

## 803 PROGRAMME

Block...1...

Issue 2 of Sheet...1...of....8...

PREVIOUS INST.	ADDRESS	F <sub>1</sub>	N <sub>1</sub>	B	F <sub>2</sub>	N <sub>2</sub>	NOTES
	0						
	1						
	2						
	3						
	1024	74	29		74	30	
	1025	74	27		74	8	
	1026	74	16		74	19	
	1027	74	28		74	31	
	1028	74	24		74	28	
	1029	74	27		74	21	
	1030	74	28		74	31	Heading :
	1031	74	6		74	12	
	1032	74	15		74	1	803 X 5 FLOATING-POINT TEST
	1033	74	20		74	9	
	1034	74	14		74	7	
	1035	74	27		74	13	
	1036	74	31		74	16	
	1037	74	15		74	9	
	1038	74	14		74	20	
	1039	74	28		74	20	
	1040	74	5		74	19	
1160	1041	74	20		74	29	cr
	1042	74	30		74	27	if fs
	1043	30	1202		20	4	Set no. of times performed.
1156	1044	30	1168		60	1168	$\frac{3}{4} \times 2^0 + \frac{3}{4} \times 2^0 = \frac{3}{4} \times 2^1$
	1045	05	1169		42	1047	
	1046	74	16		74	1	Otherwise punch 01
	1047	30	1170		60	1170	$(\frac{3}{4} + \epsilon) \times 2^0 + (\frac{3}{4} + \epsilon) \times 2^0 = (\frac{3}{4} + \epsilon) \times 2^1$
	1048	05	1171		42	1050	
	1049	74	16		74	2	Otherwise punch 02

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PREVIOUS INST.	ADDRESS	F <sub>1</sub>	N <sub>1</sub>	B	F <sub>2</sub>	N <sub>2</sub>	NOTES
	1050	30	1170		60	1168	$(\frac{3}{4} + \epsilon) \times 2^0 + \frac{3}{4} \times 2^0 = (\frac{3}{4} + \epsilon) \times 2^1$
	1051	05	1171		42	1053	
	1052	74	16		74	19	Otherwise punch 03
	1053	30	1168		60	1172	$\frac{3}{4} \times 2^0 + (-1) \times 2^{-3} = \frac{5}{8} \times 2^0$
	1054	05	1173		42	1056	
	1055	74	16		74	4	Otherwise punch 04
	1056	30	1172		60	1168	$(-1) \times 2^{-3} + \frac{3}{4} \times 2^0 = \frac{5}{8} \times 2^0$
	1057	05	1173		42	1059	
	1058	74	16		74	21	Otherwise punch 05
	1059	30	1170		60	1174	$(\frac{3}{4} + \epsilon) \times 2^0 + (-\frac{3}{4}) \times 2^0 = \frac{1}{2} \times 2^{-28}$
	1060	05	1175		42	1062	
	1061	74	16		74	22	Otherwise punch 06
	1062	30	1168		60	1176	$\frac{3}{4} \times 2^0 + \frac{3}{4} \times 2^9$
	1063	05	1177		42	1065	
	1064	74	16		74	7	punch 07
	1065	30	1176		60	1168	$\frac{3}{4} \times 2^9 + \frac{3}{4} \times 2^0$
	1066	05	1177		42	1068	
	1067	74	16		74	8	punch 08
	1068	30	1168		60	1178	$\frac{3}{4} \times 2^0 + \frac{3}{4} \times 2^9$
	1069	05	1179		42	1071	
	1070	74	16		74	25	punch 09
	1071	30	1178		60	1168	$\frac{3}{4} \times 2^9 + \frac{3}{4} \times 2^0$
	1072	05	1179		42	1074	
	1073	74	1		74	16	punch 10
	1074	30	1180		60	1176	$\frac{3}{4} \times 2^{65} + \frac{3}{4} \times 2^9 = (\frac{3}{4} + \epsilon) \times 2^{65}$
	1075	05	1181		42	1077	
	1076	74	1		74	1	Otherwise punch 11
	1077	30	1176		60	1180	$\frac{3}{4} \times 2^9 + \frac{3}{4} \times 2^{65} = (\frac{3}{4} + \epsilon) \times 2^{65}$
	1078	05	1181		42	1080	
	1079	74	1		74	2	Otherwise punch 12

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Block...1...

Issue 2 of Sheet...3...of...8..

PREVIOUS INST.	ADDRESS	F <sub>1</sub>	N <sub>1</sub>	B	F <sub>2</sub>	N <sub>2</sub>	NOTES
	1080	30	1170		61	1168	$(\frac{3}{4} + \epsilon) \times 2^0 - \frac{3}{4} \times 2^0 = \frac{1}{2} \times 2^{-28}$
	1081	05	1175		42	1083	
	1082	74	1		74	19	Otherwise punch 13
	1083	30	1168		61	1170	$\frac{3}{4} \times 2^0 - (\frac{3}{4} + \epsilon) \times 2^0 = -1 \times 2^{-29}$
	1084	45	1085		74	1	
	1085	74	4		05	1182	Otherwise punch 14
	1086	46	1087		74	1	T.C. zero
	1087	74	21		30	1168	Otherwise punch 15
	1088	61	1168		42	1090	$\frac{3}{4} \times 2^0 - \frac{3}{4} \times 2^0 = 0$
	1089	74	1		74	22	Otherwise punch 16
	1090	30	1183		61	1184	$\frac{3}{4} \times 2^{-255} - \frac{5}{8} \times 2^{-255}$
	1091	46	1092		74	1	(no test 17)
	1092	74	8		30	1168	punch 18
	1093	62	1173		05	1172	$-\frac{3}{4} \times 2^0 + \frac{5}{8} \times 2^0 = -1 \times 2^{-3}$
	1094	46	1095		74	1	
	1095	74	25		30	1168	Otherwise punch 19
x	1096	63	1168		05	1185	$\frac{3}{4} \times 2^0 \times \frac{3}{4} \times 2^0 = \frac{9}{16} \times 2^0$
	1097	46	1098		74	2	
	1098	74	16		30	1168	Otherwise punch 20
x	1099	63	1186		05	1187	$\frac{3}{4} \times 2^0 \times \frac{1}{2} \times 2^{-6} = \frac{3}{4} \times 2^{-7}$
	1100	46	1101		74	2	
	1101	74	1		30	1172	Otherwise punch 21
	1102	63	1172		05	1188	$-1 \times 2^{-3} \times -1 \times 2^{-3} = \frac{1}{2} \times 2^{-5}$
	1103	46	1104		74	2	
x	1104	74	2		30	1189	Otherwise punch 22
	1105	63	1173		05	1190	$\frac{5}{8} \times 2^2 \times \frac{5}{8} \times 2^0 = \frac{25}{32} \times 2^1$
	1106	46	1107		74	2	
	1107	74	19		30	1191	Otherwise punch 23
	1108	63	1192		05	1193	$(\frac{5}{8} + \epsilon) \times 2^2 \times (\frac{5}{8} + \epsilon) \times 2^0 = (\frac{25}{32} + 3\epsilon) \times 2^1$
	1109	46	1110		74	2	

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Block...1...

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PREVIOUS INST.	ADDRESS	F <sub>1</sub>	N <sub>1</sub>	B	F <sub>2</sub>	N <sub>2</sub>	NOTES
	1110	74	4		30	1189	Otherwise punch 24
	1111	63	1174		05	1194	$\frac{5}{8} \times 2^2 \times (-\frac{3}{4} \times 2^0) = -\frac{15}{16} \times 2^1$
	1112	46	1113		74	2	
	1113	74	21		30	1183	Otherwise punch 25
	1114	63	1188		42	1116	$\frac{3}{4} \times 2^{-255} \times \frac{1}{2} \times 2^{-5} = \text{U.F.}$
	1115	74	2		74	22	Otherwise punch 26
	1116	30	1195		63	1173	$\frac{3}{4} \times 2^{-256} \times \frac{5}{8} \times 2^0 = \text{U.F.}$
	1117	46	1118		74	2	
	1118	74	7		30	1188	Otherwise punch 27
x	1119	64	1172		05	1172	$\frac{1}{2} \times 2^{-5} \div -1 \times 2^{-3} = -1 \times 2^{-3}$
	1120	46	1121		74	2	
	1121	74	8		30	0	Otherwise punch 28
	1122	64	1172		42	1124	$0 \div -1 \times 2^{-3} = 0$
	1123	74	2		74	25	Otherwise punch 29
	1124	30	1190		64	1189	
	1125	05	1173		42	1127	$\frac{25}{32} \times 2^1 \div \frac{5}{8} \times 2^2 = \frac{5}{8} \times 2^0$
	1126	74	19		74	16	Otherwise punch 30
	1127	30	1187		64	1186	
	1128	05	1168		42	1130	$\frac{3}{4} \times 2^{-7} \div \frac{1}{2} \times 2^{-6} = \frac{3}{4} \times 2^0$
	1129	74	19		74	1	Otherwise punch 31
	1130	30	1193		64	1192	
	1131	05	1191		42	1133	$(\frac{25}{32} + 3\epsilon) \times 2^1 \div (\frac{5}{8} + \epsilon) \times 2^0 = (\frac{5}{8} + \epsilon) \times 2^0$
	1132	74	19		74	2	Otherwise punch 32
	1133	30	1194		64	1189	
	1134	05	1174		42	1136	$-\frac{15}{16} \times 2^1 \div \frac{5}{8} \times 2^2 = -\frac{3}{4} \times 2^0$
	1135	74	19		74	19	Otherwise punch 33
	1136	30	1183		64	1196	
	1137	05	1195		42	1139	$\frac{3}{4} \times 2^{-255} \div \frac{1}{2} \times 2^2 = \frac{3}{4} \times 2^{-256}$
	1138	74	19		74	4	Otherwise punch 34
	1139	30	1195		64	1189	

## 803 PROGRAMME

Blocks 1+2

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PREVIOUS INST.	ADDRESS	F <sub>1</sub>	N <sub>1</sub>	B	F <sub>2</sub>	N <sub>2</sub>	NOTES
	1140	46	1141		74	19	$\frac{3}{4} \times 2^{-256} \div \frac{5}{8} \times 2^2 = U.F.$
	1141	74	21		30	1197	Otherwise punch 35
	1142	65	4096		05	1198	
X	1143	46	1144		74	19	Convert $25/256 = \frac{25}{32} \times 2^{-35}$
	1144	74	22		30	1199	Otherwise punch 36
	1145	65	4096		05	1200	
	1146	46	1147		74	19	Convert $-25/256 = -\frac{25}{32} \times 2^{-35}$
	1147	74	7		30	1201	Otherwise punch 37
	1148	52	1201		57	0	$\frac{2}{3} \times -\frac{2}{3}$ (fixed point)
	1149	42	1150		44	1152	If A.R. not set by 52
	1150	74	31		74	1	punch A.R.
	1151	74	18		74	27	and omit tests 38-42
1149	1152	40	1155		60	0	
	1153	57	0		42	1155	Clear A.R.
	1154	74	19		74	8	Otherwise punch 38
1152 1244	1155	44	1209		32	4	T.C. to extra tests, REPEAT TEST
	1156	41	1044		30	1162	SET COUNT FOR 3 TIMES
	1157	21	4		30	1168	'DIVIDE BY ZERO' (FIXED & FL.P.T.
	1158	64	0		43	1159	O'FLOW)
	1159	30	1204		60	1204	EXPONENT O'FLOW
	1160	32	4		45	1157	REPEAT
	1161	40	1230				Jump to end.
	1162	+2					
	1163	+0					
	1164	+0					
	1165	+0					
	1166	+0					
	1167	+0					CONSTANTS
	1168	30	0		00	256	$\frac{3}{4} \times 2^0$
	1169	30	0		00	257	$\frac{3}{4} \times 2^1$

## 803 PROGRAMME

Block...2...

ISSUE 2 of Sheet...6...of...8...

PREVIOUS INST.	ADDRESS	F <sub>1</sub>	N <sub>1</sub>	B	F <sub>2</sub>	N <sub>2</sub>	NOTES
	1170	30	0		00	768	$(\frac{3}{4} + \epsilon) \times 2^0$
	1171	30	0		00	769	$(\frac{3}{4} + \epsilon) \times 2^1$
	1172	40	0		00	253	$-1 \times 2^{-3}$
	1173	24	0		00	256	$\frac{5}{8} \times 2^0$
	1174	50	0		00	256	$-\frac{3}{4} \times 2^0$
	1175	20	0		00	228	$\frac{1}{2} \times 2^{-28}$
	1176	30	0		00	265	$\frac{3}{4} \times 2^9$
	1177	30	384		00	265	$\frac{3}{4} \times 2^0 + \frac{3}{4} \times 2^9$
	1178	30	0		00	275	$\frac{3}{4} \times 2^{19}$
	1179	30	0	60		275	$\frac{3}{4} \times 2^{19} + \frac{3}{4} \times 2^0$
	1180	30	0		00	321	$\frac{3}{4} \times 2^{65}$
	1181	30	0		00	833	$(\frac{3}{4} + \epsilon) \times 2^{65}$
	1182	40	0		00	227	$-1 \times 2^{-29}$
	1183	30	0		00	1	$\frac{3}{4} \times 2^{-255}$
	1184	24	0		00	1	$\frac{5}{8} \times 2^{-255}$
	1185	22	0		00	256	$\frac{9}{16} \times 2^0$
	1186	20	0		00	250	$\frac{1}{2} \times 2^{-6}$
	1187	30	0		00	249	$\frac{3}{4} \times 2^{-7}$
	1188	20	0		00	251	$\frac{3}{4} \times 2^{-5}$
	1189	24	0		00	258	$\frac{5}{8} \times 2^2$
	1190	31	0		00	257	$\frac{25}{32} \times 2^1$
	1191	24	0		00	770	$(\frac{5}{8} + \epsilon) \times 2^2$
	1192	24	0		00	768	$(\frac{5}{8} + \epsilon) \times 2^0$
	1193	31	0		00	1793	$(\frac{25}{32} + 3\epsilon) \times 2^1$
	1194	42	0		00	257	$-\frac{15}{16} \times 2^1$
	1195	30	0				$\frac{3}{4} \times 2^{-256}$
	1196	20	0		00	258	$\frac{1}{2} \times 2^2$
	1197	03	1024				$\frac{25}{256}$ fixed point
	1198	31	0		00	291	$\frac{25}{32} \times 2^{-35}$
	1199	74	7168				$-\frac{25}{256}$ fixed point

## 803 PROGRAMME

Block 2.....

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PREVIOUS INST.	ADDRESS	F <sub>1</sub>	N <sub>1</sub>	B	F <sub>2</sub>	N <sub>2</sub>	NOTES
1155	1200	47	0		00	291	- $25/32 \times 2^{-35}$
	1201	52	5461		52	5461	- $2/3$ fixed point
	1202	-	360				Count constant (1 minute)
	1203	00	0	/	00	0	B-digit
	1204	20	0		00	511	$1/2 \times 2^{255}$
	1205	30	1224		20	1228	STANDARDISATION TEST
	1206	30	1225		16	1229	
	1207	65	4096		46	1209	
	1208	74	19		74	25	PUNCH 39 IF FAILS
	1209	44	1214		30	1228	
	1210	65	4096		05	1229	
	1211	42	1212		40	1208	TESTS 1 BIT EACH CYCLE
	1212	22	1229		30	1228	
	1213	55	1		20	1228	
	1214	41	1205		30	1189	MI 919 TEST
	1215	63	1174		46	1216	
	1216	41	1218		74	4	
	1217	74	16		44	1219	PUNCH 40 if fails
	1218	05	1194		46	1219	
	1219	44	1216		30	1226	
	1220	60	1227		05	1227	Waveform Sc 33-15a PUNCH 41 if fails
	1221	42	1243		74	4	
	1222	74	1		40	1243	
	1223	+	0				Jump to extra test Spate location
	1224	+1					
	1225	20	0		00	257	
	1226	25	2730	/	25	2806	Workspace for test 39
	1227	25	2730	/	25	2838	
	1228	+	0				
	1229	+	0				

## 803 PROGRAMME

Block.....

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PREVIOUS INST.	ADDRESS	F <sub>1</sub>	N <sub>1</sub>	B	F <sub>2</sub>	N <sub>2</sub>	NOTES
1160	1230	74	29		74	30	
	1231	74	27		74	8	
	1232	74	16		74	19	
	1233	74	28		74	31	
	1234	74	24		74	28	803 X5 COMPLETE
	1235	74	27		74	21	
	1236	74	28		74	31	
	1237	74	3		74	15	
	1238	74	13		74	16	
	1239	74	12		74	5	
	1240	74	20		74	5	
	1241	74	29		74	30	
	1242	40	1242				
	1243	30	1247		65	4096	STANDARDISE FULL HOUSE
	1244	61	1248		46	1155	
	1245	74	4		74	2	PUNCH 42 IF FAILS
	1246	44	1155				
	1247	77	8191	/	77	8191	FH
	1248	40	0		00	256	FH STANDARDISED
	9						
1221	0						
	1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						