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# Firmware Note

## HP 70900A/B LO Module Firmware



HP Part No. 70900-90312  
Printed in USA August 1996

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## Safety Symbols

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**CAUTION**     The *CAUTION* sign denotes a hazard. It calls attention to a procedure which, if not correctly performed or adhered to, could result in damage to or destruction of the product or the user's work. Do not proceed beyond a *CAUTION* sign until the indicated conditions are fully understood and met.

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**WARNING**     The *WARNING* sign denotes a hazard. It calls attention to a procedure which, if not correctly performed or adhered to, could result in injury to the user. Do not proceed beyond a *WARNING* sign until the indicated conditions are fully understood and met.

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**DANGER**     The *DANGER* sign denotes an imminent hazard to people. It warns the reader of a procedure which, if not correctly performed or adhered to, could result in injury or loss of life. Do not proceed beyond a *DANGER* sign until the indicated conditions are fully understood and met.

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## General Safety Considerations

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- WARNING**
- The instructions in this document are for use by qualified personnel only. To avoid electrical shock, do not perform any servicing unless you are qualified to do so.
  - The opening of covers or removal of parts is likely to expose dangerous voltages. Disconnect the instrument from all voltage sources while it is being opened.
  - The power cord is connected to internal capacitors that may remain live for five seconds after disconnecting the plug from its power supply.
  - This is a Safety Class 1 Product (provided with a protective earthing ground incorporated in the power cord). The mains plug shall only be inserted in a socket outlet provided with a protective earth contact. Any interruption of the protective conductor inside or outside of the instrument is likely to make the instrument dangerous. Intentional interruption is prohibited.
  - For continued protection against fire hazard, replace fuse only with same type and ratings, (type nA/nV). The use of other fuses or materials is prohibited.
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- WARNING**
- Before this instrument is switched on, make sure it has been properly grounded through the protective conductor of the ac power cable to a socket outlet provided with protective earth contact.  
  
Any interruption of the protective (grounding) conductor, inside or outside the instrument, or disconnection of the protective earth terminal can result in personal injury.
  - Before this instrument is switched on, make sure its primary power circuitry has been adapted to the voltage of the ac power source.  
  
Failure to set the ac power input to the correct voltage could cause damage to the instrument when the ac power cable is plugged in.
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## HP 70900A/B LO Module Firmware

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The HP 70900A/B local oscillator source contains a program in read-only memory (ROM), referred to as firmware, that is used to control both the HP 70900A/B local oscillator source as well as other modules in a Modular Measurement System (MMS). The firmware is revised periodically to eliminate known defects (bugs) and introduce new features.

Depending on the firmware in your HP 70900A/B local oscillator source, you can determine its current version by either a revision date code or a **Version.Update.Fix** (V.U.F) code.

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### Understanding Revision Date Code

Every set of HP 70900A/B local oscillator source firmware has a revision date code. The revision date code corresponds to the year, month, and day that the firmware was last revised. This revision date code is referred to when determining supported commands or system error codes.

Each firmware revision date code has a different part number. If the part number for a particular firmware revision date code is ordered, a new ROM board is shipped.

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### Understanding Version Update Fix (V.U.F) Code

Current firmware now contains a unique code called the **Version.Update.Fix** (V.U.F) code. The V.U.F code is enclosed in parenthesis and immediately follows the current date code.

In the V.U.F code, the **Fix** number refers to changes made to the firmware that are invisible to the operator and do not affect any of the documentation for the system. The **Update** number refers to changes made to the firmware that may add or repair features for a particular product. When this number changes, updates to the current documentation may be required. When the **Version** changes, this means that major changes have been made to the user interface and completely new documentation may be required.

Because the **Fix** number can change on the most current firmware and remain invisible to the operator, it may be different than the **Fix** number listed in your documentation. Although this **Fix** number may be different, your documentation will still apply. When the **Update** number or **Version** letter changes on the most current firmware, the changed information will either be implemented in the documentation or made available for the documentation that is shipped with the HP 70900A/B local oscillator source, HP 70860A controller board upgrade kit for the HP 70900A, and the HP 70861A RAM/ROM upgrade kit.



## Determining the Date Code and V.U.F Code of your LO's Firmware

To determine the date code and V.U.F code of your firmware in an HP 70900A/B local oscillator source, perform the following steps:

1. Press the menu key on the display:  
use the **(MNU)** key for the HP 70205A graphics display  
or use the **(MENU)** key for the HP 70206A system graphics display or HP 70004A color display
2. When the menu screen appears, press the **Misc**, **MORE**, and **service** softkeys.
3. On the service screen, press the **ROM VERSION** softkey. The revision date code of the current firmware version is displayed in the general annotation block of the display.

If supported, the V.U.F code is enclosed in parenthesis and immediately follows the revision date code.

## Current Firmware Date Code and V.U.F Code of your LO

The current date code and V.U.F code of the firmware being shipped in the HP 70900A/B local oscillator source is 960418 (B.06.03). This current firmware date code and V.U.F code supersedes all previous date codes and V.U.F codes.

For module specific commands and LO enhancements that were released for different revision date codes and V.U.F codes, see Chapter 2.

## Modules Supported by Current Firmware Date Code and V.U.F Code

The current date code and V.U.F code of your firmware applies to:

- HP 70900A/B local oscillator source
- HP 70860A controller board upgrade kit for the HP 70900A
- HP 70861A RAM/ROM upgrade kit

and supports the following modules:

- HP 70300A RF tracking generator
- HP 70301A microwave tracking generator
- HP 70310A precision frequency reference
- HP 70600A preselector
- HP 70601A preselector
- HP 70620A preamplifier
- HP 70620B preamplifier
- HP 70621A preamplifier
- HP 70700A digitizer
- HP 70810B lightwave section
- HP 70902A IF section
- HP 70903A IF section
- HP 70904A RF section
- HP 70905A RF section
- HP 70905B RF section
- HP 70906A RF section
- HP 70906B RF section
- HP 70907A external millimeter interface module
- HP 70907B external millimeter interface module

HP 70908A RF section  
 HP 70909A RF section  
 HP 70910A RF section  
 HP 70911A WB IF section

## Displaying the Date Code of Your System Display's Firmware

Your system display also has its own set of firmware that is separate from the firmware in the HP 70900A/B local oscillator source. The firmware version of the system displays may be observed in two ways:

- At instrument start-up, the firmware version and date appears on the display for several seconds.
- During instrument operation, the firmware date and display version may be viewed by pressing the keys listed below.
  - for HP 70205A graphics display or HP 70206A system graphics display:
    1. press the **DISP** key,
    2. press the **display tests** softkey,
    3. press the **DISPLAY ID** softkey.
  - for HP 70004A color display:
    1. press the **DISPLAY** key,
    2. press the **Misc** softkey,
    3. press the **DISPLAY ID** softkey.

### Current Date Code of Your System Display's Firmware

The current date code of the firmware being shipped in the HP 70004A color display is 960424 ROM Version 7.06. This current firmware date code supersedes all previous date codes.

The current date code of the firmware being shipped in the HP 70205A graphics display or HP 70206A system graphics display is 960424 ROM Version 7.06. This current firmware date code supersedes all previous date codes.

### Previous Date Codes of Your System Display's Firmware

HP 70004A color display	
Date Code	ROM Version
960424	ROM Version 7.06
930416	ROM Version 7.04
900316	ROM Version 7.03
891010	ROM Version 7.01
890622	ROM Version 7.00
HP 70205A graphics display HP 70206A system graphics display	
Date Code	ROM Version
960424	ROM Version 7.06
860625	ROM Version 6.0
Feb1985	ROM Version 5.0



## Remote Command History

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This chapter contains a set of tables that contain different sets of remote commands. Each table shows the set of module specific commands and LO enhancements that were released for each revision date code and V.U.F code. All of the remote commands in these tables apply only to the firmware used in the HP 70900A/B local oscillator source. The details of these remote commands are documented in the *HP 70000 Modular Spectrum Analyzer Programming Manual*.

Date Code 850730		V.U.F A.00.01			
<b>Initially Supported Modules:</b>					
HP 70900A local oscillator source					
HP 70902A IF section					
HP 70903A IF section					
HP 70904A RF section					
HP 70905A RF section					
HP 70906A RF section					
<b>Initial Remote Commands:</b>					
ABORT	ABS	ADD	AMB	AMBPL	AMPCOR
AMPU	ANNOT	APB	AT	AUNITS	AVG
AXB	BIT	BLANK	BML	BXC	CAL
CALCOR	CALFREQ	CALPWR	CALSRC	CATALOG	CF
CLRDSP	CLRW	CNVLOSS	COMPRESS	CONCAT	CONFIG
CONTS	COUPLE	DEBUG	DELETE	DET	DISPOSE
DIV	DL	DONE	DSPLY	DSPMODE	DWINDOW
ENTER	ERACE	ERR	EXP	FA	FB
FFT	FFTKNL	FOFFSET	FREQ	FS	FULBAND
FUNCDEF	GRAPH	GRAT	GRID	HD	HNLOCK
ID	IDCF	IDFREQ	IDMODE	IDSTAT	IF
IFTKNL	INPUT	INT	INZ	IP	IT
IWINDOW	KEYCLR	KEYDEF	KEYPST	LG	LINET
LN	LOG	LOSTART	LOSTOP	MBIAS	MBIASPK
MBMAX	MBMIN	MBRES	MDS	MEAN	MEASU
MEM	MIN	MINH	MK	MKA	MKACT
MKAL	MKAR	MKBW	MKCF	MKD	MKF
MKN	MKNOISE	MKOFF	MKP	MKPAUSE	MKPK
MKPX	MKREAD	MKSP	MKSS	MKT	MKTRACE
MKTRACK	MKTV	MKTYPE	ML	MOD	MODID
MOV	MPY	MSG	MXM	MXMH	NSTART
NSTATE	NSTOP	ONEOS	OP	OR	OUTPUT
PA	PATHLOCK	PAUSE	PD	PDA	PDF
PEAKS	PEN	PINPUT	PLOT	POSU	POWERON
PROCEDURE	PSTATE	PU	PWRBW	RB	RBR
RCLS	READMENU	RELHPIB	REPEAT	RETURN	REV
RL	RLPOS	RMS	ROFFSET	RQS	SAVES
SCALE	SER	SIGDEL	SIGID	SMOOTH	SNGLS
SP	SQR	SRQ	SS	ST	STATE
STB	STDEV	SUB	SUM	SUMSQR	TDF
TEST	TEXT	TH	TITLE	TM	TP
TRCOND	TRDEF	TRDSP	TRPST	TRSTAT	TS
TWINDOW	USERERR	USERKEY	USTATE	VARDEF	VARIANCE
VAVG	VB	VBR	VIEW	VTH	VTL
VW	WAIT	XCH	XERR		

<b>Date Code</b> 860203				<b>V.U.F</b> A.01.00	
<b>Module Support Added:</b>					
HP 70300A RF tracking generator					
HP 70907A external millimeter interface module					
<b>Remote Commands Added:</b>					
A1	A2	A3	A4	B1	B2
B3	B4	BL	BTC	C1	C2
CA	CALDATA	CALL	CALV	CR	CS
CT	CV	DSPTEXT	E1	E2	E3
E4	ELSE	ELSIF	ENDIF	EX	FREQU
HNUNLK	L0	M1	M2	M3	MA
MEASURE	MF	MIL	MKMIN	MKRL	MT
PR	RC	S1	S2	SRCALC	SRCAM
SRCAMF	SRCAT	SRCBLNK	SRCMOD	SRCOSC	SRCPOFS
SRCPSTP	SRCPSWP	SRCPWR	SRCTK	SRCTKPK	STORREF
SV	T0	THEN	TIME	TRA	TRB
TRC	UNTIL				

<b>Date Code</b> 861015				<b>V.U.F</b> A.02.00	
<b>Module Support Added:</b>					
HP 70600A preselector					
HP 70601A preselector					
<b>Remote Commands Added:</b>					
CLS	INPUTMOD	MODADD	PP	PROTECT	PRSDAC
PRSENABL	PRSHYST	PSDAC	PSENABLE	PSHYST	TRPRST
USERLOCK	USERMSG				

<b>Date Code</b> 870501				<b>V.U.F</b> A.03.00	
<b>Module Support Added:</b>					
HP 70908A RF section					
HP 70700A digitizer					
<b>Remote Commands Added:</b>					
ADC	EBLOB	EXTIF	FLIMIT	NOP	PADC
PTBL	PTEL				

<b>Date Code</b> 880314		<b>V.U.F</b> B.00.00			
<b>Module Support Added:</b> HP 70620A preamplifier HP 70810A lightwave section					
<b>Remote Commands Added:</b>					
ACTPARM	FIRMKEYS	OOFFSET	OPTICAL	PERASE	PREAMP
RCLU	SAVEU	ZOOMRB			

<b>Date Code</b> 880901		<b>V.U.F</b> B.01.00			
<b>Module Support Added:</b> HP 70301A microwave tracking generator HP 70871A scalar personality kit					
<b>Remote Commands Added:</b>					
LIMIAMP	LIMIBEEP	LIMIDEL	LIMIDONE	LIMIEDIT	LIMIFAIL
LIMIFREQ	LIMIHALF	LIMILINE	LIMINEXT	LIMIRCL	LIMIREL
LIMISAV	LIMISDEL	LIMISEG	LIMITEST	LIMITYPE	

<b>Date Code</b> 890606 891102 900314		<b>V.U.F</b> B.02.00 B.02.01 B.03.00			
<b>Module Support Added:</b> HP 70900B local oscillator source HP 70004A color display HP 70907B external millimeter interface module HP 70620B preamplifier HP 70621A preamplifier					
<b>Remote Commands Added:</b>					
ACTDEF	ASWP	CORTOLIM	DLP	FETCH	FORMAT
HP	LIMIBOT	LIMISCRL	LIMISEL	LIMITOCOR	LOAD
MSI	ONMKR	OVRSWP	PERSIST	PREFX	PURGE
RCLD	RCLT	SAVED	SAVET	STA	STOR
TR	XNOISE				

Date Code			V.U.F		
901008			B.03.01		
<b>Module Support Added:</b>					
BDLP					
GSM					
128K & 1M RAM					
<b>Remote Commands Added:</b>					
APROGDEF	CHEIGHT	CWIDTH	D1	D2	D3
DATADDEF	DD	DLE	DR	DW	EXTMXR
FPKA	GR	KBDPT	KS[35]	KS[40]	KS[41]
KS[44]	KS[47]	KS[61]	KS[91]	KS[92]	KS[94]
KSA	KSB	KSC	KSD	KSE	KSF
KSG	KSH	KSI	KSJ	KSK	KSL
KSM	KSN	KSO	KSP	KSQ	KSR
KSS	KST	KSU	KSV	KSW	KSX
KSY	KSZ	KSa	KSb	KSc	KSd
KSe	KSf	KSg	KSh	KSi	KSj
KSk	KSl	KSm	KSn	KSo	KSp
KSq	KSr	KSs	KSt	KSu	KSv
KSw	KSx	KSy	KSz	LL	M4
MKCONT	MKSTOP	O1	O2	O3	O4
OL	ONMENU	ONUSER	ONWINDOW	PROGDEF	R1
R2	R3	R4	SW	T1	T2
T3	T4	TA	TB	THE	UR
VBO					

Date Code			V.U.F		
910802			B.04.00		
911021			B.04.01		
<b>Module Support Added:</b>					
HP 70810B lightwave section					
HP 70909A RF section					
HP 70910A RF section					
HP 8566B spectrum analyzer remote command compatibility					
<b>Remote Commands Added:</b>					
ANNOFF	BLANKFT	CLRAVG	CTA	CTM	DT
EE	EP	FALIMIT	FIRMKYS	IB	IGEN
IGENDTYCY	IGENPW	LAMBDA	LB	LF	MKBWA
MKRELPWR	MKRINSYS	OPTATN	OPTMODE	OPTPWR	OT
PWRBAR	PWRBARON	PWRMODE	RSPSVTY	SENS	SP
SWEEP	SYSCOR	USRPOWER	XDAC	XYPEAK	YDAC



<b>Date Code</b>		<b>V.U.F</b>			
920325		B.04.02 <sup>1</sup>			
920527		B.04.03			
<b>Module Support Added:</b>					
HP 70950A optical spectrum analyzer					
HP 70951A optical spectrum analyzer					
<b>Remote Commands Added:</b>					
CORSEL	IDN	LIGHT	MKTUNE	OPTSW	PDMEAS
PTTIMEOUT	THREED	THREEDH	THREEDV	XAMPSW	

1 The firmware with V.U.F code B.04.02 did not ship in the HP 70900B local oscillator source. This firmware was only shipped in the HP 70950A optical spectrum analyzer and HP 70951A optical spectrum analyzer.

<b>Date Code</b>		<b>V.U.F</b>			
920724		B.04.04			
<b>Module Support Added:</b>					
None added. Corrected a system error.					
<b>Remote Commands Added:</b>					
None added.					

<b>Date Code</b>		<b>V.U.F</b>			
940120		B.05.00			
<b>Module Support Added:</b> <sup>1</sup>					
HP 70911A WB IF section					
<b>Remote Commands Added:</b>					
ADAPBPCTL	ADAPBTL	ADBTL	ADCTL	AMBMC	AMBMCPL
AMCPL	APBDCTL	AXC	BP	CLRPAVG	CPLAVG
CPLDET	DA	DETSEL	EXTVID	GRATSCRL	KS~
MKDACT	MKDREFA	MKDREFF	MKFABS	MKPABS	MKPITX
NORM	OVRW	PC	PCDELTA	PWRAVG	RCVRMODE
RELADC	RELMOD	SG	STARTUP	SWPMODE	TRIGDEL
USERWARN	VTDL	WARN	WARNCTRL	XWARN	YLABELS

1 Firmware doesn't support GSM or MEM+ controller boards.

<b>Date Code</b>		<b>V.U.F</b>			
960418		B.06.03			
<b>Module Support Added:</b> <sup>1</sup>					
None added. Corrected system errors.					
<b>Remote Commands Added:</b>					
None added.					

1 Firmware doesn't support GSM or MEM+ controller boards.

## 2-6 Remote Command History

## Remote Commands/Date Codes/V.U.F Codes

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The following tables list all of the reserved words used by the HP 70900A/B local oscillator source controlled modules as well as the HP 70950A optical spectrum analyzer and HP 70951A optical spectrum analyzer.

Each command is shown along with the revision date code and V.U.F code of the firmware that it was released with. All of the remote commands in these tables apply only to the firmware used in the HP 70900A/B local oscillator source. The details of these remote commands are documented in the *HP 70000 Modular Spectrum Analyzer Programming Manual*.

Command	Date Code	V.U.F Code
A1	860203	A.01.00
A2	860203	A.01.00
A3	860203	A.01.00
A4	860203	A.01.00
ABORT	850730	A.00.01
ABS	850730	A.00.01
ACTDEF	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
ACTPARM	880314	B.00.00
ADAPBPCCTL	940117	B.05.00
ADAPBTL	940117	B.05.00
ADBTL	940117	B.05.00
ADC	870501	A.03.00
ADCTL	940117	B.05.00
ADD	850730	A.00.01
AMB	850730	A.00.01
AMBMC	940117	B.05.00
AMBMCPL	940117	B.05.00
AMBPL	850730	A.00.01
AMCPL	940117	B.05.00
AMPCOR	850730	A.00.01
AMPU	850730	A.00.01
ANNOFF	910802, 911021	B.04.00, B.04.01
ANNOT	850730	A.00.01
APB	850730	A.00.01
APBDCTL	940117	B.05.00
APROGDEF	901008	B.03.01
ASWP	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
AT	850730	A.00.01
AUNITS	850730	A.00.01
AVG	850730	A.00.01
AXB	850730	A.00.01
AXC	940117	B.05.00
B1	860203	A.01.00
B2	860203	A.01.00
B3	860203	A.01.00
B4	860203	A.01.00
BIT	850730	A.00.01
BL	860203	A.01.00
BLANK	850730	A.00.01
BLANKFT	910802, 911021	B.04.00, B.04.01

Command	Date Code	V.U.F Code
BML	850730	A.00.01
BP	940117	B.05.00
BTC	860203	A.01.00
BXC	850730	A.00.01
C1	860203	A.01.00
C2	860203	A.01.00
CA	860203	A.01.00
CAL	850730	A.00.01
CALCOR	850730	A.00.01
CALDATA	860203	A.01.00
CALFREQ	850730	A.00.01
CALL	860203	A.01.00
CALPWR	850730	A.00.01
CALSRC	850730	A.00.01
CALV	860203	A.01.00
CATALOG	850730	A.00.01
CF	850730	A.00.01
CHEIGHT	901008	B.03.01
CLRAVG	910802, 911021	B.04.00, B.04.01
CLRDSP	850730	A.00.01
CLRPAVG	940117	B.05.00
CLRW	850730	A.00.01
CLS	861015	A.02.00
CNVLOSS	850730	A.00.01
COMPRESS	850730	A.00.01
CONCAT	850730	A.00.01
CONFIG	850730	A.00.01
CONTS	850730	A.00.01
CORSEL	920325, 920527	B.04.02 <sup>1</sup> , B.04.03
CORTOLIM	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
COUPLE	850730	A.00.01
CPLAVG	940117	B.05.00
CPLDET	940117	B.05.00
CR	860203	A.01.00
CS	860203	A.01.00
CT	860203	A.01.00
CTA	910802, 911021	B.04.00, B.04.01
CTM	910802, 911021	B.04.00, B.04.01
CV	860203	A.01.00
CWIDTH	901008	B.03.01

<sup>1</sup> The firmware with V.U.F code B.04.02 did not ship in the HP 70900B local oscillator source. This firmware was only shipped in the HP 70950A optical spectrum analyzer and HP 70951A optical spectrum analyzer.

Command	Date Code	V.U.F Code
D1	901008	B.03.01
D2	901008	B.03.01
D3	901008	B.03.01
DA	940117	B.05.00
DATADEF	901008	B.03.01
DD	901008	B.03.01
DEBUG	850730	A.00.01
DELETE	850730	A.00.01
DET	850730	A.00.01
DETSEL	940117	B.05.00
DISPOSE	850730	A.00.01
DIV	850730	A.00.01
DL	850730	A.00.01
DLE	901008	B.03.01
DLP	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
DONE	850730	A.00.01
DR	901008	B.03.01
DSPLY	850730	A.00.01
DSPMODE	850730	A.00.01
DSPTEXT	860203	A.01.00
DT	910802, 911021	B.04.00, B.04.01
DW	901008	B.03.01
DWINDOW	850730	A.00.01
E1	860203	A.01.00
E2	860203	A.01.00
E3	860203	A.01.00
E4	860203	A.01.00
EBLOB	870501	A.03.00
EE	910802, 911021	B.04.00, B.04.01
ELSE	860203	A.01.00
ELSIF	860203	A.01.00
ENDIF	860203	A.01.00
ENTER	850730	A.00.01
EP	910802, 911021	B.04.00, B.04.01
ERACE	850730	A.00.01
ERR	850730	A.00.01
EX	860203	A.01.00
EXP	850730	A.00.01
EXTIF	870501	A.03.00
EXTMXR	901008	B.03.01

Command	Date Code	V.U.F Code
EXTVID	940117	B.05.00
FA	850730	A.00.01
FALIMIT	910802, 911021	B.04.00, B.04.01
FB	850730	A.00.01
FETCH	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
FFT	850730	A.00.01
FFTKNL	850730	A.00.01
FIRMKEYS	880314	B.00.00
FIRMKYS	910802, 911021	B.04.00, B.04.01
FLIMIT	870501	A.03.00
FOFFSET	850730	A.00.01
FORMAT	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
FPKA	901008	B.03.01
FREQ	850730	A.00.01
FREQU	860203	A.01.00
FS	850730	A.00.01
FULBAND	850730	A.00.01
FUNCDEF	850730	A.00.01
GR	901008	B.03.01
GRAPH	850730	A.00.01
GRAT	850730	A.00.01
GRATSCRL	940117	B.05.00
GRID	850730	A.00.01
HD	850730	A.00.01
HNLOCK	850730	A.00.01
HNUNLK	860203	A.01.00
HP	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
IB	910802, 911021	B.04.00, B.04.01
ID	850730	A.00.01
IDCF	850730	A.00.01
IDFREQ	850730	A.00.01
IDMODE	850730	A.00.01
IDN	920325, 920527	B.04.02 <sup>1</sup> , B.04.03
IDSTAT	850730	A.00.01
IF	850730	A.00.01
IFTKNL	850730	A.00.01
IGEN	910802, 911021	B.04.00, B.04.01
IGENDTYCY	910802, 911021	B.04.00, B.04.01
IGENPW	910802, 911021	B.04.00, B.04.01
INPUT	850730	A.00.01

<sup>1</sup> The firmware with V.U.F code B.04.02 did not ship in the HP 70900B local oscillator source. This firmware was only shipped in the HP 70950A optical spectrum analyzer and HP 70951A optical spectrum analyzer.

Command	Date Code	V.U.F Code
INPUTMOD	861015	A.02.00
INT	850730	A.00.01
INZ	850730	A.00.01
IP	850730	A.00.01
IT	850730	A.00.01
IWINDOW	850730	A.00.01
KBDPT	901008	B.03.01
KEYCLR	850730	A.00.01
KEYDEF	850730	A.00.01
KEYPST	850730	A.00.01
KSA	901008	B.03.01
KSB	901008	B.03.01
KSC	901008	B.03.01
KSD	901008	B.03.01
KSE	901008	B.03.01
KSF	901008	B.03.01
KSG	901008	B.03.01
KSH	901008	B.03.01
KSI	901008	B.03.01
KSJ	901008	B.03.01
KSK	901008	B.03.01
KSL	901008	B.03.01
KSM	901008	B.03.01
KSN	901008	B.03.01
KSO	901008	B.03.01
KSP	901008	B.03.01
KSQ	901008	B.03.01
KSR	901008	B.03.01
KSS	901008	B.03.01
KST	901008	B.03.01
KSU	901008	B.03.01
KSV	901008	B.03.01
KSW	901008	B.03.01
KSX	901008	B.03.01
KSY	901008	B.03.01
KSZ	901008	B.03.01
KS[35]	901008	B.03.01
KS[40]	901008	B.03.01
KS[41]	901008	B.03.01
KS[44]	901008	B.03.01

Command	Date Code	V.U.F Code
KS[47]	901008	B.03.01
KS[61]	901008	B.03.01
KS[91]	901008	B.03.01
KS[92]	901008	B.03.01
KS[94]	901008	B.03.01
KSa	901008	B.03.01
KSb	901008	B.03.01
KSc	901008	B.03.01
KSd	901008	B.03.01
KSe	901008	B.03.01
KSf	901008	B.03.01
KSg	901008	B.03.01
KSh	901008	B.03.01
KSi	901008	B.03.01
KSj	901008	B.03.01
KSk	901008	B.03.01
KSl	901008	B.03.01
KSm	901008	B.03.01
KSn	901008	B.03.01
KSo	901008	B.03.01
KSp	901008	B.03.01
KSq	901008	B.03.01
KSr	901008	B.03.01
KSs	901008	B.03.01
KSt	901008	B.03.01
KSu	901008	B.03.01
KSv	901008	B.03.01
KSw	901008	B.03.01
KSx	901008	B.03.01
KSy	901008	B.03.01
KSz	901008	B.03.01
KS~	940117	B.05.00
L0	860203	A.01.00
LAMBDA	910802, 911021	B.04.00, B.04.01
LB	910802, 911021	B.04.00, B.04.01
LF	910802, 911021	B.04.00, B.04.01
LG	850730	A.00.01
LIGHT	920325, 920527	B.04.02 <sup>1</sup> , B.04.03
LIMIAMP	880901	B.01.00
LIMIBEEP	880901	B.01.00

<sup>1</sup> The firmware with V.U.F code B.04.02 did not ship in the HP 70900B local oscillator source. This firmware was only shipped in the HP 70950A optical spectrum analyzer and HP 70951A optical spectrum analyzer.



Command	Date Code	V.U.F Code
LIMIBOT	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
LIMIDEL	880901	B.01.00
LIMIDONE	880901	B.01.00
LIMIEDIT	880901	B.01.00
LIMIFAIL	880901	B.01.00
LIMIFREQ	880901	B.01.00
LIMIHALF	880901	B.01.00
LIMILINE	880901	B.01.00
LIMINEXT	880901	B.01.00
LIMIRCL	880901	B.01.00
LIMIREL	880901	B.01.00
LIMISAV	880901	B.01.00
LIMISCRL	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
LIMISDEL	880901	B.01.00
LIMISEG	880901	B.01.00
LIMISEL	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
LIMITEST	880901	B.01.00
LIMITOCOR	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
LIMITYPE	880901	B.01.00
LINET	850730	A.00.01
LL	901008	B.03.01
LN	850730	A.00.01
LOAD	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
LOG	850730	A.00.01
LOSTART	850730	A.00.01
LOSTOP	850730	A.00.01
M1	860203	A.01.00
M2	860203	A.01.00
M3	860203	A.01.00
M4	901008	B.03.01
MA	860203	A.01.00
MBIAS	850730	A.00.01
MBIASPK	850730	A.00.01
MBMAX	850730	A.00.01
MBMIN	850730	A.00.01
MBRES	850730	A.00.01
MDS	850730	A.00.01
MEAN	850730	A.00.01
MEASU	850730	A.00.01
MEASURE	860203	A.01.00

Command	Date Code	V.U.F Code
MEM	850730	A.00.01
MF	860203	A.01.00
MIL	860203	A.01.00
MIN	850730	A.00.01
MINH	850730	A.00.01
MK	850730	A.00.01
MKA	850730	A.00.01
MKACT	850730	A.00.01
MKAL	850730	A.00.01
MKAR	850730	A.00.01
MKBW	850730	A.00.01
MKBWA	910802, 911021	B.04.00, B.04.01
MKCF	850730	A.00.01
MKCONT	901008	B.03.01
MKD	850730	A.00.01
MKDACT	940117	B.05.00
MKDACT?	940117	B.05.00
MKDREFA	940117	B.05.00
MKDREFF	940117	B.05.00
MKF	850730	A.00.01
MKFABS	940117	B.05.00
MKMIN	860203	A.01.00
MKN	850730	A.00.01
MKNOISE	850730	A.00.01
MKOFF	850730	A.00.01
MKP	850730	A.00.01
MKPABS	940117	B.05.00
MKPAUSE	850730	A.00.01
MKPITX	940117	B.05.00
MKPK	850730	A.00.01
MKPX	850730	A.00.01
MKREAD	850730	A.00.01
MKRELPWR	910802, 911021	B.04.00, B.04.01
MKRINSYS	910802, 911021	B.04.00, B.04.01
MKRL	860203	A.01.00
MKSP	850730	A.00.01
MKSS	850730	A.00.01
MKSTOP	901008	B.03.01
MKT	850730	A.00.01
MKTRACE	850730	A.00.01

Command	Date Code	V.U.F Code
MKTRACK	850730	A.00.01
MKTUNE	920325, 920527	B.04.02 <sup>1</sup> , B.04.03
MKTV	850730	A.00.01
MKTYPE	850730	A.00.01
ML	850730	A.00.01
MOD	850730	A.00.01
MODADD	861015	A.02.00
MODID	850730	A.00.01
MOV	850730	A.00.01
MPY	850730	A.00.01
MSG	850730	A.00.01
MSI	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
MT	860203	A.01.00
MXM	850730	A.00.01
MXMH	850730	A.00.01
NOP	870501	A.03.00
NORM	940117	B.05.00
NSTART	850730	A.00.01
NSTATE	850730	A.00.01
NSTOP	850730	A.00.01
O1	901008	B.03.01
O2	901008	B.03.01
O3	901008	B.03.01
O4	901008	B.03.01
OL	901008	B.03.01
ONEOS	850730	A.00.01
ONMENU	901008	B.03.01
ONMKR	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
ONUSER	901008	B.03.01
ONWINDOW	901008	B.03.01
OOFFSET	880314	B.00.00
OP	850730	A.00.01
OPTATN	910802, 911021	B.04.00, B.04.01
OPTICAL	880314	B.00.00
OPTMODE	910802, 911021	B.04.00, B.04.01
OPTPWR	910802, 911021	B.04.00, B.04.01
OPTSW	920325, 920527	B.04.02 <sup>1</sup> , B.04.03
OR	850730	A.00.01
OT	910802, 911021	B.04.00, B.04.01
OUTPUT	850730	A.00.01

<sup>1</sup> The firmware with V.U.F code B.04.02 did not ship in the HP 70900B local oscillator source. This firmware was only shipped in the HP 70950A optical spectrum analyzer and HP 70951A optical spectrum analyzer.

Command	Date Code	V.U.F Code
OVRSWP	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
OVRW	940117	B.05.00
PA	850730	A.00.01
PADC	870501	A.03.00
PATHLOCK	850730	A.00.01
PAUSE	850730	A.00.01
PC	940117	B.05.00
PCDELTA	940117	B.05.00
PD	850730	A.00.01
PDA	850730	A.00.01
PDF	850730	A.00.01
PDMEAS	920325, 920527	B.04.02 <sup>1</sup> , B.04.03
PEAKS	850730	A.00.01
PEN	850730	A.00.01
PERASE	880314	B.00.00
PERSIST	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
PINPUT	850730	A.00.01
PLOT	850730	A.00.01
POSU	850730	A.00.01
POWERON	850730	A.00.01
PP	861015	A.02.00
PR	860203	A.01.00
PREAMP	880314	B.00.00
PREFX	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
PROCEDURE	850730	A.00.01
PROGDEF	901008	B.03.01
PROTECT	861015	A.02.00
PRSDAC	861015	A.02.00
PRSENABL	861015	A.02.00
PRSHYST	861015	A.02.00
PSDAC	861015	A.02.00
PSENABLE	861015	A.02.00
PSHYST	861015	A.02.00
PSTATE	850730	A.00.01
PTBL	870501	A.03.00
PTEL	870501	A.03.00
PTIMEOUT	920325, 920527	B.04.02 <sup>1</sup> , B.04.03
PU	850730	A.00.01
PURGE	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
PWRAVG	940117	B.05.00

<sup>1</sup> The firmware with V.U.F code B.04.02 did not ship in the HP 70900B local oscillator source. This firmware was only shipped in the HP 70950A optical spectrum analyzer and HP 70951A optical spectrum analyzer.

Command	Date Code	V.U.F Code
PWRBAR	910802, 911021	B.04.00, B.04.01
PWRBARON	910802, 911021	B.04.00, B.04.01
PWRBW	850730	A.00.01
PWRMODE	910802, 911021	B.04.00, B.04.01
R1	901008	B.03.01
R2	901008	B.03.01
R3	901008	B.03.01
R4	901008	B.03.01
RB	850730	A.00.01
RBR	850730	A.00.01
RC	860203	A.01.00
RCLD	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
RCLS	850730	A.00.01
RCLT	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
RCLU	880314	B.00.00
RCVRMODE	940117	B.05.00
READMENU	850730	A.00.01
RELADC	940117	B.05.00
RELHPIB	850730	A.00.01
RELMOD	940117	B.05.00
REPEAT	850730	A.00.01
RETURN	850730	A.00.01
REV	850730	A.00.01
RL	850730	A.00.01
RLPOS	850730	A.00.01
RMS	850730	A.00.01
ROFFSET	850730	A.00.01
RQS	850730	A.00.01
RSPSVTY	910802, 911021	B.04.00, B.04.01
S1	860203	A.01.00
S2	860203	A.01.00
SAVED	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
SAVES	850730	A.00.01
SAVET	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
SAVEU	880314	B.00.00
SCALE	850730	A.00.01
SENS	910802, 911021	B.04.00, B.04.01
SER	850730	A.00.01
SG	940117	B.05.00
SIGDEL	850730	A.00.01

Command	Date Code	V.U.F Code
SIGID	850730	A.00.01
SMOOTH	850730	A.00.01
SNGLS	850730	A.00.01
SP	850730	A.00.01
SP	910802, 911021	B.04.00, B.04.01
SQR	850730	A.00.01
SRCALC	860203	A.01.00
SRCAM	860203	A.01.00
SRCAMF	860203	A.01.00
SRCAT	860203	A.01.00
SRCBLNK	860203	A.01.00
SRCMOD	860203	A.01.00
SRCOSC	860203	A.01.00
SRCPOFS	860203	A.01.00
SRCPSTP	860203	A.01.00
SRCPSWP	860203	A.01.00
SRCPWR	860203	A.01.00
SRCTK	860203	A.01.00
SRCTKPK	860203	A.01.00
SRQ	850730	A.00.01
SS	850730	A.00.01
ST	850730	A.00.01
STA	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
STARTUP	940117	B.05.00
STATE	850730	A.00.01
STB	850730	A.00.01
STDEV	850730	A.00.01
STOR	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
STORREF	860203	A.01.00
SUB	850730	A.00.01
SUM	850730	A.00.01
SUMSQR	850730	A.00.01
SV	860203	A.01.00
SW	901008	B.03.01
SWEEP	910802, 911021	B.04.00, B.04.01
SWPMODE	940117	B.05.00
SWPMODE?	940117	B.05.00
SYSCOR	910802, 911021	B.04.00, B.04.01
T0	860203	A.01.00
T1	901008	B.03.01

Command	Date Code	V.U.F Code
T2	901008	B.03.01
T3	901008	B.03.01
T4	901008	B.03.01
TA	901008	B.03.01
TB	901008	B.03.01
TDF	850730	A.00.01
TEST	850730	A.00.01
TEXT	850730	A.00.01
TH	850730	A.00.01
THE	901008	B.03.01
THEN	860203	A.01.00
THREED	920325, 920527	B.04.02 <sup>1</sup> , B.04.03
THREEDH	920325, 920527	B.04.02 <sup>1</sup> , B.04.03
THREEDV	920325, 920527	B.04.02 <sup>1</sup> , B.04.03
TIME	860203	A.01.00
TITLE	850730	A.00.01
TM	850730	A.00.01
TP	850730	A.00.01
TR	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
TRA	860203	A.01.00
TRB	860203	A.01.00
TRC	860203	A.01.00
TRCOND	850730	A.00.01
TRDEF	850730	A.00.01
TRDSP	850730	A.00.01
TRIGDEL	940117	B.05.00
TRPRST	861015	A.02.00
TRPST	850730	A.00.01
TRSTAT	850730	A.00.01
TS	850730	A.00.01
TWINDOW	850730	A.00.01
UNTIL	860203	A.01.00
UR	901008	B.03.01
USERERR	850730	A.00.01
USERKEY	850730	A.00.01
USERLOCK	861015	A.02.00
USERMSG	861015	A.02.00
USERWARN	940117	B.05.00
USRPWR	910802, 911021	B.04.00, B.04.01
USTATE	850730	A.00.01

<sup>1</sup> The firmware with V.U.F code B.04.02 did not ship in the HP 70900B local oscillator source. This firmware was only shipped in the HP 70950A optical spectrum analyzer and HP 70951A optical spectrum analyzer.

Command	Date Code	V.U.F Code
VARDEF	850730	A.00.01
VARIANCE	850730	A.00.01
VAVG	850730	A.00.01
VB	850730	A.00.01
VBO	901008	B.03.01
VBR	850730	A.00.01
VIEW	850730	A.00.01
VTDL	940117	B.05.00
VTH	850730	A.00.01
VTL	850730	A.00.01
VW	850730	A.00.01
WAIT	850730	A.00.01
WARN	940117	B.05.00
WARN?	940117	B.05.00
WARNCtrl	940117	B.05.00
XAMPSW	920325, 920527	B.04.02 <sup>1</sup> , B.04.03
XCH	850730	A.00.01
XDAC	910802, 911021	B.04.00, B.04.01
XERR	850730	A.00.01
XNOISE	890606, 891102, 900314	B.02.00, B.02.01, B.03.00
XWARN	940117	B.05.00
XYPEAK	910802, 911021	B.04.00, B.04.01
YDAC	910802, 911021	B.04.00, B.04.01
YLABELS	940117	B.05.00
ZOOMRB	880314	B.00.00

<sup>1</sup> The firmware with V.U.F code B.04.02 did not ship in the HP 70900B local oscillator source. This firmware was only shipped in the HP 70950A optical spectrum analyzer and HP 70951A optical spectrum analyzer.



