APPENDIX F

INTERNAL REGISTER/COMMAND LISTING

The following are frequently-used registers and commands. This listing does **not** cover all registers and commands used in the HP 4195A. Refer to APPENDIX E for complete listing of softkey-related registers and commands.

ARREY REGISTERS

A	Measurement data register displayed on the CRT as a bright yellow trace.
B	Measurement data register displayed on the CRT as a bright cyan trace.
C	Superimpose data register. Displayed when View C is set to ON.
D	Superimpose data register. Displayed when View D is set to ON.
E ~ J, RA ~ RF	General purpose registers.
MA	Measurement data registers for the User Math Function.
MB	Measurement data registers for the User Math Function.
X	Contains the sweep point data.

SINGLE REGISTERS

ATR1	Contains R1 attenuator value.
ATR2	Contains R2 attenuator value.
ATT1	Contains T1 attenuator value.
ATT2	Contains T2 attenuator value.
BTM	Contains the bottom of the display scale.
CENTER	Contains CENTER value.
DFREQ	Contains APERTURE value.
DIV	Contains scale division value.
DLCURS	Contains the difference value between MKRA and LCURS. Refer to page A-3.
DMKR	Contains the difference value between MKR and SMKR. Refer to page A-3.
DMKRA	Contains the difference value between MKRA and SMKRA. Refer to page A-3.
DMKRB	Contains the defference value between MKRB and SMKRB.
LCURS	Contains the LINE CURSOR position (height) value. Refer to page A-3.
LCURSL	Contains the value of left most intersect point. Refer to page A-3.
LCURSR	Contains the value of right most intersect point. Refer to page A-3.
MANUAL	Contains manual sweep point value.
MKR	Contains the value of o MARKER position in horizontal axis. Refer to page A-3.
MKRA	Contains data A value specified with the o MARKER. Refer to page A-3.
MKRB	Contains data B value specified with the o MARKER.
NOP	Contains number of sweep points.
PI	Contains value of 3.14159265359.
QV	Contains Q value.
R0 (~ R99)	General purpose single registers.
RBW	Contains RBW value.
REF	Contains the top of the display scale.
SMKR	Contains the value of * MARKER position in vertical axis. Refer to page A-3.
SMKRA	Contains data B value specified with the * MARKER. Refer to page A-3.
SMKRB	Contains data B value specified with the * MARKER.
SPAN	Contains SPAN value.
START	Contains START value.
STOP	Contains STOP value.
WID	Contains width value (=LCURSR-LCURSL). Refer to page A-3.
Z	Contains numeric value resultant from front-panel mathematical operation.

COMMANDS	
ANA1/ANA0	Partial Analysis ON/OFF.
ARSTR	Store Partial Analysis range.
AUTO	Autoscale to the active scale.
CMT	Comment.
COPY	Starts or aborts hardcopy operation.
CORR1/CORR0	Correction ON/OFF.
DELT1/DELT0	Delta(Δ) mode ON/OFF.
DF1 (~ DF5)	Defines User Defined Function #1 (~ #5).
DFA (~ DFC)	Defines the Sweep End Function #A (~ #C).
DISP	Displays a character string, R0 ~ R99 register data or both.
DMA (DMB)	Defines User Math A (or B) equation.
DPA1/DPA0	Trace A ON/OFF.
DPB1/DPB0	Trace B ON/OFF.
DSP1 (~ DSP5)	Selects the rectan X-A&B (or other) display format.
FNC1	Selects the Network configuration.
FNC2	Selects the Spectrum configuration.
FNC3	Selects the Impedance configuration.
FNC4 ~ FNC7	Selects the S-Parameter configuration.
GPP1 (~ GPP4)	Selects T/R-θ (or other) format.
HADM1/HADM2	HP-IB Addressable/Talk-only.
IMP1 (~ IMP12)	Selects the $\|Z\|$-θ (or other) format.
LBL1 (~ LBL5)	Defines the User Defined Function #1 (~ #5) softkey label.
LBLA (~ LBLC)	Defines the Sweep End Function #A (~ #C) softkey label.
LMN	Moves the markers to the local-minimum points.
LMX	Moves the markers to the local-maximum points.
MCF0	Turns MARKER function off.
MCF1	Selects the o MARKER mode.
MCF2	Selects the o and * MARKERS mode.
MCF3	Selects the LINE CURSOR mode.
MCF4	Selects the o-LCURS mode.
MKACT0	Selects the active marker to * MARKER.
MKACT1	Selects the active marker to o MARKER.
MKACT2	Selects the LCURS to active.
MKCR1	Selects the MARKER or LCURS reading object to data A (for A).
MKCR2	Selects the MARKER or LCURS reading object to data B (for B).
MKCTR	MKR → CENTER
MKEXP	MKRS → SPAN
MKMN	MKR → MIN
MKMX	MKR → MAX
MKREF	MKR → REF
MKSP	MKR → STOP
MKST	MKR → START
MTHA1/MTHA0	Math A ON/OFF.
MTHB1/MTHB0	Math B ON/OFF.
NXTPK	MEXT PEAK.
PORT1 (~ PORT5)	Selects input port.
PRMA (PRMB)	Enters the User Math A (or B) label.
RST	PRESET.
QVAL	Calculates Q value at the LINE CURSOR.
REV?	Displays the firmware revision code.
SAP1 (~ SAP6)	Selects dBm (or other) format.
SCL1	Selects the active scale change data to data A (SCALE for A).
SCL2	Selects the active scale change data to data B (SCALE for B).
SCT1 (SCT2)	Selects the linear (or log) scale display.
SEFA1/SEFA0	Sweep End Function #A ON/OFF.
SEFB1/SEFB0	Sweep End Function #B ON/OFF.
SEFC1/SEFC0	Sweep End Function #C ON/OFF.
SPC1/SPC0	View C ON/OFF.
SPCHG	A,B ↔ C,D
SPD1/SPD0	View D ON/OFF.
SPI1 (~ SPI4)	Selects RL-θ (or other) format.
SPSTR	STORE A,B → C,D.
SRSTR	Store Partial Sweep range.
SWM1	CONT sweep mode.
SWM2	SINGLE sweep mode.
SWM3	MANUAL sweep mode.
SWP1 (~ SWP5)	Selects Frequency (or other) sweep.
SWR1/SWR0	Partial Sweep ON/OFF.
SWT1 (SWT2)	Selects linear (or log) sweep.
SWTRG	Sweep Trigger (=TRIG/RST).
TRIGM1 (TRIGM2)	Trigger mode int (ext).
TRIG	Triggers when trigger mode is set to ext.
UNITA (UNITB)	Enters User Math A (or B) unit label.
WIDTH1/WIDTH0	WIDTH ON/OFF.
VFTR1/VFTR0	Video Filter ON/OFF.