

Performance -- continued

POWER DRAIN -- 560 SERIES PLUG-INS

Geoff Gass, 5-21-65

The attached data on plug-in loading is for power supply design purposes only, and should not be taken to indicate that any given plug-in(s) installed there may be a "surplus" of usable power in any 560-Series indicator.

With the exception of the 3S- and 3T-series plug-ins, plug-in cross-compatibility and the maintaining of power-supply regulation with one or both plug-in compartments empty is obtained only by providing in each plug-in just enough series-regulator shunting to supply the current needed for that plug-in in excess of 1/2 the series tube maximum current rating or 1/2 its maximum dissipation at high line.

Sampling plug-ins do not have this cross-compatibility feature with real-time units. For proper power supply regulation, one 3S-series and one 3T-series plug-in must be installed. Removal of either or replacement of one by a real-time plug-in, will cause loss of regulation or -- in some cases -- power supply damage.

Design information for custom plug-ins is contained in skeleton kit 040-0245-00. In the design of a custom plug-in or modification of an existing one for use in a Tektronix indicator, the customer must assume that no more than half the nominally available total current from any supply may be used in one compartment; that maximum loading for given shunt values should not be applied to the +125 v and +300v supplies simultaneously; that DC dissipation should not exceed 45 watts per compartment (40w total in 560); and that DC plus 6.3 v AC dissipation should not exceed 56 watts per compartment (60w total in the 560). As the customer moves away from these rules, he may find the series regulator tubes or transformer outside of dissipation limits at high ambient temperature and/or high line voltage conditions, he may suffer loss of regulation at low line, or he may find his modified or custom plug-ins incompatible with some or all 2- and 3-series plug-ins.

Data is only approximate and will vary between plug-ins and with positioning, etc. Figures in mA, except as noted. "Shunt" is in series with 2k in indicator; "FS" means 0Ω in plug-in, using FULL SHUNT in indicator. SEE TEXT.

Plug-In, S N	-100v,	shunt	-12.2v	+125v	shunt	+300v, shunt	6.3 vAC	117v
(2A)50	40	1.2k	365	2	--	17	0.8 A	0
(2A)51	35	1.5k	0	15	--	19	2.93 A	0
(2A)59	31	1.8k	0	12	--	18	1.2 A	0
(2A)60	101-431	18	0	18	--	23	1.63 A	0
	432-up	18	300	18	--	23	1.03 A	0
2A61	40	1 k	475	15.5	--	28	1.2 A	0
(2A)63	45-55	FS	365	6	--	22	0.9 A	0
(2B)67	50-70	FS	0	25-40	--	22-25	3.5 A	0
3A1	101-7929	35	320	65	FS	70	2.3 A	0
	7930-up	35	320	65	FS	70	2.3 A	0
3A2	36	1.5k	360	72*	FS	53	2.3 A	0
3A3	48	220Ω	785	70	FS	53	1.04 A	0
3A5								
3A6	55	FS	328	74	FS	82	1.93 A	0
3A7	37.5	1 k	690	67	FS	74	1.2 A	0
3A8	46	FS	793	72	FS	56	1.55 A	0
3A72	24	--	600	53-65	FS	30	3.5 A	0
3A74	66	FS	600	64	FS	60	1.67 A	0
3A75	59	FS	750	63	FS	70	2.0 A	0
3B1	70	FS	750	54	2k	44	1.43 A	0
3B2	31	2.5k	700	60	FS	26	1.43 A	0
3B3	62	FS	750	54	2k	40	1.43 A	0
3B4	76	FS	500	45	2k	31	1.05 A	0
3B5								
3C66	31	2 k	720	17	--	26	0.9 A	0
3L5								
3L10								
3S3	60	FS	565	76**	--	44	0	0
3S76	37	FS	550-910°	110-135°	FS	24	0.5 A	0
3T4								
3T77	73	FS	370	20*	FS	38	2.5 A	0
Maximum 'Available' Power (each compartment) with full shunts.								
560	50		425	25		20°	4 A	
561,561A,564	65		750	75		75	4 A	
RM's,565,567,129	75		750	75		75	4 A	

*10k from +300 to +125 supplies 17.5 mA extra for +125 v supply.

**Does not use shunt -- extra power supplied from 3T-time base.

°With 2 P6032 CF probes.

°°Requires 'cool-fin' heat shield on V657 above 20 mA or above 25°C.