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TECHNICAL SERVICE MANUAL

FOR

HF SSB TRANSMITTER
TYPE 7010/7021

1KW AND 500W

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HANDBOOK NO. 100

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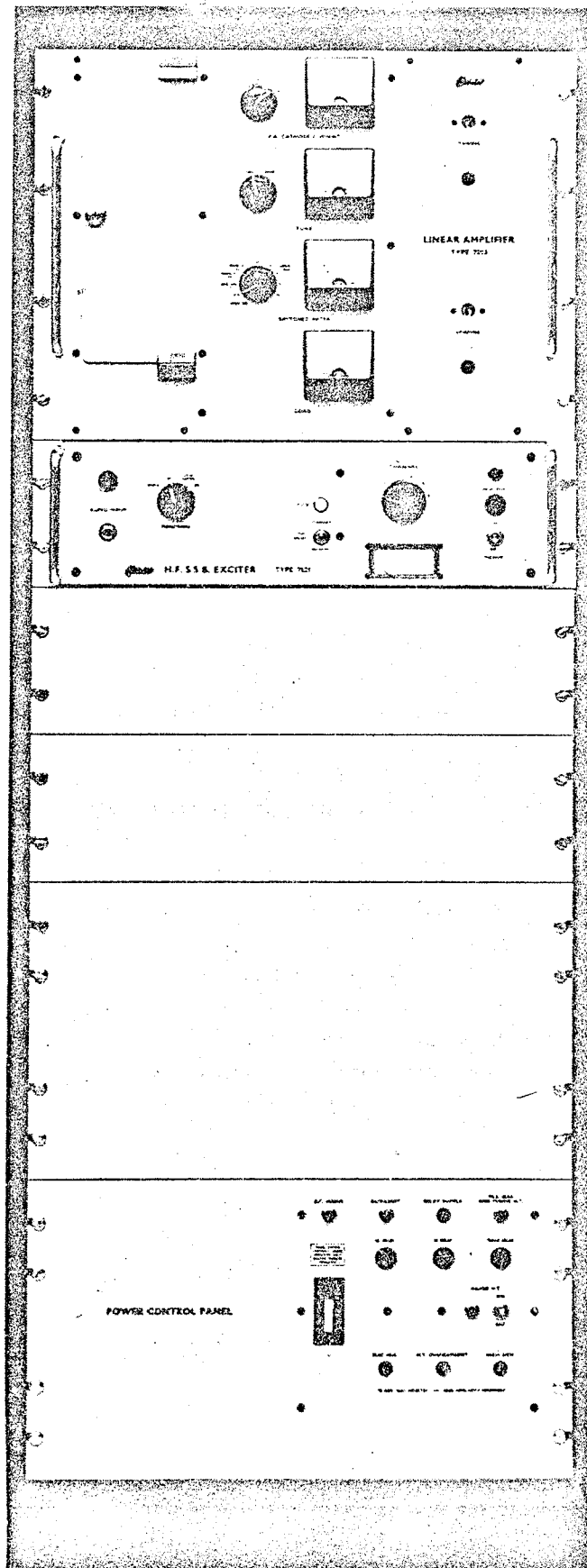
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AMENDMENT RECORD

Enter below the amendment title and date of entry, and the name of the person entering the amendment.

Amend No.	Amendment Title	Date Entered	By
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GENERAL INFORMATION AND SPECIFICATION

The 7010/7021 Transmitter is a HF SSB unit intended for base station service. Standard executions, covered by this handbook, are :

	Multi-channel	Single Channel
1KW	7010A/7021	7010D/7021
500W	7010B/7021	7010E/7021

In service, run-up procedure is automatic, as is protection against damaging operating conditions. On multi-channel models, retuning upon channel change is also automatic.

The linear amplifier and exciter are mounted on slides and remain operational when extended. Points carrying dangerous voltages are covered by panels which require tools for removal and carry warning labels where appropriate. Gate safety switching is not fitted, but electrical provision exists for local incorporation if desired. Note that the switch determining transmission mode (A3H or A3J) under local control conditions is located on the rear panel of the exciter and a point should be made of returning it to the correct position after performing tests.

This handbook is arranged in two parts, as follows :

Part A : Exciter Type 7021

Part B : Linear Amplifier Type 7010

Each Part has its own index located at the front.

To prevent misunderstandings all correspondence must specify equipment type (including suffix) and serial numbers and, where the handbook is referenced, the issue and latest amendment numbers.

Amendment sheets are issued from time to time and should be inserted immediately after the amendment record sheet.

TYPICAL SPECIFICATION

The specification figures are for a 7010 Linear Amplifier driven by a 7021 Exciter. All figures refer to the 1KW version. Where 500W figures differ they are shown in brackets.

Frequency Range	2 - 12 MHz (500W : 2 - 15MHz)
No. of Channels	6 maximum in multichannel version
Operating Modes	A3J either sideband A3H (compatible AM)
Frequency Stability	5 parts in 10^7 over the temperature range 0-60°C
Power Output	A3J 1000W PEP 2 tone test (500W) A3H 250W nominal (125W)
RF output impedance	50 ohms nominal. The transmitter can be loaded into any impedance producing a VSWR of less than 2:1
Harmonic Emissions	At least 45 dB below PEP
Spurious Emissions	Spurious Emissions (not harmonics) separated from the carrier by more than 20kHz : 50 dB below PEP
Carrier Suppression	At least 50 dB below PEP
Unwanted Sideband	At least 43 dB below PEP
Intermodulation Products	At least 40 dB below PEP
Hum and noise	At least 50 dB below PEP
Audio input level	The onset of compression may be adjusted for input signals between -20 dBm and +10 dBm into 600 ohms.
Audio input impedance	10 k ohm balanced.
ALC Range	An increase of 30 dB in input level above the compression level will produce less than 1 dB increase in power output.
AF frequency response	± 3dB 300 - 2800 Hz.

TYPICAL SPECIFICATION (Cont.)

Controls	Power on/off HT on/off Function :- Normal/Off/Local/Tune Local control :- Standby/Transmit Channel select Mode A3H/A3J at rear of exciter Sideband Select USB/LSB
Metering	Separate meters for : a) Cathode Current (switched each tube & total) b) Tune (switched PA grid and anode) c) Load d) Switched : Screen current (each tube) Major HT. voltage Minor HT. voltage Grid Bias voltage Load SWR Servo balance.
Protection	Automatic trip provided for : Low air pressure Low grid bias High plate current High SWR
Power requirements	205-255 V 50 Hz single phase. Other voltages and frequencies to order.
Power consumption	2 tone test : 2000 VA (500 W : 1300 VA) Standby : 500 VA
Environmental	Ambient Temperature C 0 to 30 30 to 60 Relative Humidity 95% from 95% at 30°C to 50% at 60°C Atmospheric Pressure 700 millibars (7500' or 2500 metres) above sea level
Dimensions (cabinet)	20-1/2" W x 23"D x 56"H 52cm W x 58.4 cmD x 142.2 cmH (19" standard panels).
Weight	Bare : 355 lb (161 kg) Packed : 455 lb (207 kg)
Finish Colours	Colours to BS381C:1964 Panels : Sky No 210 in semigloss stoved enamel Cabinet : Mid bronze green No 223 in armorhide vinyl Lettering : Black.