syntax is as follows:

```
open iwindow number    at winloc.
             variable
```

An example:

```
move "0400,0120,1000,0750" to winloc.
open iwindow 3 at winloc.
```

16. The verb "clear iwindow" has been added to field edits to remove

the image display from an open image window. Its only parameter is the windows number:

clear iwindow number.
variable.

17. The verb "close iwindow" has been added to field edits to close an open image window. Its only parameter is the windows number:

close iwindow number.
variable.

18. The verb "showsnip" has been added to field edits to display an image (or a snippet of an image) in an open window. The parameters are the full path of the image, the zone of the image, the zoom factor, the window number, and a variable to hold the result. Syntax is:

showsnip box of img page pnum in iwindow inum with zoom gives ans.

where box is the upper left x and y and lower right x and y in pixels of the snippet of the image to be displayed in the window; img is the full path of the tif file being used; pnum is the page number of the image(pnum is 1 for non-multi-page tifs; num is the number of the open window; zoom is the zoom factor which ranges from -9 to +9 and describes how much larger or smaller the snippet should be from normal (0); and ans holds any errors.

(Zero means the snippet displayed correctly.) The errors are positional. A units position error means a problem with the snippet parameter. A tens position error means a problem with the window parameter. A hundreds position error me ans a problem with the zoom parameter.

19. The verb "pan" has been added to field edits t o move an image in a window up, down, left, or right. Syntax:

```
pan window# up    pixels.
            down
            left
            right
```

where window# is the number of the window to do "panning"; up, down, left, right are the panning directions, and pixels is the number of pixels to pan the image.

20. The control function <ilistfp #;cntr> has bee n added. It gives the complete path of the cntr'ed image in the .idc file associated with the channel. (# = 0 means the current workfile).

21. The control function <imgcur #> has been add ed. It gives the number of the current pointer to the list of p ossible images for the current batch on channel #. The value of <imgcur #> may be moved to a variable or a value may be move d to the control function <imgcur #>.

22. Environment variable UBPR has been added. When set, it allows the function key [RESET] to clear pause messages.

23. Environment variable UBPF has been added. When set, it allows the function key [FLD REL] to clear pause messages.

24. Environment variable SHOWBC has been added. When output is being done and this environment variable is set, Unibase by DMAC displays on line 2, the batch name, the number of records output for the batch, and the total number of records output for all batches.

25. The verb "divide" has been expanded to calculate a remainder. The syntax is

divide divisor into quotient with remainder.

The words "divide", "into", and "with" are reserved. The old form of "divide" still works.

26. The verb "open" has been expanded to use the optional verb "else". This will give the programmer more control over what happens if the file or index does not exist.

27. The verb "when update" has been added to field edit programming.

28. Many newer video display controllers no longer support 16 color. Environment variable DMACI has had the B eleme

nt expanded. If CO
has "256" added to the end of it, Unibase by D
MAC will convert 16
colors into 256 color formats, but still only
give you 16 colors.

29. The update option has been added to the comm
and line call for
image entry. An image file can be opened for
update with the
command: "dei -uopid filename".

30. The control function <ilistpg #;cntr> has bee
n added. It gives
the page number of the cntr'ed image in the .i
dc file associated
with the channel. (# = 0 means the current wor
kfile).

31. The verb wait has been added. Its syntax is
wait seconds.
where seconds may be a literal or a variable.

32. The verb when flag has been expanded to
when chanum @flag . . .
so that checking for error flags may be done o
n an open channel.

33. Environment variable "UBNFMSG" has been added.
Setting it to "y"
eliminates displaying the "Execute Complete
..." message that
appears occasionally when exiting from the Uni
base shell.

34. Environment variable "UBMAXVB" has been adde
d. It is used to
reduce the maximum number of virtual buffers f
rom 50 to a smaller
number, should a problem arise. Do not set it
less than three.

35. Many of the routines that handle images have had a minor change made so that TIFF images may be used that do not have the extension ".tif". If there is a period (.) in name of an image presented to one of these programs, the program will assume the image is a TIFF image and use the name as is. If there is NOT a period in the name of the image, the extension ".tif" will be added to the name. The programs affected are CHANGEI, DEII, DESKEWI, LISTI, ROTATEI, SHOWI, and SNIPPI.

VERSION 7.440i February 14, 1998

1. DMAC has changed how both the parser and the interpreter handle control functions. Each control function used to be handled separately. Now they go through general processing, which expands their capabilities. For example, the control function <job> may now be coded three different ways:

<job> gives stdjob name of current workfile
<job 2> gives stdjob name of file open on channel 2
<job ch> gives stdjob name of file open on channel ch

2. In image entry, the verb show can display the zone associated with a field from a DIFFERENT image entry file that is open on a channel. The syntax is

show <loc 15,1> {1;5}

where '1' is the channel number and '5' is the field number.

3. The program SNIPPI.EXE is now being distributed with Unibase by DMAC. It is a command line program that displays snippets of images on the screen. Typing the program name SNIPPI from the command line will display the parameters. SNIPPI may be executed from within the DMAC programming language by issuing a system call. The images displayed with SNIPPI do not have to be attached to records in a Unibase by DMAC file. Using SNIPPI to display image snippets will be slower than displaying them using the show command described in item 2 above.

4. The environment variable UBIDX has been added. It should point to a directory on the C drive such as "UBIDX=C:\TEMP". Indices will then be stored in that location on the C drive when they are built from the Unibase menu. This technique speeds up index builds.

5. The environment variable UBDD has been added. When it is set to y, a change made to a duplicating field while in verify will be carried forward through all succeeding records, even those with a different format number, where the field has been marked as record-to-record dupe and the contents of the succeeding fields

were the same as the original field that was c
hanged.

6. The environment variable UBTAB has been added.
When it is set to
y, tabbing to a field NOT on the screen in
data entry will
position the "tabbed to" field on the last l
ine of the screen
instead of the first line of the screen.

7. The environment variable UBNOFF has been added
. When it is set to
y, output sent to LANPRx devices will NOT per
form a top of form
at the end of the output.

VERSION 7.430i August 06, 1997

1. This version of Unibase by DMAC uses a differ
ent set of colors.
These are supposed to be more restful on t
he eyes based on
ergonomic studies. The UBCL for the
new colors is
UBCL=112;116;113;114;7; while the setting for
the old colors is
UBCL=23;19;20;134;71;

2. Record formats may now be created/change
d using a mouse
interface, provided a mouse driver is loaded.
When [B] Create or
[C] Change is selected from the Record Format
menu, a format name
is requested as before. The next request is '
Use the GUI Screen
Editor? N'. The character 'N' (for No) is the
default. Pressing
{FLD REL} selects the menu-driven Record Forma
t Maintenance menu
as it appeared in prior versions of Unibase by

DMAC. Changing to
'Y' will bring up the mouse interface for creating record
formats. This interface is particularly useful for defining image
zones and painting the zone display.

3. Unibase by DMAC Image Entry can now display multiple zones for a
field. Creating these multiple display zones in the non-mouse
interface is item [G] Paint Zone Display on the Record Format
Maintenance screen. Instructions for using this item are in the
file aidrfg.hlp in the ETROOT\help sub-directory.

Creating multiple display zones in the mouse interface is the
Paint Zone Display icon. In either interface, image zones have to
be defined for each image entry field, prior to setting up
multiple zones.

4. Unibase by DMAC Image Entry can now display a zone larger or
smaller than its original size. In the menu driven version of the
record format generator, both item [F] Define Image Zones and
item [G] Paint Zone Display on the Record Format Maintenance
screen have had zoom instructions added to them. See the files
aidrff.hlp and aidrfg.hlp in the ETROOT\help sub-directory for
more instructions on using this feature.

In the mouse version of the record format generator, zooming a

zone is controlled only with the Paint Zone Display icon. A programmer can enlarge or reduce the zone displayed by clicking on the plus or minus button attached to the zone displayed.

5. In the mouse version of the record format generator, the entire image (not just the zone) may be increased/decreased in the Define Image Zones function before actually zoning a field. This is done with the + or - buttons on the tool bar.

6. A keyer using Unibase by DMAC Image Entry can now increase or decrease the size of the primary zone. However, the keyboard has to be mapped with macros to do so. DMAC recommends putting "IZ I" (zoom in, which makes the image larger) on the 'shift/function key 7' combination and putting "IZ O" (zoom out, which makes the image smaller) on the 'shift/function key 8' combination. This is done under item [G] Map Keyboard of the Utilities menu.

Then the keyer can zoom in or zoom out on the primary zone by using these keys.

7. Environment variable UBFMTL has been added. When UBFMTL is set in the unibase.ini file, the format select key in data entry displays 4 positions instead of only 2. Alphabetic names may be used to select formats provided the names are

set up in the field
edit (usually at when start) before they are used.
Incorrect/unknown names always go to format 1. Names assigned to
non-existent format levels will give an error message when
selected. The 4 character format names are stored in the global
variables $var95 to $var98. That is, the name for format 1 is
stored in $var95:1-4, the name for fmt 2 is stored in $var95:5-8,
the name for fmt 30 is stored in $var95:117-120, the name for fmt
31 is stored in $var96:1-4, . . . the name for format 99 is
stored in $var98:33-36.

Operators may still use numbers to select formats if they
remember these more easily than names.

VERSION 7.420i October 15, 1996

1. This version of Unibase by DMAC installs on the following servers
without needing a different set of diskettes:

standalone pc
Novell server
Windows NT server
peer-to-peer network drive
Banyan Vines server

2. This version of Unibase by DMAC also supports the following
clients:

Windows NT
Windows 95
Windows 3.x
OS/2 Warp
DOS

3. This version of Unibase by DMAC will require a new activation code from Data Management Assistance Corporation. Codes from prior versions will not work.

4. Unibase by DMAC data entry and image entry functions can now be driven with a queue. If the operator enters <AUTO> after requesting an entry function, then Unibase by DMAC will search the queue file with that operator's name to determine what is the next job/batch to be brought up. A queue sub-directory has been added to hold queue file information. Queues in this sub-directory are created/modified from item [P] Job Input Queue under the File Definition menu. The Unibase by DMAC editor ez_edit is used in this sub-directory just as like other Unibase by DMAC program directories.

Each operator id <opid> can have a flat ascii file under the <opid> name in the queue sub-directory. In that file either standard jobs or other queues can be referenced. If the operator has no queue file, then the default queue file (named "queue") is accessed. The last entry in each operator file should refer to <queue>.

The sample default queue shows how jobs are entered into the file and what codes are functional.

5. The system verb in the Unibase by DMAC language is handled in the following fashion. If the call is to Unibase's 'drun' or to a filename ending in '.exe', the system verb does an overlay. Otherwise, the system verb spawns another shell to execute the command. The spawn does not have access to the environment variables in the current shell.

6. Unibase by DMAC will now unpack a packed decimal field with item [E] Read Unformatted File under the File Input/Output Functions menu. The fields to be unpacked must be the correct length in the Unibase record format for the packed decimal field and the checkbox item Input Packed Dec must be marked 'Y'. If the file with packed decimal fields is coming from an ebcdic tape, then the tape should be spooled to a disk file WITHOUT converting it to ascii. Specify the codeset ASCII when using [E] Read Unformatted FIle.

The ASCII codeset may be created by exiting Unibase by DMAC through [F] OS Access from the System Functions menu, changing to the codeset directory, and typing mkascii. (This is a Unibase by DMAC program that creates the ascii codeset.)

7. Unibase by DMAC image entry will now handle batches with 1850 image files to be displayed.

8. The <date> control function has been changed to return a six digit result instead of a seven digit result when the year is greater than 1999.

9. The <date4> control function has been added. It returns an eight digit result in the form mmddyyyy. All the variations available for <date> also operate for <date4>. The environment variable UBDATE also affects <date4>.

VERSION 7.410i July 2, 1996

1. In order to use less operating system environment space, Unibase by DMAC can now retrieve its environment variables from a text file named 'unibase.ini' located in the bin sub-directory. Installation of version 7.41 of Unibase by DMAC will generate a version of this file in the bin directory in addition to a setup.bat file. If the unibase.ini file exists, execution of the program menu, de, or dei from the same bin directory will locate the file and use its contents for the environment variables. A user no longer needs to set the environment variables ahead of time. The normal requirements for starting an executable program prevail: Either type the program name from the directory it is in, or type the program name with its full path, or have the unibase bin

directory in the user's path and type the program name from anywhere. When Unibase by DMAC is exited, the variables in the environment space revert to what they were prior to unibase.ini.

The 'unibase.ini' file has a [COMMON] area that holds environment variables needed for all users. Each line of the file has information for one environment variable, such as

ETBIN=I:\UNIBASE\BIN

Should a user need additional/different environment variables, they can be put in the unibase.ini file and preceded with a configuration name in brackets such as [USER01] or [config02]. Then, when environment variable UNICFG is set to the same name, Unibase by DMAC will set the additional environment variables listed under that name. Note that the configuration name is case-sensitive. If UNICFG is not specified, only environment variables from the [COMMON] area are used.

2. The verbs search and searchf have been added to the AID language. These verbs search all of a record, or a specified portion of a record, for a string of characters. The verb search will report occurrences of the string across field boundaries. The verb searchf restricts the search to occurrences within a field.

Syntax is as follows:

search[f] fldnum[:n] srchvar loc else instr [;instr..]

Item fldnum is the field number of the work file (enclosed in parentheses) or the field number of the defined data file (enclosed in @ signs) where the search is to begin. An optional subfield specification, such as (field:n) or @ &chn;field:n@, may be used to force the search to begin at a specified byte within a field.

The search variable, srchvar, specifies the character string to search for.

If the pattern is found, its position within the record is in the variable loc in the format nnnn:mmmm which give the field number and character within the field where the first character of the pattern occurs.

If the pattern is not found, the else instruction is executed.

3. Environment variable UBPOS1 has been added. In data entry and image entry, use of the position verb in a field edit does not automatically refresh the screen. This is so that if a program uses 'show' statements to display information, this data will not be erased whenever a position statement is executed. However, in

image entry it is sometimes useful to refresh the screen with use of the position verb, particularly with long scrolling screens. Set environment variable UBPOS1=y for positioning to refresh the screen.

4. Environment variable UBDRSZ has been added. It is used to set the default record size. Currently, when a user creates a standard job or does file output without a standard job, pressing {FLDREL} at the items Record Size or Block Size sets a default size of 80 characters. If the environment variable UBDRSZ is set to a number such as UBDRSZ=4096, then that number is used as the default size.

VERSION 7.400i January, 1996

1. Upgrading to the 7.4 version of Unibase by DMAC from prior versions is significantly easier. However, because 7.4 is designed to make use of better operating systems and extended memory, the following items need to be considered.

If possible, upgrade all workstations to MSDOS 6.22 version. For diskless workstations, this may mean replacing the reset roms.

If extended memory is available (at least 4 megs) the conversion utility can handle an entire sub-

directory. If
extended memory is not available, then each sub-directory
(stdjobs, recfmts, files) may have to be converted in
portions. (For example: A* then B* up to Z*).

To take advantage of the new memory management, each
workstation needs a minimum of 4 megs of memory.

2. The process of upgrading to the 7.4 version of Unibase by
DMAC from prior versions is described below:

First, determine the version number of your current Unibase
by DMAC environment. It will be either 7.1, 7.2, 7.2i, or
7.3i. You will see the version number at the top of the
Unibase Main Menu.

Second, add a device TEMP to your device table. This is used
for updating data files, since the conversion does writes a
rescue format for that particular version. Set the path to
be %ETROOT%/TMP/TEMP

Third, write down the entries in your value table. The value
table will have to be deleted and recreated before you can
process data files. The value table is file ETV.TBL in the
Unibase misc sub-directory. Delete it before you install the
7.4 version of Unibase.

Fourth, delete the stdjob SPLOGSJ and the record format
SPLOGRF. These will be recreated in the 7.4 version of
Unibase when you need them. They are used by spooler
maintenance. Also delete the files OPSTWF, OPSTWF.I, and
OPSTWF.T from your files directory. These OPSTWF files are
on the diskette labeled bin number 4. They are in the files
directory.

If you have altered any of the AID*.HLP files in the help
sub-directory, you may want to save a copy elsewhere as the
install process will bring in copies from the diskettes.

If you have altered the *.SPA or *.ENG files in the misc
sub-directory, you may want to save a copy elsewhere as the
install process wil bring in copies from the diskettes.

If you answer 'Y' to update the operator statistics
programs, then the install process will copy the files
OPSTWF.T and OPSTWF.I into the files sub-directory. You can
create OPSTWF by going to the files sub-directory and
typing "mkdf dfname opstwf.i < opstwf.t" at the command
line.

If you answer 'N' to update the operator statistics program,

then these files will NOT be put into the files sub-
directory. You may copy all three files from the files sub-
directory on the diskette labeled bin no. 4.

When answering the questions posed by DOSINST, reply 'U' for
update. You may or may not need a new activate, depending
upon your prior version of Unibase by DMAC.

After installation of the 7.4 version, re-create the value
table from the file function menu by choosing item [] Value
Table. Choose [D] Display Value Table and Unibase will
respond by saying it is not present and ask if you want to
create it. Answer Y and you now have a 7.4 version of value
tables.

From the Unibase Main Menu choose [A] Advanced Processing.
Then choose [C] Utilities. Then choose [I] Conversion to
Unibase 7.4i. You will be presented with a menu of PRIOR
Unibase by DMAC versions. Choose the version number of your
PRIOR environment. Then you will be presented with a choice
of libraries to be converted. Choose either Record Formats,
Standard Jobs, Data Files, Keystroke Macros or All of the
Above. Each of the choices allows you to specify a specific
file to convert, a wildcard'ed set of files to convert, or

all files to convert by typing an aster
isk (*). The
appropriate conversion will take place on a
file by file
basis. This means you do not have to be c
oncerned with
having enough disk space to write out all the
files at once.
If a file has already been converted, it
will not be
converted again.

Record Formats and Standard Jobs have to be co
nverted before
Data Files are converted so the new structure
is available.

Indices have to be rebuilt once Record Form
ats, Standard
Jobs and Data Files have been converted. You w
ill also have
to put in your value table entries.

Keystroke Macros need to be converted to a
dd the magic
number. The magic number will allow Unibase by
DMAC to track
which version a particular file might be in
the future.
Versions of Unibase by DMAC prior to 7.2 may
need to have
field releases since some of the pathnames we
re exactly 8
characters and 8 character names placed in the
m did not need
a field release.

It might be useful to re-parse your AID pro
grams but it
should not be absolutely necessary.

If you have security enabled, it will s

till operate.
However, later versions of Unibase may have additional
security items and these items will have security N until
changed by the user.

Unibase sets the environment variable "OV0=}". If you never
used this environment variable in your prior version, or if
you had it set to some other value, remove it from the
setup.bat that is generated. (In succeeding versions of 7.4,
environment variables are set in the file unibase.ini in the
bin directory.)

This conversion utility will allow you to restore files
and programs saved from prior versions of Unibase and
convert them in place as needed.

3. Unibase by DMAC now allows 31-character names for standard
jobs, record formats, datafiles and AID programs and
keystroke macros. The 31 characters must include the forward
slash (/) as needed between characters so that no string is
over 8 characters in length. (That is, Unibase by DMAC still
follows the name length conventions of the operating
system.)

Unibase by DMAC will create sub-directories under the normal
directories that correspond to the strings

of characters
between the slashes. For example, if you c
reated record
format: CLIENTA/PAYROLL/PAY1 then the record
format PAY1
would be found under ETROOT\RECFMT\CLIENTA\PAY
ROLL. Unibase
by DMAC would create the sub-directory PAYRO
LL under the
sub-directory CLIENTA under the sub-directory
RECFMT under
the ETROOT directory.

NOTE: Control functions such as <job>, <file>
, and <batch>
will take up 31 characters of space if they a
re used with
verbs such as show, pause, output, or type. If
these control
functions are moved to a variable, remember t
hat they are
stripped of trailing blanks unless environ
ment variable
PADOUT is set. If PADOUT is set, then the last
11 characters
of the control function are lost unless the
variable is
set to have 31 characters in a declare stateme
nt.

4. Environment variable UBTYPW has been added. W
hen set to y,
accept statements will operate in typewriter m
ode if that is
the keyboard mode being used by the operator.

5. Unibase by DMAC will take advantage of two or
more megabytes
of extended memory, if available, but will sti
ll run on 640
KB 8086/8088 machines.

6. EZ_EDIT will take advantage of extended memory and process much larger files than it did in the past. EZ_EDIT also uses the KEYBOARD file in misc (or the default keyboard if none is specified). EZ_EDIT will also use the NIX and CAD keyboards if you should desire to do so. You may choose these keyboards by pressing {SHIFT}{F3} for the typewriter keyboard (default); {SHIFT}{F4} for the Nixdorf keyboard; or {SHIFT}{F5} for the Cade keyboard.

7. Both DE and DEI support 130,000 byte .r field and file edits, (like DRUN does) up from the current 64,000 byte limit.

8. From the File Input/Output menu, item [E] Read Unformatted File now allows the stdjob to have more than one record format. Unibase by DMAC will process the data based on the linkages in the stdjob.

If format 1 links to format 2 and format 2 links to itself, Unibase by DMAC will assume there is one format 1 at the beginning of the file and all the rest of the records are format 2.

If format 1 links to format 2 and format 2 links back to format 1, Unibase by DMAC will alternate re

cords between
format 1 and format 2 as it reads in the file.

The program RAWDATA will perform the same process from the
command line. Its usage is RAWDATA STDJOB ASCII DFNAME where
ASCII is the name of the ascii flat file to be read into
Unibase.

9. The "Device Type" entry in Device Table Maintenance has a
new choice of 'type' in addition to 'printer', 'tape',
'test', 'disk', 'comm', or 'output'. The third line in
Device Table Maintenance has been changed to "Begin/End
Script Name:". The name of a batch file (including the
extension .BAT) goes here in DOS/Novell versions of Unibase.
The batch file MUST be in the spooler sub-directory.

If the verb "type <loc nn>" is used in a program that is
executed by either DRUN or DE, and the environment variable
TYPENN points to a device that has "Device Type" set to
'type', then the batch file will be executed with two
parameters at the start of the drun, the end of the drun, or
anytime the control function <finish> is used. The bat file
is being called at the beginning of the drun if the first
parameter is '1'; the bat file is being called

at the at the
end of the drun if the first parameter is '2' ; and the bat
file is being called anytime the control function <finish>
is used, if the first parameter is '3'. The second parameter
is the device path name for that device in the device table.

10. Environment variable UBDZF has been added. When set to 'y',
zero length files will no longer stop with an error message
if they are being processed, they will simply be bypassed.
They will also be deleted like regular files.

<----------
VERSION 7.320i January, 1996

1. Environment variable UBTYPW has been added. When set to y, accept
statements will operate in typewriter mode if that is the
keyboard mode being used by the operator.

2. The editor program ez_edit.exe now uses extended memory if it is
available so that extremely large files may be edited.

3. Environment variables UBMXX and UBMXY have been added. Unibase
Image Entry allocates memory to handle approximately an 8 1/2" x
11" page image. This is an image width and length of about 2550
by 3300. If your image width and/or length exceed these defaults,
use UBMXX and UBMXY to set larger sizes so

Unibase knows to
allocate more memory for the image.

VERSION 7.310i September, 1995

1. The F: parameter in the environment variable DMACI (which is used
for imaging data entry only) has been changed. Instead of ON or
OFF, (ON used 8x8 font size, OFF used 8x14 font size) the new
choices are SMALL, MED, BIG, BIG1, or BIG2. F:SMALL will use 8x8
pixel characters in the Unibase screen in image entry. F:MED will
use 8x14 pixel characters in the Unibase screen in image entry.
F:BIG will use 8x16 pixel characters in the Unibase screen in
image entry. F:BIG1 will use 10x18 pixel characters in the
Unibase screen in image entry. F:BIG2 will use 12 x 30 pixel
characters in the Unibase screen in image entry. This parameter
does NOT affect the image display portion of image entry.

NOTE: In order to avoid wrapping the screen display around on top
of itself parameter F:BIG1 is meant to be used with V:HIGH1 or
SUPER and parameter F:BIG2 is meant to be used with V:SUPER.

2. The record format check boxes have two new items for assigning
help information to a field. The item 'Detailed Help Name' refers
to the name of a file with the suffix .hlp in the HELP directory

under Unibase. The item 'Pg#' refers to a specific page in that help file.

The help file is created under File Definitions. It is a separate library similar to field edits, file edits, outputs, etc. You may create, change, delete help files using ez_edit. Pages are defined by placing '|R' in columns 1-2 on a line with nothing else on the line.

If no file is designated for a field, whatever help file had last been accessed will be displayed if {HU} is pressed.

3. The idc files may be placed in their own sub-directory, IDC, under the ETROOT directory. Unibase by DMAC will look in the files directory first for the .idc file and if not present, will look in the idc directory for the .idc file.

4. The zone definition information for image may be placed directly into the record formats and standard job instead of creating a separate .zdb file in the stdjob directory.

At the bottom of the check box edit screen for record format definition is the item 'Image Zone Data (Y):'. If 'Y' is entered, an 'IMAGE ZONE EDITS-' screen is displayed. It asks for the upper left and lower right corners of the the display area and the image area. It also asks if the field is an OC

R field.

At the bottom of the first screen for stdjob definition is a request for 'Maximum Image size x:', Maximum Image size y:', and 'IDC For Format # (Y):'. (The last item is identical to the 'Links' item in the stdjob ZONEMAKE.)

Of course, if a zone definition file (.zdb) has already been defined, you do not need to use these fields. Unibase by DMAC looks for the .zdb first, and if not present, looks in the stdjob and recfmts for the information it needs.

5. The 'File Input/Output Functions' menu has a new item:

[H] Read Comma Delimited File

This item is similar to '[E] Read Unformatted File' in that it will request a codeset name, a device name, a standard job name, and a file name. However, it will read a file where the fields have double quotes around them and are separated by commas. Records are terminated with a carriage return, line feed combination for DOS, or just a line feed for UNIX. Many other software packages produce such a file with an 'export' type function.

6. A new executable program is being supplied that runs from the command line. The program is UBUPGVAR and wil

l move data into a
global variable. The syntax is:

ubupgvar nn "data"

where nn is the global variable number and th
e data to be moved
into it is in DOUBLE quotes. This progr
am allows you to
initialize or change global variables by syst
em calls to a .bat
file.

7. A new record format generator has been added.
It allows the user
to "Paint the Screen" without losing any
checkbox edits or
altering checkbox edits in fields with i
dentical tags. In
addition, several important new features have
been added which
are listed below.

8. While in "Paint Screen" users can now draG a
field anywhere in
the record format without losing the checkbox
edits and without
deleting and rekeying the field. A field can
be moved as often
as needed. The command for doing this is {FIEL
D} G. Instructions
for doing this may be called up by pressing
the User Help key
combination while in "Paint Screen" mode.
The default key
combination for user help is {SHIFT}{F1}.

9. While in "Paint Screen" users can now Duplicat
e a field anywhere
in the record format without losing the c
heckbox edits and
without re-keying the field. The command to d

uplicate a field is
{FIELD} D. Instructions for doing this may be called up by
pressing the User Help key combination while in "Paint Screen"
mode.

10. While in "Paint Screen" users can now Erase a field anywhere in
the record format without losing the checkbox edits. The command
to erase a field is {FIELD} E. Press the User Help key to get
instructions.

11. Users can now define the keying order while looking at the fields
in "Paint Screen" in a record format. The command to determine
keying order is {RECORD}{CORR}. To see instructions for this
function, press the User Help key.

12. Check Box Edits can now be duplicated from one field to the next.
Press the User Help key while in the "Check Box Edits" to see
instructions for this function.

13. Item [F] Define Image Zone has been added to the Record Format
Maintenance menu. This selection allows use of a reference image
and a mouse to define the display zone for each field in image
entry. To see instructions for this item press User Help
({SHIFT}{F1}) when you select this item and before you enter the
reference image name. Or, you may print out the file AIDRFF from
the help library under file definitions.

14. Item [G] Paint Zone Display has been added to the Record Format Maintenance menu. This selection allows use of a reference image and a mouse to define the placement of zones on the screen for data entry. Up to 9 more zones may be placed on the screen in addition to the primary zone for that field. To see instructions for this item press User Help ({SHIFT}{F1}) when you select this item and before you enter the reference image name. Or, you may print out the file AIDRFG from the help library under file definitions.

15. Environment variable UBTYPW has been added. When set to y, accept statements will operate in typewriter mode if that is the keyboard mode being used by the operator.

VERSION 7.300i October, 1994

1. The number of entries in imgpath.idx has been expanded from 20 entries to 127.

2. The image file name in the .idc file can now be 21 characters in length and include directory references.

3. The V: parameter in the environment variable DMACI (which is used for imaging data entry only) has been changed. The V: parameter refers to the VGA mode to be used. Unibase by DMAC Imaging supports four different settings if the wo

rkstation hardware
supports VGA mode.

setting	mode	pixels	x	pixels	x	color
LOW	12h	640	x	480	x	16
HIGH	102h	800	x	600	x	16
HIGH1	104h	1024	x	768	x	16
SUPER	106h	1280	x	1024	x	16

For example, when V:LOW is set, the VGA terminal can be accessed in up to VGA mode 12h. In that mode 640 pixels can be displayed across the screen, 480 pixels can be displayed down the screen and up to 16 different colors are used by DMAC to provide the image to the user.

The effect of changing the V: parameter and holding all other parameters constant is that the box where the image snippet is displayed (the zone) becomes smaller and smaller as the V: parameter becomes larger. However, if the zone area is increased, then more data can be displayed in the same area on the screen. (Also note that all other parameters being constant, more fields are displayed in the data entry area the larger the V: parameter is.)

4. It is now possible to index or sort ANY number of files.

5. The names of the online help files used by Un

ibase in the help
directory now all have the prefix 'AID'.

<----------
---------->
VERSION 7.260i October, 1994

1. There is a new set of manuals for version 7.3 of Unibase. While
some of the features described may not be available in the 7.2
and 7.2i version of Unibase, the new manuals may be useful for
these versions because of the index on all the manuals as well as
the many changes and corrections.

2. The control function <accum 0;xx> has been added. It gives the
current value of accumulator xx for the current workfile.

3. The control function <cdate 0> has been added. It gives the
creation date for the current workfile.

4. The control function <eoper 0> has been added. It contains the
name of the most recent operator to access the current work file
in entry mode.

5. The control function <etime 0> has been added. It displays the
elapsed entry time as hhmmss.

6. The control function <lmode 0> has been added. It is a one letter
code for last mode of access. The codes are 0-entry, resume, or
update; 1-verify; 2-examine; 3-correct.

7. The control function <outdev 0;1> has been added. If the current workfile has been output, this is the name of the output device where n=1 is the most recent outdev.

8. The control function <recfmts 0> has been added. It is a 2 digit number of the record formats in the stdjob used to create the file.

9. The control function <voper 0> has been added. It contains the name of the most recent operator to access the current workfile in verify mode.

10. The control function <vtime 0> has been added. It displays the elapsed verify time as hhmmss.

11. If an AID program contains the line:

```
|CHANGE DATE:
          |
```

in a note, then Ez_edit will add a new |CHANGE DATE: line in the notes every time the program is written out. (See an AID-generated program for the exact format of the line.)

11a. The new rescue format described in item 12 below will only read such rescues in the imaging version of Unibase. However the non-imaging version of Unibase can OUTPUT files in the rescue format that will be read by the imaging version. The layout of the new

rescue format in shown in the output program rescue1.et which is included on your distribution disks.

12. A second type of rescue format has been added to allow users to move files from one environment to another without losing header information. When a user selects [D] Read Standard Job Header from the File Input/Output Functions menu, the user can choose to use the new format by overriding the '!' character at Enter Start Char: with the '+' character.

The new format uses the '+' symbol followed by the characters 0, 1, 2, 3, 4, 5, 6, 9, A, or B to indicate what type of record is coming next. The layout of the new rescue format is displayed in the output program rescue1.et which is included on your distribution disks.

13. The control function <hex nn> now works with the move verb. However, make sure you move a hex character to a variable declared to be 1 position in length. Otherwise, conversion functions take over and results are unpredictable.

14. A Keying Order Repair Menu has been added to record format generation to help users correct a keying order error when exiting from a format creation or change. The choices given are to [A] Renumber in Sequence which puts the fi

eld number as the
keying order number, [B] Zero Out Keying Order which puts a zero
in all the keying order fields, and [C] Accept as Valid Errors
which returns the user to the check box edits to try again.

15. The control function <icount 0> has been added. It gives the
number of images in the current work file.

16. The control function <ientry 0> has been added. It tells if
images are used in the current workfile. If <ientry 0> is 0, then
the workfile does NOT use images. It it is 1, then the workfile
USES images.

17. The control function <iname 0> has been added. It gives the name
of the image being used with the current record of the current
work file, including the first directory.

18. The control function <ipath 0> has been added. It gives the
current record's image path.

19. The control function <ipathidx 0> has been added. It gives the
number of the path definition in the imgpath.idx file used with
the current record of the current work file.

20. The control function <isource 0> has been added. It gives the
batch's original idc file name.

21. The control function <itype 0> has been added. It gives the image

type of the image associated wtih the current record of the current work file. The codes are 2-tiff file; 4-PCS file, and 7-no image used.

22. The control function <ilist 0,cntr> has been added. It gives the name of the cntr'th image in the available list of possible images for the work file.

23. The image itself can be addressed by the code {0}|af, where {0} refers to the image in the work file record and |af indicates to convert it to an ascii file that represents a binary file.

VERSION 7.250i June, 1994

1. {RECORD}{G} or the BE(Bypass Error) key (which must be mapped) will flag an error and go to the next field. If environment variable UBBYNE is set to y, then neither key will flag the error, merely bypass it.

2. Keying Order has been implemented in the check box edits for record format generation. If no keying order is specified, the keying order defaults to sequential. Once keying order is changed, Unibase by DMAC checks the integrity of the numbers and will not allow formats which have duplicate keying order numbers or missing keying order numbers.

3. Item [E] Colors Choice, under the Operator Lo

g-in menu has been
made much easier to use. One now merely answe
rs questions about
background and foreground colors, the blink
attribute and the
intensity attribute. The colors are specified
with 2 character
abbreviations. All the questions are asked f
or the 5 types of
video attributes which may be used when ge
nerating a record
format. When all the questions have been answ
ered, the correct
setting for UBCL is displayed. Should you
decided to quit
choosing colors, pressing {HELP} aborts the pr
ocess.

4. Online help has been added to Unibase by DMAC.
The user help key
{HU} has been activated to call up that help
. An operator may
press the {HU} key combination at any menu
to receive online
help. If more than one page of help exists,
pressing any key
displays the next page. Pressing {HELP} retur
ns the operator to
the Unibase by DMAC menu.

The help information is stored in a series of
.HLP files in the
$ETROOT\HELP directory. When an online help f
ile is displayed,
the name of the help file is in the upper ri
ght corner of the
display. These are merely ascii text fil
es and are user
changeable using any text editor. Unibase reco
gnizes '|R' on the
first two bytes at the beginning of a line as
a page marker.

The default mapping for {HU} is {SHIFT F1} where F1 refers to function key 1. (Remember that {SHIFT F2} displays the keyboard mapping.)

5. The environment variable DMACI for image entry has a sub-variable V which installs as V:LOW. This displays 640 pixels by 480 pixels for an image. If V:HIGH is set, then Unibase by DMAC displays 800 by 600 pixels. If V:HIGH1 is set, then Unibase by DMAC displays 1024 by 768 pixels. Remember that as more of the image is displayed, the smaller the text/picture becomes. If the monitor cannot display the specified resolution, Unibase by DMAC will drop back to a display that the monitor can handle.

Version 7.240 March, 1994

1. The AID generator will now generate field edit programs as well as output programs. For every field in a record format that has the Enable Edit box checked, the AID generator will create a named subroutine that can be programmed for that edit.

2. Environment variable UBOVNR, when set to y will NOT release the field in data entry when the oversign key is used.

3. The parser will now accept variables and labels up to 31

characters in length. The underscore character is now allowed as a non-leading character in variables and labels.

4. The verb 'equate' has been added to the AID language. It will be vital to support the coming Field Dictionary. Until then it is useful for equating names to field numbers or foreign names to Unibase verbs. Syntax is as follows:

```
equate ssn%15 movir%move.
declare soc_sec_num.

movir (ssn) to soc_sec_num.
```

5. You may now insert an OP_CODE CHAR sequence in a keystroke macro by positioning the cursor where you want the sequence inserted and pressing the {FLD} key, then the {INSERT} key. Unibase by DMAC will insert the null OP_CODE of ** and a blank CHAR at the point. It can then be changed to whatever you need inserted at that point.

6. One item on the checkbox edit screen for record formats has been changed. Continuation Field has changed to Fld Add/Subtract. If Fld Add/Subtract is checked Y, then the key-combinations {Fld}{A} and {Fld}{S} will add/subtract individual characters in a field as well as across field boundaries within a record. When subtracting from a field, fill data is defined by the next higher

numbered field. When adding into a field, fill data is defined by the field on which the add is performed.

VERSION 7.230 September, 1993

1. If you are updating to a newer version of Unibase, the install program (dosinst) now asks if you are updating from Unibase by DMAC 7.1 version. If you answer "Y", the install program will automatically upgrade your record formats from 7.1 version to 7.2 version. (Even, if you answer "Y" and you have ALREADY upgraded to 7.2 version, your 7.2 record formats will NOT be destroyed.)

2. Global variables may now be used as index names in open statements. For example, the following code is now valid assuming the index TESTIX exists.

```
move "TESTIX" to $var01.
open $var01|upd as 1.
```

3. Global variables may now be used as datafile names in open statements. For example, the following code is now valid assuming the file TEST exists.

```
move 'TEST' to $var02.
open $var02 as 2.
```

4. Global variables may now be used in the define file statement. For example, the following code is now valid assuming the file TEST exists.

```
move 'TEST' to $var03.
define file $var03.
```

5. The control function <lf> has been enhanced to accept a declare variable or a global variable to indicate the number of newline functions to be output. The environment variable UBCRLF can control whether the newline function is just a line feed <hex 0a>, or a carriage return and a line feed <hex 0d> <hex 0a>.

The following lines of code are all valid.

```
output <lf>.
output <lf 3>.

declare numlines.
move 2 to numlines.
output <lf numlines>.

move 4 to $var03.
output <lf $var03>.
```

6. The control functions <time> and <date> can now be used with an edit character in "move" statements as well as output statements.

The following lines of code are valid.

```
declare timnow datnow.
move <time :> to timnow.
move <date /> to datnow.
```

7. The control functions <length n> and <@length n> have been expanded to accept declared variables and global variables as well as numeric literals. If the field number

is 0, the length of
the whole record is returned. The following lines of code are
valid.

```
declare fldnum.
move 3 to fldnum.
show <length fldnum>.
show <length 0>.
move 7 to $var01.
show <length $var01>.
```

8. The numeric key type in both sorts and index builds has been
enhanced to correctly sort negative numbers and to treat left-
justified numbers as if they were right justified. However, it
takes an extra character to handle the negative numbers so the
key length should be bumped by 1 if you have numbers that
completely fill the key length.

The old numeric sort/index build was identical to the alpha
sort/index build provided the key length and sort field length
were identical. If the key length were larger than the sort field
length, then the old numeric sort filled the extra bytes with
zeroes. If the numeric field had blanks in it, the blanks went
into the sort as is. For example: If a 10 character field held '
00001' and the key length were 14, then the index key created was
'0000 00001'. In the new version, the index key created will
be '10000000000001'.

Numeric sorts/index builds are limited to a key length of 14 which is the maximum number of digits Unibase uses for arithmetic calculations.

9. The verbs setupper and setnormal now affect data output in addition to data input using the accept and input verbs. Two more verbs, setlower and setuplower have been added. As expected, setlower puts all alphabetic characters into lower case. The verb setuplower will put the first character of any field and any character following spaces or punctuation into upper case and all other alphabetic characters into lower case. If you do NOT want these verbs to affect output, set environment variable UBNSO=y.

For example, if you have three 20 character fields as follows:

```
MARY JANE SMITH_____
123 SOMEPLACE STREET_
ANYTOWN, ST  11111__
```

The following code:

```
setuplower.
output <all 1-3>.
```

will produce the following output:

```
Mary Jane Smith     123 Someplace Street Anytown, St  11111
```

10. The "Purge Deleted Records" function under U

tilities will now
handle files specified with a wild card.

11. Environment variable UBNMULG (UniBase No Men U LoG) set to 'y'
will suppress the creation of all summary reco rds in the operator
statistics that indicate going into and out of menu and de.

12. Environment variable UBRDSP (UniBase ReDiSPla y) set to 'y' will
no longer lose 'show' information displayed on the screen in data
entry when control is returned to the record f ormat. For example,
the following code would never re-display t he data 'Original
Display' when subroutine !fldx was performed. If UBRDSP is set,
the data 'Original Display' will re-display af ter the performance
of subroutine !fldx.

```
declare ans.
when field x perform !fldx.
show <loc 3,1> 'Original Display'.
release.
!fldx, enter
     show <top> <loc 3,1> 'data 1'
                <loc 4,1> 'data 2'
                <loc 5,1> 'data 3'.
     accept <loc 6,1> 'Enter your choice
' ans.
     move ans to (fldx).
     exit.
```

13. In the Novell, PC versions of Unibase, the control function
<batch>, when displayed or output, now takes u p only 8 characters
instead of 10, as this is the correct length

for the batch name
in these operating systems. The 'Read Standard Job Header' item
under 'File Input/Output Functions' now defaults to a length of
'8' for 'Enter File Name Length:' to match the length of the
batch name in a rescue program.

14. Environment variable UBKEYR1 set to y allows the top row of keys
to function independently of the data type (A,N,L,U,M,B,T) when
the operator is in TYP(non 029) mode. This means that if the
operator presses the "1" key on the top row, a "1" ALWAYS is
entered regardless of data type. If an operator presses the shift
key and the "1" key on the top row, a "!" ALWAYS is entered
regardless of data type.

15. There is a new version of SWAP.COM which will allow ETSWAP to
specify any pathname (not over 21 characters.)

16. Normally, Unibase by DMAC treats the OVRSGN function key as a
toggle switch. Once it is pressed, the oversign function remains
on for a particular character. If a numeric field was supposed to
be oversigned and the verifier keyed an oversign with the last
character and got a verify error, then to try again, she should
ONLY key the numeric character. Pressing the oversign function
key toggled the oversign OFF and now the numeric character is

treated as unsigned and is accepted. New environment variable UBOVRS when set to y will treat the OVRSGN key as part of the keyed character. Now if the verifier repeats the oversign-number combination on a verify error, she will continue to get a verify error on a positive character that should be oversigned.

17. It is now possible to flag an error in data entry and automatically move to the next field. This is done by pressing {RCD}{G} or by mapping a key to "BE " which stands for bypass error.

18. Environment variables FLDCORBG and RCDCORBG have been added. When set to y, doing a {FLD}{CORR}/{RCD}{CORR} will always go to the beginning of the field/record.

19. It is now possible to do type 'E' or type 'S' range checks on fields over 14 characters.

VERSION 7.220 April, 1993

1. Environment variable UBSESN has been added. Its purpose is to allow Unibase to run in a Windows environment. Each session will require a DIFFERENT (UBSESN) session number. Bat files should be created with different session numbers (up to 50) for however many copies of Unibase you may want to run in different windows. The format is set UBSESN=n where n is a number

from 1 to 50.

If you are going to use sessions, then operat
ors in data entry
should be instructed to key {RCD} {S} before s
witching to another
session. This command, which is normally use
d to suspend the
clock, also tells Unibase to close any files
that data entry
might have open/locked. When the operator retu
rns to the session,
simply pressing any key will resume operations
for the session.

A further point is that files and buffers in t
he config.sys file
should be increased to accomodate multiple se
ssions of Unibase.
If you do not have enough, you will get
error message 313
"Allocate error in OPEN".

This environment variable has also been added
to version 7.182 of
Unibase by DMAC.

2. The "Search for Character Sequence" in a dataf
ile from data entry
had a bug that occasionally meant sequences we
re not found which
were definitely present. This bug has been fou
nd and fixed.

This fix has also been put into version 7.182
of Unibase by DMAC.

3. A new version of dumpix now lists the names o
f all the files in
the index before it starts dumping the index i
tself.

4. There is a new menu item "Find File in Index" under Index
Functions. The menu item asks for the name of a datafile. Then it
lists each index that was built using that file.

5. This release version of Unibase handles indexes differently from
Version 7.21 of Unibase. If you are upgrading, please rebuild all
your indexes.

VERSION 7.210 February, 1993

1. Unibase by DMAC Version 7.2 has been upgraded to Microsoft C
Version 7.0 from Microsoft C Version 5.0. The upgrade has
produced smaller and faster .exe files as well as more robust
code.

2. Environment variable NOCHBKFL has been added. If NOCHBKFL is set
to y, then a keyer cannot character back into another field.
Once character back reaches the beginning of a field, then it no
longer has an effect. The keyer MUST use field back to get to the
prior field. This environment variable emulates a feature on Cade
systems.

3. Problems with lines disappearing while CREATING a scrolling
screen in the record format generator have been corrected.

4. The Edit Field List choice for creating/changing record formats

will now correctly handle tags over 40 characters and fields without tags. This feature allows the user to change a TAG without the checkbox edits for the FIELD reverting to default choices.

5. Use of the TAB key in the checkbox edits of a record format will jump to the checkbox at the beginning of each section and to the Enable Edit checkbox and the Output Placement checkbox.

6. The screen image portion of printing a record format would sometimes be incomplete on large record formats. This bug has been fixed.

7. The title at the top of a keystroke macro printout no longer gets interspersed with the first line of data.

8. Printing a keystroke macro used to result in two top of forms at the end of the print. Now there is only one top of form, similar to the prints in the other libraries.

9. Packed Decimal output to tape is now available. You MUST use the EBCDIC codeset when you output and then you MUST use the ASCII mode when making the tape. Also, for every packed decimal field, you must allow two extra bytes in the record length in the standard job. The extra bytes will be gone from the final tape.

10. Unibase now supports the Computer Logics NineTrack tape drive controller in addition to the Innovative Data Technology Controller. The environment variable UBTPCL must be set to y to use this controller and TDRIVER.EXE, OUTRIGHT.CFG, LCA.BMD, and LCA.SGL files from the Computer Logics programs must be in the Unibase bin directory. Unibase by DMAC will load TDRIVER as needed. (Computer Logic now calls its program API.EXE and this program must be re-named to TDRIVER.EXE before Unibase can use it.)

11. Environment variable KEYBUK has been added. If KEYBUK is set to y, then Unibase accesses SHOWKEYU instead of SHOWKEY and CHNGKEYU instead of CHANGKEY. These display the keyboard layout from the United Kingdom, which is differs from the keyboard layout in the United States. Also, there is a file KEYBOARD.UK in the misc directory, which when renamed to KEYBOARD, displays the characters on a UK keyboard for the typewriter overlay.

12. Environment variable UBRSET has been added. If UBRSET is set to y, then the {FIELD REL} key will no longer reset an error message. Only the designated {RESET} key will do so.

VERSION 7.200 October 22, 1992

1. More checkbox edits.

2. More security options.

3. AID generation of output programs.

4. Cade keyboard option and user mappable keyboard for all three keyboard choices of typewriter, Nixdorf, or Cade. The environment variable to set the Cade keyboard is CADEKB=y.

Unibase 7.2 version keyboard defaults to the newer extended keyboards and expects KBEXT=y to be set. If you are using a very old keyboard, remove KBEXT=y from the setup.bat file in the bin directory and map the arrow keys on the numeric keypad accordingly. Even if you have a separate arrow keypad, it will be inoperable unless you have an extended keyboard.

After a keyboard has been mapped, Unibase by DMAC creates a file named KEYBOARD in the ETROOT\misc directory. If all users are going to use this keyboard, nothing else needs to be done. If different users require different keyboards, then each user will need the environment variable KYBRD set to the name of the KEYBOARD file in the misc directory that the user needs.

5. There is now a Volume 5 in the manuals that explains the differences between version 7.1 and version 7.2 of Unibase by

DMAC. In the near future, a self-contained set of manuals with these changes incorporated will be available for purchase and will be delivered with new systems.

6. TYPE01 is set to DMAC, a null device, instead of PRN in the generated setup. This is because the audit trail in an AID generated output program external is "TYPEed" to <loc 1>. If a local printer is not available, map it to a file on disk if you want these reports.

7. An Update mode has been added to data entry.

8. An AUXiliary DUPlication key function has been added to data entry.

9. An {INFO} key function has been added.

<----------
VERSION 7.182 April, 1993

1. Environment variable UBSESN has been added. Its purpose is to allow Unibase to run in a Windows environment. Each session will require a DIFFERENT (UBSESN) session number. Bat files should be created with different session numbers (up to 50) for however many copies of Unibase you may want to run in different windows. The format is UBSESN=n where n is a number from 1 to 50.

If you are going to use sessions, then operat

ors in data entry
should be instructed to key {RCD} {S} before switching to another
session. This command, which is normally used to suspend the
clock, also tells Unibase to close any files that data entry
might have open/locked. When the operator returns to the session,
simply pressing any key will resume operations for the session.

A further point is that files and buffers in the config.sys file
should be increased to accomodate multiple sessions of Unibase.
If you do not have enough, you will get error message 313
"Allocate error in OPEN".

2. The "Search for Character Sequence" in a datafile from data entry
had a bug that occasionally meant sequences were not found which
were definitely present. This bug has been found and fixed.

VERSION 7.181 September 11, 1992

1. Unibase by DMAC can now output an unlimited number of files in
the DOS/Novell version. A different technique was used to store
the files names when the number of files is greater than 180
files. Previously file names were stored in memory and
DOS/Novell has memory limitations.

2. Unibase by DMAC has added a new feature to aid in tracking all
operator time, not merely actual keying time.

Two new records
are added to the operator statistics file - one record tracks
total time spent in the Data Entry menu and all menus below it
while the other record tracks total time spent in the Main Menu
and all menus below it. The mode for Data Entry menu time is D
while the mode for Main Menu time is M. In addition, the status
entry in the statistics record gets a code which tells why the
operator exited at that time.

When the operator logs out of de or logs out of the main menu,
Unibase brings up an Exit Reason menu. The operator keys the
letter describing the reason for exiting. If the user does not
wish to use this menu, set the environment variable UBNOEX to y.
However, this does not stop the creation of the exit record but
gives it a status code of 3 instead of one of the letters on the
Exit Reason menu.

Further, when the operator crosses from the Data Entry menu to
the Main Menu, or vice versa, the status code is 1. If a new
operator login at the Operator Login item of the Main Menu, the
prior operator gets a record with a mode of M and a status code
of 2. If the operator hits help from the exit menu, the status
code is 3.

In addition, when the operator leaves the Da

ta Entry menu, a
combined Session Summary is displayed, similar to the Session
information displayed when a batch is terminated. This summary
display can be bypassed by setting the environment variable
NOSSS, similar to setting NOSS to bypass the individual batch
statistics.

Item [A] TIME REPORT SUMMARY on the operator statistics menu has
been rewritten. Seven time summaries are now displayed for each
operator. These are Entry Time; Verify Time; Correction Time;
Total Entry, Verify, Correction Time; DE Menu Time; Main Menu
Time; and Unibase Time - which is the total of the DE Menu Time
and the Main Menu Time.

If you have installed 7.181 as an Update to a prior installation
instead of a New installation, then you will have to copy the new
opstats programs from the diskettes if you want to use them.
(Update does not load the new opstats programs to protect users
who may have altered them to their needs.)

The new opstats programs are the fileedit OPSTDS1, the output
program OPSTOP1, and the sort programs OPSTSRT3, OPSTSRT4,
OPSTSRT5, OPSTSRT6 which are on bin #4 of the 3.5" diskettes and
bin #8 of the 5.25" diskettes.

3. Environment variable ALLHEX has been added to

Unibase by DMAC.
If it is non-blank, then hex characters in the range hex fc to
hex ff may be output with the <hex> control function. However,
this environment variable may NOT be used with spooled device
output as these hex codes have special meaning to the spooler.

VERSION 7.18 July 15, 1992

1. The "accept" and "input" verbs now use the keyboard designation
(029) to get information from the keyboard.

2. The "when start" or "when file" verbs no longer execute if the
number of records output exceeds 65,546.

3. Environment variable "DENOSYNC" now allows "position" verb to
operate correctly after "back" verb.

4. A fileedit, run either from a standard job or as a standalone
program, now OVERWRITES any existing filelogs. If the fileedit
produces no output, the old filelog is removed.

5. A record insert on a keystroke macro followed by an immediate
save now saves the whole macro, not just the inserted record.

6. TAPESPOL again correctly displays the date and time.

7. Environment variable UBDAY now correctly picks up the operator
id, not UNKNOWN.

8. SJASCII in PC and Novell will now process standard jobs with no record formats.

9. The control function <blk #> now works correctly.

10. The menu items to dump a data file (from the File Functions menu) and to dump an index (from the Index Functions menu) now page the screen output in the PC and Novell versions.

11. MENU has been altered so that if an item is selected by a letter instead of using the cursor keys, then the menu item will be highlighted as well as executed.

12. Color choices from the Operator Log-In can now be aborted by keying 1 space 1 space 1 space 1 space 1 space {FLD REL}.

VERSION 7.17 December 20, 1991.

1. A new entry and exit has been added to Unibase by DMAC. In addition to keying "menu" which brings you to the Unibase Main Menu after you enter your login name, you may now key "de" which brings you to the Data Entry menu after you enter your login name. If security is enabled, entry through de also asks for the security password. This is a good way for entry operators to get directly to the menu that affects them.

An additional menu item [I] Exit From Program

has also been added
to the Data Entry menu to exit Unibase with out going to the
Unibase Main Menu. One may use this exit reg ardless of whether
de or menu was used to log in, just as one may use the exit from
the Unibase Main Menu regardless of whether d e or menu was used
to log in.

Further, one may use the following command li ne (useful in bat
files) to go directly to the Data Entry menu:

```
de -LOGIN OPID
```

where OPID is the operator id for Unibase. If security is
enabled, the system will then ask for the secu rity password.

The internal version number displays on the th e de login screen.

In the Novell version of Unibase, if the en vironment variable
UBDAY is set in the login script as follows:

```
set UBDAY="%SHORT_YEAR%MONTH%DAY%HOUR%MIN UTE%SECOND"
```

and if a user logs in using DE (not MENU), t hen each time the
user logs in using DE at that same terminal, h e will not be asked
to log into Unibase. Unibase will retain th e login id until
UBDAY changes with a new network login.

2. The path description for devices in the devi ce table may now

include the control function <OPID>, any globa
l variable ($var01-
$var99), or any environment variable (%environ
var%). This allows
for changing the location of a device with
out using spooler
maintenance. For example, one could use the f
ollowing path on a
device: /UNIBASE/TMP/<OPID> Then any output
would go to a disk
file in the \unibase\tmp directory that had th
e same name as the
operator who performed the output.

If global variables are going to be used
, the environment
variable UBPARENT=y should be set to ensure th
at global variables
retain their values. CAUTION. Any programs
that use global
variables should be SURE to initialize them p
roperly as global
variables retain values unless erased by a par
ent program.

3. The low and high range checks for a numeric fi
eld will no longer
allow the default if a field is declared
must enter. For
example, if one wants to range check a month f
ield from 1 to 12,
but wishes to allow blanks if not present, th
en the Must Enter
edit should be blank. If one does NOT want to
allow blanks, then
the Must Enter edit should be 'Y'.

4. The Unibase text editors ez_edit and ez_editn
have a new feature.
Place the cursor on one of the following s
pecial characters:
({[<>]}) and press the {F10} 'm' key combina

tion. The editor
searches for and places the cursor on the ap propriate matching
character. In the DOS/Novell version the sam e function may be
performed with {alt} 'm'.

5. If a device in the device table is a file and the Device Type is
changed to "comm" instead of the default " output", then any
output to this device using a Unibase output program APPENDS to
the file rather than overwrites it.

6. The environment variable UBCRLF=y will force e very output of <hex
0a> to be preceded by <hex 0d>. This is someti mes needed to make
some printers that do not automatically add a carriage return
with a line feed operate successfully from Uni base by DMAC.

VERSION 7.16 October 30, 1991.

1. New environment variable UBDATE alters the order of the
month, day, and year on the login menu, when d isplaying file
information, when displaying status informat ion and when
displaying the system date. UBDATE set to 0 gives mmddyy.
UBDATE set to 1 gives ddmmyy. UBDATE set to 2 gives yymmdd.

2. New environment variable FATT (Field screen ATTribute) is
used to set the default field screen attribut e used in the
"paint the screen" portion of the record form

at generator.
FATT=A, B, C, D, or E respectively gives a normal underline,
a highlighted underline, an "underlined" underline (which
looks like a solid line), a blinking underline, or a reverse
underline for the field display.

3. New environment variable TATT (Tag screen ATTribute) is used
to set the default tag screen attribute used in the "paint
the screen" portion of the record format generator. TATT=A,
B, C, D, or E respectively gives normal characters,
highlighted characters, underlined characters, blinking
characters, or reverse characters for the tag display.

4. Fields may now be placed next to each other on the screen by
using the carat symbol (^) to identify the first position of
a new field. Usage of the carat is optional. Creation of
new formats may still define fields using underlines only.
However, displaying the format screen on a change will now
show the carat as the first position of every field.

5. The high and low ranges in the check box edit portion of the
record format generator will now accept negative numbers
provided the field type is numeric.

6. Memory allocation bug fix. The "mallo

c" processor
originally used would not release memory corre
ctly. If you
did successive outputs, displays, etc. from "
menu" without
ever going to "de" or exiting Unibase, then ea
ch time fewer
and fewer files could be shown before an "ou
t of memory"
error occurred. This problem has been fixed.

7. Fix of ez_edit. The Unibase editor ez_edit or
 ez_editn used
to duplicate the last character of a line wit
h a tab in it
if you put the cursor on the first character o
f the line and
pressed enter. (You would often see double p
eriods appear
at the end of a line.) This problem has been
fixed. Also,
ez_edit will now handle very large files and
a counter has
been added to show that it is reading in a lar
ge file.

8. New environment variable SW40 is used to get
 double wide
characters throughout Unibase. The monitor m
ust be CGA or
better. The dos command "mode" must be execute
d to set BW40
and the environment variable must be set SW40=
Y.

9. New environment variable TABSZ may be used to
set the width
of the tab stops in ez_edit.

10. Many non IBM compatible VGA monitors (not nece
ssarily color)
lose the Unibase screen when exiting the

record format
generator. This can be corrected by setting the environment
variable UBCL and executing the dos command mode bw80. One
default setting for UBCL would be "set CL=7;15;1;130;112;".
See setting the color under operator login for further
information.

VERSION 7.15 July 15, 1991

1. The environment variable ETDUAL2 has been added to Unibase by
DMAC. If an environment has both a primary and backup server and
output is done from the backup servers, it may be useful to mark
the files on the primary server as "have been output" at the same
times the files on the backup server are being marked as "have
been output".

When ETDUAL2 points to the location of the files on the other
server, then Unibase by DMAC will simultaneously mark files on
the primary and backup as having been output. If the file does
not exist in the ETDUAL2 location, a warning message is displayed
but the output will continue when the {FLD REL} key is pressed.

On a Novell network, doing this will usually require attaching to
the other server and mapping a drive letter to the other system.
For example:

```
map p:=server1_name\sys:\unibase\files
```

Then set ETDUAL2=p:

On a UNIX system, doing this will usually require setting ETDUAL2 to the full path of the files on the other server including the server name.

```
set ETDUAL2=server_name:usr/unibase/files
```

2. Unibase by DMAC supplies a program named ZAPONE.EXE and a batfile named ZAP.BAT to call it. This program will ZAP a single operator on a network instead of using ZAP~@$ in the Unibase login to ZAP all operators. DMAC installers normally put it in the applications menu with the following line:

ZAP a single operator:zap

3. On the Network and DOS based versions of Unibase by DMAC, a long drun may be gracefully terminated by pressing the {SCROLL LOCK} key. If you forget to turn off the {SCROLL LOCK} key, the next time you execute a drun, you will get the message 'Terminating at Operator Request'. (scroll lock)