

**INSTRUCTION BOOK**



**ADAPTER UNIT**

**TYPE 163 MODEL 1**

*For Tone Keyer*

Instruction Book

ADAPTER UNIT

Type 163 Model 1

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A-163-1-01

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1.

GENERAL

Purpose:

The Adapter Unit, Type 163 Model 1, is designed to increase the versatility of the Type 105 Model 4 Frequency Shift Keyer by allowing interconnection to be made with other units. Its use requires no modification of existing equipment. Specifically, the Adapter Unit is designed to allow the output of a Type 115 Model 1 or a Type 173 Model 1 Variable Master Oscillator to be substituted for the output of the Keyer's crystal oscillator, and to make the output of the crystal oscillator available for external use, such as patching into other units.

Technical Data:

Input Level:	1 - 2 volts RMS into 75 ohms
Output Level:	1 - 2 volts RMS into 75 ohms
Controls:	Remote - Local switch
Mounting:	To mount on back of Type 105 Model 4 Frequency Shift Keyer
Dimensions:	6-5/8" x 1-5/8" x 1-9/16"
Weight:	9-1/2 ounces

2. Principle of Operation:

Reference is made to the schematic drawing A-163101 and B105401 of the Adapter Unit Type 163 Model 1 and the F. S. Keyer Type 105 Model 4 respectively.

The connections are made between P101 of the Keyer and J3 of the Adapter Unit and P1 of the Adapter and J101 of the Keyer.

With the above connections, jack J1 on the Adapter Unit provides an output terminal for the crystal oscillator located in the oven of the F. S. Keyer.

2. Principle of Operation (cont'd)

With the switch S1 (on Adapter Unit) in "Local" position, the Adapter Unit provides normal connection of the crystal oscillator to the Keyer chassis.

When the switch S1 is put into "Remote" position the F. S. Keyer circuit is disconnected from the "Local" crystal oscillator, and connected to jack J2 (on the Adapter Unit) at which point the external oscillator signal is fed to the unit.

3. MECHANICAL AND ELECTRICAL INSTALLATION

The Adapter Unit is mounted on the rear of the Type 105 Model 4 Frequency Shift Keyer. It is attached to the Keyer chassis by means of the two thumb screws which are used to fasten the dust cover.

Plug P101 of the F. S. Keyer plugs into J3 of the Adapter. Plug P1 of the Adapter Unit is plugged into J101 of the Keyer.

If it is desired to provide other apparatus with an output from the crystal oscillator located within the F. S. Keyer, connect such apparatus by means of a suitable coaxial cable to jack J1.

For external crystal or variable master oscillator injection into the F. S. Keyer connect such remote oscillator through a suitable coaxial cable to jack J2.

4.

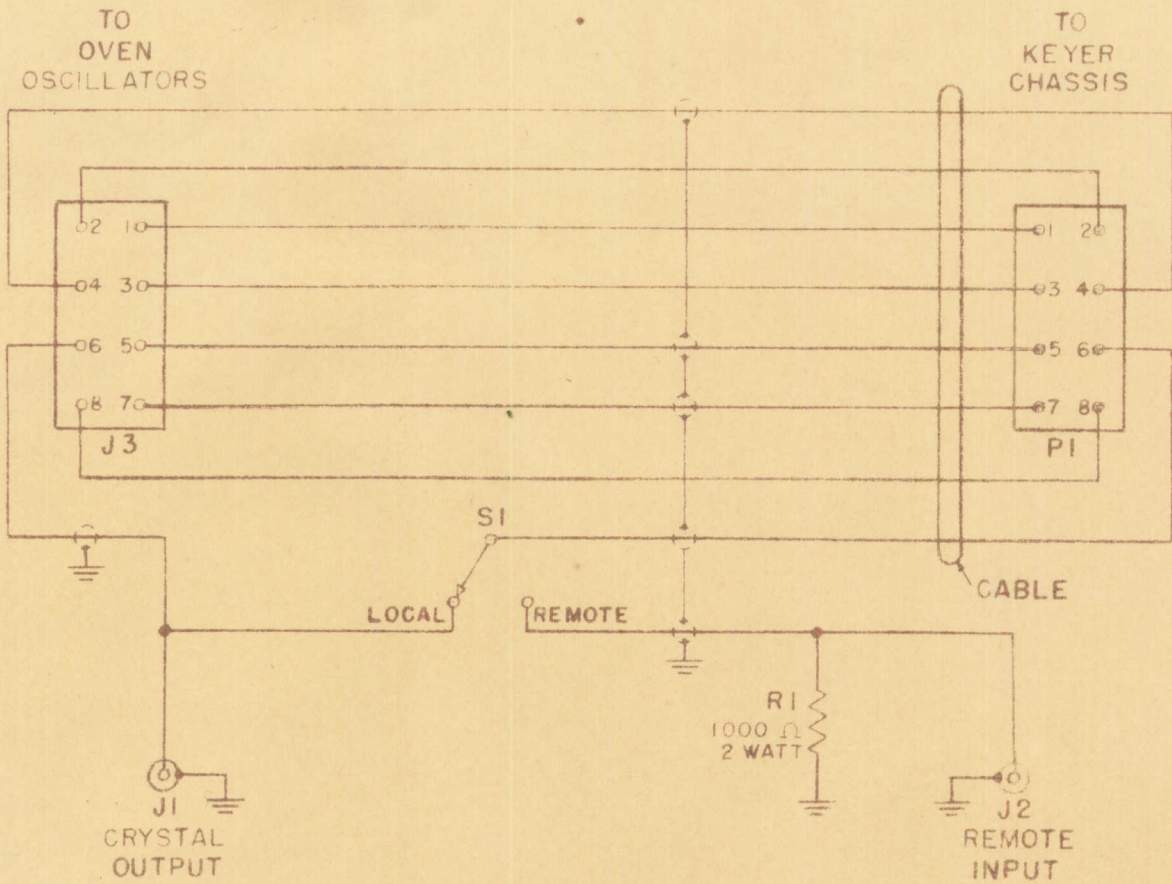
ELECTRICAL PARTS LIST

<u>Sym- bol</u>	<u>Function</u>	<u>Description</u>	<u>Mfr.</u>	<u>Part No.</u>
J1	Crystal output connector	Female coaxial connector	AMP	831R
J2	Remote input connector	Female coaxial connector	AMP	831R
J3	Oven connector	8 contact female chassis mount connector	HBJ	S308AB
P1	Output connector	8 contact male plug with cable clamp	HBJ	P308CCT
R1	Terminating resistor	1000 ohms $\pm$ 10% 2 Watt composition resistor	ALB	HB 1021
S1	Remote-Local switch	Single pole, double throw toggle switch	AHH	81021

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SCHEMATIC  
 ADAPTER UNIT FOR E.S. KEYSER 105/4  
 TYPE 163 MODEL 1

SHEET 1 OF 1

ISSUE 1

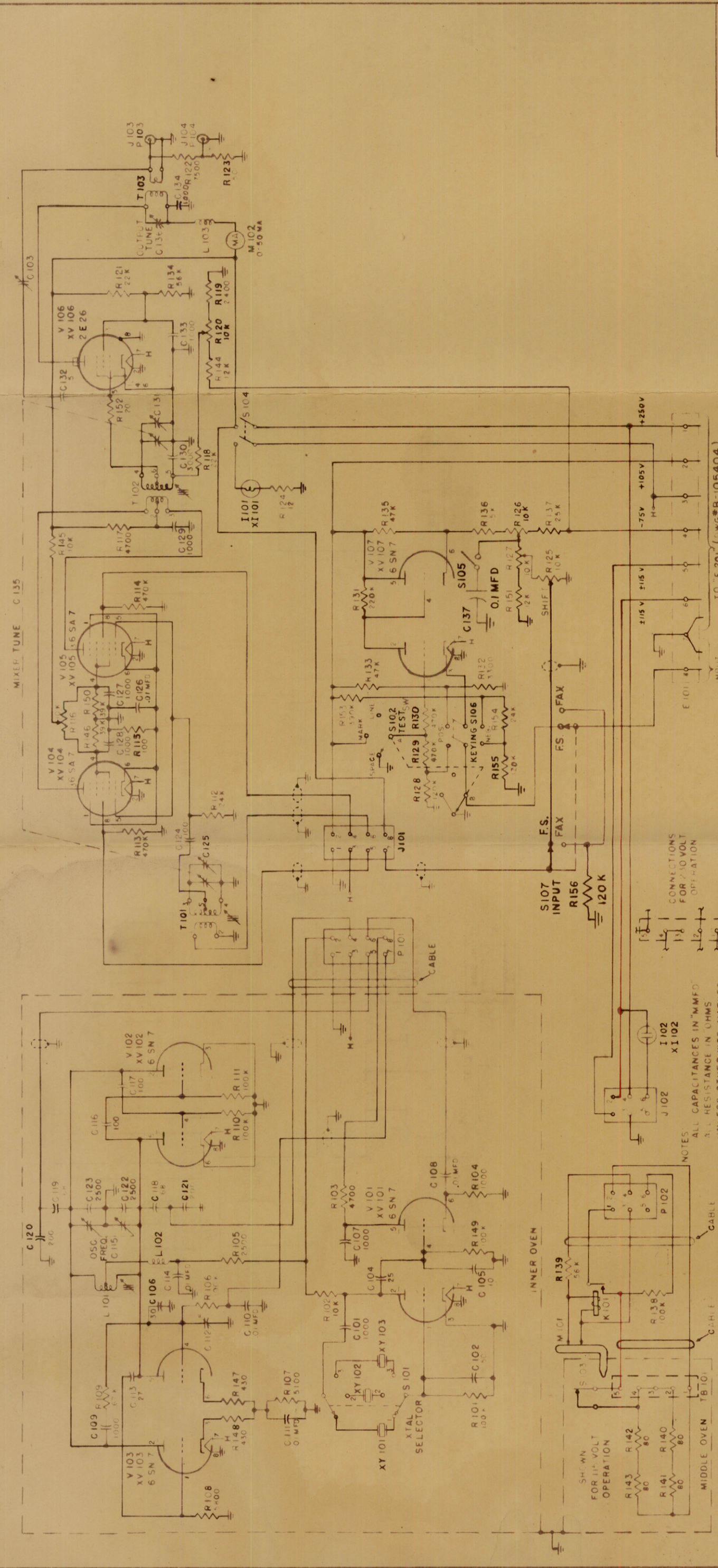
DWG. NO. A-163101

DATE 11-30-51

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MATERIAL		REFERENCE DWGS	TITLE	USED ON
INDEX NO A-105400		SCHEMATIC		
TOLERANCE (UNLESS SPECIFIED) FRACT ± 1/64 DECIMAL ± 005		FREQUENCY SHIFT KEYS		
DWN TOR CKD H.S.G.		TYPE 105 MODEL 4A		
NORTHERN RADIO COMPANY INCORPORATED		DWG NO B-105401		
3	RA	8/22/41	ADDED S107 & R156	
2	RA	7/4/41	ADDED C137 & S105	
1	TOR	8/1/41	OP. FIG. DWG. WAS SD3CI.	
ISSUE	DWN	CKD	APPR	DATE
			CHANGE	

NOTES:  
 ALL CAPACITANCES IN "MMFD"  
 ALL RESISTANCES IN OHMS  
 UNLESS OTHERWISE MARKED

CONNECTIONS FOR 250 VOLT OPERATION

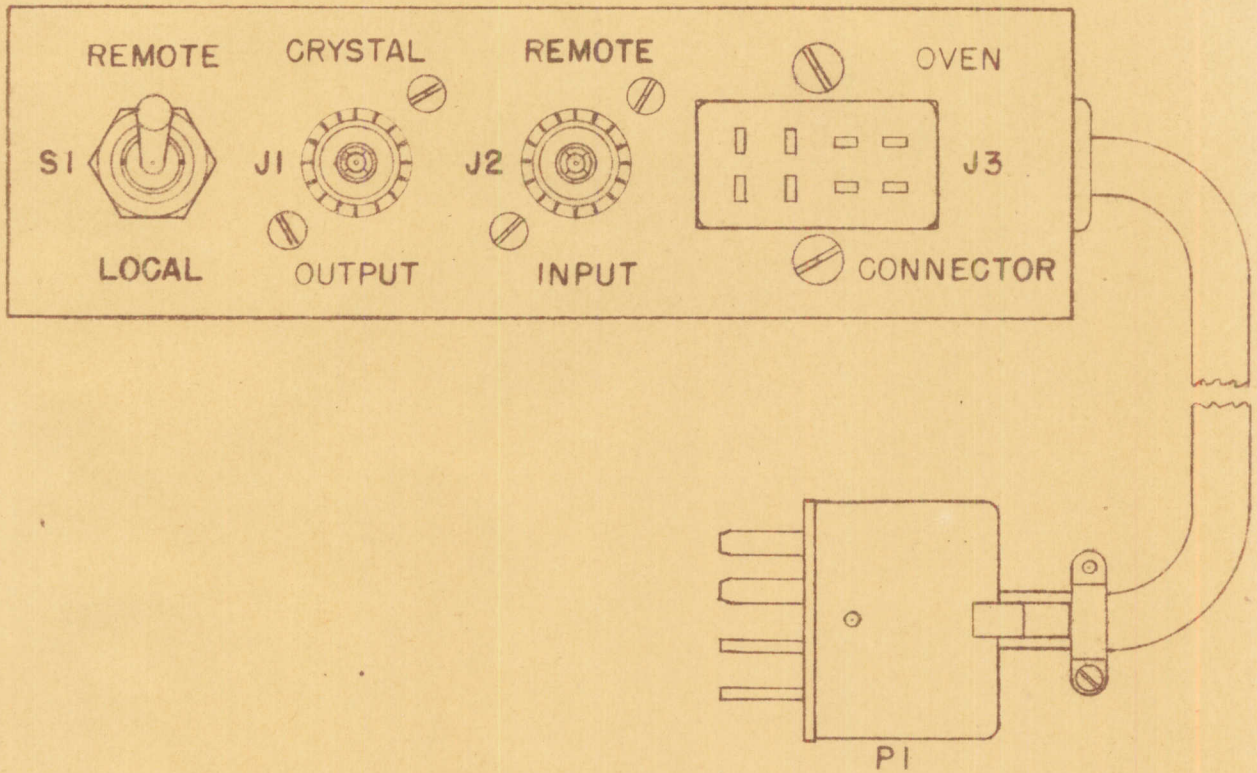
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LAYOUT  
ADAPTER UNIT FOR F.S. KEYER 105/4  
TYPE 163 MODEL 1

SHEET 1 OF 1

ISSUE 1

DWG. NO. A-163104

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