

ENGINEER-IN-CHIEF'S OFFICE,
(SWITCHING SYSTEMS SECTION)
POST OFFICE HEADQUARTERS,
WELLINGTON 1.

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TITLE: INSTALLATION OF "PAMCO" DUAL TONE MULTI-FREQUENCY TO
DECADIC PULSE CONVERSION EQUIPMENT FOR NC100 AND NC230
CROSSBAR EXCHANGES

SCOPE: This specification covers the installation of "PAMCO"
Dual Tone Multi-Frequency (DTMF) to Decadic Pulse (DP)
converters in NC100 and NC230 crossbar exchanges.

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1. Table 1.
2. ER/SS 1752: Supplies background information to assist in the
installation of the "PAMCO" DTMF converters.

PREPARED: 

MATERIAL: 

APPROVED: 

SECTION ADETAILS OF WORK

1. GENERAL

1.1 The DTMF converters are card based, with up to 4 cards housed in each bin.

1.2 Each DPOR is to be equipped with one DTMF converter.

1.3 All Installation and Maintenance staff must ensure that they are familiar with E.I. TELS Gen Z0500, "Handling, storing and replacing small electronic components".

1.4 A bothway 1/1 Dial Tone Filter (coil and a 0.47 μ F capacitor) will be required to suppress the 3rd harmonic of dial tone at exchanges that do not have a dial tone 3rd harmonic (1200 Hz) level of -30 dBm or more.

1.5 Contact "sleeving" of the "ca" and "fd" contacts in the DPOR is required to prevent a short circuit being placed on the tone coil, thereby impeding the DTMF signals.

1.5.1 The insulating of these contacts will affect the 20 pps DP stepping of the MTF, but this is acceptable.

1.6 Fusing and powering of each DTMF converter should be done through the respective DPOR circuit.

1.7 Faulty cards should not be tampered with, but sent to TEAC for repair.

2. MOUNTING ARRANGEMENTS

2.1 DTMF Bins

2.1.1 Local mounting-space conditions will dictate not only the placement of the DTMF bins, but also the actual mounting arrangements.

2.1.2 Drawing NZPO 39845 (Sheet 1, Figure 2) shows a mounting bar arrangement that could be locally adapted for bin-mounting.

2.1.3 In determining a suitable place for the bins, consideration should be given to such factors as:

- (a) minimising 12-wire cable distance to DPOR;
- (b) accessibility for card removal/replacement;
- (3) LED's readily visible for maintenance testing.

2.2 Bothway 1/1 Dial Tone Filter: Coil and 0.47 μ F capacitor

2.2.1 NC100: Mount coil alongside the dial tone transformer on the second plate of the MISCF Supervisory Unit (NC100ZA XA-74383-001).

2.2.2 NC230 (e.g., NC230LA): Mount coil in the first spare capacitor position on the fourth plate of the SSF Supervisory and Supply Unit (NC230LA XA-700269-006), or equivalent position in other NC230 systems.

2.2.3 0.47 μ F capacitor: Mount capacitor alongside the 1/1 Dial Tone coil in both NC100 and NC230.

3. WIRING DETAILS

3.1 DTMF Circuits: NC100ZA, NC230LA, NC230ZA and equivalents

3.1.1 Before commencing any wiring alterations in the DPOR, and to ensure that the Group Busy (GB) and REGISTER TEST (RT) leads are not broken, it is necessary to strap the following DTMF terminals:

Terminal 4 to Terminal 8

Terminal 5 to Terminal 6.

3.1.2 NOTE: Upon wiring completion and after insertion of the DTMF cards, both the above straps should be removed when the DPOR is brought back into service.

3.1.3 NC100ZA-DPOR (XC-74365-001),
 NC230LA-DPOR (XC-700633-001),
 NC230ZA-DPOR (XC-74679-001); and equivalents.

Prepare, run and terminate a 12-wire cable form in accordance with the attached Table 1.

3.2 B/W 1/1 Dial Tone Coil NC100 and NC230

3.2.1 Wire coil into the Primary winding of the Dial Tone Transformer.

3.3 0.47 μ F Capacitor: NC100 and NC230

3.3.1 Wire capacitor across the Primary winding of the Dial Tone Transformer.

SECTION BSCHEDULE OF MATERIALS

<u>Item</u>	<u>S.L. No.</u>
DTMF/DP Converter XBAR version, PAMCO P7800	LH 70
Crossbar Mounting Bin (4 Cards)	LH 72
Bothway 1/1 Dial Tone Coil	LK 495
Wire: Battery and Earth	PA 771
Cable, Sw.Bd, PVC insulated, 0.5 mm, 12 wire	PA 701
Capacitor, 0.47 μ F, 400v d.c.w., tubular, axial-leads (or local purchase).	EF 210

SECTION CTESTING

Existing testing procedures are to be implemented to ensure that the DTMF meets the required conditions for both DP and PB conditions.

SECTION DDRAWINGS

NC100ZA-DPOR (XC-74365) to Issue 6
 NC230ZA-DPOR (XC74679) to Issue 3
 NC230LA-DPOR (XC700633) to Issue 4.

END

WIRING TERMINATION DETAILS:DTMF PIN TERMINALS - DPOR TERMINALS

EQP'T	NC100ZA	NC230LA	NC230ZA	Ref. IS1254 NC400ZA	NOTES
Drawing No.	XC-74365-001	XC-700633-001	XC74679-001	XC-73570-001	DTMF LEAD
DTMF PIN					
4		TO-4C	TO-4C	TO-4C	NOTE 1 Reg Grp Select
5	T2-5C				Reg Grp Busy
6	T2-5E				NOTE 2 Reg Grp Bus
5		TO-5A	TO-5A	TO-5A	NOTE 3 Reg Grp Bus
6		TO-4A	TO-4A	TO-4A	Reg Grp Bus
8		TO-5C	TO-5C	TO-5C	Reg Grp Select
9	a _S	a _S	a _S	a _S	Line Out
12	T1-6A	TO-0A	TO-0A	TO-0A	Line In
13	T1-6B	TO-0B	TO-0B	TO-0B	Line In
14	a _T	a _T	a _T	a _T	Line Out
15	T2-7C	T2-7C	T2-7C	T2-7C	GND
16	T1-7C	TO-3E	T2-5E	TO-3E	Reg Reset
17	T2-7A	T2-7A	T2-7A	T2-7A	-48V
DPOR	CA [#] (b)	ca9 (b)	ca9 (b)	ca9 (b)	NOTE 4
CONTACTS	fd ^o (m)	fd ⁸ (m)	fd ⁸ (m)	fd ⁸ (m)	NOTE 4

NOTES

1. First move GN/WH from TERM. TO-5C to TO-4C.
2. First move TERM. T2-5C to T2-5E.
3. First move 2 wires on all but top REG from TERM TO-5A to TO-4A.
4. Insulate contacts; or remove wiring, join and sleeve.

TABLE 1