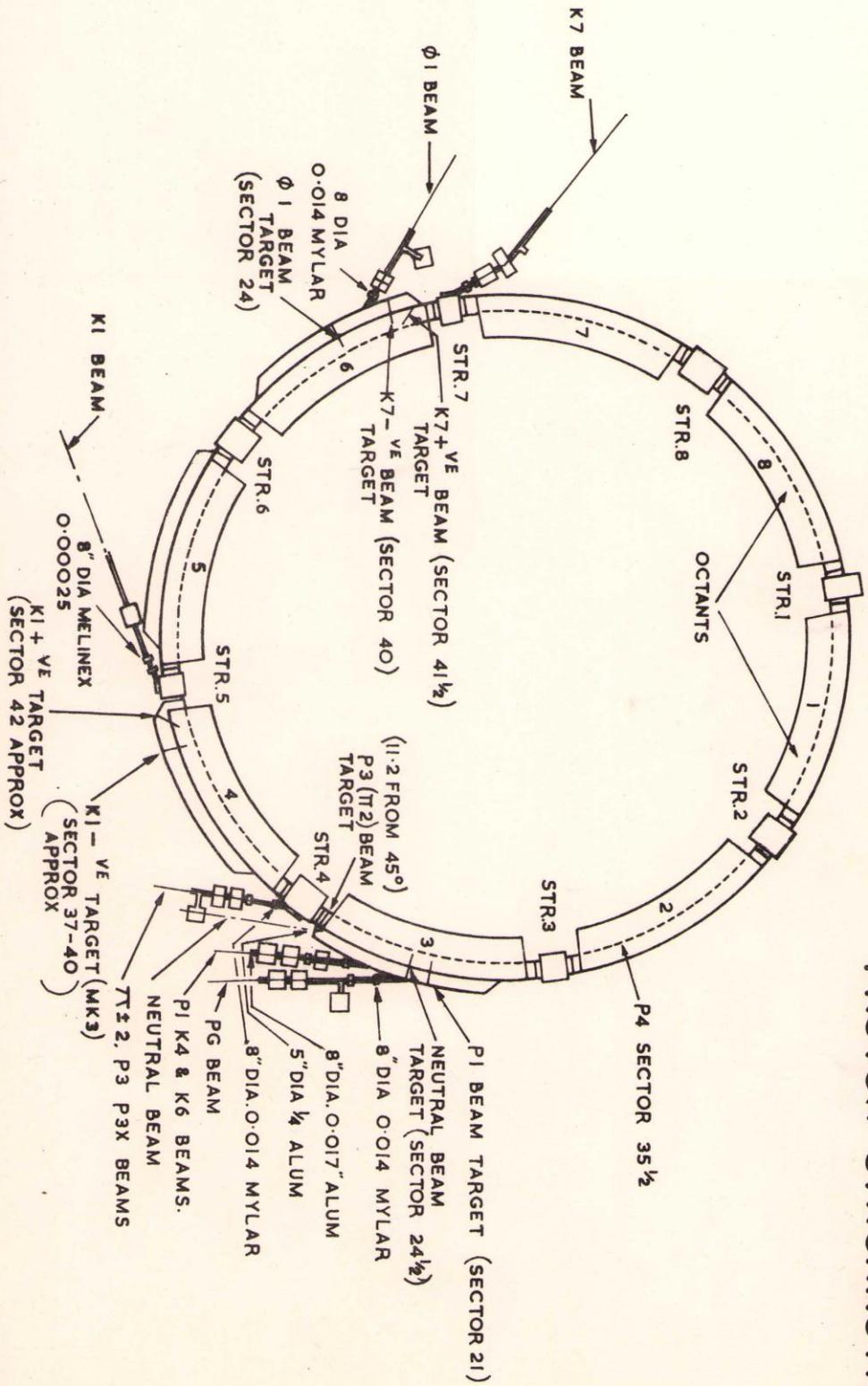


TARGETS & BEAM OUTLETS
NIMROD, 7 GeV
PROTON SYNCHROTRON



ISSUE	DATE
1	DEC '63
2	SEPT '64
3	FEB '65
4	APR '65
5	NOV '65
6	DEC '65

**NIMROD TIMING SEQUENCE
TABLE I**

TIME	PULSE NAME	PULSE SOURCE	CABLE TO DISTRIBUTION	DISTRIBUTION UNIT	CABLE TO DESTINATION	PULSE DESTINATION	COMMENTS
0 mS	START PRE-MAG	M.P.P. MASTER TIMER	MULTICORE CO-AX (CABLE CMC 172)	UNIT A R 55 B	ZM 43 (P) ZR 42 A (P) ZL 99 A (P) ZN 61 A (P) ZC 11 ZN 61	UNIT B R 55 B P.F.G. R 50 I.C.R. MASTER TIMER IR 5 P.F.W. UNIT C R 5 DIST ⁿ MATRIX R 59 UNIT E R 6	TO R 55 B VIA PATCH PANEL R 57 TO ICR VIA J/B R 8/9 PULSE SIGNIFYING THE START OF A MAGNET CYCLE
66 mS	START RISE	M.P.P. MASTER TIMER	MULTICORE CO-AX (CABLE CMC 172)	UNIT A R 55 B	ZM 44 (P) ZC 02 (P) ZC 10 ZM 53 A ZM 63 ZG 21 (P) ZM 75 A (P) ZM 76 A (P)	UNIT B R 55 B TARGET AND EXT ⁿ R 26 DIST ⁿ MATRIX R 59 TEMP. MONITOR CAV. 4 B R 6 UNIT E R 6 RIPPLE I CONVERTER HOUSE P.F.G. R 50	TO R 55 B VIA PATCH PANEL R 57 GATED START RISE (FOR R.F. PROGRAMME SELEC ⁿ)
66 mS *	TIMER VIII (1ST OF 8 EQUI-SPACED PULSES THROUGHOUT MACHINE CYCLE)	M.P.P. MASTER TIMER	MULTICORE CO-AX (CABLE CMC 172)	UNIT A R 55 B	ZM 50 (P) ZL 98 A (P) ZC 16	UNIT B R 55 B I.C.R. MASTER TIMER IR 5 DIST ⁿ MATRIX R 59	TO R 55 B VIA PATCH PANEL R 57 VIA JUNCTION BOX RACK 8/9
72.6 mS	START INJECTOR FLAT	M.P.P. MASTER TIMER	MULTICORE CO-AX (CABLE CMC 172)	UNIT A R 55 B	ZM 45 (P) ZN 64 ZC 12	UNIT B R 55 B UNIT E R 6 DIST ⁿ MATRIX R 59	TO R 55 B VIA PATCH PANEL R 57
75.1 mS	PEAKING STRIP A	PEAKING STRIP A (P.F.W. LINK BOARD CAV. 6B)	ZC 28 (P)	UNIT D R 55 B	ZR 43 (P) ZC 28 (P) ZC 33 ZR 43 A (P)	UNIT E R 6 UNIT D R 55 B DIST ⁿ MATRIX R 59 P.F.G. R 50	START OF ΔB TRAIN P/S HANDBOOK NM 3/47/1 P.F.G. HANDBOOK NM 3/40/1
	ΔB TRAIN	P.F.G. R 50	ZC 21 (P)	UNIT D R 55 B	ZC 36 (P) ZC 26 (P) ZC 25 ZS 89 A (P)	UNIT A R 26 P.F.W. UNIT D R 5 DIST ⁿ MATRIX R 59 BEAM CONTROL R 21	P/S 'A' + 20 GAUSS (NOMINAL)
115.1 mS	END INJECTOR FLAT	M.P.P. MASTER TIMER	MULTICORE CO-AX (CABLE CMC 172)	UNIT A R 55 B	ZM 46 (P) ZC 05 (P) ZR 46 A (P) ZC 13 ZN 65	UNIT B R 55 B P.F.W. UNIT R 5 P.F.G. R 50 DIST ⁿ MATRIX R 59 UNIT E R 6	TO R 55 B VIA PATCH PANEL R 57
120.9 mS	INJECTOR TRIGGER 1	P.F.G. R 50	-	-	ZR 50 A (P)	I.C.R. MASTER TIMER IR 5	LINAC R.F. TRIGGER (SEE N.M. 2/87/1) SECTION 2C (ii) & FIG. 4. THIS HANDBOOK RE P.F.G.
122 mS	INJECTOR TRIGGER 2	P.F.G. R 50	-	-	ZR 49 A (P)	I.C.R. MASTER TIMER IR 5	ION SOURCE R.F. TRIGGER (SEE N.M. 2/87/1) SECTION 2C (ii) & FIG. 4. HANDBOOK RE P.F.G.
122.4 mS	PEAKING STRIP B	PEAKING STRIP B (P.F.W. LINK BOARD CAV. 6B)	ZC 29 (P) (CABLE FROM UNIT E-R6)	UNIT D R 55 B	ZS 99 (P) ZC 29 (P) ZS 99 A (P) ZS 53 A (P) ZR 52 A (P) ZC 31 (P) ZC 34	UNIT E R 6 UNIT D R 55 B P.F.G. R 50 BEAM CONTROL J/B R 21 PULSE GATING UNIT IR 5 P.F.W. UNIT C R 5 DIST ⁿ MATRIX R 59	P/S HANDBOOK N.M. 3/47/1 P/S B INITIATES INJECTION INTO NIMROD
122.4 mS *	PEAKING STRIP C	PEAKING STRIP C (P.F.W. LINK BOARD CAV. 6B)	ZC 30 (P) (CABLE FROM UNIT E-R6)	UNIT D R 55 B	ZM 93 (P) ZC 30 (P) ZC 35 ZC 37	UNIT E R 6 UNIT D R 55 B DIST ⁿ MATRIX R 59 G.P. RACK 55 8/9 (SKT) TO PATCH PANEL 8/9 (SKT 4)	P/S C WILL BE LINKED TO AND THEN TO I.C.R. FOR M.P. EXPTS P/S C NORMALLY SPARE FOR P/S A & P/S B SEE ALSO N.M. 3/47/1
122.8 mS	R.F. ON	P.F.G. R 50	-	-	ZM 56 A (P) ZM 56 B	BEAM CONTROL R 20 (PATCH PANEL AT BOTTOM) DIST ⁿ MATRIX R 59	START OF ACCELERATION IN SYNCHROTRON
822 mS	START FLAT TOP	M.P.P. MASTER TIMER	MULTICORE CO-AX (CABLE NO. CMC 172)	UNIT A R 55 B	ZM 47 (P) ZC 20 (P) ZC 04 (P) ZR 53 A (P) ZC 18 ZC 14 ZN 66 ZC 06 ZG 22 (P)	UNIT B R 55 B BEAM CONTROL J/B R 20 TARGET & EXTRACTION R 26/27 INTERSPACE P.F.G. R 50 RIPPLE FILTER II R 62 DIST ⁿ MATRIX R 59 UNIT E R 6 M.C.R. DESK RIPPLE FILTER I, CONVERTER HOUSE	TO R 55 B VIA PATCH PANEL R 57
~850 mS	R.F. OFF	P.F.G. R 50	-	-	ZS 87 B	DIST ⁿ MATRIX R 59	(R.F. OFF IS ALSO INTERNAL TO P.F.G. BEING DELAYED START FLAT TOP)
1222 mS	END FLAT TOP	M.P.P. MASTER TIMER	MULTICORE CO-AX (CABLE CMC 172)	UNIT A R 55 B	ZM 48 (P) ZC 03 (P) ZR 45 A (P) ZN 67 A (P) ZC 09 ZN 67 ZC 19 ZG 23 (P)	UNIT B R 55 B TARGET & EXTRACTION R 26/27 INTERSPACE P.F.G. R 50 P.F.W. UNIT C R 5 DIST ⁿ MATRIX R 59 UNIT E R 6 P.F.W. R 15/16 RIPPLE FILTER I, CONVERTER HOUSE	TO R 55 B VIA PATCH PANEL R 57 START OF CURRENT DECAY
1922 mS	CURRENT ZERO	M.P.P. MASTER TIMER	MULTICORE CO-AX (CABLE CMC 172)	UNIT A R 55 B	ZM 49 (P) ZC 01 (P) ZM 54 A ZC 15 ZN 68	UNIT B R 55 B TARGET & EXTRACTION R 26/27 INTERSPACE TEMP. MON. CUBICLE (CAV 4B) R 59 DIST ⁿ MATRIX R 59 UNIT E R 6	TO R 55 B VIA PATCH PANEL R 57

* THE STATED TIMES ARE SUBJECT TO SMALL VARIATIONS OF THE ORDER OF A FEW MICRO-SECONDS. THE INTERVALS BETWEEN ONE PULSE AND THE NEXT ARE FIXED.