

The order for production of 200 of these 50 cm equipments was placed in May 1940, 4 months before the design was finalised. Deliveries from contractors began in Nov '40. The hundredth set was being fitted in July '41. In 1944 the 282/4/5 series were the most widely fitted sets in the Navy.

All the sets underwent progressive improvement. The power of the transmitter was increased to 50 kW, and later 100 kW at 1 microsecond; beam-splitting, in bearing only, and common T and R were fitted in 1942 (ref 40d). The former gave a bearing accuracy of  $\pm$  3-5 minutes of arc with the 21 ft wide ('pig-trough') arrays of 284, and enabled blind fire to be introduced against surface targets. The culminating action in which this was decisive was the sinking of the "Scharnhorst". In this action, for the majority of the salvos there was no visual point-of-aim whatever (26.12.43). The C-in-C in HMS "Duke of York" wrote:-

"The target was initially detected by 273 at 45,500 yds and at 30,400 yds by 284, and the amplitude of the echoes became sufficient to hold bearing firmly on the bearing tube at 25,800 yds. From this time on, bearing continued to be held without difficulty on the beam tube and, with the table to indirect, range and speed-across plots stabilised, all guns at the ready and the director laying by Stabilised Sight, the moment to open fire was awaited with some confidence. It had previously been determined to close to within starshell range if possible or, in the event of the enemy firing first, to fire blind at the moment of seeing her guns flash.

Starshell was fired from the port 5.25 battery and at once provided illumination; at first impression "Scharnhorst" appeared of enormous length and silver-grey in colour. The table was switched to 'direct' at once, the settings already estimated were retained, and the first ten-gun broadside was fired at 1651 at true-range of 11,950 yds to score a straddle and a hit low down and well forward. Scharnhorst immediately turned away behind a smoke float ..... Later when illumination became unsatisfactory blind fire was maintained as the range slowly opened as the "Scharnhorst" drew away. 44 broadsides were fired, 25 being reported as straddles and 16 others as 200 yds or less, all by Radar spotting on panels L12 and L14. "Scharnhorst" was also engaging with her main armament and despite starting 2500 yds short she soon had the range, and Duke of York was straddled several times. This for the control was the most testing time of the whole engagement, for no visible results were coming from own fall of shot and the large orange flashes on the horizon appeared extremely menacing. The minimum range in blind fire was 13400 yds at about 1717 and opened until at 1824 at 22,000 yds, the Type 284 developed a temporary defect. One of the shots at 17-18,000 yds, it later transpired, had winged "Scharnhorst" on or near a propeller shaft and reduced her speed. The range was quickly closed and tracking by Type 284 started again at 22,000 yds. .... She did not appear to observe the approach of the "Duke of York", who opened fire with a broadside at 10400 yds. This created enormous havoc aft. Direct fire was now possible and 25 broadsides were fired, with many hits. At 1922 when the 72nd broadside fell, it was noticed on all Radar tubes that the echo, after appearing as a normal straddle, developed into a great bunch of width 800 yds either side of the target; at the same time a considerable explosion occurred aft in "Scharnhorst".

Fire was checked at 1929 after 80 broadsides, by which time she was a blazing wreck, very low in the water - she sank shortly afterwards."

'And above them all the fires are quenched' (Dante, Inferno Canto 14, last line). How few of that company were able to say, as Dante, with Virgil his guide at the exit from Hell, in the last line of the Inferno, 'Then we came forth to see the stars once more.'